

ENERGY I-CORPS



Office of
Technology
Transitions

U.S. Department of Energy Office of Technology Transitions

National Laboratory Call for Proposals

Energy I-Corps Program:

Topic 1. Pipeline Development

Topic 2. Training Cohort (Cohort 19)

Topic 3. Post EIC

Announcement No. DE-LC-000L116

Fiscal Year 2024

This lab call is for the Energy I-Corps Program (EIC), which is led by the U.S. Department of Energy's (DOE's) Office of Technology Transitions (OTT). The goal of the Energy I-Corps program is to train researchers at DOE National Laboratories and DOE plants and sites to evaluate industry needs and potential market applications for their technologies. This lab call solicits proposals from DOE National Laboratory and DOE plant and site technology transfer offices to participate in EIC, for researchers to develop skills in commercialization, and to investigate the market potential for DOE-funded technologies at a critical juncture on the path toward commercialization.

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I. Lab Call Modification History

Modifications will appear here and will be distributed via email to all registered U.S. Department of Energy (DOE) National Laboratory and DOE plant and site points of contact(s).

II. Lab Call Description

A. Program Background

Energy I-Corps (EIC) is an immersive program targeted to researchers of DOE National Laboratories and DOE plants and sites. In this program, researchers learn about market needs through stakeholder discovery and evaluate potential industry applications for their technologies. DOE's Office of Technology Transitions (OTT) serves as the program administrator. Public investments in research and innovation power the private engine of the American economy. With the activities of OTT's EIC, the DOE National Laboratories and DOE plants and sites increase capacity to ensure that research positively impacts innovators, the economy, and ultimately, the public good.

B. Program Foundation

Established in 2015 and formerly known as DOE's Lab-Corps, EIC became part of the OTT portfolio in 2018. EIC was initially modeled on the National Science Foundation's (NSF's) successful Innovation Corps (I-Corps™) program, which prepares scientists and engineers to extend their focus beyond the lab. EIC builds upon the NSF I-Corps™ model while adapting it to the unique features of the DOE National Laboratories, DOE plants and sites, and DOE's mission space.

C. Program Impact

EIC accelerates the path to market for taxpayer-funded discoveries and further enables the private sector uptake of clean energy technologies. Since its inception, EIC technologies have collectively attracted more than \$177 million in post-program funding, executed over 75 licenses, and created more than 20 new businesses in nearly 20 technology areas ([Figure 1](#)). Furthermore, as of December 2023, EIC participants have collectively worked with more than 200 industry mentors and conducted more than 15,500 discovery interviews to determine the commercial impact of their technologies. For additional information regarding the program and past participants, refer to the following program website:

<https://www.energy.gov/technologytransitions/energy-i-corps>.

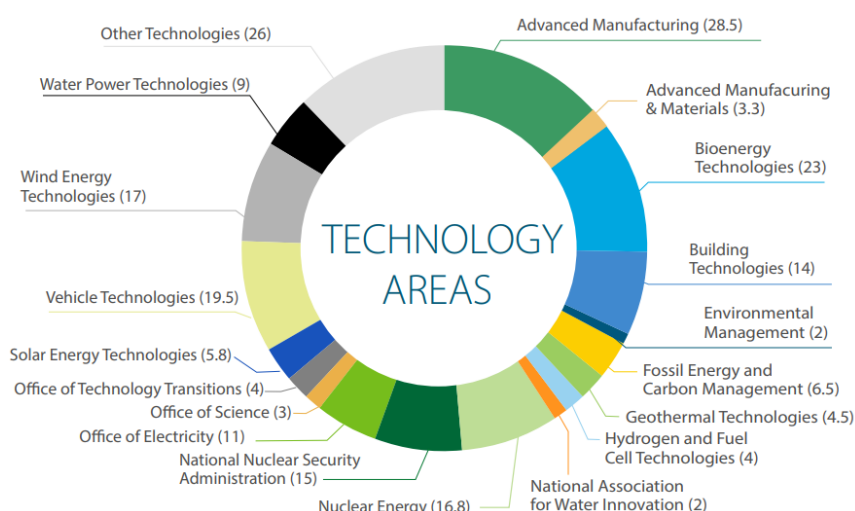


Figure 1: Technology Areas Explored through Energy I-Corps (as of Dec 2023)

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D. Program Structure

OTT is soliciting three separate topics within this lab call. An overview of the EIC program structure is presented in [Figure 2](#).

- **Topic 1 – Pipeline Development:** Funding to support projects and programming that have the potential to **directly** increase participation in EIC Training Cohorts (Topic 2) in subsequent EIC lab calls. Details are provided in [Section II.G.i](#).
Note: this topic was previously referred to as “Site Lab”, “Satellite”, or “Asynchronous” funding
- **Topic 2 – Training Cohort:** Funding to participate in Cohort 19 (Fall 2024) of the 2-month training program to define technology value propositions, conduct stakeholder discovery interviews, and develop viable market pathways to accelerate the commercialization of DOE National Laboratory and DOE plant and site technology. Details are provided in [Section II.G.ii](#).
- **Topic 3 – Post EIC:** Funding to support the next step in commercialization of DOE technology that have either gone through EIC Topic 2 or NSF’s national I-Corps™ program. The funds are not meant to support the teams’ full commercialization effort. Instead, the funds are intended to cover costs of the next actionable step in technology commercialization and facilitate the teams in reaching their next source of more substantive support to continue their commercialization journey. Details are provided in [Section II.G.iii](#).

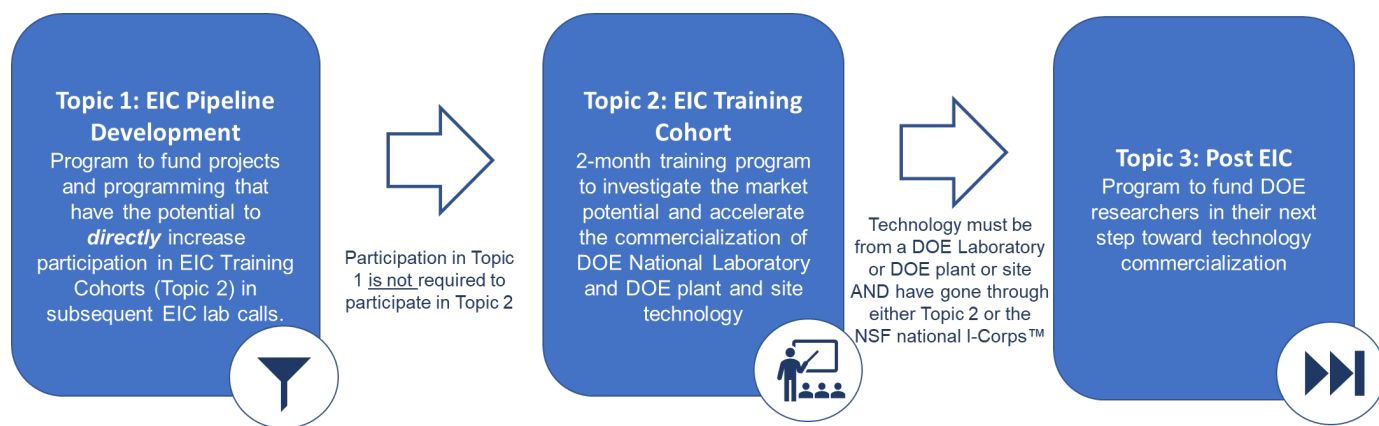


Figure 2: Overview of Energy I-Corps (EIC) Program

E. Timeline and Process Logistics

i. Timeline

Key dates for this lab call are located in Table 1 below. Please see detailed timelines for each topic in [Section II.G.](#)

Table 1: Energy I-Corps Lab Call Timeline

Event	Date
Laboratory call issue date	Tuesday, March 19, 2024
Informational webinar	Tuesday, March 26, 2024, 12:00 p.m. (ET)
Topic 1 submission deadline	Friday, April 12, 2024, 3:00 p.m. (ET)
Topic 2 submission deadline	Friday, April 12, 2024, 3:00 p.m. (ET)
Topic 3 submission deadline	Friday, April 12, 2024, 3:00 p.m. (ET)
Expected dates for selection notifications: Topic 1: Pipeline Development Topic 2: Training Cohort 19 Topic 3: Post EIC	Friday, June 14, 2024

ii. Submittal Logistics

For all three topics, there is no limit on the number of applications each DOE National Laboratory and DOE plant and site can submit.

Submissions for this call will be accepted from technology transfer office personnel who have been previously identified as lab point of contacts (POCs). To register a new POC for your laboratory, plant, or site, please send an email with the subject line “Energy I-Corps POC Registration” with your name, job title, email, and phone contact information to EnergyICorps@hq.doe.gov. Laboratory, plant, and site POCs are the primary conduits through which information regarding this laboratory call is sent and received. Laboratories, plants, and sites are welcome to name secondary or alternate POC(s) if they so desire. It is the responsibility of the POCs to:

- Communicate this lab call opportunity within their laboratory, plant, or site and to interested Principal Investigators (PIs).
- Once selections are made, communicate program-related decisions and actions to their laboratory, plant, or site’s selected PI faithfully and accurately.
- Ensure all funding actions are completed successfully between OTT, a sponsoring technical program office or semi-autonomous agency and the participating laboratory, plant, or site.

