Technology Commercialization Fund

Office of Technology Transitions

Notice of Intent No. DE-LC-0000124

Notice of Intent to Issue
Lab Call No. DE-LC-000L124

Notice of Intent to Issue FY25 Technology Commercialization Fund (TCF) Base Annual Appropriations Core Laboratory Infrastructure for Market Readiness (CLIMR) Lab Call

The U.S. Department of Energy's (DOE's) Office of Technology Transitions (OTT) intends to issue its base annual appropriated Technology Commercialization Fund (TCF) solicitation, a call for proposals from DOE National Laboratories, Plants, and Sites. The goal of TCF is to improve America's energy competitiveness and security by accelerating commercialization of critical clean energy technologies from National Laboratories, Plants, and Sites to the market. OTT anticipates releasing the Fiscal Year (FY) 2025 TCF Base Annual Appropriations solicitation in or around October 2024. OTT will post the solicitation to EERE-Exchange and distribute the TCF solicitation announcement to the Technology Transfer Offices at each of the eligible DOE National Labs, plants, and sites (hereby referred to as National Labs or labs). The estimated FY25 DOE funding available for this Lab Call is $30.1 to $36.8 million, based on the FY24 budget. The FY25 CLIMR Lab Call represents the combined effort of fourteen distinct DOE Program/ Technology Offices and OTT. In contrast to the TCF funding process in prior years, appropriations will be transferred to a new Fund Value established for TCF and managed by OTT. The Budget and Reporting (B&R) structure of these transferred funds will identify the original funding source.

This solicitation offers an opportunity for private industry to partner with DOE's National Labs to advance lab-developed energy-related technologies toward commercialization and to reduce the barriers toward commercialization. TCF projects, in the six topic areas below, may require cost-share from non-federal sources. These sources may include industry, state and local governments, or entities they have created. In FY25, DOE expects to select TCF projects from DOE National Labs in the following six topics:

Topic 1: Market Needs Assessment. This topic will seek proposals to build, augment, and coordinate market and commercialization analytical capabilities within or across the National Labs to maximize success in pursuing DOE's mission as it relates to bringing new technologies to market. Proposals should focus on approaches to develop, maintain, and leverage a robust analytical capability that *both* harmonizes existing market analysis expertise across the DOE complex *and* supports capacity-building across the lab complex. Proposals should look to the recently released *Pathways to Commercial Liftoff Reports*[1] as examples of the type of work that could be coordinated and conducted, and to avoid re-work. Proposals could address ways to regularly apply and/or expand use of the Adoption Readiness Level (ARL) framework[2]into existing or new practices.

Topic 2: Curation of Intellectual Property, Data, and Software. This topic will seek bold ideas and significant improvements in how National Labs bring their technology to market by compiling lab intellectual property (IP), data, and software and connecting it

[1] https://liftoff.energy.gov/
[2] https://www.energy.gov/technologytransitions/adoption-readiness-levels-arl-complement-trl

with private sector partners. Proposals shall consider leveraging the ARL framework to evaluate technology risks, ecosystem economics, and private sector uptake potential. Applicants should propose programs and activities above and beyond existing lab efforts and/or to expand successful programs across the National Laboratory complex.

Topic 3: Matchmaking. This topic will seek proposals from labs that will result in the creation of teams that will move National Lab-developed technologies to market. Proposals could address any 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. Proposals could include recruitment of talent outside of the lab, matchmaking programs to connect entrepreneurs with lab staff and resources, internship programming, and additional support that will yield commercialization of promising, lab-developed technologies.

Topic 4: Technology Specific Partnership Projects. This topic will seek proposals from labs to advance the commercialization of individual energy-related technologies. Projects funded under this topic will need to incorporate lab-developed technologies that are at a stage that will generate private sector interest and should be at a higher Technology Readiness Level (TRL). Applications will need to include project starting and ending ARLs and TRLs for their technology as a part of their proposal. Each technology office participating in the lab call (see list below) is including areas of interest for applications and some of the technology areas have been specified below.

