

THE ADVANCED RESEARCH PROJECTS AGENCY-ENERGY

OVERVIEW

ABOUT ARPA-E

The Advanced Research Projects Agency-Energy (ARPA-E) provides R&D funding for transformational ideas to create America's future energy technologies. ARPA-E focuses exclusively on early-stage technologies that could fundamentally change the way Americans get, use, and store energy.

ARPA-E funds innovative ideas from academia, private industry, national laboratories, start-up companies, and small businesses—providing project teams with an average award of \$2-3 million over several years. Every project team receives hands-on guidance to meet ambitious technical milestones that push the boundaries of energy innovation. ARPA-E's unique Technology-to-Market program also empowers project teams with business insight and strategies to accelerate their progression towards commercialization.

As of February 2018, ARPA-E has funded more than 660 energy technology projects across nearly 40 focused programs and open solicitations.

ARPA-E HISTORY

In 2005, leaders from both parties in Congress asked the National Academies of Sciences, Engineering, and Medicine to identify concrete steps that federal policymakers could take to bolster U.S. competitiveness in science and technology as a means to help the United States prosper and stay secure in the 21st century. The Academies recommended that Congress establish an Advanced Research Projects Agency within the U.S. Department of Energy (DOE). In 2007, Congress passed, and President George W. Bush signed into law, the America COMPETES Act, establishing ARPA-E. In 2009, Congress appropriated and President Barack 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'S UNIQUE PROCESS

ARPA-E actively manages its projects, positioning them so partners are likely to commit to the next stage of development once ARPA-E's funding period is over.

ARPA-E advances its early-stage technologies toward the market with results-oriented handoff strategies:

- **New company formation**, which takes place when ARPA-E project teams at labs or universities "spin out" their work, can facilitate and expedite the commercialization process for technologies.
- **Patents and publications** generated by ARPA-E project teams help advance scientific understanding and technology innovation.
- **Follow-on investment** from private investors during or after an ARPA-E award can provide project teams with the strategic funding needed to advance their technologies.
- **Strategic partnerships** with private companies that can license, acquire, and buy technologies help project teams progress along a clear path to market after their time with ARPA-E.
- **Public funding** from other government agencies, including the DOD and other DOE agencies, can advance projects after ARPA-E's initial funding.

As of February 2018, 74 ARPA-E projects have attracted more than \$2.6 billion in private-sector follow-on funding. In addition, 71 ARPA-E project teams have formed new companies to advance their technologies, and 109 ARPA-E projects have partnered with other government agencies for further development. Moreover, ARPA-E projects have generated 1,724 peer-reviewed journal articles, and 245 patents issued by the U.S. Patent and Trademark Office.

ARPA-E LEADERSHIP



Chanette Armstrong currently serves as the Acting Director for the Advanced Research Projects Agency-Energy (ARPA-E). Prior to joining ARPA-E, Armstrong served as the Director of the Department of Energy's (DOE) Office of Technology Transitions (OTT), where she oversaw DOE's Energy Investor Center, the Technology

Commercialization Fund, and the coordination of technology transfer activities across the DOE complex. Prior to joining DOE, she worked as an attorney specializing in intellectual property law at several technology companies. Armstrong also worked as an engineer in various capacities including as an electrical engineer, systems engineer, and software engineer.



Shane Kosinski serves as the Deputy Director for Operations. He is 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 DOE'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.



Dr. Patrick McGrath serves as the Deputy Director for Technology. He is responsible for oversight of all technology issues relating to ARPA-E's programs. Prior to ARPA-E, McGrath served as a technical advisor at the Defense Advanced Research Projects Agency (DARPA), where he played a central role in program development, execution, and technology

transition of DARPA programs in portable fuel cells for unmanned systems, hybrid energy storage systems, new catalytic approaches for carbon-based solar fuels, and novel electrochemical systems.



Dr. Jennifer Gerbi serves as the Associate Director for Technology and a Program Director. She is responsible for supporting oversight of technology issues relating to ARPA-E's programs, assisting with program development, recruitment, and coordinating project management. Prior to ARPA-E, Gerbi worked at Dow Corning as a program leader

in the company's Business and Technology Incubator, managing a global team as a business leader, and as an applied engineering and technical service leader. Before Dow Corning, Gerbi served as a senior materials scientist at The Dow Chemical Company.



Dr. James Zahler serves as the Associate Director for Technology-to-Market. He is responsible for oversight of all Technology-to-Market activities. Zahler joined from GT Advanced Technologies, where he served as the senior

director of product technology. Previously, Zahler served as a cell technology manager at BP Solar, supported BP Alternative Energy Ventures, and co-founded Aonex Technologies.

Contact Us

Members of the public, including news media, may contact ARPA-E by reaching out to:

ARPA-E Communications
arpa-e-comms@hq.doe.gov
 202-287-5440

ARPA-E'S ENERGY INNOVATION SUMMIT

The ARPA-E Energy Innovation Summit is the premiere U.S. energy technology innovation event. The **2019 Energy Innovation Summit** will take place **July 8-10, 2019** at the **Gaylord Rockies Convention Center** in **Denver, Colo.** Visit www.arpae-summit.com for more information and to register for the Summit.

The 2018 Summit brought together nearly 1,800 thought-leaders from academia, business, and government to discuss cutting-edge energy issues and facilitate relationships to help transition technologies out of the lab.

The Summit's main feature is the Technology Showcase—an 80,000 square foot hall that features nearly 300 exhibitors and displays next-generation energy technologies.