

THE ADVANCED RESEARCH PROJECTS AGENCY-ENERGY

OVERVIEW

ABOUT ARPA-E

The Advanced Research Projects Agency-Energy (ARPA-E) catalyzes transformational energy technologies that could create a more secure and affordable American future. We advance high-potential, high-impact energy technologies that are too early for private-sector investment. ARPA-E awardees are unique because they are developing entirely new ways to generate, store, and use energy.

ARPA-E projects have the potential to radically improve U.S. economic prosperity, national security, and environmental well-being. We focus on transformational energy technology projects that can be meaningfully advanced with a small investment over a defined period of time. Our streamlined awards process enables us to act quickly and advance cutting-edge areas of energy research.

ARPA-E empowers America's energy researchers with funding, technical assistance, and market readiness. Our rigorous program design, competitive project selection process, and active program management ensure thoughtful expenditures. ARPA-E Program Directors serve for limited terms to ensure a constant infusion of fresh thinking and new perspectives.

ARPA-E HISTORY

In 2005, leaders from both parties in Congress asked the National Academies to identify concrete steps that federal policymakers could take to bolster U.S. competitiveness in science and technology to help the U.S. prosper and stay secure in the 21st century. The National Academies recommended that Congress establish an Advanced Research Projects Agency within the U.S. Department of Energy (DOE). In 2007, Congress passed, and President Bush signed into law, the America COMPETES Act, establishing ARPA-E. In 2009, Congress appropriated and President Obama allocated the new agency's first \$400 million in funding.

ARPA-E is modeled after the successful Defense Advanced Research Projects Agency (DARPA) in the Department of Defense (DoD), the agency credited with such innovations as GPS, the stealth fighter, and computer networking.

“Pound for pound, dollar for dollar, it's hard to find a more effective thing government has done than ARPA-E.”

—FedEx founder, chairman, president, and CEO Fred Smith

ARPA-E PROJECTS

To date, ARPA-E is investing in 362 high-potential energy technology projects across 18 focused program areas. The Agency also issues periodic open funding solicitations to address the full range of energy-related technologies, as well as funding solicitations aimed at supporting America's small business innovators.

Many ARPA-E projects have already demonstrated early indicators of technical success. For example, ARPA-E awardees have developed a 1 megawatt silicon carbide transistor the size of a fingernail, engineered microbes that use hydrogen and carbon dioxide to make liquid transportation fuel, and pioneered a near-isothermal compressed-air energy storage system.

Technical achievements like these have spurred millions of dollars in follow-on private-sector funding to a number of ARPA-E awardees. In addition, many ARPA-E awardees have formed start-up and spin-off companies.

MEASURING SUCCESS

ARPA-E measures its success in a variety of ways, including:

- Breakthrough achievements
 - Patents
 - Publications
- Moving technology to market
 - Partnerships with other government agencies
 - Licensing/acquisition by an established firm
 - Licensing/acquisition resulting in a spinoff
 - Private-sector funding
 - Growth of existing company (e.g. organic growth)
- Operational milestones
 - Award and contracting benchmarks

ARPA-E LEADERSHIP



Dr. Cheryl Martin is the Acting Director of ARPA-E, responsible for oversight of the Agency. Additionally, Dr. Martin leads ARPA-E's Technology-to-Market program, which helps breakthrough energy technologies succeed in the marketplace.

Prior to joining ARPA-E, Dr. Martin was an Executive in Residence with Kleiner Perkins Caufield and Byers, a venture capital firm based in Menlo Park, California. She also spent 20 years with Rohm and Haas Company where she held various research, marketing, and leadership roles. Dr. Martin is active in the American Chemical Society (ACS) at both the local and national levels. She earned a B.A. degree in chemistry from the College of the Holy Cross and a Ph.D. in organic chemistry from the Massachusetts Institute of Technology (MIT).



Shane Kosinski is ARPA-E's Deputy Director for Operations, responsible for oversight and operations of all ARPA-E programs. Kosinski served as the Acting Deputy Director for ARPA-E and led the effort to stand up the ARPA-E Program Office and develop the

means to efficiently and effectively obligate ARPA-E's Recovery Act funding. Kosinski previously worked in the Department of Energy's Office of the Chief Financial Officer where he led several agency-wide efforts for the 2009 Presidential Transition and the American Recovery and Reinvestment Act. Kosinski entered the federal government through the competitive Presidential Management Fellows Program and began his federal career at the Treasury Department. He has a B.S. in Economics and B.A. in Biological Science from Binghamton University, and he earned a M.A. in Economics from the University at Albany.



Dr. Eric A. Rohlifing is the Deputy Director for Technology of the Advanced Research Projects Agency-Energy (ARPA-E), responsible for oversight of all technology issues relating to ARPA-E's programs. He joins ARPA-E from the Department of Energy's

Office of Science, where he most recently served as Director of the Chemical Sciences, Geosciences, and Biosciences Division in the Office of Basic Energy Sciences (BES). Dr. Rohlifing is the author of approximately 50 peer-reviewed articles, holds membership in the American Chemical Society and the American Physical Society, and is a fellow of the American Association for the Advancement of Science.

THE ARPA-E ENERGY INNOVATION SUMMIT

ARPA-E hosts the premiere U.S. energy technology event: the annual ARPA-E Energy Innovation Summit. The Summit brings together thought leaders from academia, business, and government to discuss cutting-edge energy issues and facilitate relationships to help move technologies into the marketplace. In 2012, the Summit had over 2,500 attendees from 49 states and 26 countries. Attendees represented a mix of research institutions and universities, small businesses, investment firms, and large businesses. Keynote speakers included former President Bill Clinton, Secretary of Energy Stephen Chu, and Microsoft Chairman Bill Gates.

The 2013 Summit will be held February 25-27 at the Gaylord Convention Center in National Harbor, Maryland. Additional information and registration details can be found at www.arpae-summit.com/.

“After 25 years of my career with a defense contractor and having seen every conference and every exhibit known to man, I truly believe that this was the best conference I have ever attended. It was well organized, informative and most importantly inspirational and moving. Listening to Secretary Chu, Bill Gates and President Clinton were the highlights of my career.”

—2012 Summit attendee

CONTACT US

For additional information on ARPA-E, please visit our website, arpa-e.energy.gov.

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