



Request for Information Office of Technology Transitions Current and Future Commercialization Programming

DATE: October 14, 2021
SUBJECT: Request for Information (RFI), DE-FOA-0002607

INTRODUCTION

The U.S. Department of Energy's (DOE's) Office of Technology Transitions (OTT) seeks information to help it refine the scope and structure of its commercialization programs. These programs are intended to address specific challenges in the commercialization process as ideas move across the research, development, demonstration and deployment (RDD&D) continuum.

OTT would like to learn:

- Your feedback on its programs (see [table of contents](#))
- Commercialization challenges that its programs do not currently address
- Ideas for programs that are applicable to a variety of technologies
- Ways to better promote diversity, equity, and inclusion in all programs

OTT has provided a single list of [questions to consider](#) for all programs. If you have **general comments** on these subjects, you may submit them via [Section 3](#). If you would like to offer feedback on **specific programs**, please navigate to program-specific questions using the [table of contents](#). Stakeholders from, but not limited to, the following domains are encouraged to respond: industry, academia, research laboratories, government agencies, incubators, accelerators, entrepreneurs, and investors.

Request for Information Response Guidelines

How to Submit

Responses to this RFI must be submitted electronically to ott.rfi@hq.doe.gov no later than **3:00pm ET on January 19, 2022**.

This is a Request for Information (RFI) only. OTT will not pay for information provided under this RFI and no project will be supported as a result of this RFI. OTT is not accepting through this RFI applications for financial assistance or financial incentives. OTT may or may not issue a Funding Opportunity Announcement (FOA) based on consideration of the input received from this RFI.



OTT will not respond to individual submissions and may or may not publish publicly a compendium of response feedback. A response to this RFI will not be viewed as a binding commitment to develop or pursue the project or ideas discussed.

Components of Response

Respondents are requested to provide the following information at the start of their response to this RFI:

- Company / institution name;
- Company / institution contact;
- Contact's address, phone number, and e-mail address.

Please specify in your response which question or topic you are responding to. You may navigate to topics of interest using the clickable [table of contents](#) below. Respondents may answer as many or as few questions as they wish.

Questions to Consider for Each Program

OTT requests that you take a uniform approach to your responses for each program. Please consider the list of questions:

1. Are the goals and objectives of the program clear and easy to understand?
2. Do you agree with the program rationale provided? Should OTT proceed or continue with implementation and execution?
3. Does the program address critical commercialization resource gaps and funding needs?
4. Are there other DOE offices, agencies, or outside entities offering similar programs to address the targeted needs described in each section of this RFI?
5. Are there examples of and lessons learned from similar programs (past or present) that have a similar goal?
6. Does the program result in productive and impactful commercialization outcomes?
 - a. If so, how can OTT quantify, measure, and demonstrate these program impacts and outcomes?
7. If the program is implemented or continued, do you have structural and funding level recommendations that will maximize accessibility, efficiency, and participation?
8. What critical barriers do you anticipate in the program's implementation and execution?
 - a. How do you recommend overcoming them?
9. What are the best ways for the program to promote diversity, equity, and inclusion?
10. Is there anything else about this program OTT should consider?

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Response Guidelines

The most helpful responses:

1. Are concise and informative;
2. Are from entities who have direct experience with the topics in question;
3. Identify blind spots OTT may not have considered;
4. Provide recommendations and feedback about specific program components.

Less helpful responses...

1. Are lengthy and/or unorganized;
2. Are from entities with limited experience in or exposure to the topic(s) in question;
3. Are critical without offering recommendations;
4. Request major policy or statutory changes, which is not OTT's role;
5. Appear self-serving (e.g., advise OTT to directly fund specific entities).

Note: OTT will not review or consider unsolicited requests for funding

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About the Office of Technology Transitions

DOE’s primary mission is to ensure America’s security and prosperity by addressing its energy, environmental, and nuclear challenges through transformative science and technology solutions. These solutions have given rise to a diverse range of technologies, from the superconducting magnets that enabled Magnetic Resonance Imaging (MRI) to the battery cathodes that are used in today’s plug-in electric vehicles.

