

About Dataset

Data on Energy by *Our World in Data*

This dataset is a collection of key metrics maintained by [Our World in Data](#). It is updated regularly and includes data on energy consumption (primary energy, per capita, and growth rates), energy mix, electricity mix and other relevant metrics.

 Download the complete Energy dataset : [CSV](#) | [XLSX](#) | [JSON](#)

Data sources

- Energy consumption (primary energy, energy mix and energy intensity): this data is sourced from a combination of two sources—the [BP Statistical Review of World Energy](#) and [SHIFT Data Portal](#).
- Electricity consumption (electricity consumption, and electricity mix): this data is sourced from a combination of two sources—the [BP Statistical Review of World Energy](#) and [EMBER – Global Electricity Dashboard](#).
- Other variables: this data is collected from a variety of sources (United Nations, World Bank, Gapminder, Maddison Project Database, etc.). More information is available in [our codebook](#).

The complete *Our World in Data* Energy dataset

Our complete Energy dataset is available in [CSV](#), [XLSX](#), and [JSON](#) formats.

The CSV and XLSX files follow a format of 1 row per location and year. The JSON version is split by country, with an array of yearly records.

The variables represent all of our main data related to energy consumption, energy mix, electricity mix as well as other variables of potential interest.

Changelog

- On March 31, 2021, we updated 2020 electricity mix data.
- On September 9, 2020, the first version of this dataset was made available.

Data alterations

- standardize names of countries and regions. Since the names of countries and regions are different in different data sources, standardize all names to the [Our World in Data standard entity names](#).
- recalculate primary energy in terawatt-hours. The primary data sources on energy—the BP Statistical Review of World Energy, for example—typically report consumption in terms of exajoules. recalculated these figures as terawatt-hours using a conversion factor of 277.8.
- calculate per capita figures. All of our per capita figures are calculated from our metric `Population`, which is included in the complete dataset. These population figures are sourced from [Gapminder](#) and the [UN World Population Prospects \(UNWPP\)](#).

License

All visualizations, data, and code produced by *Our World in Data* are completely open access under the [Creative Commons BY license](#). You have the permission to use, distribute, and reproduce these in any medium, provided the source and authors are credited.

The data produced by third parties and made available by *Our World in Data* is subject to the license terms from the original third-party authors. We will always indicate the original source of the data in our database, and you should always check the license of any such third-party data before use.

Authors

This data has been collected, aggregated, and documented by Hannah Ritchie, Max Roser and Edouard Mathieu.

The mission of *Our World in Data* is to make data and research on the world's largest problems understandable and accessible. [Read more about our mission](#).

Columns and their description

column	description
iso_code	ISO 3166-1 alpha-3 three-letter country codes
country	Geographic location
year	Year of observation
coal <i>prod</i> change_pct	Annual percentage change in coal production
coal <i>prod</i> change_twh	Annual change in coal production, measured in terawatt-hours
gas <i>prod</i> change_pct	Annual percentage change in gas production

<i>gasprodchange_twh</i>	Annual change in gas production, measured in terawatt-hours
<i>oilprodchange_pct</i>	Annual percentage change in oil production
<i>oilprodchange_twh</i>	Annual change in oil production, measured in terawatt-hours
<i>energyconschange_pct</i>	Annual percentage change in primary energy consumption
<i>energyconschange_twh</i>	Annual change in primary energy consumption, measured in terawatt-hours
<i>biofuelshareelec</i>	Share of electricity consumption that comes from biofuels
<i>biofuelconschange_pct</i>	Annual percentage change in biofuel consumption

<i>biofuelshareenergy</i>	Share of primary energy consumption that comes from biofuels
<i>biofuelconschange_twh</i>	Annual change in biofuel consumption, measured in terawatt-hours
<i>biofuel_consumption</i>	Primary energy consumption from biofuels, measured in terawatt-hours
<i>biofuele/ecper_capita</i>	Per capita electricity consumption from biofuels, measured in kilowatt-hours
<i>biofuelconsper_capita</i>	Per capita primary energy consumption from biofuels, measured in kilowatt-hours
<i>carbonintensityelec</i>	Carbon intensity of electricity production, measured in grams of carbon dioxide emitted per kilowatt-hour
<i>coalshareelec</i>	Share of electricity consumption that comes from coal

