



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Technology  
Transitions

**U.S. Department of Energy  
Office of Technology Transitions  
Technology Commercialization Fund**

**National Laboratory Call for Proposals**  
*Core Laboratory Infrastructure for Commercialization*

DE-LC-000L093

**Fiscal Year 2022**

This lab call is being issued as part of the Technology Commercialization Fund by the U.S. Department of Energy's (DOE's) Office of Technology Transitions, the Office of Electricity, the Office of Energy Efficiency and Renewable Energy's Building Technologies Office, Geothermal Technologies Office, Hydrogen and Fuel Cell Technologies Office, Solar Energy Technologies Office, Water Power Technologies Office, and Wind Energy Technologies Office, as well as the Office of Nuclear Energy. This call solicits proposals from National Laboratory Technology Transfer Offices, in collaboration with partners across the DOE National Laboratory Complex, to develop and implement programming to facilitate an improved and more impactful lab commercialization process.

QUESTIONS ABOUT THIS LAB CALL? EMAIL [TCF@HQ.DOE.GOV](mailto:TCF@HQ.DOE.GOV).  
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# Table of Contents

- Lab Call Modification History ..... iii
- I. Lab Call Description ..... 1
  - A. Background and Context ..... 1
    - i. Background and Overview ..... 1
    - ii. TCF Programmatic Challenges ..... 3
    - iii. Vision for FY22 TCF and Moving Forward ..... 5
  - B. Timeline and Process Logistics ..... 7
  - C. Key Considerations and Requirements ..... 8
  - D. Topic Area Descriptions ..... 14
- II. Application Submission and Review Information ..... 23
  - A. Process and Submission Details ..... 23
    - i. Process ..... 23
    - ii. Full Application Requirements ..... 26
    - iii. Proprietary Information ..... 32
  - B. Application Review and Selection ..... 33
    - i. Merit Review and Selection Process ..... 33
    - ii. Selection for Award Negotiation ..... 37
    - iii. Selection Notification ..... 37
  - C. Project Administration and Reporting ..... 38
  - D. Questions and National Lab TTO Contacts ..... 38
- Appendix A: TCF Cost Share and Nonfederal Cost-Share Information ..... 39
- Appendix B: FY22 TCF Lab Calls by Program Office ..... 43
- Appendix C: TCF Points of Contact at DOE National Lab TTOs ..... 44

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## Lab Call Modification History

Modifications will appear here and will be distributed via email to the points of contact in Appendix C.

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## I. Lab Call Description

### A. Background and Context

This lab call represents the combined effort of nine distinct U.S. Department of Energy (DOE) Technology Offices. The Department of Energy Technology Commercialization Fund (TCF) was established by Congress through the Energy Policy Act of 2005 (EPA05)<sup>1</sup> and reauthorized by the recent Energy Act of 2020 (EA 2020) to “promote promising energy technologies for commercial purposes.”<sup>2</sup> Within DOE, the Office of Technology Transitions (OTT) is charged with leading policy and programs related to technology commercialization.

For Fiscal Year 2022 (FY22), DOE is taking a new approach to TCF, which is described below. The DOE program offices and laboratory stakeholders contributing to this lab call have identified persistent barriers and known gaps impeding the commercialization of laboratory technologies and developed specific topics aimed at addressing them. The intent of the topics presented in this lab call is to address core commercialization challenges, barriers, and gaps, as well as their root causes (inside and outside of the labs).

DOE recommends that interested National Laboratories read the below background on DOE’s TCF efforts and context regarding DOE’s new approach to TCF to better understand the multiple lab call releases and how they relate to each other. While DOE highly recommends reading the entire lab call, the specific topics addressed under this lab call can be found in Section I.D.

#### i. Background and Overview

The DOE Technology Commercialization Fund is a primary component of DOE’s ongoing effort to commercialize the cutting-edge technologies in which DOE invests. These technologies, developed with taxpayer funding, comprise a portfolio of energy and supporting, enabling technologies that have the potential to improve the lives of Americans and solve many of our country’s most pressing energy and environmental challenges.<sup>3</sup>

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<sup>1</sup> Energy Policy Act of 2005, Public Law 109–58, 109<sup>th</sup> Cong. (August 8, 2005), *Improved technology transfer of energy technologies*, 42 U.S. Code § 16391 (a).

<sup>2</sup> Consolidated Appropriations Act, 2021, Public Law 116–260, 116<sup>th</sup> Cong. (December 27, 2020), 134 Stat. 2597, Sec. 9003. <https://www.congress.gov/116/plaws/publ260/PLAW-116publ260.pdf>.

<sup>3</sup> DOE Office of Technology Transitions, “Mission.” <https://www.energy.gov/technologytransitions/mission-0>.

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While DOE has always incorporated commercialization and technology transfer into its mission, in EPAct05 Congress explicitly authorized the TCF as a 0.9% set-aside of applied research, development, and demonstration (RD&D) funding specifically dedicated to pursuing the commercialization of DOE technologies.<sup>4</sup> This intent was further refined when the TCF was recently reauthorized as part of EA 2020, described below:

*“The Secretary, acting through the Chief Commercialization Officer established in section 1001(a) of the Energy Policy Act of 2005 (42 U.S.C. 16391(a)), shall establish a Technology Commercialization Fund (hereafter referred to as the ‘Fund’), using nine-tenths of one percent of the amount of appropriations made available to the Department for applied energy research, development, demonstration, and commercial application for each fiscal year, to be used to provide, in accordance with the cost-sharing requirements under Section 988, funds to private partners, including national laboratories, to promote promising energy technologies for commercial purposes.”<sup>5</sup>*

In 2015, DOE established the Office of Technology Transitions to promote the commercial impact of DOE investments.<sup>6</sup> One of the first tasks OTT undertook as a new DOE office was management of the TCF. Prior to OTT’s involvement, DOE had not proactively administered the TCF; rather, DOE’s program offices officially met their annual TCF contribution requirements by accounting for investments they had made in cooperative research and development in the previous year.

Congressional feedback in 2014 indicated that DOE’s TCF process up to that point had not fully met the spirit and intent of the EPAct05 and requested that OTT take on the responsibility of designing and managing a proactive TCF program. Beginning in 2015, OTT’s centralized management allowed for a more comprehensive and strategic approach to the TCF.

From 2015 through 2021, OTT served primarily as an administrator for the TCF, coordinating with program offices and managing a standardized TCF process across all DOE program offices. During this time, the program offices retained oversight of the TCF projects, which resulted in different approaches and levels of engagement.

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<sup>4</sup> Energy Policy Act of 2005, Public Law 109–58, 109<sup>th</sup> Cong. (August 8, 2005), *Improved technology transfer of energy technologies*, 42 U.S. Code § 16391.

<sup>5</sup> Consolidated Appropriations Act, 2021, Public Law 116–260, 116<sup>th</sup> Cong. (December 27, 2020), 134 Stat. 2597, Sec. 9003. <https://www.congress.gov/116/plaws/publ260/PLAW-116publ260.pdf>.

<sup>6</sup> U.S. Department of Energy (DOE), *Technology Transfer Execution Plan 2016–2018*. (Washington, D.C.: DOE, 2016). <https://www.energy.gov/sites/prod/files/2016/10/f33/TTEP%20Final.pdf>.



EPAct 2005, Section 1001 first authorized/mandated the TCF, as well as other technology transfer functions at DOE, and was amended to more fully articulate commercialization and technology transfer in the Energy Act of 2020 Sec 9001(a),<sup>7</sup> which also established a DOE Chief Commercialization Officer to address articulated goals.

Further, the Energy Act of 2020 Sec 9001(g)<sup>8</sup> directed OTT to develop additional technology transfer programs to:

- (1) support regional clean energy innovation systems;
- (2) support clean energy incubators;
- (3) provide small business vouchers;
- (4) provide financial and technical assistance for entrepreneurial fellowships at National Laboratories;
- (5) encourage students, energy researchers, and National Laboratory employees to develop entrepreneurial skill sets and engage in entrepreneurial opportunities;
- (6) support private companies and individuals in partnering with National Laboratories; and
- (7) further support the mission and goals of the office.

Sec 9001(a)(2) of the Energy Act of 2020 states that the OTT mission “shall be (1) to expand the commercial impact of the research and investments of DOE; and (2) to focus on commercializing technologies that support DOE missions, including reducing greenhouse gas emissions and other pollutants.”<sup>9</sup>

The EA 2020 changes have enabled DOE to broaden its strategy to improve critical commercialization programming.

## ii. TCF Programmatic Challenges

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<sup>7</sup> Consolidated Appropriations Act, 2021, Public Law 116–260, 116<sup>th</sup> Cong. (December 27, 2020), 134 Stat. 2597, Sec. 9003. <https://www.congress.gov/116/plaws/publ260/PLAW-116publ260.pdf>.

<sup>8</sup> Id.

<sup>9</sup> Id.



The EA 2020 amendment represented an opportunity to talk to the key stakeholders in the program offices and assess the options available to DOE regarding TCF. In spring 2021, OTT began discussions with DOE program offices and technology managers, as well as laboratory stakeholders that participate in the TCF, to discuss the historical TCF process and explore potential areas for improvement afforded by the EA 2020 amendment. OTT, the program offices, and laboratory stakeholders all informed the decision to adjust the FY22 TCF solicitation from a one-size-fits-all structure to one with more flexibility and opportunity for spreading lessons learned.

