

N E B R A S K A
E N E R G Y
O F F I C E



A N N U A L R E P O R T

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This Annual Report covers the eighteen month period from January 1, 1986 through June 30, 1987. This report is published pursuant to Nebraska Revised Statutes, Section 81-1607. Copies are on file with the Clerk of the Legislature, and the Nebraska Library Commission.

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Rate of Return on Investment (R.O.I.) calculations used throughout this Annual Report are based on the estimated annual cost of energy saved divided by the amount spent to make the improvement (excluding state and local administrative costs). Unless indicated, they are for the first year only. Where fifteen year Rate of Return on Investment calculations are cited, a simple formula which does not take into account the expected fluctuations in energy prices or the changing value of money over time is used.

February 15, 1988

Dear Nebraskans,

The national energy situation has greatly improved since the energy crisis of the 1970s. Over the last several years, for example, it has become noticeably less expensive to fill our gas tanks and heat our homes. However, as we enter 1988, serious energy challenges remain. The consumption of petroleum products nationally has been increasing since 1985. Oil imports are at their highest level since 1980, with imports now accounting for 35% of the nation's petroleum consumption. (At the height of the energy crisis in 1973, the nation imported 36% of its petroleum products.) Continuing acts of violence in the Persian Gulf could sharply reduce oil imports from that area, further increasing oil prices in the United States. This is indeed no time for complacency toward energy issues.

As this report shows, Nebraskans have made significant progress during the past several years in planning for their future energy needs and in reducing the state's dependence on imported energy. However, after generally lowering consumption during the early 1980s, Nebraskans, like the rest of the nation, have dramatically increased their petroleum consumption during the past few years. This rise in consumption is directly related to lower petroleum prices.

Securing the state's energy future and enhancing the competitiveness of Nebraska's economy require that we increase our efforts to promote energy efficiency. Using our existing energy more efficiently remains the cheapest and cleanest source of new energy available today and in the future. Also, energy efficiency activities produce an excellent return to Nebraska's economy for each dollar invested. Consider these examples. In 1986, the Institutional Conservation Program, which provides matching grants to public and private schools and hospitals to identify or to install energy saving improvements, produced an annual rate of return of 22.2% for each dollar invested in the program. The Energy Efficiency School Loan Program, which provides no-interest energy improvement loans to schools, had an annual rate of return of 18%. And the Electrical Load Management Resource Fund, which provides no-interest loans to communities for the purchase of electrical load management equipment, produced an annual rate of return of 72.3%. If these annual return rates are multiplied by the life of the projects, energy efficiency investments are truly impressive. Ultimately, however, continued success in energy conservation depends not only on such proven programs, but also on the creativity and initiative of each of us as energy users.

In order to help Nebraskans meet the state's energy-related challenges over the next several years, we must make the most of the opportunities presented to us. During 1986, the Energy Office received over \$21 million from the settlement of the *Stripper Well* and *U.S. v. Exxon Corporation* oil overcharge cases. These funds will be used to provide indirect restitution to Nebraskans who were overcharged because of oil price control violations during the 1970s. As this report shows, some of these funds have already been used to reduce the state's dependence on imported energy. The funds will continue to be used as an investment in Nebraska's future.

Recognizing the essential role which energy policy plays in the state's economy, Governor Orr merged the Energy Office with the Nebraska Policy Research Office during 1987. This action underscores the important policy role which Governor Orr has assigned to the Energy Office.

Since energy policy affects the lives of every Nebraskan, the Energy Office has encouraged the active participation of many interest groups in the discussion of energy policy. As this report shows, this participation by the public and private sectors at both the state and local level resulted in better policy and improved conservation efforts. We will continue to encourage a vigorous discussion of energy issues at the national, state and local levels.

We are pleased to present this report of the Energy Office's activities for the period from January 1, 1986 through June 30, 1987. The report additionally includes activities relating to natural gas and the expenditure of oil overcharge funds through January, 1988, which will provide a more complete analysis in these two important areas.

Gary Rex,
Director

ENERGY CONSUMPTION 1981-1987

Energy consumption in the state is measured and grouped by five main sectors: Transportation, Residential, Utilities, Industrial (including Agriculture) and Commercial (including Government).

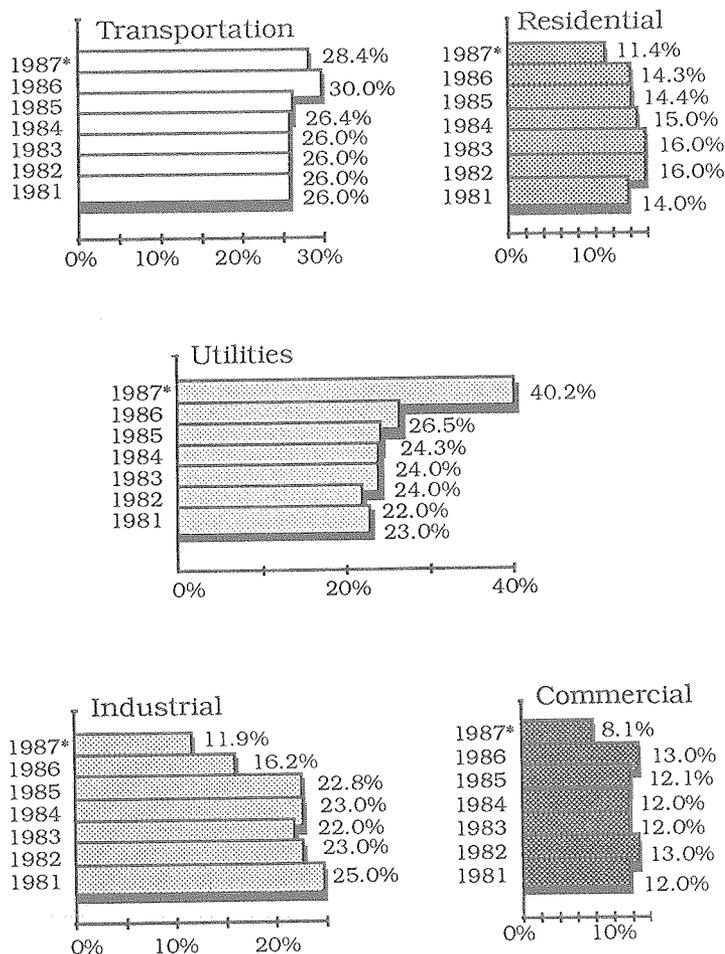
CURRENT AND HISTORICAL TRENDS

The current and historical trends by each sector from 1981 through June of 1987 are illustrated in the charts at the left. Percentage totals by sector for each year appear on the chart on the following page.

Multi-year consumption analysis in each sector, excluding the most current six month figures, is in the text below. While

percentage of consumption in a sector may remain unchanged from year-to-year, the amount of energy consumed may vary.

Energy Consumption Percentages by Sector 1981-1987



*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: '81-'85 U.S. Department of Energy
'86-'87 Nebraska Energy Office Preliminary

Transportation

The transportation sector includes private and public vehicles that move people and commodities. Included are automobiles, trucks, buses, motorcycles, railroad and railways (including streetcars), aircraft, ships, barges, and natural gas pipelines. Energy use in the transportation sector peaked in 1978. With price increases, consumption decreased through 1981. After price moderations starting in late 1981 through 1983, consumption increased slightly from the pre-1981 level. Through 1985, consumption remained stable with increased travel being offset by continued improvements in vehicle efficiency. With drastically lower prices in 1986 and the first six months of 1987, consumption increased to near the 1979 consumption level. Generally, the dramatic increases in miles driven was no longer being offset by the efficiency gains from more fuel efficient vehicles.

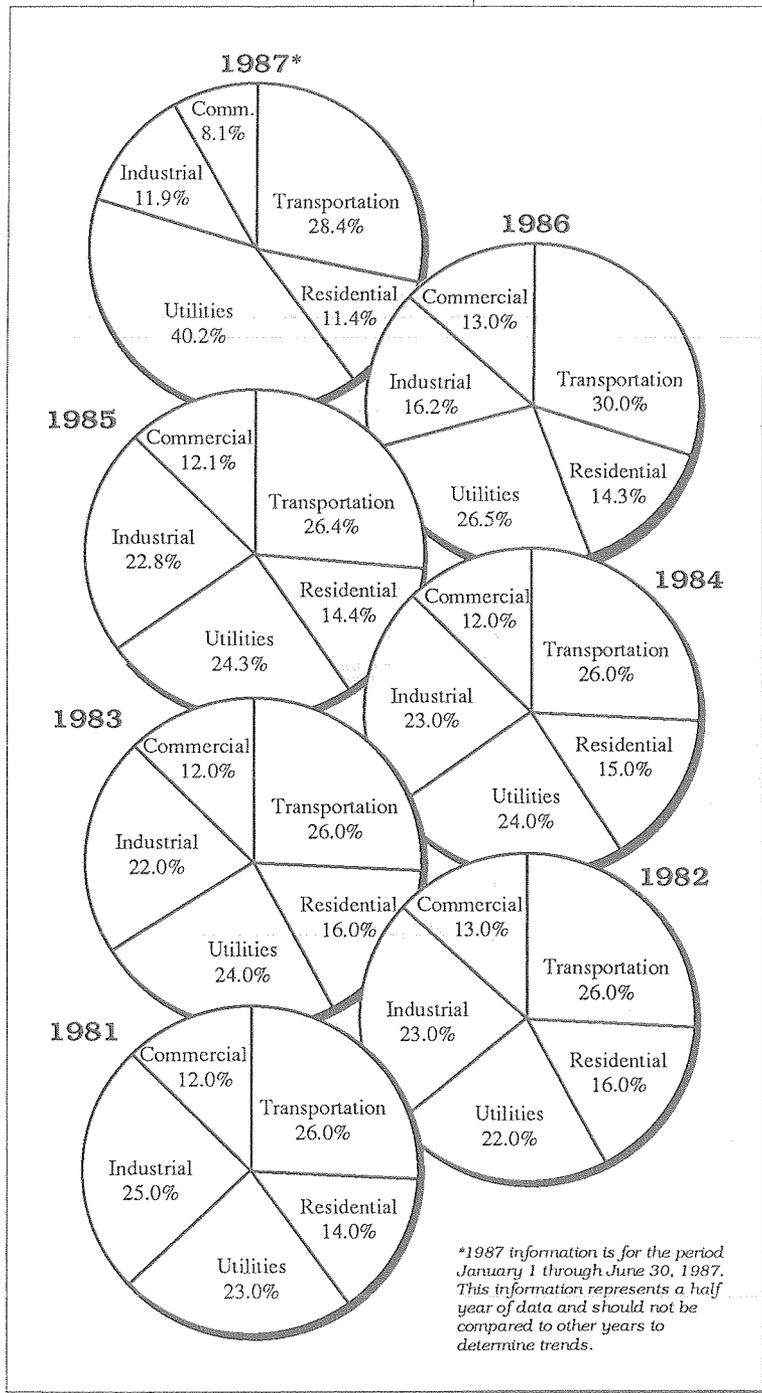
Residential

The residential sector consists of private households which consume energy primarily for space heating, water heating, air conditioning, lighting, refrigeration, cooking and clothes drying. Energy consumption in the residential sector has remained nearly constant over the past decade. Fluctuations which have occurred can be almost entirely attributed to weather conditions — cooler summers or warmer winters.

Energy Consumption by Year

Utilities

The utilities sector includes privately and publicly owned establishments that generate electricity primarily for use by the public and losses incurred in generation and transmission. Energy consumption by the state's electric utilities has fluctuated between 170 and 205 trillion British Thermal Units (BTUs) annually since 1979. Year-to-year differences are explained by the Gerald Gentleman Plant coming on line in 1979 and 1981 and down-time for major repairs, as well as normal maintenance activities, at the state's two nuclear power plants. Nebraska has been a net exporter of electricity since 1974 (except for 1985 when extensive nuclear shutdowns led to a small net import of electricity).



Source: '81-'85 U.S. Department of Energy
'86-'87 Nebraska Energy Office Preliminary

Industrial

The industrial sector includes manufacturing, construction, mining, agriculture, fishing and forestry establishments. Industrial (including agricultural) energy consumption decreased since 1978 with very small increases over previous years in both 1984 and 1985. Since 1979, decreases can be attributed to economic conditions in the industrial sector as well as sufficient rainfall reducing irrigation needs in agriculture. Continuing efforts at conservation and efficiency have also led to reduced energy demand in the industrial sector.