Topic 5: Enhancing Laboratory Processes. This topic will seek proposals from labs to address barriers to effective and efficient implementation of National Lab processes to facilitate moving lab-developed, promising energy-related technologies toward commercialization. Labs are encouraged to work together to identify and exchange best practices as well as implement new solutions, including streamlining opportunities, to address lab's commercialization- and technology transfer-related process challenges. Proposals could address ways to institutionalize the ARL framework into current lab processes.

Topic 6: Increasing Partnerships with External Commercialization Parties, Private Funders, Non-profits, and Agency-Affiliated Foundations. This topic will seek proposals from labs to explore how various commercialization stakeholders can offer unique capabilities, resources or access to support technologies to overcome barriers to commercialization. Goals of this topic area are to decrease barriers to working with the labs, increase the number and diversity of partners, and accelerate and deepen connectivity with diverse commercialization stakeholders. Proposals should identify the relevant stakeholder type and entity, outline the specific activities, capabilities, and resources involved, define the partnership scope, and detail how it will streamline and

accelerate commercialization. Proposals could consider improving the local innovation ecosystem, or streamlining and standardizing the partnering process across multiple labs. Other examples of proposals include partnering with agency-affiliated foundations or nonprofits that will support standing up and scaling successful programs.

This is a Notice of Intent (NOI) only. DOE may issue a solicitation as described here, later than expected, that is significantly different than described here, or may not issue a solicitation at all. The anticipated solicitation will include information about how to apply. DOE will not respond to questions about the solicitation except from eligible entities. Other interested parties can consider joining the Teaming Partner List (TPL). Please see the appendix of this NOI for more information on the TPL.

Participating DOE Offices and technology areas of interest:

- Office of Cybersecurity, Energy Security, and Emergency Response (CESER)
  - Tools and Technologies for Threat Mitigation and/or Response
- Office of Electricity (OE)
  - New Grid Scale Long Duration Energy Storage Technologies
  - Risk-Informed Resilience Analytics for the Electric Grid
  - Microgrid Planning and Design Tools
  - Grid Enhancing Technologies (hardware and software solutions)
  - Advanced Applications for Grid Level Power Electronics
- Office of Fossil Energy Carbon Management (FECM)
  - Technologies for High Purity Oxygen Separation from Air
  - Accelerating Hydrogen and Natural Gas/Hydrogen Blend Gas Turbine Combustion Simulations with Stiff and Detailed Kinetics Using Machine Learning Tools
  - Lower Cost Alloys for High Performance Energy Materials in Challenging Applications
  - Tools for Advancing the Deployment of CO2 Transport and Storage
  - CO2 Transportation System Leak Detection and Monitoring
  - DAC supply chain mapping
  - Mechanism to assess commercialization and market viability of CDR suppliers
  - Emerging Thermocatalytic CO2 Conversion technologies
  - Enabling technological and engineering solutions to achieve high purity CO2 product streams for carbon transport and storage (CTS)
  - Advancing the co-design membranes, accelerated testing, and advanced manufacturing techniques for adoption of membrane-based CCS technologies
  - Integrated CCS system digital twins
  - Innovative cryogenic methods for CO2 purification from power or industrial point source facilities
  - AI/ML Applications for Induced Seismicity Management in Oil and Gas Producing Basins of West Texas"

