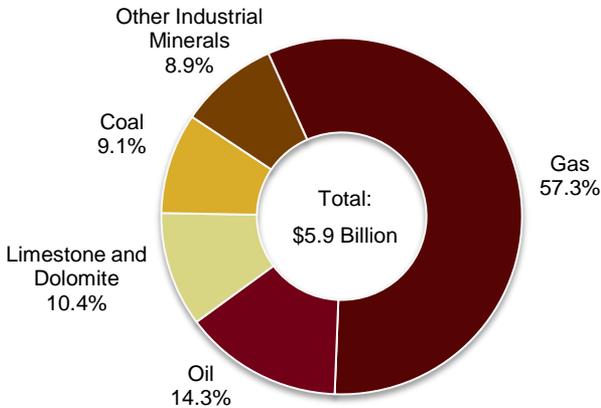


Natural Gas Was Ohio's Dominant Mineral Resource in 2016

Value of Minerals Produced in Ohio, 2016

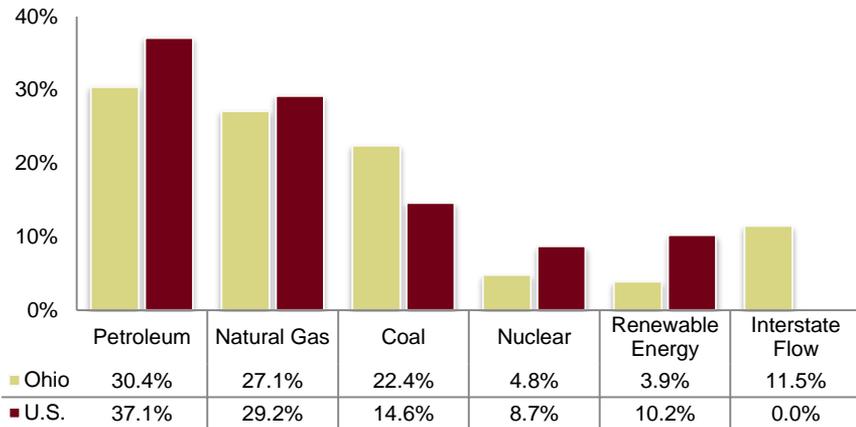


Source: Ohio Department of Natural Resources

- The value of mineral resources extracted in Ohio in 2016 totaled \$5.9 billion. Natural gas accounted for the largest share of this total at \$3.4 billion (57.3%), followed by oil at \$844.7 million (14.3%), and limestone and dolomite at \$615.7 million (10.4%). Coal ranked 4th at \$541.2 million (9.1%).
- The relative values of Ohio's mineral resources have shifted in the last few years. From 2014 to 2016, the value of natural gas increased by 74.9%. In contrast, the value of coal produced fell by 50.0% and the value of oil fell by 29.8% during this period. The total value of mineral resources increased by 11.3% over this period.
- Carroll County was the top natural gas and oil producing county in Ohio in 2016, yielding 161.8 million mcf (31.6%) of the natural gas produced and 4.14 million barrels (27.5%) of the oil produced statewide.
- Belmont County was top among the 12 coal producing counties, accounting for nearly 63.8% (just under 8.0 million tons) of the state's total production of nearly 12.5 million tons.
- Industrial minerals produced in Ohio include mostly limestone and dolomite and lesser amounts of sand and gravel, salt, sandstone and conglomerate, shale, and clay. Wyandot County had the most sales of limestone and dolomite in 2016 (7.6 million tons), while Stark County led in sales of sand and gravel (3.7 million tons). Geauga County led in sales of sandstone and conglomerate, Tuscarawas County led in sales of both clay and shale, and Cuyahoga County led in sales of salt.

Petroleum Is Ohio's Largest Energy Source, but Ohio Remains Strongly Reliant on Coal Relative to U.S.