Commercial

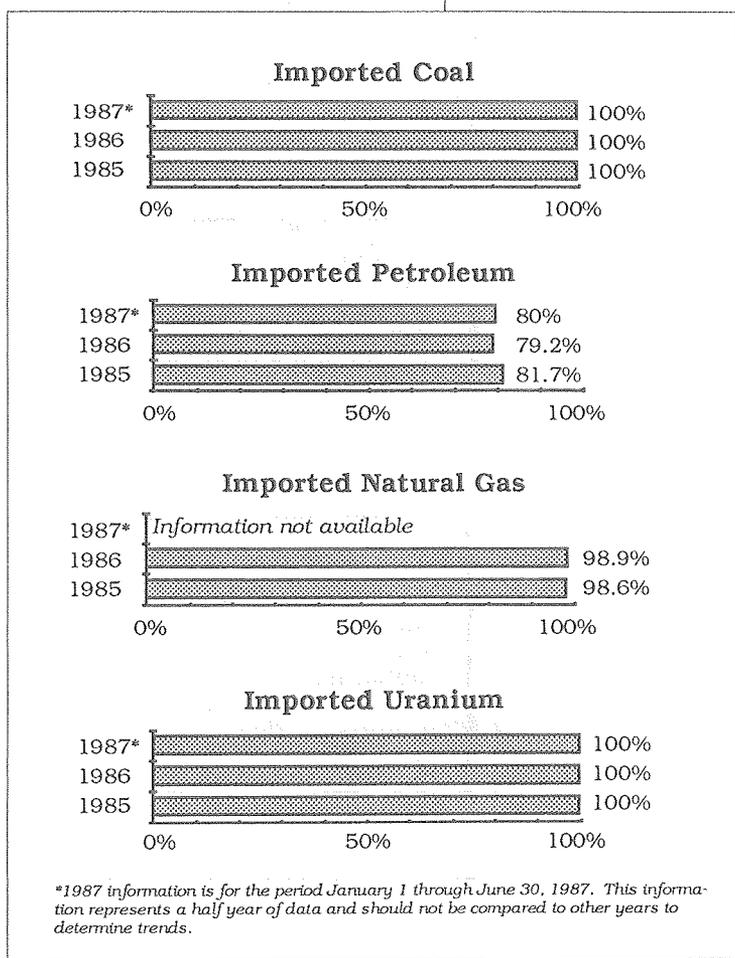
The commercial sector includes nonmanufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, laundries and other service enterprises; health, social and educational institutions; and federal, state and local governments. Street lights, pumps, bridges and public services are also included. Energy consumption in the commercial sector (including government) has shown an increase every year since 1980. This is due to the increasing importance of the services sector in Nebraska's economy and decreasing energy prices over most of the period.

ENERGY INFORMATION

NEBRASKA'S ENERGY RESOURCES

Energy Imports

In the early pioneer days, settlers found the state to be energy poor. Pioneers would burn the few trees that existed, the high-sulfur coal unearthed during field operations, and crop waste, such as corncobs, for warmth. As technological changes occurred and Nebraskans' energy needs grew, their dependence on others to meet their primary energy needs increased. By the mid-1980s, about 80-90 percent of the energy needed by the state was supplied from non-Nebraska sources. The following charts illustrate the current level of dependence for primary sources of energy — coal, petroleum, natural gas — and uranium which fuels nuclear power plants.



Source: '81-'85 U.S. Department of Energy
'86-'87 Nebraska Energy Office
Preliminary

Coal

Nebraskans imported all of their coal requirements during 1986 and the first half of 1987. These coal supplies, chiefly from Wyoming, were used to generate electricity for all of Nebraska's energy consumers.

Petroleum

Nebraskans imported about 80 percent of their petroleum needs in 1986 and the first half of 1987. However, all petroleum actually used in the state was imported since there are no state refineries and all crude production is exported to refineries outside Nebraska. (More information on petroleum production in the state can be found on page 9.)

Natural Gas

In 1986, Nebraskans imported almost all of its natural gas. These imports, totaling 105 billion cubic feet, were provided mainly through two major pipelines operated by Northern Natural Gas Company and KN Energy. (Retail natural gas information is contained in the Natural Gas Technical Assistance section on page 35.)

Even though information for the first six months of 1987 is not available at this time, the 1986-level will likely be the same for 1987.

On the production side, 1,403 million cubic feet of natural gas was produced in 1986, most of which was used in the state. (Additional natural gas production information is contained on page 10.)

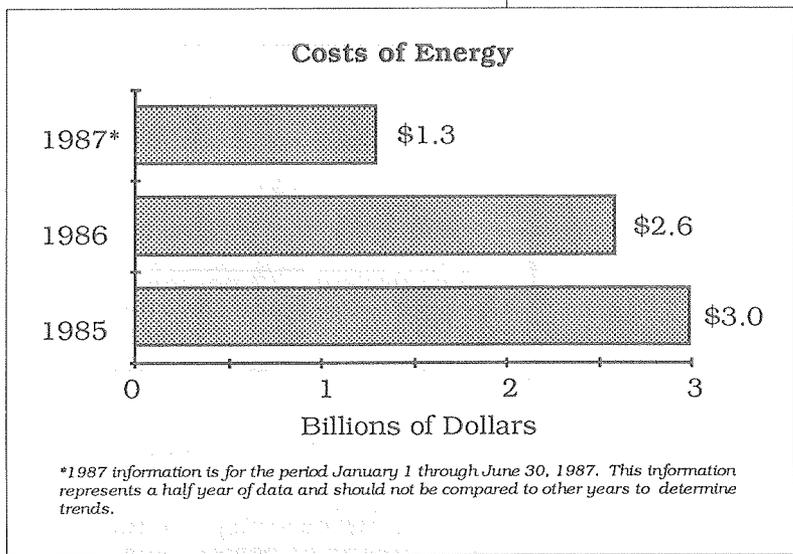
Uranium

While uranium is mined in the Panhandle of the state, it must be shipped elsewhere for processing. All the nuclear fuel used to power the state's two nuclear power plants is imported.

Alternatives

Alternative forms of energy are generally classified as renewable: ethanol, hydroelectric power, solar, wind, and wood (including other biomasses).

Since 1984 approximately one-third of the gasoline sold at the pump is super unleaded with ethanol — a blend of 90 percent gasoline and ten percent ethanol. However, ethanol use accounted for only 0.4 percent of Nebraska's total energy consumption in 1986. 1987 figures are unavailable.



Source: '85 U.S. Department of Energy
'86-'87 Nebraska Energy Office Preliminary

Other alternative fuel sources — solar, wind and wood (including other biomasses) — continue to provide less than one percent of the state's energy needs.

The Costs

As this chart illustrates, the cost of imported energy in the form of coal, petroleum and natural gas reached a peak of \$3 billion in 1985 and has since declined. Generally, the decline has come from somewhat lower prices of petroleum and natural gas, decreases in the severity of weather, the increasing efficiency in the state's transportation sector and moderate growth of the state's economy.

Except for the efficiency gains in the transportation sector, lower prices are temporary. A return to normal conditions will likely cause an increase to historic cost levels.

INDIGENOUS RESOURCES

Nebraska has few primary energy resources. Primary energy imports, listed on page 6, show Nebraska's energy dependency.

However, three traditional energy resources — petroleum, natural gas and hydroelectric power — are found in the state. One non-traditional resource — efficiency — is also considered a resource. The current total of these indigenous resources is:

Petroleum

44 million barrels— 120 percent of the annual petroleum consumption or about a 14.5 month supply based on the state's current consumption patterns.

Natural Gas

Nebraska's reserves are calculated with those of marginally producing states and Nebraska-specific data is unavailable.

Efficiency

Efficiencies remaining to be gained in all sectors total 28.2 million barrels of oil equivalent— 77 percent of the annual petroleum consumption or about a 9.25 month supply based on current petroleum consumption in the state.

Hydroelectric Power

282 megawatts— 4.7 percent of generating capacity accounting for 8.9 percent of power generated in 1986 or about one month's supply of electricity based on current Nebraska usage patterns.

Definitions

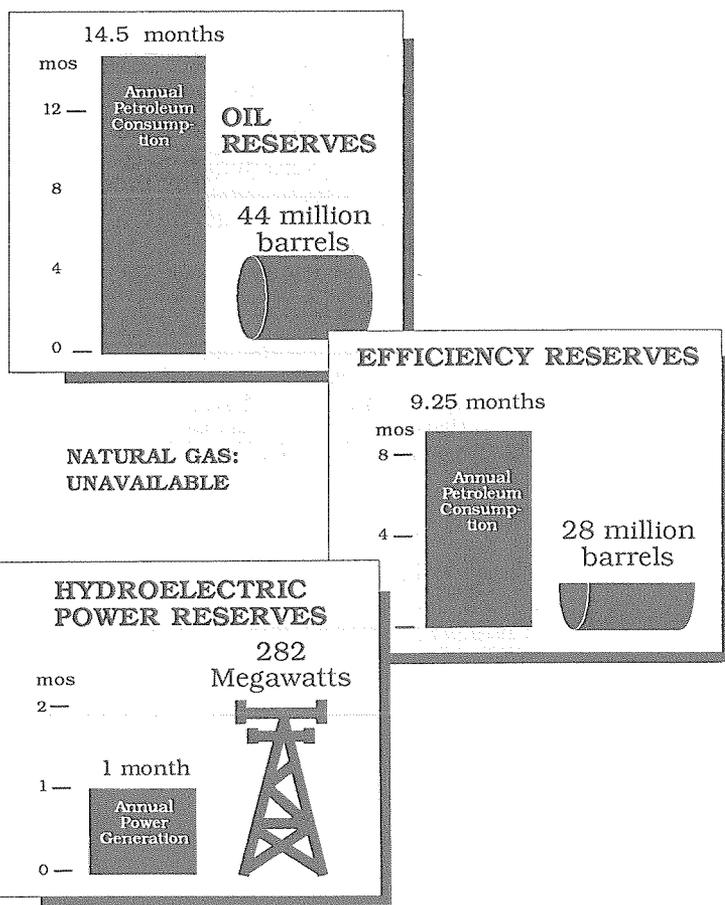
Petroleum: A generic term applied to oil and oil products in all forms, such as crude oil, lease condensate, unfinished oil, petroleum products, natural gas plant liquids, and nonhydrocarbon compounds blended into finished petroleum products.

Natural Gas: A mixture of hydrocarbons and small quantities of various nonhydrocarbons existing in the gaseous phase or in solution with crude oil in underground reservoirs. The designation "dry" represents the marketable portion of natural gas production that is obtained by subtracting extraction losses, including natural gas liquids removed at natural gas processing plants, from total production.

Efficiency: Making more efficient use of energy can happen in any of hundreds of ways: adding insulation to ceilings and sidewalls, replacing a vehicle with one getting more miles per gallon, replacing a twenty-year-old furnace with one which has an efficiency rating of 85 percent or higher, adopting conservation tillage practices in farming, and more.

Hydroelectric Power: Electricity generated by an electric power plant whose turbines are driven by falling water.

Current Reserves of Indigenous Resources in Nebraska



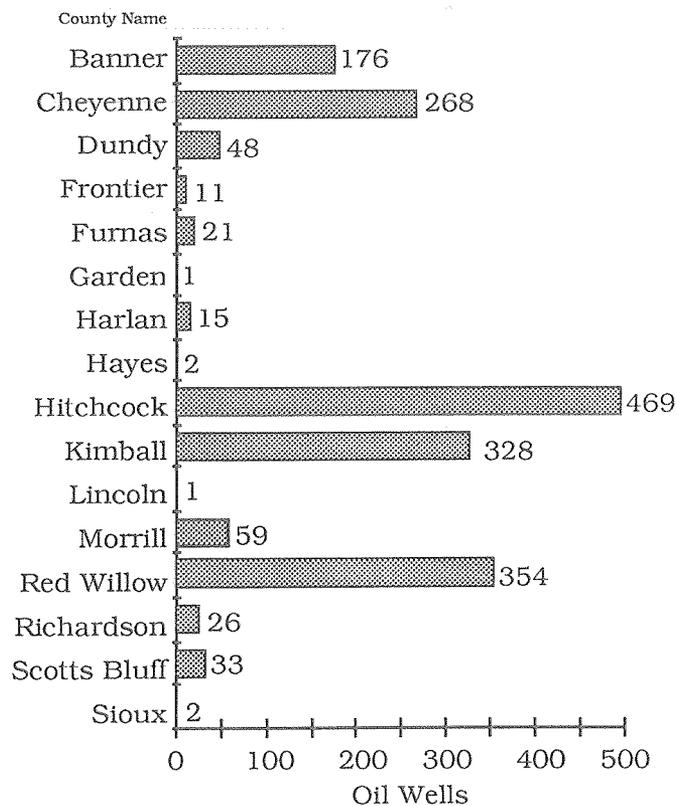
Source: Nebraska Energy Office

PETROLEUM PRODUCTION

Only a fraction of the state's petroleum is recoverable at current prices. As of June 30, 1987, there were 1,814 producing wells in Nebraska. This chart illustrates the number of wells and their location by county.

