

## Notice of Intent No. DE-FOA-0002748

### Notice of Intent to Issue Funding Opportunity Announcement No. DE-FOA-0002737

The Office of Energy Efficiency and Renewable Energy (EERE) intends to issue, on behalf of the Advanced Manufacturing Office, a Funding Opportunity Announcement (FOA) entitled “Clean Energy Manufacturing Innovation Institute for Industrial Decarbonization through Electrification of Process Heating”.

This FOA supports development of a Clean Energy Manufacturing Innovation Institute (CEMII) on industrial decarbonization through electrified process heating. This CEMII will accelerate the development, scale-up, and demonstration of technologies that enable electrified processes to replace conventional, fossil-based industrial process heating. Through the development of electrified heating processes and supporting modeling, simulation, and evaluation tools, this Institute will contribute substantially to an efficient, productive, and decarbonized industrial sector. The resulting CEMII is expected to be a Department of Energy supported Institute participating in the interagency Manufacturing USA program.<sup>1, 2</sup>

The proposed Institute will pursue targeted research, development, and demonstration (RD&D) that will focus on developing and scaling electrified process heating technologies that can compete with and replace fossil-based technologies through cost competitiveness, reduced emissions, improved flexibility, and greater efficiency. The Institute will leverage expertise from industry, academia, state and local governments, Non-Governmental Organizations (NGOs), non-profits, and Federally Funded Research and Development Centers (FFRDCs). Electrification of industrial heating processes is one of several approaches needed to displace industrial fossil fuel combustion used to achieve mid- and high-temperatures for various industrial operations including melting, drying, pre-heating, annealing, distillation, pasteurization, hydrocarbon cracking, and others.

Applicants can anticipate that the FOA may include the following Areas of Interest:

- **Collaborative Research, Development, and Demonstration of Electrified Heating Technologies:** Electrification of process heating presents technical challenges in achieving required temperatures economically and at scale. However, electric heating technologies can also provide co-benefits in higher energy efficiency, improved productivity and product quality, and zero on-site emissions. A successful CEMII should work to accelerate deployment of electrified heating technologies by exploring technical

<sup>1</sup> Manufacturing USA program, <https://www.manufacturing.gov/programs/manufacturing-usa>

<sup>2</sup> President’s Council of Advisors on Science and Technology, “Accelerating U.S. Advanced Manufacturing” October 2014.

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solutions and demonstrating the co-benefits to transitioning away from conventional heating processes.

- **Process Modeling and Optimization Tools:** Integrating electric heating equipment into manufacturing operations will require advanced process design expertise and modeling software to de-risk deployment and optimize productivity. Fortunately, electric heating technologies are more precise than fossil-fuel based alternatives, and so opportunities exist to develop advanced sensor technologies and digital-twin models to simulate, monitor, and optimize energy use more efficiently.
- **Technology and Market Analysis:** Adopting new process technologies, including electrified heating technologies, can present technical and financial risks. Road mapping, information sharing, and technology evaluation tools can accelerate deployment by guiding manufacturers with the necessary financial, technological, and process information.
- **Workforce Development and Education:** Electrified processes will require a highly trained and diverse workforce to design, operate, and manage newly equipped facilities as productively and safely as possible. Electrification curricula, equipment maintenance, and safe workplace practices will need to be developed and shared. In addition, electrified processes could displace workers employed in the installation, maintenance, and operations of combustion-based process heat and industrial electrification. Retraining and transition opportunities need to be identified.
- **Energy Justice and Diversity, Equity, Inclusion, and Accessibility (DEIA):** Identifying communities and populations disproportionately impacted by greenhouse gas emissions from industrial process heating provides the opportunity to involve them in the transition to clean, electrified process heating technologies. In addition, the scope and scale of Institute activities, from RD&D and education and workforce development to community engagement in roadmaps and other initiatives, all provide avenues to incorporate DEIA measures and involve and impact a diverse set of individuals, entities and communities.

EERE envisions awarding a single financial assistance award in the form of a cooperative agreement. It is anticipated that the award will include approximately \$70 million of federal funding and require a minimum non-federal cost share of 50% of the total project costs. The estimated period of performance for the award will be 5 years.

DOE is compiling a Teaming Partner List to facilitate the widest possible national participation in the formation of the Institute. All entities interested in participating as part of an applicant team are strongly encouraged to provide their contact information for the Teaming Partner List. The list allows organizations to express their interest and to explore potential partners, including representation from local governing bodies and diverse entities such as, but not limited to: Minority Serving Institutions (MSIs), including Historically Black Colleges and

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Universities (HBCUs)/Other Minority Institutions (OMIs), or through linkages with Opportunity Zones.

- Updates to the Teaming Partner List will be available in the EERE Exchange website. The Teaming Partner List will be regularly updated to reflect new teaming partners who have provided their organization's teaming partner information.
- SUBMISSION INSTRUCTIONS: Any organization that would like to be included on this list should submit the following information: **Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, Brief Description of Capabilities, and Area of Interest**. Interested parties should email the information to [AMOIInstitute@ee.doe.gov](mailto:AMOIInstitute@ee.doe.gov) with the subject line "Teaming Partner Information."
- 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 endorsing, sponsoring, or otherwise evaluating the qualifications of the individuals and organizations that are self-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.

This Notice is issued so that interested parties are aware of the EERE's intention to issue this FOA 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 FOA has been released, EERE will provide an avenue for potential Applicants to submit questions.

EERE plans to issue the FOA in or about June 2022 via the EERE Exchange website <https://eere-exchange.energy.gov/>. If Applicants wish to receive official notifications and information from EERE regarding this FOA, they should register in EERE Exchange. When the FOA is released, applications will be accepted only through EERE Exchange.

In anticipation of the FOA 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 register for any open EERE FOAs that are currently in EERE 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).

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- 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).
- 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 FOA 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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