

2023 State Energy Report

The following report is provided by the Iowa Economic Development Authority (IEDA) as a summary of key energy data and trends from 2023. The State Energy Office, housed at IEDA, implements a variety of programs providing grant and loan assistance, produces reports and studies to further energy innovation and advancements, and serves as a resource to public and private stakeholders.

The 2023 report consists of the following sections:

Appendix 1 Iowa State Energy Profile: Excerpts from a database sponsored by the U.S. Energy Information Administration (EIA), a division within the U.S. Department of Energy that serves as a comprehensive source of energy information. EIA collects, analyzes, and disseminates a wide range of energy information that is updated periodically and available through the following website: <https://www.eia.gov/state/analysis.php?sid=IA>.

Appendix 2 Additional Sources of Energy Related Data: A listing of other sources of information relevant to energy supply and demand in the State.

Appendix 1: Iowa State Energy Profile

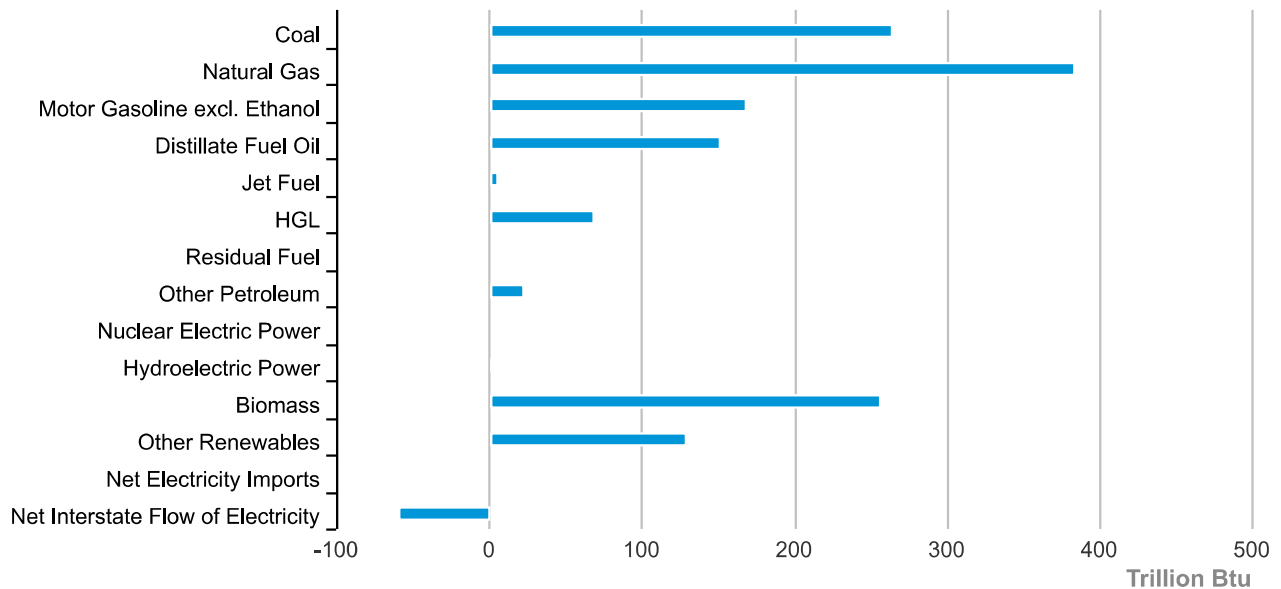
Iowa State Energy Profile

Iowa Quick Facts

- Iowa is the nation's largest fuel ethanol and biodiesel producer. It accounts for about one-fourth of U.S. fuel ethanol production capacity and almost one-fifth of biodiesel production capacity.
- In 2022, wind turbines generated 62% of Iowa's electricity, the highest wind power share for any state.
- Iowa ranks among the 10 states with the highest electricity sales per capita and is among the 10 states with the lowest average electricity price.
- Iowa is the only non-crude oil-producing state among the top five states in total energy consumption per capita.
- Iowa is the fourth-largest consumer of hydrocarbon gas liquids, mostly propane--which is used for drying the state's large harvested corn crop and for heating one in eight Iowa households.