Production of petroleum peaked in 1962, at 25 million barrels. Since that time, production has declined to 7,097,633 barrels during 1986. Production for the first six months of 1987 totaled 3,074,752 barrels.

**Location and Number of Petroleum Producing Wells
January 1, 1986 through June 30, 1987**



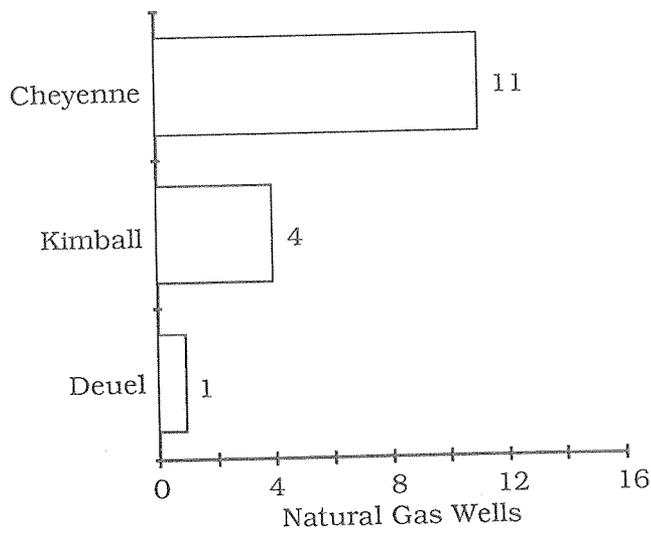
Source: Nebraska Oil and Gas Commission

NATURAL GAS PRODUCTION

Nebraska is a small producer of natural gas. In 1986, only 1,403 million cubic feet of natural gas or 1.4 percent of the state's consumption was produced. Production for the first six months of 1987 is not available at this time.

The chart below shows the number of active natural gas wells and their location by county.

Number of Producing Natural Gas Wells by County

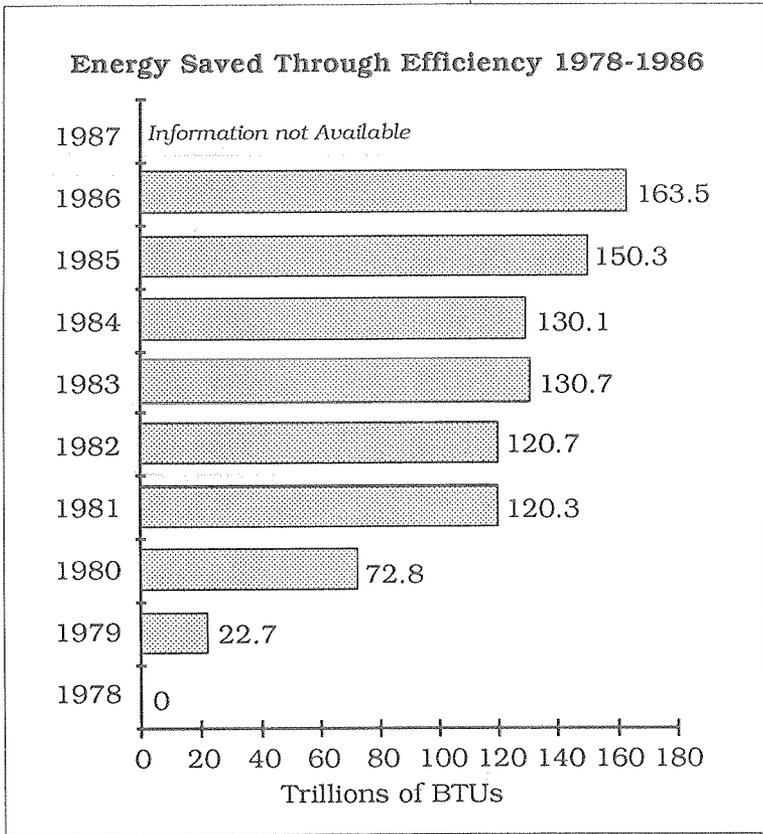


Source: Nebraska Oil and Gas Commission

ENERGY EFFICIENCY

Energy efficiency — a non-traditional, indigenous resource — holds great promise for Nebraskans who depend upon others to supply the bulk of their energy needs. Studies have shown that, at a minimum, current levels of energy consumption could be reduced by at least 25 percent by adopting energy efficiency technology.

Historical Trends



Source: Nebraska Energy Office Estimates

Since the early 1970s, Nebraska's homes, businesses and institutions have reduced their energy use by 24 percent from projected consumption levels by implementing energy efficiency improvements. As a result, energy consumption in 1986 was estimated at 510.9 trillion BTUs, 163.5 trillion BTUs or \$0.8 billion below projected use based on 1970s consumption patterns. Stated another way, 163.5 trillion BTUs is the equivalent of 400 percent of Nebraska's annual petroleum production.

Current and previous energy savings are illustrated in the chart at left. No estimate of energy savings for the first six months of 1987 is available at this time.

An Opportunity

When viewed in economic terms, the state's aggregate energy bill for 1986 was \$2.6 billion. If Nebraskans had adopted the available energy efficient technologies and had thereby reduced their energy use by an additional 25 percent, the 1986 energy bill would have only been \$1.95 billion. The savings, \$650 million, could have been added to the state's economy. And even better, that \$650 million would be added every year for at least nine more— a total of \$5.85 billion— if energy prices remained at their current levels.

Future Trends

In the absence of an increase in energy prices, a supply disruption, or financial incentives for making energy efficient improvements in homes, businesses, farming practices or transportation, the current trends are likely to continue.

Energy price declines have a tendency to increase energy consumption — increasing the state's dependency on others to meet its energy needs.

ELECTRICAL GENERATION

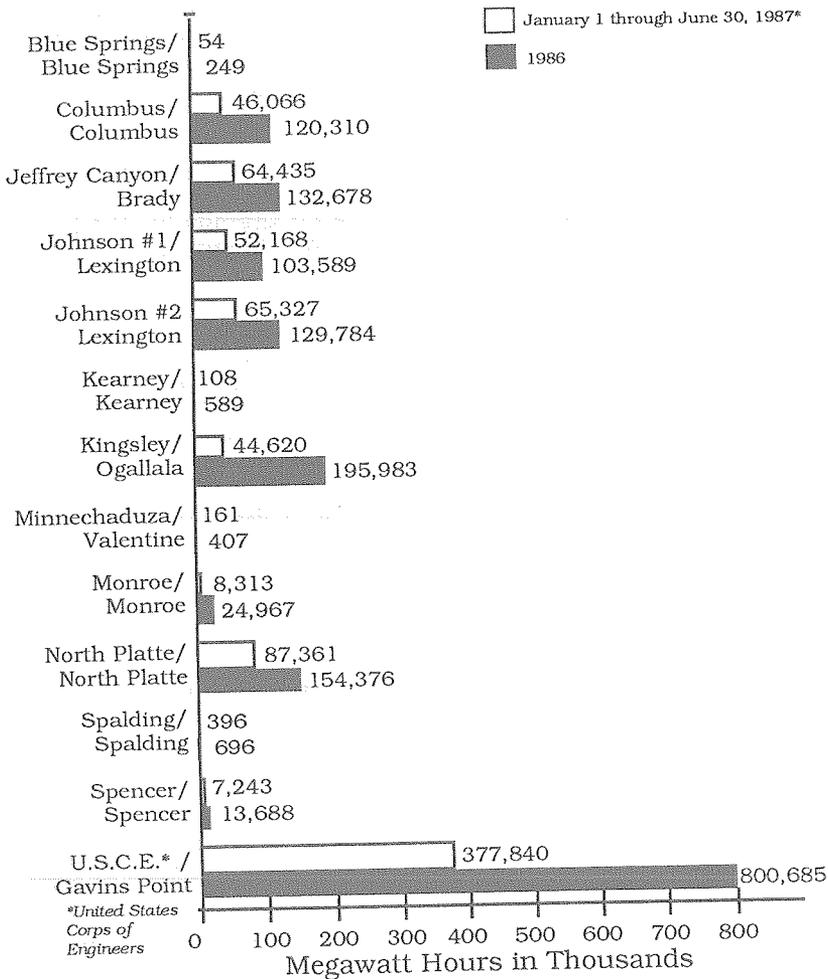
Electricity in the state is produced from three primary sources: hydro, coal, and nuclear.

Hydroelectric Production

Hydroelectricity is an indigenous energy resource since it is generated by electric power plants whose turbines are driven by falling water.

Nebraska has thirteen operating hydroelectric plants, of which eight are rated at five megawatts or higher. The plants, their locations and the production in megawatt hours for 1986 and the first six months of 1987 are illustrated in the chart at left. Total hydroelectric capacity for the state is 4.7 percent of Nebraska's total generating capacity.

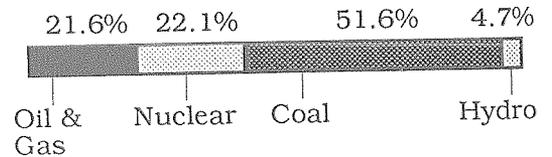
Hydroelectric Plants by Location and 1986 and 1987 Production



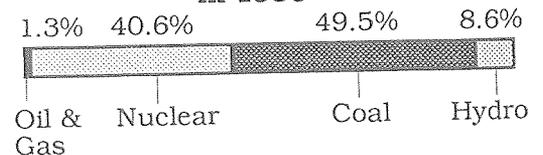
*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: U.S. Department of Energy

Total Electrical Generating Capacity



Nebraska's Electrical Generation in 1986



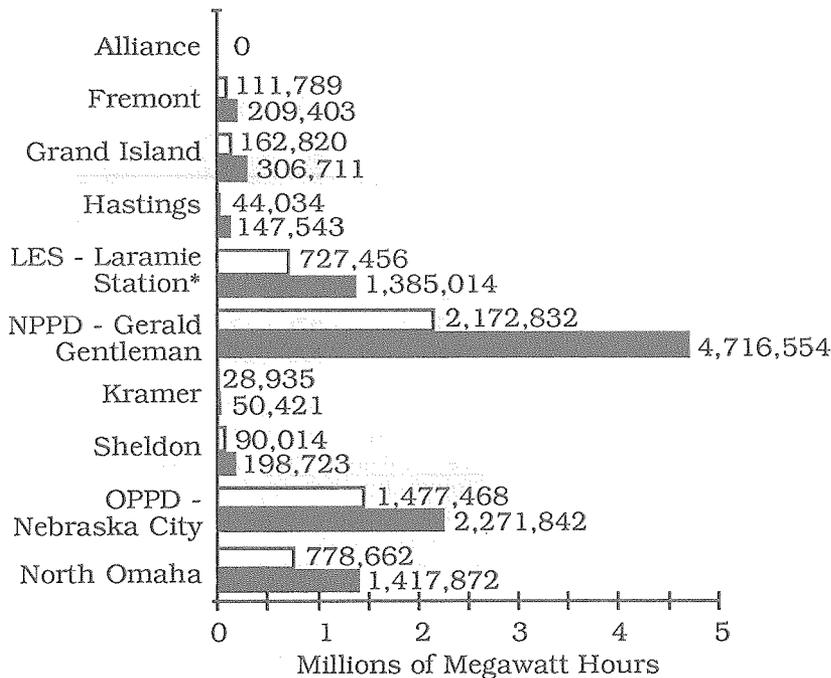
COAL

Generation from coal is the largest source of electricity in Nebraska — supplying 49.5 percent of the electrical need of the state. There are ten coal-fired electrical generating stations owned wholly or in part by Nebraska's publicly-owned utilities. The coal used to generate the electricity is imported primarily from Wyoming.

