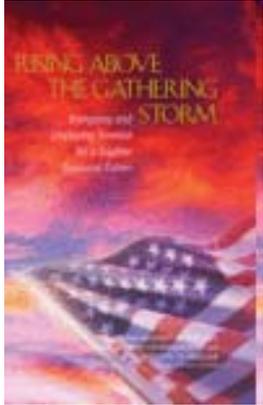


# Advanced Research Projects Agency – Energy

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Department of Energy's Business Opportunity Session

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### **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

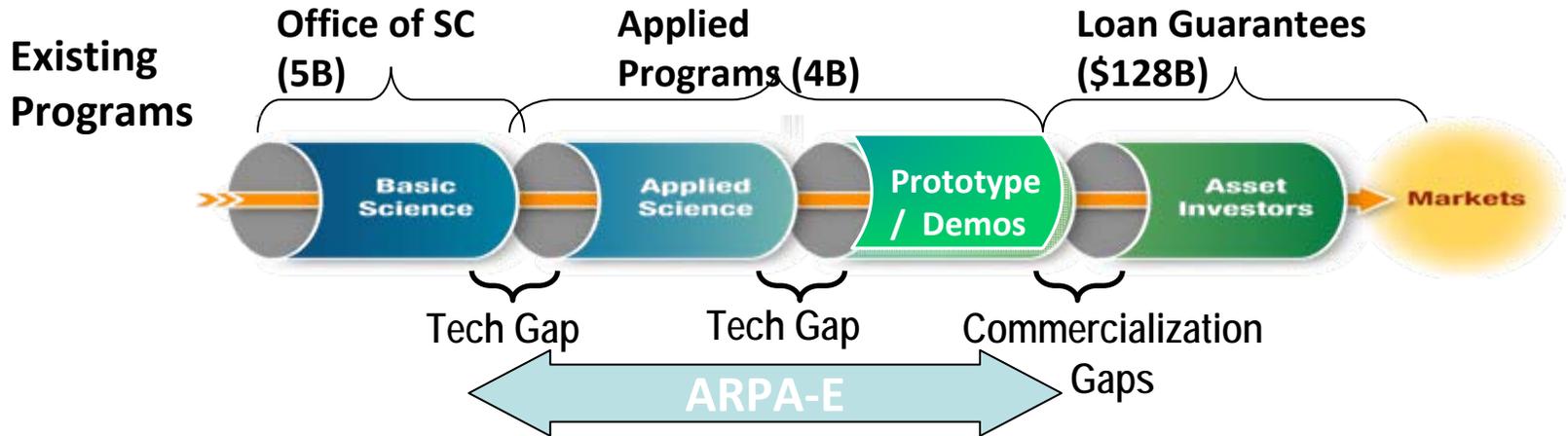


ARPA-E provides access to the funding needed for the next generation of energy technologies. These technologies will be **transformational** in nature, which will involve research that is **high-risk**, but **high payoff**.

