

EPA'S PROPOSAL TO CUT OIL AND GAS METHANE POLLUTION

November 2022

Methane is the primary component of natural gas. When natural gas is leaked or intentionally released into the air during oil and gas production and transport, methane and toxic air pollution are released along with it. The Trump Administration rolled back Obama-era regulations that were designed to reduce methane emissions from all segments of the oil and gas sector. Under the former Administration's rollback, oil and gas companies were no longer required to monitor and repair leaks from transmission and storage segment sources, which are a substantial source of methane pollution, and methane was removed as a regulated pollutant. The Congress approved a resolution in June of 2021 to rescind this rollback.¹ President Biden's EPA proposed regulations in November 2021 to re-impose methane limits in new oil and gas operations. Then on November 11, 2022, EPA followed this with a supplemental proposal strengthening the 2021 proposal and expanding coverage to all existing and new oil and gas operations.² **The Biden EPA's 2022 proposal promises to slash oil and gas methane emissions by 87 percent below 2005 levels in 2030**,³ offering significant help in protecting people and wildlife from the health threats and climate-altering effects of methane pollution.

METHANE: QUICK FACTS

- Methane, which has more than 80 times the climate-altering impact of carbon dioxide (CO₂) over a 20-year period, is the second most prevalent greenhouse gas. Methane is a super-pollutant that fuels climate change, threatening human health,⁴ wildlife, and natural resources across the U.S.⁵
- The oil and gas sector is the single largest industrial source of methane emissions in the U.S., accounting for onethird of total methane pollution.⁶
- > In 2019, methane emissions comprised about 10 percent of total U.S. greenhouse gas emissions.⁷
- Methane emissions can occur at any stage of the oil and gas supply chain (i.e., drilling and production, processing, transmission, storage, and distribution to end users).
- Operators typically release greenhouse gas pollution directly into the atmosphere through venting (direct release of methane) and/or flaring (burning, resulting in methane and carbon dioxide emissions). Methane is also wasted in enormous amounts through leaks in oil and gas infrastructure.⁸
- In addition to methane, other harmful pollutants are emitted by the oil and gas sector, including volatile organic compounds (VOCs) and air toxics like benzene (a known carcinogen). These pollutants can cause a range of harmful health effects such as asthma and some cancers, as well as environmental impacts. These pollutants can be particularly concerning for communities on and near tribal and federal lands where oil and gas production occurs.⁹ Regulations that reduce methane would also reduce emissions of these other damaging pollutants.

HUMAN HEALTH CONSEQUENCES

- Methane pollution from oil and gas facilities is typically released alongside air pollutants that can damage human health. These pollutants include smog-forming nitrogen oxides (NOx), carbon monoxide (CO), particulate matter (PM), volatile organic compounds (VOCs), black carbon, sulfur dioxide, formaldehyde, and ammonia. Exposure to even small quantities of some pollutants can cause premature death, asthma, cancer, and other health problems.¹⁰
- Nearly 14 million people in the United States are at increased risk for cancer as a result of methane co-pollutants from the oil and gas sector.¹¹
- Scientific evidence shows that people living closer to oil and gas facilities face higher risk of health effects than those living further away.¹²
- Exposures to related toxic pollution may be worsened by additional releases caused by extreme weather and climate change.¹³



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• 236 counties in 21 states face cancer risk that exceeds EPA's threshold level of concern due to emissions from oil and gas facilities—these counties have a combined population of nearly 14 million people.¹⁴

- Oil and gas production creates air pollution that results in ozone, also known as smog. Smog harms public health and can cause premature death. It especially poses a threat to children and others with asthma.¹⁵
- Nationally, ozone and particulate matter pollution from oil and gas production leads to more than 750,000 summertime asthma attacks in children under the age of 18.¹⁶
- Children miss 500,000 days of school nationally each year due to ozone smog resulting from oil and gas pollution.¹⁷
- Nationally, 17.3 million people live within one-half of a mile of oil and gas facilities, including more than 3.5 million Hispanics/Latinos, 1.5 million Black Americans, 770,000 Asian Americans/Pacific Islanders, and more than 180,000 Native Americans.¹⁸

WILDLIFE IMPACTS

- Climate change is one of the greatest threats to wildlife because of its potential to alter ecosystems, food and water resources, and wildlife behavior.
- Climate change—partly fueled by methane pollution—is leading to rapid shifts in the habitat, landscapes, and seascapes
 American wildlife depend on, placing numerous species at risk of extinction within this century if current rates of emissions continue unabated.¹⁹
- Oil and gas wells and infrastructure on federal and tribal lands can fragment wildlife habitat for species like the pronghorn, compounding harm for wildlife already impacted by a rapidlychanging climate. This can hinder migration routes, limit access to food, water, and other resources, and ultimately can lead to species population declines.²⁰



A herd of pronghorn graze near a natural gas drilling rig, Pinedale, Wyoming. Photo by Joel Sartore/NGS/Getty Images

• Wildlife also can be harmed as a result of spills, chronic leaks, and crude oil releases.

• Loss of wildlife affects hunters and anglers, as well as wildlife watchers, outdoor recreational businesses, and wildlife managers, all of whom have a vested interest in conservation.²¹

EPA'S 2022 PROPOSAL

The EPA's draft rule, if finalized, would represent a strong action to limit oil and gas sector methane pollution from all existing and new facilities. The proposal:

- ✓ Requires regular monitoring and repair of methane leaks at *all* oil and gas sites, not just high-volume wells;
- ✓ Requires use of zero-emitting pneumatic pumps and controllers;
- ✓ Requires operators to make demonstrations of no feasible alternatives before flaring gas;
- ✓ Requires inspection and closure plan for abandoned wells; and
- Enables third-party, community-based monitoring of super-emitters, with public reporting and required operator response.