Feedback united around several common themes:

- Multiple DOE program offices have congressionally mandated TCF funding levels that are not large enough to fund even one TCF project at the historical, standard funding level. This has resulted in consistent incongruity between the proposals TCF has received and what program offices have been able to fund.
- Several offices funded all meritorious proposals in a particular year and still<sup>10</sup> had significant carryover funding that they could not obligate.
- In order to meet TCF funding requirements, multiple offices funded proposals that were not deemed likely candidates for commercialization.
- Due to the multiple-office oversight of TCF projects, it was challenging for DOE to track impact and quickly report on projects.
- Final project reports indicate TCF project outcomes often focus on research outcomes as opposed to specific commercialization outcomes, which are the explicit intent of the TCF.
- Multiple labs mentioned that the Cooperative Research and Development Agreement (CRADA) processes themselves have been a barrier to awarding and executing new TCF projects. In an extreme case cited by one lab, one TCF CRADA project took 2 years to award.
- Multiple labs also mentioned that having a single, coordinated TCF solicitation to respond to as well as having TCF proposals flow through their respective Technology Transfer Offices (TTOs) would be a more efficient process.

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<sup>10</sup> General Accounting Office (GAO). 2021. *Improved Performance Planning Could Strengthen Technology Transfer*. (Washington, DC: GAO, 2021). GAO-21-202. <https://www.gao.gov/assets/gao-21-202.pdf>.



These identified issues spoke directly to a need to adjust the TCF program to ensure that the program is optimized to achieve commercialization outcomes.

DOE's National Laboratory investments in applied RDD&D are large and diverse. The portfolio involves billions of dollars of investments across 17 distinct laboratories and dozens of critical mission areas. The path to commercialization of these technologies often poses unique challenges related to market forces, technology readiness, capital requirements, and other technology-specific factors, and the best approaches to addressing these challenges are often as unique as the challenges themselves.

### **iii. Vision for FY22 TCF and Moving Forward**

U.S. leadership in innovation requires a comprehensive approach to technology development and commercialization—one that starts at research and development (R&D) and ends at the market by moving through demonstration and deployment—the RDD&D continuum.

Now, more than ever, government has an essential role to play by providing a fertile environment for this ecosystem to thrive. Other countries are developing sophisticated, integrated strategies to leverage their R&D and industrial capabilities to get a leg up in the global economy. Getting ahead means pulling every lever available and doing it responsibly and with purpose.<sup>11</sup>

In this vein, and due to the EA 2020 amendment adjustments, OTT worked with the program offices that fund the TCF, as well as laboratory stakeholders that participate in the TCF, to identify barriers and gaps that impede successfully fulfilling the TCF statutory requirement to “promote promising energy technologies for commercial purposes.” Through these discussions, the DOE program offices and laboratory stakeholders, led and coordinated by OTT, have designed a new approach to the TCF that allows for increased flexibility and customization at the program office level. This lab call constitutes the FY22 multiple program office effort focusing on “Core Laboratory Infrastructure for Commercialization.”

While many program offices have elected to collaboratively develop this joint lab call, several others have taken the opportunity to leverage this flexibility and use their TCF funding in more program-specific ways. In each case, the focus of DOE TCF funding for

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<sup>11</sup> Dobni, C. Brooke. “Achieving synergy between strategy and innovation: The key to value creation.” *International Journal of Business Science and Applied Management* 5, no. 1 (2010).





this lab call remains on directly funding DOE National Laboratories to enable the promotion and commercialization of laboratory technologies.

With these new authorities, the goal for FY22 is to identify opportunities to amplify what has worked and improve things that have not. DOE's new approach to the TCF offered program offices the following three options for deciding how to obligate their FY22 TCF funding:

1. **Technology-Specific Commercialization CRADAs (\$7.3M–\$8.6M):** Some DOE program offices opted to continue soliciting collaborative technology-specific partnerships between DOE labs and private sector companies in a similar manner to previous years' iterations of the TCF. OTT has worked with program offices that selected this option to ensure a focus on commercialization is maintained and other TCF requirements are incorporated. Resulting projects will continue to utilize the CRADA mechanism.
2. **Technology-Specific Commercialization Programs (\$1.1M–\$2.5M):** DOE program offices were given the opportunity to develop their own proposed use of TCF funding that meets the statutory requirements of the TCF. These proposed activities can leverage or expand existing technology-specific commercialization programs or create new ones. However, programs must coordinate these activities with OTT, and the focus must remain on funding to DOE National Laboratories to promote the commercialization of DOE-funded technologies.
3. **Core Laboratory Infrastructure for Commercialization (\$13.6M–\$16.7M):** DOE program offices were given the opportunity to work with OTT and develop a multiple program office joint lab call that combines available TCF funding to address core commercialization challenges, barriers, and gaps impeding DOE National Laboratory commercialization, as well as their root causes (inside and outside of the labs).<sup>12</sup> These proposed activities will help address and fix systemic challenges, barriers, gaps, and root causes so that DOE is more effective at driving commercialization of promising energy technologies in the future.

The Core Laboratory Infrastructure for Commercialization Lab Call option is being issued by DOE's Office of Technology Transitions; the Office of Electricity; the Office of Energy Efficiency and Renewable Energy's Building Technologies Office, Geothermal Technologies Office, Hydrogen and Fuel Cell Technologies Office, Solar Energy

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<sup>12</sup> Secretary of Energy Advisory Board, *SEAB Innovation Working Group Initial Findings* (Washington, DC: DOE, 2020). [www.energy.gov/sites/prod/files/2020/05/f74/SEAB\\_Inno\\_Preliminary%20Findings%20%28Final%29.pdf](http://www.energy.gov/sites/prod/files/2020/05/f74/SEAB_Inno_Preliminary%20Findings%20%28Final%29.pdf).

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Technologies Office, Water Power Technologies Office, and Wind Energy Technologies Office; and the Office of Nuclear Energy.

The program offices that have elected to pursue technology-specific commercialization CRADAs and technology-specific commercialization programs this fiscal year can be found in Appendix B, along with their expected lab call release dates for those efforts.

Moving forward, OTT and all DOE program offices expect to learn from this new FY22 approach and will incorporate lessons learned into future fiscal year TCF approaches and lab calls. The goal for all TCF lab calls and resulting projects or programs, as set forth in TCF’s authorizing statute, will continue to be “promoting promising energy technologies for commercial purposes.”

## B. Timeline and Process Logistics

### Timeline

KEY DATES	
Lab Call Release Date	February 15, 2022
Informational Webinar for National Lab TTOs	February 22, 2022 1:00 p.m. (ET)
Informational Webinar for the Public	February 22, 2022 2:30 p.m. (ET)
PROPOSAL DEADLINE AND DECISION DATES	
Submission Deadline for Concept Slides (See Section II.A.i.)	March 8, 2022 3:00 p.m. (ET)
Lab Presentations to DOE	March 28–April 1, 2022
Informational Webinar on Full Applications	April 7, 2022 1:00 p.m. (ET)
Submission Deadline for Full Applications (See Section II.A.ii.)	April 29, 2022 3:00 p.m. (ET)
Expected Date for Selection Notifications	Q4 FY22

### Process Logistics

All communication to OTT regarding this lab call must use [TCF@hq.doe.gov](mailto:TCF@hq.doe.gov).

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QUESTIONS DURING OPEN LAB CALL PERIOD: Specific questions about this lab call should be submitted by emailing TCF@hq.doe.gov. Answers to frequently asked questions (FAQs) for this lab call can be found at https://ott-exchange.energy.gov/. Answers to frequently asked questions for the Exchange system can be found at https://eere-exchange.energy.gov/FAQ.aspx. To view announcement-specific questions, applicants must first select the specific lab call number. OTT will attempt to respond to a question within three business days unless a similar question and the answer have already been posted on the website. It is the expectation of DOE that applicants to this lab call will review the FAQs before submitting a question. Questions related to the registration process and use of the website should be submitted to EERE-ExchangeSupport@hq.doe.gov. Please include the lab call title and number in the subject line. To ensure fairness for all lab participants, any questions directed to individual DOE staff will be forwarded to TCF@hq.doe.gov for processing.

### C. Key Considerations and Requirements

- AVAILABLE FUNDING: At the time of this solicitation release, Congress has not yet passed a full FY22 DOE budget. The estimated budget below is based on FY21. The total funding amount available for FY22 will be adjusted accordingly once an official FY22 DOE budget is passed. Based on FY21, approximately \$13.6M–\$16.7M in annual funding is expected to be available to fund all projects solicited in this lab call pending FY22 appropriations, program direction, and go/no-go decision points.

Estimated DOE Funding Available: \$13.6M–\$16.7M

Program	Funding Range (Millions)
Office of Electricity (OE)	\$1.1–\$1.3
Office of Energy Efficiency & Renewable Energy (EERE)	\$7.1–\$8.7
Building Technologies Office (BTO)	\$2–\$2.4
Geothermal Technologies Office (GTO)	\$.8–\$.9
Hydrogen and Fuel Cell Technologies Office (HFTO)	\$.5–\$1.0
Solar Energy Technologies Office (SETO)	\$1.9–\$2.3
Water Power Technologies Office (WPTO)	\$1.1–\$1.2
Wind Energy Technologies Office (WETO)	\$.8–\$.9

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Office of Nuclear Energy (NE)	\$5.5–\$6.7
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Estimated Number of Projects: 5–15

Estimated Project Duration: 1–3 years

Budget per Project: The goal of this Core Laboratory Infrastructure for Commercialization Lab Call is to address systemic barriers impeding commercialization. As such, DOE is highly encouraging multilab collaboration, and the below scale should be followed for the suggested budget per project.

It is DOE’s expectation that any lab included or referenced on a proposed project will actively contribute toward the proposed project outcomes. Engagement on the project should be reflected in specific projects’ tasks and budget. The multilab collaboration, and how it will work, should also be described in the full application. The table below reflects DOE’s interest in funding multiple labs to address shared commercialization challenges. Single-lab solutions are of interest; however, to be selected for larger funding amounts, this table suggests that labs should collaborate and the proposed solutions must be applicable across the collaboration.

