



**U.S. Department of Energy
Advanced Research Projects Agency – Energy
Announcement of Teaming Partner List
for Upcoming Funding Opportunity Announcement:
Advanced Research In Dry-cooling (ARID)**

The Advanced Research Projects Agency Energy (ARPA-E) intends to issue a Funding Opportunity Announcement (FOA) entitled Advanced Research In Dry-cooling (ARID), soliciting applications for financial assistance to fund transformational power plant cooling technologies that enable high thermal-to-electric energy conversion efficiency with zero net water dissipation to the atmosphere. Specific programmatic objectives will include developing technologies that:

1. Have no net water dissipation to the atmosphere;
and, in comparison to power plants using conventional, wet cooling:
2. Result in no loss of efficiency for the power plant; and
3. Result in less than 5% increase in the levelized cost of electricity.

Anticipated technical paths towards these goals include: (1) significant cost reduction of air-cooled heat exchangers (via significant air side heat transfer enhancement to reduce size and/or low cost materials and manufacturing) and (2) cooling below the air dry bulb temperature and address temperature excursions through the development of supplemental cooling systems and/or cool storage. Other transformational cooling technologies that address the all the objectives of the program are also welcome.

This FOA represents a radical shift in thermoelectric power plant cooling practices from today's cooling systems, which withdraw and/or consume large amounts of freshwater. Previously, ARPA-E held a workshop on this topic. More information on the workshop can be found at <http://arpa-e.energy.gov/?q=arpa-e-events/advanced-dry-power-plant-cooling-workshop>.

Currently, ARPA-E anticipates that there will be three specific areas of interest identified in the FOA as follows: (1) ultra-high performance air-cooled heat exchangers, (2) supplemental cooling/cool storage systems, and (3) other transformative power plant dry cooling technologies that meet all of the programmatic objectives. System level solutions that employ any combinations of the three areas are of interest as well.

Expertise in the following Technical Areas may be useful in responding to the FOA: thermal engineering; fluid dynamics and modeling; materials science; advanced manufacturing; power plant system design; chemical and thermal transport, and heat exchanger modeling, design and optimization.

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 September 2014. 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 September 2014, for instructions on submitting an application and for the terms and conditions of funding.