

N E B R A S K A



ENERGY OFFICE

Partnerships for Research Collaboration and Technology Transfer



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Bonnie Ziemann
Deputy Director, Nebraska Energy
Office



Nebraska Energy Office Partnerships

Since the Nebraska Energy Office's formation in 1974, the agency has utilized partnerships on projects that further the state's energy goals.

An overview of a few research and technology transfer projects and partners follows...



Nebraska Energy Office Partnerships

Nebraska Wind Data Collection Study, 1995-1999

Collected wind speeds at 16 Nebraska sites and analyzed the data. During the four study years, average wind speeds ranged from 13.9 to 16.8 miles per hour with the highest speeds generally in the early afternoon. Valentine and Springview had the highest average annual wind speeds at 16.8 and 16.7 miles per hour. The lowest speed of 13.9 was recorded at Wahoo.

Partners: Nebraska electric utilities and UNL's High Plains Climate Center



Nebraska Energy Office Partnerships

Geothermal power feasibility at Offutt Air Force Base, 2001-2003

Six test loops were installed to ascertain if subsurface soil conditions were appropriate for ground source heat pumps and three types of systems were modeled to find the most efficient approach.

Partners: OPPD and U.S. Air Force

Continuous Commissioning Leading Retrofit Process, 2002-2004

Commercial building energy evaluation that identifies energy improvements with little or no capital investment. Continuous Commissioning has shown a very favorable payback of 3 – 5 years in both new and existing buildings.

Partners: OPPD and UNO's Dept. of Architectural Engineering



Nebraska Energy Office Partnerships

Implement Industrial Technology Programs in Large Energy Using Industries, 2005-2006

Used Continuous Commissioning technologies in large industrial applications

Partners: OPPD and UNO's College of Architectural Engineering

Implement High Performance Building Strategies in Commercial Buildings, 2005-2007

Used Continuous Commissioning technologies in commercial, educational and governmental buildings

Partners: OPPD and UNO's Dept. of Architectural Engineering



Nebraska Energy Office Partnerships

Residential Energy Building Code Study, 2002-2003

Evaluate energy use in 4 home designs in Nebraska's 3 climate zones under 3 different energy building codes.

Research resulted in moving state residential energy building code from a 1983 standard to a 2003 standard

Partner: UNL College of Architectural Engineering

Design and Build an Affordable Green Built Home, 2004-2005

Revealed that "affordable" Nebraska Certified Green Built homes could be built in the affordable housing programs.

Three conventional market green built homes 2002-2003

Partners: Lincoln utilities and homebuilders



Nebraska Energy Office Partnerships

Life Cycle Bioenergy and Environmental Simulator Software, 2005-2007

Developed user friendly software to estimate energy yield, energy efficiency and environmental impacts of biorefineries using corn and sorghum.

Partner: UNL's Agronomy and Horticulture Departments



Nebraska Energy Office Partnerships

30% Better – Nebraska’s Advanced Commercial Building Energy Code

Evaluate and quantify the benefits of an advanced commercial building energy code that is 30% higher than the 2006 (IECC) International Energy Conservation Code and ASHRAE 90.1-2004 American Society of Heating, Refrigeration and Air Conditioning Engineers

Partners: Nebraska utilities and architects