For detailed information on lab call submissions by topic, refer to [Section II.G.](#)

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iii. Questions During Open Lab Call Period

All communication to DOE regarding this lab call, including specific questions about this lab call, should be emailed to EnergyICorps@hq.doe.gov. OTT will aim to respond to a question within three business days unless a similar question and the answer have already been posted on the website. To ensure fairness for all applicants, any questions directed to individual DOE staff will be forwarded to EnergyICorps@hq.doe.gov for processing.

F. Key Considerations and Requirements

i. Available Funding

OTT expects to award up to \$350K across Topics 1 and 3 in this instance of the EIC lab call. Due to appropriations cuts, OTT will have limited funding for Topic 1 and Topic 3 projects. Topic 3 applications will be assessed, and reviewed by individual non-OTT DOE program offices and partner agencies for their selections and funding. Topic 2 applications will continue to be assessed and reviewed by individual DOE program offices and partner agencies for their selections and funding, beyond OTT’s budget.

There are various funding limits per topic ([Table 2](#)). Cost share is not required for any of the three topics. However, DOE National Laboratories and DOE plants and sites may supplement team budgets with internal funding resources if desired. All funding will be provided to the DOE National Laboratory or DOE plant or site as a bill code. Funding will not be transferred to external parties, e.g. directly to individual laboratory staff.

Table 2: Available Funding for Fall 2024 Energy I-Corps Lab Call

Topic	Available Funding
Topic 1: EIC Pipeline Development	<ul style="list-style-type: none"> - Up to \$100,000 per project with a single DOE National Laboratory or DOE plant or site applicant - Up to \$150,000 per project with at least three DOE National Laboratories or DOE plants or sites applying together
Topic 2: EIC Training Cohort	\$80,000 per team
Topic 3: Post EIC	Up to \$100,000 per project

*DOE program offices and partner agencies, including OTT, will review and select projects. See [Appendix A](#) for DOE program office and partner agency technology research areas.

DOE is under no obligation to pay for any costs associated with response preparation or submission. DOE reserves the right to fund, in whole or in part, any, all, or none of the responses submitted to this lab call.

ii. Size, Scope, and Number of Selections

The budget size, tasks, and scope of proposed projects can be adjusted by DOE during selections and negotiations. The number of selections will depend on the number of meritorious proposals and the availability of funds in DOE program offices participating in this lab call.

iii. National Environmental Protection Agency (NEPA)

Each selected DOE laboratory, DOE plant or site must conduct their own National Environmental Policy Act (NEPA) analysis related to any project stemming from this lab call.

iii. Community Benefits

DOE is committed to investing in the research, development, and commercialization of DOE National Laboratory and DOE plant and site innovations that deliver benefits to the American public and lead to technologies and products that foster sustainable, resilient, and equitable access to clean energy. Further, DOE is committed to supporting the development of more diverse, equitable, inclusive, and accessible (DEIA) workplaces to help maintain the nation's leadership in science and technology.

To support the goal of building a clean and equitable energy economy, projects funded under this lab call are expected to consider how they can (1) advance DEIA; (2) contribute to energy equity; and (3) invest in America's workforce. All three community benefit objectives (DEIA, energy equity, and workforce) should be considered, but at a minimum, the proposed project should include at least one SMART (Specific, Measurable, Assignable, Relevant, and Time-Bound) milestone per budget period supported by DEIA relevant metrics to measure the success of the proposed actions. Please refer to Section [G.i](#), [G.ii](#), and [G.iii](#) for the full set of application requirements.

A SMART milestone clearly answers the following questions:

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

See [Appendix B](#) for more information on community benefits.

G. Topic Descriptions

As mentioned in [Section II.D](#), this lab call includes three topics to promote commercialization of DOE National Laboratory and DOE plant and site technology.

DOE will review and assess responses to this lab call from each submitting DOE National Laboratory or DOE plant or site and may follow up on one, none, or all the responses, requesting a further statement of work or budget to be drafted to establish a project.

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i. Topic 1: Energy I-Corps Pipeline Development

Topic Description

Topic 1 seeks proposals from DOE National Laboratories and DOE plants and sites for projects and programming that have the potential to **directly** increase participation in future EIC Training Cohorts (Topic 2, [Section II.G.ii](#)). **DOE strongly encourages efforts that bring together multiple labs to meet the goal of this topic in the most effective manner possible.** This includes the teaming of DOE National Laboratories and DOE plants and sites that have never participated in EIC Topic 2 or EIC, generally, with those that have previously participated ([Figure 3](#)). This model promotes the sharing of best practices, of lessons learned, and of resources developed during previous participation. In fact, individual projects under Topic 1 will have different funding ceilings depending on the number of DOE labs, plants, or sites applying per application. Individual projects with a single DOE lab, plant, or site applicant will be considered up to a total of \$100K. Individual projects with at least three DOE labs, plants or sites applying together, will be considered up to a total of \$150K ([Table 2](#)).

Successful projects will be able to demonstrate how the funded activity leads to increased EIC Topic 2: Training Cohort applications. A non-exhaustive list of example Topic 1 projects include:

- Funding interns to work directly with PIs to develop EIC applications.
- Interviewing EIC alumni, analyzing the chain of events that led alumni to apply to EIC, and running a pilot to try to recreate the experience for other PIs.
- Hosting or participating in a low cost, lighter lift entrepreneurial program geared towards recruiting for subsequent EIC training cohorts.

215 TEAMS | 12 NATIONAL LABORATORIES

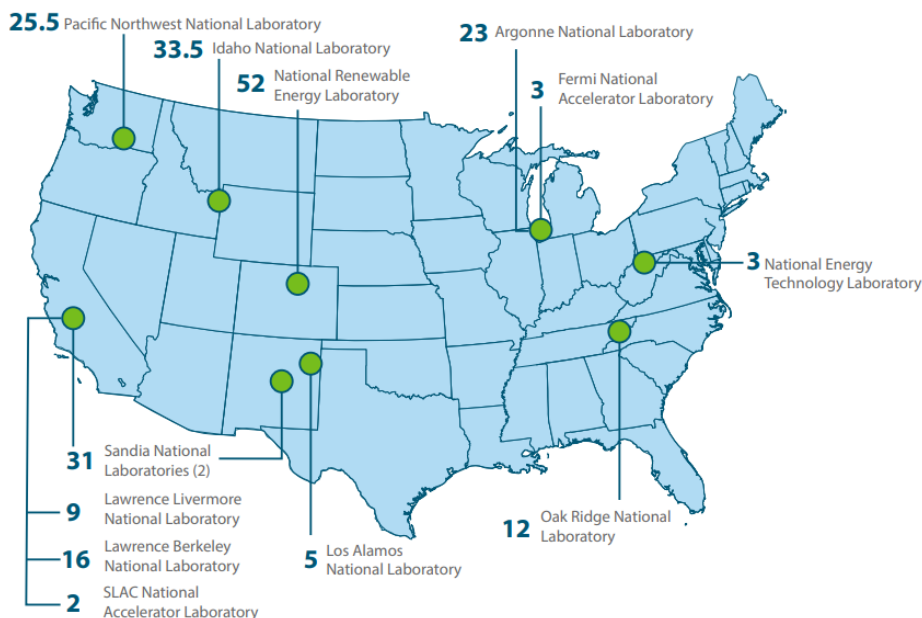


Figure 3: Past participation in Energy I-Corps Topic 2 by DOE National Laboratory and DOE Plant and Site (as of December 2023)

Examples of activities that would not be well suited for Topic 1 because they do not directly lead to increased EIC Training Cohort (Topic 2) applications include:

- General trainings on a specific component of the commercialization process such as intellectual property protection.
- General talks or lunch-and-learns about the commercialization process.

Key dates for Topic 1 are listed in [Table 3](#).

Table 3: Key Dates for Topic 1 EIC Pipeline Development

Event	Date
Informational webinar	Tuesday, March 29, 2024, 12:00 p.m. (ET)
Submission deadline	Friday, April 12, 2024, 3:00 p.m. (ET)
Expected date for selection notifications	Friday, June 14, 2024
Funding transfer complete	Funding will be transferred after successful negotiations between OTT and DOE National Laboratory or DOE plant or site are completed. *OTT is targeting Friday, August 30, 2024.

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Eligibility – Topic 1

Only DOE National Laboratories and DOE plants and sites are eligible to apply for Topic 1 under this lab call. Topic 1 is an opportunity for DOE National Laboratory and DOE plant and site technology transfer offices to request FY24 funding. Topic 1 is also an opportunity to propose an adjustment or scope change for using unexpended Satellite or Topic 1 - Pipeline Development funding from prior fiscal years. Any proposed adjustment, scope change or new funding request should address the goal to **directly** increase participation in subsequent EIC Training Cohorts.

Program Deliverables

A concise final report is required at the end of the proposed project. This report will include, but is not limited to, the overview of the project, activities performed, the number of teams that intend or went on to apply to Topic 2, lessons learned, and improvements identified to increase participation for Topic 2 in the future.

Period of Performance

Proposed projects should seek to support EIC goals efficiently and effectively in FY24. However, applications with projects that expand beyond the end of FY24 will be considered.

Submission and Review Information

All submissions must conform to the following form and content requirements, including maximum page lengths ([Table 4](#)) and must be submitted via [EERE Exchange](#), unless specifically stated otherwise. DOE will not review or consider submissions that are received through means other than Exchange, submitted after the applicable deadline, or incomplete.

Should applicants experience technical problems with Exchange prior to the deadline, the applicant should contact the EERE Exchange helpdesk for assistance (EERE-ExchangeSupport@hq.doe.gov). The EERE Exchange helpdesk and/or the EERE Exchange system administrators will assist applicants in resolving issues.