Last Updated: August 17, 2023

Iowa Energy Consumption Estimates, 2021



Source: Energy Information Administration, State Energy Data System

Data

Last Update: September 21, 2023 | Next Update: October 19, 2023

Energy Indicators

Demography	Iowa	Share of U.S.	Period
Population	3.2 million	1.0%	2022
Civilian Labor Force	1.7 million	1.0%	Jul-23
Economy	Iowa	U.S. Rank	Period
Gross Domestic Product	\$ 231.1 billion	31	2022
Gross Domestic Product for the Manufacturing Sector	\$ 43,913 million	23	2022
Per Capita Personal Income	\$ 58,905	31	2022
Vehicle Miles Traveled	33,039 million miles	32	2021
Land in Farms	30.5 million acres	10	2022
Climate	Iowa	U.S. Rank	Period
Average Temperature	47.5 degrees Fahrenheit	34	2022
Precipitation	27.3 inches	34	2022

Prices

Petroleum	Iowa	U.S. Average	Period	find more
Domestic Crude Oil First Purchase	--	\$ 68.58 /barrel	Jun-23	
Natural Gas	Iowa	U.S. Average	Period	find more
City Gate	\$ 4.16 /thousand cu ft	\$ 4.68 /thousand cu ft	Jun-23	find more
Residential	\$ 17.29 /thousand cu ft	\$ 20.16 /thousand cu ft	Jun-23	find more
Coal	Iowa	U.S. Average	Period	find more
Average Sales Price	--	\$ 36.50 /short ton	2021	
Delivered to Electric Power Sector	\$ 1.71 /million Btu	\$ 2.47 /million Btu	Jun-23	
Electricity	Iowa	U.S. Average	Period	find more
Residential	15.00 cents/kWh	16.11 cents/kWh	Jun-23	find more
Commercial	12.35 cents/kWh	12.81 cents/kWh	Jun-23	find more
Industrial	8.79 cents/kWh	8.21 cents/kWh	Jun-23	find more

Reserves

Reserves	Iowa	Share of U.S.	Period	find more
Crude Oil (as of Dec. 31)	--	--	2021	find more
Expected Future Production of Dry Natural Gas (as of Dec. 31)	--	--	2021	find more
Expected Future Production of Natural Gas Plant Liquids	--	--	2021	find more
Recoverable Coal at Producing Mines	--	--	2021	find more
Rotary Rigs & Wells	Iowa	Share of U.S.	Period	find more
Natural Gas Producing Wells	--	--	2020	find more
Capacity	Iowa	Share of U.S.	Period	
Crude Oil Refinery Capacity (as of Jan. 1)	--	--	2022	
Electric Power Industry Net Summer Capacity	22,537 MW	1.9%	Jun-23	

Supply & Distribution

Production	Iowa	Share of U.S.	Period	find more
Total Energy	959 trillion Btu	1.0%	2021	find more
Crude Oil	--	--	Jun-23	find more
Natural Gas - Marketed	--	--	2021	find more
Coal	--	--	2021	find more
Total Utility-Scale Net Electricity Generation	Iowa	Share of U.S.	Period	find more
Total Net Electricity Generation	5,287 thousand MWh	1.5%	Jun-23	
Utility-Scale Net Electricity Generation (share of total)	Iowa	U.S. Average	Period	
Petroleum-Fired	0.2 %	0.3 %	Jun-23	find more
Natural Gas-Fired	19.8 %	45.3 %	Jun-23	find more
Coal-Fired	37.4 %	16.2 %	Jun-23	find more
Nuclear	0.0 %	18.2 %	Jun-23	find more
Renewables	42.6 %	19.6 %	Jun-23	

Supply & Distribution

Stocks	Iowa	Share of U.S.	Period	find more
Motor Gasoline (Excludes Pipelines)	40 thousand barrels	0.3%	Jun-23	
Distillate Fuel Oil (Excludes Pipelines)	1,456 thousand barrels	1.7%	Jun-23	find more
Natural Gas in Underground Storage	225,603 million cu ft	3.1%	Jun-23	find more
Petroleum Stocks at Electric Power Producers	71 thousand barrels	0.3%	Jun-23	find more
Coal Stocks at Electric Power Producers	4,935 thousand tons	3.8%	Jun-23	find more
Fueling Stations	Iowa	Share of U.S.	Period	
Motor Gasoline	1,690 stations	1.5%	2021	
Propane	33 stations	1.3%	Aug-23	
Electric Vehicle Charging Locations	318 stations	0.6%	Aug-23	
E85	332 stations	7.8%	Aug-23	
Compressed Natural Gas and Other Alternative Fuels	332 stations	11.9%	Aug-23	

