About the National Renewable Energy Laboratory

The National Renewable Energy Laboratory (NREL) has served as the nation's premier laboratory for renewable energy and energy efficiency since 1977. Prior to being designated a national laboratory of the U.S. Department of Energy in 1991, NREL was known as the Solar Energy Research Institute.

Through NREL's efforts, clean energy sources such as sunlight and wind can be harnessed to produce electricity, process heat, fuel, and valuable chemicals with little, if any, pollution. NREL research contributes to technologies that can heat and cool buildings; run industries; light homes and offices; power cars and trucks; produce fuels, chemicals, drugs, and recyclable plastics; and destroy toxic wastes.

The Laboratory's uniqueness lies in the breadth and depth of its research activities. NREL's work spans almost 50 areas of scientific investigation. Expertise in specific disciplines covers fields as wide-ranging as materials sciences and engineering, biosciences, physics, chemical sciences, optics, and mechanical and electrical engineering. NREL's capabilities also include analytical work in strategic energy, environmental, and economic issues.

For More Information

The staff of the Center for Education Programs is experienced in educational leadership, student and teacher development, and program evaluation and assessment. An Education Advisory Council with national and regional membership provides advice and council to the Center.

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General and technical information about the Laboratory, renewable energy and energy efficiency technologies and technical information about NREL's research and development activities can be found on the NREL Web site: http://www.nrel.gov

Cover Photograph:
High school students in an NREL/Historically Black Colleges and Universities partnership build and install a solar photovoltaic system at the NREL Visitor's Center.

National Renewable Energy Laboratory

NREL is the U.S. Department of Energy's premier laboratory for renewable energy and energy efficiency research and development. NREL is operated for DOE by Midwest Research Institute, Battelle and Bechtel.

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Center for Education Programs

National Renewable Energy Laboratory

With a wealth of scientific and engineering resources to draw on, the National Renewable Energy Laboratory (NREL) makes a unique contribution to excellence in science, mathematics, and technology education. At the elementary and secondary school level, NREL conducts programs to stimulate the interest of students and improve their understanding of the science and technology fundamental to renewable energy. Teachers have access to opportunities to enhance their content knowledge and instructional strategies.

At the undergraduate and graduate level, NREL forges partnerships in research and education with colleges and universities, including minority-serving institutions. The Center for Education Programs also collaborates with local and national programs that advance education in mathematics, science, and technology.

Leadership in Science and Technology

"Linking education and research…is important to the nation, the research enterprise, and to the future scientific and engineering workforce." *President's National Science and Technology Council, 1999*

The Center for Education Programs is committed to leveraging the many resources at NREL, both technical and human. Programs strengthen science, mathematics, and technology education for all students and increase the quantity, quality, and diversity of students preparing to be scientists and engineers.

A Capable, Diverse Workforce of the Future

The Center for Education Programs reaches students at all levels. Included are tutoring and hands-on science activities for young students in an after-school program. For secondary school students, the Center sponsors awards, recognition, and special events, such as the Junior Solar Sprint and the Department of Energy's (DOE) Science Bowl competition.

Undergraduate and graduate students participate in mentored laboratory research internships and fellowships. These students play a vital role in NREL's research and technology enterprise and gain valuable research experience as part of their training. Research participation programs, such as DOE's Energy Research Undergraduate Laboratory Fellowships, are instrumental in encouraging students to explore careers in energy efficiency and renewable energy.

Excellence in Teaching and Learning

NREL's Center for Education Programs contributes to improving the education system so that all students understand the science and technology fundamental to renewable energy and energy efficiency. To meet the challenges and demands that face the nation in the next century, all citizens will need a high level of scientific and technological literacy to succeed.

Because of their role in reaching students at all levels, teachers are offered research participation opportunities to enhance their content knowledge, instructional strategies, and leadership abilities. Through a partnership with Mathematics, Engineering, and Science Achievement (MESA), NREL supports teachers in schools with large student populations from underrepresented groups, such as ethnic minorities and women.

In addition, the Center engages in partnerships and collaborations with education organizations, such as the Colorado Mathematics and Science Education Coalition, to improve critical elements of the science, mathematics, and technology education system.

"The preparation of teachers represents the single most critical area in which the Department of Energy can play a part." *Secretary of Energy's Advisory Board, Task Force on Education, 1998*

Strong Research and Education Partnerships

Connecting research and education leads to innovation. NREL fosters innovation by partnering with colleges and universities to advance the research, development, and deployment of sustainable energy technologies. For example, the Department of Energy provides support at NREL for a partnership with Historically Black Colleges and Universities.

In turn, collaborating with NREL helps build capacity for educational excellence in academic programs. NREL and universities engage in joint research projects, faculty and postdoctoral fellowships and sabbaticals; adjunct faculty arrangements; scientist-faculty exchanges; and facility access, use, and sharing.

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