World-changing innovations like these become possible only by transitioning technology out of the labs and into commercial enterprises. But it’s almost never easy – so in 2015, the Secretary of Energy authorized the formation of the Office of Technology Transitions (OTT), and in 2020, Congress formalized its establishment.

OTT’s congressional mandate is to “expand the commercial impact of the research investments of the Department”¹. This charge enables OTT to develop a connective foundation of support across the DOE Applied Offices, national laboratories and the private sector, which includes a

¹ [42 USC 16391: Improved technology transfer of energy technologies](#)

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new approach for managing DOE’s research, development, demonstration and deployment (RDD&D) portfolio. OTT serves as the steward of DOE’s RDD&D continuum and develops programs and initiatives that aid technologies in their progression to commercialization – starting with research into an innovative idea and ending with commercial scale deployment. OTT can be found at <https://www.energy.gov/technologytransitions/office-technology-transitions>.

Important Notes

Disclaimer

This RFI is not a Funding Opportunity Announcement (FOA) or other funding program; therefore, OTT is not accepting applications at this time. OTT may issue a funding program in the future based on or related to the content and responses to this RFI; however, OTT may also elect not to issue a funding program. There is no guarantee that a funding program will be issued as a result of this RFI. Responding to this RFI does not provide any advantage or disadvantage to potential applicants if OTT chooses to issue a funding program regarding the subject matter. Final details, including the anticipated award size, quantity, and timing of OTT funded awards, will be subject to Congressional appropriations and direction.

Any information obtained as a result of this RFI is intended to be used by the Government on a non-attribution basis for planning and strategy development; this RFI does not constitute a formal solicitation for proposals or abstracts. Response to this notice will be treated as information only. OTT will review and consider all responses in its formulation of program strategies for the identified materials of interest that are the subject of this request. OTT will not provide reimbursement for costs incurred in responding to this RFI. Respondents are advised that OTT is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind OTT to any further actions related to this topic.

Confidential Business Information

Pursuant to 10 CFR 1004.11, any person submitting information that he or she believes to be confidential and exempt by law from public disclosure should submit via email two well-marked copies: one copy of the document marked “confidential” including all the information believed to be confidential, and one copy of the document marked “non-confidential” with the information believed to be confidential deleted. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

Evaluation and Administration by Federal and Non-Federal Personnel

Federal employees are subject to the non-disclosure requirements of a criminal statute, the Trade Secrets Act, 18 USC 1905. The Government may seek the advice of qualified non-Federal

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personnel. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to OTT providing their response to non-Federal parties. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

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SECTION 1: COMMERCIALIZATION AT NATIONAL LABS

Category 1.1: Matchmaking Entrepreneurs with Lab-Developed IP

While DOE's national laboratories house widely-talented and globally-renowned researchers, bringing a technology to market requires a different skillset. To mitigate this skills gap, OTT is planning to develop a program for pairing lab-developed intellectual property (IP) with commercialization partners (e.g., qualified entrepreneurs, corporate entities) with a prospective budget of \$1M-\$2M. OTT is considering two different program structures and requests feedback on each approach. In addition, OTT is interested in alternate program structures that would be well-positioned to generate national lab commercialization results (e.g., company creation, technology licensing agreements).

Option 1: External Matchmaking Services

OTT develops a program that supports organizations with extensive entrepreneurial and industry networks (e.g., accelerators, incubators). Successful applicants would have expertise in or existing processes for matching high-potential hardtech IP with qualified entrepreneurs and relevant large corporate entities. The funded organizations would work directly with national lab technology transfer offices to identify IP with high commercial potential that can be paired with people and corporations for developing and executing a go-to-market strategy. Funds would primarily support the matchmaking activities, salary requirements for "matched" founders, and costs associated with negotiating IP licensing agreements.