coalconschange_pct	Annual percentage change in coal consumption
coalshareenergy	Share of primary energy consumption that comes from coal
coalconschange_twh	Annual change in coal consumption, measured in terawatt-hours
coal_consumption	Primary energy consumption from coal, measured in terawatt-hours
coale/ecper_capita	Per capita electricity consumption from coal, measured in kilowatt-hours
coalconsper_capita	Per capita primary energy consumption from coal, measured in kilowatt-hours
coal_production	Coal production, measured in terawatt-hours

coalprodper_capita	Per capita coal production, measured in kilowatt-hours
electricity_generation	Electricity generation, measured in terawatt-hours
biofuel_electricity	Electricity generation from biofuels, measured in terawatt-hours
coal_electricity	Electricity generation from coal, measured in terawatt-hours
fossil_electricity	Electricity generation from fossil fuels, measured in terawatt-hours. This is the sum of electricity generation from coal, oil and gas.
gas_electricity	Electricity generation from gas, measured in terawatt-hours
hydro_electricity	Electricity generation from hydropower, measured in terawatt-hours

nuclear_electricity	Electricity generation from nuclear power, measured in terawatt-hours
oil_electricity	Electricity generation from oil, measured in terawatt-hours
otherrenewableelectricity	Electricity generation from other renewable sources, measured in terawatt-hours
otherrenewableexcbiofuelelectricity	Electricity generation from other renewable sources excluding biofuels, measured in terawatt-hours
renewables_electricity	Electricity generation from renewables, measured in terawatt-hours
solar_electricity	Electricity generation from solar, measured in terawatt-hours
wind_electricity	Electricity generation from wind, measured in terawatt-hours

energypergdp	Energy consumption per unit of GDP. This is measured in kilowatt-hours per 2011 international-\$.
energypercapita	Primary energy consumption per capita, measured in kilowatt-hours per year
fossilconschange_pct	Annual percentage change in fossil fuel consumption
fossilshareenergy	Share of primary energy consumption that comes from fossil fuels
fossilconschange_twh	Annual change in fossil fuel consumption, measured in terawatt-hours
fossilfuelconsumption	Fossil fuel consumption, measured in terawatt-hours. This is the sum of primary energy from coal, oil and gas.
fossilenergyper_capita	Per capita fossil fuel consumption, measured in kilowatt-hours. This is the

	sum of primary energy from coal, oil and gas.
fossilconsper_capita	Per capita fossil fuel consumption, measured in kilowatt-hours. This is the sum of primary energy from coal, oil and gas.
fossilshareelec	Share of electricity consumption that comes from fossil fuels (coal, oil and gas combined)
gasshareelec	Share of electricity consumption that comes from gas
gasconschange_pct	Annual percentage change in gas consumption
gasshareenergy	Share of primary energy consumption that comes from gas
gasconschange_twh	Annual change in gas consumption, measured in terawatt-hours

gas_consumption	Primary energy consumption from gas, measured in terawatt-hours
gaselecper_capita	Per capita electricity consumption from gas, measured in kilowatt-hours
gasenergyper_capita	Per capita primary energy consumption from gas, measured in kilowatt-hours
gas_production	Gas production, measured in terawatt-hours
gasprodper_capita	Per capita gas production, measured in kilowatt-hours
hydroshareelec	Share of electricity consumption that comes from hydropower
hydroconschange_pct	Annual percentage change in hydropower consumption

hydroshareenergy	Share of primary energy consumption that comes from hydropower
hydroconschange_twh	Annual change in hydropower consumption, measured in terawatt-hours
hydro_consumption	Primary energy consumption from hydropower, measured in terawatt-hours
hydroelecper_capita	Per capita electricity consumption from hydropower, measured in kilowatt-hours
hydroenergyper_capita	Per capita primary energy consumption from hydropower, measured in kilowatt-hours
lowcarbonshare_elec	Share of electricity consumption that comes from low-carbon sources. This is the sum of electricity from renewables and nuclear

