

Methane and Health



The EPA methane rule is a commonsense way to protect our environment and our communities by reducing dangerous pollution. There are also low-cost and effective solutions to reducing methane. Delaying implementation of this rule would have detrimental impacts on health.

Methane and Health Impacts:

- Oil and gas companies release millions of metric tons of methane into the air every year. When methane is released, a lot of other dangerous gases and chemicals are released as well, like benzene and volatile organic compounds (VOCs).
- VOCs are recognized as hazardous air pollutantsⁱ. Benzene is a known human carcinogenⁱⁱ; ethylbenzene, a probable carcinogenⁱⁱⁱ; and toluene, a neurotoxin (affecting the nervous system) that may also cause miscarriages and birth defects.
- VOCs are also precursors to the formation of ground-level ozone, a dangerous air pollutant that causes permanent lung damage. By limiting emissions of VOCs, oil and natural gas limits will reduce the risk of ozone formation and ozone-related health effects, including asthma attacks, hospital admissions and premature deaths.
- Children are at the greatest health risk from air pollution because they are more likely to be active outdoors and their lungs are still developing. About 1 in 10 children in the US have asthma^{iv} and is the number one health issue that causes kids to miss school.
- Children miss 500,000 days of school nationally each year due to ozone smog resulting from oil and gas pollution^v. There are more than 750,000 summertime asthma attacks in children under the age of 18 due to ozone smog resulting from oil and gas pollution^{vi}.

Methane and Climate Impacts:

- Methane is the second most prevalent greenhouse gas emitted by human activities in the United States, and approximately one-third of those emissions come from oil production and the production, processing, transmission and storage of natural gas.^{vii}
- Methane has over 80 times the warming power of carbon dioxide, making it a major driver of climate disruption, in the short-term (over 20 years).^{viii}
- Right now, oil and gas industrial plants emit at least 9.8 million metric tons of methane pollution a year^{ix}. That has the same climate impact as burning almost 225 coal-fired power plants for a year, or driving 2/3 of all of the cars in the U.S. for a year.
- Climate change poses public health threats such as increases in vector-borne illnesses, more frequent droughts and other threats to water security, and more frequent extreme weather events, including more frequent and severe heat waves.

Benefits of Implementation of the EPA Methane Rule:

- EPA estimates that the final rule will reduce methane in 2025 by 510,000 tons, which is equivalent to reducing 11 million metric tons of carbon dioxide.^x
- Climate benefits of the rule are estimated at \$690 million in 2025, outweighing estimated costs of \$530 million. Net climate benefits would be \$170 million in 2025.^{xi}
- The rule also is expected to reduce 210,000 tons of VOCs and 3,900 tons of air toxics in 2025. By reducing air pollutants, there are significant health benefits. Benefits include reductions in health effects related to fine particle pollution, ozone, and air toxics.^{xii}

For more information, contact the Alliance of Nurses for Healthy Environments:

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ⁱ Ridlington, E. & Madsen, T. (2017). *Our health at risk: Why are millions of Americans still breathing unhealthy air?* Retrieved from <http://www.pennenvironment.org/sites/environment/files/reports/PennEnvironment%20Our%20Health%20at%20Risk%20April%202017%20web.pdf>

ⁱⁱ American Cancer Society. (2017). *Benzene and cancer risk*. Retrieved from <https://www.cancer.org/cancer/cancer-causes/benzene.html>

ⁱⁱⁱ Agency for Toxic Substances and Disease Registry. (2011). *Ethylbenzene-ToxFAQs* (CAS #100-41-4). Retrieved from <https://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=382&tid=66>

^{iv} American Academy of Allergy, Asthma, and Immunology. (2017). *Asthma statistics*. Retrieved from <http://www.aaaai.org/about-aaaai/newsroom/asthma-statistics>

^v Fleischmann, L., McCabe, D., Graham, J. (2016). *Gasping for breath: An analysis of the health effects from ozone pollution from the oil and gas industry*. Retrieved from http://www.catf.us/resources/publications/files/Gasping_for_Breath.pdf

^{vi} Fleischmann, L., McCabe, D., Graham, J. (2016).

^{vii} U.S. EPA. (2016). *EPA's actions to reduce methane emissions from the oil and natural gas industry: Final rules and draft information collection request*. Retrieved from <https://www.epa.gov/sites/production/files/2016-09/documents/nsps-overview-fs.pdf>

^{viii} IPCC. (2013). *Climate change 2013: The physical science basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf

^{ix} Environmental Defense Fund. (2017). *Defending standards to cut methane waste: Common sense standards help protect taxpayers and our health*. Retrieved from <https://www.edf.org/energy/defending-standards-cut-methane-waste>

^x U.S. EPA. (2016).

^{xi} U.S. EPA. (2016).

^{xii} U.S. EPA. (2016).