



U.S. DEPARTMENT OF **ENERGY**

RE-ENERGYSE: Regaining our Energy Science and Engineering Edge

Overview:

Today the U.S. is ramping up its clean energy generation and energy efficiency technologies, while facing the need to replace a rapidly aging energy workforce.¹ RE-ENERGYSE, a strategic partnership between the Department of Energy and the National Science Foundation, can play an important role in filling this gap by educating and training the future leaders, innovators, and workers in the energy sector. Importantly, RE-ENERGYSE will also help the Department's applied energy programs better engage with universities and enhance the Federal government's research and development enterprise.

RE-ENERGYSE is a comprehensive energy systems education and training initiative focused on attracting and developing the best and brightest students and workers who will drive and support the clean energy economy of the future.

RE-ENERGYSE fills an important need by developing energy education and training opportunities focused in the applied science and engineering fields. The program will help students and workers learn skills that can be applied to solving real world practical needs, such as deploying clean energy technologies. This is fundamentally different from basic science research, another enterprise within DOE, which focuses on the development of scientific theories. RE-ENERGYSE is part of the Obama Administration's larger \$3.8 billion FY 2011 budget request to scale up science, technology, engineering and math (STEM) education across the country.

Why DOE?

- This initiative helps to achieve DOE's short and long-term climate and energy goals by training and educating the next generation of energy workers.
 - Strengthens the research and development enterprise by creating opportunities to link future energy leaders with the Department of Energy and the National Laboratories
 - Better connects DOE's energy programs to universities, building on the success of existing scientific workforce development programs in the Department's Office of Science
- DOE has broad knowledge and expertise in energy, and can leverage that experience to train the workforce on how to develop energy systems and technologies.

Approach:

1. Educates the pipeline

- Higher education opportunities for students and professionals in Applied Energy Sciences and Engineering at the undergraduate, graduate, and post-doctorate levels
- Community college workforce development initiatives

- K-12 energy systems education and outreach through hands-on/project-based learning, service learning, and innovative education methods such as videos, contests, and web interactivity
2. *Compliments and integrates existing efforts*
- Works to integrate and coordinate STEM and energy education across agencies and other partners
 - Uses existing Departmental operations resources to administer RE-ENERGYSE activities
 - Fills the energy education gaps, based on assessments of programs at DOE and other agencies
 - Enhances existing DOE education programs, without duplication

RE-ENERGYSE Programs:

Higher Education (\$40 million)

- 70 one-year post-doctoral opportunities that will allow highly educated and innovative individuals to apply their skills in a laboratory or university setting devoted to clean energy topics
- 60 three-year graduate student fellowships in engineering and other energy systems fields
- 1,000 internships/assistantships for undergraduate students that support a summer research project and studies in the clean energy field with participating faculty
- 4 interdisciplinary masters programs in clean energy at universities where students will learn engineering along with economics and business skills necessary to become clean energy leaders
- 20 university teams involved in the Solar Decathlon, in which all participants compete to design, build, and operate the most attractive and energy-efficient solar-powered house

Technical Training (\$6 million)

- Technical training grants will be awarded through competitive and peer-reviewed processes to community colleges and other training facilities to develop energy technology certificate programs to train approximately 400 technicians at 7 institutions

K-12 Education and Outreach (\$9 million)

- Promote and support innovative approaches to foster energy literacy, such as competitions, project learning, teacher training, social media, and technologies designed to appeal to youth, parents, teachers and community audiences

Contact:

For more information contact Kristina Ronneberg, kristina.ronneberg@hq.doe.gov and Ben Steinberg, ben.steinberg@hq.doe.gov at the Department of Energy.

¹ Center for Energy Workforce Demand 2007 Report: Gaps in the Energy Workforce Pipeline, http://www.cewd.org/documents/CEWD_08Results.pdf