<i>lowcarbonelectricity</i>	Electricity generation from low-carbon sources, measured in terawatt-hours. This is the sum of electricity generation from renewables and nuclear power
<i>lowcarbonelecpercapita</i>	Per capita electricity consumption from low-carbon sources, measured in kilowatt-hours
<i>lowcarbonconschange</i> pct	Annual percentage change in low-carbon energy consumption
<i>lowcarbonshare_energy</i>	Share of primary energy consumption that comes from low-carbon sources. This is the sum of primary energy from renewables and nuclear
<i>lowcarbonconschange</i> twh	Annual change in low-carbon energy consumption, measured in terawatt-hours
<i>lowcarbonconsumption</i>	Primary energy consumption from low-carbon sources, measured in terawatt-hours

lowcarbonenergypcapita	Per capita primary energy consumption from low-carbon sources, measured in kilowatt-hours
nuclearshareelec	Share of electricity consumption that comes from nuclear power
nuclearconschange_pct	Annual percentage change in nuclear consumption
nuclearshareenergy	Share of primary energy consumption that comes from nuclear power
nuclearconschange_twh	Annual change in nuclear consumption, measured in terawatt-hours
nuclear_consumption	Primary energy consumption from nuclear power, measured in terawatt-hours

nuclearelecper_capita	Per capita electricity consumption from nuclear power, measured in kilowatt-hours
nuclearenergyper_capita	Per capita primary energy consumption from nuclear, measured in kilowatt-hours
oilshareelec	Share of electricity consumption that comes from oil
oilconschange_pct	Annual percentage change in oil consumption
oilshareenergy	Share of primary energy consumption that comes from oil
oilconschange_twh	Annual change in oil consumption, measured in terawatt-hours
oil_consumption	Primary energy consumption from oil, measured in terawatt-hours

oilelecper_capita	Primary energy consumption from oil, measured in terawatt-hours
oilenergyper_capita	Per capita primary energy consumption from oil, measured in kilowatt-hours
oil_production	Oil production, measured in terawatt-hours
oilprodper_capita	Per capita oil production, measured in kilowatt-hours
otherrenewableselecpercapita	Per capita electricity consumption from other renewables, measured in kilowatt-hours
otherrenewablesshare_elec	Share of electricity consumption that comes from other renewables
otherrenewablesconschange_pct	Annual percentage change in energy consumption from other renewables

<i>otherrenewables</i> share_energy	Share of primary energy consumption that comes from other renewables
<i>otherrenewables</i> conschangetwh	Annual change in other renewable consumption, measured in terawatt-hours
<i>otherrenewable</i> consumption	Primary energy consumption from other renewables, measured in terawatt-hours
<i>otherrenewables</i> energypercapita	Per capita primary energy consumption from other renewables, measured in kilowatt-hours
<i>percapita</i> electricity	Electricity consumption per capita, measured in kilowatt-hours
population	Total population
<i>primaryenergy</i> consumption	Primary energy consumption, measured in terawatt-hours

renewablese/ecper_capita	Per capita primary energy consumption from renewables, measured in kilowatt-hours
renewablesshareelec	Share of electricity consumption that comes from renewables
renewablesconschange_pct	Annual percentage change in renewable energy consumption
renewablesshareenergy	Share of primary energy consumption that comes from renewables
renewablesconschange_twh	Annual change in renewable energy consumption, measured in terawatt-hours
renewables_consumption	Primary energy consumption from renewables, measured in terawatt-hours
renewablesenergyper_capita	Per capita electricity consumption from renewables, measured in kilowatt-hours

solarshareelec	Share of electricity consumption that comes from solar
solarconschange_pct	Annual percentage change in solar consumption
solarshareenergy	Share of primary energy consumption that comes from solar
solarconschange_twh	Annual change in solar consumption, measured in terawatt-hours
solar_consumption	Primary energy consumption from solar, measured in terawatt-hours
solarelecper_capita	Per capita electricity consumption from solar, measured in kilowatt-hours
solarenergyper_capita	Per capita primary energy consumption from solar, measured in kilowatt-hours

gdp	Total real gross domestic product, inflation-adjusted
windshareelec	Share of electricity consumption that comes from wind
windconschange_pct	Annual percentage change in wind consumption
windshareenergy	Share of primary energy consumption that comes from wind
windconschange_twh	Annual change in wind consumption, measured in terawatt-hours
wind_consumption	Primary energy consumption from wind, measured in terawatt-hours
windelecper_capita	Per capita electricity consumption from wind, measured in kilowatt-hours

<code>windenergyper_capita</code>	Per capita primary energy consumption from wind, measured in kilowatt-hours
-----------------------------------	---