

How do the EDF and ARPA-E projects on methane sensing relate to each other?

In the last month, two distinct projects have been announced dedicated to advancing the next generation of methane leakage detection technologies for use in the oil and gas industry, with an emphasis on achieving even more emission reductions at even less cost than today's effective approaches. This includes Environmental Defense Fund's (EDF) "[Methane Detectors Challenge](#)" and the "[Methane Observation Networks with Innovative Technology to Obtain Reductions \(MONITOR\)](#)," a program being led by the U.S. Department of Energy's Advanced Projects Research Agency-Energy (ARPA-E). Both projects are synergistic in helping to spur new technological solutions to reduce methane emissions from the production and transportation of oil and gas. EDF's competition targets relatively mature technologies that can be deployed in the next two years to detect larger leaks on a continuous basis. In contrast, ARPA-E's program targets a wider range of early-stage technologies that – with significant R&D – could become disruptive technologies capable of detecting a broad range of leak sizes in the next ten years. These projects complement each other in that both are expected to stimulate technology demonstration and development, build market demand for new detection approaches, and ultimately catalyze major emission reductions that will benefit the environment, public health and maximize resource utilization. Innovators are encouraged to investigate each opportunity, and apply for one or both. A table explaining how the EDF and ARPA-E programs compare is included below.

	EDF Methane Detectors Challenge	ARPA-E MONITOR Program
Industry applicability	Focused on emissions from well pads and associated equipment, and compressors	Focused on oil and gas systems from the wellhead to the end-user
Technology stage	Relatively mature technologies ready for testing in a controlled environment, and able to be deployed in industrial settings in the short run	Early stage technologies requiring substantial time and resources for development to ensure reliable detection for transformational improvements
Scope of detection	Limited to continuous detection technologies, that provide a 24/7 approach to detecting leaks	Open to continuous or periodic/mobile approaches to detecting emissions
Leak size	Focused on large leaks; initial basic requirements of 5 and 2.5 scfm for detection, with preference for adaptive technologies and potential to detect somewhat smaller leaks	Focused on a wide range of emissions including small leaks; threshold of 0.1 scfm
Information provided	Notification of methane emissions, including rough indication of leak size; leak location not required	Reasonably accurate quantification of methane emissions, in addition to leak location down to 1m precision
Timeline	Full proposals due June 17, 2014; testing begins summer 2014; industry pilots expected in 2015	Concept papers due June 13, 2014, Full application deadline TBD
Funding type	Independent testing paid for by EDF; industry pilot purchases expected; no development awards anticipated	Up to \$30M provided for development of the technology, in increments between \$250,000 and \$10M per awardee
Market access	Many of the participating companies intend to make pilot purchases and trial deployments of instruments that meet the specifications	Not applicable
Partnership	EDF partnering with five leading oil and gas producers	ARPA-E partnering directly with innovators to help them develop their technologies; no industry partnership planned at this time