

Nebraska

Energy

Q U A R T E R L Y

One of Just Seven Nationwide...

State's Energy Office to Lead Industrial Effort

Nebraska is one of seven states to demonstrate a federally-funded, voluntary industrial energy efficiency and pollution prevention strategy.

The Nebraska Energy Office received a two-year \$50,000 grant from the U.S. Department of Energy to finance the effort, called Climate Wise. Six other states in the nation are also

servicing as testing grounds.

"Nebraska was selected because of its ability to finance energy saving and pollution prevention improvements," said Bob Harris, Energy Office director.

Manufacturers and industries enlist in the effort

by agreeing to develop and implement a customized plan to reduce pollution and energy waste in their facility. As a result of the pledge, federal and state technical assistance and low-cost financing of most improvements become available to the firm.

Firms can borrow up to \$250,000 at six percent interest from one of more than 300 lenders in the state offering the Energy Office's Dollar and Energy Saving loans.

The loan funds come from two sources — the Energy Office's oil overcharge funds and the state's lenders. Oil overcharge funds have been received by the state as a result of various court actions against oil companies that overcharged their customers during the period of federal price controls from 1973 to 1981.

Lincoln Firm the First

Weaver Potato Chip Company in Lincoln became the state's first Climate Wise partner.

Several months ago, Weaver's contacted the Energy

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Office to find ways to reduce energy costs. Since that time, a waste water treatment system has been installed and high-efficiency lighting improvements identified. Improvements costing \$96,000 can be made, saving Weaver's \$48,300 annually.

Engineers from the federal Industrial Assessment Centers in Colorado and Kansas have analyzed other systems at Weaver's such as high efficiency industrial motors to find more ways to save dollars and energy and prevent pollution.

Behlen Manufacturing in Columbus is the second Climate Wise Partner in Nebraska. Behlen has not yet received an industrial assessment, but has identified several recently-implemented or planned changes to improve processes and reduce operating costs. These include several systems to clean and reuse solvents — instead of paying for their disposal — and a new painting system which will reduce emissions to the atmosphere and increase productivity.

On September 26, Lt. Governor Kim Robak inaugurated the state program at a gathering where Climate Wise particulars were shared with individuals who will work with industries in the state.

Representatives from the U.S. Department of Energy and its laboratories and the Industrial Assessment Centers detailed what services can be provided.

For more information contact **Kirk Conger** or **Lynn Chamberlin** in the Energy Office.

Five National Labs Support Climate Wise

Several of the Department of Energy's national laboratories are providing support and technical assistance to selected or targeted Climate Wise companies. Laboratories are working directly with selected Climate Wise companies to help identify energy efficiency, pollution prevention and renewable energy technologies that can solve tough technical problems and give the companies a competitive edge. Climate Wise companies that can utilize laboratory-developed technologies or expertise and where the assistance can be utilized and replicated in other companies in associated industries will be candidates for lab assistance.

To inquire about laboratory assistance for your company, contact **Patricia Russo Schassburger**, U.S. Department of Energy Golden Field Office, 1617 Cole Boulevard, Golden, Colorado 80401, Phone 303-275-4795, Fax 303-275-4788.



Argonne performs basic and applied energy research in nuclear and fossil fuels, conservation, biology and biomedicine, environmental science, parallel computing architectures, scientific visualization and superconductivity. The Laboratory offers a

range of opportunities for business including publications, staff exchanges, cooperative research development agreements, maturation of technology for commercial use and proprietary industrial contract research.

The **National Renewable Energy Lab** develops technologies that use the sun, wind, water, plants and wastes to produce fuels for transportation; generate electricity; heat and cool buildings; light homes and offices; produce plastics, clothing, drugs and chemicals; clean the water; destroy toxic wastes and absorb carbon dioxide from the atmosphere. The Laboratory offers publications, staff exchanges, technology licenses, cooperative research agreements and collaborations and facilities use.



Oak Ridge supports energy production and conservation technologies,

physical and life sciences, scientific and technological user facilities, environmental protection and waste management, science and technology transfer and education. Approximately 3,700 guest researchers use facilities at this lab every year.

Pacific Northwest carries out research and development in the areas of waste management, environmental restoration, efficient energy usage, nuclear energy utilization and national security.



At **Sandia**, research and development activities are primarily in the areas of nuclear weapons and technologies that use, recover, convert, store and transit energy and the development of alternative energy sources.