The production of the ten plants in megawatt hours for 1986 and the first six months of 1987 is illustrated in the chart below and left. The plants account for 51.6 percent of Nebraska's generating capacity.

Coal Fired Electrical Generating Stations

□ January 1 through June 30, 1987*
 ■ 1986

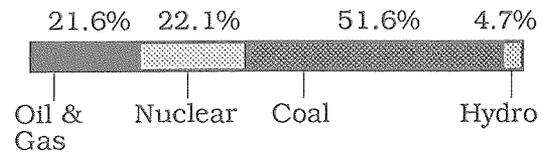


*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

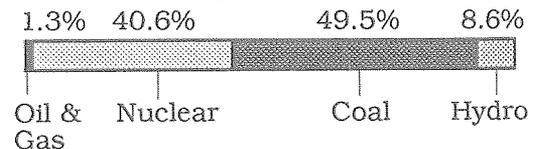
Source: U.S. Department of Energy

* Figure represents 13.13 percent of facility owned by LES plant located in Wyoming

Total Electrical Generating Capacity



Nebraska's Electrical Generation in 1986

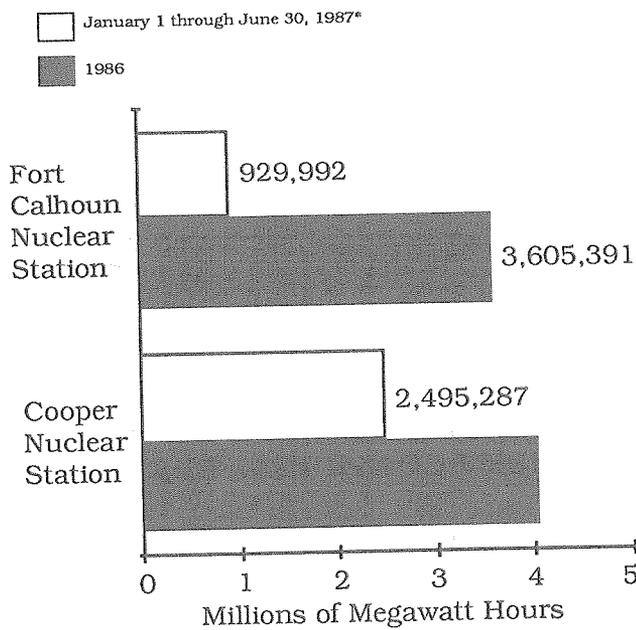


NUCLEAR

Nuclear energy is electricity generated by an electric power plant whose turbines are driven by steam heated by nuclear fission. It accounts for 22.1 percent of the generating capacity in Nebraska.

Nuclear generation is the second largest source of electricity in the state, meeting 40.6 percent of the state's needs. Nebraska has two nuclear power stations: the Cooper Nuclear Station near Brownsville, which is owned by Nebraska Public Power District and the Fort Calhoun Station near Omaha, owned by the Omaha Public Power District. The production information for each plant during 1986 and the first six months of 1987 is illustrated in the chart at left.

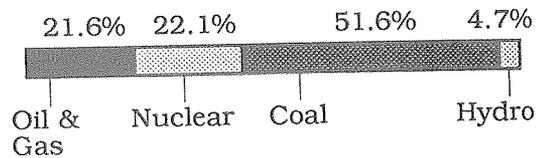
Nuclear Stations and 1986/87 Production



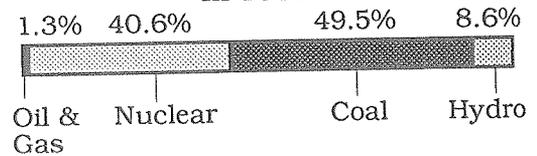
*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: U.S. Department of Energy

Total Electrical Generating Capacity



Nebraska's Electrical Generation in 1986



ELECTRICAL TRANSMISSION AND MARKETING

156 publicly-owned electric utilities serve the state, of which two are major utilities: Omaha Public Power District and Nebraska Public Power District. In addition, two out-of-state sources market electricity to Nebraska's rural power districts: Western Area Power Administration, a federally owned, 15-state marketing authority; and Tri-State Generation and Transmission, which serves Colorado, Wyoming and Nebraska.

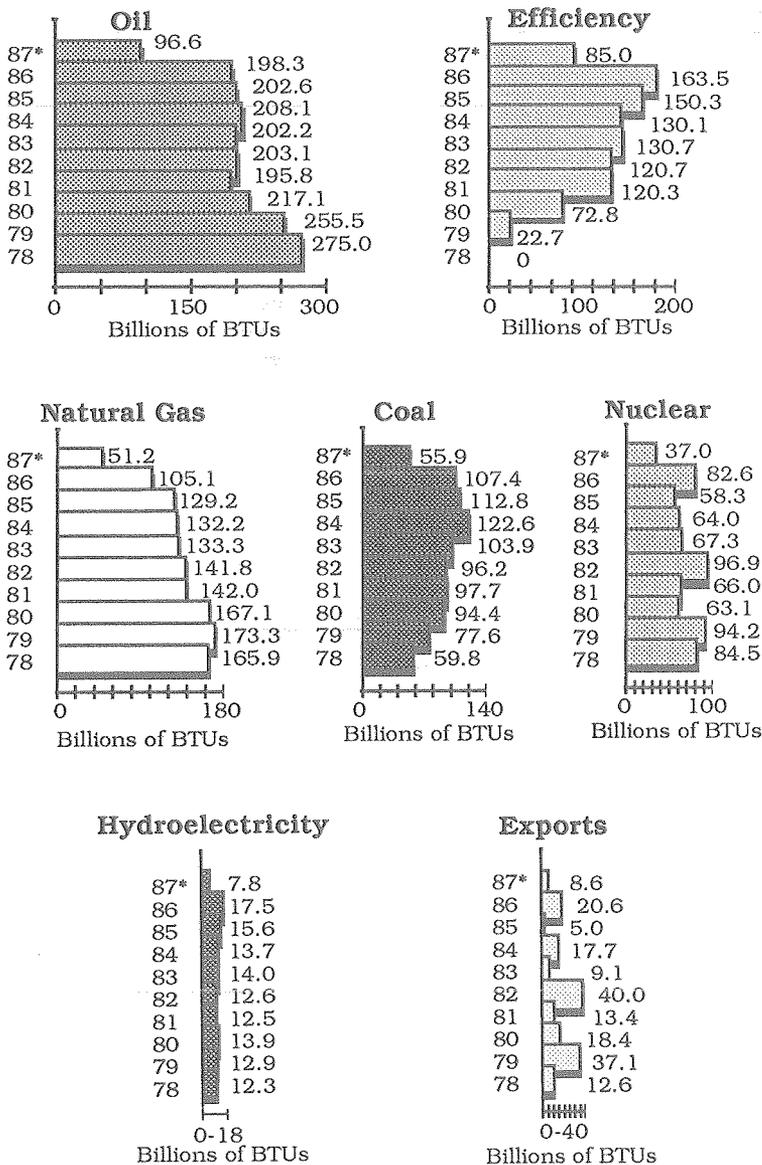
Nebraska is also connected with the Mid Continent Area Power Pool, a consortium of seven states that buy and sell power cooperatively.

ENERGY USE BY SECTOR

Of the five types of energy used in the state — oil, natural gas, coal, nuclear and hydroelectricity — oil is by far the leader when all of the energy types are reduced to a common form of measurement: British Thermal Units (BTUs). The chart illustrates the trends in use by fuel type since 1978.

Efficiency gains and electricity exports have been included in the chart to illustrate the overall energy use as it actually exists. The greatest share of electricity exports goes to Iowa and has little effect on reversing the flow of energy imports into the state.

Volume of Nebraska Energy Use in BTUs



*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

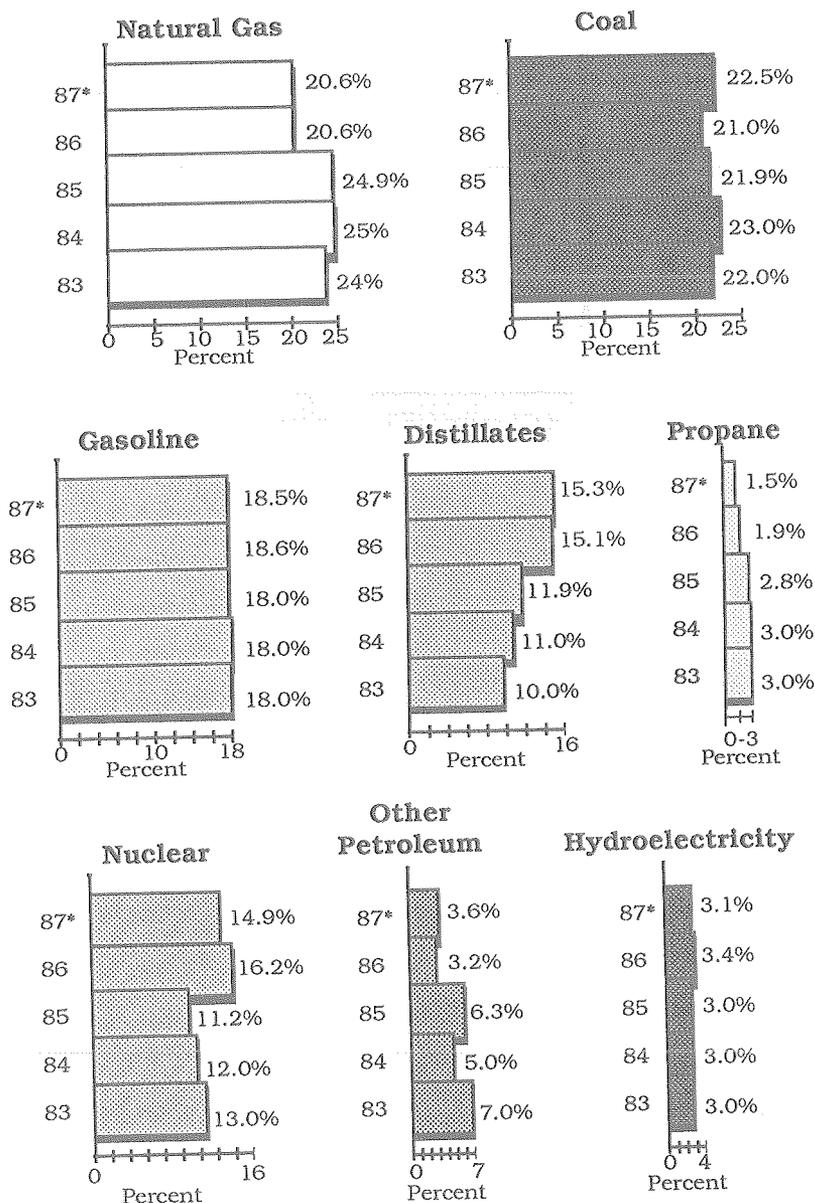
Definitions:

BTU : A measure of heat contained in a fuel. It is roughly equal to the amount of heat generated by the complete burning of an ordinary wooden kitchen match. For reference, there are 3,413 BTUs in each kilowatt-hour of electricity that is purchased; 124,950 BTUs in a gallon of gasoline; and 994,000 BTUs in each thousand cubic feet (MCF) of natural gas.

ENERGY USE BY FUEL TYPE

The chart illustrates the trends of the eight fuel types — oil has been subdivided into four basic fuels: gasoline, distillates, propane and other petroleum — and the percentage of total energy consumption for each year. Combining the eight fuel types for any given year will illustrate the consumption pattern by fuel type.

Percentage of Nebraska Energy Use by Fuel Type



*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Definitions:

Coal: Includes all types of coal— anthracite, bituminous, subbituminous and lignite. Almost all of the coal used is for electrical power generation.

Distillates: Light fuel oils distilled during the refining process and used primarily for space heating, on and off highway diesel engine fuel (including railroad engine fuel and fuel of agricultural machinery) and electrical power generation.

Propane: A normally gaseous, paraffinic hydrocarbon that is extracted from natural gas or refinery gas streams. Propane is used primarily for residential and commercial heating and cooling, and also as a fuel for transportation. Industrial uses of propane include use as a petrochemical feedstock.

