

## North Dakota

### STATE ENERGY PROFILES

[Map & Facts](#)

[Overview](#)

[Data](#)

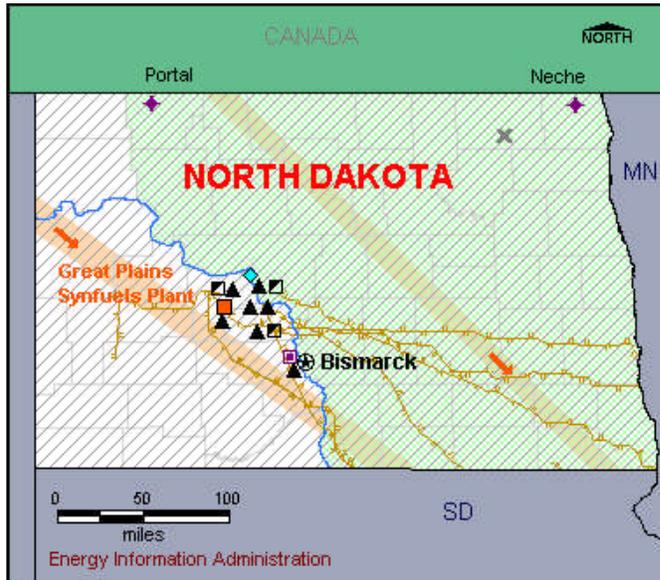
[Related Reports](#)

[Data Directory](#)

Select a State

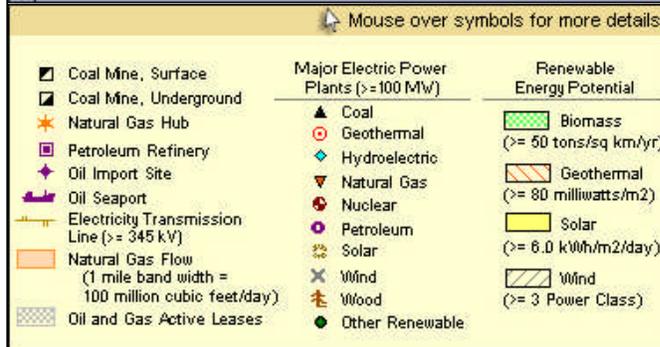
Last Update: February 4, 2010  
Next Update: February 11, 2010

[Print Full Report](#)



### North Dakota Quick Facts

- North Dakota accounts for about 2 percent of total U.S. crude oil production.
- Due partly to high heating demand in winter, North Dakota's per capita energy consumption is among the highest in the Nation.
- Nearly all of the electricity generated in North Dakota is produced by coal-fired power plants.
- North Dakota is one of the few States that allow the statewide use of conventional motor gasoline.
- North Dakota is a substantial producer of wind energy and leads the Nation in potential wind power capacity.



## Overview

### Resources and Consumption

North Dakota has considerable fossil fuel reserves. Coal is extracted from large surface mines in central North Dakota. Substantial crude oil and natural gas reserves are located in the Williston Basin, in the western part of the State. Although a low population largely accounts for the State's low total energy consumption, North Dakota's per capita energy consumption ranks among the highest in the Nation, in large part due to high demand for heating during the cold winters and an energy-intensive economy. Industry accounts for nearly one-half of the State's total energy consumption.

### Petroleum

North Dakota is a substantial crude oil-producing State with an output typically equal to over 2 percent of total U.S. production. The State is also an entrance point for Canadian crude oil transported via pipeline to U.S. Midwest refining markets. An additional 2,148-mile pipeline is currently under construction and once completed in 2010, will transport crude oil from Alberta, Canada through eastern North Dakota to markets in the Midwest. A small petroleum refinery near Bismarck refines crude oil extracted from the Williston Basin,

which covers eastern Montana and the western Dakotas, as well as a small amount of Canadian crude. The refinery produces transportation fuels primarily for the northern Great Plains States and the Twin Cities area. A small new refinery has been proposed on the Fort Berthold Indian reservation in western North Dakota. If constructed, it would be the first new crude oil refinery in the United States in decades.

North Dakota has six ethanol plants, four of which are currently producing ethanol, giving the State substantial ethanol production capacity. North Dakota is a moderate consumer of ethanol in blended motor gasoline, although it is one of the few States in the Nation that allow the statewide use of conventional motor gasoline. (Most States require the use of specific gasoline blends in non-attainment areas due to air-quality considerations.)