    - Technologies for Converting Stranded and Underutilized Natural Gas to Sustainable Industrial Chemicals and Carbon Products
    - Capabilities Enhancements for Clean Hydrogen Production from Produced Water
    - Subsurface Monitoring Capabilities Enhancements for Underground Hydrogen Storage (UHS) Evaluation
- Office of Nuclear Energy (NE)
    - Reactor Concepts Research, Development and Demonstration
    - Fuel Cycle Research and Development
    - Spent Nuclear Fuel and High-Level Waste Disposition R&D
    - Nuclear Energy Enabling Technologies
- Office of Energy Efficiency and Renewable Energy (EERE)
    - Advanced Materials and Manufacturing Technologies Office (AMMTO)
        - Innovation in Next Generation Materials & Manufacturing Processes
        - Clean Energy Generation & Control Technology Manufacturing R&D, including Semiconductor Manufacturing Technologies
        - Secure and Sustainable Materials R&D
    - Bioenergy Technologies Office (BETO)
        - Sustainable Transportation Fuels
        - Renewable Chemicals
    - Buildings Technologies Office (BTO)
        - Cost-Effective and Safe Deployment of Ultra-Low GWP Refrigerant for Residential Integrated Heat Pump Water Heaters
        - Easier/More Accurate 'Manual-J' Tech
        - More Easily Serviceable Mini-Split/PTHP/PTAC
        - NO2 Monitors
        - Snap/Pre-Charge Refrigerant Connections
        - Heat Pump Adaptation Work for Manufactured Houses
        - Advanced Air Leakage Detection and Air Sealing Technologies
        - Energy Efficient Residential Facade Upgrades
        - Manufactured Housing Retrofit Solutions
        - Windows
    - Geothermal Technologies Office (GTO)
        - Innovative Cements
        - Underground Energy Storage for Occupied Buildings or Industrial Heating and Cooling Loads
    - Hydrogen Fuel Cell Technologies Office (HFTO)
        - H2 Infrastructure
        - High-T Membranes
    - Industrial Efficiency and Decarbonization Office (IEDO)
        - Energy- and Emission-Intensive Industries
        - Cross-Sector Technologies
    - Solar Energy Technologies Office (SETO)
        - Acceleration of Photovoltaics (PV) Production

        - Systems Integration of Solar Technologies
        - Concentrating Solar-Thermal Power
        - Interconnection Innovation e-Xchange (i2X)
    - Vehicle Technologies Office (VTO)
        - Batteries
        - Charging and Electric Vehicles
        - Energy Efficient Mobility Systems
        - Decarbonization of Off-Road, Rail, Marine and Aviation Program
        - Materials Technology
    - Water Power Technologies Office (WPTO)
    - Wind Energy Technologies Office (WETO)

Eligible applicants to TCF Base are DOE's National Labs, Plants, and Sites:

- Ames National Laboratory
- Argonne National Laboratory
- Brookhaven National Laboratory
- Fermi National Accelerator Laboratory
- Idaho National Laboratory
- Kansas City National Security Campus
- Lawrence Livermore National Laboratory
- Lawrence Berkeley National Laboratory
- Los Alamos National Laboratory
- National Energy Technology Laboratory
- National Renewable Energy Laboratory
- Nevada National Security Site
- Oak Ridge National Laboratory
- Pacific Northwest National Laboratory
- Pantex Plant
- Princeton Plasma Physics Laboratory
- Sandia National Laboratories
- Savannah River National Laboratory
- SLAC National Accelerator Laboratory
- Thomas Jefferson National Accelerator Facility
- Y-12 National Security Complex

Appendix

To facilitate multi-lab or external partnerships, DOE is compiling a Teaming Partner List (TPL) on Exchange. The TPL allows organizations that may wish to participate on an application to express their interest to explore potential partnerships with National Labs. The TPL will be regularly updated to reflect new teaming partners who provide their organization's information. Updates to the TPL will be available on the Exchange website as requesting parties are approved.

TPL Submittal Instructions: Any organization that would like to be included on this list should find the TPL for this solicitation (TPL-0000059) on EERE-Exchange and submit the following information: organization name, organization type, website, contact name, contact address, contact email, contact phone, area of expertise, brief description of capabilities, and applicable topic. Please refer to the Manuals section on Exchange for more detailed instructions on using the TPL.

Disclaimer: By submitting a request to be included on the TPL, the requesting organization consents to the publication of the submitted information. By enabling and publishing the TPL, DOE is not endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are identifying themselves for placement on this TPL. 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.