Ohio and U.S. Energy Consumption by Source, 2016

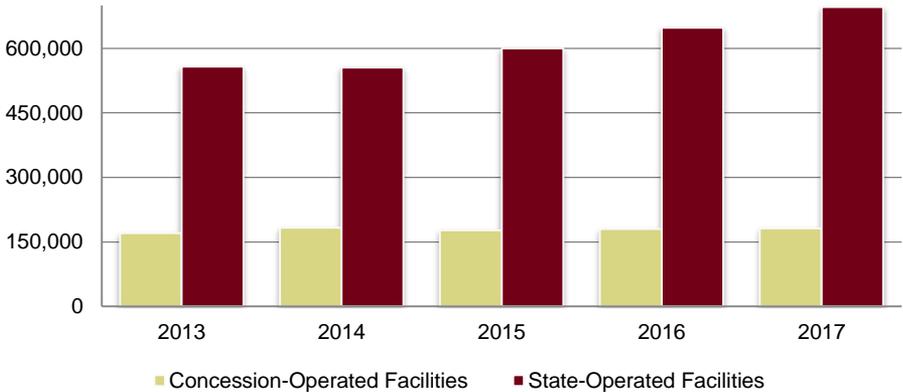


Source: United States Energy Information Administration

- In 2016, petroleum was the largest source of energy consumed in Ohio (30.4%) and in the U.S. (37.1%). Petroleum gained its top ranking in Ohio in 2012 for the first time since the U.S. Energy Information Administration began recordkeeping in 1960. Prior to 2012, coal was the primary source of energy in Ohio.
- Natural gas ranked 2nd among the energy sources consumed in Ohio in 2016, at 27.1%. It was also the 2nd largest source in the U.S., at 29.2% of consumption.
- Ohio coal consumption declined by 43.1% from 2006 to 2016 during which time it dropped from the primary energy source to the 3rd largest energy source. In 2016 coal accounted for 22.4% of Ohio's total energy consumption, still significantly higher than the national average of 14.6% for that year.
- Renewable sources made up 3.9% of energy consumed in Ohio in 2016; nationally, these sources made up 10.2%. The remaining 11.5% of Ohio's energy consumption came from sources in other U.S. states.
- Ohio was the 7th largest energy user among the 50 states in 2016, due primarily to Ohio's relatively large population. On a per capita basis, Ohio ranked 22nd in the nation in energy consumption.
- Ohio's industrial base requires significant energy resources. Overall energy usage by Ohio's industrial customers was 6th among states in 2016, and ranked 3rd in electricity usage behind Texas and California.

Overnight Visits to Ohio State Parks Have Increased Five Years in a Row with Camping the Most Popular Option

Nights Used at Ohio State Park Overnight Facilities



Source: Ohio Department of Natural Resources

- The number of uses of overnight accommodations in Ohio's state parks has increased in each of the past five years. Overall, usage increased 20.6% from 728,095 nights in 2013 to 878,295 nights in 2017. Most of this growth can be attributed to overnight stays in state-operated accommodations.
- Of the total nights used in 2017, 696,322 (79.3%) were in state-operated campgrounds, cabins, getaway rentals, or group lodges, while 181,973 (20.7%) were in concession-operated lodges and cabins.
- Camping remains the most popular form of overnight stay in Ohio's state parks, comprising 73.3% of overnight stays in 2017. Lodges made up 16.1% of nights used, cabins comprised 9.4%, and getaway rentals comprised 1.2%.
- Among overnight accommodations at state parks, the number of overnight stays at state park campgrounds has increased the most since 2013 (27.2%). The number of overnight stays in state park cabins had the second highest increase over this time (7.0%).
- In FY 2018, approximately \$67.5 million was spent on state park operations. Of this amount, approximately 54.0% was funded by fees, charges, and other sources while 46.0% was funded by the GRF.
- In FY 2018, state parks generated approximately \$32.0 million in revenue, a 2.6% increase over FY 2017. The largest source of revenue was camping fees (45.2%), followed by cabin rentals (13.4%), dock permit fees (9.2%), camp store revenue (9.0%), and concession fees (3.8%).

