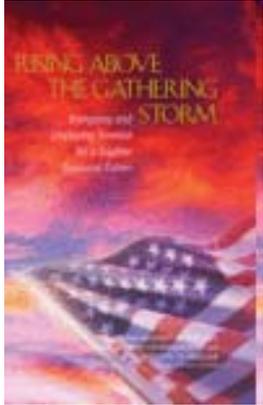


Advanced Research Projects Agency – Energy

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Department of Energy's Business Opportunity Session

September 24, 2009



Rising Above the Gathering Storm, 2006 (National Academies)

- Establish an Advanced Research Projects Agency for Energy (ARPA-E)
- “Creative, out-of-the-box, transformational” energy research
- Spinoff Benefit – Help educate next generation of researchers
- Secretary Chu (then Director of Berkeley National lab) on committee

America COMPETES Act, 2007

- Authorizes the establishment of ARPA-E

American Recovery and Reinvestment Act of 2009 (Recovery Act)

- \$400M provided for ARPA-E
- President Obama launches ARPA-E in a speech at NAS on April 27, 2009



ARPA-E provides access to the funding needed for the next generation of energy technologies. These technologies will be **transformational** in nature, which will involve research that is **high-risk**, but **high payoff**.

Specifically ARPA-E aims to:

- Enhance the economic and energy security of the United States by identifying technologies with the potential to:
 - Reduce energy imports from foreign sources
 - Reduce energy-related emissions; including greenhouse gases
 - Improve efficiency across the energy spectrum
- Ensure we remain a technological leader in developing and deploying advanced energy technologies.

| Year | Amount | Notes |
|-------------|--------|---|
| 2009 | \$15M | Appropriated to Office of Science for use to start up ARPA-E |
| 2009 – 2010 | \$400M | ARRA funds which must be completely obligated by September 30, 2010 |
| 2010 | \$10M | Amount requested |

ARPA-E Solicitation Strategy

| FOA #1 | RFI | FOA #2 |
|--|---|--|
| <p>Purpose:</p> <ul style="list-style-type: none"> • Open to all ideas, best well formulated high impact projects across all energy technologies • Early harvest | <p>Purpose:</p> <ul style="list-style-type: none"> • Explain ARPA-E role and mission • Request stakeholder input on research areas where ARPA-E can add significant value | <p>Purpose:</p> <ul style="list-style-type: none"> • Solicit proposals on topics with clear needs and some emergent opportunities |
| <p>Process:</p> <ul style="list-style-type: none"> • Utilize concept papers as first phase before selecting best for full proposals • Award selections expected 100-120 days after concept papers due | <p>Process:</p> <ul style="list-style-type: none"> ▪ Highly focused efforts to circumvent specific technical limitations currently inhibiting the development and/or deployment of promising new technologies ▪ Long-term 'out of box' technologies that deviate substantially from current projects and can revolutionize energy production, storage and distribution | <p>Process:</p> <ul style="list-style-type: none"> • May potentially highlight strong areas from first FOA • Goal is to build portfolios around specific technology challenges • Validate needs from BS and EERE studies while not overlapping existing programs |
| <p>Scale: \$ 150 M</p> | <p>N/A</p> | <p>Scale: \$ 125 M</p> |
| <p>Selection fall 2009</p> | <p>Published fall 2009</p> | <p>Announced late fall 2009</p> |

FOA #1 Applicants

Initial Funding Opportunity Released April, 27, 2009 for up to \$150M

- Broad on energy application and technologies; narrowly focused on transformational R&D
- Focused on applicants who already have a well-formed R&D plan for a transformational concept or new technology that can make a significant contribution

Small Businesses were a significant percentage of applicants

- Many Large Businesses also included Small Businesses and Educational Institutions as teaming partners
- A higher proportion of funds were allocated for projects anticipating private sector handoff, reflecting greater capital costs