### Natural Gas

North Dakota typically accounts for roughly 1 percent of the Nation's natural gas production. The majority of the State's supply is transported via major pipelines originating in Montana and western Canada on their way to U.S. Midwest consumption markets via South Dakota and Minnesota. North Dakota has the distinction of being one of only three States that produce synthetic natural gas. The largest source of synthetic gas in the United States is the Great Plains Synfuels Plant in Beulah, North Dakota, which annually produces more than 54 billion cubic feet of gas from coal. Overall State use of natural gas is low, with the industrial sector leading State consumption. Over two-fifths of the households in North Dakota use natural gas as their primary source of energy for home heating.

### Coal, Electricity, and Renewables

Electricity generation and demand are both low in North Dakota, commensurate with the State's population. Coal-fired plants provide nearly all of North Dakota's electricity generation. Most of the coal used for power generation is supplied by several large surface mines in the central part of the State. State coal production is substantial, and North Dakota brings in only small amounts of coal from other States. Hydroelectric dams account for most of the State's non-coal electricity. The Garrison Dam, located about 75 miles northwest of Bismarck, is North Dakota's fifth largest plant in electricity generation capability. North Dakota is a substantial producer of wind energy, with over 20 operational wind power projects, and leads the Nation in potential for wind power. Nearly three-tenths of North Dakota households use electricity as their primary energy source for home heating.

In March 2007, North Dakota adopted a voluntary renewable portfolio objective that aims to have one-tenth of electricity generated from renewable sources by 2015.

## Data

### Economy

Population and Employment	North Dakota	U.S. Rank	Period
Population	0.6 million	48	2008
Civilian Labor Force	0.4 million	47	Dec-09
Per Capita Personal Income	\$34,846	30	2007
Industry	North Dakota	U.S. Rank	Period
Gross Domestic Product by State	\$31.2 billion	50	2008
Land in Farms	39.7 million acres	7	2007
Market Value of Agricultural Products Sold	\$6.1 billion	18	2007

### Prices

Petroleum	North Dakota	U.S. Avg.	Period
<a href="#">Domestic Crude Oil First Purchase</a>	\$67.70/barrel	\$71.98/barrel	Nov-09
<a href="#">No. 2 Heating Oil, Residential</a>	—	\$2.60/gal	Nov-09 
<a href="#">Regular Motor Gasoline Sold Through Retail Outlets (Excluding Taxes)</a>	\$2.27/gal	\$2.15/gal	Nov-09 
<a href="#">State Tax Rate on Motor Gasoline (other taxes may apply)</a>	\$0.23/gal	\$0.22/gal	Aug-08
<a href="#">No. 2 Diesel Fuel Sold Through Retail Outlets (Excluding Taxes)</a>	—	\$2.27/gal	Nov-09 
<a href="#">State Tax Rate on On-Highway Diesel (other taxes may apply)</a>	\$0.23/gal	\$0.22/gal	Aug-08
Natural Gas	North Dakota	U.S. Avg.	Period

<a href="#">Wellhead</a>	\$6.67/thousand cu ft	\$6.37/thousand cu ft	2007
<a href="#">City Gate</a>	\$6.08/thousand cu ft	\$6.32/thousand cu ft	Nov-09
<a href="#">Residential</a>	\$7.54/thousand cu ft	\$11.25/thousand cu ft	Nov-09
<b>Coal</b>	<b>North Dakota</b>	<b>U.S. Avg.</b>	<b>Period</b>
<a href="#">Average Open Market Sales Price</a>	\$13.34/short ton	\$32.06/short ton	2008
<a href="#">Delivered to Electric Power Sector</a>	\$ 1.32/million Btu	\$ 2.16 /million Btu	Oct-09
<b>Electricity</b>	<b>North Dakota</b>	<b>U.S. Avg.</b>	<b>Period</b>
<a href="#">Residential</a>	7.83 cents/kWh	11.76 cents/kWh	Oct-09
<a href="#">Commercial</a>	6.80 cents/kWh	10.22 cents/kWh	Oct-09
<a href="#">Industrial</a>	5.75 cents/kWh	6.68 cents/kWh	Oct-09

➔ [See more Price data for all States](#)