ENERGY PROJECTS DIVISION

The Energy Projects Division administers two federally-funded programs: the State Energy Conservation Program and the Energy Extension Service. Each program gives the agency discretion in providing energy conservation services. Annually, the agency submits plans for the program to the U.S. Department of Energy. The mandated areas of activity are: lighting and thermal standards, car and vanpooling, procurement and right turn on red, which are reported on page 23.

Generally, agency staff runs the programs directly or contracts with others to perform the work under the two federal programs. If the work is performed by others, agency personnel work closely with the contractor to ensure that the work meets agency standards.

This Division will be reporting on all the Exxon Grant projects identified on page 28 since they have been incorporated into either program. The six projects that commenced before June 30, 1987 are on page 22.

On this and following pages, the specific programs and activities occurring from January 1, 1986 through 1987 are detailed.

ELECTRICAL LOAD MANAGEMENT RESOURCE FUND

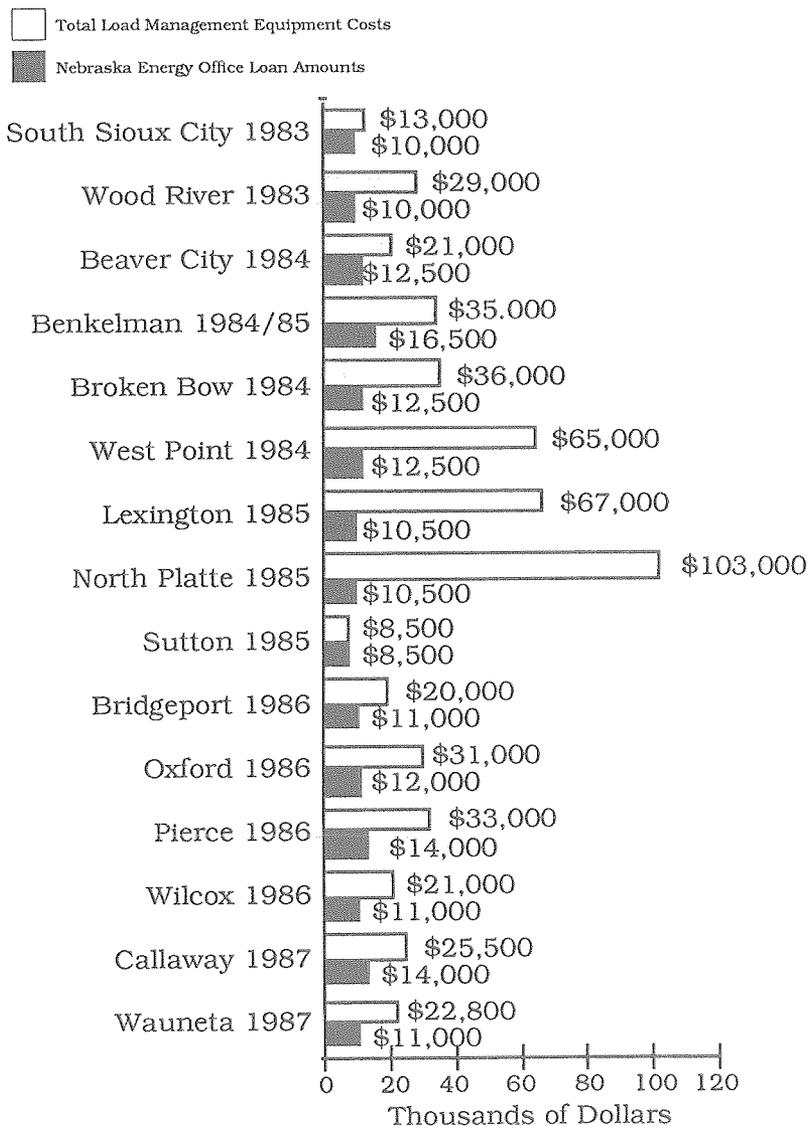
In 1983, the Energy Office created the Electrical Load Management Resource Fund with a \$50,000 grant to the Nebraska Municipal Power Pool. The fund provides for interest-free financing to communities, which own their electrical system and are members of the Power Pool, to purchase load management systems. After the load management systems are installed, a utility generally can reduce its peak demand, thus saving energy and avoiding demand charges.

1986 and 1987 Activities

The chart on the left lists the cities, the amount of no-interest loan funds they received from January 1, 1983 through June 30, 1987 and the total project costs.

Operationally, several changes occurred in the program during the period. Administrative funds, which totaled \$3,750 during 1986, and feasibility studies were eliminated from funding in 1987.

**Electrical Load Management Investments by City
January 1, 1983 through June 30, 1987**

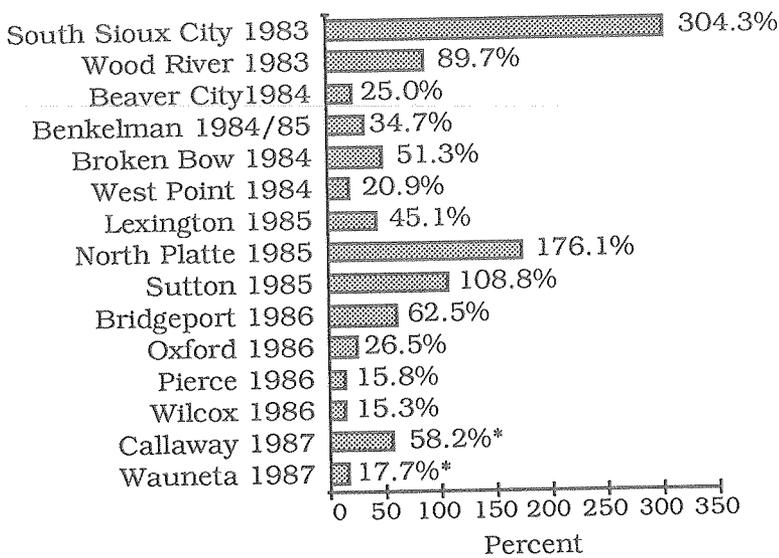


The Benefits

The first year savings earned by the communities are illustrated in the chart at the left. While the communities will earn additional savings throughout the lifetime of the equipment, the savings earned each year will fluctuate because of the changing cost of demand charges. Return on investment is calculated by dividing the actual first year savings by the total project costs.

Since 1983, the initial \$50,000 grant has recycled itself four times as the communities repay the no-interest loans. Aggregate savings since 1983 total over \$1,000,000, or a 72.3 percent return on the state and local investment.

**Electrical Load Management Return on Investment
During the First Year by City
January 1, 1983 through June 30, 1987**



*Estimated Return on Investment

Source: Nebraska Energy Office

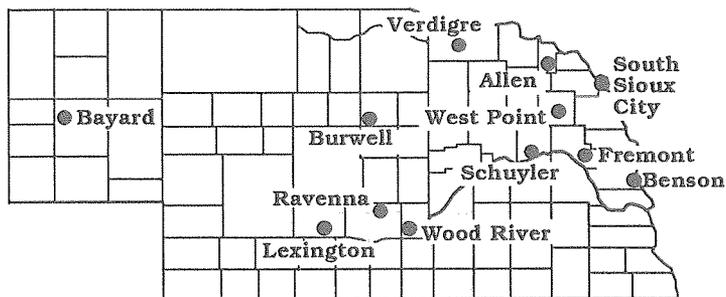
NEBRASKA COMMUNITY ENERGY MANAGEMENT PROGRAM

The Nebraska Community Energy Management Program was started in 1982. Twelve communities, Allen, Bayard, Benson in Omaha, Burwell, Fremont, Lexington, Ravenna, Schuyler, South Sioux City, Verdigre, West Point and Wood River were served by the program until funding shortfalls eliminated the program in September of 1986.

Generally, the Energy Office selected communities based upon applications submitted and then assigned a staff member to work with local decision-makers. The program gave communities a chance to make strategic choices about their future through a local planning and action process. After setting broad goals for the community's future, participants evaluated their energy use and established goals and action plans which maintained or improved the local economy's health. Originally funded with oil overcharge funds, this program ceased when the funds allocated to the program were spent.

A community-by-community review of activities occurring during the eighteen month period follows on this and successive pages.

Nebraska Community Energy Management Cities



Allen

The activities in Allen during the period were confined to the Energy Bank program. A total of seventeen homes were audited and eight of those homes were weatherized with Energy Bank funds. The cost of weatherization totaled \$7,670 of which \$3,515 came from the Energy Bank. Estimated annual energy savings total 875 million BTUs or 3.4 percent of the 1983 energy use of all homes and businesses in Allen.

Burwell

Like Allen, all of the activities in Burwell during 1986 were Energy Bank-related. 154 homes were audited of which twelve were weatherized with Energy Bank funds. A total of \$20,097 was spent to weatherize the homes of which \$7,844 came from the Energy Bank. Estimated annual energy savings totaled 816 million BTUs or about 1 percent of the 1983 energy used in all the homes in Burwell.

Fremont

Fremont, the first town to participate in the program, made significant strides in a number of areas during 1986. Under the Energy Bank program, 92 homes were audited and 86 homes were weatherized at a total cost

of \$135,850. The Energy Bank supplied \$65,503 of the total cost. The estimated annual energy savings were 9,000 million BTUs or 0.4 percent of all the energy used in Fremont homes in 1982.

In 1986, Fremont continued to upgrade its municipally-owned electrical transmission lines and substations. Estimated energy savings were estimated at 2 1/2 percent and 30 percent, respectively, for a total annual savings of 60,000 kilowatt-hours or 0.2 percent of the total electrical consumption by Fremont in 1982.

Dodge County Memorial Hospital joined Fremont's load management program saving \$12,283 during the first seven months of participation.

Fremont also made energy saving improvements in its municipally-owned water system and waste water physical plant.

Lexington

Lexington, the second community participating in the program, continued Energy Bank activities, weatherizing 32 homes at a total cost of \$47,388 of which \$19,227 came from the Energy Bank. First year estimated savings were 1,060 million BTUs or 0.3 percent of all the energy used in Lexington homes in 1982.

As a participant in the Load Management Resources Fund, Lexington installed load management equipment; total cost was \$67,000 of which \$10,500 came from the no-interest fund. First year savings were \$78,600 or a return on the investment of 45.1 percent for the first year.

Schuyler

Under the Energy Bank in 1986, Schuyler performed 71 audits and weatherized 34 homes. The total cost to weatherize the homes was \$77,851 of which \$24,952 came from the Energy Bank. Expected first year savings were 6,312 million BTUs or 3 percent of Schuyler's total residential use in 1983.

The town held an energy fair during 1986 which was attended by 300 people. Schuyler submitted a commercial energy loan proposal under the Exxon Grant competition which was selected for funding.

South Sioux City

In 1986, 40 homes were audited and 18 homes were weatherized under the Energy Bank at a total cost of \$33,081 of which \$11,812 came from the Energy Bank. Promotional efforts to solicit participants in the Energy Bank program generated 125 applications.

A U.S. Department of Housing and Urban Development grant of \$15,000 enabled energy saving improvements to be made on ten rental homes. Additionally, a Community Development Block Grant from the Department of Economic Development was received to rehabilitate up to ten homes which included making energy-saving home improvements.

In December of 1986, the South Sioux City Area Chamber of Commerce was selected as one of the Exxon grant recipients. Under the proposal, the Chamber will operate a commercial and non-profit building energy conservation loan program.

West Point

During 1986, the West Point Energy Committee maintained a regular column in the *West Point News* featuring energy and waste recycling topics. A load management program using load control switches and radio announcements saved an estimated \$25,000-\$30,000 in electrical demand charges. An energy-saving recycling program generated 82,560 pounds of paper saving 429 million BTUs and 500 gallons of used oil saving 69 million BTUs.

Wood River

In 1986, under the Energy Bank, 13 audits were performed. The city performed low-cost, no-cost building improvements—caulking and weatherstripping—on the council chambers, library and maintenance buildings. Additionally, newspaper articles on ways of limiting water use were placed in the *Wood River Sunbeam*.

Verdigre

Verdigre, the last city to enter the program, was selected as a model to illustrate the variety of projects that could be undertaken by a community in which a bank had been closed.