Ohio's 4,894 Public Water Systems Serve 11 Million People Daily

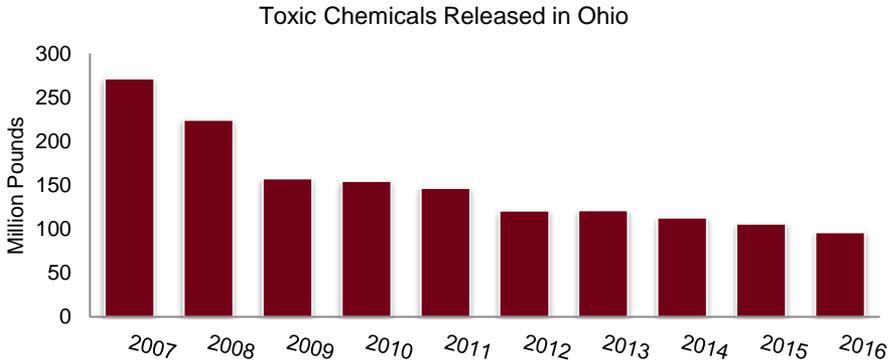
Ohio's Public Water Systems by Category, 2018

Category	Surface Water	Ground Water	Total Systems	Population Served Daily
Community	297	947	1,244	10,418,601
Nontransient Noncommunity	10	718	728	209,917
Transient Noncommunity	11	2,911	2,922	405,885
Total	318	4,576	4,894	11,034,403

Source: Ohio Environmental Protection Agency

- Ohio's 4,894 public water systems (PWS) provide drinking water to a total of 11 million people daily. Approximately 31%, or 3.4 million, of that population is served by Cleveland, Columbus, and Cincinnati PWS. PWS are regulated by the Ohio Environmental Protection Agency.
- There are three types of PWS in Ohio:
 - *Community*: Serves at least 15 water connections used by year-round residents or regularly serves at least 25 year-round residents. Examples include cities, mobile home parks, and nursing homes.
 - *Nontransient noncommunity*: Serves at least 25 of the same persons over six months per year. Examples include schools, businesses, and factories.
 - *Transient noncommunity*: Serves at least 25 different persons over 60 days per year. Examples include parks, highway rest stops, and gas stations.
- Of the 4,894 PWS in Ohio, 4,576 (93.5%) use ground water (wells) which serve 31% of the population and the remaining 318 (6.5%) use surface water (lakes or rivers) which serve 69% of the population.
- In 2017, 4,239 (86.6%) PWS were in compliance with applicable federal Safe Drinking Water requirements. The remaining 655 (13.4%) recorded one or more compliance violations for a total of 1,211 violations of the following:
 - *Monitoring*: Failure to monitor, verify, or report contaminant levels (784/64.7%).
 - *Consumer Notification*: Failure to provide consumers required annual water quality report (245/20.2%).
 - *Maximum Contaminant Level*: Failure to notify public, monitor, and correct contaminant problems (125/10.3%).
 - *Treatment Techniques*: Failure to use established techniques to control unacceptable levels of certain contaminants (57/4.7%).

Ohio's Toxic Chemical Releases Decreased by 64.5% Over Past Ten Years



Source: U.S. Environmental Protection Agency

- The amount of toxic chemicals released or disposed of in Ohio, as reported in the Toxic Release Inventory (TRI), declined from 271.6 million pounds in 2007 to 96.6 million pounds in 2016, a decrease of 64.5% during this period.
- Three industries – chemicals (28.1 million pounds), primary metals (20.4 million pounds), and electric utilities (18.0 million pounds) – were responsible for 68.8% of Ohio's total releases in 2016.
- Three chemicals – zinc compounds (15.7 million pounds), sulfuric acid (7.4 million pounds), and nitrate compounds (7.1 million pounds) – were responsible for 31.3% of Ohio's total releases in 2016.
- Ohio ranked 8th nationally in total releases in 2016. Alaska released the largest amount of toxic chemicals (833.8 million pounds) while New Hampshire released the least (0.3 million pounds). As seen in the table below, Ohio ranked above all neighboring states except Indiana.
- Through TRI, a database to which facilities are required to report the release of toxic chemicals, the U.S. Environmental Protection Agency tracks the release of more than 650 specific toxic chemicals to air, water, and land. In 2016, 1,364 Ohio facilities reported toxic chemical releases.

Toxic Chemical Release Rankings for Ohio and Neighboring States, 2016

State	National Rank	Toxic Releases (Million Pounds)
Indiana	6	130.0
Ohio	8	96.6
Michigan	12	70.3
Pennsylvania	16	55.6
Kentucky	19	53.4
West Virginia	28	32.1