## Reserves & Supply

<b>Reserves</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
<a href="#">Crude Oil</a>	573 million barrels	3.0%	2008
<a href="#">Dry Natural Gas</a>	541 billion cu ft	0.2%	2008
<a href="#">Natural Gas Liquids</a>	55 million barrels	0.6%	2008
<a href="#">Recoverable Coal at Producing Mines</a>	1,225 million short tons	6.9 %	2008
<b>Rotary Rigs &amp; Wells</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
Rotary Rigs in Operation	68	3.6%	2008
Crude Oil Producing Wells	3,827	0.7%	2008
<a href="#">Natural Gas Producing Wells</a>	200	0.0%	2007
<b>Production</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
<a href="#">Total Energy</a>	752 trillion Btu	1.1%	2007
<a href="#">Crude Oil</a>	7,148 thousand barrels	4.4%	Sep-09
<a href="#">Natural Gas - Marketed</a>	54,745 million cu ft	0.3%	2007
<a href="#">Coal</a>	29,627 thousand short tons	NA	2008
<b>Capacity</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
<a href="#">Crude Oil Refinery Capacity (as of Jan. 1)</a>	58,000 barrels/calendar day	0.3%	2009
<a href="#">Electric Power Industry Net Summer Capability</a>	5,484 MW	0.5%	2008
<b>Net Electricity Generation</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
<a href="#">Total Net Electricity Generation</a>	2,590 thousand MWh	0.8%	Oct-09
<a href="#">Petroleum-Fired</a>	4 thousand MWh	0.2%	Oct-09
<a href="#">Natural Gas-Fired</a>	NM	NA	Oct-09
<a href="#">Coal-Fired</a>	2,307 thousand MWh	1.6%	Oct-09
<a href="#">Nuclear</a>	—	—	Oct-09
<a href="#">Hydroelectric</a>	118 thousand MWh	0.6%	Oct-09
<a href="#">Other Renewables</a>	155 thousand MWh	1.3%	Oct-09
<b>Stocks</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
<a href="#">Motor Gasoline (Excludes Pipelines)</a>	—	—	Nov-09
<a href="#">Distillate Fuel Oil (Excludes Pipelines)</a>	—	—	Nov-09
<a href="#">Natural Gas in Underground Storage</a>	—	—	Nov-09
<a href="#">Petroleum Stocks at Electric Power Producers</a>	W	W	Oct-09
<a href="#">Coal Stocks at Electric Power Producers</a>	W	W	Oct-09
<b>Production Facilities</b>	<b>North Dakota</b>		
<a href="#">Major Coal Mines</a>	Freedom Mine/The Coteau Properties Co. • Falkirk Mine/The Falkirk Mining Co. • Center Mine/BNI Coal Ltd		
<a href="#">Petroleum Refineries</a>	Tesoro West Coast (Mandan)		
<a href="#">Major Non-Nuclear Electricity Generating</a>	Coal Creek (Great River Energy) • Antelope Valley (Basin)		

Plants	Electric Power Coop) • Milton R Young (Minnkota Power Coop • Inc) • Leland Olds (Basin Electric Power Coop) • Garrison (USCE-Missouri River District)
--------	---

Nuclear Power Plants None

➔ See more Reserves and Supply data for all States

## Distribution & Marketing

<b>Distribution Centers</b>	<b>North Dakota</b>
Oil Seaports/Oil Import Sites	Neche • Portal.

Natural Gas Market Centers None

<b>Major Pipelines</b>	<b>North Dakota</b>
Crude Oil	Belle Fourche • Koch • Lakehead • Little Missouri • Madador • Magellan • Portal.

Petroleum Product Cenex • Kaneb • Magellan.

Liquefied Petroleum Gases Alliance • Cochin.

Interstate Natural Gas Pipelines Alliance Pipeline Co. • Northern Border Pipeline Co. • Viking Gas Transmission Co • Williston Basin Pipeline Co.

