



**U.S. Department of Energy
Advanced Research Projects Agency – Energy**

**Announcement of Teaming Partner List for an upcoming
Funding Opportunity Announcement:**

New Program in Carbon Negative Buildings

The Advanced Research Projects Agency – Energy (ARPA-E) is considering issuing a new Funding Opportunity Announcement (FOA) to utilize atmospheric CO₂ in the manufacture of building materials and design of whole-buildings that are capable of storing carbon within the finished product. The objective of this program would be to nullify embodied emissions while driving the transformation of buildings into carbon sinks. The timing of this program coincides with the urgency in both achieving aggressive reductions in embodied emissions, particularly in new construction, as well as the need for market-ready negative emission technologies and practices for implementing carbon removal strategies.

Two categories have been identified as necessary to achieve these goals:

- (1) **Building Materials Teams:** A category focused on the development and commercialization of novel building materials that both contain a minimum of 10 wt.% (and higher than the incumbent technology) atmospheric carbon in the chemical structure of their manufactured part and also store more carbon than emitted during manufacture (i.e. cradle-to-gate, A1-A3) with an aim towards cradle-to-grave negative emissions. Performance requirements for building construction and operational energy usage must also be satisfied and surpassed.
- (2) **Building Design Teams:** A category focused on leveraging emerging carbon storing materials as a parameter in whole-building re-designs. These new designs will drive down both lifetime embodied and operational emissions while also incorporating carbon storing materials with the goal of cradle-to-grave carbon negative buildings. We anticipate reuse and design for deconstruction as critical strategies in achieving this emission reduction goal.

Of note, ARPA-E is considering funding a team (or teams) through a separate solicitation to perform Life Cycle Assessments (LCAs) in conjunction with the Building Materials and Design Teams for this FOA, to ensure that the technologies developed through this potential program are evaluated consistently and transparently.

ARPA-E held a workshop on these topics on March 23 and 25, 2021. Information from this workshop can be found at the event webpage (<https://arpa-e.energy.gov/events/carbon-negative-building-materials-workshop>).

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. Multidisciplinary 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. Furthermore, ARPA-E strongly encourages involving industry partners to advise and collaborate with these project teams, with the goal of achieving successful industry adoption and integration of the innovative technologies these projects teams develop.

A Teaming Partner List is being compiled to facilitate the formation of new project teams. ARPA-E intends to make the Teaming Partner List available on ARPA-E eXCHANGE (<https://arpa-e-foa.energy.gov>), ARPA-E's online application portal, in July 2021. Once posted, 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 the Teaming Partner List should complete all required fields in the following link: <https://arpa-e-foa.energy.gov/ApplicantProfile.aspx>. Required information includes: 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 Announcement, respondents 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 Announcement does not constitute a Funding Opportunity Announcement (FOA). No FOA exists at this time. Applicants must refer to the final FOA, expected to be issued August 2021, for instructions on submitting an application, the desired technical metrics, and for the terms and conditions of funding.