



**U.S. Department of Energy
Advanced Research Projects Agency – Energy
Announcement of Teaming Partner List
for Upcoming Funding Opportunity Announcement:
*New Program in Renewables-to-Liquids***

The Advanced Research Projects Agency – Energy (ARPA-E) is considering issuing a Funding Opportunity Announcement (FOA) to support the development of renewables-to-liquids systems capable of converting intermittent energy inputs into easily transportable, carbon-containing liquids. As described in more detail below, the purpose of this announcement is to facilitate the formation of new project teams to respond to the potential FOA. The FOA will provide specific program goals, technical metrics, and selection criteria. The FOA terms are controlling.

For purposes of this Teaming Partner List, the program is interested in systems that achieve 80% multi-pass carbon conversion to liquids with at least 50% electricity-to-liquid efficiency at the lowest possible cost.

Currently, ARPA-E anticipates that these systems would require:

1. The development of new reactors capable of being operated dynamically to decrease the system capital expenditure (CAPEX) required for hydrogen storage;
2. Small-scale reactor systems compatible with renewable energy systems;
3. Reactor designs that include manufacturability within defined design criteria;
4. The development of new catalysts optimized for carbon dioxide hydrogenation pathways;
5. Reactor systems that enable process intensification that minimize CAPEX; and
6. Modelling and optimization to determine optimum sizing and anticipated CAPEX.

Expertise in the following areas may be useful in responding to the potential FOA:

- Chemical engineering
- Mechanical engineering
- Chemistry
- Carbon conversion
- Hydrogen production
- Reactor engineering
- Catalysis
- Manufacturing
- Modelling
- Technoeconomic analysis
- Lifecycle assessment

As a general matter, ARPA-E strongly encourages outstanding scientists and engineers from different organizations, scientific disciplines, and technology sectors to form new project teams. Interdisciplinary and cross-sector collaboration spanning organizational boundaries enables and accelerates the



achievement of scientific and technological outcomes that were previously viewed as extremely difficult, if not impossible.

The Teaming Partner List is being compiled to facilitate the formation of new project teams. The Teaming Partner List will be available on ARPA-E eXCHANGE (<http://arpa-e-foa.energy.gov>), ARPA-E's online application portal, starting in October 2023. The Teaming Partner List will be updated periodically until the close of the Full Application period to reflect new Teaming Partners who have provided their information.

Any organization that would like to be included on this list should complete all required fields in the following link: <https://arpa-e-foa.energy.gov/Applicantprofile.aspx>. Required information includes the following: Organization Name, Contact Name, Contact Address, Contact Email, Contact Phone, Organization Type, Area of Technical Expertise, and Brief Description of Capabilities.

By submitting a response to this Notice, you consent to the publication of the above-referenced information. **By facilitating this Teaming Partner List, ARPA-E does not endorse or otherwise evaluate the qualifications of the entities that self-identify for placement on the Teaming Partner List.** ARPA-E will not pay for the provision of any information, nor will it compensate any respondents for the development of such information. Responses submitted to other email addresses or by other means will not be considered. **This list is completely voluntarily to participate in and utilize.** ARPA-E will not identify or facilitate connections through the teaming list and participation in the list has no bearing whatsoever on the evaluation of applications submitted to the potential FOA.

This Notice does not constitute a FOA. No FOA exists at this time. Applicants must refer to the FOA, expected to be issued by November 2023, for instructions on submitting an application and for the terms and conditions of funding.