

## Cleantech Client Alert: Newly-Launched ARPA-E Announces \$150 Million Funding Opportunity for “Transformational” Energy Technologies

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On April 27, 2009, the Department of Energy announced the availability of up to \$150 million of funding for research and development on transformational energy-related technologies. The funding is being made available through the Advanced Research Projects Agency – Energy (ARPA-E), a newly-launched organization within the Department of Energy (DOE), and is intended to be distributed in individual awards of \$500,000 to \$10 million. The ARPA-E awards are specifically targeted at development-stage companies, and are intended to help these companies cross the proverbial “valley of death” between identifying a promising technology and developing it to the point where key risks are abated and commercial adoption is possible.

This Fenwick Client Alert describes the background and terms of this new DOE funding opportunity. The complete Funding Opportunity FOA (No. DE-FOA-0000065) can be found on ARPA-E’s website at <http://arpa-e.energy.gov/keydocs.html>.

***Important: If you are interested in this funding opportunity, you must act now, as applicants must submit an initial “concept paper” to DOE between May 12 and June 2, 2009, and the process for registering to submit a paper is experiencing significant delays. See the Application Process and Timeline section below for further details.***

### **Background on ARPA-E**

ARPA-E is a new DOE organization created to support high-risk, high-reward research into innovative energy technologies, and to help fill the gap that currently exists between DOE programs that fund basic scientific research, on one hand, and those that support commercial deployment of existing technologies, on the other. ARPA-E is modeled after the influential Defense Advanced Research Projects Agency (DARPA), and is intended to be a flat and nimble organization reporting directly to the Secretary of Energy. While initially authorized in 2007, ARPA-E remained dormant until \$400 million of funding was appropriated under the recent American Recovery and Reinvestment Act of 2009.

The \$150 million Funding Opportunity Announcement described in this Fenwick Client Alert represents the first major policy activity by ARPA-E.

### **Eligible Projects**

Under the new Funding Opportunity Announcement (the “FOA”), ARPA-E is seeking to fund research and development on innovative energy technologies targeted at reducing imported energy usage, reducing emissions and/or improving energy efficiency. Eligible projects may involve a wide variety of applications and technologies – there are no specific limitations as to technology categories or applications specified in the FOA. However, the FOA emphasizes that eligible projects must involve more than just incremental improvements to existing technologies, and instead should be “transformational” in nature and capable of enabling major leaps forward in energy technologies.

Projects eligible for funding under the FOA may involve either “early stage” or “late stage” research and development. The application criteria for early stage and late stage projects differ, and so applicants are required at the outset to place their projects into one of the two categories. Early stage projects involve applied research focused on determining whether a laboratory discovery can be made sufficiently robust for real world applications and capable of eventual transition to industrial use. Late stage projects involve the development of an immature technology to the point where key technical risks have been reduced so that industry would be able to complete development and incorporate the technology into commercial products.

In addition to the criteria described above, eligible projects must be completed within 36 months of funding, with preference given to projects that can be completed within 24 months, and at least 75% of the project R&D must be performed by U.S. entities. Also, 90% of the work (measured by total project costs) must physically be performed in the United States or its territories. Additional restrictions apply if foreign entities will be participating in the project.

## Awards and Cost-Sharing Requirements

Under the FOA, ARPA-E may provide financial assistance awards of between \$500,000 and \$20 million. However, ARPA-E expects most awards to be between \$2 million and \$5 million, and that awards over \$10 million will be made only in “extremely exceptional cases.”

The financial assistance awards provided by ARPA-E may be made as grants, cooperative agreements or technology investment agreements. ARPA-E anticipates that it will be involved on an ongoing basis in most projects, so funding most likely will be under a cooperative agreement. However, if specifically requested by the applicant and agreed by ARPA-E, funding may in some cases be provided under a technology investment agreement to allow DOE and the award recipient to negotiate customized terms for certain areas, including financial management and cost accounting systems and intellectual property rights.

