



ARPA-E Overview

REDUCING CAPEX FOR ENERGY-EFFICIENT BUILDING CONTROLS WORKSHOP

October 23, 2014

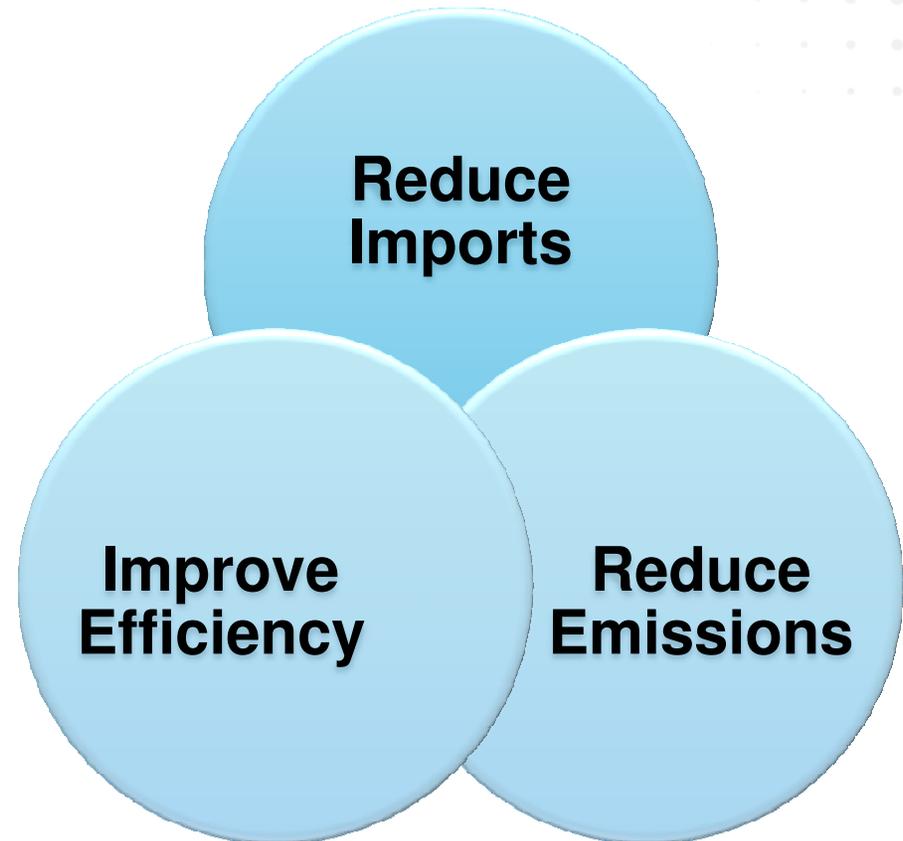
Eric Rohlfig, Deputy Director for Technology

The ARPA-E Mission

Catalyze and support the development of transformational, high-impact energy technologies

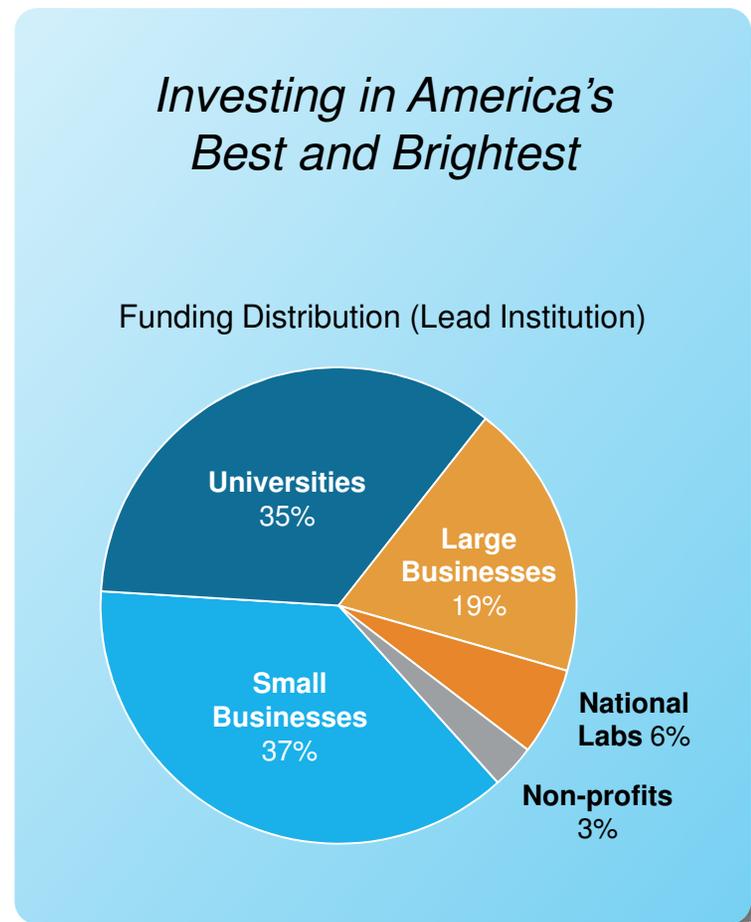
Ensure America's

- National Security
- Economic Security
- Energy Security
- Technological Competitiveness



