

Department of Energy to Invest \$366M in Energy Innovation Hubs

Funding Opportunity Announcement for Fuels from Sunlight Hub is Issued

Washington, DC – U.S. Department of Energy Secretary Steven Chu today outlined the Department's plans to invest up to \$366 million to establish and operate three new Energy Innovation Hubs focused on accelerating research and development in three key energy areas. Each Hub, to be funded at up to \$122 million over five years, will bring together a multidisciplinary team of researchers in an effort to speed research and shorten the path from scientific discovery to technological development and commercial deployment of highly promising energy-related technologies.



Secretary Chu

“Given the urgency of our challenges in both energy and climate, we need to do everything we can to mobilize our Nation’s scientific and technological talent to accelerate the pace of innovation,” said Secretary Chu. “The DOE Energy Innovation Hubs represent a new, more proactive approach to managing and conducting research. We are taking a page from America’s great industrial laboratories in their heyday. Their achievements—from the transistor to the information theory that makes modern telecommunications possible—are evidence that we can build creative, highly-integrated research teams that can accomplish more, faster, than researchers working separately.”

The Hubs are part of a broad-based clean energy research strategy by the Obama Administration that will harness America’s innovation machine to achieve the breakthroughs we need.

This strategy includes three new initiatives which are designed to complement each other:

1. The first approach is the Energy Frontier Research Centers launched by the Department’s Office of Science to support multi-year, multi-investigator scientific collaborations focused on overcoming hurdles in basic science that block transformational discoveries.
2. The second approach is spearheaded by the Department’s recently-formed Advanced Research Projects Agency-Energy (“ARPA-E”), which uses a highly entrepreneurial funding model that supports America’s passionate energy innovators to explore high-risk, high-reward potentially transformative technologies that are too risky for industry to fund.
3. The third novel funding model, Energy Innovation Hubs, will establish larger, highly integrated teams ideally working under one roof, conducting high-risk, high-reward research and working to solve priority technology challenges that span work from basic research to engineering development to commercialization readiness.

The three DOE Energy Innovation Hubs will focus on:

- production of fuels directly from sunlight;
- improving energy-efficient building systems design; and
- computer modeling and simulation for the development of advanced nuclear reactors.

The Department will provide \$22 million in the first year for the establishment of each Hub and up to \$25 million per year for the following four years to support the operations of each Hub—for a total award of up to \$122 million per Hub. Important information on the DOE's Hub implementation plan and strategy for managing the Hubs can be found on the Energy Innovation Hubs website: <http://www.energy.gov/hubs/>.

Fuels from Sunlight Energy Innovation Hub

The objective of this Hub is to accelerate the development of a sustainable commercial process for the conversion of sunlight directly into energy-rich chemical fuels, likely using mechanisms based on photosynthesis, the method used by plants to convert sunlight, carbon dioxide, and water into sugar. The Fuels from Sunlight Energy Innovation Hub will provide researchers with significant new resources to accelerate basic and applied research in the drive toward a potentially transformative new energy technology. Achievement of an efficient, cost-effective means to convert solar energy directly to fuel could have significant impact on U.S. energy security and on energy production globally.

Modeling and Simulation for Nuclear Reactors Energy Innovation Hub

This Hub is intended to produce a multi-physics computational environment that will be used by engineers to create improved understanding of issues with current and future nuclear energy technologies. The Department's Office of Nuclear Energy hosted a workshop on the Modeling and Simulation for Nuclear Reactors Energy Innovation Hub on December 7, 2009 to provide an opportunity for those interested in this Hub and its upcoming FOA to fully understand the Hub vision, program objectives, and the procurement process for the establishment and operation of the Hub.

Energy Efficient Building Systems Design Energy Innovation Hub

The objective of the Energy Efficient Building Systems Design Energy Innovation Hub is to develop highly efficient buildings components, systems, and models. Achieving the Hub's main goal of reducing energy use for indoor space conditioning will require a focus on advances in core technologies, such as advanced refrigeration cycles, as well as on development of fully instrumented infrastructure aided by buildings system design and modeling. Such solutions could have a major impact on national electricity consumption, as the nation's buildings consume approximately 70 percent of all electric power.

A Funding Opportunity Announcement (FOA) inviting proposals for the Fuels from Sunlight Energy Innovation Hub has been issued, and a link to the FOA is available at the Energy Innovation Hubs website. The deadline for proposals for the Fuels from Sunlight Energy Innovation Hub is March 29, 2010. Funding opportunity announcements for the other two Energy Innovation Hubs are expected to be issued early next year. The Energy Efficient Building Systems Design Hub will also be the central component of a regional innovation cluster funding opportunity which will include coordinated grant opportunities from other agencies.

Universities, national laboratories, nonprofit organizations, and private firms are eligible to compete for an award to establish and operate a Hub and are encouraged to form partnerships. Awards, based on evaluation by scientific peer review, will be announced next summer. The Hubs are expected to begin work in 2010 and will be fully operational by 2011.

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