What They Have Been Saying

“Another significant funding issue that must be addressed concerns the conference committee's severe cut to the President's request for the Department of Energy's energy conservation programs. In the conference report, the conservation programs are funded at \$553 million, which corresponds to a net appropriation of \$536 million after deducting offsetting collections. This is \$187 million, or 26 percent, below the net Fiscal Year 1995 enacted level of \$723 million, and 38 percent below the President's request. The State grants program, State Energy Conservation Program, and especially the Weatherization programs have also been severely reduced — to \$141 million, which is 47 percent below the Fiscal Year

1995 enacted level. Funding for these programs must also be restored significantly in order to reach acceptable levels.

“...several significant funding and language issues remain to be improved upon, if the President is to sign this bill.”

Alice Rivlin
Director
Office and Management and Budget

(Excerpted from a October 19, 1995 letter to Congressman Yates who heads the House of Representatives Appropriations Committee.)



Few Have Noticed...

State Natural Gas Production Soaring

Few outside the five counties in the Panhandle have taken note of a dramatic development in production of natural gas in the state.

Not since the days of oil embargoes and lines for gasoline has the state produced as much natural gas as it did in 1994. Nearly 2.9 billion cubic feet of natural gas were produced from a record number of wells. Records indicate that in 1979, 3.2 billion cubic feet of natural gas were pumped from wells in the state.

All this growth is because of a new gas well field in Cheyenne County. Nearly 83 percent of the state's natural gas production is located in this single county. Production in the remaining four counties has either declined steadily or only changed marginally in the past several years.

The growth is all the more dramatic because it was as recent as 1991 when the state reached an all-time low in natural gas production — 784 million cubic feet from just 12 wells. In three brief years, production has quadrupled and the number of wells has increased nearly sevenfold to a record high

Despite the growth in natural gas production, only about 2.5 percent of the state's needs are met by gas produced in the state.

Hint of the Past

As welcome as these gains are, the production figures pale compared to the heydays of the early 1960s. Annual natural gas production in the first half of that decade was more than five times higher, reaching a peak of 15.7 billion cubic feet in 1961.

Unlike today's production, fewer wells produced larger amounts of natural gas.

But what has changed is the price paid for the natural gas. In 1965, a thousand cubic feet could be sold for 14.6 cents. By 1993, the same amount of gas garnered \$1.81. The value of last year's production was \$5.24 million, based on 1993 prices paid at the wellhead.

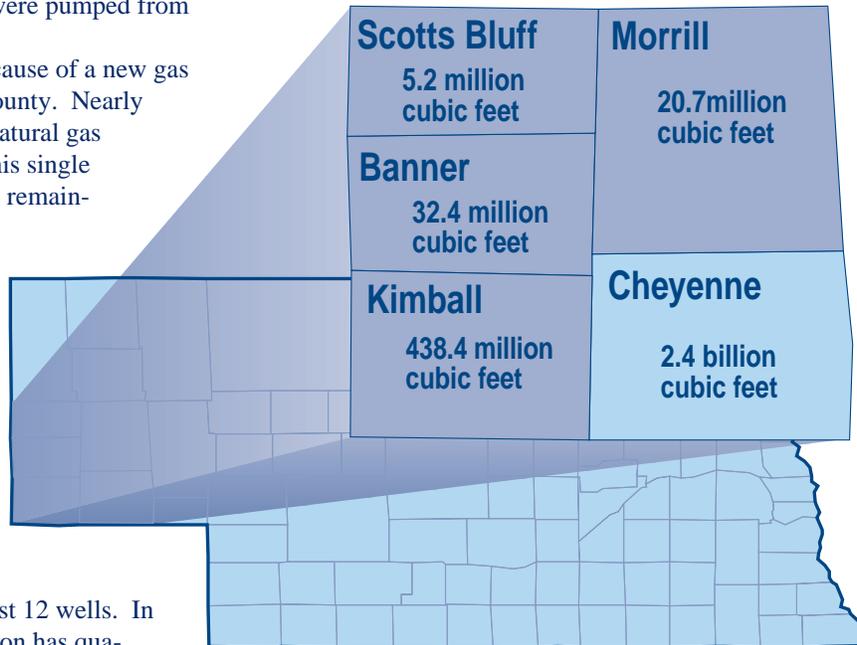
But Where Does It Go?