A Brief History of ARPA-E

- **2007**
 - ▶ *America COMPETES Act signed, authorizing ARPA-E*
- **2009**
 - ▶ *American Recovery & Reinvestment Act signed, providing \$400M to establish ARPA-E*
- **March 2014**
 - ▶ *Over \$900M invested in 362 projects funded*
 - ▶ *22 projects have attracted >\$625M in private-sector funding*
 - ▶ *24 new companies formed*
 - ▶ *>16 projects partnered with other agencies for further development*



ARPA-E Programs

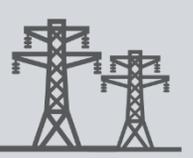
ARPA-E has invested in over 375 energy technology projects across 19 focused program areas and 2 OPEN solicitations



Transportation Energy Technologies

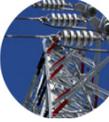
BEEST  Electrofuels  RANGE 

PETRO  MOVE  REMOTE 



Stationary Energy Technologies

Solar ADEPT  GRIDS  IMPACCT  FOCUS 

BEETIT  GENI  ADEPT  REBELS 

Transportation and Stationary Energy Technologies

HEATS  AMPED  REACT 

METALS  SWITCHES 

FY14 Focused Solicitations



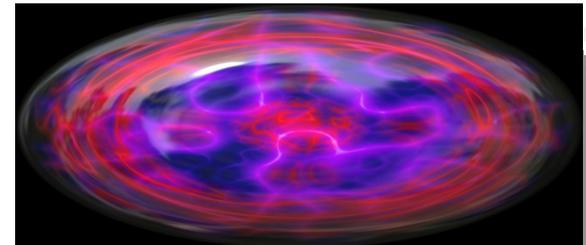
DELTA
Delivering Efficient Local
Thermal Amenities

FOA released 4/29/14;
Concept Papers submitted 6/13/14



MONITOR
Methane Observation Networks
with Innovative Technology to
Obtain Reductions

FOA released 4/29/14;
Concept Papers submitted 6/13/14



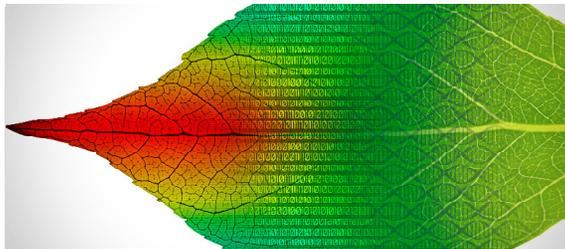
ALPHA
Accelerating Low-Cost Plasma
Heating and Assembly