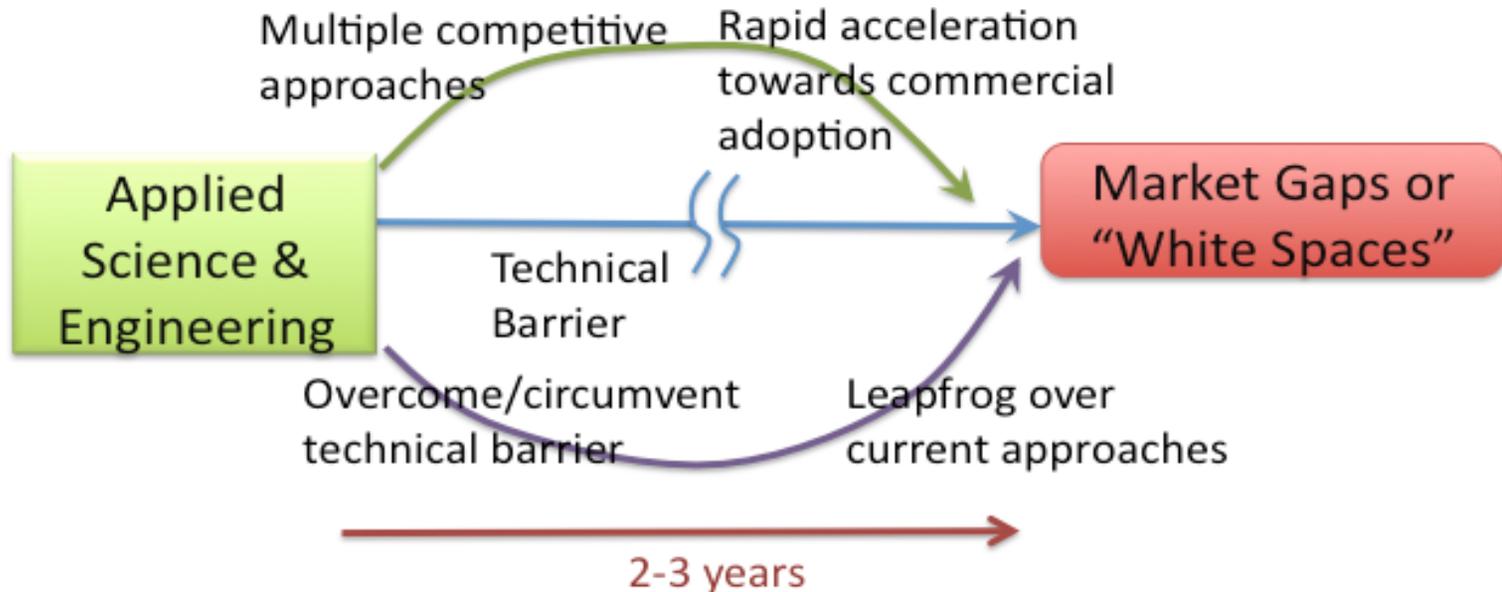
Specifically ARPA-E aims to:

- 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.

## ARPA-E bridges the gaps in the energy innovation pipeline...



## .... and leapfrogs over today's approaches



| 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><b>Purpose:</b></p> <ul style="list-style-type: none"> <li>• Open to all ideas, best well formulated high impact projects across all energy technologies</li> <li>• Early harvest</li> </ul>                             | <p><b>Purpose:</b></p> <ul style="list-style-type: none"> <li>• Explain ARPA-E role and mission</li> <li>• Request stakeholder input on research areas where ARPA-E can add significant value</li> </ul>  | <p><b>Purpose:</b></p> <ul style="list-style-type: none"> <li>• Solicit proposals on topics with clear needs and some emergent opportunities</li> </ul>  |
| <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• Utilize concept papers as first phase before selecting best for full proposals</li> <li>• Selection of 37 awards from FOA#1 announced October 26</li> </ul> | <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>▪ Highly focused efforts to circumvent specific technical limitations currently inhibiting the development and/or deployment of promising new technologies</li> <li>▪ Long-term 'out of box' technologies that deviate substantially from current projects and can revolutionize energy production, storage and distribution</li> </ul> | <p><b>Process:</b></p> <ul style="list-style-type: none"> <li>• May potentially highlight strong areas from first FOA</li> <li>• Goal is to build portfolios around specific technology challenges</li> <li>• Validate needs from BS and EERE studies while not overlapping existing programs</li> </ul> |
| <p><b>Scale: \$ 150 M</b></p>   | <p><b>N/A</b></p>   | <p><b>Scale: \$ 100 M</b></p>  |
| <p><b>Selection fall 2009</b></p>   | <p><b>Published fall 2009</b></p>   | <p><b>Announced late fall 2009</b></p>   |

