



**U.S. Department of Energy  
Advanced Research Projects Agency – Energy  
Announcement of Teaming Partner List  
for Upcoming Notice of Funding Opportunity:  
Plant Engineering for Energy Applications**

The Advanced Research Projects Agency – Energy (ARPA-E) is considering issuing a Notice of Funding Opportunity (NOFO) to support the development of technologies aimed at accelerating genetic engineering for bioenergy crops. This potential NOFO would focus on bioenergy crops that significantly address ARPA-E mission areas, such as decreasing energy imports and greenhouse gas (GHG) emissions, as well as strengthening U.S. leadership in developing and deploying energy technologies. The purpose of this Teaming Partner List announcement is to facilitate the formation of new project teams to respond to the potential NOFO. Any NOFO issued in the future would provide specific program goals, technical metrics, and selection criteria. If there are any inconsistencies between this announcement and the potential NOFO, the NOFO language would be controlling.

The anticipated goals of the program include developing technologies to:

- 1) Accelerate the efficiency and rate of production of engineered plants;
- 2) Reduce the genotype dependence of genetic engineering techniques; and
- 3) Develop innovative biocontainment strategies for engineered plants.

Any NOFO issued in the future would be expected to support projects with a three-year performance period, transforming the genetic engineering of bioenergy crops from a resource-intensive craft into a routine procedure. The NOFO is expected to require that techniques be demonstrated in bioenergy crops and go beyond incremental improvements to transformation and tissue culture.

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

- Design of transformation vectors, including non-traditional vectors such as viruses, nanoparticles, and other modalities;
- Tissue-culture-free techniques for germline transformation, including meristem transformation and floral dip;
- Molecular tools for DNA modification, including but not limited to CRISPR systems, transposases, and recombinases;
- Developmental regulators/morphogenic genes;
- Plant genetics;
- Microbiology or plant-pathogen interactions;
- Synthetic biology and drug design, including techniques from mammalian systems that can be translated to bioenergy crops;
- Materials capable of targeted interactions with plant cells or nucleic acids;
- Mechanical and electrical engineering and robotics; and
- Computer science/machine learning/artificial intelligence/computer vision.



Successful teams are likely to include experts from several of these fields, including those who can leverage recent advances in biotechnology outside of the traditional plant sciences.

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

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 December 2024. 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 form: <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 your information to this Teaming Partner List, 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 email addresses or by other means will not be considered. **Participation in and utilization of this list is completely voluntary.** ARPA-E will not identify or facilitate connections through the Teaming Partner List and participation in the list has no bearing whatsoever on the evaluation of applications submitted to the potential funding opportunity.

**This list does not constitute a NOFO. A NOFO does not exist at this time.** Applicants must refer to the NOFO, expected to be issued by January 2025, for instructions on applying and for details on how projects will be funded.