To be considered for EIC Topic 1, applicants must submit the documents listed in [Table 4](#).

Selected applicants will go through a negotiations process which will require the development and approval of a statement of work and spend plan. Templates of these documents are included in [Appendices C & D](#), respectively, and can be used as a reference when completing application documents. *The statement of work and spend plan are not required as part of the application.*

Table 4: EIC Topic 1 Application Documents

Document	Format	Description
Detailed narrative	<ul style="list-style-type: none"> • 3 pages max. • 8.5"x 11" pages with 1-inch margin • 11-point font • PDF file 	<p>Applicants are required to:</p> <ul style="list-style-type: none"> • Describe the proposed project including the leading and target participants, resources needed, anticipated level of impact, and overall plan to execute the project. • Explicitly state how the proposed project will directly increase future participation in EIC Training Cohorts (Topic 2) from your lab, plant, or site. • Proposals that request adjustment or scope change of uncosted Satellite, Site Lab, Asynchronous EIC, or Pipeline Development funding must explicitly state how the rescoped funds will directly increase participation in Topic 2. • List the barrier(s) to participating in EIC training cohorts (time, effort etc.) unique to your lab, plant, or site that is addressed by your proposed project. • Identify any hurdles that may arise when implementing your proposed project and your plans to overcome such hurdles. • If your lab, plant, or site has received Topic 1 funding in the past, describe the past performance, accomplishments, and how this project builds on or improves the previous project. • Describe how community benefit objectives ((1) DEIA; (2) energy equity; and (3) investing in America's workforce) will be incorporated in the proposed project. At minimum, include at least one SMART DEIA milestone supported by metrics to measure the success of the proposed action. • Include a timeline for the proposed project. • Describe a plan for implementing the idea with a requested amount of funding, but also include what could be accomplished with 50% of the requested amount.

a) Topic 1 Selection Criteria

OTT does NOT intend to fund every lab that submits a Topic 1 proposal. Selection of winning proposals will be determined based on available funding and input from OTT and technical program offices and partner agencies. The selection criteria used to evaluate applications will be as follows:

Criterion 1: Impact (80%)

This criterion considers the following factors:

- Potential to increase EIC Training Cohort (Topic 2) participation—the extent to which the proposed project, if successful, increases future applicants to subsequent EIC Training

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Cohorts. Projects that do not have the potential to meet this goal are not suitable and will not be considered. This sub criterion also includes how well the applicant understands their DOE National Laboratory or DOE plant or site’s unique challenges and barriers to participating in Topic 2.

- Long-term viability—the degree to which the proposal has the potential to continue to be impactful without long-term, continued, direct funding from OTT.
- Access to resources – the extent to which the team has access to facilities, equipment, people, expertise, data, knowledge, and other resources required to complete the proposed project.
- DEIA – the extent to which the proposed project demonstrates a welcoming and inclusive environment; supports EIC Training Cohort participants from underrepresented groups in STEM; and encourages the inclusion of individuals from these groups in the project, advances equity, and/or the extent to which the project activities will benefit underserved communities.

Criterion 2: Quality of Proposed Project (20%)

This criterion considers the following factors:

- Well-defined goals – the extent to which the stated goals of the project are SMART and the likelihood goals will be accomplished within the scope of this project.
- Challenges mitigated – the extent to which the applicant understands and discusses the core barriers and challenges the proposed work will face, and the soundness of the strategies and methods that will be used to mitigate barriers.
- Reasonable assumptions & timeline – the reasonableness of the assumptions used to form the execution strategy (e.g., lab staff participation, timeframe, etc).
- Reasonable budget – the reasonableness of the overall funding requested to achieve the proposed project and objectives. Please note that lower funding amounts have a better chance of being funded.

b) Topic 1 Selection Notification

All successful and unsuccessful applicant notifications will be communicated to DOE National Laboratory and DOE plant and site POCs. It is the responsibility of the POC to distribute the notification information to their laboratory, plant, and site applicants.

c) Topic 1 Project Administration and Reporting

Projects selected for award are managed by DOE in accordance with DOE requisite policies and procedures. OTT will provide all required project oversight and engagement with EIC project participants. DOE program offices that decide to participate in EIC can also engage with EIC participants.

OTT will establish a regular cadence of required meetings with DOE National Laboratory and DOE plant and site technology transfer offices ranging from every one to three months to meet with OTT and supporting DOE program offices to discuss project progress and budget updates. Additionally, DOE

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National Laboratory and DOE plant and site technology transfer offices are required to provide progress reporting and budget reporting in the [Program Information Collection System \(PICS\)](#) software, in addition to program-specific deliverables.

ii. Topic 2: Energy I-Corps Training Cohort 19

Topic Description

This topic seeks team applications to participate in EIC Training Cohort 19. Selected teams of researchers and industry mentors will participate in an intensive two-month, curriculum-based program to learn the principles of the business model canvas, define value proposition, and identify customer segments. Teams will develop hypotheses on these elements and interview at least 75 stakeholders as part of the customer discovery process to iterate on their business model canvas and better understand the market's adoption readiness of the lab technology. Researchers return to their laboratory with a framework for industry engagement to guide future research and inform a culture of market awareness within the DOE National Laboratories and DOE plants and sites. In this way, EIC is ensuring that investment in the DOE National Labs and DOE plants and sites is maintaining and strengthening U.S. competitiveness in energy long-term. The goals of Topic 2 are to:

- Increase the number of technologies developed by DOE National Laboratories and DOE plants and sites that are transferred into commercial development or industry agreements.
- Train DOE National Laboratory and DOE plant and site researchers to better understand the commercialization process and private sector needs.
- Promote DOE National Laboratories and DOE plants and sites to value commercialization and entrepreneurial activities.

Each selected team will be provided \$80,000 to support their participation in EIC Training Cohort 19. This topic will seek applications from teams highly motivated to learn about commercialization. DOE program offices and partner agencies select and fund Topic 2 teams.

[Appendix A](#) lists DOE program office and partner agency technology research areas. These are research areas of interest only and do not mandate applications to fall under the listed research areas.

Eligibility – Topic 2

Only DOE National Laboratories and DOE plants and sites are eligible to apply for EIC Training Cohort 19. Teams (see [Program Structure](#) and [Team Structure](#) below) from any technology area will be considered. Technologies submitted for consideration may be any adoption readiness level (ARL) but should be at a stage in development that allows the team to identify potential partners within a target market. Additional resources on ARL can be found at the following link: [Adoption Readiness Levels \(ARL\): A Complement to TRL | Department of Energy](#)

To ensure fairness and maximum reach, DOE is restricting applications to DOE National Laboratory and DOE plant and site researchers who have not already gone through the EIC program. Researchers who

have already gone through any previous Cohort of EIC successfully will only be considered if they are applying with **both** a different technology **and** a different team role than they previously held.

Teams do not need to have previously participated in entrepreneurial training programs or activities, including EIC Topic 1, to apply for this topic.

Program Structure

EIC Training Cohort 19 spans approximately 10 weeks, utilizing a custom-designed curriculum built on the NSF I-Corps™ and Lean Launchpad methodologies. During the training, teams attend in-person and virtual sessions, participate in weekly webinars, and learn from one-on-ones with instructors to systematically identify the most appropriate market application and commercialization pathway for their technology. Participation also requires a considerable amount of time spent outside of the classroom conducting 75 stakeholder discovery interviews.

EIC Training Cohort 19 consists of three key elements, summarized below:

1. **Lead Lab (aka the Node):** The National Renewable Energy Laboratory (NREL) serves as the Node for this program. The Node is responsible for developing and delivering the training, as well as providing program guidance to participating laboratories, plants, and sites.
2. **Participating Labs, plants, and sites (aka sites):** EIC sites recruit, assemble, and send teams to the Node for in-person and virtual training. Sites also support teams both during and after the program. Support might include assistance in identifying entrepreneurial leads (ELs) and industry mentors (IMs) (see item 3 -Teams, below) during the application period, as well as technology transfer, technology deployment, or business development support for potential market pathways identified by the team during training. Each site will also assist with metrics collection (for program assessment and improvement) during and after their team's participation in the program and contact teams as requested by the Node.

In addition to supporting the team during and after the program, sites are required to provide periodic updates on their teams, including but not limited to the following information:

- Licenses (in negotiation or executed).
- Start-ups launched (with PI or built around licensed IP with outside entrepreneur).
- Industry partnerships, such as CRADAs (in negotiation or executed).
- Additional funding (Technology Commercialization Fund [TCF], outside investment, etc.).
- Publications.
- Media presence (articles, blogs, interviews, etc.).
- Speaking engagements (internal or external).
- Invitations to pitch events or technology showcases.
- Inclusion in follow-on programs like Cleantech Open, DOE Lab Embedded Entrepreneurship Program (LEEP), NSF I-Corps™.
- Advances in ARL.
- Industry engagement (customer discovery, investor discussions, etc.).

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Note: Updates are required for all teams who are continuing to pursue commercialization activities, whether those activities are related to the technology they took through EIC or not. If there are no updates to provide, a “no progress” statement should be reported.

If additional support or information is needed from the DOE National Laboratory or DOE plant and site, the EIC team will contact the POC.

