

# Nebraska ENERGY

Q U A R T E R L Y

Nebraska Energy Office

Winter 1992

For Hikers and Bikers...

## Happy Trails to You

With a financial boost from the state's Energy Office, Lincoln continues to close the gaps in its bike paths. Oil overcharge funds of \$97,000 are providing about 20 percent of the cost of 1.2 miles of the city's Central Rock Island Downtown Commuter Trail.

### Riding to Work and Play

The trail, which opened last spring, sits on abandoned Rock Island Railroad land near downtown and adjacent to the University campus. It closed a seven block gap in the hiker-biker system.

"Commuter trails in metropolitan areas are crucial to reducing energy use," said Kimberly Brown of the Energy Office. "Transportation accounts for over 62 percent of the oil this country uses every day. A comprehensive trails system decreases vehicular travel and lowers congestion."

Lt. Gov. Maxine Moul and Mayor Mike Johanns led the dedication of the commuter and recreational trail in October while kicking off National Energy Awareness Month and Rails-to-Trails Day.

A second gap in the trail north of the campus will be completed before the end of this year.



Mayor Johanns (left) and Lt. Gov. Moul pedal to work after the trail ceremony.

Blowing on the Plains...

## Wind Energy Partners Sought

The U.S. Department of Energy and the Electric Power Research Institute have joined forces to help utilities evaluate the latest generation of wind turbines over the next five years. The \$40 million effort is designed to make wind power in many states cost competitive with electricity derived from fossil fuels such as coal, natural gas and oil.

### Turbines in Nebraska?

The two groups are looking for four utilities to construct wind power test plants with about 20 turbines at each site. "The program removes the biggest obstacle to substantially expanding wind power — field verification of advanced wind turbines," said Kurt Yeager, an Institute official. "The program will provide a clear understanding of the performance, costs and risks of wind power."

"Energy experts say this new 'five-cent machine' could do for wind energy what Henry Ford did for the car — puts wind on par with coal power, the cheapest traditional alternative. Moreover, it makes wind power cheaper than coal power if air pollution and other environmental costs are taken into account."

*The Wall Street Journal*  
September 8, 1991

The goal is to help commercialize utility-grade, world-class wind power systems capable of delivering electricity at a cost of five cents per kilowatthour by 1998 in areas with 13 mile per hour winds. According to the Energy Department, the nation's 17,000 wind turbines are currently producing electricity at seven to nine cents per kilowatthour with 16 mile per hour winds.

### Cheaper than Current Electricity Prices

The Energy Office said the 1991 average price of electricity from the state's three largest utilities ranged from 5.94 cents to 6.52 cents per kilowatthour. According to National Renewable Energy Laboratory studies, almost all of Nebraska has third and fourth class winds, the equivalent of 11.5-15.7 miles per hour.

"Studies have shown that Nebraska has good to excellent potential for wind sites," said Bob Harris, Energy Office Director. "And with the Energy Department's goal of reaching four cents per kilowatthour by the year 2000, the state's already low electricity costs could drop further. I hope one of our larger utilities will join this effort."

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## Energy Savings & Clean Air...

# Pool Fuel

America's cars could run for three months on the fuel used to heat the country's swimming pools for just one year. That's what the U.S. Department of Energy found out recently. Thousands of tons of carbon and sulfur dioxides and nitrous oxide are added to the air from the production of energy needed to heat the 5.7 million pools, hot tubs and spas. The annual cost runs into the billions.

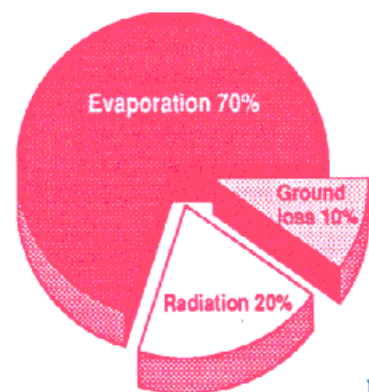
To lessen energy use in swimming pools, the federal energy agency launched a public-private effort to provide practical energy and dollar saving solutions, some of which utilize market-proven renewable energy products such as solar heating systems.

### Pooling Your Savings

To illustrate possible savings, Florida Light and Power used a 15 by 30 foot pool in West Palm Beach which required heating for only five months. The annual heating costs ranged from \$2,441 for electricity to \$234 using a solar heating system — a difference of 90 percent.

According to *Solar Age*, up to half the annual energy costs could be saved in most pools by using a pool cover only half the time. The publication said almost 70 percent of the energy is lost through evaporation. The National

### Average Pool Heat Losses



Note: Based on a  
15' X 30' Pool

Floor, Kansas City, MO 64106.

Swimming Pool Institute says that a pool cover cuts evaporation by 90 percent, and saves on refill water and chemicals.