<b>Fueling Stations</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
Motor Gasoline	788	0.5%	2008
Liquefied Petroleum Gases	24	1.0%	2009
Compressed Natural Gas	2	0.3%	2009
Ethanol	31	1.6%	2009
Other Alternative Fuels	4	0.3%	2009

➔ See more Distribution and Marketing data for all States

## Consumption

<b>per Capita</b>	<b>North Dakota</b>	<b>U.S. Rank</b>	<b>Period</b>
Total Energy	671 million Btu	4	2007 

<b>by Source</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
Total Energy	428 trillion Btu	0.4%	2007
Total Petroleum	26.4 million barrels	0.4%	2007
Motor Gasoline	8.7 million barrels	0.3%	2008
Distillate Fuel	12.0 million barrels	0.8%	2008
Liquefied Petroleum Gases	3.0 million barrels	0.4%	2007
Jet Fuel	0.6 million barrels	0.1%	2008
Natural Gas	60,211 million cu ft	0.3%	2007
Coal	31,341 thousand short tons	2.8%	2007

<b>by End-Use Sector</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
Residential	63,850 billion Btu	0.3%	2007
Commercial	60,868 billion Btu	0.3%	2007
Industrial	198,840 billion Btu	0.6%	2007
Transportation	104,508 billion Btu	0.4%	2007

<b>for Electricity Generation</b>	<b>North Dakota</b>	<b>Share of U.S.</b>	<b>Period</b>
Petroleum	6 thousand barrels	0.2%	Oct-09
Natural Gas	NM	NA	Oct-09
Coal	1,918 thousand short tons	2.5%	Oct-09

<b>for Home Heating (share of households)</b>	<b>North Dakota</b>	<b>U.S. Avg.</b>	<b>Period</b>
Natural Gas	43%	51.2%	2000
Fuel Oil	9%	9.0%	2000
Electricity	29%	30.3%	2000
Liquefied Petroleum Gases	16%	6.5%	2000
Other/None	3%	1.8%	2000

➔ See more Consumption data for all States

## Environment

### Special Programs

Clean Cities Coalitions

### North Dakota

Red River Valley (Grand Forks • Winnipeg • Manitoba • Canada)

### Alternative Fuels

[Alternative-Fueled Vehicles in Use](#)

3,345

Share of U.S.

0.5%

Period

2007

Ethanol Plants

3

2.2%

2008

Ethanol Plant Capacity

123 million gal/year

1.6%

2008

[Ethanol Consumption](#)

755 thousand barrels

0.3%

2008

### Electric Power Industry Emissions

### North Dakota

Share of U.S.

Period

[Carbon Dioxide](#)

32,917,730 metric tons

1.3%

2008



[Sulfur Dioxide](#)

123,801 metric tons

1.6%

2008

[Nitrogen Oxide](#)

63,480 metric tons

1.9%

2008

### ➔ See more Environment data for all States

— = No data reported. \* = Number less than 0.5 rounded to zero. NA = Not available. NM = Not meaningful due to large relative standard error or excessive percentage change. W = Withheld to avoid disclosure of individual company data.

Click the icon next to a data series to see State rankings for that series.

### Update on February 4, 2010

#### New statistics for November 2009:

- Prices of crude oil, residential heating oil, motor gasoline, and diesel fuel
- Prices of city gate and residential natural gas
- Stocks of motor gasoline and distillate fuel oil
- Natural gas in underground storage

#### New statistics for September 2009:

- Production of crude oil

#### New statistics for 2008:

- Consumption of distillate fuel oil

[See previous updates](#)

### Sign up for State Energy Emails

Type email address here

### Additional Information about State Energy Profiles

- [State Rankings](#)
- Notes & Sources:
  - [Maps](#) | [Quick Facts & Overviews](#) | [Data](#)
- [State Data Directory](#)
- [About State Energy Profiles](#)

### Related Reports

- [State Energy Data System \(SEDS\)](#)  
tables that display comprehensive State data from as early as 1960 to the present
- [State Electricity Profiles](#)  
tables that provide time series data from 1990 forward for key electricity indicators by State
- [State Renewable Electricity Profiles](#)  
tables that provide data for the most recent year on capacity and generation of electricity from renewable sources
- [State Compendium of Nuclear Power Plants](#)  
State-by-State reports on the nuclear industry
- [Natural Gas Residential Choice Programs](#)  
written overviews of the status of natural gas industry restructuring in each State, focusing on the residential customer class
- [Status of Electricity Restructuring by State](#)  
annotated map showing details of the status of electricity restructuring in each State
- [Regional Energy Profiles](#)  
reports and maps that explore regional variations in U.S. energy consumption

[Privacy/Security](#) | [Accessibility](#) | [Copyright & Reuse](#) • [Contact Us](#) | [Feedback](#) | [Careers](#) | [About EIA](#)

[Fedstats](#) | [USA.gov](#) | [Department of Energy](#)