



# nebraska energy office

**third quarter report  
november 15, 1981**

**Help Conserve the Good Life of Nebraska**

CHARLES THONE  
GOVERNOR



State of Nebraska  
Nebraska Energy Office

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V.B. BALOK  
DIRECTOR

November 15, 1981

The Honorable Charles Thone  
Governor of Nebraska  
State House  
Lincoln, Nebraska 68509

Patrick J. O'Donnell  
Clerk of the Legislature  
Room 2018 State Capitol  
Lincoln, Nebraska 68509

Dear Governor Thone and Clerk O'Donnell:

This Quarterly Report from the Nebraska Energy Office, for the period of July - September, 1981, is submitted in accordance with provisions of Section 81-1606 RSN (1980).

If you have any questions, please contact this office.

Sincerely,

NEBRASKA ENERGY OFFICE

A handwritten signature in cursive script that reads "V. B. Balok".

V. B. Balok  
Director

VBB:peg

Enc.

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## INTRODUCTION

The United States is divided into five Petroleum Administration for Defense Districts (PAD"s). Nebraska is in PAD 2, which is comprised of the following states:

Ohio	Kentucky
Tennessee	Michigan
Indiana	Wisconsin
Illinois	Minnesota
Iowa	Missouri
North Dakota	South Dakota
Nebraska	Kansas
Oklahoma	

In 1980, PAD 2 imported approximately 40 percent of its crude and refined petroleum products, which amounted to 416,666,000 barrels of foreign crude. Six countries accounted for 79 percent of the foreign imports into PAD 2: Libya, 17.2 %; Nigeria, 16.5 %; Mexico, 13.9 %; Canada, 12.2 %; Algeria, 11.5 %, and Saudi Arabia, 7.7 %.

The first quarter of 1981, however, produced changes to these import percentages. These same six countries accounted for 83.5% of the petroleum imported during the quarter. Canada took the lead by providing 34.6% of all imports; Nigeria provided 17.2%, Libya 11.6%, Mexico 9.7%, Algeria 5.3%, and Saudi Arabia 5.1%. In addition, another 9% is imported from other OPEC members.

A quick look at this list indicates that 48.2% of the imported oil into PAD 2 comes from OPEC members. For this reason, conservation of petroleum products and investigation into alternate fuels are our highest priority tasks.

As a result we are currently conducting the following studies:

1. An assessment of the total biomass available in the state, including waste products.
2. An assessment of the wind energy potential in the state.
3. An assessment of various alternate fuels technologies.
4. An assessment of low head hydro power potential.

As these studies are completed, the results will be analyzed and our findings published in our quarterly reports.



NEO Director

## NATIONAL POLICY

The Reagan administration, in July, 1981, submitted its National Energy Policy Plan (NEPP), which dovetails closely with the theory known as "supply side economics." The plan mainly advocates: (1) heavy reliance on policies to enhance the production of oil, gas and coal within the United States; (2) promotion of more efficient energy use through more favorable tax and depreciation allowances, which are designed to encourage retrofitting and capital stock turnovers.

The administration currently is building up the strategic petroleum reserve. To justify this, the administration states that "many of the economic, national security and international policy benefits from such stockpiles accrued to the general public rather than to the inventories." In conjunction with the buildup of petroleum stockpiles, many oil companies indicate their management personnel believe it is safe to lower the firms' oil inventories. This permits the companies to minimize inventory costs generated by high interest rates.

In addition to policies aimed at stimulating the free marketplace and building up petroleum stocks, the administration stressed in its national plan support for the expansion of nuclear power capabilities and commitment to regulatory reform of federal government energy/environment directives.

The administration document cited conservation gains since the 1973 Arab oil embargo and expressed confidence such gains will continue, in conjunction with general economic recovery, as a result of private sector concern over the high cost of energy. Related to this philosophy are decisions to dismantle the Department of Energy and cut back on government incentives for alternate energy sources such as synthetic fuels and solar devices.

A definitive view of the Reagan administration energy policy is available in the NEPP section detailing the federal role, which states in part:

"The President's action to end oil price controls and to dismantle the burdensome regulatory apparatus associated with those controls was a major step in implementing an energy policy focused on market realities. The challenge ahead is to provide a healthy economy and policy environment that enables citizens, businesses, and State and local governments to make rational energy production and consumption decisions--decisions that reflect the true value, in every sense, of all the Nation's resources.

"This approach represents a radical departure from the previous policy instituted after the first shock of rapid oil price increases in 1973 and 1974."

## WORLD PETROLEUM PRICING

World price structure for internationally traded crude oil remained in a state of flux through the third quarter of 1981, but OPEC (Organization of Petroleum Exporting Countries) members reached an agreement on pricing with the advent of the fourth quarter in October. The OPEC members set their lower benchmark crude oil price at \$34.00 per 42 gallon barrel and the ceiling at \$38.00 per barrel. Until the October accord was reached, Saudi Arabia had been charging a low of \$32.00 per barrel for benchmark crude oil and some other OPEC members ranged to higher than \$34.00. The agreement marked the first time since 1979 that OPEC put forth a unified pricing policy. The pricing agreement and figures were expected to remain in effect through 1982, but could be changed by the June, 1982 OPEC conference.

## REGIONAL STOCK

Nebraska is in a fifteen state Petroleum Allocation for Defense District known as PAD 2, which ranges from Nebraska to Ohio. Crude oil and other petroleum products in PAD 2, as of October 9, 1981, were down 4.5 percent from the level of the previous year. Because last year's stock was considered high, this year's is viewed as in the normal range. Motor gasoline stocks in PAD 2 were 2.6 percent higher than last year, distillate fuel oil stocks were 16.0 percent down from last year and residual fuel stocks were 19.5 percent below last year.

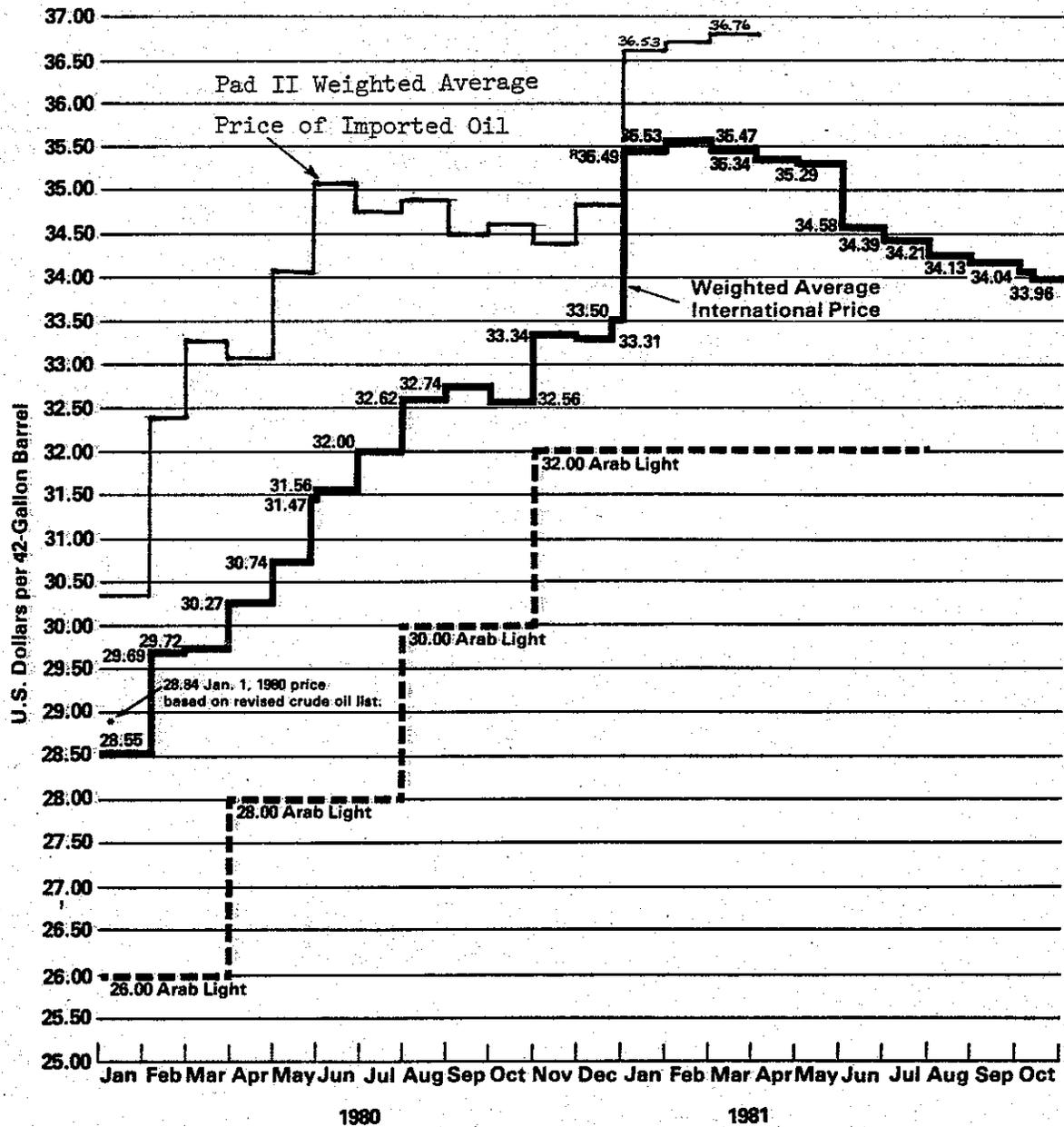
In 1980 there were 416,666,000 barrels of foreign crude oil imported into PAD 2. Six countries accounted in 1980 for 79 percent of the foreign oil imported into PAD 2: Libya, 17.2 percent; Nigeria, 16.5 percent; Mexico, 13.9 percent; Canada, 12.2 percent; Algeria, 11.5 percent, and Saudi Arabia, 7.7 percent.