In 1985, Verdigre received a Community Development Block Grant totalling \$258,000 to make building improvements in forty-plus businesses in the town. In 1986, the business plan was completed and audits were scheduled. By the end of the year, 19 audits had been performed and two businesses had been weatherized at a cost of \$4,679. \$814 in savings are estimated to be realized annually. The weatherization project continued throughout 1987.

Promoting food processing and providing alternative marketing systems for local farmers was a goal selected by Verdigre. To help them reach that goal, the Energy Office, under contract, produced the "Nebraska Energy Efficient Food Marketing Guide" which details how to set-up farmers' markets and the kinds of alternative crops needed by food processors and retailers.

OIL OVERCHARGE PROJECTS

As of June 30, 1987, six Exxon-funded projects listed on page 28 had been fully negotiated and approved by the U.S. Department of Energy and the State Attorney General. A description of the projects appears below.

Hoeger Communications of Omaha is to script and film three video programs promoting energy conservation values for children in three age categories: kindergarten through third grade, third grade through sixth grade and seventh through ninth grade. Upon completion, the videotapes will be made available to schools throughout Nebraska. The contract totals \$80,850 in oil overcharge funds. Hoeger Communications is contributing \$6,220 in matching funds.

The Heartland Center of Leadership Development of Lincoln is to hold ten workshops across the state illustrating to small businesses how they can obtain dollar and energy savings in their business operations. The Heartland Center will also hold workshops for government agencies working with small businesses. The contract totals \$68,377 of oil overcharge funds. The in-kind match by the contractor is \$19,380.

The Indian Center of Lincoln is conducting a feasibility study of the market potential of thermal insulated window shades with Native American designs. The contract amount totals \$5,720 of oil overcharge funds. The in-kind match adds \$9,250 to the project costs.

Central Nebraska Community Services of Loup City is to train up to twenty contractors in weatherization techniques applicable for residential and commercial buildings at a cost of \$27,621. \$11,050 in in-kind match is being added to the project by the contractor.

Jerry Berggren, Architect and Associates of Lincoln will demonstrate energy-saving building improvements in five historically significant county courthouses across the state. The contract totals \$629,454 in oil overcharge funds. An additional \$249,750 will be added by the five counties, and the contractor will add \$6,120 in in-kind match.

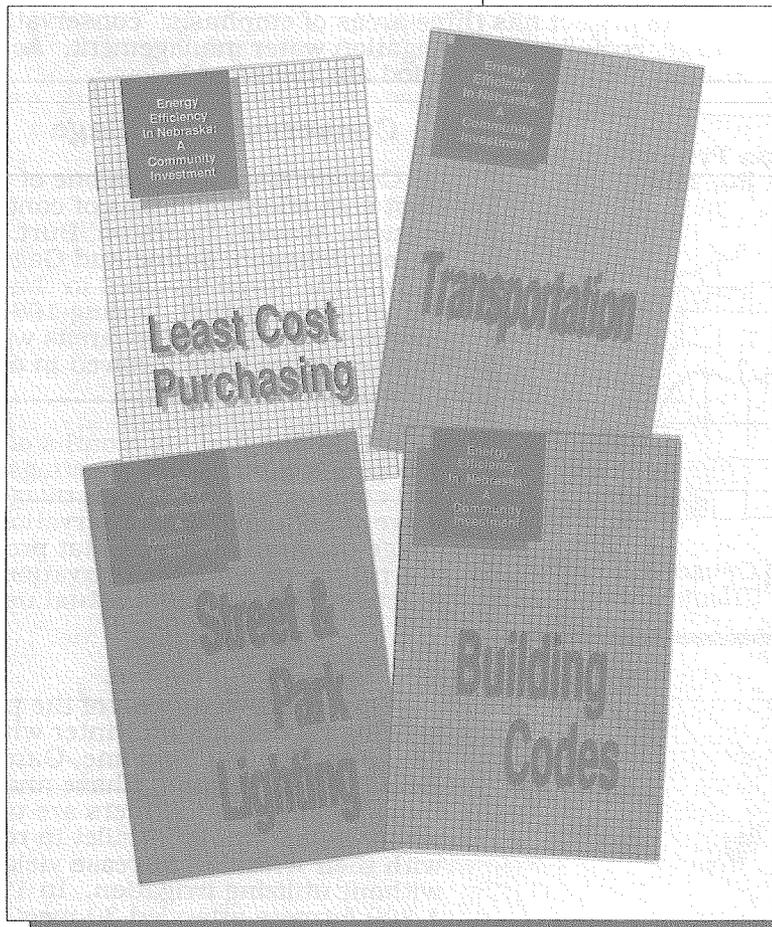
City of Omaha Public Works Department is conducting a demonstration of the dollar and energy savings potential of installing computerized traffic signal equipment to promote more efficient use of energy in the transportation sector. The contract totals \$500,000 in oil overcharge funds. The city has also added \$228,861 as an in-kind contribution to the project.

FEDERALLY MANDATED PROJECTS

Under the Energy Policy and Conservation Act of 1975, which created the State Energy Conservation Program and the Energy Extension Service, the Energy Office must undertake efforts in the specific areas of procurement, vanpooling/carpooling, lighting and thermal standards and right turn on red. The activities in these areas for the reporting period are identified below.

Procurement

A brochure illustrating the concept of how Life Cycle Costing can be used in evaluating proposed purchases was distributed to civic officials. Under the Life Cycle Cost method, energy costs are included as part of the overall review of a planned purchase. Life Cycle Costing promotes the purchase of more efficient equipment and the lowering of operating costs over the lifetime of the equipment.



Vanpooling/Carpooling

A brochure highlighting the energy-saving transportation options available to Nebraskans was published during the period and distributed to civic officials.

Lighting and Thermal Standards

A brochure describing the benefits and identifying the ways a community could increase the efficiency of its street and park lighting without sacrificing illumination was distributed to municipal officials during this reporting period.

A brochure listing building code options available to municipal officials was distributed during this reporting period.

Right Turn On Red

Since the Nebraska Legislature passed permissive legislation allowing right turns on red lights, the federal government has required no further action on this mandatory activity.

During 1986, 515 people attended 16 meetings and tours. A total of 92 cooperating farmers saved an average of \$23 per acre through utilization of irrigation management techniques. Demonstrations of both cablegation and surge irrigation techniques were given.

The Benefits

In less than three years, the project has saved more than 1.1 million gallons of diesel fuel, the equivalent of 1 percent of all diesel fuel used in the agricultural sector in the state in 1986. In dollar terms, almost \$1 million has been saved in avoided energy costs.

MISCELLANEOUS PROJECTS AND STUDIES

Energy Education

Since 1985, the Nebraska Council on Economic Education has fulfilled the Energy Office's commitment to supply teachers and students with energy-related curriculum materials. In July of 1986, a new contract totaling \$30,000 was issued to continue to meet the state's energy education needs. Under the contract, the Council maintains the Office of Energy and Economic Education, provides instructional materials, workshops and support services to the state's teachers.

During 1986, the Office of Energy and Education contacted 254 educators through 17 presentations. 224 teachers requested 504 pieces of cost-free materials and scheduled 75 audiovisuals.

In the first six months of 1987, two presentations were given to 100 students, 73 copies of three different cost-free materials were requested and over 90 educators scheduled 32 audiovisuals. Additionally, the Office distributed 49 copies of five different curriculum guides.

Trees

Completing a four-year effort, the Nebraska Statewide Arboretum, continued to educate Nebraskans on the energy conservation benefits resulting from the planned planting of trees. The oil-overcharge funded project was concluded in 1987. During this reporting period, "Whispers", an informational newsletter was published three times and the multi-screen slide show entitled "Conserve Energy Naturally" was scheduled for presentations. During the reporting period, \$4,331 in oil overcharge funds was spent.

Studies

During this reporting period, the Energy Office conducted, under contract, three studies: an end-use efficiency study, evaluation training for management staff and development of an evaluation handbook and development of a marketing plan for low-interest home and building improvement loans for homeowners, businesses, landlords and communities.

OIL OVERCHARGE FUNDS

The state has been receiving oil overcharge funds since 1982. Generally, these funds are the result of court actions against oil companies which overcharged consumers from 1973 through 1981 when federal price controls were in effect. Because there were so many unidentified injured consumers, the courts directed the oil companies to make restitution to the states on behalf of consumers. Each state's share of awards are based on historical consumption patterns.

In all cases, the courts have placed conditions on the use of these funds. For example, in 1983, \$886.17 was received as a settlement in the *Palo Pinto* case with the stipulation that it must be spent for energy conservation activities in the transportation sector since Palo Pinto Oil Company only overcharged on motor vehicle fuels.

The Energy Office, acting on behalf of the Governor who has been designated as the trustee of these funds, must meet any federal and judicial requirements attached to these funds.

1986

On March 8, 1986, the state received \$15,504,944 as a result of the decision in *U.S. v. Exxon Corporation*. That was followed in August by an initial payment of \$5,361,622 from the *Stripper Well* settlement and \$359,172 from the *Diamond Shamrock* case.

At the request of the Governor, the Energy Office conducted five public meetings to solicit ideas for use of oil overcharge funds. Additionally, over 6,000 idea solicitation booklets were mailed to Nebraskans. The Governor announced a grant competition for a portion of the monies and announced the grant recipients in December of 1986.

1987

Following the transition of administrations, Governor Orr sought to measure the existing *Exxon* grants against a standard of maximum impact on energy conservation as well as meeting federal and judicial requirements. The grants have proceeded, based on whether they met federal and judicial requirements.

Summary of Exxon, Stripper Well and Diamond Shamrock Oil Overcharge Funds

6/30/87	Exxon	Stripper Well	Diamond	Total
Initial Deposits	\$15,504,944	\$5,361,622	\$359,172	\$21,225,738
Subsequent Deposits		714,637		714,637
Interest through 6-30-87	1,302,333	300,365	20,253	1,622,951
Balance 6-30-87	<u>\$16,807,277</u>	<u>\$6,376,624</u>	<u>\$379,425</u>	<u>\$23,563,326</u>
Less Budgeted:				
Program Development	\$30,501	\$0	\$6,434	\$36,935
Monitor & Evaluation	86,290	0	0	86,290
Education	108,209	0	0	108,209
Management Outreach	75,000	0	0	75,000
Grants	6,930,529 ¹	0	0	6,930,529
Nebraska Energy Fund, Inc	0	5,000,000 ²	0	5,000,000
Low Income Weatherization Administration	0	1,147,792 ³	0	1,147,792
Oil Overcharge Administration	0	0	372,991	372,991
Subtotal as of 6-30-87	<u>\$7,230,529</u>	<u>\$6,147,792</u>	<u>\$379,425</u>	<u>\$13,757,746</u>
Adjusted Balance	<u>\$9,576,748</u>	<u>\$228,832</u>	<u>\$0</u>	<u>\$9,805,580</u>

¹ Total amount of grant contracts signed by Governor Kerrey on January 7, 1987

² Designated for Nebraska Energy Fund, Inc.

³ Eighteen percent (18%) designated for the Low Income Weatherization Assistance Program

Source: Nebraska Energy Office

In the case of the Nebraska Energy Fund, Inc. (NEFI), the U.S. Department of Energy questioned the legality of spending oil overcharge funds on the NEFI Project. The Energy Office and the Attorney General's Office are negotiating the resolution of this matter.

In 1987, the Legislature passed Legislative Bill 683 requiring the Governor to submit for approval to the Legislature an annual plan for the use of the remaining oil overcharge funds. In December, the Attorney General issued an opinion that LB 683 violates the separation of powers provisions of the Nebraska State Constitution.

The status of the Exxon, Stripper Well and Diamond Shamrock funds as of June 30, 1987 are illustrated in the chart on the previous page.