Number of Labs Fully Engaged on Project	Proposed Budget, First Year	Proposed Budget, Additional Years
1	\$250,000	
2	\$600,000	\$300,000
3	\$1,050,000	\$600,000
4	\$1,500,000	\$750,000
5+	\$4,000,000	\$2,000,000

- **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 congressionally appropriated funds in DOE program offices participating in this lab call.
- **COST SHARE: This lab call is subject to Section 988(b)(3) of the Energy Policy Act of 2005 regarding cost share. DOE prefers all funded projects to meet 50% of the total project cost-share fund requirement; however, DOE acknowledges**

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that some potentially high-impact proposed projects may not be able to meet this requirement. In this case, labs may apply with less than 50% cost share so that DOE can see the full universe of high-quality proposals. The scoring criteria reflect that providing cost share will increase the likelihood of selection.

- DOE has approved a Cost-Share Waiver for topics 1.b, 2.b, 3.b., 5.b., and 6.b of this lab call (full topic descriptions below). Projects applying under all subtopics (b) are not required to cost share nonfederal funds of at least 50% of the total project cost to apply. This was done to ensure all project ideas can apply and the most impactful mix of projects can be selected.
  - Each proposal that applies to a subtopic (a) commits to meet the 50% of the total project cost-share funds requirement. Each proposal that applies to a subtopic (b) may propose to meet less than 50% of total project cost-share funds requirement.
  - DOE reserves the right to move a proposal from subtopic (b) into subtopic (a) and select as a subtopic (a) proposal. In such a case, the project selection would be contingent on the lab(s) committing to meet 50% cost share for the project. If the lab(s) declines, DOE will not fund the project.
  - The final cost-share requirements for each proposed project will be set at the time of selection and will not be changed during the life of the award. Cost-share requirements will be established on a budget-period-by-budget-period basis.
  - For Topics 1.a, 2.a, 3.a., 5.a., and 6.a, the nonfederal cost share must be at least 50% of total project costs by the conclusion of the project.
  - For topics 1.b, 2.b, 3.b., 5.b., and 6.b, DOE will negotiate a cost-share rate which may be any percentage at or under 50%. The nonfederal cost share at the end of the award must be at least the established percentage agreed upon at the time of award.
- **DIVERSITY, EQUITY, and INCLUSION (DEI):** It is the policy of the Biden Administration that:



[T]he Federal Government should pursue a comprehensive approach to advancing equity<sup>13</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 (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>14</sup>

As part of this whole-of-government approach, this lab call seeks to encourage the participation of underserved communities<sup>15</sup> and underrepresented groups. Applicants are highly encouraged to include individuals from groups historically

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<sup>13</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>14</sup> Executive Order 13985, “Advancing Racial Equity and Support for Underserved Communities Through the Federal Government” (Jan. 20, 2021).

<sup>15</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 of 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 <https://news.umich.edu/new-index-ranks-americas-100-most-disadvantaged-communities/>; and communities that otherwise meet the definition of “underserved communities” stated above.

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underrepresented<sup>16,17</sup> in STEM on their project teams. Specifically, applicants are required to reference, if available, the existing laboratory DEI plan and describe how diversity, equity, and inclusion objectives will be incorporated in the project. 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 the project activities will be located in or benefit underserved communities. The proposed project should include at least one SMART (Specific, Measurable, Assignable, Realistic and Time-Related) milestone per budget period supported by DEI relevant metrics to measure the success of the proposed actions. Please refer to Section II.A.ii. 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.

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<sup>16</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 (<https://nces.nsf.gov/pubs/nsf19304/digest/about-this-report>). 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 (<https://www.energy.gov/articles/introducing-minorities-energy-initiative>).

<sup>17</sup> Note that Congress recognized in Section 305 of the American Innovation and Competitiveness Act of 2017, Public Law 114-329:

(1) [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.



Further, Minority Serving Institutions,<sup>18</sup> Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses, Veteran Owned Businesses, or entities located in an underserved community that meet the eligibility requirements are encouraged to participate on an application as a proposed partner to the prime applicant. The Selection Official may consider the inclusion of these types of entities as part of the selection decision. Please refer to Section II.B.i., Merit Review & Selection Process, for review criteria.

- **NATIONAL LABORATORY COLLABORATION:** DOE strongly encourages projects that bring together multiple labs to meet the strategic goals of this lab call to leverage multiple lab capabilities and to scale successful commercialization programs throughout all DOE labs. To expedite multilab partnerships, Appendix C includes all National Lab TTO Points of Contact (POCs).
- **TEAMING PARTNER LIST:** To the extent possible and appropriate, DOE also seeks multilab projects that involve industry engagement or industry partners as well, to enhance the “market pull” aspects of the commercialization programming.

To expedite external partnerships in support of this lab call, DOE will compile and regularly update an opt-in Teaming Partner List to facilitate the formation of new project teams. The list allows organizations that may wish to participate in an application but cannot do so as the prime applicant to the lab call to express their interest to potential lab TTO applicants and explore potential partnerships. The list will be publicly posted and updated regularly on Exchange.

Submittal Instructions: Any organization that would like to be included on this list should submit the following information in Excel format to [TCF@hq.doe.gov](mailto:TCF@hq.doe.gov) with the subject line “Teaming Partner Information”: Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Expertise, Brief Description of Capabilities, and Applicable Topic and Subtopic.

*Disclaimer: By submitting a request to be included on the Teaming Partner List, the requesting organization consents to the publication of the above-referenced information. By enabling and publishing the Teaming Partner List, DOE is not*

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<sup>18</sup> Minority Serving Institutions, including Historically Black Colleges and Universities/Other Minority Institutions, as educational entities recognized by the Office of Civil Rights (OCR), U.S. Department of Education, and identified on the OCR’s Department of Education U.S. accredited postsecondary minority institutions list. See <https://www2.ed.gov/about/offices/list/ocr/edlite-minorityinst.html>.





*endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are identifying themselves for placement on this Teaming Partner List. DOE will not pay for the provision of any information, nor will it compensate any applicants or requesting organizations for the development of such information.*

## D. Topic Area Descriptions

The DOE program offices and laboratory stakeholders contributing to this lab call have identified persistent barriers and known gaps to the commercialization of laboratory technologies and developed specific topics aimed at addressing them. The intent of the topics below is to address core challenges, barriers, and gaps impeding DOE National Laboratory technology commercialization as well as their root causes (inside and outside of the labs).

OTT worked with the program offices that fund the TCF, as well as laboratory stakeholders that participate in the TCF, to develop these topics. The first four topics focus on additional steps in the process of commercialization, whereas the last two topics focus on activities that will enhance the labs' ability to attract partners to commercialize lab technologies. DOE encourages multilab teams to address more than one topic in an interwoven, holistic approach. In this case, all topics and subtopics that the team believes are addressed by the proposal should be listed on the title page and the interconnectedness should be highlighted in the proposal itself. The proposal will be reviewed and evaluated under all respective topics indicated.

**All proposals must include how the team will track and show their respective commercialization impact and outcomes from the proposed program(s).** Please refer to Section II.A.ii. on Impact Tracking to ensure these metrics and tracking requirements are built into any proposals.

DOE highly encourages labs to partner with external organizations and private companies, as such partners may have deep knowledge and experience performing many of the activities described in the topics, some may have already built needed components under many of the topic areas below, and some may help advance DOE's DEI goals.

As outlined in Section I.C. on cost-share funds, and to better facilitate identifying which projects meet the 50% cost-share funds requirement and which do not, each topic has two subtopics under which labs may apply. Each proposal that applies to subtopic (a)



commits to meet the 50% of total project cost-share funds requirement. Each proposal that applies to subtopic (b) proposes to meet less than 50% of the total project cost-share funds requirement.

**Topic 1: Market Needs Assessment**—DOE RDD&D investments in National Laboratories generate a large amount of intellectual property (IP). However, the degree to which this IP is aligned to specific market and industry needs is inconsistent and at times unknown. For DOE energy technologies to reach their full potential and impact, they need to be developed with a clear understanding of their utility and potential impact to industry.

This topic seeks proposals from labs and partner organizations to develop cross-lab industry- and sector-specific “needs-assessment” capabilities to identify and understand emerging needs and the related technology solutions that are needed for commercial purposes. This program should also assess the industry-specific technology needs for clean generation and a secure and modernized energy infrastructure to meet the administration goal to equitably transition the U.S. economy to net-zero greenhouse gas emissions no later than 2050. It is highly encouraged that labs partner with external organizations on proposals for this topic.

Ideal programs will integrate market pull into new R&D development, thinking, and program strategy, forming a conduit of market insight and awareness. Outcomes of proposed projects could inform DOE and lab policies and programs that accelerate the commercial adoption of critical technologies. This integration of strategic priorities and market understanding would strengthen the DOE and National Lab Complex’s ability to support market-needed innovation.

Scalability and adaptability should be clear considerations for proposals in this topic area, as the innovation ecosystem is expected to continue to expand and evolve rapidly over the coming decades.

**Subtopic 1.a:** Proposals commit to meet the 50% of total project cost-share funds requirement.

**Subtopic 1.b:** Proposals meet less than 50% of total project cost-share funds requirement.

**Topic 2: Curation of Intellectual Property**—Once market and industry needs have been identified in particular sectors, potential promising energy technologies for commercial purposes can be identified and pursued. A seamless, quick process of curating relevant government-owned IP to support and enhance developing technologies is a key element



of promoting promising energy technologies for commercial purposes in a timely, market-relevant manner, such as in support of DOE's Energy Earthshots Initiative.

DOE seeks bold ideas and significant improvements to how labs ready the IP needed to connect promising energy technologies for commercialization with private sector partners. It is highly encouraged for proposals to incorporate aspects of the market needs assessment topic to be able to match IP that can meet new market needs.

Proposed projects could build on and expand successful, existing activities and programs already underway by labs' TTOs, such as Pacific Northwest National Laboratory's exploratory license option. Proposals in this topic area are sought for programs and activities above and beyond existing lab efforts and/or to expand successful programs across the entire National Laboratory Complex.