The first quarter of 1981, however, produced changes in those PAD 2 import percentages. There were 78,370,000 barrels of foreign crude imported from the six countries, accounting for 83.5 percent of the petroleum stocks imported during the quarter. Canada took the lead at 34.6 percent; Nigeria provided 17.2 percent; Libya, 11.6 percent; Mexico, 9.7 percent; Algeria, 5.3 percent; and Saudi Arabia, 5.1 percent.

The following table shows a comparison of the price for internationally traded crude oil with the average price for crude oil imported into PAD 2.

TABLE 1

World Crude Oil Prices<sup>1</sup>  
(Dollars per Barrel)



<sup>1</sup> Internationally traded oil only. Average price (FOB) weighted by estimated export volume.

Note: Beginning with the May 1, 1981 issue of the Weekly Petroleum Status Report, the world crude oil price is based on a revised crude list. Additions: Saudi Arabia's Arabian Heavy, Dubai's Fateh, Egypt's Suez Blend, and Mexico's Maya. Omissions: Canadian Heavy. Replacements: Iraq's Kirkuk Blend for Iraq's Basrah Light. The above graph shows an estimated world crude oil price based on this revised list beginning January 1, 1981. An asterisk shows the January 1, 1980 price based on the revised list. All other 1980 prices represent the old crude list before revisions.

NEBRASKA OIL PRODUCTION AND EXPLORATION

Table 2 presents data on oil production and exploration in Nebraska from reports of the Oil and Gas Conservation Commission. The oil production for the first eight months of 1981 was 108 percent compared with the corresponding period of 1980. Table 2 shows that the number of drilling permits issued during the first nine months of this year increased for both exploratory wells and development wells.

TABLE 2

Month	Oil Production in Barrels				Drilling Permits							
					Exploratory				Development			
	1979	1980	1981	**	1979	1980	1981	**	1979	1980	1981	**
January	483,206	502,703	554,180	110	35	45	27	60	22	21	27	129
February	451,691	480,512	503,868	105	10	21	22	105	18	27	29	107
March	515,334	516,836	565,799	109	20	20	16	80	22	25	22	88
April	501,530	486,000	559,925	115	25	19	23	121	27	30	56	187
May	525,112	540,000	553,556	103	20	27	15	56	14	28	40	143
June	507,398	509,397	548,195	108	18	17	50	294	20	32	30	94
July	518,302	504,840	547,937	109	36	14	27	193	17	33	44	133
August	543,823	547,833	578,214	106	20	13	39	300	20	16	20	125
September	508,758	534,617			24	34	23	68	16	22	24	109
October	536,185	539,889			38	41			18	32		
November	458,615	502,264			37	34			26	30		
December	501,008	529,079			30	24			33	27		
TOTALS	6,050,962	6,193,970	4,411,674	108	313	309	242	115	253	323	292	125
*Annual Summary	6,068,019	6,239,652			320	309			255	311		

Notes: \*Annual summary data is compiled after corrections and is considered more reliable.

\*\*Percent of previous year.

TABLE 3

## Average Retail Price of Gasoline in Nebraska

(Dollars per Gallon)

	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	\$ .63	\$ .67	\$1.09*	\$1.21	111.0
February	.63	.68	1.15	1.28	110.9
March	.63	.71	1.18	1.35	114.2
April	.63	.74	1.21	1.35	111.4
May	.63	.79	1.22	1.32	108.3
June	.63	.87	1.22	1.31	107.3
July	.64	.90	1.20	1.29	107.7
August	.65	.94	1.18	1.29	109.1
September	.66	.97	1.17	1.28	110.0
October	.66	.97	1.16	1.28	109.7
November	.66	1.00	1.19		
December	.67	1.02	1.19		
					<u>110.2%</u>

Source: Cornhusker Motor Club

\*Source: Weekly Petroleum Status Report

LIQUID FUELS CONSUMPTION

Nebraska consumption of liquid fuels for the third quarter of 1981 amounted to 383 million gallons. Liquid fuel consumption for the commercial and residential sectors was less than 500,000 gallons and therefore is not listed. Transportation accounts for more than half the total liquid fuel use.

NEBRASKA PETROLEUM CONSUMPTION

TABLE 4  
Estimation for Third Quarter of 1981  
In Million Gallons

Fuel Type	Agriculture	Industry	Transportation	Electric Utilities	Total
Diesel	80	7	35	0	122
Heating Oil	26	1		1	28
Gasoline	11	2	211		224
Aviation			9		9
Residential				0	
<b>TOTAL</b>	<b>117</b>	<b>10</b>	<b>255</b>	<b>1</b>	<b>383</b>

## NEBRASKA PETROLEUM STATUS REPORT

Gasoline available for sale in Nebraska is defined as total gasoline imported in Nebraska minus the total exported. It continued to drop in the first nine months of 1981 to 91.9 percent of the first nine months of 1980.

Gasohol available for sale in Nebraska has shown a definite growth over the last two years. However, in the first nine months of 1981, consumption of gasohol was only 98.1 percent of the first nine months of 1980. Gasohol now comprises 4 percent of gasoline sales in Nebraska. Currently, month by month comparisons of gasohol consumption must be viewed with caution due to a reporting form revision in January, 1981. This revision will result in more accurate reporting.

Middle distillates show the greatest variation in imports. In the first nine months of 1981, imports were 102.1 percent of the same period in 1980.

Special fuels are any fuels other than gasoline that are put in a motor vehicle fuel tank. These include diesel, propane, and natural gas.

Special fuels for highway use are fairly constant reflecting the stability of the commercial transportation system. Special fuels for non-highway use include agricultural, industrial, railroad and any other motor vehicle use not on Nebraska roads. The non-highway use is quite dependent upon the Nebraska economy and is more volatile than highway use.

TABLE 5

## Fuel Delivered In Nebraska In 1981 (Thousands of Gallons)

	Motor Gasoline	Propane	Kerosene	Home Heating Oil	Diesel	*Total Middle Distillates
January	53,951	11,186	4,259	11,773	20,916	36,948
February	49,300	11,672	2,536	10,086	17,498	30,120
March	52,446	7,822	685	10,128	18,873	29,686
April	52,816	3,731	514	12,626	20,236	33,376
May	57,652	2,947	290	15,634	19,310	35,234
June	63,412	6,864	260	16,734	23,132	40,126
July	67,603	12,502	352	18,681	21,899	40,932
August	65,622	5,631	428	13,441	20,197	34,066
September	62,295	9,326	1,095	10,482	17,458	29,035
October						
November						
December						
<b>TOTAL</b>	<b>525,097</b>	<b>71,681</b>	<b>10,419</b>	<b>119,585</b>	<b>179,519</b>	<b>309,523</b>

