Get the Facts on Natural Gas for Electricity

Natural Gas is the Cleanest Fossil Fuel

Comparison of Power Plant Emissions From Top Sources of Electricity

Natural Gas Supply Association

Measured in tons per year per 1,000 households

	FOSSIL FUELS					OTHER				
KEY POLLUTANTS	Wood	Waste	Coal	Coal with CCS*	Natural Gas	Geo-thermal	Nuclear	Hydro	Solar	Wind
CO	8.0	11.35	5.6	—	0.2	—	—	—	—	—
CO_2	10,377	15,137	7,622	5,912	2,518	536	—	—	—	—
NO_X	4.3	20.4	2.2	2.5	0.2	—	—	—	—	—
PM	0.53	2.27	0.37	0.41	0.11	—	—	—	—	—
VOC	0.11	—	0.11	0.12	0.11	—	—	—	—	—
SO_2	—	5.30	3.70	0.82	0.02	0.89	—	—	—	—
MERCURY	0.32	0.00	0.30	0.33	—	—	—	—	—	—

BEST Non-Renewable

*carbon capture and sequestration

Source: *Comparison of Fuels Used for Electric Generation in the U.S.,* November 2016 update and analysis by Leidos, Inc.

As our country makes decisions about lowering emissions, it is critical to have objective data to compare emissions from the different major energy sources we rely on to generate electricity.

The table above compares the emissions released by each of the most commonly-used fuel sources during the generation of electricity per 1,000 households.

Those emissions levels vary significantly. For example, nuclear energy, hydro, solar and wind emit no key air pollutants in the conversion of fuel to electricity.

Among the fossil fuels, natural gas is the cleanest, which is one of the reasons that natural gas generated more than 30% of all U.S. electricity in 2015 and again in 2016.[1]

- CO_2 — the Department of Energy credits increased use of natural gas-fired electricity for reducing U.S. 2016 carbon dioxide emissions from electricity to the lowest levels since 1992.[2] CO_2 is the leading pollutant.
- SO_2— sulfur dioxide, a key component in acid rain, is virtually non-existent in natural gas.
- NO_X, PM and mercury — natural gas emits low levels of nitrogen oxide (NO_X), one of the main ingredients involved in the formation of ground-level ozone; as well as low levels of particulate matter (PM) and soot and infinitesimal (trace) amounts of mercury.

As further evidence of the benefits of natural gas, in a 2014 report from the U.S. National Oceanic and Atmospheric Administration (NOAA), researchers found significant reductions in the emissions of CO_2, NO_X and SO_2 as a result of increased use of natural gas in the electric sector.[3] Emissions from CO_2 were 23 percent lower in 2012 than they would have been without the increased use of natural gas, while NO_X emissions were 40 percent lower than they would have been and SO_2 emissions were 44 percent lower.

Natural gas helps achieve cleaner air in other ways: it serves as a reliable back-up to intermittent resources such as solar and wind energy, enabling greater use of them. It also has a small land footprint, and natural gas-fired power plants are economical to operate and to build.[4]

All of these attributes explain why energy providers and policymakers are increasingly choosing natural gas to make electricity and why that choice helps us achieve our nation's clean air goals.

All of our fuels play an important role in meeting the nation's energy needs. When looking for a clean fuel that is reliable, economical and abundant, natural gas is an excellent choice for electricity generation and a vital component of our energy future.

1 *"Today in Energy — Jan. 11, 2017,"* U.S. Energy Information Administration (EIA).

2 *"Today in Energy — Oct. 12, 2016,"* U.S. EIA.

3 *"Study: Natural Gas Use Slashes Air Emissions,"* Energy In Depth, Jan. 15, 2014.

4 *"Comparison of Fuels Used for Electric Generation in the U.S.,"* Leidos, Inc, Nov. 2014.