Option 2: Lab Commercialization Prize

OTT creates a multi-stage prize competition (or similar) that provides seed funding (\$25,000-\$50,000) to high-potential teams comprised of lab researchers, entrepreneurs, and private sector partners, to commercialize lab IP. The prize would be structured such that successful teams are provided additional funds and support in later stages based on the strength of their performance, progress and go-to-market outcomes.

See [here](#) for questions to consider, or click the green button below to open an email pre-populated with questions for your consideration. You may respond directly in the email body.

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Category 1.2: Prototype Fund

The concept of prototyping is often misunderstood. A prototype is **not** a smaller scale version of the intended innovation but **is** a simpler version that enables innovators to experiment, evaluate, iterate, learn, and adapt an idea. A prototype is designed and built to:

- Handle short timescales iterations and with limited resources;
- Be tested to understand if the idea works in practice;
- De-risk the idea beyond proof-of-concept;
- Enable tangible and productive conversations with industry; and
- Provide better specifications for a future demonstration.

OTT is considering program structures for funding the prototyping of lab-developed IP. Such a program would seek to quickly provide ~\$25,000 in funding to national laboratory researchers for the prototyping of previously funded lab-scale technology concepts that show significant potential against a commercial value proposition. The hope is that such a program will offer much needed de-risking support at a critical state of the RDD&D continuum and help these technologies attract the necessary follow-on capital from private sector partners.

Prototyping is a vital activity that is often overlooked within DOE's RDD&D continuum. Lack of funding to support prototyping has been identified as a barrier to commercializing lab-developed IP, and OTT would like feedback on a prospective prototyping fund program to address this critical RDD&D need. In particular, **OTT is interested in learning more about existing national laboratory mechanisms and resources** (such as Lab Directed Research and Development (LDRD) and licensing revenue) **for funding prototyping activities**. This information will help to enable the successful design and implementation of programs that may target this specific need.

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Category 1.3: Accessing Lab Resources [LPS]

OTT's [Lab Partnering Service](#) (LPS) is a free online service that gives investors, innovators, and institutions direct access to the vast array of expertise, research, and capabilities across all 17 national labs and 3 sites. LPS serves as a generation tool for partnering with DOE lab. LPS allows users to submit inquiries to the Technology Transfer office at each lab from the lab profile, technology summaries, experts, and facilities posted on the site. The lab's Technology Transfer office can then answer and/or direct questions from the users and provide navigational assistance through the DOE R&D ecosystem. On LPS, users can find the different lab assets by keyword search or under the "Explore" top navigational button, which allows users to browse by industry, popular topic, or content type. LPS has a custom content management system that allows each lab to create an account for their own content administrators. There are five primary types of content that the lab adds to LPS: [lab landing page](#), [technology summaries](#), [experts](#), [facilities](#), and [success stories](#).

LPS also has a tool called the Visual Patent Search (VPS). This search tool enables a unique, visually facilitated search of the patent content contained in the Lab Partnering Service. This patent content contains published US patent applications and issued US patents resulting from DOE funded R&D, as well as a portion of patents from NASA and DHS. The patents are pulled from the USPTO patent database and show patents and patent applications from the last 20 years.

During the initial launch of LPS, labs were funded to put content online. Currently each lab maintains their LPS content and participation without further funding from OTT. LPS launched in July 2018 and has grown significantly with content since its launch. However, there have been fewer than five connection requests (leads) to date that have led to technology transfer activity (e.g., Strategic Partnership Project, Cooperative Research Agreements, Technology Licensing Agreement, User Facility Agreements, etc.). **OTT seeks to understand how LPS can generate more and higher quality leads that turn into commercialization opportunities for the labs and sites that use LPS.**

LPS can be found at www.labpartnering.org and VPS can be found at <https://vps.labworks.org/>.

