# ENERGY I-CORPS

U.S. DEPARTMENT OF OFFICE OF Technology Transitions

## U.S. Department of Energy Office of Technology Transitions

### **National Laboratory Call for Proposals**

Energy I-Corps Program: Topic 1. EIC Pipeline Development Topic 2. EIC Training Cohort (Cohort 17) Topic 3. Post EIC

Announcement No. DE-LC-000L103

Fiscal Year 2023

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 national laboratory and federally funded research and development center (FFDRC) researchers in evaluating industry needs and potential market applications for their technologies. This call solicits proposals from national laboratory and FFRDC 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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Questions about this Lab Call? Email <u>energyicorps@hq.doe.gov</u>

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## I. Lab Call Modification History

Modifications will appear here and will be distributed via email to all registered national laboratory and federally funded research and development center points of contact(s).

All amendments to the Funding Opportunity Announcement are highlighted in yellow in the body of the lab call.

Amendment No.	Date	Description of Amendment(s)
000001	30 March 2023	Period of Performance Changes:
		The purpose of this amendment was to update
		Topic 1: Energy I-Corps Pipeline Development
		"Period of Performance", pg. 12 and Topic 3:
		Post Energy I-Corps Funding "Period of
		Performance", pg. 23.

## II. Lab Call Description

## A. Program Background

Energy I-Corps (EIC) is an immersive program targeted to national laboratory and federally funded research and development center (FFRDC) researchers. In this program, researchers learn about market needs through stakeholder discovery and evaluate potential industry applications for their technologies. The U.S. Department of Energy (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 national laboratory & FFRDC community increases 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<sup>™</sup>) program, which prepared 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 national laboratories, FFRDCs, 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 \$150 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 the end of 2022, EIC participants have collectively worked with more than 190 industry mentors and conducted more than 13,600 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: <a href="https://www.energy.gov/technologytransitions/energy-i-corps">https://www.energy.gov/technologytransitions/energy-i-corps</a>.



Figure 1: Technology Areas Explored through Energy I-Corps (As of the End of 2022)

### **D. Program Structure**

In response to the evolution of the EIC program within DOE and to the feedback from national laboratories, FFRDCs, and DOE program office supporters, **OTT is soliciting three (3) separate topics within this lab call.** An overview of the EIC program structure is presented in Figure 2.

 Topic 1 – EIC 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 <u>Section II.G.i.</u>

Note: this topic was previously referred to as "Site Lab", "Satellite", or "Asynchronous" funding **Topic 2 – EIC Training Cohort:** Funding to participate in Cohort 17 (Fall 2023) of the 2-month

- Topic 2 EIC Training Conort: Funding to participate in Conort 17 (Fail 2023) of the 2-month training program to investigate the market potential and accelerate the commercialization of national laboratory and FFRDC technology. Details are provided in <u>Section II.G.ii.</u>
- Topic 3 Post EIC: Funding to support EIC Training Cohort (Topic 2) graduates complete their next step in technology commercialization. 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 <u>Section II.G.iii.</u>



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

### E. Timeline and Process Logistics i. Timeline

The timeline for EIC Lab Call submissions is the same for all topics included in this lab call (<u>Table 1</u>). Please see detailed timelines for each topic in <u>Section II.G.</u>

#### Table 1: Energy I-Corps Lab Call Timeline

Event	Date
Laboratory call issue date	Wednesday, March 8, 2023
Informational webinar	Tuesday, March 28, 2023 12:00 p.m. (ET)
Submission deadline	Friday, April 28, 2023 5:00 p.m. (ET)
Expected date for team selection notifications	Wednesday, May 31, 2023

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Problems with Exchange? Email eere-exchangesupport@hq.doe.gov. Include lab call name & number in subject

### ii. Submittal Logistics

For all three topics, there is no limit on the number of applications each national laboratory or FFRDC can submit.

Submissions for this call will be accepted from personnel who have been previously identified as lab point of contacts (POCs). To register a new POC for your laboratory or FFRDC, please send an email with the subject line "Energy I-Corps POC Registration" with your name, job title, email, and phone contact information to <u>EnergyICorps@hq.doe.gov</u>. Laboratory and FFRDC POCs are the primary conduit through which information regarding this laboratory call is sent and received. Laboratories & FFRDCs 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 or FFRDC and to interested PIs.
- Once selections are made, communicate program-related decisions and actions to their laboratory or FFRDC's selected Principal Investigator (PI) faithfully and accurately.
- Ensure all funding actions are completed successfully between OTT and laboratory or FFRDC.