Consumption & Expenditures

Summary	Iowa	U.S. Rank	Period	
Total Consumption	1,566 trillion Btu	24	2021	find more
Total Consumption per Capita	490 million Btu	5	2021	find more
Total Expenditures	\$ 16,773 million	28	2021	find more
Total Expenditures per Capita	\$ 5,245	7	2021	find more
by End-Use Sector	Iowa	Share of U.S.	Period	
Consumption				
» Residential	231 trillion Btu	1.1%	2021	find more
» Commercial	185 trillion Btu	1.1%	2021	find more
» Industrial	852 trillion Btu	2.6%	2021	find more
» Transportation	297 trillion Btu	1.1%	2021	find more
Expenditures				
» Residential	\$ 2,917 million	1.0%	2021	find more

Consumption & Expenditures

» Commercial	\$ 1,877 million	0.9%	2021	find more
» Industrial	\$ 5,168 million	2.2%	2021	find more
» Transportation	\$ 6,811 million	1.1%	2021	find more
by Source	Iowa	Share of U.S.	Period	
Consumption				
» Petroleum	88 million barrels	1.2%	2021	find more
» Natural Gas	390 billion cu ft	1.3%	2021	find more
» Coal	15 million short tons	2.8%	2021	find more
Expenditures				
» Petroleum	\$ 9,190 million	1.2%	2021	find more
» Natural Gas	\$ 2,853 million	1.5%	2021	find more
» Coal	\$ 433 million	1.9%	2021	find more
Consumption for Electricity Generation	Iowa	Share of U.S.	Period	find more
Petroleum	18 thousand barrels	1.1%	Jun-23	find more
Natural Gas	2,714 million cu ft	0.3%	Apr-23	find more
Coal	1,120 thousand short tons	3.3%	Jun-23	find more
Energy Source Used for Home Heating (share of households)	Iowa	U.S. Average	Period	
Natural Gas	60.3 %	46.5 %	2021	
Fuel Oil	0.4 %	4.1 %	2021	
Electricity	24.2 %	41.0 %	2021	
Propane	12.7 %	5.0 %	2021	
Other/None	2.4 %	3.5 %	2021	

Environment

Renewable Energy Capacity	Iowa	Share of U.S.	Period	find more
Total Renewable Energy Electricity Net Summer Capacity	13,089 MW	4.1%	Jun-23	
Ethanol Plant Nameplate Capacity	4,830 million gal/year	27.3%	2023	
Renewable Energy Production	Iowa	Share of U.S.	Period	find more

Environment

Utility-Scale Hydroelectric Net Electricity Generation	86 thousand MWh	0.4%	Jun-23
Utility-Scale Solar, Wind, and Geothermal Net Electricity Generation	2,152 thousand MWh	4.7%	Jun-23
Utility-Scale Biomass Net Electricity Generation	16 thousand MWh	0.4%	Jun-23
Small-Scale Solar Photovoltaic Generation	41 thousand MWh	0.5%	Jun-23
Fuel Ethanol Production	97,418 thousand barrels	27.2%	2021
Renewable Energy Consumption	Iowa	U.S. Rank	Period find more
Renewable Energy Consumption as a Share of State Total	38.2 %	4	2021
Fuel Ethanol Consumption	4,223 thousand barrels	28	2021
Total Emissions	Iowa	Share of U.S.	Period find more
Carbon Dioxide	73.1 million metric tons	1.5%	2021
Electric Power Industry Emissions	Iowa	Share of U.S.	Period find more
Carbon Dioxide	28,923 thousand metric tons	1.8%	2021
Sulfur Dioxide	27 thousand metric tons	2.3%	2021
Nitrogen Oxide	24 thousand metric tons	1.9%	2021

Analysis

Last Updated: August 17, 2023

Overview

Located between the Mississippi and Missouri rivers, Iowa's gently rolling plains have some of the richest farmland in the nation and significant renewable energy resources. The state's climate, with rainfall in the growing season and dry air at harvest, together with Iowa's deep topsoil, produce abundant grain crops.¹ Iowa leads the nation in the production of both corn and ethanol.^{2,3} Along with corn stalks, wind turbines rise above the prairie grasses throughout the state. Unobstructed winds blow across Iowa's open prairie, giving the state significant wind energy resources.⁴ With many days of sunshine each year, Iowa has solar energy potential as well.^{5,6} However, the state has few economically recoverable fossil energy reserves and no crude oil, natural gas, or coal production.^{7,8,9,10}