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Category 1.4: Energy I-Corps

Energy I-Corps is an OTT-managed program that provides a platform for DOE laboratory staff to develop skills in commercialization and investigate the market potential for DOE-funded technologies. OTT is considering ways to expand EIC training to accelerate the commercialization of innovative research.

Launched in 2014 under the Office of Energy Efficiency and Renewable Energy's (EERE)'s Tech-to-Market team, Energy I-Corps (then known as Lab-Corps) was modeled on the National Science Foundation's (NSF's) successful Innovation Corps (I-Corps™) program. Started in 2011, I-Corps is a nationally-recognized training program that helps prepare scientists and engineers to extend their focus beyond the lab. Energy I-Corps builds upon the I-Corps model while adapting it to the unique features of the national labs and DOE's mission space.

Energy I-Corps became a part of the Office of Technology Transitions (OTT) portfolio in 2018. Program metrics since its inception include:

- 12 cohorts of Energy I-Corps completed
 - Cohort 13 kicked off in September 2021 with 16 teams
- 146 teams have graduated from the program
- 12 national laboratories have sent at least one team through Energy I-Corps
- 146 industry mentors have participated
- 12 new businesses created
- \$83 million in follow-on funding after Energy I-Corps participation
- 10,296 customer discovery interviews completed
- 60 licenses executed

OTT is aware that the time commitment required for Energy I-Corps is a significant barrier to participation for principal investigators and entrepreneurial leads. As such, OTT is considering an asynchronous training program in which participants can engage at their own pace. This training would be supplemental to the full Energy I-Corps program and would be available to all interested national lab employees.

Other suggested improvements to Energy I-Corps courses are as follows:

1. Including modules on practical skills, such as supply chain analysis and presentation skills, to better prepare national lab scientists for working with clients and collaborators from industry.
2. Including specific training on how to collaborate with a broad set of ecosystem partners, including potential suppliers, manufacturers, and end users.

Energy I-Corps can be found at energyicorps.energy.gov/

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Category 1.5: Open Program

One way OTT works in partnership with the national labs is via open lab call programs: soliciting and funding new ideas from lab tech transfer offices for removing barriers to commercialization. Two such programs are Lab-Bridge, an EERE pilot that was integrated into OTT, and Practices to Accelerate the Commercialization of Technologies (PACT), an active program run by OTT.

OTT is considering running another iteration of an open lab call program. These can include efforts to promote entrepreneurial culture, offer training to underrepresented individuals, or address industry-specific commercialization obstacles. To date, OTT has funded thirteen 1-2 year projects through PACT, totaling approximately \$2.5M in awards. PACT projects engaged all 17 national labs, one National Nuclear Security Administration (NNSA) Facility, and six external partners for a total of 24 participating entities.

Here are a few examples:

1. **Entrepreneurial Thinking: Historical and Observational Study (ETHOS)** is a collaboration between 6 labs, led by Idaho National Laboratory (INL), which aims to identify and communicate culture change and policy measures to increase entrepreneurial activity at the labs.
2. **Diverse-W** is a collaboration between 10 labs, led by Sandia National Laboratories (SNL), that supports women pursuing patents and entrepreneurial activities.
3. **Bay Area LINC** (Lab Innovation Networking Center), a program led by SNL, unites all four Bay Area labs under a single brand that demonstrates to regional universities and private sector entities that the labs are a substantial collective resource for sustained partnerships that goes beyond one-off collaborations.
4. **Cybersecurity Technology Concentration and Commercialization** is a program run by INL in collaboration with 3 other labs, whose goal is to create well-funded cybersecurity startup companies that employ lab-developed technologies.
5. **Innovate Together** is a program partnering Argonne National Laboratory and Fermi National Laboratory to sustainably position the labs as key R&D partners in the Chicago area entrepreneurial ecosystem thus increasing technology transfer pipeline to the startup community.