For more information about the federal government's program, "Reduce Swimming Pool Energy Costs," contact **Anne Scheer** at

the U.S. Dept. of Energy's Kansas City office, (816) 426-5533 or write to her at 911 Walnut Street, 14th

## \$330,000 in Grants Available

January 22, 1993, is the deadline for grant applications for the Institutional Conservation Program to finance energy saving building improvements in hospitals and public and private schools. Contact **Jeff Graef** in the Energy Office for more information.

## Goals for 1993...

# Nelson's Term Ends

Illinois Governor Jim Edgar was selected as the Ethanol Coalition's new chairman at its October meeting in St. Louis. Governor Edgar replaces Governor Ben Nelson who served as Chairman since the Coalition was formed in September 1991.



The chairman serves for a term of one year with the vice chairman succeeding the following year. Selection of a vice chairman has been postponed until the December meeting in Springfield, Illinois.

### 1993 Goals

Governor Edgar's representatives spelled out the new Chairman's 1993 goals at the meeting:

- Develop substantiated fuel ethanol science and distribute the data to agricultural, energy and environmental policy and news makers;
- Quantify the economic benefits of ethanol and distribute this information to both policy and news makers;
- Monitor and report on ethanol provisions of the *Clean Air Act* and the *National Energy Policy Act* as well as the progress of the President's October 1st ethanol announcement;
- Actively participate in policy analysis and recommendations, distributing this information to the legislative and executive branches of government;
- Keep abreast of ethanol engine and production technologies and share any information with policy and news makers; and
- Maintain an accurate and positive media relations effort.

The Coalition representatives also elected the following governors to head the working committees:

Economics ..... Nebraska Gov. Ben Nelson  
Environment ..... Missouri Gov. John Ashcroft  
Policy ..... Iowa Gov. Terry Branstad  
Research ..... Colorado Gov. Roy Romer

A subscription to the group's periodical, the *Ethanol Alert*, is free upon request. Please contact **Jerry Loos** in the Energy Office.

### Kentucky is Newest Member

Governor Brereton Jones of Kentucky became the 19th member of the Coalition in mid-October. He has designated C. Thomas Bennett, Deputy Secretary of the Governor's Executive Cabinet, as his representative.



## Nebraska Development Network...

# Local Energy/Economic Effort Underway

The message that energy efficiency is an effective tool for a community's economy will soon be told. The Energy Office is contracting with the Department of Economic Development for \$75,000 to create a planning tool focusing on the benefits of using energy conservation and efficiency to spur local development efforts.

The state's *Development Network* and *Nebraska Online* have been targeted as the lead vehicles to deliver the energy



and economics message. Energy information and resources will be

provided to the people and computer networks. For example, the agency's *Energy Quarterly* is now available on *Online*.

The *Network* was created to bring experienced professionals and state resources together to accomplish community goals. It has the potential to be an effective means for matching energy technology, financing and information with the education, environmental and economic needs of people, businesses and communities.

"The Energy Office wanted to offer communities a way to approach economic development from an energy efficiency perspective and the *Network* provided an ideal vehicle," said Bonnie Ziemann of the Energy Office. "Reducing energy costs for homeowners or businesses can often make a very big difference in their lives and in the community in which they live."

### North Platte, Ewing and Lyons

Ziemann cited several energy efficiency efforts which have benefited individuals or communities.

- A Ewing grocery store owner got a 5% loan from the Energy Office to replace eight refrigeration compressors. Prior to the replacement, his energy and maintenance bills were about \$1,550 per month. Current energy costs and loan repayments for the new compressors run about \$1,330 per month, resulting in a net saving of around \$200 every month. After the loan is repaid in 1998, the owner should be saving over \$800 a month.

- North Platte's municipal electric utility financed part of a load management system in 1985 with a no-interest loan from the state's Municipal Power Pool. The utility has reduced peak summer energy use, saving their ratepayers an estimated \$1.7 million to date.

- In 1988, Lyons, with a population of around 1,100, also installed a load management system. In four years, Lyon's ratepayers have saved about \$49,000.

For more information or to share your local needs and ideas, contact **Kimberly Brown** in the Energy Office or **Steve Buttress** in Economic Development at 471-3111.

## Frequently Asked Questions...

# 5% Dollar and Energy Saving Loans

The *Nebraska Energy Quarterly* features questions routinely asked about 5% Dollar and Energy Saving Loans.

*A furnace manufacturer said the furnace I wanted to buy was more than 80% efficient. Yet, the Energy Office said the furnace was less than 80% efficient and wouldn't finance the purchase. What's going on?*

Furnace efficiency can be measured several ways. The recognized standard is the Isolated Combustion Air test which is accepted by both federal and state energy agencies. The results of this test are reported to the Gas Appliance Manufacturers' Association and listed in their *Consumer's Directory of Certified Efficiency Ratings*.