Iowa is the only non-crude oil-producing state among the top five states in total energy consumption per capita, mainly because of its small population and large industrial sector.¹¹ The industrial sector leads Iowa's end-use energy consumption, accounting for slightly more than half of the state total.¹² Iowa ranks

Iowa ranks among the top 5 states in per

among the top 10 states in total industrial sector energy use.¹³ Agriculture, food production, biofuels production, and manufacturing are key Iowa industries.¹⁴ The state's major manufactured products include machinery; food and beverages; chemicals; computers and electronics; plastics; and motor vehicles and parts.¹⁵ The transportation sector is the second-largest energy user, accounting for almost one-fifth of the state's total. The residential sector makes up about one-seventh of the state's energy consumption and the commercial sector accounts for about one-eighth.¹⁶

Renewable energy

Iowa is the top fuel ethanol-producing state in the nation and has about one-fourth of the nation's total fuel ethanol production capacity. The state's ethanol plants can produce nearly 4.7 billion gallons per year, which is almost 30 times greater than the 177 million gallons of ethanol consumed annually in the state. Iowa's fertile cornfields provide the feedstock for the state's 41 ethanol plants.^{17,18,19,20} Iowa also leads the nation in biodiesel production. Its 11 biodiesel plants have a combined production capacity of 470 million gallons per year, which is one-fifth of the nation's total capacity and the largest biodiesel production capacity of any state. Iowa's biodiesel production is almost eight times larger than the state's biodiesel use of about 63 million gallons a year.^{21,22,23}

In 2022, nearly two-thirds of Iowa's total electricity net generation came from renewable resources, almost all of it from wind.²⁴ The state was the second-largest wind power producer, after Texas. Wind energy powered 62% of Iowa's net generation, the highest share of any state. Iowa's wind power is expected to increase, as about 224 megawatts of new wind power generating capacity are scheduled to come online in 2023.^{25,26} The strongest winds occur in northwestern Iowa, and although there are wind farms across the state, most are in the state's northern and western areas.^{27,28}

About 3% of Iowa's in-state electricity generation in 2022 came from renewable energy resources other than wind, with hydroelectric power, solar energy, and biomass each contributing a small amount of the state's electricity.²⁹ The largest of Iowa's four hydroelectric power plants—the Keokuk plant with 15 turbine generators and 146 megawatts of generating capacity—is 110 years old. It is the largest privately-owned and operated dam and hydroelectric plant on the Mississippi River.^{30,31} Nearly three-fifths of the state's small, but growing, solar power supply is provided by utility-scale (1 megawatt or larger) solar arrays and about two-fifths come from customer-sited, small-scale generating systems (less than 1 megawatt each).³² The state's largest solar generating facility, the 100-megawatt Holiday Creek Solar Farm, came online in mid-2022.³³ Iowa's best solar power resources are found in the southwestern corner of the state.³⁴ The state's biomass resources include landfill gas and agricultural biodigesters that both produce methane gas as fuel for electricity-generating facilities. The largest biomass-fueled generating plant is an 11-megawatt facility located near Des Moines that uses methane produced from a landfill.^{35,36,37} Iowa's biomass resources also provide feedstock to the state's one wood pellet plant, which can process wood waste into 10,000 tons of pellets annually.³⁸

In 1983, Iowa became the first state in the nation to adopt a renewable portfolio standard (RPS). State regulators required Iowa's two investor-owned electric utilities to own or to contract for a combined 105 megawatts of total renewable generating capacity.³⁹ Capacity from eligible renewable resources has far exceeded the RPS goals. At the beginning of 2023, Iowa had about 12,800 megawatts of in-state generating capacity fueled by renewable energy sources at utility-scale power facilities.⁴⁰

*capita total
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Electricity

In 2019, wind turbines in Iowa generated more electricity than the state's coal-fired power plants for the first time. In 2022, coal's share declined to 25% of the state's total electricity net generation, which was down from 44% five years earlier. During the same five-year period, wind power grew from 37% of the state's net generation to 62% in 2022. However, 5 of Iowa's 10 largest power plants by generating capacity are coal-fired, and only 2 wind farms are in the top 10. When ranked by generation, 4 of the top 10 plants are wind-powered and 3 are coal-fired.^{41,42}