FOA released 8/28/14
Concept Papers Due 10/14/2014



ARID
Advanced Research in Dry-
Cooling

FOA released 9/26/14
Concept Papers Due 11/10/14



TERRA
Transportation Energy Resources
from Renewable Agriculture

FOA released 9/26/14
Concept Papers Due 11/17/14

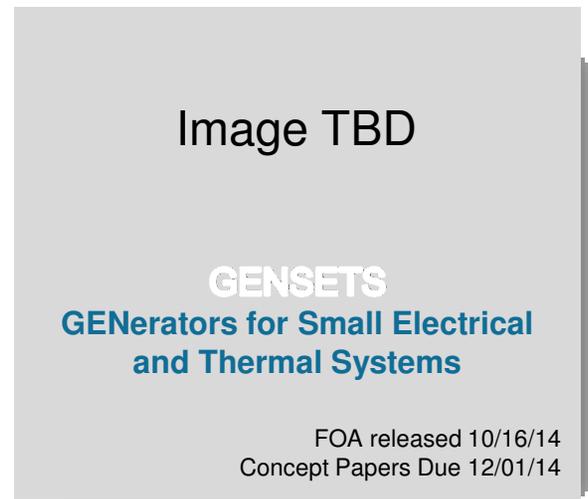
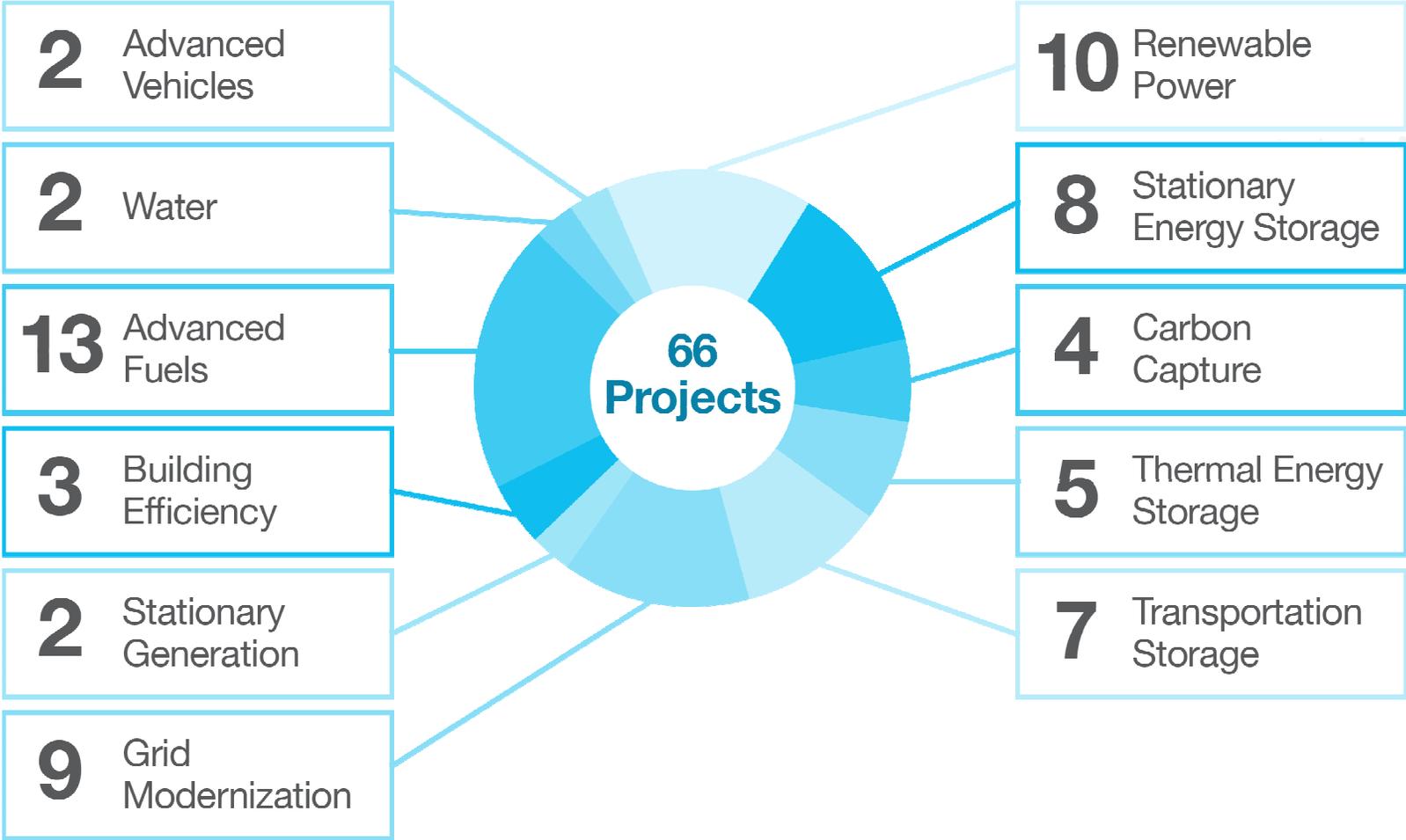