The last month is preliminary

\* Kerosene, Home Heating Oil, Diesel, Other Middle Distillates

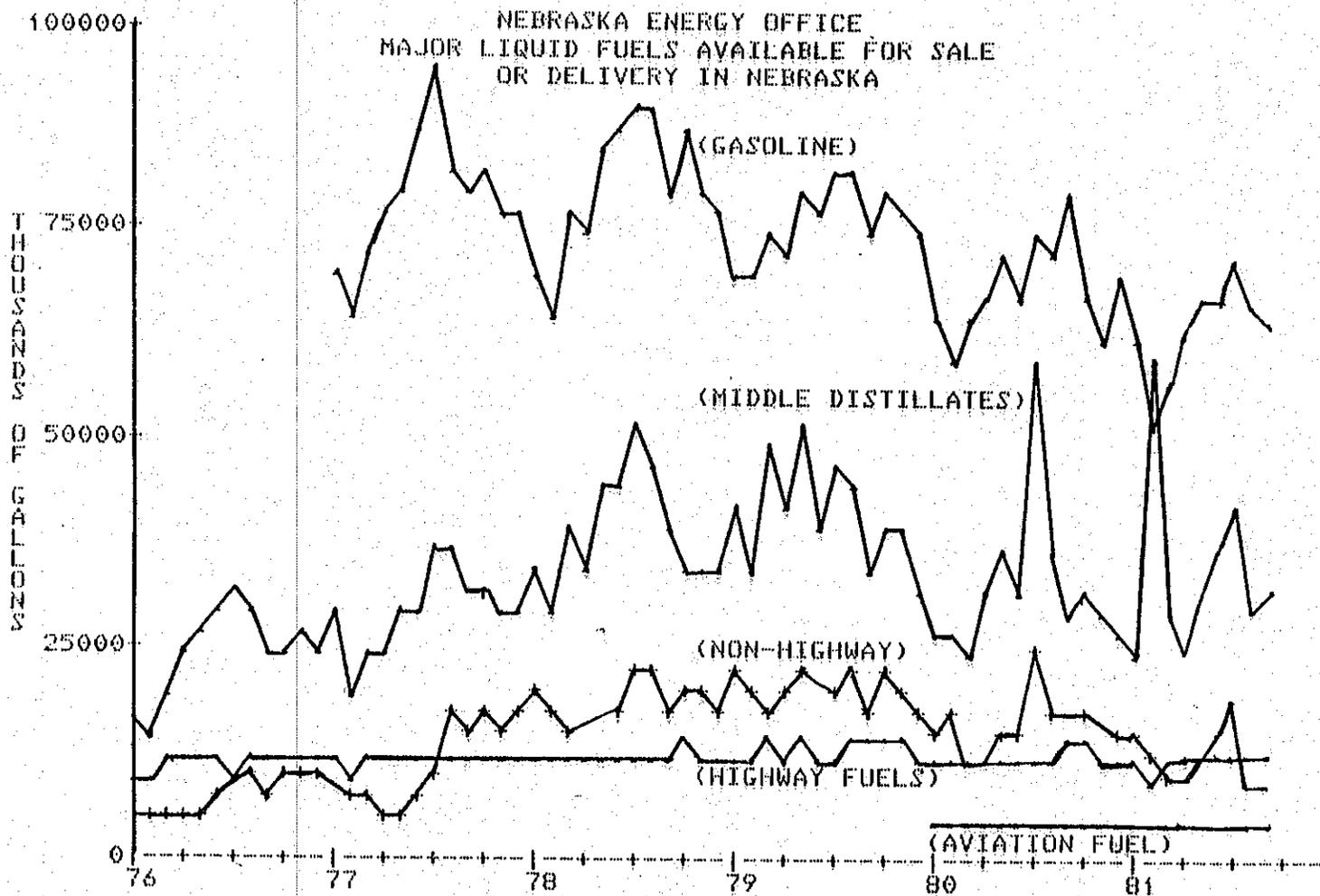
Source: EIA25 (FEA-1000) Report Form

12F

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Nebraska Energy Office

TABLE 6



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 7

## Gasoline Available for Sale in Nebraska\* (Metered Thousands of Gallons)

	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	69,334	69,166	69,602	63,763	60,917	95.5%
February	62,501	63,227	69,367	59,381	51,125	86.1
March	70,780	75,162	73,397	63,151	56,175	88.9
April	77,085	74,597	72,399	65,318	61,442	94.1
May	79,039	84,422	77,631	72,440	65,229	90.0
June	86,543	86,165	75,955	65,801	67,444	102.0
July	92,844	88,253	80,054	73,498	71,481	97.2
August	82,343	89,733	82,473	72,201	67,331	93.3
September	79,853	79,202	72,609	79,754	64,324	80.7
October	82,107	86,061	78,565	65,140		
November	76,506	78,351	76,555	60,261		
December	<u>75,453</u>	<u>76,887</u>	<u>74,824</u>	<u>68,169</u>		
TOTAL	934,388	951,226	903,431	808,877	565,468	91.9%

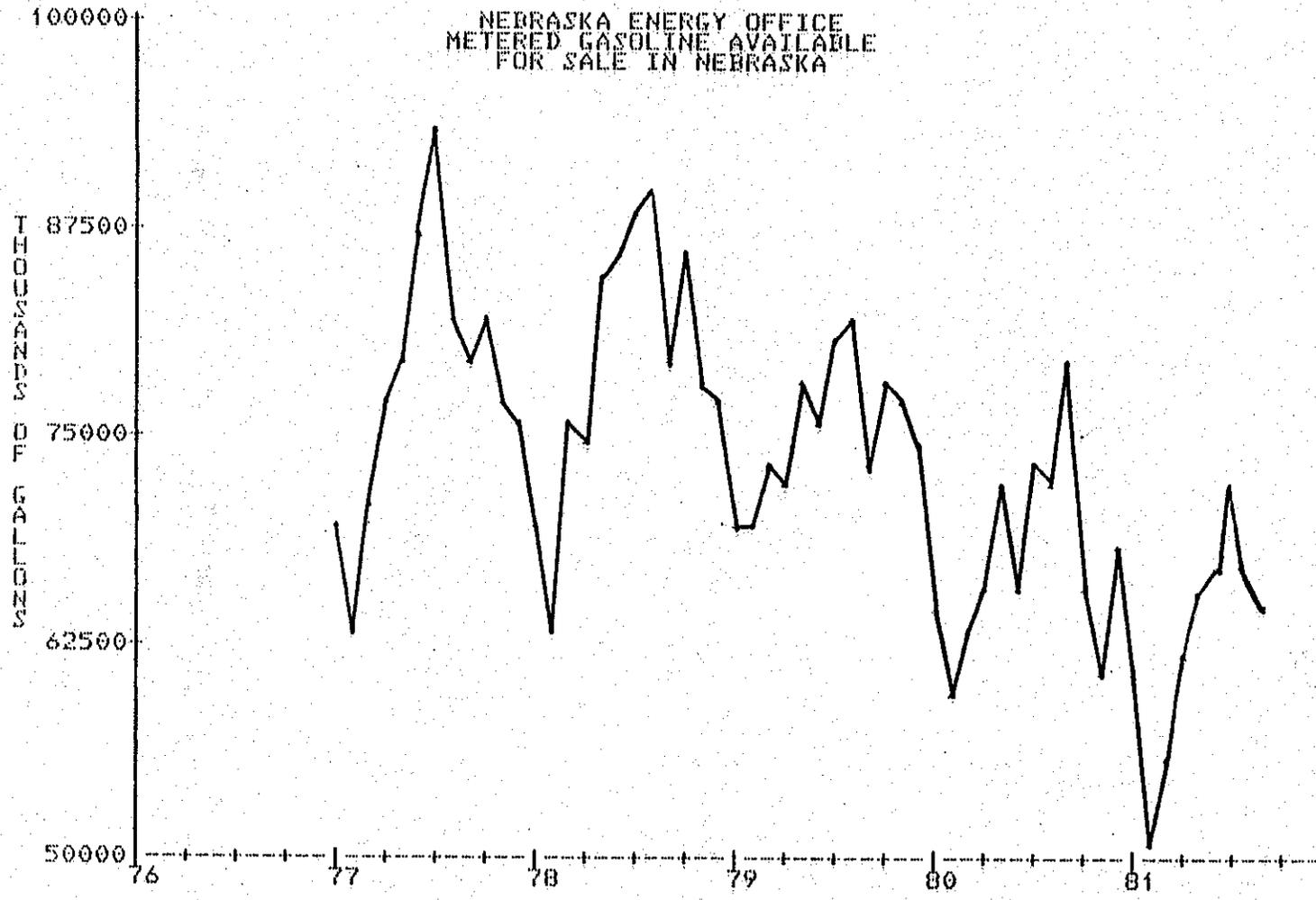
The last three months are preliminary.

\*Gross import into the state minus exports out of the State.