3. **Teams:** Applicants apply to EIC as a team, composed of a Principal Investigator (PI) with a commercially relevant technology, an Entrepreneurial Lead (EL), and an Industry Mentor (IM) (see below for team member descriptions). Over the course of the training, teams identify potential market pathways for their selected technology, as well as identify opportunities where further development could lead to commercial value. **The time commitment to this program is significant for both the PI and the EL, and teams should do their best to organize their workload during the training period accordingly.**

Team Structure

The team is the core unit of each EIC Training Cohort. Each complete team consists of a PI, an EL, and at least one IM. Teams are expected to fully participate in the training program and together, they are expected to meet the requirements set by the Node. This is a time-intensive program and individuals considering participation will need to prepare their schedules well in advance to allow the time necessary for the program. **Complete teams should be formed prior to application submission.** It is highly recommended that teams limit membership to a total of 3 members: one PI, one EL, and one IM. An additional IM is acceptable but additional PIs or ELs place challenges on the team’s financial plan.

PI: The PI is the technical lead and project manager based at the DOE National Laboratory or DOE plant or site responsible for overall team management. The PI should have a DOE National Laboratory or DOE plant or site technology or other form of IP identified that the team believes has a potential market application. The PI is required to attend the entire opening and closing week in person ([Table 5](#)). During the core training period, **at least 20 hours per week** of the PI’s time should be committed to EIC (excludes opening and closing sessions, which require full time). Prior entrepreneurial experience is not required. However, the PI should be committed to pursuing potential market pathways.

Entrepreneurial Lead (EL): The EL must be employed by or have a contractual relationship with a DOE National Lab, DOE plant, or site. The EL is required to attend the entire opening and closing weeks in person (Table 5). During the core training period, the EL is expected to commit **at least 30 hours per week** of their time to EIC (excludes opening and closing sessions, which require full time). The EL is expected to lead the team in coordinating stakeholder interviews, delivering team presentations, and developing the business model canvas. Prior entrepreneurial experience is not required.

IM: Ideally, the IM is an experienced industry representative or entrepreneur, from outside the laboratory, plant, or site, with substantial expertise in a relevant sector. The IM is responsible

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for providing mentorship to the EL and PI for the duration of the EIC. IMs are not required to but are highly encouraged to attend the in-person opening week and closing week sessions. The IM is expected to commit **up to six hours per week** of their time during the core training period and to meet with the team on a weekly basis. To ensure unbiased mentorship, the IM should be a volunteer and not have a direct interest in the team's technology or IP. The IM's participation and lack of conflict of interest should be cleared with the DOE National Lab, DOE plant, and site's POC and Tech Transfer or Business Development Office. Prior entrepreneurial experience is not required.

Program Deliverables

Program deliverables for each team include:

1. One-on-one onboarding meeting with the NREL management team.
2. Full participation in opening week, weekly webinars, closing week.
3. Engagement in weekly instructor Office Hours meetings.
4. Two final presentations – final or “Capstone” presentation and a “Your Energy I-Corps Journey” presentation.
5. Program office final presentation – During DC-based graduations, teams should be prepared to report and present to their sponsoring Program Office(s). The presentation should include findings from stakeholder discovery interviews, the team's value proposition, ideal customer segments for the technology, relevant stakeholders, gaps (knowledge, funding, resources, etc.) within the industry, and whether a technical pivot offers a more promising pathway.
6. Capitol Hill presentation – Though not guaranteed, during DC-based graduations, teams should be prepared to present on their technology and findings to U.S. representatives on Capitol Hill.
7. Structured debriefs with the NREL management team.

Use of Team Funds

All funding will be provided to the DOE National Laboratory or DOE plant or site as a bill code. Funding will not be transferred to external parties, e.g., directly to individual laboratory staff. Teams should apply with the understanding that historically, relevant DOE program offices determine if teams should be funded. DOE Laboratory, plant, and site POCs are required to immediately inform their finance department when a team from their DOE National Laboratory or DOE plant or site is selected for the program and coordinate the process of qualifying the funding for participation in the program. Teams may not start work on the program until they have received the funding from DOE. It is recommended that funding be used for the following primary and secondary uses:

Primary uses

- PI's time (via a charge code) and compensation for the EL, as appropriate
- Travel costs to cover training program participation, customer discovery meetings, industry conferences and events, and entrance fees to industry conferences and events

Secondary uses (as budget allows)

- Travel costs for the IM
- Training materials and educational resources
- Techno-economic analysis
- Supply chain and/or value chain analysis
- Market survey reports
- Technology maturation activities, such as testing and validation
- Specialized industry engagement support services from the laboratory, plant, or site, or another relevant organization, beyond existing support from the Site support team

Additional Funding Information

Funds are intended only for activities exploring the market potential of the selected technology and may not be used for any basic, early-stage, or applied research. Funds are not intended for IM stipends.

Period of Performance

EIC Training Cohorts occur over an approximately ten-week duration ([Table 5](#)). The period of performance may change due to unforeseen circumstances. Given the intensive nature of the program, it is not recommended to schedule vacations (1+ weeks) during the training program. **The PI and EL are required to attend all program events, including the in-person opening and closing week sessions.**

Assignments may be given prior to the first program date listed in Table 5.

Table 5: Key Dates for EIC Topic 2

Event	Date
Informational webinar	Tuesday, March 26, 2024, 12:00 p.m. (ET)
Submission deadline for team proposals	Friday, April 12, 2024, 3:00 p.m. (ET)
Expected date for team selection notifications	Friday, June 14, 2024
Funding transfers begin	Friday, June 14, 2024
Funding transfer complete	Wednesday, July 31, 2024
Fall 2024 program dates PI and EL are required to attend all program events	Orientation webinars –August 29 & September 5, 2024 Opening week** – September 16-20, 2024 Curriculum webinars – September 26 2024 Curriculum webinars – October 3, 10, 17, 24, 31, 2024 Curriculum webinars – November 7, 14, 2024 Closing week** – November 18 - 20, 2024

**Unless for an unexpected circumstance, opening and closing weeks are planned as in-person events. Opening week is planned for Golden, CO and closing week is tentatively planned for Washington, D.C.

Submission and Review Information

To be considered for EIC Training Cohort 19, applicants must complete and submit the single document listed in [Table 6](#). All submissions must be submitted via Microsoft Forms (link in [Table 6](#)). DOE will not review or consider submissions that are received through means other than Microsoft Forms, submitted after the applicable deadline, or incomplete. For Topic 2 applicants, no documents or submissions are required to be uploaded through [EERE Exchange](#).

The list of questions that make up the Topic 2 application is located in [Appendix E](#).

Table 6: EIC Topic 2 Application Documents

Document	Format	Description
Microsoft Form application	1 form per team	<p>Applicants are required to complete the application form in the following link: https://forms.microsoft.com/g/9SrM9yGY2F . The form includes fields including, but not limited to the following. The full list of application questions is located in Appendix E.</p> <ul style="list-style-type: none"> Name of DOE National Laboratory or DOE plant or site Team members (PI, EL, IM)* Short bios and whether any team members have participated in previous EIC cohorts Funding <ul style="list-style-type: none"> How the development of the technology was funded (AOP, Lab Directed Research & Development, etc.) A high-level budget plan that captures the breakdown of the team's time and expenses (should include travel to and from opening and closing sessions) Identify the program office(s) the team believes would have interest in funding their participation Selected technology <ul style="list-style-type: none"> Title of technology Technology area Brief technical description IP that has been generated and its status Description of the problem the proposed technology solves, and for whom the problem is being solved. Whether competitors in this space have been identified and who they are or might be. Explanation of how the proposed technology differs from the competition. This should include current technology providers and innovators working on similar projects. Any other barriers identified for commercializing the proposed technology and strategies to mitigate these challenges. Description of how community benefit objectives will be incorporated into the project. At minimum, address DEIA Why your team wants to participate in EIC; what you hope to learn or accomplish.

*Note: At a minimum, the PI and EL for the team must be identified at the time of submission. If the IM is not identified at the time of submission, the PI should indicate their plan for identifying remaining team members (source, timeline, etc.) and provide names of individuals targeted for participation. IMs should be in place prior to the opening session.

a) Topic 2 Selection Criteria

DOE does NOT intend to fund every Topic 2 proposal. Selection of winning proposals will be determined based on available funding and input from OTT, DOE program offices, and partner agencies. The selection criteria used to evaluate applications will be as follows:

Criterion 1: Impact (60%)

This criterion considers the following factors:

- Commercial potential – the degree to which the proposed technology demonstrates both technology progress and market interest, extent to which the proposed technology will result in a commercially successful product and/or company, extent to which the proposed technology can be successfully commercialized in a reasonable timeframe, and degree to which the team demonstrates their understanding of the target audience and the problem solved by the successful commercialization of their technology.
- Challenges mitigated – the extent to which the applicant understands the challenges they will face to commercialize their technology, including competitors. This sub criterion also includes the soundness of the strategies and methods that will be used to mitigate barriers.
- Fit with DOE program offices – the extent to which the proposed technology aligns with the missions of DOE program offices.
- Learning Impact – the extent to which the team demonstrates their interest to learn from EIC Training Cohort 19 participation and share gained knowledge with others at their DOE National Laboratory or DOE plant or site to create greater interest in technology commercialization.
- Reasonable budget plan – the reasonableness of the overall funding plan to participate in the EIC Training Cohort.
- Community benefits – the extent to which the team demonstrates incorporating and meeting community benefit objectives (1) DEIA; 2) energy equity; and 3) investigating in America's workforce). At a minimum, DEIA should be addressed.