For detailed information on lab call submissions by topic, refer to Section II.G.

### 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 <u>EnergylCorps@hq.doe.gov</u>. 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 <u>EnergylCorps@hq.doe.gov</u> for processing.

### **F. Key Considerations and Requirements** i. Available Funding

OTT expects to award at least \$500k across the three topics in this first instance of the updated EIC labcall structure. However, additional funding may be available based on proposals alignment with OTT and partner office goals. There are various funding limits per Topic (<u>Table 2</u>). Cost share is not required for any of the three topics. However, national laboratories and FFRDCs may supplement team budgets with internal funding resources if desired. All funding will be provided to the national laboratory as a bill code. Funding will <u>not</u> be transferred to external parties, e.g. directly to individual laboratory staff.

Торіс	Available Funding
Topic 1: EIC Pipeline Development	Up to \$100,000 per laboratory or FFRDC
Topic 2: EIC Training Cohort	\$80,000 per team
Topic 3: Post EIC	Up to \$100,000 per EIC graduate team

Table 2: Available Funding for Fall Energy I-Corps

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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. Diversity, Equity, Inclusion, and Accessibility

It is the policy of the Biden Administration that:

"[T]he Federal Government should pursue a comprehensive approach to advancing equity<sup>1</sup> for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity.

By advancing equity across the Federal Government, we can create opportunities for the improvement of communities that have been historically underserved, which benefits everyone.<sup>2</sup>"

As part of this whole-of-government approach, this lab call seeks to encourage the participation of underserved communities<sup>3</sup> and underrepresented groups. Applicants are highly encouraged

<sup>&</sup>lt;sup>1</sup> The term "equity" means the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons; Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality.

<sup>&</sup>lt;sup>2</sup> Executive Order 13985, "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government" (Jan. 20, 2021).

<sup>&</sup>lt;sup>3</sup> The term "underserved communities" refers to populations sharing a particular characteristic, as well as geographic communities, that have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by the list in the definition of "equity." E.O. 13985. For purposes of this lab call, as applicable to geographic communities, applicants can refer to economically distressed communities identified by the Internal Revenue Service as Qualified Opportunity Zones; communities identified as disadvantaged or underserved communities by their respective states; communities identified on the Index of Deep Disadvantage referenced at <a href="https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities">https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities</a>; and communities that otherwise meet the definition of "underserved communities" stated above. Questions about this Lab Call? Email energyicorps@hq.doe.gov

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to include individuals from groups historically underrepresented<sup>4,5</sup> in STEM on their project teams. Specifically, applicants are required to describe the actions the applicant will take to foster a welcoming and inclusive environment, support people from underrepresented groups in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project, and the extent to which the project activities will be located in or benefit underserved communities.<sup>6</sup> The proposed project should include at least one SMART (Specific, Measurable, Assignable, Realistic and Time-Related) milestone per budget period supported by diversity, equity, inclusion, and accessibility (DEIA) relevant metrics to measure the success of the proposed actions. Please refer to Section <u>G.i</u>, <u>G.ii</u>, and <u>G.iii</u>. for the full set of application requirements. Because a diverse set of voices at the table in research, design, and execution has an illustrated positive impact on innovation, this implementation strategy for the proposed project will be evaluated as part of the application review process.

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

- 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 PI, IM, EL and/or overall project team
- Collaborate with students, researchers, and staff in Minority Serving Institutions as part of customer discovery

<sup>&</sup>lt;sup>4</sup> According to the National Science Foundation's 2019 report titled "Women, Minorities and Persons with Disabilities in Science and Engineering," women, persons with disabilities, and underrepresented minority groups—blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives—are vastly underrepresented in the science, technology, engineering, and math (STEM) fields that drive the energy sector. That is, their representation in STEM education and STEM employment is smaller than their representation in the U.S. population (<u>https://ncses.nsf.gov/pubs/nsf19304/digest/about-this-report</u>). For example, in the United States, Hispanics, African Americans, and American Indians or Alaska Natives make up 24% of the overall workforce, yet only account for 9% of the country's science and engineering workforce. DOE seeks to inspire underrepresented Americans to pursue careers in energy and support their advancement into leadership positions (<u>https://www.energy.gov/articles/introducing-minorities-energy-initiative</u>).