Source: Department of Revenue Tax Form 81

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NEBRASKA ENERGY OFFICE

TABLE 8



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 9

## Gasohol Available for Consumption in Nebraska\* (Thousands of Gallons)

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	280	1,729	2,514	145.4%
February	280	1,926	2,308	119.8
March	296	2,878	2,413	83.8
April	291	2,687	2,311	86.0
May	313	2,915	2,392	82.1
June	306	2,579	2,583	100.2
July	320	2,749	2,616	95.2
August	1,413	2,320	2,472	106.6
September	823	2,761	2,514	91.1
October	922	2,485		
November	802	2,284		
December	<u>844</u>	<u>2,825</u>		
TOTAL	6,890	30,138	22,123	98.1%

The last three months are preliminary

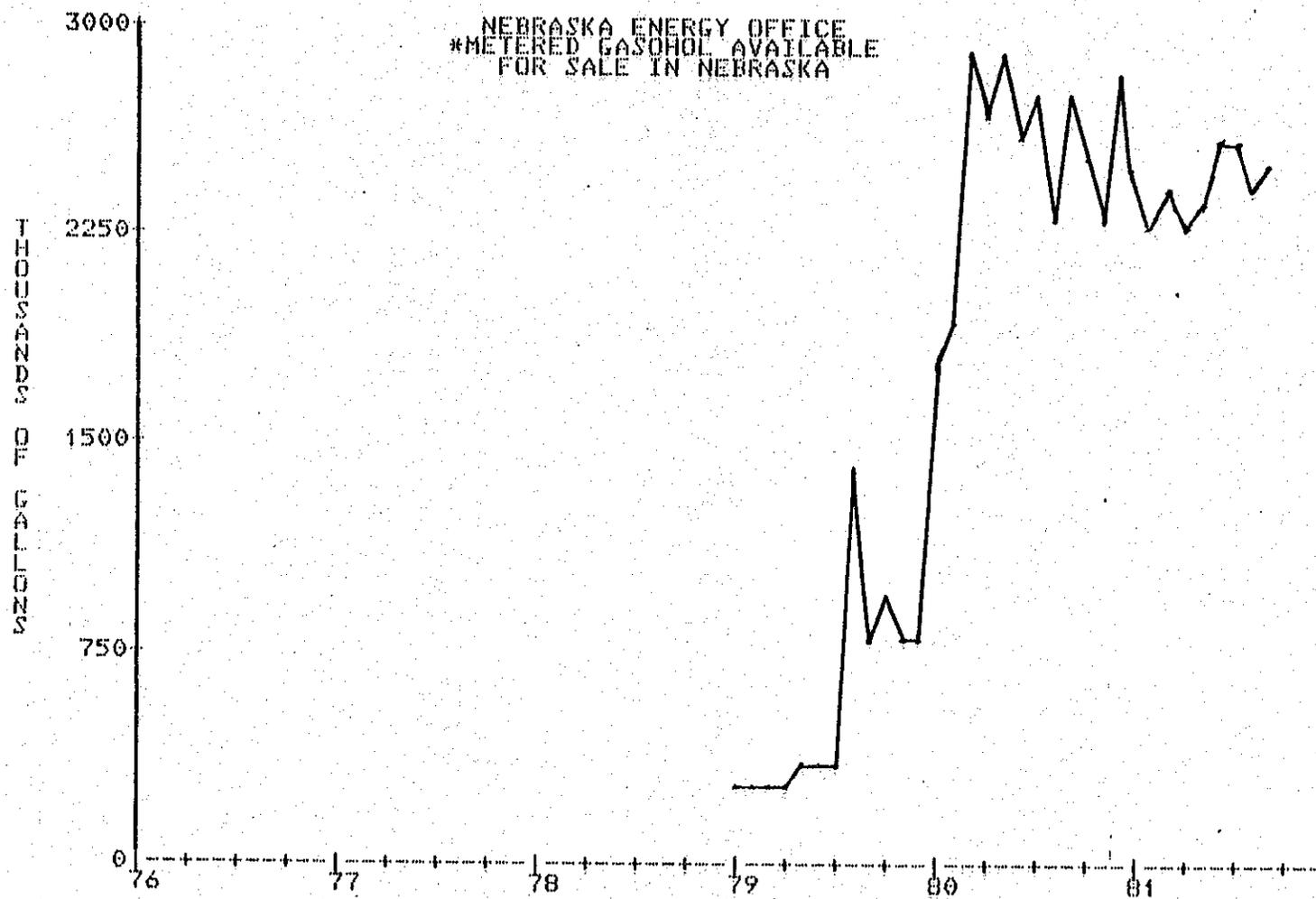
\*Gross imports into the state minus exports out of the state

Source: Department of Revenue Tax Form 81-1

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NEBRASKA ENERGY OFFICE

TABLE 10



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

\* A NEW REPORTING FORM WAS USED STARTING IN JANUARY 1981.  
MONTHLY INFORMATION BEFORE THAT DATE MAY BE QUESTIONABLE.

TABLE 11

\*Middle Distillates Imported Into Nebraska (Thousands of Gallons)

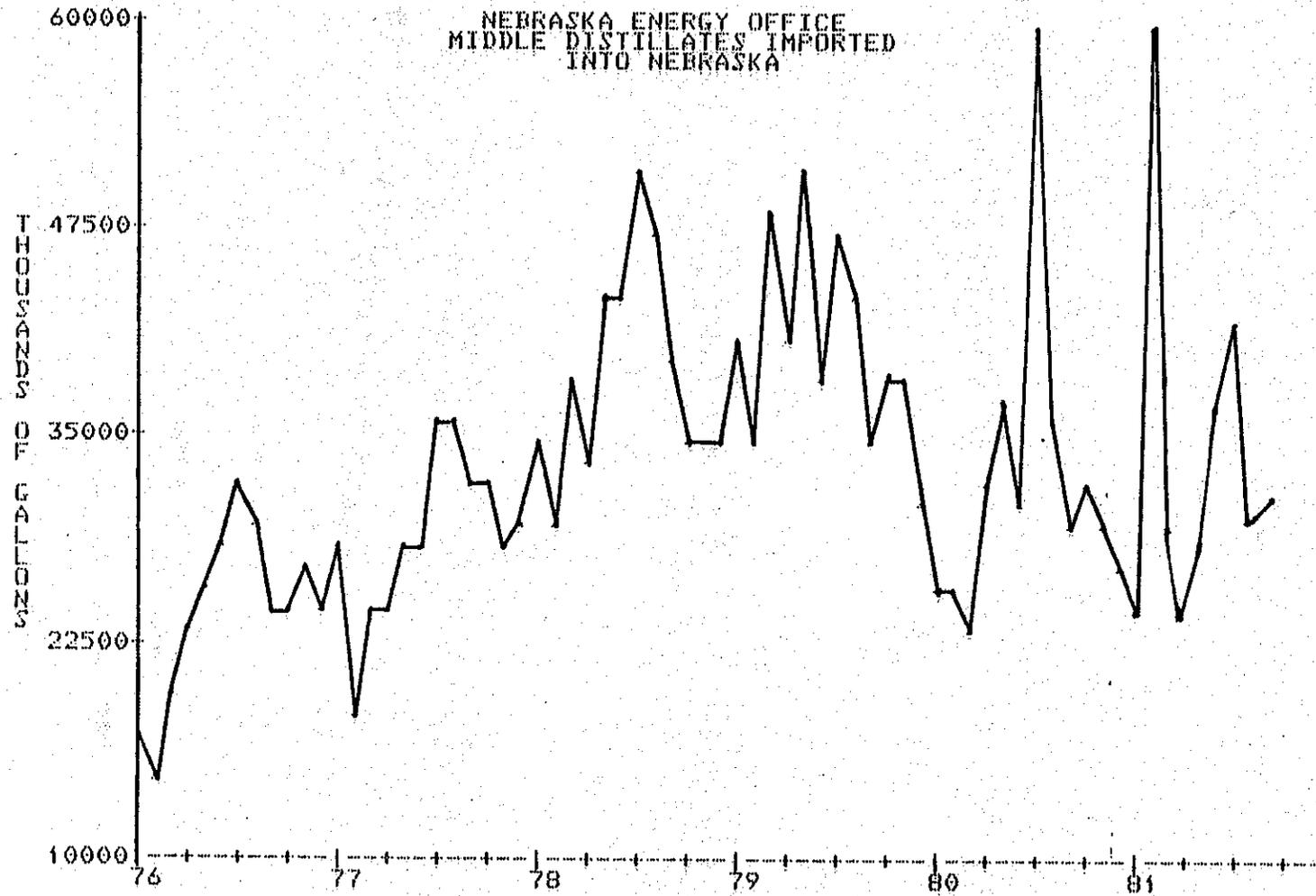
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	16,408	28,165	34,298	40,244	25,381	24,891	98.1%
February	14,081	18,169	29,735	34,600	26,157	59,280	226.6
March	19,222	24,028	37,886	48,150	23,102	29,457	127.5
April	23,495	24,833	32,942	40,745	32,255	24,873	77.1
May	26,239	27,521	43,673	50,992	36,486	28,494	78.1
June	28,744	28,267	42,739	38,258	31,247	36,641	117.3
July	32,022	36,250	50,051	46,443	59,339	42,383	71.4
August	29,857	36,183	46,934	43,635	35,548	29,575	83.2
September	24,475	32,160	39,245	34,495	29,905	30,157	100.8
October	24,160	32,295	34,802	38,383	31,691		
November	26,464	28,073	34,156	38,326	28,840		
December	<u>24,461</u>	<u>29,294</u>	<u>34,524</u>	<u>31,200</u>	<u>27,060</u>		
TOTALS	289,628	345,238	460,985	485,471	387,011	305,751	102.1%