Criterion 2: Project Team (40%)

This criterion considers the following factors:

- Collaboration & capability – the degree to which the proposed team shows it has branched out and connected with members of different strengths and skills, to ultimately develop a holistic team poised to successfully complete the EIC Training Cohort.
- Availability – the extent to which team members are fully assembled and committed to the project. At a minimum, the PI and EL for the team must be identified at the time of submission. Fully formed teams will have preference over incomplete teams during application review.

b) Topic 2 Selection Notification

All successful and unsuccessful applicant notifications will be communicated to laboratory, plant, and site POCs. It is the responsibility of the POC to distribute the notification information to their laboratory, plant, or site applicants.

iii. Topic 3: Post Energy I-Corps Funding

Topic Description

Teams that complete Topic 2 - EIC Training Cohorts are excited about their newfound skills and strategies to commercialize their technologies, but often lack actionable next steps or the funding to support them. OTT is interested in providing an opportunity for the most promising EIC and NSF graduates to continue advancing their energy-related technology toward commercialization. **Only teams or individuals who have previously participated in the Topic 2-EIC Cohort Training or have successfully completed the [NSF national I-Corps™ training](#) with a DOE technology are eligible to apply for this topic.** Funding is intended to cover costs of the next actionable step in technology commercialization and facilitate the teams in reaching their next source of more substantive support to continue their commercialization journey. Applicants should identify a clear, discrete next step in commercialization and the amount of funding needed to reach that next step. Applications should represent projects that are ambitious but achievable. Projects will be considered up to \$100K in funding (subject to annual appropriations). Applications will also be shared with relevant program offices for their funding consideration.

Example Topic 3 – Post EIC projects include:

- Running a pilot technology deployment with a potential customer.
- Building and testing a prototype.
- Completing a technology validation with a potential licensee.

Key dates for Topic 3 are listed in Table 7.

Table 7: Key Dates for Topic 3 Post EIC

Event	Date
Informational webinar	Tuesday, March 26, 2024, 12:00 p.m. (ET)
Submission deadline	Friday, April 12, 2024, 3:00 p.m. (ET)
Expected date for selection notifications	Friday, June 14, 2024
Funding transfer complete	Funding will be transferred after successful negotiations between OTT and DOE National Laboratory or DOE plant or site are completed. *OTT is targeting Friday, August 30, 2024.

Eligibility – Topic 3

The technology must 1) be from a DOE Laboratory or DOE plant or site AND 2) have gone through either EIC Training Cohort (Topic 2) or the NSF national I-Corps™ (inclusive of technical pivots). EIC Training Cohort and NSF national I-Corps™ graduates as well as non-graduates can apply to this topic. However, non-graduates are limited to individuals who are employed by or have a contractual relationship with a DOE National Lab, DOE plant or site (e.g. Technology Transfer Office personnel).

Program Deliverables

A final report will be required to be submitted at the end of the proposed project. This report will include themes including but not limited to overview of the project, lessons learned, advances made towards technology commercialization, and next steps.

Period of Performance

Proposed projects should seek to support EIC goals efficiently in FY24. However, applications with projects that expand beyond the end of FY24 will be considered.

Submission and Review Information

All submissions must conform to the following form and content requirements, including maximum page lengths (described below) and must be submitted via [EERE Exchange](#), unless specifically stated otherwise. DOE will not review or consider submissions that are received through means other than Exchange, submitted after the applicable deadline, or incomplete.

Should applicants experience technical problems with Exchange prior to the deadline, the applicant should contact the EERE Exchange helpdesk for assistance (EERE-ExchangeSupport@hq.doe.gov). The EERE Exchange helpdesk and/or the EERE Exchange system administrators will assist applicants in resolving issues.

To be considered for EIC Topic 3, applicants must submit the documents listed in [Table 8](#).

Selected applicants will go through a negotiations process which will require the development and approval of a statement of work and spend plan. Templates of these documents are included in [Appendices B](#) and [C](#), respectively, and can be used as a resource when completing application documents. They are not required as part of the application.

Table 8: EIC Topic 3 Application Documents

Document	Format	Description
Cover page	<ul style="list-style-type: none"> • 1 page max • 8.5"x 11" pages with 1-inch margin • 11-point font • PDF file 	<p>Applicants are required to include:</p> <ul style="list-style-type: none"> • Name of project and technology. • Name(s) of individual or team members involved. • EIC Training Cohort number that team members previously participated in or year that the team participated in the NSF I-Corps™ program. • A maximum 200-word summary of the project suitable for public release if the project is funded.
Detailed narrative	<ul style="list-style-type: none"> • 3-page max • 8.5"x 11" pages with 1-inch margin • 11-point font • PDF file 	<p>Applicants are required to:</p> <ul style="list-style-type: none"> • Describe the proposed project: the clear, discrete next step to commercialize your technology, and explain how receiving this funding will help you achieve this step. • Describe an overview of the technology (including the status of its commercialization), the leading participants for the proposed project and their roles, resources needed, and overall plan to execute the project. • Explain how the successful implementation of the proposed project will unlock the potential for much larger public or private funding sources to continue the commercialization process. • State any roadblocks that may arise when implementing your proposal and your plans to overcome such barriers. • Answer the following questions: <ul style="list-style-type: none"> • What is the best possible outcome for this project? • What are the project team's goals after this project is complete? • How should project success be measured? • What are the conditions that would make this project not worth continuing? • Explain the steps and timeframe needed for full technology commercialization after this proposed project, assuming the proposal is funded. • Describe how community benefit objectives ((1) DEIA; (2) energy equity; and (3) investing in America's workforce) will be incorporated in the project. Include how the project will support or implement the lab-wide DEIA plan. At a minimum, include at least one SMART DEIA milestone supported by metrics to measure the success of the proposed action.

*Table continues on next page

*Table continued from previous page

		<ul style="list-style-type: none"> Briefly indicate specific experiences or outcomes from EIC Topic 2 participation that influenced this proposal. Describe steps taken to commercialize the technology since participation in Topic 2. If none, state so. Provide the current ARL of technology. Additional resources on ARL can be found at the following link: Adoption Readiness Levels (ARL): A Complement to TRL Department of Energy Include a timeline for the proposed project. Describe a plan for implementing the proposal with a requested amount of funding, but also include what could be accomplished with 50% of the requested amount.
1-page Technology “pitch” / summary sheet (Please do not include any proprietary information on this document, as it is intended to be used as a resource to share with external parties)	<ul style="list-style-type: none"> 1-page max 8.5”x 11” pages with 1-inch margin 11-point font PDF file 	<ul style="list-style-type: none"> Technology name and summary Specific problem or opportunity and how your technology solves this problem ARL & TRL of your technology currently: Assess your ARL with DOE’s Commercialization Adoption Readiness Assessment Tool: Adoption Readiness Levels (ARL): A Complement to TRL Department of Energy Target Audience: Identify the potential stakeholders and end-users who could benefit from the project. Value Proposition: Articulate the unique value proposition of the project, explaining why stakeholders would have interest. Contact Information: Include contact details for the project team or lead, allowing stakeholders to reach out for more information or collaboration opportunities. Include reliable data, verifiable facts, key metrics, and statistics as relevant Visual Elements: Incorporate visually appealing elements such as graphs, charts, or diagrams to enhance understanding and engagement. Include at least one image of your technology.
Copy of NSF I-Corps™ final project report and outcomes report (Only required for NSF I-Corps™ technology)	PDF file	<ul style="list-style-type: none"> If the applicant is applying with DOE technology that went through an NSF national I-Corps™ training instead of an EIC Topic 2 cohort, submit a copy of the NSF I-Corps™ final project report and project outcomes report that was submitted when successfully completing the full NSF I-Corps™ program.

a) Topic 3 Selection Criteria

OTT does NOT intend to fund every lab that submits a Topic 3 proposal. Selection of winning proposals will be determined based on available funding and input from OTT, DOE program offices, and partner agencies. Due to appropriation cuts, OTT will have very limited funding to support Topic 3 projects. Non-OTT DOE program offices and partner agencies will have the opportunity to select and fund the Topic 3 applications. See [Appendix A](#) for DOE program office and partner agency technology research areas. The selection criteria used to evaluate applications will be as follows:

Criterion 1: Impact (80%)

This criterion considers the following factors:

- Potential of project success – the extent to which the proposal, if successful, will accelerate the technology’s commercialization. Teams that are closer to commercialization and teams that can articulate a clear use for the funds that have a high likelihood of achieving tangible advancement toward commercialization are most likely to receive funds.
- Long-term viability – the degree to which the proposal has the potential to continue to be impactful without long-term, continued, direct funding from OTT.
- Commercial potential – the degree to which the proposal demonstrates both technology progress and market interest, extent to which the proposed technology will result in a commercially successful product and/or company; and the extent to which the proposed technology can be successfully commercialized in a reasonable timeframe.
- Access – the extent to which the applicant(s) has access to facilities, equipment, people, expertise, data, knowledge, and other resources required to complete the proposed project.
- DEIA – the extent to which the proposed project demonstrates a welcoming and inclusive environment, supports people from underrepresented groups in STEM and encourages the inclusion of individuals from these groups in the project, advances equity, and/or the extent to which the project activities will benefit underserved communities.

