

**Notice of Intent No. DE-FOA-0003459****Notice of Intent to Issue  
Notice of Funding Opportunity No. DE-FOA-0003460**

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Solar Energy Technologies Office (SETO), a Notice of Funding Opportunity (NOFO) entitled “Fiscal Year 2025 Solar Module and Solar Hardware (SMASH) Incubator Notice of Funding Opportunity.”

This NOFO seeks to address the lack of sufficient private investment that is available to successfully commercialize research and development (R&D) and research, development, and demonstration (RD&D) activities and bring innovative solar photovoltaic (PV) technology to market. Prime recipients of awards funded through this NOFO will be for-profit entities, with institutions of higher education, for-profit entities, nonprofit entities, state and local governmental entities, and federally recognized Indian Tribes as eligible subrecipients to provide technical expertise, technology know-how, and technical validation capabilities.

Successful applications to this NOFO will be selected from three topic areas:

1. Crystalline silicon (c-Si) module technology, covering all segments of the c-Si PV module supply chain from input materials and production equipment through module assembly.
2. Cadmium telluride (CdTe) module technology, covering all segments of the CdTe PV module supply chain, including improvements in materials, processes, manufacturing, components, metrology, demonstration, recycling, and reclamation.
3. Non-module hardware technology, including structural and electrical components and tools that improve performance, functionality, reliability, or ease of installation for PV systems.

Detailed descriptions of the topic areas are given below.

**Topic Area 1: Crystalline Silicon Modules**

Topic Area 1 seeks to conduct pilot-scale testing and demonstration of innovative processes or products that can substantively increase domestic manufacturing in all segments of the c-Si module supply chain. The segments of the supply chain should be considered as:

- Metallurgical-grade silicon
- Polysilicon
- Silicon wafers
- Silicon solar cells

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- Module assembly

Beyond manufacturing of the stated product, each segment also includes the manufacturing equipment used in that segment, input materials for that segment (in addition to the product of the preceding segment), process-control and characterization tools, and consumables used in that segment.

### **Topic Area 2: Cadmium Telluride Modules**

This topic area aims to support the CdTe PV industry, an increasingly valuable part of the U.S. economy and the transition to renewable energy. There are three main areas of interest for projects in this topic:

- Supporting the increased deployment of CdTe modules in PV systems leading to reduced levelized cost of electricity (LCOE).
- Increasing the scale of the domestic CdTe PV module supply chain.
- Improving CdTe PV technology to maintain competitiveness with c-Si PV.

### **Topic Area 3: Non-Module Hardware**

Topic Area 3 is focused on RD&D activities with the goal of de-risking new non-module PV components and manufacturing processes, while developing and validating a realistic pathway to commercial success.

#### **Areas of Interest for Topic Area 3 (R&D)**

- Power electronic hardware components for solar PV systems that improve performance, functionality, reliability, ease of installation, or manufacturability compared to the state of the art, including, but not limited to, solar inverters; DC/DC converters or optimizers; solid-state transformers; devices that incorporate wide-bandgap semiconductors such as silicon carbide or gallium nitride, or ultra-wide-bandgap semiconductors such as gallium oxide; and solutions employing modular converter topologies for improved reliability.
- Hardware components for integrating solar energy systems into the electric grid and allowing solar energy systems to provide operational services to the grid in ways comparable to or better than conventional generators (e.g., grid-forming inverters or other advanced inverter functionality).

#### **Areas of Interest for Topic Area 3 (RD&D)**

- Multiport systems that bi-directionally integrate solar generation with energy storage, electric vehicle charging, and the grid.
- Structural or electrical BOS hardware components, such as structures for mounting PV arrays or modules, wires, disconnects, fuses, and combiner boxes.

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- Hardware components needed for agrivoltaics, building-integrated PV, floating PV, and vehicle-integrated PV (collectively known as dual-use PV technologies), including PV module mounting, electrical connection, and integration for the dual-use application.
- Hardware products for data collection from distributed energy resources (DER) that provide data for use cases including grid monitoring, operation, and control; DER aggregation; or virtual power plant operation.
- Hardware products that improve cybersecurity of solar PV systems and distributed energy resources.

### All Topic Areas

EERE anticipates federal funding of \$20 million for this NOFO. A minimum 20% recipient cost share is required for projects, in cases where all the activities proposed can be classified as R&D. Applications with a combination of R&D and subsequent RD&D tasks are permissible under this NOFO. The type of activities that are considered demonstration tasks are prototype product demonstration, pilot-scale demonstration of manufacturing processes, and field testing. Demonstration tasks require a minimum 50% recipient cost share, so mixed R&D and demonstration projects will have a cost share between 20% and 50% depending on the mix of tasks.

EERE envisions awarding multiple financial assistance awards in the form of cooperative agreements. The estimated period of performance for each award will be approximately 18 to 36 months.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this NOFO in the near term. All the information contained in this Notice is subject to change. EERE will not respond to questions concerning this Notice. Once the NOFO has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the NOFO on or about November 7, 2024, via the EERE eXCHANGE website <https://eere-eXCHANGE.energy.gov/>. If Applicants wish to receive official notifications and information from EERE regarding this NOFO, they should register in EERE eXCHANGE. When the NOFO is released, applications will be accepted only through EERE eXCHANGE.

In anticipation of the NOFO being released, Applicants are advised to complete the following steps, which are **required** for application submission:

- Register and create an account in EERE eXCHANGE at <https://eere-eXCHANGE.energy.gov/>. This account will allow the user to apply to any open EERE NOFOs that are currently in EERE eXCHANGE.

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To access EERE eXCHANGE, potential applicants will be required to have a [Login.gov](https://login.gov) account. As part of the eXCHANGE registration process, new users are directed to create an account in [Login.gov](https://login.gov). Please note that the email address associated with Login.gov must match the email address associated with the eXCHANGE account. For more information, refer to the Exchange Multi-Factor Authentication (MFA) Quick Guide in the [Manuals section](#) of eXCHANGE.

It is recommended that each organization or business unit, whether acting as a team or a single entity, use only one account as the contact point for each submission. Questions related to the registration process and use of the EERE Exchange website should be submitted to: [EERE-eXCHANGESupport@hq.doe.gov](mailto:EERE-eXCHANGESupport@hq.doe.gov)

- Register with the System for Award Management (SAM) at <https://www.sam.gov>. Designating an Electronic Business Point of Contact (EBiz POC) and obtaining a special password called an MPIN are important steps in SAM registration. Please update your SAM registration annually. Upon registration, SAM will automatically assign a Unique Entity ID (UEI).

**NOTE: Due to the high demand of UEI requests and SAM registrations, entity legal business name and address validations are taking longer than expected to process. Entities should start the UEI and SAM registration process as soon as possible.** If entities have technical difficulties with the UEI validation or SAM registration process they should utilize the HELP feature on SAM.gov. SAM.gov will work entity service tickets in the order in which they are received and asks that entities not create multiple service tickets for the same request or technical issue. Additional entity validation resources can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).

- Register in FedConnect at <https://www.fedconnect.net/>. To create an organization account, your organization's SAM MPIN is required. For more information about the SAM MPIN or other registration requirements, review the FedConnect Ready, Set, Go! Guide at [https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect\\_Ready\\_Set\\_Go.pdf](https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf)
- Register in Grants.gov to receive automatic updates when Amendments to a NOFO are posted. However, please note that applications will not be accepted through Grants.gov. <http://www.grants.gov/>. All applications must be submitted through EERE eXCHANGE.

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