\*Diesel, home heating oil, kerosene and other middle distillates  
 The last three months are preliminary  
 Source: Unaudited Figures from Department of Revenue Tax Forms 81

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TABLE 12

NEBRASKA ENERGY OFFICE  
MIDDLE DISTILLATES IMPORTED  
INTO NEBRASKA



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 13

## Special Fuels for Highway Use Delivered in Nebraska (Thousands of gallons)

	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	8,828	10,123	10,200	11,482	11,840	10,591	89.5%
February	8,889	9,654	10,104	11,256	11,067	10,012	90.5
March	10,363	12,092	11,615	12,944	12,068	12,029	99.7
April	10,306	11,180	11,906	12,415	12,324	12,064	97.9
May	10,059	10,901	12,114	13,035	11,895	11,695	98.3
June	10,372	10,938	11,971	11,019	11,884	11,845	99.7
July	9,698	10,336	11,121	11,637	11,714	11,537	98.5
August	10,243	10,915	12,454	12,570	12,349	11,449	92.7
September	10,491	10,937	12,476	12,686	13,439	11,789	87.7
October	10,849	12,198	13,996	14,310	13,592		
November	10,660	10,774	11,894	12,412	11,820		
December	<u>10,027</u>	<u>10,116</u>	<u>11,114</u>	<u>12,047</u>	<u>11,221</u>		
TOTAL	121,785	130,161	140,965	147,813	145,213	103,011	94.9%

\*Any fuels other than gasoline that are put in a motor vehicle fuel tank. These include diesel, propane and natural gas.

The last three months are preliminary.

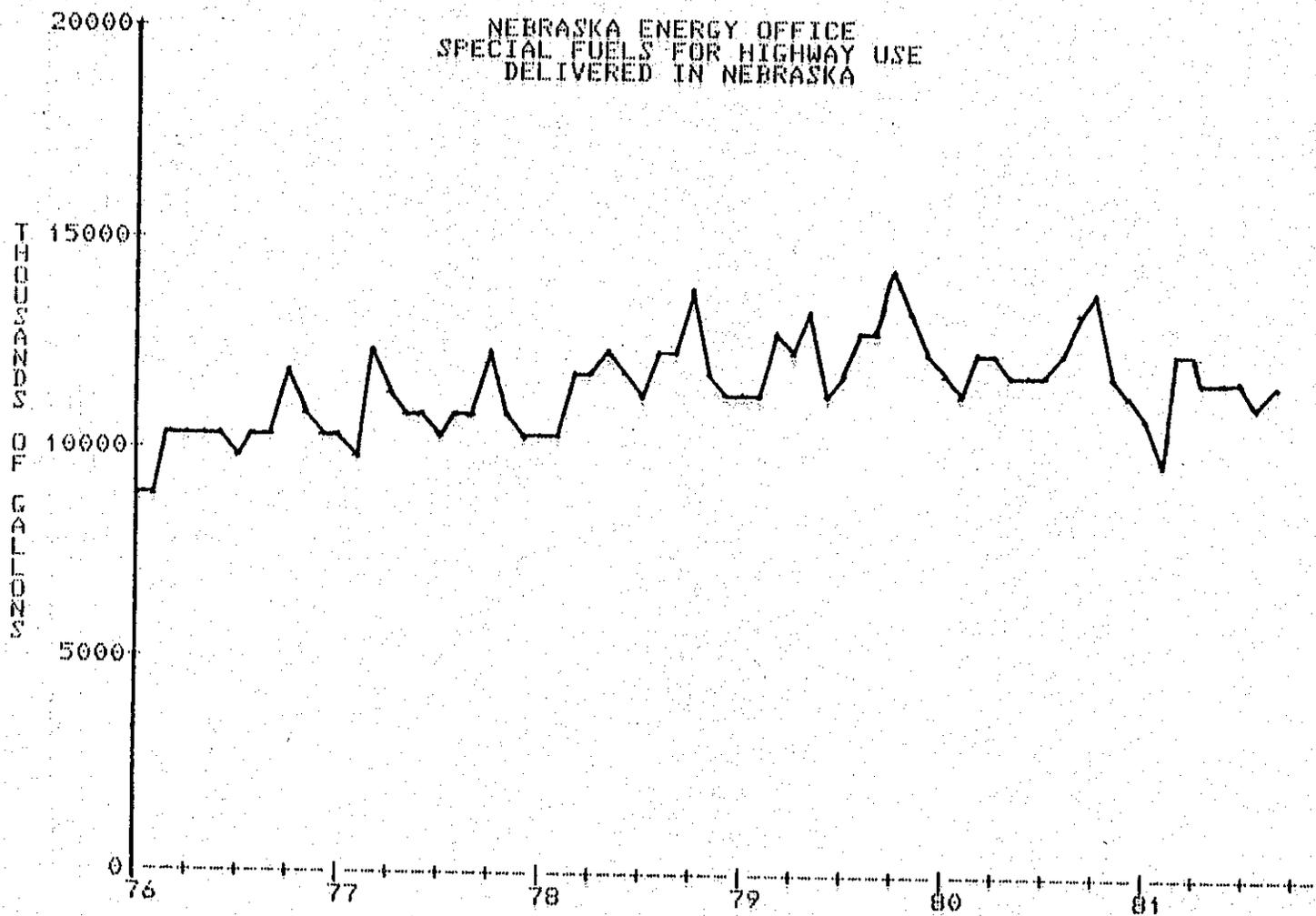
Source: Department of Revenue Form 91

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NEBRASKA ENERGY OFFICE

TABLE 14

NEBRASKA ENERGY OFFICE  
SPECIAL FUELS FOR HIGHWAY USE  
DELIVERED IN NEBRASKA



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 15

\*Special Fuel (Non-Highway Use) Delivered in Nebraska (Thousands of Gallons)

	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	13,800	12,942	93.8%
February	15,164	10,668	70.4
March	12,336	8,382	67.9
April	12,201	8,555	70.1
May	13,619	10,700	78.6
June	14,319	13,458	94.0
July	24,485	18,135	74.1
August	16,920	10,154	60.0
September	14,990	10,244	68.3
October	15,457		
November	12,488		
December	<u>13,913</u>		
TOTAL	179,692	103,238	74.9%

\*Any fuels other than gasoline that are put in a motor vehicle fuel tank. These include diesel, propane and natural gas.

\*Includes agricultural, industrial, railroad and any other motor vehicle use not on Nebraska roads.

