USA conventional unnatural gas peaked 1973
fracking postponed rationing

chart: PeakChoice.org

2021: fracked gas 72% total

fracked gas was 8% of USA gas production in 2007, in 2021 fracked gas was 72%
2021: gas from conventional, oil wells and methane decreased, fracking increased
fracked gas in 2017 (19.927 trillion) surpassed 1973 conventional gas peak (19.371 trillion)
conventional gas and from oil wells combined in 2017 (12.873 trillion) below 1957 level (12.9 trillion)
The main increase in the use of unnatural gas in the US in recent decades has been for electric grids. Nat. gas generators are easier to approve under the Clean Air Act than coal burners (and coal is in permanent geologic decline, a physical fact obscured by discussion of its more obvious pollution problems). However, gas supplies were never sized to both power electricity and heat cold cities in the winter. Conventional gas decline has been mitigated by the sudden, sharp increase in fracked gas since 2008, but fracked gas is not only more toxic than conventional gas wells, it’s also more expensive, takes more energy and talent. Fracked wells rise and fall faster than conventional drilling, so the fracking bubble is a short term boom and bust.

**Campaigns to restrict nat. gas use in favor of more electricity ignore that gas is a primary power source for electricity.** Here in Oregon, there has been a huge increase in nat. gas combustion east of the Cascades in Klamath Falls and Boardman, hard to notice in the liberal cities of Portland and Eugene, but gas is a key source of power. **Burning that gas and sending the electrons over the Cascade mountains might be less efficient than just burning the fuel closer to where the energy is wanted.** Using less energy, including less electricity, is usually belittled.
**Natural Gas Flow in the United States, 2021**

trillion cubic feet

- **from natural gas wells**: 6.35
- **from crude oil wells**: 4.56
- **from coalbed wells**: 0.76
- **from shale gas wells**: 30.00

**Gross withdrawals**: 41.67

**Marketed production**: 37.33

**Dry gas production**: 34.52

**Imports**: 2.81

**Supplemental gaseous fuels**: 0.07

**Withdrawals from storage**: 3.80

**Nonhydrocarbon gases removed**: 0.33

**Repressuring**: 3.72

**Vented & flared**: 0.29

**NGPL production**: 2.81

**Exports**: 6.65

**Additions to storage**: 3.72

**Balancing item**: 0.37

**Residential**: 4.72

**Commercial**: 3.30

**Industrial**: 10.20

**Transportation**: 1.18

**Electric power**: 11.27

**Consumption**: 30.66

*Industrial includes lease and plant fuel.*


Note: The balancing item is expressed in this flow diagram as an outflow and is therefore a positive number. In the *Natural Gas Annual* tables, it is expressed as -0.37 trillion cubic feet, as U.S. total supply is greater than disposition for 2021. Transportation includes vehicle fuel and pipeline and distribution use.
**Natural Gas**

There is significant fluctuation from year to year in the consumption of natural gas for electric power generation. Consumption in other sectors is relatively steady.

Natural gas consumption for electric power generation is driven by the availability of other resources, especially hydroelectric and variable energy resources, and demand for electricity overall. As penetration of variable energy resources increases, the system relies more on natural gas resources for ramping, load-following and changes in generation associated with these variable resources.

**Pipelines and Power Plants**

There are over 54,000 miles of natural gas pipeline in the Western United States. These pipelines carry gas over long distances from production sites to consumers, including power plants.

California consumes more natural gas than any other state in the West. It is the primary fuel source for electric power generation in the state, as well as in Nevada. The amount of natural gas consumed for generation in California is expected to be steady or decrease in future years as the penetration of variable energy resources increases. However, natural gas and other conventional technologies that provide Essential Reliability Services remain critical for the reliability of the Western Interconnection.
MegaWatt hours

Fuel Types
- Baseload
- Hydroelectric
- Solar
- Wind

2010-2019 Generation by State

Western Electricity Coordinating Council

“state of the interconnection”
In-State Electric Generation by Fuel Type

Source: Quarterly Fuels and Energy Reporting Regulations

- Wind
- Solar Thermal
- Solar PV
- Small Hydro
- Large Hydro
- Natural Gas
- Nuclear
- Geothermal
- Biomass
- Oil
- Waste Heat
- Petroleum Coke
- Coal
California's Electric Generation by Fuel Type

Source: California Energy Commission, CEC-1304 Power Plant Data Reporting.


gas
Fracked “tight oil” and “shale gas” - two thirds of US totals
baseload for power grids, heat for cold cities, industrial uses
damned if we drill, damned if we stop, damned as it runs out

Monthly dry shale gas production
billion cubic feet per day

Source: Graph by the U.S. Energy Information Administration (EIA) based on state administrative data collected by Enrerus. Data are through November 2021 and represent EIA’s official light gas estimates, but are not survey data. State abbreviations indicate primary state(s).
Note: Improvements to play identification methods have altered production volumes of between various plays.
72% of gas was fracked in 2021.

8% in 2007.