Criterion 2: Quality of Proposed Project (20%)

This criterion considers the following factors:

- Well-defined goals – the extent to which stated goals of the project are SMART and the likelihood goals will be accomplished within the scope of this project.
- Challenges mitigated – the extent to which the applicant understands and discusses the core barriers and challenges the proposed work will face, and the soundness of the strategies and methods that will be used to mitigate barriers.
- Reasonable assumptions & timeline – the reasonableness of the assumptions used to form the execution strategy (e.g., lab staff participation, timeframe, etc.).
- Reasonable budget – the reasonableness of the overall funding requested to achieve the proposed project and objectives. Please note that lower funding amounts have a better chance of being funded.

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b) Topic 3 Selection Notification

All successful and unsuccessful applicant notifications will be communicated to laboratory, plant, and site POCs. It is the responsibility of the POC to distribute the notification information to their laboratory, plant, or site's applicants.

c) Topic 3 Project Administration and Reporting

Projects selected for award are managed by DOE in accordance with DOE requisite policies and procedures. OTT will provide all required project oversight and engagement with EIC project participants. DOE program offices that decide to participate in EIC can also engage with EIC participants.

OTT will establish a regular cadence of required meetings ranging from every one to three months for DOE National Laboratory and DOE plant and site technology transfer offices to meet with OTT and supporting DOE program offices to discuss project progress and budget updates. Additionally, DOE National Laboratory and DOE plant and site technology transfer offices are required to provide progress reporting and budget reporting in the PICS software, in addition to program-specific deliverables. A final project report will be required.

Appendix A: Program Office and Partner Agency Technology Research Areas

Advanced Materials & Manufacturing Technologies Office (AMMTO)

- Next Generation Materials & Processes
 - Additive Manufacturing
 - Near Net Shape Manufacturing
 - Composites
 - Materials for Harsh Service Conditions
 - Digital, Secure, and Smart Manufacturing
- Secure and Sustainable Materials
 - Critical Materials sourcing, recovery, and substitution
 - Materials & Processes increasing supply chain circularity
- Energy Technology Manufacturing & Workforce
 - Energy Storage Manufacturing
 - Microelectronics Energy Efficiency
 - Power Electronics
 - Manufacturing Workforce Development

Bioenergy Technologies Office (BETO)

- Bioproduct Production
- CO2 Utilization
- Conversion Technologies
- Conversion processes for biochemical and fuel production, relevant to Conversion Accelerator
- Data, Modeling, & Analysis
- Feedstock Technologies
- Renewable Carbon Resources
- Systems Development & Integration
- Transportation Biofuels
- Waste-to-Energy

Buildings Technology Office (BTO)

- Building Controls and Fault Detection
- Refrigerants and Refrigerant Leak Detection
- Building Electric Appliances, Devices, and Systems
- Building Energy Modeling
- Heat Pumps/ Heat Pump Water Heaters
- Solid-State Lighting

(BTO continues on next page)

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BTO continued

- Opaque Envelope
- Industrialized Construction Approaches
- Envelope Retrofits
- Enabling Electrification
- IAQ and Ventilation
- Thermal Energy Storage
- Insulation, Air-sealing, Moisture control
- Windows

Geothermal Technologies Office (GTO)

- Enhanced Geothermal Systems
- Hydrothermal Resources
- Low Temperature & Coproduced Resources
- Data, Modeling, and Analysis

Grid Deployment Office (GDO)

- Critical generation facilities maintenance and investment
- Transmission and distribution system resilience
- Provision of access to technical assistance and National Laboratory expertise, modeling, and analytical capabilities
- Resilience of critical power generation facilities:
 - Hydroelectric
 - Nuclear facilities
 - High-capacity electric transmission lines

Hydrogen and Fuel Cell Technologies Office (HFTO)

- Hydrogen Production
- Hydrogen Delivery
- Hydrogen Storage
- Fuel Cells:
 - Technology Validation
 - Manufacturing Research and Development
 - Safety, Codes and Standards
 - Education
 - Market Transformation
 - Systems Analysis

Industrial Efficiency and Decarbonization Office (IEDO)

- Decarbonization of Process Heating
- Low Carbon Fuels, Feedstocks, and Energy Sources
- Water and Energy
- Energy Efficiency
- Iron and Steel Manufacturing
- Cement and Concrete Manufacturing
- Chemical and Fuels Manufacturing
- Forest Products
- Food and Beverage Products
- Asphalt, glass, and “other high energy & emissions materials” Manufacturing

National Nuclear Security Administration (NNSA)

- Counterterrorism and Counterproliferation
- Defense Nuclear Nonproliferation
- Defense Nuclear Security
- Defense Programs
- Emergency Operations
- Environment, Safety, and Health
- Information Management
- Infrastructure
- Naval Nuclear Propulsion Program (Naval Reactors)

Office of Clean Energy Demonstrations (OCED)

- Advanced Reactor Demonstration Projects
- Carbon Capture Large-Scale Pilot Projects
- Carbon Capture Demonstration Projects Program
- Clean Energy Demonstration Program on Current and Former Mine Land
- Energy Improvements in Rural or Remote Areas
- Industrial Demonstrations Program
- Long-Duration Energy Storage Demonstrations
- Regional Clean Hydrogen
- Regional Direct Air Capture

Office of Cybersecurity, Energy Security, and Emergency Response (CESER)

- Cybersecurity
 - Cybersecurity for Energy Delivery Systems Research and Development
 - Cybersecurity Testing for Resilient Industrial Control Systems
 - Cybersecurity for the Operational Technology Environment
- Energy Security
 - National critical infrastructure protection
 - Infrastructure vulnerability analysis and preventive measures
 - Energy emergency response
 - Emergency energy operations during a declared emergency or national security special events in accordance with the National Response Framework
 - Energy sector cybersecurity preparedness and cyber incident response and recovery
- Emergency Response
 - Restoration of damaged energy systems
 - Identification of resources to stabilize and reestablish energy systems
 - Energy systems assessment, restoration, logistics, and longer-term recovery planning
 - Collecting, evaluating, and sharing energy sector information and visualizations

Office of Electricity (OE)

- Grid Controls and Communications
 - Electric system modeling and planning
 - Improved electric delivery system situational awareness and support of grid operations
 - Secure communications, controls, and protection systems for electric delivery system
 - Transformative technologies, tools, and techniques for distribution system modernization and solutions supporting the convergence of the distribution and transmission systems including consumer participation
- Grid Systems and Components
 - Advanced system, component, and materials development for Solid State Power Substations and other critical grid equipment
 - Large power transformer challenges
 - Grid Enhancing Technologies to maximize the capacity of the current electricity delivery infrastructure
 - Microgrid technologies for increased grid resilience and mitigated grid disturbances; advanced control and protection; and models and tools for planning, designs, and operations
- Energy Storage
 - Longer-duration grid storage technologies
 - Improved grid storage reliability and safety
 - Performance validation for rapid commercialization

Office of Environmental Management (EM)

- Excess Materials and Radioactive Waste Management
- Facility Deactivation and Decommissioning (D&D)
- Soil and Groundwater Remediation
- Long-Term Environmental Stewardship and Post-Closure Care
- Management and Disposition of Surplus Nuclear Material
- Management and Disposition of Spent Nuclear Fuel
- Radiological Packaging & Transport
- Environmental and Waste Management Applications of Artificial Intelligence and Machine Learning
- Environmental and Waste Management Applications of Robotics and Remote Technologies
- Beneficial Reuse of Radioactive Materials
- Facility and Infrastructure Life-Extension Technologies and Approaches
- Environmental Remediation Systems Resiliency to Extreme Weather Events and Climates

Office of Fossil Energy and Carbon Management (FECM)

- Point Source Carbon Capture
- Hydrogen with Carbon Management
- Carbon Transport and Storage
- Carbon Dioxide Removal
- Carbon Conversion
- Critical Minerals
- Methane Mitigation

Manufacturing and Energy Supply Chains (MESC)

- Strengthen and secure manufacturing and energy supply chains
- Support clean and equitable energy transition
- Develop clean domestic manufacturing and workforce capabilities
- Engage with private-sector companies, other Federal agencies, and key stakeholders to collect, analyze, respond to, and share data about energy supply chains to inform future decision making and investment

Office of Nuclear Energy (NE)

- Small Modular Reactor Technologies
- Light Water Reactor Technologies
- Advanced Reactor Technologies
- Space Power Systems
- Fuel Cycle Options
- Advanced Fuels

(NE Continues on next page)

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NE continued

- Separations and Waste Forms
- Used Fuel Disposition
- Material Protection, Control, and Accountability Technologies
- Consent-Based Siting

Office of Science (SC):

SC - Accelerator R&D and Production (ARDAP)

- Novel particle acceleration techniques
- High-brightness radiation sources
- Beam manipulation and beam instrumentation
- Ion generation and acceleration

SC -Advanced Scientific Computing Research (ASCR)

- Applied Mathematics Research
- ASCR Computer Science Research
- Computer Science Research
- ASCR Computational Partnerships
- Computational Partnerships
- ASCR Supercomputing and Network Facilities
- Emerging Technologies
 - Software stacks
 - Microelectronics
 - Advanced computing architecture
 - Quantum computing
 - Data management
 - Programming
 - Cybersecurity
 - Networking
 - Artificial Intelligence

SC - Basic Energy Sciences (BES)

- Condensed matter and materials physics
- Chemistry, geosciences, and physical biosciences
- Advances for accelerators, X-ray and neutron detectors, X-ray optics, and nanoscale science instrumentation

SC - Biological and Environmental Research (BER)

- Biological Systems Science
- Earth and Environmental System Sciences
- Bioenergy Research

SC - Fusion Energy Sciences (FES)