EXXON GRANT PROJECTS BY CATEGORY

Energy Education

Hoeger Communications² energy education videos
 Management Information Resources jr. high education program
 Nebraska Council on Economic Education state-wide education
 Central Community College auto efficiency training
 Auburn Public Schools student audits and weatherization education
 Heartland Center for Leadership Development² community energy planning
 Community Action of Nebraska energy education and audits
 Panhandle Community Services energy audits

Local Conservation Financing Demonstrations

South Sioux City Area Chamber of Commerce energy loan program
 Village of Stuart energy loan program
 City of Schuyler energy loan program
 Park East, Inc. interest buy down program
 Neighborhood Housing Services energy loan program
 City of Lincoln energy loan program

Agricultural

University of Nebraska Institute of Agriculture
 and Natural Resources, West Central Research
 and Extension Center greenhouse efficiency improvements
 University of Nebraska Institute of Agriculture
 and Natural Resources, Department of Agronomy low-input farming
 University of Nebraska Institute of Agriculture
 and Natural Resources, Department of Agronomy low-input farming
 47 Ranch Company solar livestock watering
 University of Nebraska-Lincoln Institute of Agriculture
 and Natural Resources, Departments of
 Agricultural Engineering and Horticulture greenhouse management

Technical Assistance/Efficiency Studies

City of Bellevue, Dock Board waste to energy study
 Indian Center² window efficiency treatments
 City of Kimball electric end-use study
 West Central Nebraska Development District regional energy study

Weatherization Job Training

Community Action of Nebraska mobile home weatherization training
 Central Nebraska Community Services² contractor training
 Mid-Nebraska Community Services jobs through energy efficiency

Public and Non-Profit Building Improvement Demonstrations

Northern Natural Gas Company cogeneration demonstration
 Jerry Berggren Architects and Associates² courthouse energy improvements
 Northeast Nebraska Area Agency on Aging gas heating demonstration
 St. Mary's Catholic Church insulated glass demonstration
 St. Anselm's Church weatherization demonstration
 City of Omaha Housing Authority¹ air conditioning demonstration

Transportation

City of Omaha Public Works Department² traffic signal timing

¹ The Omaha Housing Authority Project was denied by the U.S. Department of Energy as an ineligible use of oil overcharge funds.

² Reports on these projects appears on page 22.

WEATHERIZATION DIVISION

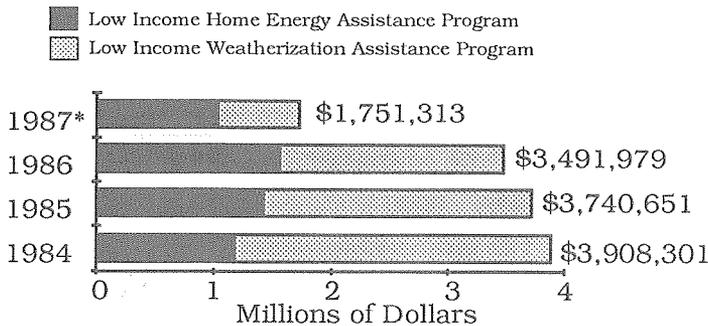
In 1986 and the first half of 1987, the Weatherization Division continued to administer the federally-mandated program to weatherize homes — the Low-Income Weatherization Assistance Program. Administration of this program at the state level involves inspection of about fifty percent of the homes receiving weatherization, monitoring and auditing of the subgrantees, primarily community action agencies, which actually make the home improvements that save money and energy.

On average, people participating in the program spend 9.2 percent of their income to heat and cool their home. After the improvements have been made to their home, that percentage drops to 7.5, allowing them to spend these savings for other purposes in their own community.

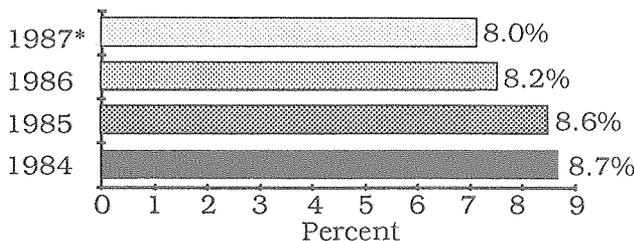
Weatherization Assistance Program

In 1986, a total of 2,024 homes were weatherized. During the first half of 1987, 1,020 homes were made more energy efficient. The federal funds to make the home improvements come from two programs: the Low-Income Weatherization Assistance Program and the Low Income Home Energy Assistance Program (administered through the Nebraska Department of Social Services). Current and historical funding levels are illustrated in the uppermost chart at the left. Generally, the funding reductions in the Weatherization Assistance Program have been offset by increases in the amount allocated to home weatherization from the Low Income Home Energy Assistance Program.

Weatherization Program Investments



Weatherization Program Return on the Federal Investment for the First Year



*1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: Nebraska Energy Office

Weatherization Assistance for the Elderly

In 1986 and 1987, the Weatherization Division continued to establish as a priority serving the elderly community of Nebraska with home weatherization. A total of 779 elderly households, or 38.5 percent of the total homes weatherized in 1986, and 399 or 39.1 percent of the homes weatherized in the first half of 1987 were done for the elderly through the Weatherization Assistance Program.

The Benefits

Energy-saving home improvements made through the program saved Nebraskans \$248,952 or an average of \$123 per household in avoided energy costs during 1986, the equivalent of 2.3 percent of the annual amount of electricity generated by the Kingsley Hydroelectric Power Plant. Home improvements made during the first six months of 1987 project savings of \$125,640, equaling the average per household savings of 1986.

The bottom chart illustrates the historical and current first year rate of return on the investments made under

home improvements results in a return of eight cents from year-to-year. Fluctuations in the first year return of the investment are generally attributable to changing labor and material costs.

The home improvements represent a one-time investment that will likely yield a return for at least fifteen years. Thus, the rate of return on that one-time investment made in 1986 or 1987 would yield over a 120% return for the functional lifespan of the improvements. If either energy prices or the value of money increased, the rate of return would likewise increase.

Oil Overcharge Funds

During the eighteen month reporting period, \$619,584 in *Stripper Well* oil overcharge funds were allocated by Governor Orr to the Low-Income Weatherization Assistance Program. It is estimated that the *Stripper Well* funds will make energy-saving improvements on 353 homes during the 1987-1988 fiscal year.

Divisional Changes

The Institutional Conservation Program, the federally-mandated program that provides grants to weatherize schools and hospitals, was assigned to the Financing Division during 1986 since the program's client profile more closely parallels that of other programs in the Financing Division. The report on that program appears on page 34.

ENERGY FINANCING DIVISION

The Energy Financing Division administers both state and federally-mandated programs which provide funds for home, hospital and school weatherization: The Energy Efficiency School Loan Program, the Energy Bank and, in 1986, the Institutional Conservation Program, which was transferred from the Weatherization Division.

The federal government, since the late 1970s and early 80s and state government since 1981, felt that it was sound public policy to reduce energy costs and use in institutions like schools and hospitals and in homes for those needing financial incentives to make home energy-saving improvements.

In some cases, the savings both in dollars and energy can be dramatic. In Thedford, for example, the Thomas County Rural High School District spent a total of \$3,050 (\$1,900 in state grant money and \$1,150 in local funds) to remove several shop class windows in its high school. **That building improvement in the first year saved \$7,407 and earned a return on the investment of 244 percent.** Since savings will accrue over the lifetime of the improvement, the school district will earn a similar rate of return for each year and into the future, if energy prices and the cost of money remain constant.

This and the next several pages detail the activities of each state and federal program in the division during the eighteen month period from January 1, 1986 through June 30, 1987.

NEBRASKA ENERGY EFFICIENCY SCHOOL LOAN PROGRAM

Since 1981, the Energy Office has administered the School Weatherization Program; first as a grant program and starting in 1986, as a loan and grant program. The program is funded from oil and natural gas severance taxes. Agency staff review applications for technical assistance grants and building improvement loans, conduct technical reviews of the planned building improvements, monitor the progress of the building modifications, collect loan repayments and analyze energy consumption data reports filed by the schools.

In 1985, the Legislature reauthorized the Nebraska School Weatherization Program, but changed it from an 80/20 state/local grant program to a no-interest loan program. However, the technical assistance grant program was retained without change.

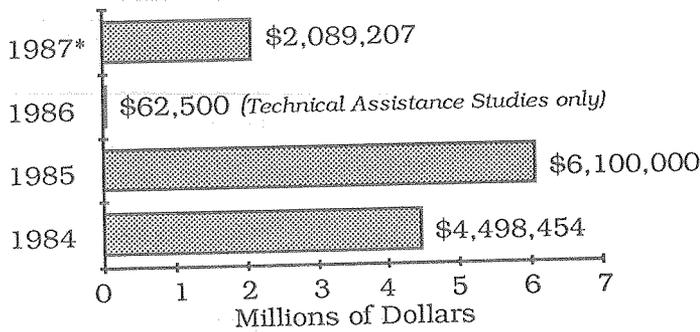
1986 and 1987 Activities

During 1986, the Energy Office issued 25 technical assistance grants for 37 buildings. On December 1st, the Nebraska Energy Efficiency School Loan Program began. In the first thirty days, six school districts had applied for building improvement loans for nine buildings totaling \$312,520. During the first six months of 1987, 31 school districts applied for \$2,089,207 to make energy efficiency improvements in 59 buildings. Additionally, 37 technical assistance grants totaling \$89,003 were issued.

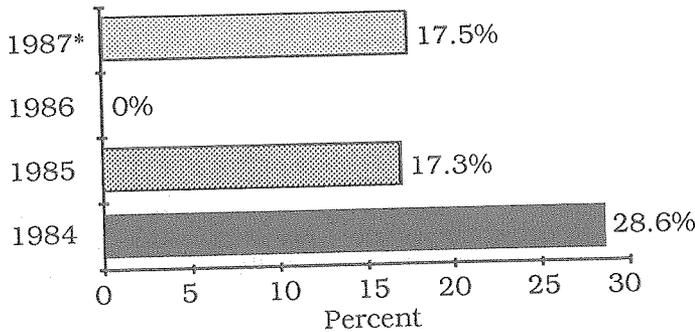
The Benefits

As the rate of return on investment chart illustrates, the first year return for the most recent reporting schools has earned a 17.5 percent return on the investment. If the functional life of the improvements continues for 15 years, the rate of return would be 258 percent, if either energy prices or the value of money remain at current levels. An increase in either would increase the return on investment accordingly.

School Weatherization Program Investments
January 1, 1986 Through June 30, 1987



School Weatherization Program
Return on Investment
January 1, 1986 Through June 30, 1987



* 1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: Nebraska Energy Office

ENERGY BANK

Under the federally-funded Energy Bank Program, low and moderate income homeowners can receive a grant or loan subsidy to make energy saving home improvements. On average, each homeowner makes \$1,700-\$1,800 in improvements and receives a \$700 subsidy. Homeowners or private lending institutions supply the balance of the funds.

Operationally, the Energy Office contracts with municipal governments to run the programs locally. Activities at the state level consist of monitoring the local governments' performance under the contract and inspecting homes in which improvements have been made.

Participating Cities

Initially, the U.S. Department of Housing and Urban Development program was confined to the cities of Omaha and Lincoln. Starting in 1984, the Energy Bank program was extended to cities participating in the Nebraska Community Energy Management Program. The cities and amounts allocated in 1986 and the first six months of 1987 are illustrated in the chart.

Federal budget cuts have severely reduced the funds

available for distribution to the cities. However, because of the state's ability to use all of the funds awarded, it has benefited from the recapture of funds from other states. During this reporting period, all of the monies received by the Energy Office consisted entirely of recaptured funds.

The Benefits

Energy saving home improvements made under the program have saved Nebraskans \$209,458 or an average of \$319 per household in avoided energy costs during 1986 and the first half of 1987. The equivalent equals 3,153,192 kilowatt hours of electricity or enough for a year's worth of electricity for 350 homes.

The home improvements represent a one-time investment that will likely yield a return for at least 15 years. Thus, the one-time investment made in 1986 would yield a one-year rate of return of 14.4 percent, but over a 216 percent of return for the functional lifespan of the improvements. If either energy prices or the value of money increases, the rate of return would likewise increase.

Energy Bank Investments January 1, 1986 Through June 30, 1987

Community	Energy Bank Grants	
	1986	1987*
Allen	\$2,000	\$0
Fremont	\$89,749	\$0
Lincoln	\$86,595	\$20,000
Omaha	\$57,996	\$0
Schuyler	\$15,450	\$0
South Sioux City	\$2,000	\$2,745
Wood River	\$2,000	\$0
Total	\$255,790	\$22,745

* 1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.