If building on and expanding existing programs, any proposal covering this topic will need to provide an overview on how the proposed program differs from existing activities and/or how it will be expanded across labs. Additionally, proposed programs should help address root causes (inside and outside of the labs) of existing lab technology commercialization challenges and barriers, such as (but not limited to) complex IP access and/or barriers in finding partners. Proposals could build on existing resources developed in this space, such as the Lab Partnering Service<sup>19</sup> and/or tools that utilize artificial intelligence or natural language processing. Thus, proposed projects that find ways for these tools to be used in more impactful ways will likely better address the scoring criteria in Section II.B.i. than proposing tools that are redundant or duplicative to tools already in existence.

Creativity is highly encouraged. DOE encourages the labs to work together to connect across programs and across labs when possible to provide a more united and consistent approach to readying IP for external partners. It is highly encouraged that labs partner with external organizations on proposals for this topic.

It is envisioned that programs under this topic would include, at a minimum:

- Assessing the relevant cross-lab IP opportunities
- Understanding the level of historical and present knowledge at the labs relevant to these inventions

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<sup>19</sup> <https://www.labpartnering.org/>



- Gauging the interest level of the inventors in engaging in commercialization activities as well as the relative maturity and risk profile of the IP
- Vetting with external industry, such as (but not limited to) via an advisory board or with industry partners under the program
- With an informed understanding of industry needs, identifying the assets that are most relevant to these industry needs and their IP protection status.

Under this topic, proposed program IP reporting to the relevant DOE program offices will be required on a periodic basis, which could include, but not be limited to, updates on the following: overviews of the industry sectors and partners interested in the curated IP, possible applications of the IP both within and outside of the program office that funded its development, possible improvements requested by industry for full adoption of the IP, and feedback on the potential workforce needs that may result from implementing such IP at scale.

Proposals should incorporate this topic-specific required reporting and feedback mechanism into the proposed project plan to improve processes and matchmaking effectiveness over time. These topic-specific reporting requirements are in addition to all impact tracking requirements for all topics and proposals under this lab call.

**Subtopic 2.a:** Proposals commit to meet the 50% of total project cost-share funds requirement.

**Subtopic 2.b:** Proposals meet less than 50% of total project cost-share funds requirement.

**Topic 3: Matchmaking**—Successful technology commercialization is never simply about having the right technology; it requires having a team with the right vision, skills, and ambition to bring that technology to market.

Once multiple IP portfolios have been developed and vetted against market needs and industry interest, teams must be built to commercialize the selected IP and then take the necessary actions to bring the new IP-integrated product to market. This topic seeks proposals from labs for matchmaking programs to build internal/external entrepreneurship teams to commercialize promising, curated lab energy technology IP as well as programming and support so that they can lead the new technology to market. The programs envisioned under this topic would also support the talent pipeline, both internal and external to the labs, needed to build the teams that will



commercialize lab-developed IP; however, matching and building the team alone is not sufficient. Proposals should also address the additional, needed programming and services such as business plan support, funding, business expertise and mentoring, investor and corporate connections, etc. that teams need as they bring their new product to market. It is highly encouraged that labs partner with external organizations on proposals for this topic. It is also highly encouraged for proposals to incorporate connections to programming described under Topics 1 and 2.

Competitive proposals in this space would seek to leverage and learn from previous and existing relevant DOE programs, existing programs outside of DOE such as the Defense Advanced Research Projects Agency's Embedded Entrepreneurship Initiative<sup>20</sup>, and may involve scaling single-lab pilot programs across multiple labs. There are several external-to-lab programs in this area that could also be leveraged, built on, and expanded across the National Laboratory Complex.

Areas of interest for this subtopic include, but are not limited to, the following:

- Proposed programs to find qualified entrepreneurs who have right experience (e.g., in scaling energy hardware technology) and then provide the programming and services, such as business plan support, funding, business expertise and mentoring, investor and corporate connections, etc., for these entrepreneurs to take the needed actions to move the new IP-integrated product to market.
- Incubators, accelerators, and other entrepreneurial support programs that are crucial to the innovation ecosystem, as they help innovators and small businesses further develop their technologies and products toward market adoption, incorporate and grow their businesses, help in attracting capital, and provide networking and support. Proposed projects could consider how to better leverage these networks and develop a program for pairing lab-developed IP with commercialization partners (e.g., qualified entrepreneurs, corporate partners, manufacturers, industry leaders, and natural language processing tools).
- Akin to the medical field's residency hospital match programs, proposed projects could identify how to best curate applications from interested entrepreneurs at a national level and then match the applicants to the most relevant lab physical assets, lab principal investigators (PIs), and lab IP. These matched teams could

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<sup>20</sup> <https://eei.darpa.mil/>



then be provided the programming and services needed to bring their new IP-integrated product to market.

- Applications should explain how to assess and mitigate conflicts of interest and challenges with leave that may arise when lab staff seek to start their own companies with lab technology, either leveraging existing processes or developing a novel streamlined process.
- Proposed projects could include new and innovative initiatives that accelerate the process of matching external teams with labs and their respective IP to commercialize the selected IP as well as new and innovative programming and services that these matched teams would need.

**Subtopic 3.a:** Proposals commit to meet the 50% of total project cost-share funds requirement.

**Subtopic 3.b:** Proposals meet less than 50% of total project cost-share funds requirement.

**Topic 4: Technology Specific Partnerships**—Projects in this topic will **not** be funded in this FY22 TCF Lab Call; however, projects falling under this topic may be funded under technology-specific commercialization programs this fiscal year (which can be found in Appendix B along with the expected lab call release dates for those efforts). Those lab calls will provide funding for collaborative partnerships between DOE labs and private sector partners to commercialize lab technologies. For completeness, this topic is included here as a critical step to lab technology commercialization. Over time, the speed and success rate of projects at this stage are expected to improve as a result of the work awarded in the other topic areas described above and below.

Moving forward, OTT and all DOE program offices expect to learn from this new FY22 approach and will incorporate lessons learned into future fiscal year TCF approaches and lab calls. The goal for all TCF lab calls and resulting projects or programs, as set forth in the TCF’s authorizing statute, will continue to be “promoting promising energy technologies for commercial purposes.”

**Subtopic 4.a:** This lab call is not accepting proposals under this subtopic at this time.

**Subtopic 4.b:** This lab call is not accepting proposals under this subtopic at this time.

**Topic 5: Streamlining Laboratory Processes and/or Requirements**—In addition to the above topics, DOE has identified two critical enabling and supporting activities that are



vital to effective technology transition out of National Labs. These activities and their related processes and requirements are currently different at different labs.

As such, individually and cumulatively, they present major barriers to external partners wanting to commercialize lab IP, particularly when each lab has its own unique processes or requirements. Thus, external parties interested in working with more than one lab must learn and work through multiple processes and sets of requirements.

DOE encourages labs to work together to address these core barriers in coordination with streamlining and improving Topic 1 through 3 processes and approaches for market needs assessment, IP curation, and matchmaking programs. This topic focuses on streamlining connecting elements and making them similar across labs, when possible, in order to provide a more united and consistent approach to engaging external partners.

One of the largest perennial barriers to DOE laboratory commercialization are the limited mechanisms available at most labs to allow lab staff to engage in entrepreneurial pursuits and/or partner with external entities. This topic seeks proposals from labs and partner organizations to explore and develop new and/or existing methods and models that can be used to promote, accelerate, and streamline the processes to move lab-developed, promising energy technologies toward commercial purposes, as well as to enable faster and simpler commercialization processes, including licensing of IP.

It is envisioned that these improvements could connect and flow into the new or enhanced programming described in Topics 1 through 3 as well as Topic 6. It is highly encouraged that labs partner with external organizations on proposals for this topic.

Creativity is highly encouraged. DOE encourages the labs to work together to streamline cross-program, cross-lab, connecting processes and/or requirements and make them similar across labs, when possible, to provide a more united and consistent approach to engaging external partners. Thus, proposed projects to create streamlined multilab approaches will likely better address the scoring criteria in Section II.B.i. than single-lab proposed projects.

Additionally, proposals should clearly describe how they are either building on existing infrastructure and programming or making changes or improvements. Redundant infrastructure, programming, and projects are unlikely to address the stated scoring criteria in Section II.B.i.



Proposed efforts should also help address any root causes (inside and outside of the labs) of existing commercialization challenges and barriers.

Proposed methods and models could include but are not limited to:

- Improvements and broader implementation of lab Master Scopes of Work
- Actions or infrastructure (e.g., websites) to make lab expertise or IP widely available, such as providing fairness of opportunity through publication of an opportunity to collaborate or license
- Simplified and standardized licensing, CRADA, User Agreement and Other Transaction Authority templates, processes, and approvals
- Streamlining of all steps to accelerate and reduce transaction costs of moving from lab to market
- Development of new models of engagement to address business and technological realities impeding commercialization
- Streamlined and enhanced programs to allow staff to charge a defined and reasonable amount of time to commercialization and entrepreneurial efforts, which could include talking with external companies, taking commercialization training, etc.
- Streamlined and enhanced programs to allow lab staff to engage in entrepreneurial ventures without concerns for conflicts of interest, etc., if no improvements are proposed under Topic 1.

**Subtopic 5.a:** Proposals commit to meet the 50% of total project cost-share funds requirement.

**Subtopic 5.b:** Proposals meet less than 50% of total project cost-share funds requirement.

**Topic 6: Increasing Partnerships with External Commercialization Parties**—This topic seeks to address the second critical, enabling and supporting activity that is vital to effective technology transition out of National Labs. Activities focused on partnering with external parties and their related programs and efforts such as industry day events, industry advising on lab projects and even industry-led incubation or acceleration programs are currently different at different labs. As such, individually and cumulatively, they present major barriers to external partners wanting to commercialize lab IP,

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INCLUDE LAB CALL NAME AND NUMBER IN SUBJECT LINE.





particularly when each lab has its own unique programs, events, etc. Thus, external parties interested in working with more than one lab must learn and work through multiple approaches to external partner engagement.