Natural gas-fired power plants contributed 9% of Iowa's in-state generation in 2022, with total generation from natural gas the second-lowest since 2017. Iowa has had no nuclear power generation since mid-2020 after the state's one nuclear plant stopped operating.⁴³ The 601-megawatt Duane Arnold nuclear power plant closed in August 2020 when storm winds damaged the power station's cooling towers. The plant's owner plans to build a 200-megawatt solar power farm at the site by the end of 2024.^{44,45,46} The state's remaining 3% of electricity generation came from hydropower, solar, biomass, and petroleum.⁴⁷

Since 2008, Iowa has generated more electricity each year than the state consumed. The excess power is sent to other states over the regional electric grid.⁴⁸ Iowa ranks in the top 10 states in total electricity sales per capita.⁴⁹ Almost half of electricity sales in Iowa go to the industrial sector, nearly three-tenths go to the residential sector, and the commercial sector accounts for slightly more than one-fourth.⁵⁰ Iowa ranks among the 10 states with the lowest average electricity price.⁵¹ About one in four Iowa households rely on electricity for home heating.⁵²

Petroleum

Iowa is not a crude oil-producing state and does not have any proved oil reserves.^{53,54} Of more than 100 exploratory wells drilled in the state, only a handful ever produced oil. Those wells no longer produce, and their combined production was less than 500 barrels of crude oil.^{55,56} Iowa does not have any oil refineries and relies on pipelines to bring in petroleum products from other states.⁵⁷ Nearly 12,000 miles of petroleum product pipelines cross the state.⁵⁸

The transportation sector accounts for about three-fifths of Iowa's petroleum use.⁵⁹ About 41% of the petroleum consumed in Iowa is used as motor gasoline, 30% is diesel fuel, and 23% is propane. Jet fuel, residual fuel, and other petroleum products account for the rest.⁶⁰ Conventional motor gasoline without ethanol can be sold statewide in Iowa, although almost all U.S. gasoline is blended with at least 10% ethanol.^{61,62} About 330 public fueling stations in the state dispense E85, a blend of motor gasoline with 85% ethanol, and about 310 stations sell biodiesel.^{63,64} Iowa's industrial sector makes up about three-tenths of the state's petroleum consumption. The remaining one-tenth of petroleum use is split between the state's residential and commercial sectors. A small amount of petroleum is used by the electric power sector.⁶⁵ The state's petroleum consumption includes hydrocarbon gas liquids (HGL), mostly propane. Iowa ranks fourth among the states in HGL consumption. The industrial sector consumes more than two-thirds of the HGLs, where farmers use propane to dry their harvested corn crop.^{66,67,68} About one in eight Iowa households heats with propane, almost triple the national rate.⁶⁹

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Natural gas

Iowa does not have any natural gas reserves or production, but the state is crossed by several interstate natural gas pipeline systems.^{70,71,72} Natural gas enters Iowa by pipelines primarily from Minnesota, Nebraska, and Missouri. About three-fourths of the natural gas that enters Iowa exits the state and continues on to Illinois and Minnesota on its way to markets in those states and farther east.^{73,74,75} Some of the gas is also stored in Iowa's four natural gas storage fields that together can hold 288 billion cubic feet of gas, which accounts for about 3% of U.S. natural gas storage capacity by volume.⁷⁶

Natural gas accounts for about one-fourth of the total energy consumed in Iowa.⁷⁷ In 2022, the industrial sector accounted for 58% of the natural gas consumed in the state. Iowa's residential sector, where 6 out of 10 households use natural gas as their primary heating fuel, accounted for 17% of natural gas use. The commercial sector consumed about 13%, and the electric power sector used 12%. A small amount of natural gas is also used in the transportation sector.^{78,79}

Coal

Coal mining began in Iowa in the 1840s and continued until the 1990s. Most of the coal mines were located in the southern half of the state and supplied coal to run the railroads that first reached Iowa in the 1860s.⁸⁰ Today, there are no active coal mines in Iowa, but the state still has about 1.1 billion tons of estimated recoverable coal reserves, located primarily in south-central Iowa.^{81,82}