Source: Nebraska Energy Office

INSTITUTIONAL CONSERVATION PROGRAM

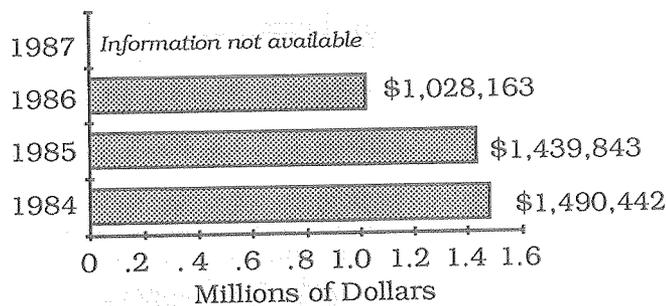
The federally-funded Institutional Conservation Program provides 50/50 matching grants to public and private schools and hospitals for engineering studies to identify energy-saving building improvements or to install the building improvements. The Energy Office provides potential applicants with program information, reviews and ranks applications, submits them to the U.S. Department of Energy for final review and monitors the work-in-progress of the successful applicants.

1986 and 1987 Activities

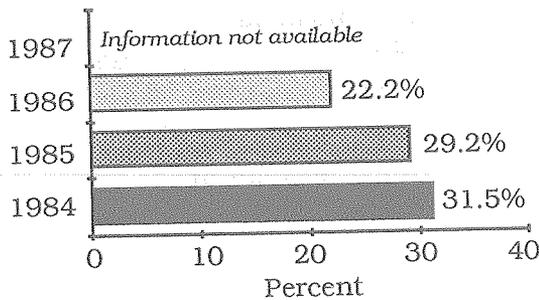
In 1986, \$492,249 was awarded for energy conservation projects on 23 buildings and \$13,246 was awarded for engineering studies on nine buildings. The upper half of the chart at left illustrates the historical funding levels under the program. The projects completed with the 1986 grants are estimated to cost \$1,028,163 including local match and administrative costs and are estimated to save \$228,453 annually in avoided energy costs.

During the first half of 1987, the Energy Office was awarded \$342,794 for engineering studies and building improvement grants under the program. The federal government is expected to distribute these funds in August.

Institutional Conservation Program Investments



Institutional Conservation Program Return on Investments for the First Year



The Benefits

As the lower chart at the left illustrates, the first-year rate of return on the investment for 1986 is 22.2 percent. The building improvements are a one-time investment which will likely yield a return for at least fifteen years. Thus, the rate of return on that one-time investment made in 1986 will yield over a 333 percent return for the functional lifespan of the improvements. If either energy prices or the value of money increases, the rate of return will likewise increase.

Tier I Grant

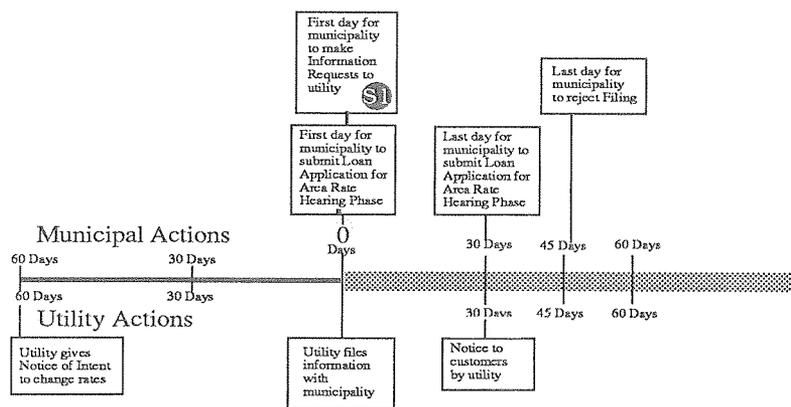
In September of 1986, the Nebraska Energy Office was selected as one of nine recipients of a competitive Institutional Conservation Program Tier I grant. Under the \$222,562 grant, the Energy Office is to explore innovative ways of continuing the Institutional Conservation Program without federal funding. Additionally, the grant will be used to explore financing mechanisms to extend the program to all four program categories: schools, hospitals, public care facilities and local governmental buildings.

NATURAL GAS TECHNICAL ASSISTANCE

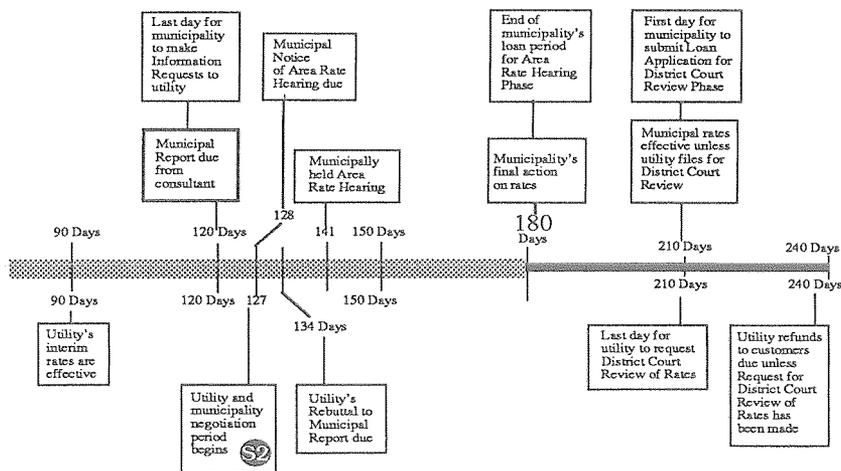
Natural gas is imported into the state primarily through major pipelines operated by Northern Natural Gas Company and KN Energy. Retail gas service is supplied by seven different investor-owned natural gas companies. About one-third of consumers receive natural gas service from publicly-owned natural gas utilities.

Nebraska has chosen to regulate natural gas suppliers at the local level. Unlike other states, rate regulation is totally a local matter decided by the members of village boards and city councils. Until natural gas prices increased significantly, regulation matters were relatively routine.

Timeline for the General Rate Regulation Process



- S1** = Failure of a utility to respond in good faith to a relevant request suspends the time requirement until a response is received. A utility must respond within 20 days of a request for information.
- S2** = At this point, both Parties may mutually agree to suspend the time requirements for up to 30 days.



Technical Assistance

Since mid-1983, the Energy Office has been responsible for providing municipalities natural gas regulation technical assistance. The 1984 publication of *A Report to Nebraska's Municipalities: Natural Gas Regulation in Nebraska*, which included a model rate ordinance, is an illustration of the type of assistance provided by the Nebraska Energy Office. Some communities have requested specific assistance in regulation matters.

1986

As a result of an increasing frequency of regulatory issues facing locally elected officials, a study group comprised of the state's major natural gas suppliers, state senators, legislative staff and civic officials met throughout 1986 and into 1987 in an effort to standardize the procedures for community regulation of retail natural gas rates.

1987

The work of this group resulted in the passage of the *Municipal Natural Gas Regulation Act* (LB663). The act established procedures for the review of general rate increases, filing and local review of municipally-initiated rate increases and supply-cost-adjustments, and the creation of the Municipal Natural Gas Revolving Loan Fund, administered by the Energy Division of the Policy Research Office and capitalized with receipts from the severance tax. The chart at the left illustrates the process for filing and considering a general rate increase.

With the passage of the *Municipal Natural Gas Regulation Act*, the Policy

Research and Energy Office adopted rules and regulations governing the Municipal Loan Fund so that it was operational by September 1, 1987. As of December 31st, five applications had been received totaling \$78,240.

In October, the Policy Research and Energy Office distributed 600 copies of the *Public Officials' Handbook on Natural Gas Regulation* to municipal clerks and attorneys enabling them to skillfully use the Act's regulatory process for the benefit of both natural gas customers and suppliers.

OPERATIONS

Operations consists of two areas: an overview of the agency's funds and how the agency is functionally organized.

FINANCIAL REVIEW

Where the Money Came From

In 1986, 85 percent and in the first six months of 1987, 90 percent of the Energy Office's funding came from federal sources. Of these funds, slightly more than three-quarters was used for either the Low-Income Weatherization Assistance Program or the Energy Bank. State funds came almost exclusively from severance taxes during the eighteen month

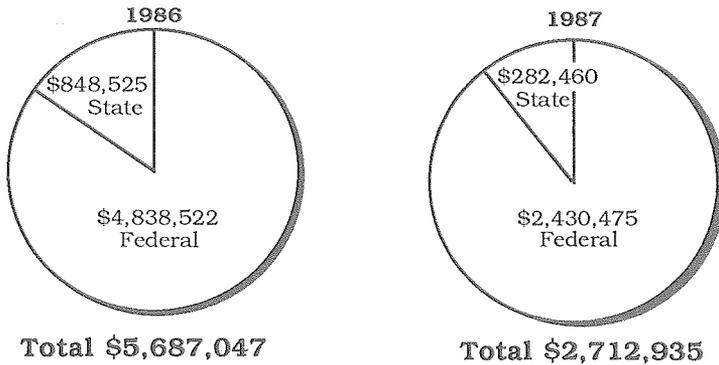
period. No general funds have been appropriated to the Energy Office since 1983. Slightly less than half of the state funds were used to finance the Nebraska Energy Efficiency School Loan Program. The upper portion of the chart at the left illustrates the exact figures and sources.

Where The Money Went

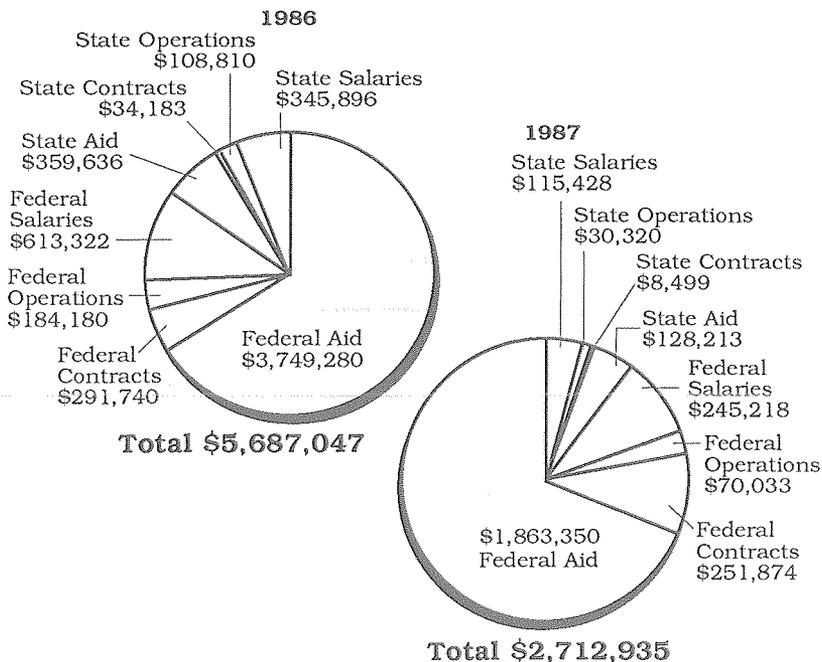
As the bottom chart at the left shows, the money received by the Energy Office from state and federal sources was spent in eight different ways. Aid, the largest portion, is money received and passed through to either delegate agencies or goes directly to beneficiaries such as schools. Operations pays for travel, telephone, computer and related administrative expenses. Contracts, which are funded with state or federal funds, are primarily for research and demonstration projects. During the next reporting period, for example, all of the oil overcharge grants listed on page 28 will be classified as contracts under expenditures.

**Where the Money Came From
January 1, 1986 Through June 30, 1987**

1987 information is for the period January 1 through June 30, 1987. This information represents a half year of data and should not be compared to other years to determine trends.



**Where The Money Went
January 1, 1986 Through June 30, 1987**



ORGANIZATION

The Energy Office's functional organization was modified in minor ways in 1986 and in a more fundamental fashion in 1987.

1986

With the arrival of millions of dollars of oil overcharge funds, a more streamlined organizational structure was adopted; The three basic groups, Programs, Administration and Planning, were reduced to two: Administration and Operations, each headed by a deputy director.

One program, the Institutional Conservation Program, shifted from one division to another; from the Weatherization to the Financing Division.

1987

In January of 1987, by Executive Order, the Nebraska Energy Office became a division of the Policy Research Office. The agency, created by executive order in November 1973 as the Fuel Allocations Office was a Division of the Nebraska Department of Revenue until 1977. From 1977 to 1987, the agency had independent status.

Subsequent to the signing of the Executive Order, the Policy Research and Energy Office assessed ways to eliminate functional duplications and moved to reassign personnel to meet the needs of the merged agency.

The Organizational Chart below reflects the changes made as a result of the merger.