This topic seeks proposals from labs and partner organizations to explore and develop new and/or existing methods and models to increase the number of partnerships with, as well as accelerate and deepen connectivity to, external commercialization parties. This topic focuses on connecting elements and making them similar across labs, when possible, to provide a more united and consistent approach to engaging external partners.

These activities are meant to improve how labs attract, recruit, and retain external partners to further develop and commercialize technologies. It is envisioned that these activities could connect and flow into the new or enhanced programming described in Topics 1 through 3 as well as Topic 5.

It is highly encouraged that labs partner with external organizations on proposals for this topic. Creativity is highly encouraged. DOE encourages the labs to work together to connect cross-program and cross-lab approaches as well as make them similar across labs, when possible, in order to provide a more united and consistent approach to engaging external partners. Thus, proposed projects to create multilab approaches will likely better address the scoring criteria in Section II.B.i. than single-lab proposed projects.

Additionally, proposals should clearly describe how they are either building on existing infrastructure and programming or making changes or improvements. Redundant infrastructure, programming, and projects are unlikely to address the stated scoring criteria in Section II.B.i.

Proposed efforts should also help address any root causes (inside and outside of the labs) of existing commercialization challenges and barriers.

Proposed projects could include but are not limited to:

- Industry partners and/or small businesses stationed at a National Lab and working alongside lab researchers on improving and commercializing technologies



- Industry-led and -funded incubation or acceleration programming to attract, recruit, and retain external partners to further develop and commercialize technologies
- Industry-led and -funded commercialization-focused mentoring and advisor programming
- Teaming events, such as offering potential industry partners opportunities for laboratory tours or vice-versa
- One-on-one connections to researchers with technologies of interest
- Organizing lab-run, sector-specific demonstration or innovation days paired with relevant conferences, such as in support of DOE's Energy Earthshots Initiative.

**Subtopic 6.a:** Proposals commit to meet the 50% of total project cost-share funds requirement.

**Subtopic 6.b:** Proposals meet less than 50% of total project cost-share funds requirement.

## II. Application Submission and Review Information

### A. Process and Submission Details

#### i. Process

All communication to OTT regarding this lab call must use [TCF@hq.doe.gov](mailto:TCF@hq.doe.gov).

- **ELIGIBILITY:** Only DOE National Laboratories are eligible for funding from this lab call. All applications must be submitted to DOE from each lab's respective Office of Research and Technology Application (ORTA)<sup>21</sup> Technology Transfer Offices. Applications received from offices other than a lab's ORTA will be rejected. All other National Laboratory offices and programs must coordinate with their respective TTOs to submit applications. Proposals that involve more than one laboratory are highly encouraged.

To be eligible to apply to this call, a full application must be submitted per guidelines below.

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<sup>21</sup> 15 USC 3710.



- Laboratories are expected to coordinate on concept slide and application submission, both internally and with multilab collaborators.
- Though there is no limit on the number of concept slides submitted, each National Laboratory ORTA TTO may submit **no more than two full project applications that include only single-lab participation, whereas each National Laboratory ORTA TTO can submit an unlimited number of full project applications that include more than one lab partner**. Any submitted applications that exceed this threshold will not be considered. Applications will be counted in the order in which they are received.
- **PARTNERS:** Partners can be any nonfederal entity, including private companies, state or local governments (or entities created by a state or local government), colleges, universities, tribal entities, or nonprofit organizations. Partners must agree to engage in activities that focus on commercializing or deploying technologies in the marketplace and are highly encouraged to provide cost share.
- **SUBMISSION:** To apply to this lab call, ORTA TTO personnel must register and sign in with their lab email address and submit application materials through Exchange, the online tool being used by OTT and the other program offices. **Only ORTA TTO personnel can submit applications under this lab call**. Application materials must be submitted through [Exchange](#).

All partnerships between the labs and outside partners must comply with individual lab requirements under their management and operating (M&O) contracts.

- **CONCEPT SLIDE:** Submission of concept slides is optional but highly encouraged. Labs that elect to do so should submit a single PowerPoint slide to [TCF@hq.doe.gov](mailto:TCF@hq.doe.gov) that includes a proposal title, topic(s) and subtopic(s) being applied for, PI(s) name(s), a brief project description, and any other helpful information no later than the date and time listed in the Section I.B. Timeline.

The primary purpose of this concept slide is to aid the labs with concept development. The concept should fit on a single (1) PowerPoint slide. There is no template for this slide, so labs are encouraged to be creative, but it should be legible (minimum 10-point font) so that reviews can occur quickly and efficiently.



DOE will review the slide, and applicants may receive feedback, ideally within a week of submission. Labs that do not receive DOE feedback should consider their concept sufficient to move to the next step.

If the volume of concept slides is high, DOE reserves the right to implement a process to encourage or discourage concepts at this stage. The intent is to help the labs focus their efforts on the concepts with the highest potential under this lab call. Under this scenario, labs would receive a DOE determination as to whether they are encouraged to move to the next step or discouraged from moving forward.

- **LAB PRESENTATIONS:** Following DOE feedback on the initial concept slide, DOE may invite one or more applicants to present their revised concept(s) to DOE, most likely via a videoconference. The purpose of this presentation is to continue to aid the labs with concept development and more quickly enable cross-lab collaboration. DOE may choose to invite certain applicants over others under a number of scenarios, such as, but not limited to, if DOE determines that the concept might benefit from discussions with DOE; if there are multiple, similar concepts that DOE would like to bundle across labs; and/or if DOE has key questions or concerns about a concept. Participation in presentations with DOE does not signify that these applicants have any advantage in the full application stage; nor does it signify that they have been selected for award negotiations.

The invited applicant(s) will meet with DOE representatives to discuss their revised concepts and provide DOE with an opportunity to ask questions regarding the concept. The information applicants provide to DOE through these presentations may contribute to DOE's selection decisions.

Each lab will have 10 minutes to present followed by 15 minutes of questions and answers. There is no template for this presentation, so labs are encouraged to be creative, but it should fit within the allotted time, highlight the value and uniqueness of the proposed concept, and spur discussion with DOE. DOE intends to provide feedback live during the questions-and-answers time period.

DOE will not reimburse submitters for travel and other expenses related to the presentations; nor will these costs be eligible for reimbursement as preaward costs.



- **FULL APPLICATIONS:** Building on the feedback from the concept slide as well as the lab presentation, labs are encouraged to further expand their concept into a full application. Whereas concept slides and presentations are optional but highly encouraged, **full applications are required to be eligible for award(s) under this solicitation.** Application materials must be submitted through [Exchange](#).

DOE will provide an overview webinar on application requirements for the labs on the date and time listed in the Section I.B. Timeline, prior to the deadline.

DOE will not review or consider ineligible full applications. Each full application shall be limited to a single concept. Unrelated concepts shall not be consolidated in a single full application. Full applications must conform to the requirements below.

**FULL APPLICATIONS ARE DUE BY THE DATE AND TIME LISTED IN THE SECTION I.B. TIMELINE. DOE WILL NOT ACCEPT FULL APPLICATIONS AFTER THE DEADLINE.**

## ii. Full Application Requirements

Applications should be formatted for 8.5 x 11 paper, single-spaced, and have 1-inch margins on each side. Typeface size should be 11-point font, except tables and figures, which may be in 10-point font (Times New Roman preferred).

Documents must conform to this naming convention: "2022 TCF 'Name of File' [Tracking ID #].pdf." If applicants exceed the maximum page lengths indicated below, DOE will review only the authorized number of pages and disregard any additional pages.

Proposals should be no more than 15 single-spaced pages total, should be in a single PDF file format, and must include the following components under headings corresponding to the bullets below:

- **Title Page:** The title page is not counted in the page limit and should include the proposal title, topic(s) and subtopic(s) being applied for, PI(s) and business POCs, names of all team member organizations, any statements regarding confidentiality, a nonproprietary project summary, and a 200-or-less-word summary of the project suitable for public release if the project is funded.
  - Include name, address, phone number, and email address of the lead applicant (organization) for contract issues and project issues.

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PROBLEMS WITH EXCHANGE? EMAIL [EERE-EXCHANGESUPPORT@HQ.DOE.GOV](mailto:EERE-EXCHANGESUPPORT@HQ.DOE.GOV) &  
INCLUDE LAB CALL NAME AND NUMBER IN SUBJECT LINE.



- DOE encourages multilab teams to address more than one topic in an interwoven, holistic approach. In this case, **all topics and subtopics that the team believes are addressed by the proposal should be listed on the title page** and the interconnectedness should be highlighted in the proposal itself. The proposal will be reviewed and evaluated under all respective topics indicated.
- **1.0 Summary:** The summary provided should be one page in length and should provide a truncated explanation of the proposed project; a clearly defined, easily communicated, end-of-project goal; and a high-level overview of estimated project budget, listing an estimated breakdown for each proposed year, separated by teaming partners. The applicant should discuss the impact DOE funding would have on the proposed project. Applicants should specifically explain how DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.
- **2.0 Project Description:** Describe the project in enough detail that it may be evaluated for its innovation, impact, and relevance to the topic objectives. Describe relevant background information that helps demonstrate the need for this project, including the problem statement or major challenges and barriers being overcome through the project, how the proposed project supports one or more of the lab call objectives, the approach to solving the problem, and why this funding is needed to enable this work. For multilab projects, a description of each performer's role and responsibility, as well as how individual efforts will be coordinated to achieve the overall project goal, should also be included. The applicant should clearly specify the expected outcome(s) of the project. The applicant should describe the specific innovation of the proposed project, the advantages over current and emerging programs and/or processes, and the overall impact on advancing the baseline if the project is successful.
  - Additionally, indicate whether the project is related to other current or recently completed DOE-funded or lab-funded projects. Identify any next-stage commercialization, intellectual property, or resource factors, if appropriate.
- **3.0 Diversity, Equity, and Inclusion:** As part of the application, applicants are required to describe how DEI objectives will be incorporated in the project. Specifically, applicants are required to submit a description of how the project



will support or implement the labwide DEI plan and describe the actions the applicant will take to foster a welcoming and inclusive environment, support people from groups underrepresented in STEM, advance equity, and encourage the inclusion of individuals from these groups in the project, as well as the extent to which the project activities will be located in or benefit underserved communities (also see the subsection on DEI in Section I.C.). The plan should include at least one specific, measurable, achievable, relevant, time-based (SMART) milestone per budget period supported by metrics to measure the success of the proposed actions, which will be incorporated into the award if selected. The DEI section should contain the following information:

- Equity Impacts: the impacts of the proposed project on underserved communities, including social and environmental impacts
- Benefits: The anticipated overall benefits of the proposed project, if funded, to underserved communities
- How DEI objectives will be incorporated in the project.