- Burning Plasma Science
- General Plasma Science
- High Energy Density Laboratory Plasmas
- Enabling technologies, including but not limited to magnets, the fusion fuel cycle, and plasma-facing materials.
- Practical applications of plasmas, such as to microelectronics fabrication, nanomaterial synthesis, and space weather forecasting.
- Plasma medicine and plasma processing

SC - High Energy Physics (HEP)

- High energy particle accelerators
- Rare particle interaction research
- Naturally occurring cosmic particles and phenomena research
- Theoretical, Computational, and Interdisciplinary Physics
- Advanced Technology R&D
- Basic research in accelerator science and technology to make particle accelerator technology widely available to science and industry

SC - Isotope R&D and Production (DOE Isotope Program)

- New and improved production and distribution of radioactive and stable isotopes which can make priority isotopes available for research and application.
- Isotope by-product, surplus materials, and related isotope services
- Ensure robustness of domestic isotope supply chains

SC - Nuclear Physics (NP)

- Heavy Ions
- Medium Energy
- Nuclear Structure and Nuclear Astrophysics
- Fundamental Symmetries
- Theoretical Nuclear Physics
- Computational Nuclear Physics
- Nuclear Data
- Accelerator Physics

Solar Energy Technologies Office (SETO)

- Concentrating Solar-Thermal Power
- Manufacturing and Competitiveness
- Photovoltaics
- Soft Costs
- Systems Integration
- Equitable Access to Solar Energy
- Solar Workforce Development

Vehicle Technologies Office (VTO)

- Batteries, Charging, & Electric Vehicles
- Energy Efficient Mobility Systems
- Decarbonization of Off-Road, Rail, Marine, and Aviation
- Lightweight & Propulsion Materials
- Technology Deployment and Workforce Development

Water Power Technologies Office (WPTO)

- Hydropower Basics
- Environmental & Hydrologic Systems Science
- Grid Reliability, Resilience, & Integration
- Hydropower Data Access & Analytics
- Low-Impact Hydropower Growth
- Modernization, Maintenance, & Cybersecurity
- Marine Energy
 - Foundational R&D
 - Marine Energy Data Access & Analytics
 - Powering the Blue Economy
 - Reducing Barriers to Testing
 - System Design & Validation

Wind Energy Technology Office (WETO)

- Atmosphere to Electrons
- Distributed Wind
- Environmental Impacts & Siting
- Next-Generation Wind Technology
- Offshore Wind
- Renewable Systems Integration
- Resource Assessment & Characterization
- Testing & Certification

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WETO continued

- Wind Manufacturing & Supply Chain
- Wind Turbine Radar Interference
- Wind Turbine Sustainability
- Workforce Development & Education

Appendix B: Community Benefits Guidance

DOE is committed to pushing the frontiers of science and engineering; catalyzing high-quality domestic clean energy jobs through research, development, demonstration, and deployment; and ensuring energy equity and energy justice¹ for disadvantaged communities (DAC)². Therefore, and in accordance with the Administration’s priority to empower workers and harness opportunities to create good jobs as stated in EO 14008 (Executive Order on Tackling the Climate Crisis at Home and Abroad),³ it is important to consider the impacts of the successful commercial deployment of any innovations resulting from this lab call on the current and future workforce.

By considering community benefits, applicants can critically think about implications of how the proposed work will benefit the American people and lead to broadly shared prosperity, including for workers and disadvantaged communities. The three sections of Community Benefits (DEIA, energy equity, and workforce) are considered together because there may be significant overlap among audiences considered in workforce and disadvantaged communities.

Example Diversity, Equity, Inclusion, and Accessibility (DEIA), Energy Equity, and Workforce Elements

Outlined below are examples of activities that applicants might consider for Community Benefits. Applicants are not required to implement any of these specific examples and should propose activities that best fit their goals, institutional environment, team composition, and other factors. Creativity is encouraged.

DEIA

DOE strongly encourages applicants to involve individuals and entities from DACs.

¹ DOE defines energy justice as “the goal of achieving equity in both the social and economic participation in the energy system, while also remediating social, economic, and health burdens on those disproportionately harmed by the energy system” (Initiative for Energy Justice, 2019). Aligned with that definition, the remainder of this document refers to “energy equity” to encompass energy justice and DOE’s efforts related to Justice40. <https://www.energy.gov/diversity/articles/how-energy-justice-presidential-initiatives-and-executive-orders-shape-equity>

² Pursuant to E.O. 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, DOE recognizes DACs as defined and identified by the White House Council of Environmental Quality’s Climate and Economic Justice Screening Tool (CEJST), located at <https://screeningtool.geoplatform.gov/>. DOE’s Justice40 Implementation Guidance is located at <https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf>.

³ <https://www.federalregister.gov/documents/2021/02/01/2021-02177/tackling-the-climate-crisis-at-home-and-abroad>

Tapping all the available talent requires intentional approaches and yields broad benefits.

Equity extends beyond diversity to equitable treatment. Equitable access to opportunity for members of the project team is paramount. This includes ensuring all members of the team, including students, are paid a living wage, provided appropriate working conditions, and provided appropriate benefits. Efforts toward DEIA are defined as:⁴

- 1) The practice of including the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people;
- 2) The consistent and systematic fair, just, and impartial treatment of all individuals, including protecting workers' rights and adhering to Equal Employment Opportunity laws;
- 3) The recognition, appreciation, and use of the talents and skills of employees of all backgrounds; and
- 4) The provision of accommodations so that all people, including people with disabilities, can fully and independently access facilities, information and communication technology, programs, and services.

Applicants can consider not only how the project team seeks to increase DEIA but also the overall approaches to retention, engagement, professional development, and career advancement. Specifically, approaches to ensure all team members' strengths are meaningfully leveraged, and all members are provided opportunities and paths for career development, especially including paths for interns and trainees to secure permanent positions. Diversity considers all levels of the project team.

DOE strongly encourages applicants to consider collaboration or engagement with Minority Serving Institutions, Minority Business Enterprises, minority-owned businesses, disability-owned businesses, women-owned businesses, Native American-owned businesses, veteran-owned businesses, local government, and community-based organizations that represent, support, or work with DACs or entities located in an underserved community.

It is important to note that diversity, equity, inclusion, and accessibility are four different but related concepts that should not be conflated. For instance, you can achieve diversity without equity; all four should be considered.

The following is a non-exhaustive list of actions that can serve as examples of ways proposed projects could incorporate DEIA elements:

⁴ <https://www.whitehouse.gov/wp-content/uploads/2021/11/Strategic-Plan-to-Advance-Diversity-Equity-Inclusion-and-Accessibility-in-the-Federal-Workforce-11.23.21.pdf>

- Include persons from groups underrepresented in STEM as Principal Investigator (PI), Industry Mentor (IM), Entrepreneurial Lead (EL) (Section [G.ii](#)) and/or overall project team.
- Include faculty or students from Minority Serving Institutions as IM, EL and/or overall project team.
- Collaborate with students, researchers, and staff in Minority Serving Institutions as part of customer discovery.
- Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses to interview as part of customer discovery.
- Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations. Develop technology and technology integration innovations to meet the needs of DACs;
- Collaborate, engage, or create partnerships with local communities, especially under-resourced and DACs;

These examples should not be considered either comprehensive or prescriptive. Applicants may include appropriate actions not covered by these examples.

Energy Equity

Energy Equity considers how project proposals will drive equitable access to, participation in, and distribution of the benefits produced from successful technology innovations to disadvantaged communities and groups. Intentional inclusion of energy equity evaluates the anticipated long-term costs and benefits that will accrue to disadvantaged groups as a result of the project and how the project could support historically DACs' engagement in clean energy decisions. It is acknowledged that energy equity and justice benefits may be uncertain, occur over a long period of time, and have many factors within and outside the specific proposed research influencing them.

Applicants can consider the influencing factors and the most likely energy equity implications of the proposed project, including any long-term constraints the proposed project may pose to communities' access to natural resources and Tribal cultural resources. There may be existing equity research available to use and cite in the application, or the applicant could describe milestone-based efforts toward developing that understanding through this project. These near- and long-term outcomes may include but are not limited to: a decrease in the percent of income a household spends on energy costs (energy burden);⁵ an increase in access to low-capital; a decrease in environmental exposure and burdens; increases in clean

⁵ Energy burden is defined as the percentage of gross household income spent on energy costs:

<https://www.energy.gov/eere/slsc/low-income-community-energy-solutions>

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energy enterprise creation and contracting (e.g., women- or minority-owned business enterprises); increased parity in clean energy technology access and adoption; increases in energy democracy, including community ownership; and an increase in energy resilience.

Specific examples include:

- Focusing on a technology that supports economic development in diverse geographic or demographic communities.
- Engaging equity and justice stakeholders in evaluating the broader impacts of the innovation or in the development of the project methodology.
- Implementing outreach to a wide variety of stakeholders in the strategy and rollout of the project.
- Evaluating the potential equity and justice implications of a successful project.

These examples should not be considered either comprehensive or prescriptive. Applicants may include appropriate actions not covered by these examples.

Workforce

The Workforce aspect of Community Benefits considers the future workforce implications of the project outcome(s). This includes the skills, knowledge, and abilities that would be required of workers installing, maintaining, and operating the technology that may be derivative of the applicant's project or technology, as well as the training pathways and its accessibility for workers to acquire the necessary skills. Applications can include the process to evaluate long-term impacts on jobs, including job growth or job loss, a change in job quality, disruptions to existing industry and resulting changes to relationships between employers and employees and anything else that could result in changes to regional or national labor markets.