The last three months are preliminary

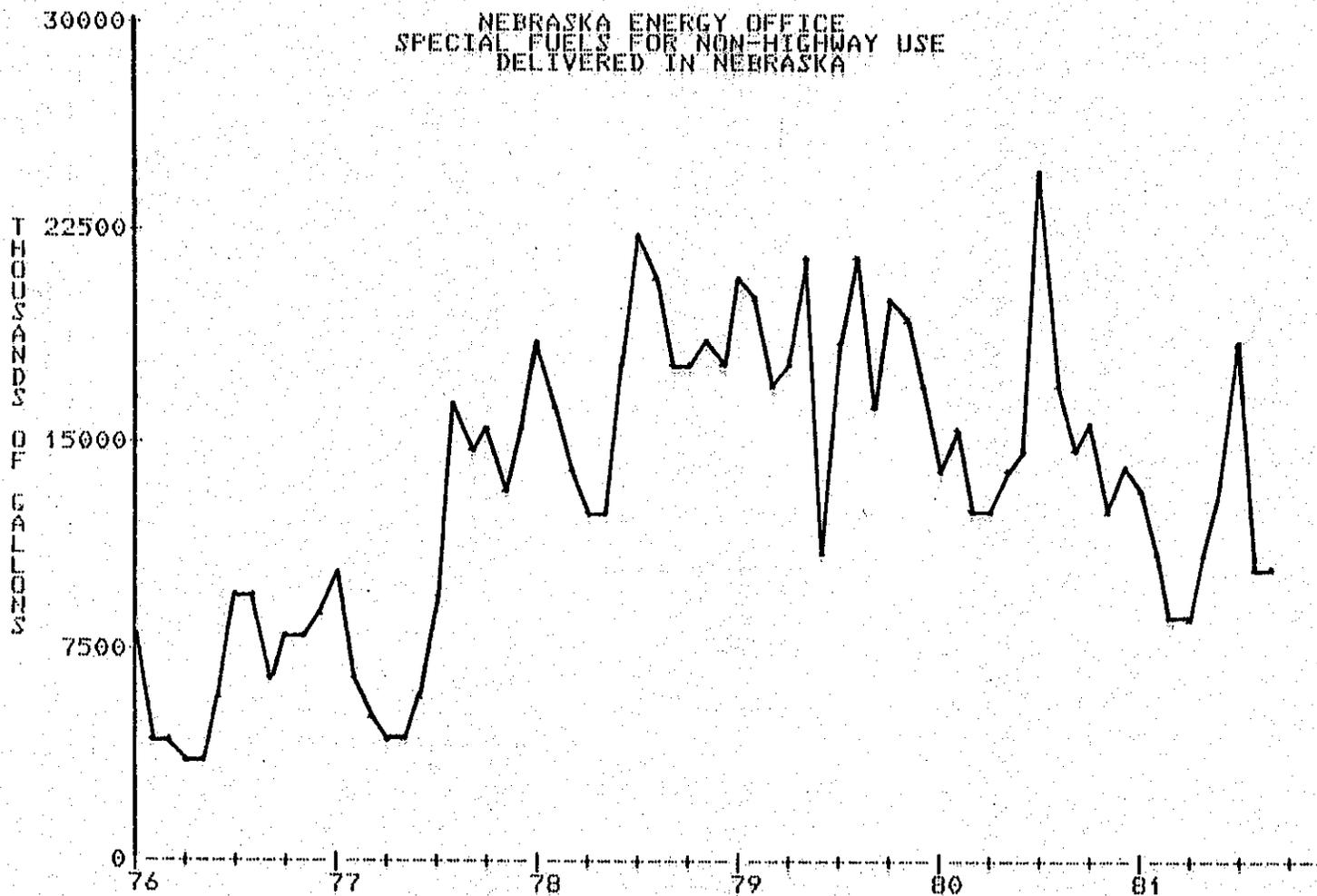
Source: Department of Revenue Form 91

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NEBRASKA ENERGY OFFICE

TABLE 16

NEBRASKA ENERGY OFFICE  
SPECIAL FUELS FOR NON-HIGHWAY USE  
DELIVERED IN NEBRASKA



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 17

## Aviation Fuel (all types) Available for Sale\* In Nebraska (Thousands of Gallons)

	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	3,523	2,997	85.1%
February	2,883	2,591	89.9
March	3,011	2,997	99.5
April	3,099	2,710	87.4
May	3,371	2,974	88.2
June	3,220	3,228	100.2
July	3,431	3,233	94.2
August	3,746	2,716	72.5
September	4,190	2,636	62.9
October	4,444		
November	2,972		
December	<u>3,209</u>		
TOTAL	41,099	26,082	85.6%

The last three months are preliminary

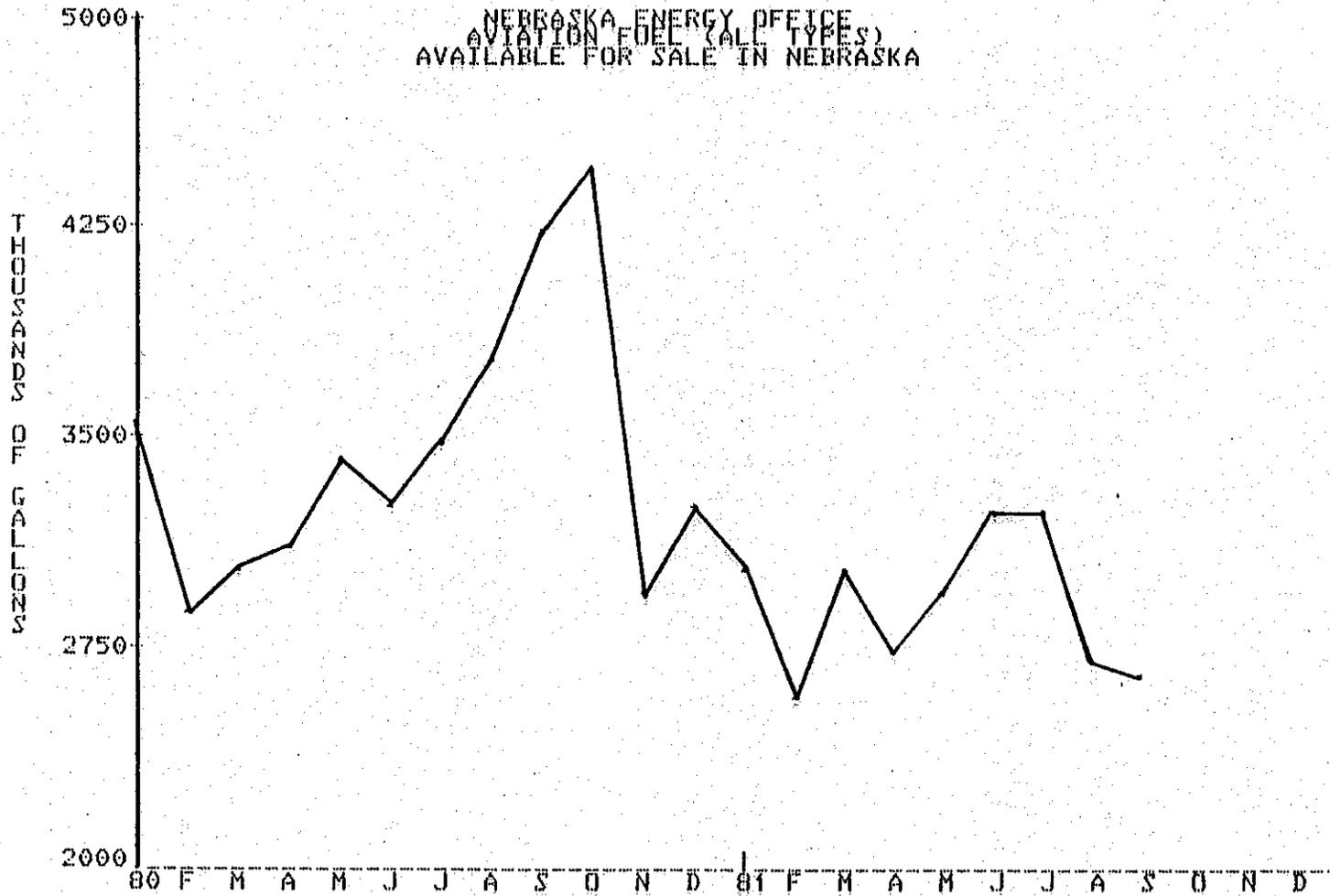
\*Gross Gallons imported into Nebraska minus gallons exported out of state.