Because of the complexity of the state's natural gas transportation system and the location of Cheyenne County — bordering Colorado and near Wyoming and Kansas — it is uncertain if the gas produced in the state is consumed by Nebraskans or transported for use elsewhere. Both in-state and out-of-state use is

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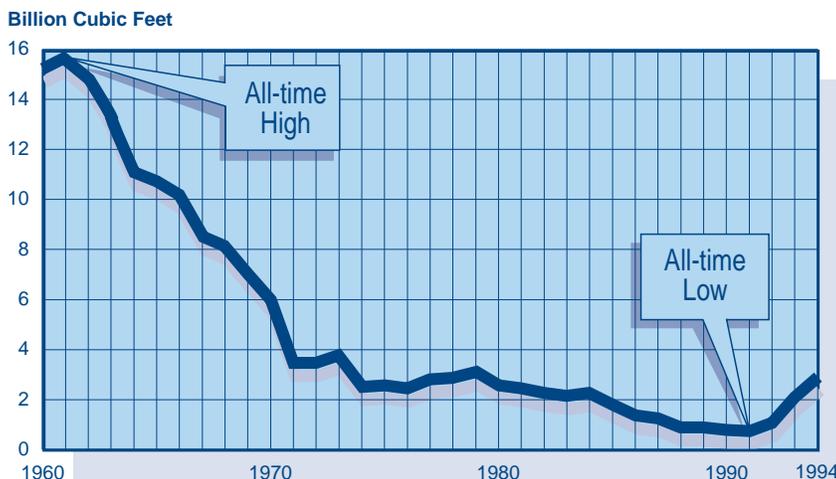
Nebraska Counties With Natural Gas Production

1994 Production



Source: *Nebraska Oil Activity Summary*. Nebraska Oil and Gas Conservation Commission. Sidney, Nebraska. Annual

Natural Gas Production in Nebraska, 1960-1994



Source: *Nebraska Oil Activity Summary*. Nebraska Oil and Gas Conservation Commission. Sidney, Nebraska. Annual

Natural Gas Wells in Nebraska, 1960-1994



Source: *Nebraska Oil Activity Summary*. Nebraska Oil and Gas Conservation Commission. Sidney, Nebraska. Annual

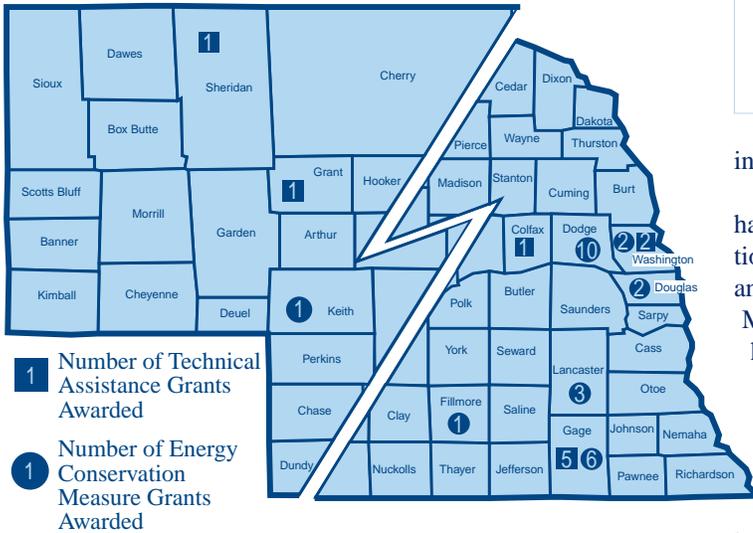
13 Winners Get \$266,000+...

Energy Grants to Local Schools and Hospitals

Thirteen different Nebraska schools and hospitals were selected this fall to receive more than \$266,000 in federal matching grants from the U.S. Department of Energy to identify or make energy saving building improvements under the Institutional Conservation Program.

More than 23 percent of the funds, \$61,555, will finance energy saving improvements at Midland Lutheran College in Fremont. The next largest recipient, the University of Nebraska-Lincoln, will make energy improvements in the Stadium on the downtown campus and two buildings on east campus. Dana College in Blair will use nearly \$31,000 to make improvements

Where the Winners Are...



