

U.S. Department of Energy Advanced Research Projects Agency – Energy
Announcement of Teaming Partner List for an upcoming Funding Opportunity
Announcement:

New Program in Connected and Autonomous Vehicle (CAV) Field Testing

The Advanced Research Projects Agency – Energy (ARPA–E) is considering issuing a new Exploratory Topic under Funding Opportunity Announcements (FOAs) DE-FOA-0002784 and DE-FOA-0002785 to develop standardized evaluation(s) of Connected and Autonomous Vehicle (CAV) efficiency technologies in support of projects supported under the ARPA-E NEXT-Generation Energy Technologies for Connected and Automated on-Road-vehicles (NEXTCAR) Program.

The ARPA-E NEXTCAR Program has funded the development of new and emerging vehicle dynamic and powertrain (VD&PT) control technologies that can reduce the energy consumption of future vehicles through the use of connectivity and vehicle automation. Vehicle energy improvement technologies include, but are not limited to, advanced technologies and concepts relating to full vehicle dynamic control, powertrain control, improved vehicle and powertrain operation through the automation of vehicle dynamics control functions, and improved control and optimization facilitated by connectivity. Phase II of the Program launched in 2021 and is funding a subset of the technologies developed in Phase I to improve the energy efficiency of Society of Automotive Engineers (SAE) levels 4 and 5 CAVs by 30%. These improvements will reduce the energy consumed by future individual vehicles undergoing automated operation, either in isolation or in cooperation with other vehicles. More information on the ARPA-E NEXTCAR program itself may be found [here](#) and details of the Phase II projects are available [here](#).

To demonstrate and quantify these energy savings, innovation will be required to evaluate efficiency in the automated vehicle space and assign value to those savings for evaluation of the viability of these technologies for integration into the future CAV fleet. If issued, this Exploratory Topic will likely consist of two complementary tasks.

(1) CAV Testing Facility: Focused on developing the infrastructure needs and requirements to evaluate the energy efficiency of CAV technologies under development in normal driving conditions in a controlled environment.

(2) Real-World Driving Scenarios: Focused on developing driving routes utilizing augmented reality, which are representative of real-world driving scenarios, as well as maneuvers and conditions occurring on these routes to accurately assess and quantify the energy and emissions benefits of NEXTCAR Phase II technologies.

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 project 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 May 2022. 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 by any means other than via the link provided above 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 Exploratory Topic, expected to be issued in June 2022 under the FOAs noted at the beginning of this Teaming Partner List, for instructions on submitting an application, the desired technical metrics, and for the terms and conditions of funding.