Image TBD

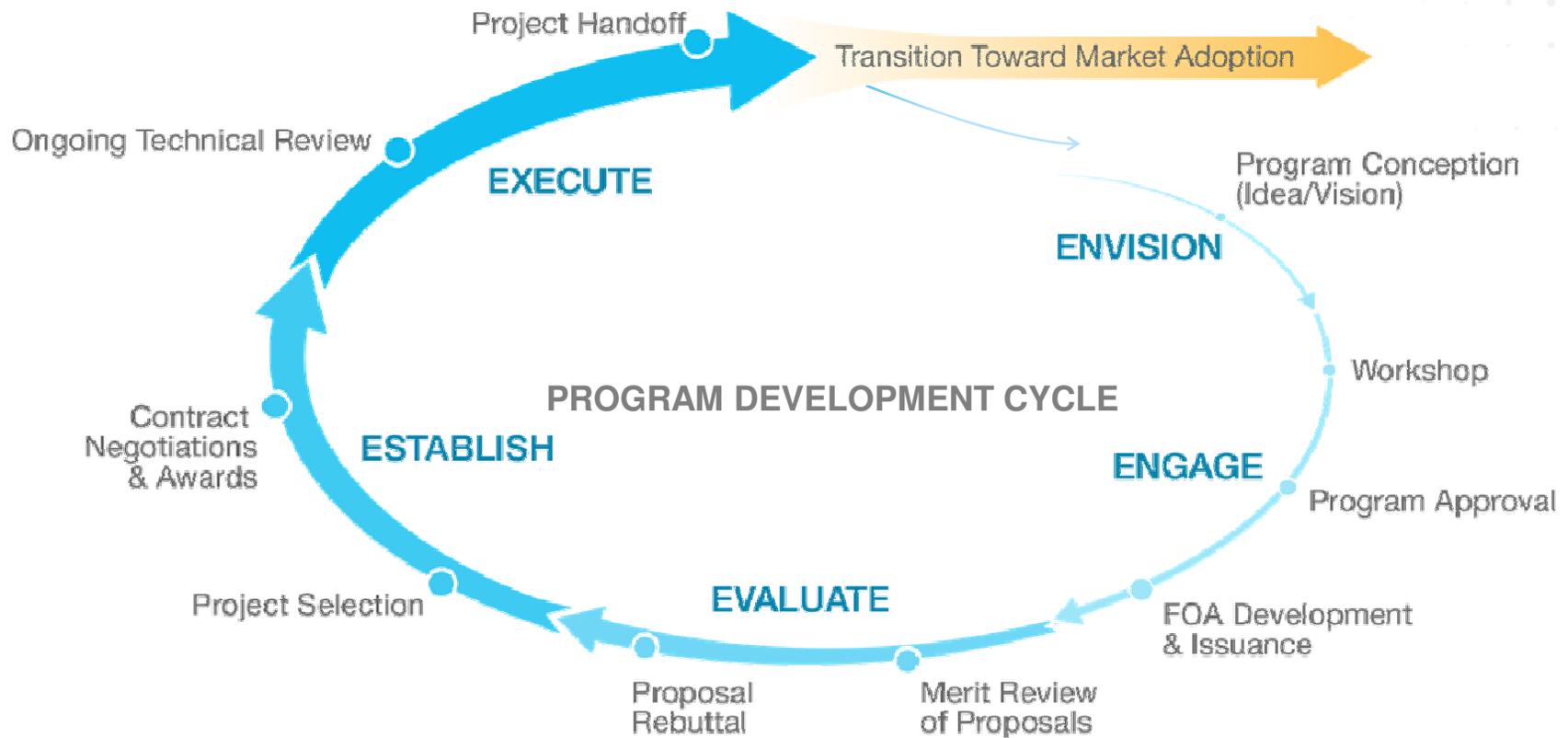
GENSETS
GENERators for Small Electrical
and Thermal Systems

FOA released 10/16/14
Concept Papers Due 12/01/14

OPEN 2012: 66 Projects, 24 States, 11 Areas



Developing ARPA-E Programs



ARPA-E Fellows

ROLES & RESPONSIBILITIES

Identification of high-impact energy technologies

- ▶ Perform technical and economic analyses to identify high-impact energy technologies.
- ▶ Publish original research papers and reviews.

Program director support

- ▶ Help develop future programs through technical analysis, discussions, and workshops.
- ▶ Assist with management of current projects, including site visits.

Organizational support

- ▶ Review proposals for funding opportunities.
- ▶ Contribute to the strategic direction and vision of the agency.

ATTRIBUTES

- ▶ Ph.D. in science or engineering; strong analytical and communication skills; ability to work independently and across disciplines; leadership.
- ▶ ***A passion to change our energy future***

ARPA-E Fellow-Led Workshops

- ▶ Are an important part of helping the agency explore new areas for potential investment.
- ▶ Fit well with the Fellow's role of performing forward-looking technology assessments.
- ▶ **Are NOT on a direct path to a focused technology program, e.g., there is no planned Funding Opportunity Announcement in this topical area.**
- ▶ ALL concepts for innovative energy technologies will be welcomed under OPEN 2015, the next planned open solicitation.
- ▶ Early stage, proof-of-concept research is supported on a continuing basis through the IDEAS FOA.



U.S. DEPARTMENT OF
ENERGY

www.arpa-e.energy.gov