

# Nebraska ENERGY

Q U A R T E R L Y

Nebraska Energy Office

Summer 1992

*"Green Lights" in State Buildings...*

## Gov. Nelson Flips Switch for Energy Savings

In March, Governor Ben Nelson signed state government up to save money and energy as part of the U.S. Environmental Protection Agency's *Green Lights* program. *Green Lights* encourages corporations and states to install energy efficient lighting in their facilities wherever profitable.

### Green Lights



### Partner

Environmental Protection Agency

- First Data Resources
- Richman Gordman
- Honeywell
- Amoco
- American Express
- Texaco
- State Farm Mutual Automobile Insurance
- Goodyear Tire and Rubber
- Grainger
- Midwest Gas
- Marriott Corporation
- America West Airlines
- Johnson Controls

*See GREEN LIGHTS on Page 4*

*Blowing in the Wind...*

## A New Energy Source In Nebraska?

For centuries, people have tapped wind to sail ships, to grind grain and to pump water. In the 1970s, wind energy was considered the flower child of the environmentalists. Many expected the advances in wind energy in the 1980s to evaporate when tax credits expired. However, the 1990s found the viability of wind as a reliable energy resource finally come of age.

The Electric Power Research Institute recently reported "alone among the emerging alternative energy technologies, wind power offers utilities with good wind resources, pollution-free electricity that is nearly cost competitive with today's conventional sources." Using today's wind technology, wind could supply 20% of U.S. electrical needs. In North Dakota alone, wind systems could provide 38% of the electricity used in our country.

### Wind Instead of Coal

By the end of 1991, the United States saw 16,000 wind turbines on line with a total generating capacity of 1,500 megawatts — the equivalent of two large coal-fired plants like Nebraska Public Power District's Gerald Gentleman Station near North Platte. Three California wind farms located in Altamont, Tehachapi and San Geronio Passes, produce approximately 80% of the world's wind energy. The very best wind turbines run at approximately 35% capacity at 98% availability with delivered energy costs between seven to nine cents per kilowatt hour. Although the availability of state and federal tax credits played a role in the start of many of the wind systems, half of the systems in place in California were installed after the expiration of the tax credits.

Closer to home, a subsidiary of Iowa-Illinois Gas and Electric has joined with U.S. WindPower, Inc. to explore using wind energy in the Midwest. The joint effort, WindRiver Power Company, expects to develop, market and operate Midwest electric generation facilities using wind as their primary energy source. The company expects to identify and develop wind power sites in Iowa, Illinois, Nebraska, North Dakota, South Dakota, Michigan, Minnesota, Missouri and Wisconsin. WindRiver's initial objective is to place at least 250 megawatts of wind generation in the Midwest. If feasible, WindRiver could begin constructing wind plants as early as 1994, when U.S. Windpower's new turbine is expected to be available for commercial operation.

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## Frequent Questions...

# 5% Dollar and Energy Saving Loans

The Energy Office receives numerous inquiries on 5% Dollar and Energy Saving Loans. In an effort to keep you and others informed regarding the status of loan issues, changes in procedures and other items, the *Nebraska Energy Quarterly* will feature questions routinely asked.

### **Should borrowers and lenders wait until loan funds are available to submit applications?**

Applications may be submitted to the Energy Office at any time. Even if loan funds are currently not available, the application is reviewed, processed and additional information, if needed, is secured.

When funding becomes available, loans are issued in the order they were processed. Since funds from loan repayments are available each month for new loans, the waiting time is usually short.

An additional \$1 million in new funds were added in April to the loan program. Of those funds, \$100,000 is for loans to owners of rental housing qualifying for the Weatherization Assistance Program (NEQ, Spring '92, Page 1).

### **Where can forms be obtained and is there a charge for them?**

Forms for borrowers and lenders are supplied free of charge. The Energy Office, utilities, lenders and some contractors maintain supplies for borrower applications. All other forms can be obtained directly from the Energy Office.

Because of form revisions, the Energy Office suggests that additional forms of any type be secured from the agency rather than photocopying forms you may already have on hand.

### **What is the maximum loan term available on projects that aren't pre-approved types of improvements (listed on Forms 2A and 2C)?**

The maximum period of time for a loan is determined by the simple payback of the project — or the cost of the project (from the bid proposal) divided by the annual energy dollar savings (from the energy audit). The length of the loan term cannot exceed the simple payback — if a planned project had a simple payback of 30 months, the maximum loan term would be 2 years and 6 months.

Maximum loan terms have been established for various types of improvements. If the planned improvement exceeds the length of time, it will not be financed with a loan under the program. The maximum loan terms are:

- Building structure (furnace, insulation, etc.)... 15 years
- System improvements (irrigation systems, no-till planters, commercial refrigeration, etc.)..... 10 years
- Replacement appliances (refrigerators, freezers and dish and clothes washers)..... 5 years

## Governor Nelson Selects...

# Students to Attend U. S. Energy Labs

Governor Ben Nelson announced the selection of seven Nebraska students to participate in the U.S. Department of Energy's High School Science Student Honor Program at seven national research laboratories.

