

The Golden Field Office

Advancing

DOE TECHNOLOGIES INTO THE 21ST CENTURY

U.S. DEPARTMENT OF ENERGY
OFFICE OF ENERGY EFFICIENCY
AND RENEWABLE ENERGY



Serving as the primary field agent for DOE's Office of Energy Efficiency and Renewable Energy (EERE), the Golden Field Office (Golden) enhances EERE's capability to develop and commercialize renewable energy and energy efficiency technologies.

Project Management and Contract Administration

Working with private-sector organizations in almost every state and Mexico, Golden provides field project management for some 450 renewable energy and energy efficiency projects. These collaborative projects are funded through financial assistance instruments, such as cooperative agreements and grants. They have a total value of nearly \$1 billion, including the cost share from private-sector partners.

Golden also administers the performance-based management contract for the National Renewable Energy Laboratory (NREL), the nation's only national laboratory solely dedicated to research and development of renewable energy and energy efficiency technologies.

Activities conducted by Golden and NREL span many scientific and technical areas, including photovoltaics, solar thermal systems, wind energy, biomass power, alternative fuels, geothermal energy, energy-efficient building systems, and renewable energy resource assessment.

Moving DOE's clean energy technologies from the laboratory to the marketplace is Golden's primary goal. Examples of projects managed by Golden for EERE include:

Hydrogen Program — The program fosters the development of hydrogen production, storage, and utilization technologies. Eventually these technologies will be incorporated into

cost effective and safe hydrogen-based energy systems for applications in the utility, building, and transportation sectors.

PV:BONUS: Building Opportunities in the United States for Photovoltaics — The effort is accelerating the commercialization of building-integrated photovoltaics in residential, commercial, and industrial applications.

Vermont Biomass Gasifier — The gasifier project helps EERE researchers with the development and verification of a biomass gasification process using woodchips as the biomass fuel. The project will lead to the commercial application of biomass gasification processes for electric power generation.

Electrochromic Windows Program — The program is accelerating the development of electrochromic window products for commercial building applications. Electrochromic windows—windows that change from clear to opaque when electric current is applied to them—will allow building occupants to control the amount of light entering their buildings. The result is cooler buildings in the summer, warmer buildings in the winter, and increased energy savings year round.

Superconductivity Partnership Initiative — The initiative is designed to accelerate the introduction of high-temperature superconductivity (HTS)



NREL/PIX 05980, BRAD REEVE

Diverse Partners/Complex Projects

EERE partnerships are promoting advanced technologies, such as this wind turbine (above), not just in America's heartland but from the East Coast to the Alaskan tundra. This image captures the story of Kotzebue, Alaska, located 30 miles north of the Arctic Circle. Power in this remote village has traditionally been provided by diesel generation, with the fuel barged in hundreds of miles, weather permitting. Today wind power provides an increasing amount of the Village's critical power needs as part of a hybrid wind-diesel system. Working together with the Department of Energy's laboratories and field offices, including NREL's world-class National Wind Energy Technology Center and the Golden Field Office, the Kotzebue Electric Association was able to design, install, and successfully demonstrate the economic and environmental benefits of this robust technology.

THE GOLDEN FIELD OFFICE



NREL/PIX 08865, DAVID PARSONS

Partnerships are vital to the success of projects like this biomass gasification project in Vermont. Shown here, a truck dumps wood chips that would otherwise be waste, to be used in the gasifier to generate clean, renewable electric power.

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Produced for the U.S. Department of Energy
Office of Energy Efficiency and Renewable Energy
by the National Renewable Energy Laboratory
a DOE national laboratory

DOE/GO-102001-1363
June 2001

into the electric power marketplace.

Teams consisting of researchers, manufacturers, systems integrators, and end users are currently designing an HTS generator, motor, and cable.

Electric Power Train Program —

Considered as the highest priority for the success of future electric and hybrid-electric vehicles, this program focuses on the development and cost reduction of electronic controls and mechanical motor elements that comprise an electric vehicle power train.

A Catalyst for Partnerships

By working with small and large industries and universities in cost-shared research and development projects, Golden helps develop and transfer technologies to the marketplace, where industry and consumers can use them.

Golden works in close partnership with EERE's six Regional Offices, NREL, the private sector, and other DOE laboratories in carrying out its mission of advancing energy efficiency and renewable energy technologies through laboratory collaboration, industry partnerships, and business support.

Golden prides itself on being service-oriented and responsive to its customers. In working with industry in cost-shared projects, Golden focuses on innovation and efficiency, and provides industry with an understanding of DOE business practices and needs.

Strengths:

- Engineering and scientific expertise
- Project management experience
- Understanding of the needs and challenges of business
- Customer-service orientation

Capabilities and Results:

- Bringing together diverse partners to accomplish complex projects
- Coordinating DOE's laboratory assets to solve problems
- Working with entrepreneurs to refine concepts
- Helping businesses navigate the federal procurement system
- Ensuring that taxpayers get the most value for their research dollar



NREL/PIX 04474, LYLE RAWLINGS, FIRST, INC.

This FIRST (Fully Integrated Residential Solar Technology) demonstration home in Hopewell, New Jersey, was built to show that a home that integrates advanced passive solar design, photovoltaic power, solar hot water, and highly efficient construction could be built economically in the Northeast.