Some manufacturers test furnaces using other methods and report this number in their product literature. Also, performance factors near 80% are occasionally rounded up. The Energy Office only uses the ratings established during an Isolated Combustion Air test in determining whether a furnace meets the performance requirements for replacement.

Both lenders and borrowers should make certain that contractors are supplying bids for and installing furnaces that are properly certified by the Gas Appliance Manufacturers' Association.

*When can prior approval for replacing heating or cooling equipment be requested for emergency situations?*

- **Heating** — September through May
- **Air Conditioning** — April through October

In certain circumstances, exceptions may be considered. Lenders or borrowers should contact **Joel Phipps** or **Jody Johns** in the Energy Office.

*What is the best time to apply for an agricultural loan?*

Now is the best time to apply for loans for energy saving agricultural equipment such as low pressure pivots and no-till planters. Because loan funds are limited and ag loans can be large — up to \$75,000 — borrowers who wait until spring may be disappointed.

As of early October, 151 agricultural loans averaging \$16,000 had been made in slightly over two years. To date, almost \$2.4 million has been invested in agricultural energy saving technology.

**Project Loans to date: 5,474 for \$31,075,198**

### On November 6, 1928

The *New York Times* mounted the first moving electric sign in the U.S. around the top of the Times Building in Times Square, New York City. It was used to report election returns and was called "The Zipper" from the way it encircled the building.

Free Answers...

## Information Services

The toll-free **Alternative Fuels Hotline** provides general and specific information on alternative vehicular fuels including fuel performance and availability. Call between 9am-5pm CT, Monday-Friday. (800) 423-1363

**CAREIRS** The Conservation and Renewable Energy Inquiry and Referral Service answers questions at no charge. Call between 7am-4pm CT, Monday-Friday. (800) 523-2929 Renewable Energy Information  
P.O. Box 8900  
Silver Spring, MD 20907

CAREIRS is offering two new free publications. *Appliance Labeling* (FS 125), a four-page fact sheet, describes the differences between various labels, minimum standards for major appliances and contains charts comparing similar models. Appliance labels may have energy cost, efficiency ratings or be generic.

The more detailed, seven-page *Energy Conservation and Appliance Standards* (EE8) provides specific information on appliances, including federal legislation, standards for different appliances, the effective dates and a glossary of terms. Please refer to the number in parentheses when ordering a publication from CAREIRS.

**NATAS** The National Appropriate Technology Assistance Service offers free technical and commercialization assistance. Call between 9am-6pm CT, Monday-Friday. (800) 428-2525 NATAS  
U.S. Department of Energy  
P.O. Box 2525  
Butte, MT 59702-2525

**NREL/TIS** The National Renewable Energy Laboratory/ Technical Inquiry Service offers free technical solar information for scientific and industrial professionals. Call between 9am-6pm CT, Monday-Friday. (703) 487-4650 Technical Information Service  
National Renewable Energy Laboratory  
1617 Cole Boulevard  
Golden, CO 80401

**NEIC** The National Energy Information Center provides data and projections on energy production, consumption, prices and supplies. Call between 7am-4pm CT, Monday-Friday. (202) 586-8800 National Energy Information Center  
U.S. Department of Energy  
Forrestal Bldg., EI-22, Room 1F048  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

\$50,000 for World-Class Ice Cubes...

## Lincoln's Ice Technology to Star

In the state's capital city, the ice man cometh and surprisingly, it's their municipally-owned utility.

Lincoln Electric System's two newest ice storage and generating systems to help produce electricity efficiently and are the only facilities of their type in the world. The facilities are the downtown district energy plant and the thermal energy storage system near Rokeby.

According to the city's utility, interest in the two types of ice technology is high. Because of the uniqueness of these projects, the Energy Office recently issued a \$50,000 contract to the city's District Energy Corporation to produce an informational package to illustrate the technology and energy/cost benefits associated with the system. The packets will be sent across the state and country to stimulate construction of similar energy efficient systems.

### The Cold Facts

The Rokeby facility, a petroleum-powered peaking generator, opened in 1975. Last year, it was converted to operate on less expensive natural gas. At the same time, ice technology was incorporated. Approximately 1.1 million gallons of ice is produced and stored each weekend, which is then used during the week to produce cool, dense air for the generator. By cooling the air, more air flows into the turbine and more electricity is generated. The ice technology increases the amount of electricity produced by 25 percent to 71 megawatts, delaying the construction of a new peaking plant by one year.

The district energy plant heats and cools the County-City Building and jail. It uses ice, heat pumps, chillers and ground water to cool the buildings. Because ice is used instead of electricity, excess power can be used by Lincoln's residents during peak load times. The district energy plant expects annual savings of \$120,000 because of reduced energy use.

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