



OIL AND GAS METHANE POLLUTION IN COLORADO: THREATS AND OPPORTUNITIES

Methane: Quick Facts

- Methane is the chief component of natural gas¹, which can also be a by-product of oil production. The oil and gas sector is the largest contributor to methane emissions, accounting for one-third of the total.²
- 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), but most arise during the production phase.³ Methane typically is released through venting (direct release), flaring (burning), or through leaks in oil and gas infrastructure.⁴
- Other harmful pollutants also are emitted by the oil and gas sector, including volatile organic compounds (VOCs) and air toxics like benzene (a known carcinogen) that can cause a range of harmful health effects, such as asthma and some cancers, as well as environmental impacts.
- Methane waste is a significant contributor to climate change, which endangers wildlife and outdoor recreation, human health, and the environment.
- Common-sense federal regulations to reduce methane pollution will help retain or capture this valuable resource and thereby better ensure it can be used to help power homes and businesses, generate revenues, and reduce its impacts as well as those of other damaging pollutants.

Wildlife Impacts

- Oil and gas wells and associated infrastructure can fragment wildlife habitat for a variety of species, compounding harm for wildlife already impacted by a rapidly-changing climate. This can hinder migration routes, limit access to food, water, and other resources, and ultimately can lead to species population declines.
- Climate change—partly fueled by methane pollution—is leading to rapid shifts in the habitat, landscapes, and seascapes that American wildlife depend on, placing numerous species at risk of decline or extinction if current rates of emissions continue unabated.⁵
- Loss of wildlife affects hunters and anglers, as well as wildlife watchers, outdoor recreational businesses, and wildlife managers.⁶
- In Rocky Mountain National Park, spring snow melts 2-3 weeks earlier on average each year, leading to less water in summer and reduced access to essential moisture for alpine plants and animals.
- Warmer temperatures are allowing more mountain pine beetles to survive the winter and damage the park's forests.⁷
- Very specialized species like the American pika, which live only on high, rocky mountains, are particularly sensitive to small changes in their environments. When temperatures exceed approximately 70 degrees Fahrenheit, American pikas can die within hours if they cannot escape the heat.⁸



American pika. Photo: Yathin.

Impacts of Methane Waste on the Economy

- In 2014, more than 3.4 million visitors to the Rocky Mountain National Park in Colorado spent \$217 million and supported 3,382 jobs, which had a cumulative benefit to the economy of \$329 million.⁹
- In 2011, total expenditures on wildlife watching, hunting, and fishing in the U.S. amounted to \$54.9 billion.¹⁰ A rapidly-changing climate threatens this outdoor economy. Fees and taxes paid by hunters and anglers support non-game conservation programs run by state wildlife agencies, so a decline in outdoor recreation means a decrease in the funds for such programs.¹¹

Colorado Methane Regulations

- A Colorado rule requires that oil and gas companies perform routine inspections for methane leaks, meet timelines for fixing them, and install emissions-control devices at new wells and equipment. This rule has been so successful that it has served as a model for EPA in setting national standards.
- As a result of Colorado's standard, leaking oil and gas sites have decreased by 75 percent in the state, while oil and gas development actually has increased.¹² A recent study found that representatives from oil and gas companies overwhelmingly agreed that the benefits of Colorado's regulations outweigh the costs.¹³
- However, more stringent federal regulations are required both to acknowledge the transboundary nature of greenhouse gas pollution and its impacts, and to maximize savings across the industry.

Policy Recommendations

In May 2016, the Environmental Protection Agency finalized a rule to reduce methane and volatile organic compound (VOC) emissions from new and modified oil and gas sources, including regular methane leak inspection and repair requirements.¹⁴ This rule provides companies with methods by which to align the final standards with state-specific requirements. EPA estimates that this rule will result in net climate benefits of \$170 million in 2025. While additional emissions reductions can and should be achieved, ***NWF urges Congress to defend the new and modified source rule so that it can bring about much-needed pollution reductions for the benefit of our wildlife and economy.***

¹ U.S. EPA 2014. Overview of Greenhouse Gases: Methane Emissions. <https://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html>.

² *Ibid.*

³ ICF International "Methane Emissions from the Oil and Gas Industry: 'Making Sense of the Noise,'" 2015, page 4.

<http://www.icfi.com/insights/white-papers/2015/methane-emissions-from-the-oil-and-gas-industry>

⁴ U.S. GAO 2016. Oil and Gas, Interior Could Do More to Account for and Manage Natural Gas Emissions, page 6. <http://democrats-naturalresources.house.gov/imo/media/doc/Interior%20Could%20Do%20More%20to%20Account%20for%20and%20Manage%20Natural%20Gas%20Emissions.pdf>

⁵ U.S. National Climate Assessment 2014, Ecosystems and Biodiversity. <http://nca2014.globalchange.gov/highlights/report-findings/ecosystems-and-biodiversity#statement-16341>

⁶ 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>

⁷ National Park Service (NPS). Rocky Mountain National Park: Climate Change. <https://www.nps.gov/romo/learn/nature/climatechange.htm>.

⁸ NPS. Rocky Mountain National Park: Pika. <https://www.nps.gov/romo/learn/nature/pikas.htm>

⁹ NPS 2015. Rocky Mountain National Park Will Increase Entrance and Camping Fees Beginning in October.

https://www.nps.gov/romo/learn/news/pr_park_entrance_and_camping_fees_beginning_october_1.htm

¹⁰ USFWS. 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. <http://www.census.gov/prod/2012pubs/fhw11-nat.pdf>

¹¹ Voggesser, Garrit, "Big Impacts on Big Game, Voices from the Field: Sportsmen Speak Out," NWF Blog, November 17, 2015.

<http://blog.nwf.org/2015/11/big-impacts-on-big-game/>

¹² Wheeler, A. 2016. The Future of Methane in Colorado. Conservation Colorado. <http://conservationco.org/2016/07/future-methane-colorado/>

¹³ Graham, E. 2016. Study: Energy industry supports methane rules in Colorado. The Durango Herald.

<http://www.durangoherald.com/article/20160415/NEWS01/160419787/>

¹⁴ EPA 2016. EPA's Actions to Reduce Methane Emissions from the Oil and Natural Gas Industry: Final Rules and Draft Information Collection Request, pages 1-2. <https://www.epa.gov/stationary-sources-air-pollution/epas-actions-reduce-methane-and-volatile-organic-compound-voc>