In addition, **OTT is interested in hearing labs ideas about how to make entrepreneurial leave programs more widely available and utilized across the national lab ecosystem.**

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SECTION 2: COMMERCIALIZATION AT NON-LAB ENTITIES

Category 2.1: Energy Program for Innovation Clusters (EPIC)

Energy Program for Innovation Clusters (EPIC) is a program that funds incubator and accelerator organizations (“accelerators”) to develop training programs and ecosystem resources for energy technology startups. The funded accelerators give energy technology startups access to potential customers, manufacturing and supply chain partners, investors, grant writing assistance, prototyping facilities, and more. These resources and services are essential for energy startups (particularly hardware technologies), since they face high barriers to market entry and long return on investment timelines.

Since 2020, Congress has provided OTT with \$5M annually to support accelerators. OTT used these appropriations to run two initiatives: the \$1M EPIC Prize and the \$9M EPIC FOA.

Prize:

- Accelerators apply with plans to develop strong clusters, connections, and support for startups and entrepreneurs whose businesses focus on energy-related technologies.
- Awardees are selected based on their mission and operations, strategic plan, and team.
- \$50,000 cash prizes are awarded to the top 20 submissions.
- The time from announcement to delivery of funds is approximately 80 days.
- Prizes are awarded for work done, so awardees are unrestricted in their use of funds.

FOA:

- Accelerators apply with proposals to support robust energy innovation ecosystems and stimulate energy hardware development in regions across the United States.
- Awardees are selected based on their technical merit, innovation and impact, project plan, team and resources.
- Ten 2-3 year cooperative agreements, up to \$1M each, are awarded with a minimum 20% cost share requirement.
- The time from announcement to obligation of funds (beginning of work) takes approximately one year.
- The recipients are eligible to receive reimbursement of allowable, allocable, and reasonable costs as outlined in a predetermined budget.

OTT is considering running a new multi-stage prize program as part of EPIC, with the same goals but organized as below. Application materials may include a 90-second video with either a 5-

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page written proposal or a 10-slide proposal deck; **OTT is interested in your preferences regarding application materials.**

- Stage 1:
 - Applicants have 2 months to prepare their application materials.
 - Applicants will be evaluated on the quality of their proposal:
 - Long-term vision for accelerating regional energy hardtech innovation
 - How they plan to achieve this vision
 - Expected project impacts and outcomes if selected for a Stage 1 award
 - 10-20 winners are selected to receive \$50,000-\$100,000.
- Stage 2:
 - Stage 1 winners have 4 months to accomplish the goals they described in their Stage 1 submission. They submit revised application materials and participate in a pitch competition with other Stage 2 applicants.
 - Applicants are evaluated on the quality of their revised proposal as well as outcomes they achieved in the preceding 4 months.
 - 5-10 winners are selected to receive \$250,000-\$500,000.
- Stage 3:
 - Stage 2 winners have 6 months to accomplish the goals they described in their Stage 2 submission. They submit revised application materials and participate in a pitch competition with other Stage 3 applicants.
 - Applicants are evaluated on the quality of their revised proposal as well as outcomes they achieved in the preceding 6 months.
 - 1-2 winners are selected to receive \$500,000-\$1,000,000 and become a DOE partner in the execution of the following year's EPIC prize.

Please provide answers to the standard questions with a particular emphasis on **how the program should be structured and implemented**. Also, for this program, please review [Appendix: Impact Tracking](#) when considering the question about impact tracking.

EPIC can be found at <https://www.energy.gov/technologytransitions/energy-program-innovation-clusters>

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Category 2.2: EnergyTech University Prize (UP)

OTT has recently launched the [EnergyTech University Prize](#) (EnergyTech UP), a DOE-sponsored collegiate competition that challenges multidisciplinary student teams to develop a business plan for lab-developed or other high-potential energy technologies. EnergyTech UP asks teams to identify a technology, assess the market potential, and propose a business strategy for commercialization. The program, developed and managed by OTT in partnership with NREL, leverages existing DOE funding initiatives and programs such as [American Made Challenges](#) and the [Clean Tech University Prize \(CleantechUP\)](#)², as well as existing collegiate competition relationships and the customized [Energy I-Corps Program](#) curriculum.