Almost all of the coal consumed in Iowa is brought by rail from Wyoming and delivered to power plants. A few small coal shipments from Wyoming, Illinois, and Kentucky are also delivered to Iowa's industrial, commercial, and institutional users.⁸³ In 2022, Iowa ranked 16th among the states in coal use for electricity generation.⁸⁴

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- ⁷¹ U.S. EIA, Natural Gas Gross Withdrawal and Production, Gross Withdrawals, Annual-Million Cubic Feet, 2017-22.
- ⁷² U.S. EIA, U.S. Energy Atlas, All Energy Infrastructure and Resources, Iowa, accessed July 17, 2023.
- ⁷³ U.S. EIA, International and Interstate Movements of Natural Gas by State, Iowa, Annual, 2016-21.
- ⁷⁴ U.S. EIA, About U.S. Natural Gas Pipelines, Natural Gas Pipelines in the Midwest Region, accessed July 17, 2023.
- ⁷⁵ U.S. EIA, About U.S. Natural Gas Pipelines, Natural Gas Pipelines in the Central Region, accessed July 17, 2023.
- ⁷⁶ U.S. EIA, Underground Natural Gas Storage Capacity, Total Number of Existing Fields, 2016-21 and Total Storage Capacity, Annual, 2016-21.
- ⁷⁷ U.S. EIA, State Energy Data System, Table C1, Energy Consumption Overview: Estimates by Energy Source and End-Use Sector, 2021.
- ⁷⁸ U.S. Census Bureau, House Heating Fuel, Table B25040, 2021 ACS 1-Year Estimates Detailed Tables, Iowa.
- ⁷⁹ U.S. EIA, Natural Gas Consumption by End Use, Iowa, Annual, 2017-22.
- ⁸⁰ Iowa Pathways, Types of Business and Industry, accessed July 18, 2023.
- ⁸¹ U.S. EIA, Annual Coal Report 2021 (October 18, 2022), Table 1, Coal Production and Number of Mines by State and Mine Type, 2021 and 2020; Table 15, Recoverable Coal Reserves at Producing Mines, Estimated Recoverable Reserves, and Demonstrated Reserve Base by Mining Method, 2021.
- ⁸² U.S. EIA, U.S. Energy Atlas, All Energy Infrastructure and Resources, Iowa, accessed July 18, 2023.
- ⁸³ U.S. EIA, Annual Coal Distribution Report 2021 (October 18, 2022), Domestic Distribution of U.S. coal by: Destination State, consumer, destination and method of transportation, Iowa, Table DS-13, Domestic Coal Distribution, by Destination State, 2021.
- ⁸⁴ U.S. EIA, Electric Power Monthly (February 2023), Table 4.6.B.