Specific examples include:

- Outlining the challenges and opportunities for commercializing the technology in the United States.
- Evaluating the workforce implications of a successful project, technology commercialization, either at the macroeconomic level or within specific industries. This can include job savings, growth, or loss. This can also include how successful commercialization of the technology will result in potential workforce shifts between industries or geographies.

These examples should not be considered either comprehensive or prescriptive. Applicants may include appropriate actions not covered by these examples.

Appendix C: Topics 1 & 3 Statement of Work Template

Statement of Work

[XX] NATIONAL LABORATORY

[Control Number]-FY24 EIC- [Project Title]

Project Objectives

[Clear and concise statement of the goals and objectives of the project]

Technical Scope Summary

[Summary description of the overall work scope and approach to achieve the objectives of the project]

Project Metrics

Metric	Type (input or outcome)	Unit	Project Target
<i>e.g. Participant Attendance to X event</i>	<i>Outcome</i>	<i># participants</i>	<i>30</i>
<i>e.g. External Parties engaged through training</i>	<i>Outcome</i>	<i># external parties & their name</i>	<i>5</i>
<i>e.g. # of Employee resource groups engaged</i>	<i>Input</i>	<i># ERGs</i>	
<i>e.g. Alumni Involvement</i>	<i>Outcome</i>	<i># of alumni</i>	
<i>e.g. Prototype developed</i>	<i>Outcome</i>	<i># prototypes</i>	
<i>e.g. Topic 2 applications submitted for C19</i>	<i>Outcome</i>	<i># applications</i>	

Tasks To Be Performed

In total, this project is expected to take place during a [XX] month period of performance.

Task 1. [Task Name] [Date range of the task in months, e.g. M1-M4]

[Description of task]

Subtask 1.0 [Subtask Name] [Date range of the task in months, e.g. M1-M2]

[Description of subtask]

Milestone 1.0 [Milestone Name] [Date range of the task in months]

[Description of milestone]

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Subtask 1.1 [Subtask Name] [Date range of the task in months]

[Description of subtask]

Milestone 1.1 [Milestone Name] [Date range of the task in months]

Milestone 1.2 [Milestone Name] [Date range of the task in months]

Task 2. [Task Name] [Date range of the task in months, e.g. M1-M4]

[Description of task]

Milestone 2.0 [Milestone Name] [Date range of the task in months]

[Description of milestone]

GO / NO GO MILESTONE (Month #):

[Description of milestone]

Project Management and Reporting

[Should briefly describe the relevant project management and reporting activities during project life]

Milestones Table

Milestone Summary Table							
Recipient Name:		[Enter Recipient Name]					
Project Title:		[Enter Project Title]					
Task No.	Task or Subtask Title	Milestone Type (Milestone, Go/No-Go Decision Point)	Milestone Number* (Go/No-Go Decision Point)	Milestone Description (Go/No-Go Decision Criteria)	Milestone Verification Process (What, How, Who, Where)	Anticipated Date (Months from Start of the Project)	Anticipated Quarter (from Start of the Project)
		GO/NO GO Decision Point					

Appendix D: Topics 1 & 3 Spend Plan Template:

	FY2024												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total Budget
Milestone 1													0
Milestone 2													0
Milestone 3													0
[add/delete rows as needed]													0
Monthly Total (\$)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Total (\$)	0	0	0	0	0	0	0	0	0	0	0	0	0

	FY2025												
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total Budget
Milestone 1													0
Milestone 2													0
Milestone 3													0
[add/delete rows as needed]													0
Monthly Total (\$)	0	0	0	0	0	0	0	0	0	0	0	0	0
Cumulative Total (\$)	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix E: Topic 2 Application

Energy I-Corps Cohort 19 Application:

Team

You will participate in the program as a team that consists of a principal investigator (PI), entrepreneurial lead (EL), industry mentor (IM). Please see descriptions for each role listed below.

Please identify your team members below. If you have not yet identified the team member please leave the question blank, or write "N/A". Please note that applications with all team members identified will be given preference.

1. DOE National Laboratory or DOE plant or site
2. Lab POC: Who in your lab's Tech Transfer or Business Development Offices are you working with?
3. Are you available to participate in ALL Energy I-Corps Cohort 19 sessions? (Y/N)
DOE Program Offices select teams to participate in Energy I-Corps based on the understanding that a full team has been formed and that the team is committed to participation. If you cannot participate in ALL sessions listed below, please wait to apply until your schedule allows full engagement. Important Dates (all dates in 2024):
 - Orientation webinars – August 29 & September 5
 - Opening week – September 16-20
 - Curriculum webinars – September 26
 - Curriculum webinars – October 3, 10, 17, 24, 31
 - Curriculum webinars – November 7, 14
 - Closing week – November 18 – 20
4. Principal Investigator (PI) Name

*The PI is the technical lead and project manager based at the DOE national laboratory or DOE plant or site, responsible for overall team management. The PI should have a laboratory, plant or site technology or other form of IP identified, that the team believes has a potential market application. The PI is required to attend the entire opening and closing week in person. During the core training period, **at least 20 hours per week** of the PI's time should be committed to EIC (excludes opening and closing sessions, which require full time). Prior experience is not required. However, the PI should be committed to pursuing potential market pathways.*
5. PI Email:
6. Short Bio for PI (250 word limit)
7. Entrepreneurial Lead (EL) Name

The EL must be employed by or have a contractual relationship with a DOE National Lab, DOE plant, or site. The EL is required to attend the entire opening and closing weeks in person.

During the core training period, the EL is expected to commit **at least 30 hours per week** of their time to EIC (excludes opening and closing sessions, which require full time). The EL is expected to lead the team in coordinating stakeholder interviews, delivering team presentations, and developing the business model canvas. Prior entrepreneurial experience is not required.

8. EL Email

9. Short Bio for EL (250 word limit)

10. Industry Mentor (IM) Name

*The IM is an experienced industry representative or entrepreneur, from outside the DOE national laboratory or DOE plant or site, with substantial expertise in a relevant sector. The IM is responsible for providing mentorship to the EL and PI for the duration of the EIC. IMs are not required, but highly encouraged to attend the in-person opening week and closing week sessions. The IM is expected to commit **up to 6 hours per week** of their time during the core training period and to meet with the team on a weekly basis. To ensure unbiased mentorship, the IM should be a volunteer and not have a direct interest in the team's technology or IP. The IM's participation and lack of conflict of interest should be cleared with the lab's POC and Tech Transfer or Business Development Office.*

11. IM Email

12. Short Bio for IM (250 word limit)

13. Have any team members (PI or EL) participated in previous cohorts of Energy I-Corps?

14. If YES, please identify which team member, and their previous role (PI or EL), If no, please type "N/A"

Funding

A reminder that the Lab Call states the following for time commitment expectations: Opening (September 16-20, 2024) and closing weeks (November 18-20, 2024) require the PI & EL full-time in tentatively Golden, CO and Washington, DC respectively. 20-30 hours per workweek of the PI's time should be committed to this project during the two-month core training period. The EL is expected to commit at least 30 hours per workweek of their time during the core training period and should expect to lead the team in coordinating customer interviews, delivering team presentations, and developing the business model. The IM can expect to contribute up to 6 hours per workweek of their time.

15. How was the development of your technology funded? (AOP, LDRD, etc.) 250 word limit

16. Which Funding Office(s) have previously funded the development of your technology? Select all that apply.
17. Please break down your high-level budget by percentage of total budget in the text box below. *Consider team's time and expenses including costs for conferences during the duration of the cohort, as well as travel expenses for opening and closing sessions. 250 word limit.*
18. Which Funding Office(s) do you believe would have interest in funding your participation in this program? *(Select all that apply from list of DOE program offices)*

Selected Technology

19. Project Title(s):
20. Technology Area:
21. Please select the technology category that best describes your project *(select from list)*
22. Technical Description: *Please provide a description that communicates the purpose of the technology at a high level (250 word limit)*
23. What Intellectual Property (IP) has been generated, and what is the status? *(250 word limit)*
24. Describe the problem that your technology solves, and for whom the problem is being solved: *(250 word limit)*
25. Have you identified any competitors working in this space? Who might be your competition? How does your solution differ from the competition? This should include your market's current technology providers and innovators working on similar projects. *(250 word limit)*
26. Describe how diversity, equity, inclusion, and accessibility objectives will be incorporated into the project. *(250 word limit)*. Examples of ways proposed projects could incorporate DEIA elements:
 - Include persons from groups underrepresented in STEM as PI, IM, EL and/or overall project team
 - Include faculty or students from Minority Serving Institutions as PI, IM, EL and/or overall project team
 - Collaborate with students, researchers, and staff in Minority Serving Institutions as part of customer discovery
 - Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, and Veteran Owned Businesses to interview as part of customer discovery.
 - Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations

27. Has anyone from your team previously participated in DOE Office of Technology Transitions-funded Site, Satellite, Asynchronous, or Pipeline Development funded programs (now referred to as EIC Topic 1 programs)? *These include lighter versions of EIC hosted by your lab, plant, or site*
28. Has anyone from your team previously participated in a DOE-funded technology commercialization program (e.g. TCF, DOE Emerging Tech Studio, BOOST, LEEP, etc.)? *If "Yes", please provide a short summary of your participation (program name, year, outcomes). Please list "N/A" if not applicable.*
29. Why do you want your team to participate in Energy I-Corps? What do you hope to learn or accomplish? *250 word limit*