The Governor named the following winners and alternates, in the event the winner can not attend:

WINNER	ALTERNATE
<b>Argonne National Lab</b> Elizabeth Mahoney Omaha Marian High School	Kimberly J. Meyers Auburn High School
<b>Fermi National Accelerator Lab</b> Gregory Cutler Kearney Senior High	Daniel Jeffrey Hanish Omaha North High
<b>Lawrence Berkeley Laboratory</b> Joseph Kable Omaha Creighton Prep	Mara Pegeen Chadwick Omaha Westside High
<b>Lawrence Livermore Laboratory</b> Brian McMaster Auburn High School	Brian George Seward High School
<b>National Synchrotron Light Source</b> Samantha Ries Stuart Public School	Rebecca Jane Johnson Lincoln Pius X High
<b>Oak Ridge Laboratory</b> Keith Piper Omaha North High	Paige L. Neill Ponca Public School
<b>Pacific Northwest Laboratory</b> Kimi Ueda Omaha Westside High	Cheryl Murphy Columbus High School

"I am pleased the federal Energy Department has continued this program of offering the state's outstanding high school science students an opportunity to spend two weeks in these advanced research facilities," said Nelson.

According to the Nebraska Energy Office, the students were recommended to the Governor by a panel of educators and energy professionals who reviewed all the applications. The application and selection process was coordinated by the state's Department of Education.

### **An Eight-Year Tradition**

The U.S. Department of Energy has conducted the honors program since 1985, bringing over 1,000 high school students to national research facilities. Any high school junior or senior can apply for this honors program.

Two students were also recommended to attend the 1992 National Youth Science Camp. They are Christopher Traudt of Grand Island Northwest High School and Melissa Chan of Lincoln East High School.

Contact Jim Woodland, Nebraska Department of Education, (402)471-4329 for more information about these science programs.

## The Clean Air Act...

# Is Ethanol the 'Right Stuff?'

At the May meeting of the Governors' Ethanol Coalition, members heard from a variety of individuals on the implementation of the Clean Air Act Amendments by the Environmental Protection Agency and the implications for ethanol.

The EPA has proposed rules on reformulated gasoline which could reduce the sale of ethanol-blended gasolines during four months a year in the nine cities which must reduce ozone pollution.



The EPA maintains that because ethanol-blended fuels evaporate more quickly than non-blended fuels, ozone levels would increase during the summer months. The ethanol industry counters while that is true,

other factors such as the reduction in carbon monoxide emissions more than offset any increase in ozone formation. The EPA and the ethanol industry are separately conducting further research on this issue.

### Environmentally Friendly

The Coalition members also adopted a policy statement which says, in part, "It is the Coalition's goal to increase the use of ethanol based fuels to decrease the nation's dependence on imported energy resources, improve the environment and stimulate the national economy. This will be accomplished through a coordinated set of activities designed to educate and demonstrate to the public the benefits of ethanol use; to encourage ethanol fuel production and use through research and market development efforts; and to make investments in infrastructure to support expansion of the ethanol market. The Coalition supports the production of ethanol from corn or other domestic, renewable resources using sustainable agricultural methods and encourages its use in environmentally acceptable applications."

### One Third of The States

An additional four governors have joined the Ethanol Coalition, bringing total membership to 17. The new members are Governors Bill Clinton of Arkansas, John Engler of Michigan, Joan Finney of Kansas and George Voinovich of Ohio.

### If it's June, This Must Be Milwaukee

The Coalition's next meeting is scheduled for June 28-30 in Milwaukee in conjunction with the two-day *National Alternative Fuels Conference — Clean Air Solutions for Transportation Engines* and an alternative fueled-vehicle exhibit, *Fueling the Future: A Clean Air Transportation and Engine Show*. For additional information about the Coalition's activities, contact Bob Harris or Larry Pearce in the Energy Office.

## An Energy Adviser...

# Nebraskan Continues on National Board

Ralph J. Knobel of Fairbury was recently appointed to the 21-member State Energy Advisory Board which will provide oversight of the U.S. Department of Energy's four state grant programs.

Knobel had previously served on the Energy Extension Service Advisory Board. Under the State Energy Improvements Act of 1990, that board was abolished and an enlarged advisory panel overseeing all federally-funded state grant programs was created. The law stipulated that the membership be comprised of individuals from the private sector, consumer interest groups, utilities, public utility commissions, educational, financial and research institutions, as well as, local and state government energy programs.

### One of 21

"These 21 men and women represent a broad cross-section of the country and considerable depth of experience in working on state and local energy issues," said J. Michael Davis, DOE's Assistant Secretary for Conservation and Renewable Energy. "I look forward to receiving their recommendations and working with them to meet the goals and objectives of our state grant programs."