Distinct from a startup competition, the program enables collegiate institutions and students – with or without a background in energy – to propose impactful solutions and opportunities. Energy technologies related to, but not limited to, energy generation, distribution, consumption, financing, and security are eligible for consideration. The competition engages students across business, communications, science, technology, and engineering departments to advance America’s innovation community, strengthening the foundation of U.S. leadership in energy technology.

EnergyTech UP is a multi-phase program. In the first phase, teams from collegiate institutions around the country are invited to present at regional pitch competitions. Each regional pitch competition is structured as a ‘shark tank’ style event followed by Q&A. Regional winners are selected at each event, earning the opportunity to receive mentorship, access to the Energy I-Corps curriculum, and to present at the national competition in front of industry leaders and investors. A \$2,500 cash prize is provided to each regional winner. Hosts of the regional competition are provided with stipends to help cover the costs of putting on each event. Additionally, all competitors are eligible to be considered for bonus prizes, based on excellence in technology-specific areas such as geothermal or buildings.

Following the selection of the regional winners, a national event is planned to occur in conjunction with Carnegie Mellon University Energy Week. Cash prizes totaling approximately \$50,000 will be awarded to first, second, and third place. Winners will also gain access to accelerators, incubators, mentorship opportunities, startup competitions, and more.

² Cleantech UP was originally run out of the EERE Office of Strategic Programs Technology-to-Market Team. This office was dissolved in 2016 and absorbed by OTT, however, CleanTech UP was not run again despite being impactful. EnergyTech UP will continue what Cleantech UP started and include carbon management and nuclear technologies areas in addition to renewable and energy efficient technologies.

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The program aims to foster a cultural shift within the U.S. collegiate system to increase engagement with DOE and inspire research staff to increase the number of commercially viable energy technologies developed by university students and collegiate research institutions.

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Category 2.3: Student Entrepreneurship Program

OTT launched its inaugural Student Entrepreneurship Program in Summer 2021. The mission of this program is to train the next generation of entrepreneurs innovating at the intersection of technology and business, as well as recruit talent to the DOE national labs.

The Student Entrepreneurship Program is a 10-week internship with OTT that pairs students with technologies from the national labs to develop strategies for commercialization. The students undergo intensive technical training to help them understand cutting-edge technologies in fields from artificial intelligence to biofuels, and more. Parallel to this technical training, the students are enrolled in OTT's Energy I-Corps curriculum to learn business development skills.

In the first iteration of the program, 14 student interns were matched with 14 lab technologies. Each was assigned a national lab mentor, as well as mentors from Energy I-Corps and the OTT team, to help guide their business plan development. The Energy I-Corps curriculum consisted of 10 videos that explain how to execute key commercialization activities required to bring a technology to market, including how to approach market sizing, develop a business model, execute customer discovery and more. Each of these lectures is accompanied by a hands-on 1-hour workshop instructed by DOE's Energy I-Corps mentors.

Interns completed weekly assignments, culminating in a 1) individual presentation on their work, and 2) an investment memo detailing their proposed commercialization plan. Additionally, the students were organized into teams of 3-4 to create and deliver 10-minute pitches – each focused on one of the four most promising technologies identified in the cohort. Pitch presentations were judged by a panel of experts in technology commercialization.

See [here](#) for questions to consider, or click the green button below to open an email pre-populated with questions for your consideration. You may respond directly in the email body.

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SECTION 3: GENERAL FEEDBACK

OTT is interested in hearing from the community about any high-potential program concepts it could champion to fill gaps or eliminate barriers to commercializing technology. Please provide any information you think is important for OTT to have in mind as it shapes its future commercialization programming.