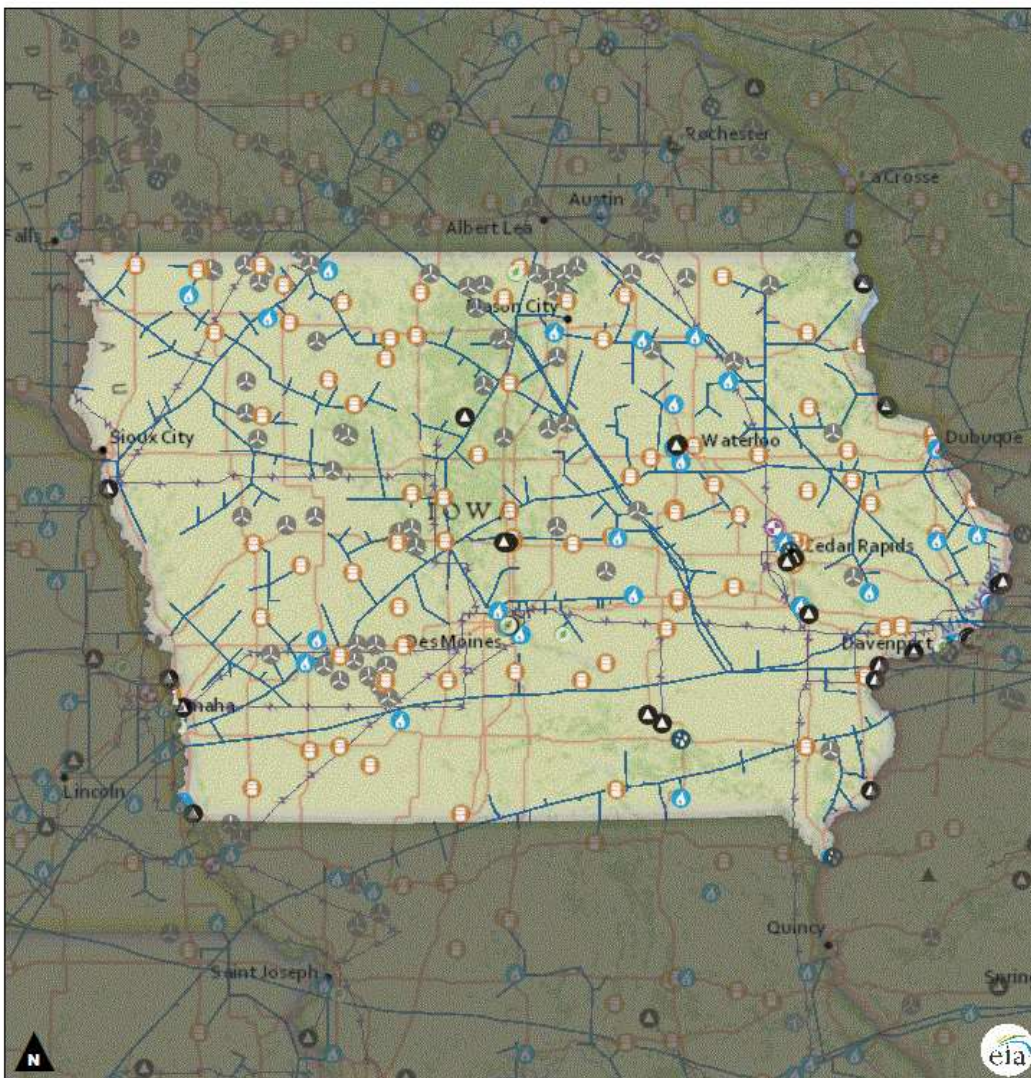
Other Resources

Energy-Related Regions and Organizations

- Petroleum Administration for Defense District (PADD): 2
- Regional Transmission Organization (RTO) and Independent System Operator (ISO): Midcontinent Independent System Operator (MISO), Southwest Power Pool (SPP)
- North American Electric Reliability Corporation (NERC) ERO Enterprise: Regional Entities: Midwest Reliability Organization (MRO)

Other Websites

- Iowa Energy Office
- Iowa Utilities Board
- Iowa Department of Human Rights, Division of Community Action Agencies, Low-Income Home Energy Assistance (LIHEAP)
- Iowa Department of Human Rights, Division of Community Action Agencies, Weatherization Assistance Program
- Iowa Department of Agriculture and Land Stewardship, Iowa Renewable Fuel Infrastructure Program
- Iowa Department of Natural Resources, Underground Storage Tanks
- Iowa Department of Natural Resources, Oil, Gas and Metallic Mineral Regulatory Information
- Iowa Department of Agriculture and Land Stewardship, Iowa Mineral Program
- Iowa Energy Center Board
- EIA Iowa Flickr Album
- U.S. Department of Health and Human Services, Administration for Children and Families, Office of Community Services, Low Income Home Energy Assistance Program (LIHEAP)
- Alternative Fuels Data Center, Federal and State Laws and Incentives
- Benefits.Gov, Housing and Public Utilities
- NC Clean Energy Technology Center, Database of State Incentives for Renewables and Efficiency (DSIRE)
- National Association of Regulatory Utility Commissioners (NARUC)
- National Association of State Energy Officials (NASEO)
- National Conference of State Legislatures (NCSL), Energy
- National Renewable Energy Laboratory (NREL), Geospatial Data Science Data and Tools
- U.S. Geological Survey (USGS), Publications
- Western Area Power Administration
- U.S. Geological Survey, Maps
- Lawrence Livermore National Laboratory, Energy Flow Charts
- National Renewable Energy Laboratory, State and Local Planning for Energy (SLOPE)
- EIA Natural Gas Storage Dashboard
- EIA Energy Disruptions
- U.S. Department of Agriculture (USDA), Rural Development, Energy Programs



States:Electricity Transmission Lines - Ventyx, Velocity Suite;Grey Base:National

