Achievements and Awards

NREL first opened its doors almost 30 years ago and through partnerships and award-winning research, the Laboratory has become preeminent in the development of energy efficiency and renewable energy technologies. NREL's research excellence has continued to earn the organization numerous awards and recognition.

In 2006, NREL opened its first new research facility in more than a decade. The Science & Technology Facility (S&TF), devoted primarily to solar research, will facilitate industry partnerships and technology commercialization.

The S&TF became the first federal laboratory building to receive a platinum rating under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building program.

NREL went significantly beyond being green powered in 2006. The Lab used renewable energy certificates and on-site solar and wind facilities to offset not only the total energy use of its buildings, but the energy used by NREL vehicles, employee commuting, air travel and other "life cycle" energy consumption.

To date, NREL's innovative technologies have been recognized with 39 R&D 100 awards — the most per staff member of any Department of Energy laboratory.

A solar cell based on designs developed at NREL set a record sunlight-to-electricity conversion efficiency of 40.7 percent. Boeing-Spectrolab built the multi-junction cell which could reduce the cost of solar electric systems.

International recognition for NREL's research staff reached a pinnacle with two solar researchers being recognized as Dan David Prize laureates for a body of work that "has the potential to alleviate the world's impending energy crisis," and another receiving the World PV Award for outstanding contributions to the worldwide advancement of photovoltaic science and technology. Yet another solar researcher's work was selected by Technology Review Magazine as one of the top 10 emerging technologies. His research could lead to more efficient solar cells using quantum dots.

Several key partnerships were developed in 2006. NREL formed a strategic alliance with Chevron to advance renewable transportation fuels, while a cooperative research project with Xcel Energy focused on hydrogen production from wind power.

NREL partnered with the Colorado School of Mines, Colorado State University and the University of Colorado to form the Colorado Renewable Energy Collaboratory to develop and advance renewable energy technologies for rapid transfer to private industry and establish the state as a leader in renewable energy.

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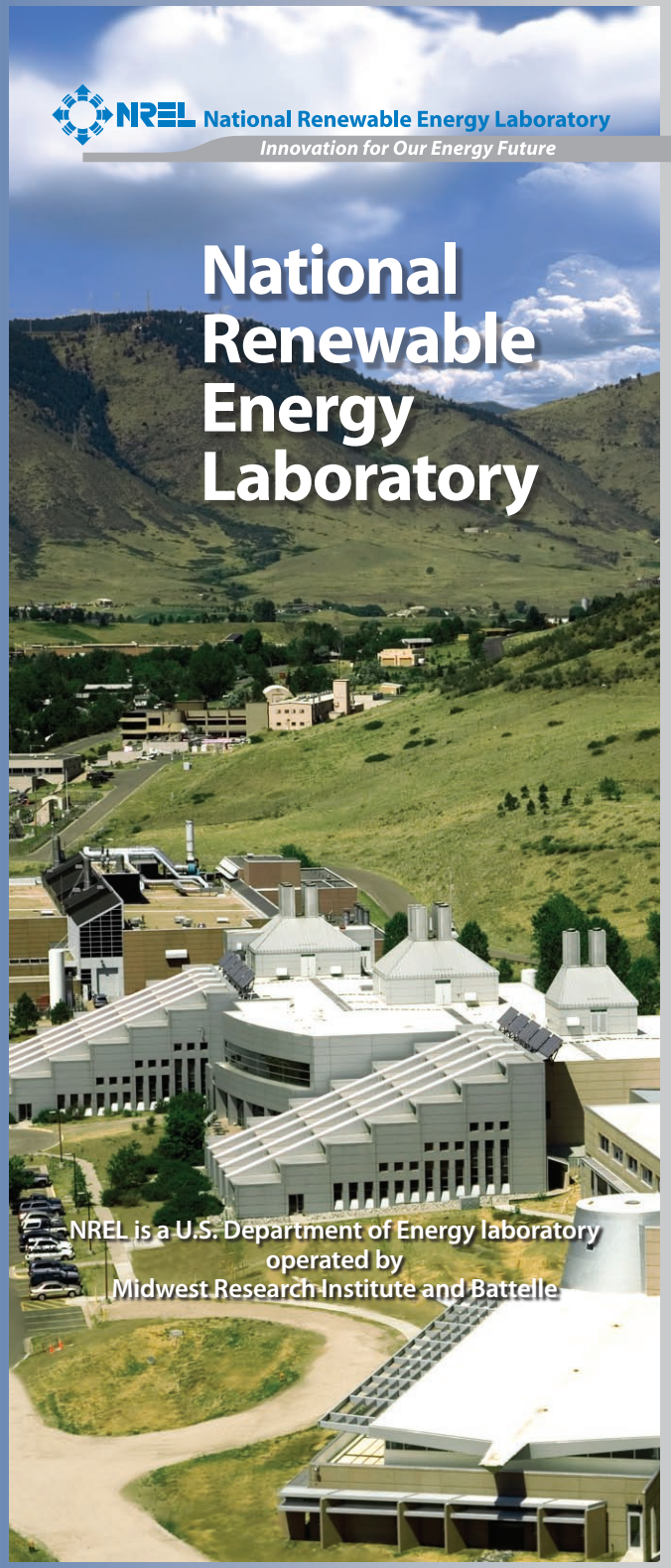
Innovation for Our Energy Future

National Renewable Energy Laboratory



NREL is a U.S. Department of Energy laboratory
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National Renewable Energy Laboratory

For three decades, the National Renewable Energy Laboratory (NREL) has played a key role in the development of efficient, cost-effective, renewable energy and energy efficiency technologies. Some of these technologies are already in use — generating electricity, fueling vehicles and making buildings and vehicles more energy efficient. The need to continue to develop new, improved energy technologies has never been more pressing.

NREL began in 1977 as the Solar Energy Research Institute in the wake of the 1973 oil embargo. Yet, today America is more dependent on foreign oil than ever. U.S. oil imports have doubled in the past three decades to more than 60 percent of the oil used, increasing our vulnerability to price spikes and supply disruptions.

NREL's mission is to advance the nation's energy goals. It is the only U.S. Department of Energy laboratory dedicated solely to renewable energy and energy efficiency R&D. Research spans fundamental science to technology solutions that are market relevant. The Laboratory collaborates with both industry and university partners to create opportunities for the development and growth of renewable energy.

NREL's research to change the way homes, businesses and cars are powered will support economic growth, a cleaner environment and help secure a sustainable energy future.

Major Research Areas

NREL's renewable energy and energy efficiency research ranges from fundamental science to technology solutions.

Renewable Electricity

- Solar (photovoltaics, concentrating solar power and solar thermal)
- Wind
- Geothermal
- Electric Systems (grid management, distributed generation, storage)
- Building Technologies (building efficiency, solar buildings)

Renewable Fuels

- Biomass
- Hydrogen
- Advanced Vehicle Technologies and Fuels (hybrid vehicles, fuels utilization)

Energy Science

- Chemical and Biosciences
- Scientific Computing
- Materials Science

Energy Analysis

- Economic, Financial and Market Analysis

Funding and Staffing

NREL's funding for Fiscal Year 2006 was $209.6 million. The majority of the Laboratory's funding comes from the DOE's Office of Energy Efficiency and Renewable Energy.

NREL's internationally recognized staff totals approximately 1,000 people, including post doctoral researchers, graduate students and interns. Forty-seven percent of the regular staff have advanced degrees and 24 percent have doctoral degrees.