<sup>&</sup>lt;sup>5</sup> Note that Congress recognized in Section 305 of the American Innovation and Competitiveness Act of 2017, Public Law 114-329:

<sup>(1) [</sup>I]t is critical to our Nation's economic leadership and global competitiveness that the United States educate, train, and retain more scientists, engineers, and computer scientists; (2) there is currently a disconnect between the availability of and growing demand for STEM-skilled workers;
(3) historically, underrepresented populations are the largest untapped STEM talent pools in the United States; and (4) given the shifting demographic landscape, the United States should encourage full participation of individuals from underrepresented populations in STEM fields.

<sup>&</sup>lt;sup>6</sup> For more information, please see <u>DOE's Office of Economic Impact and Diversity website</u>.

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- 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

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

### **G.** Topic Descriptions

As mentioned in <u>Section II.D.</u>, this lab call includes three topics to promote commercialization of national laboratory and FFRDC technology, of which Topic 1 includes three subtopics.

DOE will review and assess responses to this lab call from each submitting national laboratory and FFRDC 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.

### i. Topic 1: Energy I-Corps Pipeline Development

#### **Topic Description**

Topic 1 seeks proposals from national laboratories and FFRDCs for projects and programming that have the potential to *directly* increase participation in subsequent EIC Training Cohorts (Topic 2, <u>Section</u> <u>II.G.ii</u>). Successful projects will be able to demonstrate how the funded activity leads to increased EIC Training Cohort applications. Examples of 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

Examples of activities that would <u>not</u> 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

Individual projects under Topic 1 will be considered up to a total \$100k per laboratory.

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 28, 2023, 12:00 p.m. (ET)
Submission deadline	Friday, April 28, 2023, 5:00 p.m. (ET)
Expected date for selection notifications	Wednesday, May 31, 2023
Funding transfer complete	Summer 2023

#### Eligibility

Only DOE national laboratories and FFRDCs are eligible to apply for Topic 1 under this lab call. Topic 1 is comprised of three subtopics (1a, 1b, and 1c) listed below. The subtopic appropriate for each national laboratory and FFRDC depends on the status of unexpended prior awards from Site Lab, Satellite, or Asynchronous I-Corps Funding. DOE reserves the right to recategorize applicants into a different subtopic as appropriate.

Additionally, OTT will email each national laboratory and FFRDC that is believed to have unexpended EIC funds from previous fiscal years. National laboratories and FFRDCs will be requested to indicate whether the unexpended EIC funds 1) are no longer required or 2) will be used to respond to Topic 1. If OTT does not receive a response regarding this matter, OTT will assume unexpended funds are no longer required and will pursue efforts to de-obligate relevant funds.

- **Topic 1a.** This subtopic is an opportunity for national laboratories and FFRDCs that have utilized all prior award funds from OTT Site Lab, Satellite, or Asynchronous I-Corps according to a preestablished plan. No unexpended funds remain at the national laboratory and FFRDCs. National laboratories and FFRDCs meeting this criterion may apply for additional funding. Those with unexpended funds are ineligible for consideration under this subtopic and should, instead, refer to Topics 1b or 1c.
- **Topic 1b**. This subtopic is an opportunity for national laboratories and FFRDCs with remaining unexpended award funds from OTT Site Lab, Satellite, or Asynchronous I-Corps to propose an adjustment or scope change of the unexpended funds. Any proposed adjustment or scope change should address the goals of this topic. Proposals for Topic 1b should not include requests for additional funds. (If additional funds are needed, see Topic 1c)
- **Topic 1c.** This subtopic is an opportunity for national laboratories and FFRDCs with remaining unexpended award funds from OTT Site Lab, Satellite, or Asynchronous I-Corps to propose an adjustment or scope change of the unexpended funds. Any proposed adjustment or scope change should address the goals of this topic. Additional funding may be requested.

#### **Program Deliverables**

A concise final report will be required to be submitted at the end of the proposed project. This report will include the overview of the project, activities performed, the number of teams that intend or went

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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 FY23. However, applications with projects that expand beyond the end of FY23 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 <u>OTT - Exchange</u>, 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 (<u>EEREExchangeSupport@hq.doe.gov</u>). 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.