The following is a nonexhaustive list of actions that can serve as examples of ways the proposed project could incorporate DEI elements:

- Include persons from groups underrepresented in STEM as PI, co-PI, and/or other senior personnel
- Include persons from groups underrepresented in STEM as student researchers or postdoctoral researchers
- Include faculty or students from Minority Serving Institutions as PI/co-PI, senior personnel, and/or student researchers, as applicable
- Enhance or collaborate with existing diversity programs at your home organization and/or nearby organizations
- Collaborate with students, researchers, and staff in Minority Serving Institutions
- Disseminate results of research and development in Minority Serving Institutions or other appropriate institutions serving underserved communities



- Implement evidence-based, diversity-focused education programs (such as implicit bias training for staff) in your organization
- Identify Minority Business Enterprises, Minority Owned Businesses, Woman Owned Businesses and Veteran Owned Businesses to solicit as vendors and subcontractors for bids on supplies, services, and equipment.

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

- **4.0 Potential Commercialization Advances:** Identify root causes (inside and outside of the labs) of the existing lab commercialization challenges and barriers that, if addressed, will result in significant advances for commercializing technologies. Describe a reasonable path for the proposed project toward commercialization successes, including the anticipated timeline for market entry or increased market adoption for related technologies involved in the proposed program(s).
- **5.0 Work Plan:** This section is to list the key tasks and provide brief descriptions for each task, including roles and responsibilities of any partners. Define the key milestones to be addressed by the project, including SMART milestones, and quarterly progress measures, with dates and specific descriptions of what should be accomplished to meet the milestones. This section should address key risks to achieving stated goals and the steps to be taken to minimize those risks.

The work plan should include a high-level project scope, work breakdown structure (WBS), milestones, go/no-go decision points, and project schedule. A detailed WBS is requested separately.

- **6.0 Impact Tracking:** DOE has an obligation to report on TCF implementation and impact. As such, all projects must incorporate clear impact tracking strategies.

Proposals must describe how, if funded, the proposed project would measure success during and after the funded period. Awardees must report every year over a 5-year time period, which includes the up-to-3-year award period and any relevant time period afterward to reach the entire 5-year time period.

Proposals must describe how the team will implement and track impact metrics. Proposals must include outcome-focused metrics that are most applicable for





the proposed project and describe how and when the team will track and report against those metrics. Metrics should focus on outcomes that show traction and not steps or deliverables the team has complete control over. If the project is selected, OTT will provide a metric input form for impact metrics reporting.

Specific targets for identified metrics should be provided, as appropriate. Applicants should consider short-, medium-, and long-term goals when identifying metrics. Sample metrics are shown below and should be tailored to the nature of the submitted proposal. For example, for a metric of “partnerships,” the nature of the engagement or partnership must be specified.

- Acceptable Metrics include but are not limited to: 1) number of CRADAs or other partnering arrangements that come out of the labs, 2) increase in number of licensed lab technologies, 3) number of tangible improvements to lab-related activities based on customer discovery, 4) qualitative data before and after activity measuring understanding or perspective shift, 5) number of lab technology transfer professionals trained in areas outside of normal activities, 6) private funds invested in solutions, 7) number and value of established industry/incubator partnerships, 8) number of inquiries for new partnerships, 9) innovation/IP generation, 10) annual revenue from commercialized technologies, and 11) others.
- Unacceptable metrics include but are not limited to: 1) general reports describing activities, 2) exploratory experiments that lack a goal, 3) unverifiable data, 4) time spent on project, and 5) other subjective, vague, and/or ambiguous metrics.
- **7.0 Team and Required Resources:** Describe the expected DOE and National Laboratory member resources, including proposed work areas, staff time, and any facility/equipment needs. Include specific locations and laboratories to be used.
- **8.0 Proposed Base Budget and Options:** Provide a minimum budget of all project expenses by each National Lab and project partner. The minimum budget should include a high-level summary of the main project components that could be included at that cost. Please also provide a recommended budget broken out by tasks, where the total budget is the sum of the tasks. This is to itemize the cost estimate (total) for each task, with total costs for the project. Additionally, the

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recommended budget should be broken down by cost category (for example, personnel, travel, equipment, supplies, contractual, indirect, etc.). Other sources of funding, including cost-share information, shall be provided here, if applicable.

Additionally, the recommended budget should provide enough information to create a menu of task/budget options to increase the recommended budget and project scope as well as decrease the budget and project scope. Additional budget recommendations must reference and link to related activity scope of what would be either additional and beyond what is proposed in the minimum budget or what would be removed from the minimum budget. The intent for these options in the recommended budget is to allow DOE the most flexibility in funding the project as well as optional elements that could improve the proposed project's success.

During the evaluation process, DOE reserves the right to determine an award with a changed project scope and budget. Having these details and applicant-provided options to reduce or increase project scope and/or budget allows DOE to make more informed and collaborative decisions.

- **9.0 Cost Sharing:** Provide a detailed table describing any proposed cost sharing, clearly articulating cash versus in-kind. This is required for subtopics (a) that require cost share and optional (but encouraged) for subtopics (b) where cost share is not required.
  - If applicable, submit letters of commitment from all subrecipient and third-party cost-share providers. If applicable, also include any letters of commitment from partners/end users (1-page maximum per letter; these are not counted in the 15-page limit).
  - See Appendix A for additional cost-share information and requirements.
- **10.0 References:** References are not counted in the 15-page limit and should be included in the application as an appendix.
- **11.0 Team Resumes:** Include single-page resumes of key project participants. These are not counted in the 15-page limit and should be included in the application as an appendix.
- **12.0 Project Summary Slide for Public Release:** The project summary slide must be suitable for dissemination to the public, and it must not exceed one



PowerPoint slide (not counted in the 15-page limit). This slide must not include any proprietary or business-sensitive information, because DOE may make it available to the public if the project is selected for award. The document must conform to this naming convention: "2022 TCF Public Summary [Tracking ID #].ppt." The summary slide requires the following information:

- A project summary
- A description of the project's impact
- Proposed project goals
- Any key graphics (illustrations, charts, and/or tables)
- The project's key idea/takeaway
- Project title, prime recipient, PI, and key participant information
- Requested TCF funds and proposed applicant cost share, if applicable.

### **iii. Proprietary Information**

Applicants should not include in their proposals trade secrets or commercial or financial information that is privileged or confidential, unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in this solicitation. Proposals that contain trade secrets or commercial or financial information that is privileged or confidential and that the applicant does not want disclosed to the public or used by the government for any purpose other than proposal evaluation must be marked as described below. A cover sheet, which does not count against the page limits, must be marked as follows and must identify the specific pages that contain trade secrets or commercial or financial information that is privileged or confidential:

#### **"Notice of Restriction on Disclosure and Use of Data:**

Pages [list applicable pages] of this document may contain trade secrets or commercial or financial information that is confidential and is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the government. The government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source. [End of Notice]"



The header and footer of every page that contains trade secrets or privileged commercial or financial information must be marked as follows:

“May contain trade secrets or commercial or financial information that is privileged or confidential and exempt from public disclosure.”

In addition, each line or paragraph containing trade secrets or commercial or financial information that is privileged or confidential must be enclosed in brackets.

The above-referenced markings enable DOE to follow the provisions of 10 CFR 1004.11(d) in the event a Freedom of Information Act (FOIA) request is received for information submitted with a proposal. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under a FOIA request or otherwise. The U.S. government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose.

Subject to the specific FOIA exemptions identified in 5 U.S.C. 552(b), all information submitted to OTT by an applicant is subject to public release under the Freedom of Information Act, 5 U.S.C. §552, as amended by the OPEN Government Act of 2007, Pub. L. No. 110-175. It is the proposer’s responsibility to review FOIA and its exemptions to understand:

1. What information may be subject to public disclosure
2. What information applicants submit to the government that is protected by law.

In some cases, DOE may be unable to make an independent determination regarding which information submitted is releasable and which is protected by an exemption. In such cases, DOE will consult with the applicant in accordance with 10 C.F.R. §1004.11 to solicit the proposer’s views on how the information should be treated.

## **B. Application Review and Selection**

### **i. Merit Review and Selection Process**

Selection of winning proposals will be determined based on available funding and input from DOE and external reviewers. In general, DOE will use data and other information contained in proposals for evaluation purposes only, unless such information is generally available to the public or is already the property of the government.

Please note the weighting of the criteria below, as DOE is highly encouraging bold, innovative, and impactful proposals.