The financial assistance provided by ARPA-E will cover only a portion of the total project research and development costs, and applicants will be expected to provide the remainder of the required funding under a cost share arrangement. The amount of cost share funding required from an applicant will vary with the type of financial assistance award and the nature of the project. In this regard, the FOA sets out the following guidelines:

- For grants or cooperative agreement funding, the applicant must provide cost share funding representing at least 20% of the total costs.
- For technology investment agreements, cost share percentage is generally at least 50%, although the FOA indicates that ARPA-E may allow percentages as low as 25% if it determines a higher percentage is impracticable.
- Where project risks are high (*e.g.*, in an early stage project), the cost sharing percentage should generally be lower.
- In contrast, where the technology is closer to market or the future market is large and potentially very profitable, the cost sharing percentage should be higher.

## Application Process and Timeline

The FOA sets out an expedited two-stage process for applying for funding. Interested parties are asked to first submit an eight page “concept paper” that outlines the technical concept and its potential innovative impact. ARPA-E will review concept papers on a rolling basis as received and will provide applicants with an initial notification of whether a full application based on the concept paper is likely to be competitive. Applicants will then have thirty-one days after ARPA-E’s notification to submit a full application, which must contain detailed information regarding the technology, research and development plan, qualifications of applicant’s personnel, and project budget.

Initial concept papers must be submitted online (through [www.FedConnect.net](http://www.FedConnect.net)) **between May 12, 2009 and June 2, 2009**. Because of the compressed timeframe, we strongly recommend that interested parties move quickly to prepare a concept paper and submit it well in advance of the final deadline. In addition, in order to submit a concept paper, you must register with [grants.gov](http://grants.gov) and the various related online systems, which could take two weeks or more to complete. See our [April 3, 2009 Client Alert](#) and the instructions at [www.grants.gov](http://www.grants.gov) for instructions regarding the online registration process.

## Intellectual Property Considerations

Potential applicants should be aware that the federal government may obtain certain rights to intellectual property assets developed using federal funding. In the case of the funding provided under the FOA, ARPA-E has elected to use intellectual property rights clauses that are relatively favorable to applicants. However, potential applicants will nonetheless want to make sure that they carefully consider the intellectual property rights implications of seeking funding under the FOA, and consultation with an experienced intellectual property attorney is recommended.

In most cases, for inventions first conceived or reduced to practice in the course of a project funded under the FOA, patent rights would be apportioned in accordance with the Bayh-Dole Act, which provides that the grant recipient may retain title to the invention, subject to a non-exclusive license to the federal government to practice or have practiced the invention on behalf of the U.S., “march-in rights” for the government to obtain

rights to the invention under exceptional circumstances, and a requirement that exclusive licensees manufacture products substantially in the U.S. Grant recipients that are domestic small businesses, universities or non-profit entities would automatically be subject to the Bayh-Dole Act provisions. For recipients who are not subject to the Bayh-Dole Act, ARPA-E has elected to waive DOE's standard patent rights clause and use an alternative patent rights clause (<http://www.gc.doe.gov/documents/patwaivclau.pdf>) that apportions rights in a manner substantially similar to the Bayh-Dole Act arrangements. This alternative clause also requires that the grant recipient (in addition to its exclusive licensees) agree to manufacture products substantially in the U.S., although the FOA indicates that this requirement may be waived in certain circumstances.

For technical data produced in the course of a project funded under the FOA, the federal government would normally retain unlimited rights to use or disseminate the data. However, ARPA-E has elected to use the "special protected data rights" provisions and allow grant recipients to protect data that constitute a trade secret from use or dissemination for a period of five years.

As noted above, if the grant made is under a technology investment agreement, the apportionment of patent rights, and in some cases, the specifics of the government's rights to technical data, may be negotiated on a case-by-case basis in accordance with DOE regulatory guidance.

### Where To Learn More

Further information about ARPA-E and the complete FOA are available on ARPA-E's website at <http://arpa-e.energy.gov/index.html>. In addition, if you are interested in other funding opportunities, including funding available under the American Recovery and Reinvestment Act of 2009, you can subscribe to email updates at [http://www.grants.gov/applicants/email\\_subscription.jsp](http://www.grants.gov/applicants/email_subscription.jsp).

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