The advisory panel will provide oversight of the State Energy Conservation Program, the Energy Extension Service, the Institutional Conservation Program and the Low-Income Weatherization Assistance Program. The Energy Office administers all of these programs at the state level.

A secondary function of the group will be to serve as liaisons between the states and the federal government on energy efficiency and renewable energy programs and encourage the adoption of emerging energy technology.

### Leadership Comes from Midwest

Two of the three other Midwestern members of the advisory board have been selected for the top leadership positions. Hazel R. O'Leary, a utility executive from Minnesota will head the group and Larry Bean from Iowa's Department of Natural Resources, Energy and Geological Resources will serve as vice-chairperson.

## Saved from the Circular File....

# Scraps

● The U.S. Department of Energy has resumed purchasing oil for the Strategic Petroleum Reserve. The recent one million barrel purchase is the first since August 1990. An additional 2.4 million barrels will be transferred from a California naval oil reserve. Currently 568.5 million barrels are contained in the five salt domes located in Texas and Louisiana. Maximum capacity is 750 million barrels.

On the First Floor of Lincoln's Atrium....

## Energy Office Moved

The Nebraska Energy Office has left its long-time home in the tower of the State Capitol and moved to the first floor, northwest corner of the Atrium, 1200 "N" Street, Suite 110 in downtown Lincoln. The agency's phone, fax and post office box numbers remain unchanged.

WIND continued from page 1

The energy contained in wind is measured in terms of wind power classes ranging from Class 1 (the least energy) to Class 7 (the greatest energy). Class 4 winds are a prerequisite to significantly expand wind power in this country. The Pacific Northwest Laboratory found that eleven states in Great Plains each have far greater wind resources than the state of California.

Nebraska's opportunities for wind energy have been known for over 100 years through our use of windmills to pump water. Less well known, but perhaps even more important for the future, is the possibility of the use of wind to generate electricity. A large area of the state is rated as a Class 4 wind area. A more detailed study could identify even higher classes of wind areas.

The Energy Office is continuing to monitor the developments on the potential of wind power generation in the Midwest. Contact Kirk Conger for the latest developments.

GREEN LIGHTS continued from page 1

### New Lights = Cleaner Air

The voluntary, non-regulatory private-public partnership focuses on installing new lighting technologies that use less electricity and provide reductions in four sources of pollution — carbon and sulfur dioxides, nitrogen oxides and carbon fluorocarbons. The Environmental Protection Agency estimates that workplace lighting accounts for 10% of all carbon dioxide emissions, 14% of all sulfur dioxide emissions and 8% of all nitrogen oxide emissions. Additionally, a 20% reduction in carbon fluorocarbon emissions could result from reduced air conditioning use because less heat will be generated by the new lights.

A reduction in just 10% in electricity use would be the equivalent of removing the pollution generated by 42 million vehicles — or 1/3 of the U.S. fleet according to the Environmental Protection Agency.

The Task Force for Building Renewal will administer the program in state buildings. The Nebraska Energy Office will contribute \$200,000 for *Green Lights* from the state's Oil Overcharge Trust Fund. Voss Lighting, headquartered in Lincoln, will audit the lighting systems in state buildings, free of charge.

The state will continue to support energy efficiency lighting improvements for Nebraska businesses through the RightLights effort as well. That program, which began in January 1991, is a cooperative effort with Omaha Public Power District and Nebraska Public Power District (NEP, Winter 91/92, Page 4).

For more information about *Green Lights*, contact Ralph Newell at the Task Force for Building Renewal, (402) 471-3515.

Free Answers...

## Information Services

**CAREIRS** The Conservation and Renewable Energy Inquiry and Referral Service answers questions at no charge.  
(800) 523-2929 Renewable Energy Information  
P.O. Box 8900  
Silver Spring, MD 20907

**NATAS** The National Appropriate Technology Assistance Service offers free technical and commercialization assistance.  
(800) 428-2525 NATAS  
U.S. Department of Energy  
P.O. Box 2525  
Butte, MT 59702-2525

NATAS has just prepared a free information packet detailing the particulars of *Energy Efficient Mortgages*.

**NREL/TIS** The National Renewable Energy Laboratory/ Technical Inquiry Service offers free technical solar information for scientific and industrial professionals.  
(303) 231-7303 Technical Information Service  
National Renewable Energy Laboratory  
1617 Cole Boulevard  
Golden, CO 80401

**NEIC** The National Energy Information Center in the Energy Information Administration provides data and projections on energy production, consumption, prices and supplies.  
(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

The Energy Office has several new publications available such as the *1991 Annual Report*, *Nebraska Energy Statistics, 1960-1990* and *Tips for Energy Savers*. Contact **Jerry Loos** in the Energy Office for a copy.

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