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The categories and relative ranking criteria used to evaluate submissions will be as follows:

**Criterion 1: Innovation and Impact (45%)**

This criterion involves consideration of the following factors:

- How innovative and impactful is the project, assuming the stated outcomes can be achieved as written?
  - Innovative—Extent to which the proposed project or solution is innovative. Extent to which the proposed project or solution incorporates DEI objectives. Degree to which the proposed project integrates market pull into its thinking and program design, forming a conduit of market insight and awareness.
  - Impactful—Extent to which the proposed project or solution, if successful, impacts the core goals outlined in the lab call as well as the root causes (inside and outside of the labs) of the existing commercialization challenges and barriers. Also includes the impact of forging collaborations on the challenges being addressed (e.g., multilab and industry-leveraged effort), as well as the impact of collaboration on other interested and impacted stakeholders (e.g., through collaboration with stakeholders outside of the National Labs). Multilab collaboration will be scored as inherently more impactful than single-lab projects.
  - Accelerates Speed of Commercialization—Degree to which the proposal has the potential to accelerate the speed of commercialization, to move quickly, and to embrace agility with the proposed project. Degree to which the proposal supports achieving the statutory requirement of the TCF to “promote promising energy technologies for commercial purposes.”
  - Long-Term Viability—Degree to which the proposal has the potential to continue to be impactful without long-term, continued, direct funding from DOE. Extent to which multiyear strategic partnerships are proposed or will be developed to continue the program beyond initial funding. Proposed cost share for the project will be taken into consideration.



- Differentiated—Extent of differentiation with respect to existing commercialization programs or efforts. Potential to enhance commercialization activities at the National Laboratories.
- Scalable—Likelihood that the proposed solution, if successful, could be scaled to have a broader impact. Likelihood that the project could be scaled beyond the proposed multilab collaboration and to all labs, even those not directly participating in the proposed project.
- Commercialization Outcomes—Likelihood of the proposed solution achieving the proposed commercialization outcome metrics. Likelihood of the proposed team tracking and reporting on the commercialization outcome metrics. Degree to which proposal is likely to positively impact DEI objectives outlined in Section I.C.

## **Criterion 2: Quality and Likelihood of Completion of Stated Goals (35%)**

This criterion involves consideration of the following factors:

- Are the stated goals of the project SMART, and are they likely to be accomplished within the scope of this project? Is there a likelihood of success for the proposed project?
  - Measurable—Degree to which the proposal is structured to produce a measurable result/impact, including the required DEI milestones. Extent to which the applicant shows a clear understanding of the importance of SMART, verifiable milestones and proposes milestones that demonstrate clear progress, are aggressive but achievable, and are quantitative.
  - Risks mitigated—Extent to which the applicant understands and discusses the risks, core barriers, and challenges the proposed work will face, and the soundness of the strategies and methods that will be used to mitigate risks. Degree to which the proposal adequately describes how the team will manage and mitigate risks.
  - Validated—Degree to which the proposed project fits within and builds on the laboratory ecosystem. Level of validation (letters of support/interest, partners, customer trials, data from prior work, report references, etc.).



- Reasonable assumptions—Reasonableness of the assumptions used to form the execution strategy (e.g., lab staff participation, costs, throughput at full scale, speed of proposed scale-up or adoption, and mode of long-term funding).
- Reasonable budget—The reasonableness of the overall funding requested to achieve the proposed project and objectives. The reasonableness and clarity of the budget and scope options. Proposed cost share for the project will be taken into consideration.

**Criterion 3: Collaboration and Capability of the Applicant and Holistic Project Team (20%)**

This criterion involves consideration of the following factors:

- Is the team well-qualified and positioned to successfully complete this project?
  - Collaboration—Extent to which there are multiple labs engaged on the proposed project. Degree to which the proposed project branches out, connects, and builds on the innovation ecosystem across the country. Extent to which connections and alliances are forged to harness the power of regional economies, state/local organizations, and other federal, state, or local agencies.
  - Capable—Extent to which the training, capabilities, and experience of the assembled team will result in the successful completion of the proposed project. Extent to which this team (including proposed subrecipients) will be able to achieve the final results on time and to specification.
  - Participation—The level of participation by project participants, as evidenced by letter(s) of commitment and how well they are integrated into the work plan. Degree to which multilab, internal lab, and external collaboration is proposed. Extent to which teams include representation from diverse entities, such as, but not limited to: Minority Serving Institutions, including Historically Black Colleges and Universities/Other Minority Institutions, or through linkages with Opportunity Zones.
  - Commitment—Extent to which the final team required to complete this project is fully assembled and committed to the project (e.g., Are there



any key members that are “to be hired” in the future?). Proposed cost share for the project will be taken into consideration.

- Past Performance—Extent to which the assembled team has shown success in the past. (Note: new performers will not be penalized.) DOE encourages new entrants and new ideas, but past successes and/or failures will be noted.
- Access—Extent to which the team has access to facilities, equipment, people, expertise, data, knowledge, and any other resources required to complete the proposed project.

## ii. Selection for Award Negotiation

DOE carefully considers all information obtained through the selection process. DOE may select or not select a proposal for negotiations. DOE may also postpone a final selection determination on one or more proposals until a later date, subject to availability of funds and other factors. OTT will notify applicants if they are, or are not, selected for award negotiation.

DOE will only select proposed projects that support the statutory requirement of the TCF to “promote promising energy technologies for commercial purposes.”

**Type of Award Instrument:** TCF awards will be documented and funded through the existing work authorization and funds management processes of the DOE program office(s) providing the funding. DOE facilities will be required to track federal funds in accordance with normal departmental processes. DOE facilities will also be required to track nonfederal funds in accordance with established DOE facility accounting processes.

DOE will direct transfer funding to the relevant labs; lab-to-lab transfers should not be needed.

All partnerships between the labs and outside partners must comply with individual lab requirements under their M&O contracts.

## iii. Selection Notification

DOE anticipates completing the selection and negotiation process by Q4 FY22 (subject to change). DOE will notify lab leads electronically of selection results. All of DOE’s decisions are final when communicated to applicants.





## C. Project Administration and Reporting

Projects selected for award are managed by the DOE facilities in accordance with their requisite policies and procedures. OTT will provide all required project oversight and engagement with TCF project recipients; DOE program offices participating in this lab call are encouraged to engage as well.

TCF project recipients will be required to meet quarterly with OTT and supporting DOE program offices to discuss project progress in addition to providing quarterly progress reporting, annual metrics reporting for the entire 5-year period, and a final report at the end of the project.

## D. Questions and National Lab TTO Contacts

Specific questions about this lab call should be submitted via e-mail to [TCF@hq.doe.gov](mailto:TCF@hq.doe.gov). To ensure fairness across all labs, individual DOE staff cannot answer questions while the lab call remains open. To keep all labs informed, OTT will post all questions and answers on Exchange.

Because only National Laboratory TTO staff are eligible to apply and are responsible for coordinating interlab, across labs, and with external partners, a list of lab TTO points of contact are provided in Appendix C.



## Appendix A: TCF Cost Share and Nonfederal Cost-Share Information

### COST SHARE

**This lab call is subject to Section 988(b)(3) of the Energy Policy Act of 2005 regarding cost share. DOE prefers all funded projects to meet this 50% of the total project cost-share fund requirement; however, DOE acknowledges that some potentially high-impact proposed projects may not be able to meet this requirement. In this case, labs may still apply with less than 50% cost share so that DOE can see the full universe of high-quality proposals. The scoring criteria reflect that fact that providing cost share will increase the likelihood of selection.**

DOE has approved a Cost-Share Waiver for topics 1.b, 2.b, 3.b., 5.b., and 6.b of this lab call. Projects applying under all subtopics (b) are not required to cost share nonfederal funds of at least 50% of the total project cost to apply. This was done to ensure all project ideas can apply and the most impactful mix of projects can be selected.

Each proposal that applies to a subtopic (a) commits to meet the 50% of total project cost-share funds requirement. Each proposal that applies to a subtopic (b) proposes to meet less than 50% of total project cost-share funds requirement.

DOE reserves the right to move a proposal from subtopic (b) into subtopic (a) and select it as a subtopic (a) proposal. In such a case, the project selection would be contingent on the lab(s) committing to meet 50% cost-share for the project. If the lab(s) declines, DOE will not fund the project.

The final cost-share requirements for each proposed project will be set at the time of selection and will not be changed during the life of the award. Cost-share requirements will be established on a on a budget-period-by-budget period basis.

For Topics 1.a, 2.a, 3.a., 5.a., and 6.a, the nonfederal cost share must be at least 50% of total project costs by the conclusion of the project.

For topics 1.b, 2.b, 3.b., 5.b., and 6.b, DOE will negotiate a cost-share rate, which may be any percentage under 50%. The nonfederal cost share at the end of the award must be at least the established percentage agreed upon at the time of award.

Cost-share funds are subject to audit by the department or other authorized government entities (e.g., GAO). A written agreement may be advisable — either between the DOE facility and the third party or between the CRADA partner and the third party — that requires the third



party to provide the cost-share funds. Consult your DOE Facility legal staff for advice about how to obligate the third party to provide the cost-share funds, and to ensure the cost-share funds meet the requirements for in-kind contributions, if applicable. The lead DOE facility is responsible for any funding gap should a TCF project fail to obtain from partners or other collaborators the statutorily required 50% of total project costs from nonfederal sources.

OTT has no policy regarding foreign expenditures. All relevant laws, DOE directives, and contractual obligations apply. Consult your DOE Facility's legal staff for advice about foreign partners and agreements with the DOE facility.

Applicants must make sure their prospective partnership arrangements comply with all DOE directives and conditions.

#### WHAT QUALIFIES FOR NONFEDERAL COST SHARE

Please consult the Federal Acquisition Regulations for the applicable cost-sharing requirements.

In addition to the regulations referenced above, other factors may also come into play, such as timing of in-kind contributions and length of the project period. For example, the value of 10 years of donated maintenance on a project that has a project period of 5 years would not be fully allowable. Only the value for the 5 years of donated maintenance that corresponds to the project period is allowable and may be counted.

Additionally, DOE will not allow preaward costs.