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**Table 4: EIC Topic 1 Application Documents** 

Document	Format	Description
Detailed narrative	<ul> <li>3 pages max.</li> <li>8.5"x 11" pages with 1-inch margin</li> <li>11-point font</li> <li>PDF file</li> </ul>	<ul> <li>Applicants are required to:</li> <li>Describe the proposed project including the leading participants, target participants, resources needed, anticipated level of impact, and overall plan to execute the project.</li> <li>Explicitly state how the proposed project will directly increase future participation in EIC Training Cohorts (Topic 2) from your laboratory/FFRDC.</li> <li>Proposals for subtopics 1b and 1c must explicitly explain how unexpended Satellite, Site Lab, or Asynchronous EIC funding will be rescoped to directly increase participation in Topic 2.</li> <li>List the barrier(s) to participating in EIC training cohorts (time, effort etc.) unique to your national laboratory or FFRDC that is addressed by your proposed project.</li> <li>Explain any hurdles that may arise when implementing your proposed project and your plans to overcome such hurdles.</li> <li>Describe how DEIA objectives will be incorporated in the proposed project. Include how the project will support or implement the lab-wide DEIA plan. Include at least one SMART DEIA milestone supported by metrics to measure the success of the proposed action. If DEIA objectives are not applicable to the project, provide an explanation of inapplicability.</li> <li>Include a timeline for the proposed project.</li> </ul>
Summary presentation slide	<ul> <li>1-slide max.</li> <li>PPT file</li> <li>Slide formatting is at the applicant's discretion</li> </ul>	Applicants are required to succinctly describe the project and its intended impact at a high level. Slides should be structured to be legible when projected during briefings. Informative graphics with well-placed text are more helpful than dense text.

#### 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. 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 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 national laboratory or FFRDC'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. If not applicable, the extent to which the explanation of inapplicability describes genuine attempts and/or consideration to integrate DEIA objectives.

#### Criterion 2: Quality of Proposed Project (20%)

This criterion considers the following factors:

- Well-defined goals 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 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 Reasonableness of the assumptions used to form the execution strategy (e.g., lab staff participation, timeframe, etc).
- Reasonable budget 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 laboratory and FFRDC POCs. It is the responsibility of the POC to distribute the notification information to their laboratory and FFRDC 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 national laboratory and FFRDC 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, national laboratory and FFRDC technology transfer offices are required to provide monthly progress reporting and budget reporting, in addition to program-specific deliverables.

### ii. Topic 2: Energy I-Corps Training Cohort 17

#### **Topic Description**

This topic seeks team applications to participate in EIC Training Cohort 17. Selected teams of researchers and industry mentors will participate in an intensive curriculum-based program to understand market awareness and learn about market pathways for their technology. Researchers define technology value propositions, conduct stakeholder discovery interviews, and explore viable market pathways for their technologies. Researchers return to their laboratory with a framework for industry engagement to guide future research and inform a culture of market awareness within the national laboratories and FFRDCs. In this way, EIC is ensuring that investment in the national labs and FFRDCs 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 national laboratories and FFRDCs that are transferred into commercial development or industry agreements.
- Train national laboratory and FFRDC researchers to better understand the commercialization process and private sector needs.
- Transform national laboratory and FFRDC culture to value commercialization and entrepreneurial activities.

Each selected team will be provided \$80,000 to support their participation in EIC Training Cohort 17. Historically, DOE program offices have been interested in supporting high potential teams go through the training.

#### Eligibility

Questions about this Lab Call? Email energyicorps@hq.doe.gov

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Only DOE national laboratories and FFRDCs are eligible to apply for EIC Training Cohort 17. 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.

To ensure fairness and maximum reach, DOE is restricting applications to national laboratory and FFRDC 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 17 spans approximately 8-10 weeks, utilizing a custom-designed curriculum built on the NSF I-Corps<sup>™</sup> and Lean Launchpad methodologies. During these two months, teams attend inperson 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 17 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 and FFRDCs.
- 2. Participating Labs and FFRDCs (aka sites): EIC sites recruit, assemble, and send teams to the Node for 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/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.)

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- Speaking engagements (internal or external)
- Invitations to pitch events or technology showcases
- Inclusion in follow-on programs like Cleantech Open, Clean Energy Trust, NSF I-Corps
- Advances in ARL
- Industry engagement (customer discovery, investor discussions, etc.)

**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 lab, the EIC team will contact the POC.

3. Teams: Applicants apply to EIC as a team, composed of a PI with a commercially relevant technology, an EL, and an 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.

<u>PI:</u> The PI is the technical lead and project manager based at the DOE national laboratory or FFRDC, responsible for overall team management. The PI should have a laboratory or FFRDC 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 (<u>Table 5</u>). 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.