The Latest Grant Winners

Institution	Make Improvements	Identify Improvements	Amount
Beatrice Community Hospital	1		\$17,937
Beatrice Public Schools	5		\$26,399
Dana College	2	2	\$33,718
Fillmore County Hospital	1		\$16,500
Hyannis High School		1	\$2,250
Midland Lutheran College	10		\$61,555
Ogallala Community Hospital	1		\$11,585
Omaha Holy Name School	1		\$31,330
Omaha Lady of Lourdes Elementary	1		\$4,375
Parkview Lodge in Rushville		1	\$1,500
St. John Elementary in Clarkson		1	\$1,253
Southeast Community College in Beatrice		5	\$8,892
University of Nebraska-Lincoln	3		\$48,973
Totals	25	10	\$266,267

in two buildings — Holling Hall and Borup Coliseum.

Thirty-five school or hospital buildings will be analyzed or have improvements made as a result of the grants. Most institutions that receive grants first identify energy saving opportunities and then apply for a second grant to finance the improvements. Most grants require that half the cost be paid by the school or hospital.

The federal energy grant program began in 1980. To date, more than 200 schools and hospitals in Nebraska have received \$9.2 million to make energy saving improvements.

Congress has not budgeted any money for this program for 1996. Without federal funds, this program will cease to be operated by the Energy Office. ☛

NATURAL GAS CONTINUED FROM PAGE 3

highly likely since the county is crossed by two interstate pipelines, KN Energy and Trailblazer, and is the site of a KN Energy storage facility. ☛

Governor to Head National Oil and Gas Group

In January, Governor Ben Nelson of Nebraska will become Chairman of the Interstate Oil and Gas Compact Commission.

The Commission is an organization of 35 states with a common interest in oil and natural gas production in the United States. In 1995, the group will celebrate its 60th year.

Test Your Energy Knowledge

- Microwave ovens are currently found in what percent of all U.S. homes?
 - 23 percent
 - 54 percent
 - 84 percent
- For which job are microwave ovens used most?
 - Defrosting frozen foods
 - Cooking meals
 - Reheating food
 - Preparing snacks
- Almost all of us use ovens for cooking. What percent are electric?
 - 17 percent
 - 63 percent
 - 81 percent
- How many gallons of hot water does the typical dishwasher use during a normal cycle?
 - Seven
 - 14
 - 25

Answers: 1. c. 84 percent 2. b. Cooking meals 3. b. 63 percent 4. b. 14

Electricity-Generating Roof Shingles and More...

The Latest in Energy Technologies to Star in 1996 Olympics

One of the behind-the-scenes stars of the 1996 Summer Olympic Games in Atlanta will be the renewable energy technologies showcased by the federal Department of Energy.

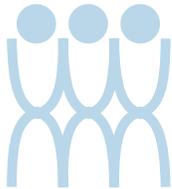
More than ten energy efficiency and renewable energy projects and activities will be used at the Games.

Demonstrations will include photovoltaic systems for lighting and power generation, electric power generators, backup battery systems, a solar thermal pool-conditioning system, energy-saving building techniques, geothermal heat pumps for building heating and cooling, alternative fuel vehicles and "cool communities" exhibits. Some of the projects:

- More than 4,000 photovoltaic modules will be installed on the roof of the main Olympic swimming facility, the Natatorium, to provide 300 kilowatts of peak electrical power to the swimming complex and reduce demand on the local electrical grid. This will be the largest photovoltaic building installation in the world.
- The swimming, diving and warm-up pools are being provided with insulating, automated covers designed to maintain water temperature and reduce chemical loss through evaporation.

- Photovoltaic lights will be installed for pedestrians in areas such as the 21-acre Centennial Olympic Park in central Atlanta.
- Geothermal heat pump heating and cooling systems will be installed in the Olympic village and in the Education and Training Center. The Center will be a permanent installation used to showcase renewable energy technologies, teach students of all grade levels and help train construction workers in applying state-of-the-art building techniques in new home construction. The roof of the Center will feature flexible photovoltaic shingles that will produce up to two kilowatts of electricity.
- "Cool Community" concepts used in adjacent Atlanta neighborhoods include strategically planting trees and the use of light-colored building materials and pavements. These simple techniques can reduce cooling needs by 30 percent. Grass paving — parking lots covered with grass that is supported underneath by paving blocks will also be used in some areas.

If you would like more information on the technologies featured at the 1996 Olympics, contact **Patricia Pickering** at 202-586-8166. ☛



One of Six in the Nation...

Central Community College Picked for Alternate Fuel Center

The Columbus campus of Central Community College has been picked as one of six in the nation to offer regional training centers for alternate fuel vehicles.

The goal of the project is to develop a national network to train instructors who can then train automotive technicians to convert and maintain vehicles that run on alternate fuels such as propane and natural gas.

