

SPONSORED RESEARCH

Gaining Benefits from DOE Lab Facilities and Experts

DOE Laboratories may conduct research and development funded entirely by industrial sponsors as long as the lab is not competing with the private sector for the same work. In FY2010, over 2,200 **Sponsored Research Projects** (also called **Work for Others** or WFO) totaling more than \$280 million were performed at DOE Laboratories.

How do I get started?

Contact the scientist whose research is of interest or the Technology Transfer office at the Labs.

Industry benefits from Sponsored Research by

- · Obtaining intellectual property and data rights
- · Drawing on researchers' unique expertise
- · Using a lab's highly specialized equipment rather than making capital equipment investments

GAMESA WIND TURBINE

Technology

The National Renewable Energy Laboratory's National Wind Technology Center simulates various wind conditions and successfully conducts 30-year endurance tests on wind turbine drive trains and gearboxes in just months.

Outcomes/Impacts

•In a \$1.5 million WFO, Gamesa collaborated with NREL researchers and utilized the lab's test center to develop a 2.0 MW wind turbine.

•Ongoing developments by Gamesa will improve the reliability, efficiency, and availability of its products and services and, by 2015, will reduce the cost of wind energy by 30%.



ENERGY

Towers being lifted as work continues on the 2 MW Gamesa wind turbine that was installed at NREL's National Wind Technology Center in



October 2011

ADVANCED PROCESSING OF LI-ION BATTERY MATERIALS

Technology

Under a WFO project with Dow Kokam, LLC., Oak Ridge National Laboratory applied its unique expertise in materials processing and various coating technologies to improve the performance of solid-state lithium ion batteries.

Outcomes/Impacts

•Collaborated with four industry partners to investigate, improve, and scale process methodology to manufacture high performance lithium batteries.

 Advanced processing methods developed with ARRA funding are being implemented into US manufacturing production lines for lithium batteries in automotive, grid storage, industrial and consumer electronics applications.



ENERGY SAVING COOL ROOF PRODUCTS

Technology

Lawrence Berkeley National Laboratory's Cool Color Roofs use pigments that selectively reflect the invisible, near-infrared component of sunlight to lower building heat loads and reduce energy bills.

Outcomes/Impacts

Asphalt shingle

•Working under a consortium of U.S. pigment, coating and roofing manufacturers, LBNL developed heat-reflective roofing products in both dark and light colors along with a Cool Color Roof user toolkit.

•Cool roofs yield a net 6 to 11 percent annual energy savings for homeowners and could potentially offset 15 Gt (billion tons) of CO₂ globally, saving about \$300 billion at \$20/t CO₂.



Roofing products available in white including single-ply membrane, elastomeric coating, painted metal, tile, and asphalt shingle.



FREE ELECTRON LASER

Technology

Jefferson Lab is recognized as a world leader in accelerator science of superconducting recirculating linacs, developed through planning, building, maintaining and operating its Continuous Electron Beam Accelerator Facility.

Outcomes/Impacts

•A \$100 million multi-year WFO between the Jefferson Lab and the Office of Naval Research led to development of a high power Free Electron Laser prototype.

•Boeing will work off the prototype to design a model for defense applications.



Superconducting linac construction at JLab



