

RE-ENERGYSE: REgaining our ENERGY Science and Engineering Edge

As part of the Obama Administration's effort to jump-start development of a clean energy economy and promote economic recovery, the White House has proposed a major new clean energy education initiative in FY 2010 (FY10).

Under the "Regaining our ENERGY Science and Engineering Edge" (RE-ENERGYSE) program, the Department of Energy (DOE) aims to use \$115 million in FY10 to educate future leaders in energy science and technology and to build a highly skilled clean-energy workforce.

Some \$80 million of the total funding proposed for RE-ENERGYSE would be devoted to higher education programs. This includes support for new undergraduate experiential learning opportunities, traineeships and fellowships for doctoral students, interdisciplinary professional master's degrees in energy studies and one-year postdoctoral opportunities in energy-related fields.

The \$35 million for technical training and K-12 education would enable community colleges to train technicians and faculty in science, technology, engineering, and mathematics (STEM) fields, and to support activities aimed at engaging K-12 students and their teachers in such activities as reducing energy use at their schools and moving toward a zero-carbon footprint.

STATUS:

The House Appropriations Committee has provided just \$7 million for RE-ENERGYSE in its FY10 Energy and Water appropriations bill. The Senate Appropriations Committee has provided NO FUNDING for the initiative in its version of the funding bill.

WHY THIS PROGRAM IS NEEDED:

- Existing DOE workforce programs generally focus on basic science in the broad STEM disciplines. The RE-ENERGYSE program emphasizes study and training in the *applied energy fields*, such as energy efficiency, renewable energy, fossil energy, and nuclear energy.
- China and some European nations are developing industries and training programs to meet their future energy needs. European countries, for example, control 80 percent of the wind technology market and have both masters and PhD programs in wind energy. In contrast, the United States, which leads the world in wind installations, has no masters or PhD programs in wind energy.

RE-ENERGYSE PROGRAM PRIORITIES:

Science and Discovery- investing in STEM fields through fellowships and internships at DOE national laboratories, universities, the private sector, and other research institutions;

Clean Energy- educating leading scientists, engineers, and technicians who can accelerate our move toward achieving a low carbon future; and

Economic Prosperity- creating millions of green jobs and increasing U.S. competitiveness.

PROGRAM DISTRIBUTION:

Higher Education--\$80 million

The FY10 funding request calls for using \$80 million to support 200 three-year graduate fellowships, 200 post-doctoral opportunities, 1,000 undergraduate assistantships for summer projects and continued study with faculty in clean energy fields, and four interdisciplinary masters programs in clean energy. The opportunities for undergraduate, graduate, and post-doctoral students will support between 900 and 1,600 U.S. citizens per year.

Priority will be placed on recruiting applicants from under-represented populations and applicants attending Minority Serving Institutions.

Post-doctoral fellowships will concentrate on energy efficiency, renewable energy, and other clean energy topics. Eligible applicants will include not just current graduate students, but also professionals with relevant PhDs who are interested in moving into clean energy activities. The goal is to attract both new talent and highly educated scientists in diverse fields.

Graduate Research Fellowships will support between 150 and 200 three-year fellowships leading to PhDs in STEM fields. Fellowships will provide three years of support, including tuition and fees, travel associated with research, and an annual stipend.

The Interdisciplinary Energy Studies Program will support the development of new professional science masters programs dedicated to clean energy studies. Four Clean Energy University Collaborations (CEUCs) will be funded to develop these two-year multidisciplinary programs of study in fields including science, engineering, public policy, economics, architecture and business.

Technical Training and K-12 Education--\$35 million

The FY10 funding request would support grants at 35 to 55 community colleges which will train up to 3,000 technicians and faculty each year in STEM subjects. Students and faculty also will be eligible for research internships at DOE national laboratories, companies, and academic institutions.

K-12 activities will be coordinated with other education initiatives at DOE and other federal agencies. Projects will reach thousands of K-12 students and educators with campaigns, curricula, competitions, and other efforts to inspire students to pursue clean energy careers.

FOR MORE INFORMATION:

http://thebreakthrough.org/blog/reenergyse_resources/