"We hoped to become a nationally recognized training center when we started our alternate fuels program three years ago," said Doug Pauley, coordinator of the Platte Campus program. "Participating in this project and having access to the latest technology will help make that goal a reality."

\$10,000 Plus

Central will receive an initial \$10,000 grant and up to \$25,000 more as its project progresses. The grant is funded by the U.S. Environmental Protection Agency.

The grants will partially finance instructor training programs

provided by companies that manufacture equipment used to convert vehicles to alternative fuels. The funds will also be used to buy equipment needed for the training. Curriculum and training tools will be provided by the University of West Virginia which is overseeing the project.

According to Pauley, the training equipment will be mobile, making it possible for the College to provide on-site training in Midwestern and Plains states. Training will also be provided at the Columbus campus.

Going Since 1992

Since the College's alternate fuels program was started in 1992, alternate fuels training and workshops have been provided to an estimated 1,000 people.

In 1992, the College's program was begun with \$90,000 from natural gas companies, state propane and natural gas organizations, state ethanol and soybean boards, the Kiewit Foundation and the Energy Office. ☛

The *Nebraska Energy Quarterly* features questions asked about 6% Dollar and Energy Saving Loans. Loan forms may be obtained from participating lenders or the Energy Office.

Frequently Asked Questions...

6% Dollar and Energy Saving Loans



If a borrower changes contractors or if cost estimates change, must all the forms be resubmitted to the Energy Office?

In most cases, submittal of new forms is not needed. For example, if the cost of the project or its contractor has changed, simply submit the new contractor's bid or the revised cost estimate. But, if a contractor is changed for a siding and wall insulation project, then a new Form 34 certifying the R-value of the added wall insulation must be signed by the contractor and

borrower and submitted to the Energy Office.

What is the current interest rate on loans?

The maximum rate is 6 percent annual percentage rate and will continue at that rate until the next interest rate review scheduled for March 1996. Lenders may charge less than 6 percent annual percentage rate, but this is at their discretion. Lenders may also charge up to \$50 for a loan application or documentation fee and up to 2 percent for an origination fee for any loan

they write for the maximum loan terms as outlined in the program's guidelines. If these fees are charged by a lender, the effective loan rate may be above 6 percent annual percentage rate.

Why are loans to businesses restricted to those firms with 25 employees or less, or less than \$2.5 million in annual sales or revenues?

In the past, low-interest loans were limited to very small businesses because there were not enough funds in the loan pool to finance the very

large energy saving improvements. However, these limits have been relaxed for Climate Wise partners (see pages 1 and 2 of this issue). In Nebraska, Climate Wise partners can borrow up to \$250,000 at 6 percent interest (or less) with a Dollar and Energy Saving Loan.

If additional loan information is needed before the Energy Office can approve a loan, must all the forms be resubmitted?

No. Only the information requested by the Energy Office needs to be submitted.

Second Public Pump in the State...

Natural Gas Filling Station to Open in Kearney

Natural Gas Facts

Natural gas is a combustible, gaseous mixture of hydrocarbons including mostly methane. It is called "dry" gas when liquid hydrocarbons and nonhydrocarbon gases are removed.

The United States has abundant natural gas reserves. At current consumption levels, the United States has a 60 year supply of natural gas that is technically recoverable.

Ninety-one percent of the natural gas used in 1992—the latest data available—came from domestic sources. The remaining nine percent was imported from Canada.

Because it is relatively inexpensive and nonpolluting, natural gas is being used increasingly for electricity generation and other industrial uses.

The state's second natural gas filling station available to the public is scheduled to open in the near future at an Interstate station in Kearney. The other natural gas filling station opened in 1992 in Omaha.

According to the *Kearney Hub*, KN Energy will open the public pump at a Texaco station. The city of Kearney has granted the necessary permits for the utility to install the pump.

The utility is also contacting officials at the University of Nebraska at Kearney, city hall and the post office to assess their

interest in converting existing vehicles to operate on natural gas.

According to Les Meyer of KN, the price of the compressed natural gas from the pump will be about 80 cents a gallon. Because of longer term contracts, the price of natural gas tends to fluctuate less than gasoline.

KN Energy also operates natural gas fueling stations in Minden and Holdrege, but they are not available to the public.

According to the American Gas Association, there are a total of ten natural gas pumps in the state. Eighteen other states have fewer natural gas pumps than Nebraska. ♻️

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