0 20 40 80 Miles

- | | | |
|--------------------------|----------------------------------|-------------------------------|
| ■ Mask | ⊕ Hydroelectric Power Plant | ⊕ Pumped Storage Power Plant |
| ▲ Surface Coal Mine | ⊕ Natural Gas Power Plant | ☀ Solar Power Plant |
| ▼ Underground Coal Mine | ⊕ Nuclear Power Plant | ⊕ Wind Power Plant |
| ⊕ Biomass Power Plant | ● Other Power Plant | ⊕ Wood Power Plant |
| ⊕ Coal Power Plant | ⊕ Other Fossil Gases Power Plant | ⊕ Petroleum Refinery |
| ⊕ Geothermal Power Plant | ⊕ Petroleum Power Plant | ⊕ Strategic Petroleum Reserve |

<http://www.eia.gov/state/>

Appendix 2: Additional Sources of Energy Related Data

Weekly Fuel Report: The Iowa Department of Agriculture and Land Stewardship issues a weekly fuel report with data on current and trending prices of crude oil, motor fuels and heating fuels. To subscribe to the email release, contact Don McDowell at don.mcdowell@iowaagriculture.gov.

Iowa Utilities Board (IUB): The IUB has regulatory authority over investor-owned utility (IOU) rates and other service issues. IUB authority is mostly limited to service, safety, and engineering issues for the rural electric cooperative (REC) and the municipal electric (Muni) utilities in Iowa. The IUB has very limited authority for non-utility generators.

Iowa Utility Electric Profile (2021)

UTILITY TYPE	# OF UTILITIES	# OF CUSTOMERS	% CUSTOMERS	MWH SALES ¹	% SALES
IOU	2	1,209,421	72.33%	58,781,859	82.40%
Muni	136	223,719	13.38%	5,422,679	7.63%
REC ²	43	238,961	14.29%	7,115,971	9.97%
Total	181	1,672,101	100.00%	71,340,509	100.00%

Notes: (1) IOU, Muni and REC totals exclude sales for resale. (2) REC totals exclude sales to Generation & Transmission (G&T).

Amana Society Service Company is an investor-owned utility but it is not rate-regulated due to the number of customers it serves.

Source: 2021 Annual Report (IUB 24/7; Form IE-1, Form EC-1, & Form ME-1)

For more information, see <https://iub.iowa.gov/iowas-electric-profile>

Iowa Electric Profile (2021 - Including Non-Utility Generation)

TRIC GENERATION IN IOWA BY PRIMARY ENERGY SOURCE	2021 NAMEPLATE CAPACITY (MW) ¹	PERCENT OF NAMEPLATE CAPACITY	2021 GENERATION (MWH) ²	PERCENT OF GENERATION
Coal	5,754.7	25.13%	22,106,594	32.89%
Wind	11,804.1	51.54%	37,098,274	55.20%
Nuclear	0.0	0.0%	0	0.00%
Natural Gas	4,027.6	17.58%	6,463,644	9.62%
Hydro	184.4	0.81%	980,071	1.46%
Other & Other Renewables	24.5	0.11%	201,407	0.30%
Petroleum	990.3	4.32%	132,111	0.20%
Solar	118.4	0.52%	224,906	0.33%
Total	22,904.0	100.00% ³	67,207,008	100.00% ³

Notes:

(1) Generation capacity for units greater than 1 MW that are physically located in Iowa; includes non-utility generators such as merchant plants, hospitals, colleges/universities, and industrials.

(2) Generation from units greater than 1 MW that are physically located in Iowa; includes non-utility generators such as merchant plants, hospitals, colleges/universities, and industrials.

(3) The percentages above reflect each category's percentage of the total quantity, rounded to two decimal places. Any differences found by manually summing the percent column are due to rounding.

Sources:

(1) Capacity: [U.S. Energy Information Administration \(EIA\) Report 860](#) - Final Report 2021

(2) Generation: [U.S. Energy Information Administration \(EIA\) Report 923](#) - Final Report 2021

[Links to other data and information](#) on the electric utility industry.

Electric Service Map: A map of electric service territories in the state is available at [Iowa Utilities Board \(arcgis.com\)](#).

Database of State Incentives for Renewables and Efficiency: DSIRE is a comprehensive source of information on incentives and policies that support renewable energy and energy efficiency in the United States. See <https://programs.dsireusa.org/system/program/ia>.