RECOMMENDATIONS

NWF urges EPA to further strengthen and swiftly finalize its proposal to significantly reduce the emissions of methane and other pollutants from all oil and gas facilities. Further strengthening of the rule proposal is needed to maximize health and climate benefits, including eliminating all routine flaring and allowing the community monitoring program to monitor lower-level emitters.



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Acknowledgment: This fact sheet is based on earlier fact sheets produced in collaboration with Sarah Smith at the Clean Air Task Force (<u>ssmith@catf.us</u>).

³ EPA, Nov. 11, 2022, EPA's Supplemental Proposal to Reduce Pollution from the Oil and Natural Gas Industry to Fight the Climate Crisis and Protect Public Health: Overview. https://www.epa.gov/system/files/documents/2022-

11/OII%20and%20Gas%20Supplemental.%20Overview%20Fact%20Sheet.pdf

⁴ U.S. National Climate Assessment (NCA), 2014, Highlights: Human Health. U.S. Global Change Research Program.

http://nca2014.globalchange.gov/highlights/report-findings/human-health#intro-section-2

⁵ U.S. NCA 2014, Highlights: Ecosystems and Biodiversity, Plants and Animals. U.S. Global Change Research Program.

http://nca2014.globalchange.gov/highlights/report-findings/ecosystems-and-biodiversity#statement-16341

⁶ EPA, Climate Change, Emissions, Overview of Greenhouse Gases, Methane Emissions.

https://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html. Emissions estimates are from the *Inventory of U.S. Greenhouse Gas Emissions* and *Sinks: 1990-2014*.

⁷ EPA, Climate Change, Emissions, Overview of Greenhouse Gases. https://www.epa.gov/ghgemissions/overview-greenhouse-gases#methane. Emissions Estimates are from: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2019.

⁸ U.S. Government Accountability Office (GAO), Report to Congressional Requesters, Oil and Gas, Interior Could Do More to Account for and Manage Natural Gas Emissions, July 2016, page 6. http://democrats-

natural resources.house.gov/imo/media/doc/Interior%20Could%20Do%20More%20to%20Account%20for%20and%20Manage%20Natural%20Gas% 20Emissions.pdf

⁹ EPA 2016. Proposed Climate, Air Quality and Permitting Rules for the Oil and Gas Industry: Fact Sheet.

https://www.epa.gov/sites/production/files/2016-09/documents/og_fs_081815.pdf ¹⁸ U.S. NCA 2014, Ecosystems and Biodiversity.

¹⁰ Michanowicz, D., et al, Oct. 6, 2021, Methane and Health-Damaging Air Pollutants from the Oil and Gas Sector: Bridging 10 Years of Scientific Understanding, PSE Healthy Energy. https://www.psehealthyenergy.org/our-work/publications/archive/methane-and-health-damaging-air-pollutants-from-the-oil-and-gas-sector-bridging-10-years-of-scientific-understanding/

¹¹ Patel, H., Feldman, L. 2022, Fossil Fumes (2022 update): A public health analysis of toxic air pollution from the oil and gas industry. Clean Air Task Force. https://cdn.catf.us/wp-content/uploads/2016/06/14175846/fossil-fumes-report-2022.pdf ¹² Op cit 9.

¹³ Johnston, J., Cushing, L. 2020, Chemical Exposures, Health, and Environmental Justice in Communities Living on the Fenceline of Industry. *Curr Envir Health Rpt* 7, 48–57. https://doi.org/10.1007/s40572-020-00263-8

¹⁴ Op cit 10.

¹⁵ American Lung Association, Nov. 17, 2022, Ozone. https://www.lung.org/clean-air/outdoors/what-makes-air-unhealthy/ozone

¹⁶ Fleischman, L., D. McCabe, and J. Graham, August 2016, *Gasping for Breath: An analysis of the health effects from ozone pollution from the oil and gas industry*, Clean Air Task Force. https://www.catf.us/wp-content/uploads/2018/10/CATF_Pub_GaspingForBreath.pdf ¹⁷ *Ibid*.

¹⁸ Clean Air Task Force, 2022, The Oil and Gas Threat Map. https://oilandgasthreatmap.com/

¹⁹ Groffman, P. M., et al, 2014: Ch. 8: Ecosystems, Biodiversity, and Ecosystem Services. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 195-219. https://nca2014.globalchange.gov/report/sectors/ecosystems

²⁰ Voggesser, Garrit, November 17, 2015, Big Impacts on Big Game, Voices from the Field: Sportsmen Speak Out, NWF Blog. http://blog.nwf.org/2015/11/big-impacts-on-big-game/

²¹ NWF 2015. *Game Changers: Climate Impacts to America's Hunting, Fishing, and Wildlife heritage*. http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2015/11-16-2015-Game-Changers.aspx

¹ Eilperin, J. and B. Dennis. June 25, 2021. As Democrats spar over advancing Biden's climate agenda, they move to cut methane. *Washington Post. https://www.washingtonpost.com/climate-environment/2021/06/25/methane-climate-change/*

² EPA, Nov. 11, 2022, Actions and Notices about Oil and Natural Gas Air Pollution Standards. https://www.epa.gov/controlling-air-pollution-oil-andnatural-gas-industry/actions-and-notices-about-oil-and-natural#regactions. See also: Congressional Research Service 2022, Methane Emissions: A Primer. https://crsreports.congress.gov/product/pdf/IF/IF10