Source: Department of Revenue Form 85

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TABLE 18

NEBRASKA ENERGY OFFICE  
AVIATION FUEL (ALL TYPES)  
AVAILABLE FOR SALE IN NEBRASKA



SOURCE: NEBRASKA DEPARTMENT OF REVENUE

TABLE 19

## Propane Delivered in Nebraska (Thousands of Gallons)

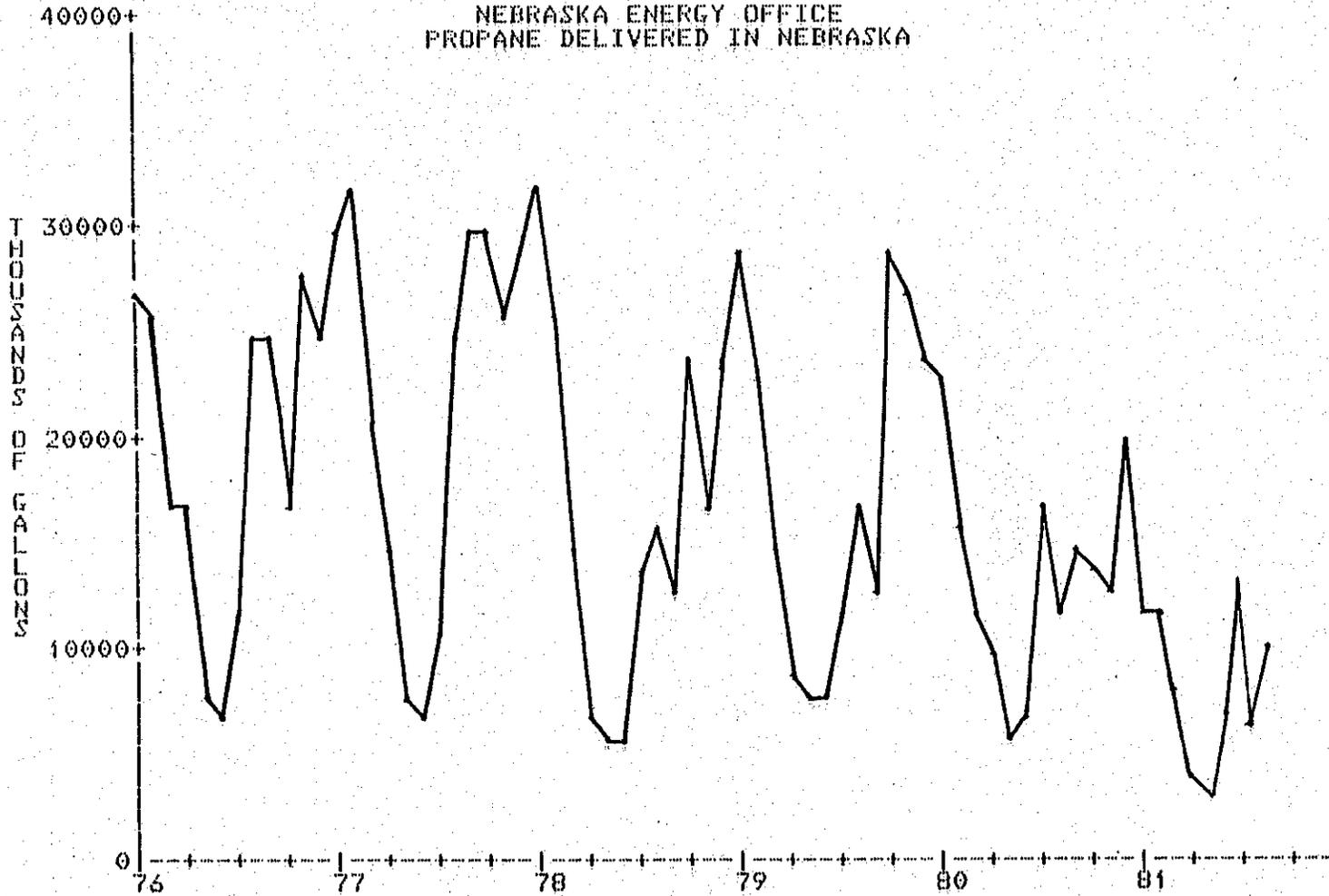
	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>Percent of Previous Year</u>
January	26,437	29,017	31,848	28,908	22,902	11,186	48.8%
February	25,163	31,505	25,331	22,164	15,673	11,841	75.6
March	16,844	20,609	14,839	14,142	11,331	7,822	69.0
April	16,500	14,952	6,717	8,008	9,115	3,731	40.9
May	7,348	7,958	5,754	7,035	5,669	2,947	52.0
June	6,456	6,494	5,611	7,447	6,402	6,864	107.2
July	11,845	10,676	13,654	11,217	16,772	12,502	74.5
August	24,855	24,895	15,328	16,671	11,447	5,631	49.2
September	24,054	29,767	12,137	12,611	14,727	9,326	63.3
October	16,624	29,735	23,492	28,577	13,767		
November	27,439	25,027	16,558	26,709	12,237		
December	<u>24,227</u>	<u>28,123</u>	<u>23,138</u>	<u>23,181</u>	<u>19,977</u>		
TOTAL	227,792	258,758	194,407	206,670	160,019	71,850	63.0%

The last month is preliminary  
Source: EIA-25 Reporting Forms

October 30, 1981  
NEBRASKA ENERGY OFFICE

TABLE 20

NEBRASKA ENERGY OFFICE  
PROPANE DELIVERED IN NEBRASKA



SOURCE: ENERGY INFORMATION ADMINISTRATION REPORTING FORM (EIA-25)

## NEBRASKA ENERGY MODEL PROGRESS REPORT

The Nebraska Energy Office has been involved in design and creation of an energy demand model for the state in response to passage of Legislative Bill 954 of 1980. The model will be used to identify emerging trends relating to energy supply, demand and conservation in these sectors: agricultural, commercial, residential, industrial, transportation, utility and government. It will permit evaluations of policies on Nebraska's economy and energy status.

The model identifies energy use in the industrial sector through the categories of food processing, chemicals, stone and clay, construction and all others. The commercial and government sectors show detailed use in heating, cooling and other operations. The residential sector identifies single and multiple family dwelling use by the categories of heating, cooling, water heating and all other appliances. The agricultural sector identifies energy demand in irrigation, field operations, crop drying and other farm operations by crops planted. Transportation energy demand is evaluated by vehicle class, age and miles traveled. Each energy demand sector is evaluated by fuel type.

The model currently is being verified by checking its ability to capture Nebraskans' economic and energy behavior accurately. In addition, it is being expanded to include detailed cost amounts for each activity in each sector. Current plans are for the model to be operational by December 15, 1981.

## ELECTRICITY GENERATION AND SALES

Nebraska's five major utilities produced 6.5 percent more electricity the first three quarters of 1981, compared with their production figures for the corresponding period in 1980. The five major utilities are Nebraska Public Power District, Omaha Public Power District, Lincoln Electric System, Grand Island and Fremont. During 1980, these five major electric utilities produced 88.7 percent of all the electricity produced in the state.

The shift by utilities from use of oil and natural gas to more abundant fuels, mainly coal, is continuing. For the first three quarters of 1981, the consumption of oil for electricity generation was cut by more than half, compared with data for the same nine months in 1980. Consumption of natural gas for generation of electricity during the first three quarters of 1981 was cut by a third, compared with the corresponding period in the previous year. Nebraska's nuclear power stations generated 32 percent more electricity during the first three quarters of 1981, compared with the same nine months in 1980. However, nuclear stations generated 22 percent less electricity during that period in 1981 than for the same nine months of 1979.

Electricity sales to ultimate consumers were down 4.0 percent the first nine months of 1981, compared with the same period in 1980. This decline was associated with favorable weather conditions this year, mild weather during the final months of winter and moderate temperatures along with above average precipitation during the end of the cooling and irrigation seasons. Electricity consumption by Nebraska industry remained at a constant level in a comparison of the first three quarters of 1980 and 1981.

TABLE 21

NEBRASKA ENERGY OFFICE  
ELECTRIC SALES TO ULTIMATE CONSUMERS  
GIGAWATTHOURS SOLD  
(NPPD, OPPD & LES)

DATE	RESIDENTIAL		COMMERCIAL		INDUSTRIAL		PUBLIC USE	
	1980	1981	1980	1981	1980	1981	1980	1981
January	284	297	237	238	206	196	30	30
February	283	274	248	234	202	188	30	29
March	271	234	212	200	198	188	28	27
April	223	199	195	197	190	197	26	27
May	188	190	193	202	199	197	27	26
June	229	239	218	229	204	220	28	27
July	379	360	263	273	211	227	30	31
August	398	319	281	257	214	209	34	30
September	327	245	255	234	210	215	32	31
October	205		214		194		30	
November	205		201		190		28	
December	255		221		189		29	
TOTAL	<u>3,247</u>	<u>2,357</u>	<u>2,738</u>	<u>2,064</u>	<u>2,407</u>	<u>1,837</u>	<u>352</u>	<u>258</u>

TABLE 22

ELECTRICITY GENERATION AND PRIMARY FUELS USED  
BY FIVE MAJOR NEBRASKA ELECTRIC UTILITIES  
(OPPD, NPPD, LES, GRAND ISLAND, FREMONT)

Year	Month	Net Generation *MWH	Bitum. Coal Sh. Tons	Heavy Oil Barrels	Light Oil Barrels	Natural Gas MCF	Propane Gallons	Generated By Nuclear Stations *MWH
30	January	1,426,944	404,910	30,602	5,146	244,773	300	661,622
	February	1,351,826	469,262	15,784	3,902	292,572		485,337
	March	1,042,353	573,557	1,506	4,767	365,423	1,445	8,475
	April	853,689	469,414		11,874	217,393		-3,108
	May	761,962	416,726		3,464	256,990		-3,235
	June	1,084,663	354,570		6,072	298,373		468,052
	July	1,843,024	973,912	15,189	3,902	605,043		736,061
	August	1,485,299	426,001	1,171	2,136	520,763		717,505
	September	1,112,936	208,452	496	2,388	392,707		712,161
80	TOTAL	10,962,696	4,296,804	64,748	43,651	3,194,037	1,745	3,782,870
30	January	1,490,959	441,560	202	3,439	186,265		694,892
	February	1,340,074	351,921	4,221	6,836	136,135		713,440
	March	1,359,255	398,026		1,574	156,470		663,569
	April	1,209,536	462,018	1	7,093	164,137		406,894
	May	943,363	438,793	381	4,866	242,996		156,048
	June	1,193,395	386,766		5,996	338,067		482,064
	July	1,626,728	476,805		8,380	500,530		780,566
	August	1,412,384	365,264		5,771	264,858		766,625
	September	1,097,210	437,621		1,771	164,782		330,836
81	TOTAL	11,672,904	3,758,774	4,805	45,726	2,154,240		4,994,934

Source: FPC 12 E2 Reporting Forms

\*1000 Kilowatthours = 1 megawatthour = 1 MWH

## NATURAL GAS

The graph and table on the following two pages show the historic and anticipated patterns of natural gas consumption in Nebraska. The graph shows winter heating consumption by peaks. All other uses are shown by the troughs. The solid line represents actual use and the broken (dashes) line represents a forecast of use. Delivery information was obtained from federal reports, which must be completed by all natural gas companies.