<u>EL:</u> The EL may come from inside or outside of the lab. Eligible candidates include, but are not limited to, laboratory staff (beyond the PI), serial entrepreneurs, postdoctoral scholars, or graduate students. The EL is required to attend the entire opening and closing weeks in person (<u>Table 5</u>). 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.

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<u>IM:</u> Ideally, the IM is an experienced industry representative or entrepreneur, from outside the laboratory or FFRDC, 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 to but are 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.

#### **Program Deliverables**

Program deliverables for each team include structured debriefs and communication of training objectives to supporting DOE program offices. Teams should be prepared to report and present on their findings from stakeholder discovery interviews, the value proposition their technology offers, 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.

#### **Use of Team Funds**

All funding will be provided to the national laboratory or FFRDC as a bill code. Funding will <u>not</u> 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. Laboratory and FFRDC POCs are required to immediately inform their finance department when a team from their national laboratory or FFRDC 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:**

- Pl'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
- Travel costs for the IM

#### Secondary uses (as budget allows):

- 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, FFRDC, or another relevant organization, beyond existing support from the Site support team

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#### **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 eight to ten-week duration (<u>Table 5</u>). 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 session weeks.** 

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

Event	Date
Informational webinar	Tuesday, March 28, 2023, 12:00 p.m. (ET)
Submission deadline for team proposals	Friday, April 28, 2023, 5:00 p.m. (ET)
Expected date for team selection notifications	Wednesday, May 31, 2023
Funding transfers begin	June, 2023
Funding transfer complete	Mid-August, 2023
Fall 2023 program dates PI and EL are required to attend all	Orientation webinars –August 31 & September 7 Opening week* – September 11-15 Curriculum webinars – September 21, 28
program events	Curriculum webinars – October 5, 12, 19, 26
	Curriculum webinars – November 2, 9 Closing week* – November 13 – 17

#### Table 5: Key Dates for EIC Topic 2

\*Unless for an unexpected circumstance, opening and closing weeks are planned as in-person events in Golden, CO and Washington, DC, respectively.

#### **Submission and Review Information**

To be considered for EIC Training Cohort 17, applicants must complete and submit the single document listed in <u>Table 6</u>. All submissions must be submitted via Microsoft Forms (link in <u>Table 6</u>). 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.

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#### **Table 6: EIC Topic 2 Application Documents**

ENERGY I-CORPS

Document	Format	Description
Microsoft Form application	1 form per team	Applicants are required to complete the application form in the following link: <u>https://forms.office.com/g/S1M4Kt3AcC</u> . The form includes the following fields:
		<ul> <li>Name of national laboratory or FFRDC</li> <li>Team members (PI, EL, IM)*</li> <li>Short bios and whether any team members have participated in previous EIC cohorts</li> <li>Funding         <ul> <li>How the development of the technology was funded (AOP, Lab Directed Research &amp; Development, etc.)</li> <li>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)</li> <li>Identifying the program office(s) the team believes would have interest in funding the applicants' participation</li> </ul> </li> <li>Selected technology         <ul> <li>Title of technology area</li> <li>Brief technical description (250-word limit)</li> <li>IP that has been generated and its status</li> </ul> </li> <li>Description of the problem the proposed technology solves, and for whom the problem is being solved. (250-word limit)</li> <li>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. (250-word limit)</li> <li>Any other barriers identified for commercializing the proposed technology and strategies to mitigate these challenges. (250-word limit)</li> <li>Description of how diversity, equity, inclusion, and accessibility objectives will be incorporated into the project. (250-word limit)</li> <li>Why your team wants to participate in EIC; what you hope to learn or accomplish. (250-word limit)</li> </ul>

\*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.

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#### 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 and technical program offices. 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 17 participation and share gained knowledge with others at their national laboratory or FFRDC to create greater interest in technology commercialization.
- Reasonable budget plan the reasonableness of the overall funding plan to participate in the EIC Training Cohort.
- DEIA the extent to which the team demonstrates a welcoming and inclusive environment, advances equity, and/or the extent to which the project activities will benefit underserved communities

#### 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.
- DEIA the extent to which the team includes individuals from underrepresented groups in STEM

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#### b) Topic 2 Selection Notification

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

### iii. Topic 3: Post Energy I-Corps Funding

#### **Topic Description**

Teams that complete EIC Training Cohorts are excited about their newfound skills and strategies to commercialize their technologies, but often lack actionable next steps. Topic 3 intends to support a small subset of the most promising EIC Training Cohort (Topic 2) graduates with a high likelihood of commercializing their technology. 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. An example of a Topic 3 project could be running a pilot technology deployment with a pilot customer who has committed to adopting/selling/working with the technology upon a successful trial. Projects will be considered up to \$100,000 in funding. Applications will also be shared with relevant program offices for their consideration.

