



## Recovery and Reinvestment Act Money Invested at NREL

Department of Energy Secretary Steven Chu made his visit to NREL on April 29 an especially memorable one — announcing \$110 million in funding under the American Recovery and Reinvestment Act.

More than \$100 million will accelerate construction of the Laboratory's Golden, Colo., campus, dramatically expanding NREL's capacity for renewable energy research and partnerships while showcasing some of the world's most energy efficient buildings.

An additional \$10 million has been designated for improvements at the Laboratory's National Wind Technology (NWTC) Center near Boulder.

"These investments are an unmistakable signal from DOE about the Laboratory's central role in advancing President Obama's clean energy agenda," NREL Director Dan Arvizu said. "It is a significant investment in NREL's future."

The Recovery Act funding to the Laboratory includes:

- \$68 million to complete the Research Support Facilities



*Funding from the American Recovery and Reinvestment Act will go toward expanding the new Integrated Biorefinery Research Facility at NREL's Alternative Fuels User Facility.*

(RSF) currently under construction, including a second phase known as RSF II.

- \$19.2 million for renewable energy systems and energy efficiency improvements to the campus, including additional onsite solar arrays and the potential addition of geothermal and fuel cell power sources. This investment allows the Laboratory to replace conventional power purchased from utilities, reduce the purchase of renewable energy credits and lower the Laboratory's carbon footprint.
- \$13.5 million to expand and improve the Integrated Biorefinery Research Facility. (See article below)
- \$10 million for improvements at the

NWTC, including doubling the capacity of the existing dynamometer to 5 MW to test the performance and reliability of the latest generation of large wind turbine drive trains. By producing variable speeds and torque levels, the dynamometer simulates extreme winds and other performance conditions and compresses 30 years of turbine use into a few months of endurance testing. The funding also pays for improvements to the NWTC's electrical distribution systems so that electricity generated by new utility-scale wind turbines tested at the center can be captured to power the center itself. ■

## Alternative Fuels User Facility Expansion Moves Forward

Construction of an addition to NREL's biofuels processing plant began May 18. Located at the west end of the NREL campus, this new **Integrated Biorefinery Research Facility** (IBRF) will help the Laboratory meet DOE's goal for cost-competitive cellulosic ethanol by 2012.

The IBRF is a \$33.5 million two-stage expansion of the existing Alternative Fuel Users Facility that will let NREL accommodate a greater number and variety of industry requests to test biofuels conversion

processes at the pilot plant scale.

Stage 1 construction includes the addition of a 27,000 square foot high bay area and process equipment. Construction is scheduled to be complete in June 2010.

Stage 2 construction includes 3,800 square feet of modified lab space, a new 11,900 square foot office building and additional high bay process equipment.

Funding for Stage 2 was included in the American Recovery and Reinvestment Act. Completion of this stage is expected by 2011. ■

**NREL Contact:** If you have any questions about NREL's activities, contact Public Affairs Director Kerry Masson at 303-275-4083.

### National Renewable Energy Laboratory

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For construction updates, visit [www.nrel.gov/news/construction\\_update.html](http://www.nrel.gov/news/construction_update.html) or call 303-275-4087.

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## NREL Community News

### Research Support Facilities Features Basement Labyrinth

NREL's newest building, the **Research Support Facilities** (RSF), features a labyrinth in its basement that will capture the heat of the day or the cool of the night, hold onto it and then slowly release the thermal energy to help warm or cool the building.

The RSF will include two long wings, connected at the middle by a lobby and conference area. Each wing will rest on a low basement with concrete walls staggered to make the air take S-turns through the space, lingering awhile, losing its cool or —

depending on the season — its heat.

The RSF will use about one half to one-third the amount of energy as other office buildings, and could be one of the most energy efficient office buildings in the world. Construction on the RSF is expected to be completed in summer 2010.

For construction updates, visit NREL's Construction Web page at [www.nrel.gov/news/construction\\_update.html](http://www.nrel.gov/news/construction_update.html) or call the NREL Construction Hotline at 303-275-4087. ■



An aerial view of the Research Support Facilities under construction shows the south wing's offset concrete walls. The staggered walls force air flowing through the basement to come into contact with more mass, cooling or heating the concrete.

### Visitors Center Power Lunch Lecture Series

NREL's Visitors Center offers noon time presentations on a variety of renewable energy and energy efficiency topics. The presentations are open to the public and attendees are welcome to bring their lunches to enjoy during the lecture. Space is limited so please call 303-384-6565 to make a reservation.

#### *Technology – Environmentally Friendly by Design*

Presented by NREL's Henri Hubenka, Chuck Powers and Matt Fish  
July 29, Noon to 1 p.m.

The Visitors Center is open from 9 a.m. – 5 p.m. Monday through Friday. Visit [www.nrel.gov/visitors\\_center](http://www.nrel.gov/visitors_center) for more information.

#### **Community Open House**

A community open house at 6 p.m. on Aug. 6 at the NREL Visitors Center will offer neighbors a chance to learn more about the Laboratory's construction plans.

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