TABLE 24

NEBRASKA NATURAL GAS DELIVERIES

MMCF

(Millions of Cubic Feet)

	<u>1979</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>
January	20,531	19,291	17,783	18,915
February	18,021	20,103	16,516	16,832
March	15,912	16,209	12,328	14,220
April	11,313	11,330	8,407	10,222
May	9,737	8,895	8,259	8,214
June	8,790	8,715	7,854	7,049
July	9,526	11,377	9,842	8,990
August	11,005	12,136	8,296	9,519
September	9,498	9,245	7,883*	
October	11,404	9,507	8,796	
November	16,013	13,608	13,096	
December	<u>17,536</u>	<u>17,674</u>	<u>16,576</u>	
<u>TOTAL</u>	159,286	158,090	135,636	93,961

\*Starting date of forecasted natural gas deliveries.

Source: Federal Energy Regulatory Commission Form 16

Actual and forecasted values are reported by the five natural gas companies supplying natural gas to Nebraska.

## STATE ENERGY RESOURCE DATA

Nebraska energy resources for 1980 cost nearly \$2.5 billion, approximately 15 percent of the \$16.58 billion gross state product for 1979. The four largest components of the gross state product for 1979 were trade, \$2.91 billion; manufacturing, \$2.76 billion; finance, \$2.53 billion; and agriculture, \$1.96 billion. The 1980 dollar outlay for energy in Nebraska, therefore, topped the previous year's state product in agriculture, nearly equalled the production figure in state finance and trailed significantly only trade and manufacturing. A more complete listing of the resource and gross state product data follows on the next page:

NEBRASKA ENERGY RESOURCES IN 1980

ELECTRICITY

	<u>Average Retail Value at 3.3¢ per kWh</u>
18,960 gigawatt hours generated and net available for sale	\$637 million
13,708 gigawatt hours sold to ultimate consumers	461 million
5,252 gigawatt hours total sold out of state or 26.1% of total generation. Includes 3788 gWh for Iowa Power and Light Company portion of the Cooper Nuclear Station (1 gigawatt hour = 1 million kWh)	\$176 million

Average Domestic Wellhead  
Value @ \$24.00 per bbl

OIL PRODUCTION - 6,239,652 barrels (Crude only) \$151 million

Nebraska oil is shipped out of state to be refined and put into pipelines for distribution throughout the midwest.

GROSS STATE PRODUCT Total value of all final goods and services \$16.58 Billion

Four Largest Components of Gross State Product 1979 Billions of dollars

Trade	2.91
Manufacturing	2.76
Finance	2.53
Agriculture	1.96

1980 NEBRASKA EXPENDITURES FOR ENERGY  
(Millions of Dollars)

Fuel Type	Resident.	Commer.	Industry	Agric.	Transport.	Total
Coal	\$	\$ 0.1	\$ 5.2	\$	\$	\$ 5.3
Natural Gas	161.9	99.3	129.6	31.0		421.8
Gasoline		3.9	9.7	29.2	941.9	984.7
Aviation Fuel					35.6	35.6
L.P.G.	33.2	6.2	16.9	29.2		85.5
Home heating oil	56	17		89		162.0
Diesel fuel		29	40	85	160.8	314.8
Other petroleum (kerosene, residual)	10	9		10		29.0
Electricity	207	94	102	58		461.0
<b>TOTAL</b>	<b>\$468.1</b>	<b>\$258.5</b>	<b>\$303.4</b>	<b>\$331.4</b>	<b>\$1,138.3</b>	<b>\$2,499.7</b>

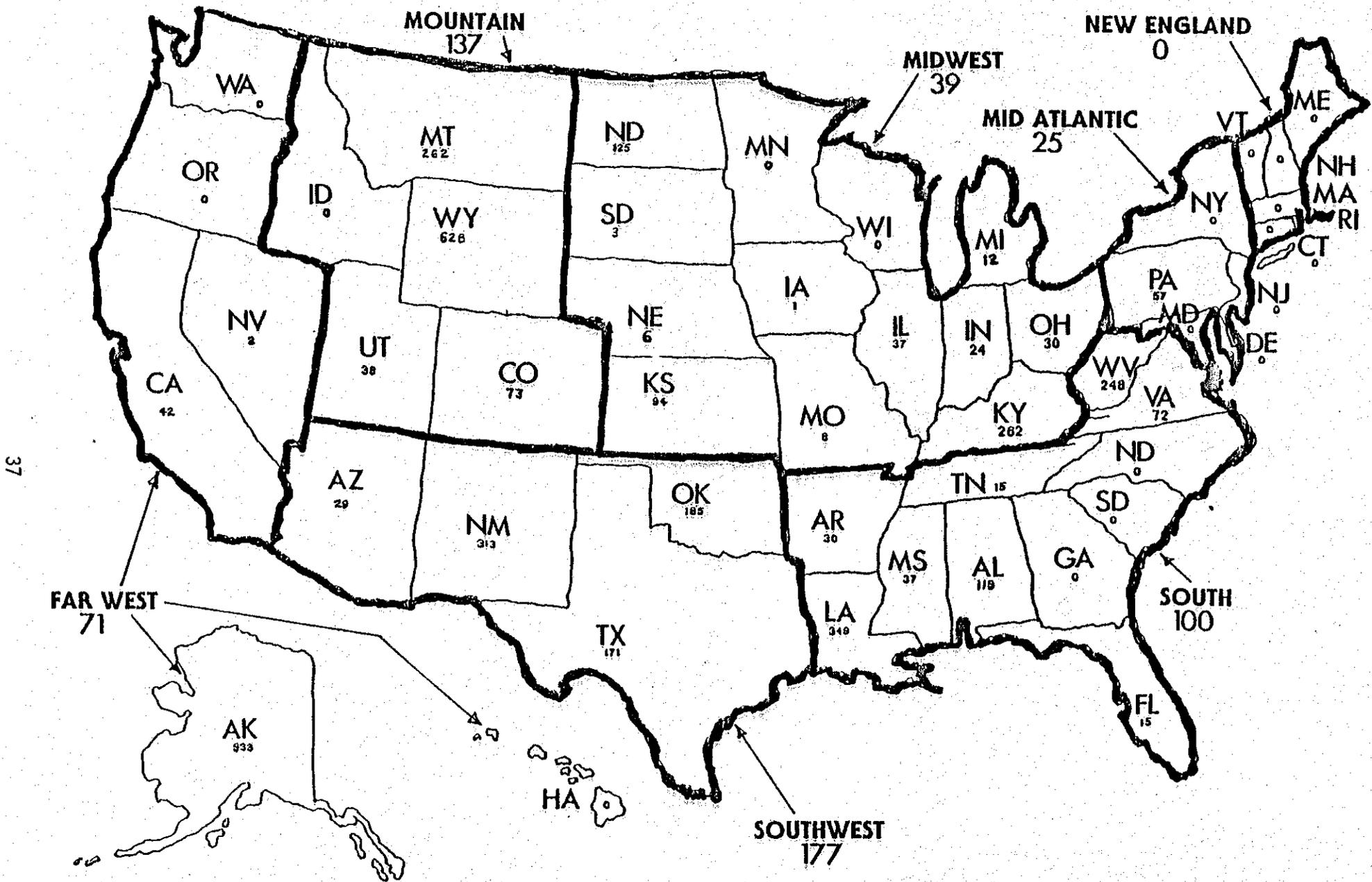
Sources: Edison Electric Institute, EIA-25 reports, Energy Price Forecast, Nebraska Statistical Handbook

Distribution between sector and fuel types are estimated by data section

Prepared by: NEBRASKA ENERGY OFFICE  
October, 1981

## GOVERNOR'S CONFERENCE TASK FORCE ANALYSIS

A recent study by the Task Force on Energy and Natural Resources of the Midwest Governor's Conference showed that the Midwest Region must import the majority of the energy it needs, although there are variations from state to state. Just three states in the Midwest Region are nearly energy self-sufficient. They are Kentucky, North Dakota and Kansas. According to the task force, Nebraska must import 94 percent of its energy needs. As a whole, the Midwest Region was characterized as having "an unfavorable energy balance" when compared with states in the southern and western sections of the country. The map on the next page shows that in fossil fuels the Southern states region produces 100 percent of its energy needs, the New England states region produces none of its energy needs, the Mid Atlantic region, 25 percent; the Midwest, 39 percent; the Southwest, 177 percent; the Far West, 71 percent; and the Mountain States Region 137 percent.



**ENERGY RICH AND ENERGY POOR STATES**  
**Percent of Fossil Fuel Consumption Produced**  
**Within Each State and Region**