Key dates for Topic 3 are listed in Table 7.

#### Table 7: Key Dates for Topic 1 EIC Pipeline Development

Event	Date
Informational webinar	Tuesday, March 28, 2023, 12:00 p.m. (ET)
Submission deadline	Friday, April 28, 2023, 5:00 p.m. (ET)
Expected date for selection notifications	Wednesday, May 31, 2023
Funding transfer complete	Summer 2023

#### Eligibility

Only teams or individuals who a) have previously participated in an EIC Training Cohort (Topic 2) and b) are pursuing the commercialization of the same technology they went through Topic 2 (inclusive of technical pivots) are eligible to apply to this topic.

#### **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.

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#### Period of Performance

Proposed projects should seek to support EIC goals efficiently and effectively in FY23. However, applications with projects that expand beyond the end of FY23 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 <u>OTT – Exchange</u>, 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 (<u>EEREExchangeSupport@hq.doe.gov</u>). 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.

#### **Table 8: EIC Topic 3 Application Documents**

Document	Format	Description
Cover page	<ul> <li>1 page max</li> <li>8.5"x 11" pages with 1- inch margin</li> <li>11-point font</li> <li>PDF file</li> </ul>	<ul> <li>Applicants are required to include:</li> <li>Name of project and technology.</li> <li>Name(s) of individual or team members involved.</li> <li>Cohort number that team members participated in previously.</li> <li>A 200-or-less-word summary of the project suitable for public release if the project is funded.</li> </ul>
Detailed narrative	<ul> <li>3-page max</li> <li>8.5"x 11" pages with 1- inch margin</li> <li>11-point font</li> <li>PDF file</li> </ul>	<ul> <li>Applicants are required to:</li> <li>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.</li> <li>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.</li> <li>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.</li> <li>State any roadblocks that may arise when implementing your proposal and your plans to overcome such barriers. (<i>Table continues on next page</i>)</li> </ul>

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	<ul> <li>(continued)</li> <li>Explain the steps and timeframe needed for full technology commercialization after this proposed project, assuming the proposal is funded.</li> <li>Describe how DEIA objectives will be incorporated in the project. Include how the project will support or implement the lab-wide DEIA plan. Include at least one SMART DEIA milestone supported by metrics to measure the success of the proposed action. If DEIA objectives are not applicable to the project, provide an explanation of inapplicability.</li> <li>Briefly indicate specific experiences or outcomes from EIC Topic 2 participation that influenced this proposal.</li> <li>Describe steps taken to commercialize the technology since participation in Topic 2. If none, state so.</li> <li>Include a timeline for the proposed project.</li> <li>Describe a plan for implementing the proposal with a requested amount of funding, but also include how you would implement the idea with 50% of the requested amount.</li> </ul>
<ul> <li>1-slide max.</li> <li>PPT file</li> <li>Formatting is at applicant's discretion</li> </ul>	Applicants are required to succinctly describe the project and its intended impact at a high level. Slides should be structured to be legible when projected during briefings. Informative graphics with well-placed text are more helpful than dense text.
	<ul> <li>1-slide max.</li> <li>PPT file</li> <li>Formatting is at applicant's discretion</li> </ul>

#### a) Topic 3 Selection Criteria

OTT does NOT intend to fund every lab that submits a Topic 3 proposal. In fact, OTT is expecting to only make a few awards and is seeking a unique type of application as described in this section. Selection of winning proposals will be determined based on available funding and input from OTT and technical program offices. 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

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commercially successful product and/or company, and 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. If not applicable, the extent to which the explanation of inapplicability describes genuine attempts and/or consideration to integrate DEIA objectives.

#### 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.

#### b) Topic 3 Selection Notification

All successful and unsuccessful applicant notifications will be communicated to laboratory and FFRDC POCs. It is the responsibility of the POC to distribute the notification information to their laboratory and FFRDC'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 national laboratory and FFRDC technology transfer offices to meet with OTT and supporting DOE program offices to discuss project progress and budget updates. Additionally, national laboratory and FFRDC technology transfer offices are required to provide monthly progress reporting and budget reporting, in addition to program-specific deliverables.