

IMPROVED AIR QUALITY VIA THE NATURAL GAS AND OIL INDUSTRY



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Increased use of natural gas is helping to improve the health of communities and environments across the U.S. by improving air quality and decreasing pollution levels. The oil and natural gas industry is mindful of the value of improving air quality, and the expanding role that natural gas has provided in maintaining a national trend of emissions reduction.

BACKGROUND:

Combustion of natural gas produces much smaller amounts of the potentially harmful pollutants found in some fossil fuels, such as mercury, particulate matter, nitrogen oxides (precursors of smog), and sulfur dioxide. The Environmental Protection Agency (EPA) has indicated that these various pollutants may have an adverse impact on the heart and lungs, aggravating bronchitis, emphysema, asthma, and other lung conditions, and potentially contributing to heart disease. Impacts from high emissions of some of these pollutants have also been attributed to damaging vegetation.

Beyond the exploration and production (E&P) sector the U.S. refining sector's commitment to strong environmental performance also plays an important role in keeping air clean. The refining sector produces the fuels that energize our transportation sector while innovating and developing cleaner fuel options. Just as our cars have modernized, so have our fuels and the refineries that produce them.

API's Climate Action Plan embraces industry's advancement of cleaner fuels to provide consumers with lower-carbon options.

Our abundant supply of natural gas already has helped the U.S. achieve meaningful emissions reductions and will continue into the future. Over the past decade, electricity generation has been the primary source of demand

growth for domestically produced natural gas. According to the U.S. Energy Information Association (EIA), natural gas demand in the power sector increased more than 110% between 2007 and 2019, and natural gas is now by far the largest source of power generation in the U.S., responsible for nearly 40% of total generation in 2020.¹

The concurrent fuel-switching from coal to natural gas in the power sector has been the leading driver of emissions reductions in the United States, a trend further aided by a significant increase in deployment of wind and solar. The continued availability of low-cost U.S. natural gas combined with a strong export policy – especially as it pertains to liquefied natural gas (LNG) – presents an opportunity to achieve continued success in emissions reductions around the world.

In transportation, today's automobiles are 99% cleaner than they were in 1970, and modern internal combustion engine vehicles help reduce real-world emissions per mile traveled on a fleet average basis.

Emissions from passenger cars and light-duty trucks, accounting for most transportation-sector emissions, made up only 16.1% of U.S. GHG emissions in 2018. According to EPA, Real-world CO₂ emissions per mile traveled for new light-duty vehicles have declined 48% since the 1975 model year.²

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EPA's own air quality trends show that six criteria pollutants (CO, Lead, NO, Ozone, PM, and SO₂) concentrations have dropped significantly since 1990, improving quality of life for many Americans. (https://gispub.epa.gov/air/trendsreport/2020/documentation/AirTrends_Flyer.pdf)

FAST FACTS:

- Since 1970, implementation of the Clean Air Act and technological advances from American innovators have dramatically improved air quality in the U.S. Since that time, the combined emissions of criteria and precursor pollutants have dropped by 78%.

(<https://gispub.epa.gov/air/trendsreport/2021/#introduction>)

- EPA reports that between 1980 and 2020, gross domestic product increased 173 percent, vehicle miles traveled increased 85 percent, energy consumption increased 19 percent, and U.S. population grew by 46 percent. During the same time period, total emissions of the six principal air pollutants dropped by 73 percent.

(<https://www.epa.gov/air-trends/air-quality-national-summary>)

- According to EIA's Annual Energy Outlook for 2022, U.S. energy-related CO₂ emissions will decrease from 2022 to 2037 because of a transition away from

more carbon-intensive coal to less carbon-intensive natural gas and renewable energy for electricity generation and because of an overall decrease in energy intensity (energy consumption per unit of GDP). After 2037, CO₂ emissions begin to trend upward as increasing energy consumption, resulting from population and economic growth, outpaces continuing reductions in energy intensity and CO₂ intensity.

(<https://www.eia.gov/outlooks/aeo/narrative/introduction/sub-topic-01.php>)

REFERENCES:

¹ <https://www.eia.gov/energyexplained/natural-gas/use-of-natural-gas.php#:~:text=The%20electric%20power%20sector%20uses,power%20sector's%20primary%20energy%20consumption>

² <https://www.epa.gov/automotive-trends>

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