# FOA #1 Applicants

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

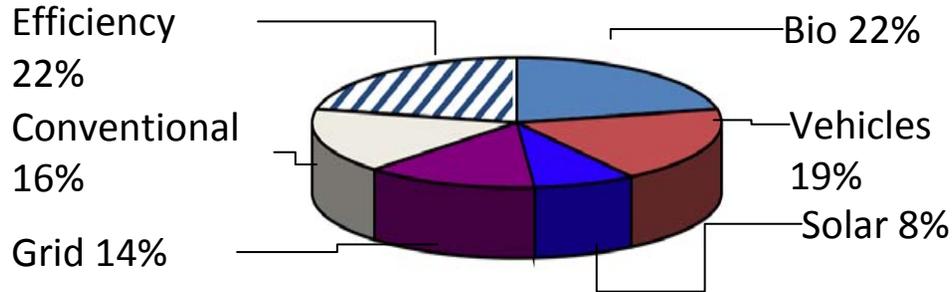
- Broad on energy application and technologies; narrowly focused on transformational R&D
- Focused on applicants who already have a well-formed R&D plan for a transformational concept or new technology that can make a significant contribution

## Small Businesses were a significant percentage of applicants

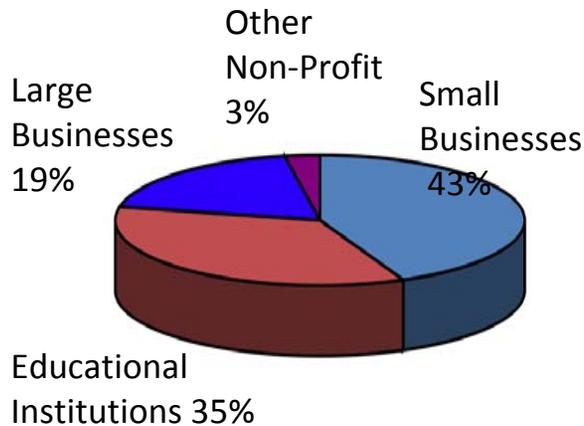
- Many Large Businesses also included Small Businesses and Educational Institutions as teaming partners
- A higher proportion of funds were allocated for projects anticipating private sector handoff, reflecting greater capital costs

# Summary of Applications Funded

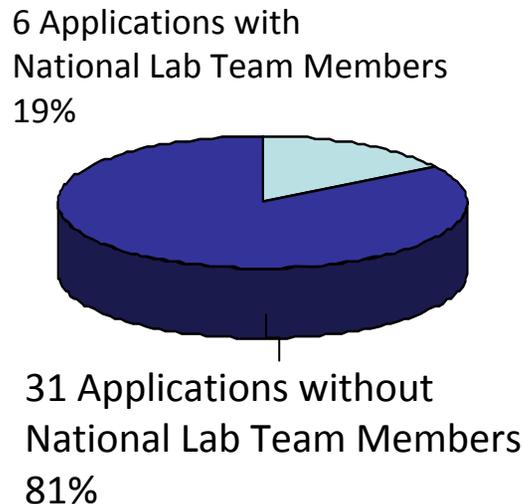
**Application Distribution by Topical Panel**



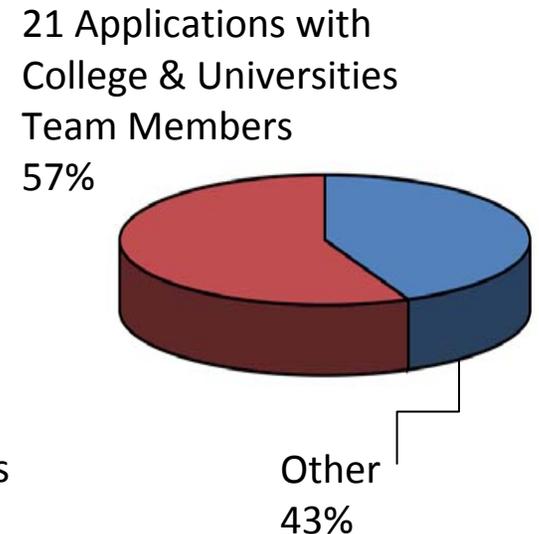
**Lead Organization Type for Selected Projects**



**National Lab Participation**



**College & University Participation**



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