As stated above, the rules about what is allowable are generally the same within like types of organizations. The following are the rules found to be common, but again, the specifics are contained in the regulations and cost principles specific to the type of entity:

- A. Acceptable contributions. All contributions, including cash contributions and third-party in-kind contributions, must be accepted as part of the Prime Recipient's nonfederal match if such contributions meet all of the following criteria:
  1. They are verifiable from the recipient's records.
  2. They are not included as contributions for any other federally assisted project or program.
  3. They are necessary and reasonable for the proper and efficient accomplishment of project or program objectives.



4. They are allowable under the cost principles applicable to the type of entity incurring the cost.
  5. They are not paid by the federal government under another award unless authorized by federal statute.
  6. They are provided for in the approved budget.
- B. Valuing and documenting contributions.
1. Valuing recipient's property or services of recipient's employees. Values are established in accordance with the applicable cost principles, which means that amounts chargeable to the project are determined on the basis of costs incurred. For real property or equipment used on the project, the cost principles authorize depreciation or use charges. The full value of the item may be applied when the item will be consumed in the performance of the award or fully depreciated by the end of the award. In cases where the full value of a donated capital asset is to be applied as nonfederal cost-share funds, that full value must be the lesser of the following:
    - a) The certified value of the remaining life of the property recorded in the recipient's accounting records at the time of donation; or
    - b) The current fair market value. If there is sufficient justification, the contracting officer may approve the use of the current fair market value of the donated property, even if it exceeds the certified value at the time of donation to the project. The contracting officer may accept the use of any reasonable basis for determining the fair market value of the property.
  2. Valuing services of others' employees. If an employer other than the recipient furnishes the services of an employee, those services are valued at the employee's regular rate of pay, provided these services are for the same skill level for which the employee is normally paid.
  3. Valuing volunteer services. Volunteer services furnished by professional and technical personnel, consultants, and other skilled and unskilled labor may be counted as nonfederal cost share if the service is an integral and necessary part of an approved project or program. Rates for volunteer services must be consistent with those paid for similar work in the recipient's organization. In those markets in which the required skills are not found in the recipient



organization, rates must be consistent with those paid for similar work in the labor market in which the recipient competes for the kind of services involved. In either case, paid fringe benefits that are reasonable, allowable, and allocable may be included in the valuation.

4. Valuing in-kind contributions by third parties.
  - a) Donated supplies may include such items as office supplies or laboratory supplies. Value assessed to donated supplies included in the non federal match share must be reasonable and must not exceed the fair market value of the property at the time of the donation.
  - b) Normally only depreciation or use charges for equipment and buildings may be applied. However, the fair rental charges for land and the full value of equipment or other capital assets may be allowed, when they will be consumed in the performance of the award or fully depreciated by the end of the award, provided that the contracting officer has approved the charges. When use charges are applied, values must be determined in accordance with the usual accounting policies of the recipient, with the following qualifications:
    - i. The value of donated space must not exceed the fair rental value of comparable space as established by an independent appraisal of comparable space and facilities in a privately owned building in the same locality.
    - ii. The value of loaned equipment must not exceed its fair rental value.
5. Documentation. The following requirements pertain to the recipient's supporting records for in-kind contributions from third parties:
  - a) Volunteer services must be documented and, to the extent feasible, supported by the same methods used by the recipient for its own employees.
  - b) The basis for determining the valuation for personal services and property must be documented.



## Appendix B: FY22 TCF Lab Calls by Program Office

Program Office	Lab Call Type
Office of Electricity	Combined Lab Call
Energy Efficiency & Renewable Energy—Building Technologies Office	Combined Lab Call
Energy Efficiency & Renewable Energy—Geothermal Technologies Office	Combined Lab Call
Energy Efficiency & Renewable Energy—Hydrogen and Fuel Cell Technologies Office	Combined Lab Call
Energy Efficiency & Renewable Energy—Solar Energy Technologies Office	Combined Lab Call
Energy Efficiency & Renewable Energy—Water Power Technologies Office	Combined Lab Call
Energy Efficiency & Renewable Energy—Wind Energy Technologies Office	Combined Lab Call
Office of Nuclear Energy	Combined Lab Call

Other TCF Lab Calls		
Cybersecurity, Energy Security, and Emergency Response	Technology Area Lab Call	Q2 FY 2022
Energy Efficiency & Renewable Energy—Advanced Manufacturing Office	Technology Area Lab Call	Q2 FY 2022
Energy Efficiency & Renewable Energy—Bioenergy Technologies Office	Technology Area Lab Call	Q2 FY 2022
Energy Efficiency & Renewable Energy—Vehicle Technologies Office	Technology Area Lab Call	Q2 FY 2022
Fossil Energy and Carbon Management	Technology Area Lab Call	Q2 FY 2022

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 INCLUDE LAB CALL NAME AND NUMBER IN SUBJECT LINE.



## Appendix C: TCF Points of Contact at DOE National Lab TTOs

Facility	TCF Points of Contact
<b>The Ames Laboratory</b>	Melinda Schlosser <a href="mailto:melindas@ameslab.gov">melindas@ameslab.gov</a> 515-294-1254  Julienne Krennrich <a href="mailto:jmkrenn@ameslab.gov">jmkrenn@ameslab.gov</a> 515-294-1202
<b>Argonne National Laboratory</b>	Hemant Bhimnathwala <a href="mailto:hbhimnathwala@anl.gov">hbhimnathwala@anl.gov</a> 630-252-2354  David McCallum <a href="mailto:dsm@anl.gov">dsm@anl.gov</a> 630-252-4338
<b>Brookhaven National Laboratory</b>	Poornima Upadhya <a href="mailto:pupadhya@bnl.gov">pupadhya@bnl.gov</a> 631-344-4711  Eric Hunt <a href="mailto:ehunt@bnl.gov">ehunt@bnl.gov</a> 631-344-2103  Ivar Strand <a href="mailto:istrand@bnl.gov">istrand@bnl.gov</a> 631-344-7579
<b>Fermi National Accelerator Laboratory</b>	Mauricio Suarez <a href="mailto:suarez@fnal.gov">suarez@fnal.gov</a> 630-840-6947  Cherri J. Schmidt <a href="mailto:cherri@fnal.gov">cherri@fnal.gov</a> 630-840-5178
<b>Idaho National Laboratory</b>	Lisa Aldrich <a href="mailto:lisa.aldrich@inl.gov">lisa.aldrich@inl.gov</a> 208-569-0405  Jason Stolworthy <a href="mailto:jason.stolworthy@inl.gov">jason.stolworthy@inl.gov</a>

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	208-526-3437
<b>Kansas City National Security Campus</b>	Andrew Myers <a href="mailto:amyers@kcncs.doe.gov">amyers@kcncs.doe.gov</a> 816-488-4432 Michele Weigand <a href="mailto:mweigand@kcncs.doe.gov">mweigand@kcncs.doe.gov</a> 816-488-6725
<b>Lawrence Berkeley National Laboratory</b>	Shanshan Li <a href="mailto:shanshanli@lbl.gov">shanshanli@lbl.gov</a> 510-486-5366 Todd Pray <a href="mailto:tpray@lbl.gov">tpray@lbl.gov</a> 510-486-6053 Gail Chen <a href="mailto:gailchen@lbl.gov">gailchen@lbl.gov</a>
<b>Lawrence Livermore National Laboratory</b>	Elsie Quaiter-Randall <a href="mailto:quaiterandal1@llnl.gov">quaiterandal1@llnl.gov</a> 925-423-5210 Chris Hartman <a href="mailto:hartmann6@llnl.gov">hartmann6@llnl.gov</a>
<b>Los Alamos National Laboratory</b>	MaryAnn D. Morgan <a href="mailto:mary_ann@lanl.gov">mary_ann@lanl.gov</a> 505-667-5324 Andrea Maestas <a href="mailto:andream@lanl.gov">andream@lanl.gov</a> 505-667-1230 Jerome Garcia <a href="mailto:jgarcia@lanl.gov">jgarcia@lanl.gov</a> 505-665-9090
<b>National Energy Technology Laboratory</b>	Samantha Zhang <a href="mailto:samantha.zhang@netl.doe.gov">samantha.zhang@netl.doe.gov</a> Michael Nowak <a href="mailto:michael.nowak@netl.doe.gov">michael.nowak@netl.doe.gov</a> 412-386-6020

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<p><b>National Renewable Energy Laboratory</b></p>	<p>Jennifer Fetzer <a href="mailto:jennifer.fetzer@nrel.gov">jennifer.fetzer@nrel.gov</a> 303-275-3014</p> <p>Eric Payne <a href="mailto:eric.payne@nrel.gov">eric.payne@nrel.gov</a> 303-275-3166</p>
<p><b>Nevada National Security Site</b></p>	<p>Robert Koss <a href="mailto:kossrj@nv.doe.gov">kossrj@nv.doe.gov</a> 702-295-1213</p> <p>Matthew Pasulka <a href="mailto:pasulkmp@nv.doe.gov">pasulkmp@nv.doe.gov</a> 702-295-2963</p>
<p><b>Oak Ridge National Laboratory</b></p>	<p>Michael J. Paulus <a href="mailto:paulusmj@ornl.gov">paulusmj@ornl.gov</a> 865-574-1051</p> <p>Eugene Cochran <a href="mailto:cochraner@ornl.gov">cochraner@ornl.gov</a> 865-576-2830</p>
<p><b>Pacific Northwest National Laboratory</b></p>	<p>Christina Lomasney <a href="mailto:christina.lomasney@pnnl.gov">christina.lomasney@pnnl.gov</a></p> <p>Allan C. Tuan <a href="mailto:allan.tuan@pnnl.gov">allan.tuan@pnnl.gov</a> 509-375-6866</p>
<p><b>Pantex Plant</b></p>	<p>Jeremy Benton <a href="mailto:jeremy.benton@cns.doe.gov">jeremy.benton@cns.doe.gov</a> 865-241-5981</p>
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