



**U.S. Department of Energy  
Advanced Research Projects Agency – Energy  
Announcement of Teaming Partner List  
for Upcoming Funding Opportunity Announcement:  
*Generating Realistic Information for Development of Distribution And  
Transmission Algorithms (GRID DATA)***

The Advanced Research Projects Agency Energy (ARPA-E) intends to issue a Funding Opportunity Announcement (FOA) entitled Generating Realistic Information for Development of Distribution And Transmission Algorithms (GRID DATA). This FOA will solicit applications to pursue innovative research targeted at developing public large-scale, realistic and validated electric power system network models. These models should have the detail required for the successful development and testing of new, transformational power system optimization and control algorithms and substantially reduce the barriers to the testing and ubiquitous adoption of new strategies for grid optimization and control, including new Optimal Power Flow algorithms.

ARPA-E believes the existence of these models would enable more complete evaluations of emerging grid optimization algorithms. These new algorithms promise to enable increased grid reliability and safety as well as significantly increase economic and energy efficiency and substantially reduce the costs of integrating high penetrations of variable renewable generation technologies into the electric power system in the United States. These models would also enable formal grid optimization competitions, as have been successfully employed in many other optimization-dependent fields and industries. Special care will be required to ensure that these new models are immediately available for a large-scale, open competition.

Currently, ARPA-E anticipates two primary areas of interest in the FOA: (1) the creation of large-scale, realistic real-world or synthetic power system models relevant for the testing and evaluation of emerging power system optimization algorithms and (2) the creation of a public, interactive power system model repository.

Previously, ARPA-E held a workshop on this topic. More information on the workshop can be found at <http://arpa-e.energy.gov/?q=workshop/advanced-bulk-power-system-optimization-technologies-workshop>.

In order to realize the goals of the GRID DATA program, expertise in the following areas may be required:

- Power systems including grid operations planning and optimization (including Optimal Power Flow, Unit Commitment, etc.), transmission and distribution network design and analysis, and grid integration of renewables.
- Data analytics including management and analysis of large-data sets from various sources, and load and distributed generation forecasting and characterization.
- Real and synthetic network dataset creation and analysis including experience with statistical network models (Exponential Random Graph Models, etc.), system architectures for energy infrastructures, and models for load forecasting and prediction.



- Optimization design, benchmarking, comparison and participation in related competitions.
- Online model curation and archiving.

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 April 2015. 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: 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 themselves 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 Notice does not constitute a FOA. No FOA exists at this time.** Applicants must refer to the final FOA, expected to be issued in May 2015, for instructions on submitting an application and for the terms and conditions of funding.