U.S. DEPARTMENT OF ENERGY | Office of Science

R&D Modalities in the Department of Energy

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DOE uses a wide range of modalities to accomplish its energy mission

	Investigators and their institutions	Diversity of Disciplines Per Award	Period of Award and Management	Annual Average Award Amount	Core Motivation, Research Focus
Core DOE SC-BES Programs	Single or small-groups of investigators led by universities, DOE labs, or nonprofits	Few	3 –year renewable awards. Managed by DOE SC-BES	~$300k to ~$2M	\Fundamental research in grand challenge and use-inspired areas. DOE determines the research focus for each core program, e.g., Solar Photochemistry.
Energy Frontier Research Centers	Self-assembled group of ~8-12 investigators. Led by universities, DOE labs, nonprofits, and industry.	Several	Five years with 5-year renewal possible. Managed by DOE SC-BES.	$3-5M	Fundamental research, often with a clear link to new energy technologies or technology roadblocks. Focus on subject matter from among a large set of general energy-relevant topics; initial FOA was broad; future FOA will be targeted.
Energy Innovation Hubs	Large set of investigators spanning multiple science and engineering disciplines. May be led by universities, DOE labs, nonprofits, or industry.	Many	Five years with 5-year renewal possible. Managed by a specific DOE program office but with broad coordination across DOE.	~$25 million per year for R&D	Purpose-driven research, integrating across basic and applied research toward commercialization. The breadth and emphasis of activities will be influenced greatly by the nature of the Hub. In general, DOE determines the topical areas of the Hubs, and FOAs are specific.
ARPA-E	Single investigator to small teams. Led by universities, nonprofits, industry, or consortia thereof.	Few	1-3 years. Managed by ARPA-E, which reports to the Secretary of Energy	$1-7M	High-risk research driven by the potential for significant commercial impact. In general, DOE determines the area of interest and the FOAs are specific.
DOE Technology Offices	R&D teams of varying size. Led by universities, DOE labs, and industry.	Few	1-3 years. Managed by specific DOE technology office.	Small teams (~$300K) to technology demonstrations (>$1M)	Developmental research and technology demonstration projects with specific deliverables and clear milestones. In general, DOE determines the area of interest and the FOAs are specific.

And these cover an appropriately large portion of R&D space