1. What commercialization challenges does OTT not currently address, and how should it address them?
2. How would you define each of the following terms:
 - a. Commercialization
 - b. Demonstration
 - c. Deployment
3. How can entrepreneurial and commercialization culture be improved at the national labs?
4. How can OTT design programs that are applicable to a variety of technologies?
5. How can OTT ensure it is promoting diversity, equity, and inclusion as it supports commercialization?
6. Is there anything else you think OTT should consider or be aware of?

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APPENDIX: IMPACT TRACKING METRICS AND DEFINITIONS

Metrics

Reported at point of cohort selection:

1. # applicants to program (total)
2. # applicants to program applying with a DOE-funded technology (e.g., licensed from a national lab or developed with help from a DOE award)
3. # of accepted cohort members working on a DOE-funded technology
4. Breakdown of applicants by identity categories:
 - # of executive leadership team members per racial category in Note A.
 - # of executive leadership team members per identity category in Note B.
5. Breakdown of accepted cohort members by identity categories:
 - # of executive leadership team members per racial category in Note A.
 - # of executive leadership team members per identity category in Note B.

Reported at beginning of performance period (baseline) and on an annual timescale:

6. # companies served and types of technologies, including names and locations
7. # jobs created by companies (have companies report total number of employees at time of survey)
 - # Full time
 - # Part time
8. # new lab partnerships (e.g., CRADAs, license agreements, etc.)
9. # grants awarded (total, summed across all companies)
10. # companies that received investment / follow-on funding
11. \$ raised by companies as investment / follow-on funding
12. \$ of company revenue
 - Total, summed across all companies
 - Average across all companies
13. # prototypes (defined in Note C) launched
14. # demonstration projects (defined in Note D) launched

Notes

“Applicant” and “cohort member” refers to the team as a whole.

“Team members” refer to individuals on the team.

A. Racial categories:

- Indigenous / Native American / Alaska Native
- Asian
- Black / African American
- Hispanic / Latino

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- Native Hawaiian / Pacific Islander
- Two or More Races
- White

B. Other identity categories (self-identified):

- Female / Male / Non-Binary
- LGBTQ+
- Veteran / Active military / Reserve
- Person with disability
- Rural
- Has been adversely affected by low socioeconomic status

C. Prototype: Component and/or breadboard validation in relevant environment. Fidelity of breadboard technology increases significantly. The basic technological components are integrated with reasonably realistic supporting elements so it can be tested in a simulated environment. Examples include "high fidelity" laboratory integration of components.

D. Demonstration project: A project in which an innovation is operated at or near full scale in a realistic environment.

Diversity, Equity, and Inclusion Definition³

A DEI-relevant cohort member is defined as having one or more executive leadership team members who self-identifies as an underrepresented minority (African American/Black, Native American/Alaskan Native, Hispanic/Latinx, or a combination of these); a woman or non-binary person; a member of a religious minority; a lesbian, gay, bisexual, transgender, or queer (LGBTQ+) person; a person with a disability; a veteran; a person who lives in rural areas; or a person otherwise adversely affected by persistent poverty or inequality.

Disadvantaged Communities Definition

A community is a group of individuals living in geographic proximity to one another, or a geographically dispersed set of individuals (such as migrant workers or Native Americans), where either type of group experiences common conditions. A disadvantaged community is a community experiencing one or more of the following:

- Low income, high and/or persistent poverty;
- High unemployment and underemployment;
- Racial and ethnic segregation;
- Linguistic isolation;

³ Adapted from [Executive Order 13985](#)

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- High housing cost burden and substandard housing;
- Distressed neighborhoods;
- High transportation cost burden and/or low transportation access;
- Disproportionate environmental burden and high cumulative impacts;
- Limited water and sanitation access and affordability;
- Disproportionate climate impacts; or
- High energy cost burden and low energy access.
- Jobs lost through the energy transition
- Access to healthcare

A project with “significant impact on disadvantaged communities” will be defined as a project whose benefits would accrue to disadvantaged communities at a greater rate than to the population at large.

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