Wyoming Environmental Quality Council

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Written Testimony of John Rutecki, Manager Regulatory and Legislative Affairs, Environmental Defense Fund

Good morning members of the Environmental Quality Council, I'm John Rutecki, Manager of Regulatory and Legislative Affairs for Environmental Defense Fund (EDF). EDF is dedicated to finding workable solutions to the most serious environmental problems. To do so, we link science, economics, law, and innovative private-sector partnerships.

We have engaged in state oil and gas methane policy for a decade, including the 2014 rulemaking to protect air quality in the Upper Green River Basin spearheaded by then-Gov. Matt Mead.

EDF applauds WYDEQ's efforts to revise their air quality rules to implement new source oil and gas methane standards that will reduce emissions and maintain Wyoming's primacy over new source oil and gas regulation. We are grateful to WYDEQ and EQC for hearing us testify today.

Reducing methane emissions from oil and gas operations is an amazing opportunity for Wyoming to reduce waste, create jobs, improve air quality, and help Governor Mark Gordon meet his carbon neutrality goals. Methane, the main component of natural gas, has an elevated short-term impact. Cutting this pollution is the quickest, most cost-effective way to slow the rate of warming in the near term and avert its worst impacts: such as more wildfires, severe droughts, and severe weather conditions[1].

Reducing methane emissions will improve the state's safety, health, and economic competitiveness. The technical solutions that deliver these reductions are cost-effective and ready for use with a proven, successful track record in other states. Many leading operators are already deploying them in the field and creating local jobs in the process.

Reducing methane emissions will also protect Wyoming residents from health-harming pollution—and since methane is the primary component of natural gas these efforts will reduce energy waste by ensuring a fair return for taxpayers and mineral owners. And since the global market is demanding cleaner sources of energy, efforts to cut methane waste will keep the Wyoming energy industry competitive around the world for many years to come.

Right now, Wyoming's methane emissions are simply too high. In 2023, EDF conducted an aerial survey of more than 70% of U.S. oil and gas onshore production, and in an analysis released earlier this summer, we found that oil and gas operations in the Greater

[1] IEA, *Curtailing Methane Emissions from Fossil Fuel Operations* (Oct. 2021), https://www.iea.org/reports/curtailing-methane-emissions-from-fossil-fuel-operations

Green River Basin had the third-highest methane loss rate in the nation[2]. As I mentioned above, -- since methane is the primary component of natural gas, Wyoming schools, taxpayers, and royalty owners lose out on millions in lost tax revenue from methane waste and pollution[3]. This is a needless waste of a valuable Wyoming resource that could instead have heated homes this upcoming winter.

I want to emphasize that this not a problem though; it is an opportunity.

I will focus my testimony on the three vital benefits of methane standards: Reducing waste, growing the Wyoming economy, and protecting public health. Wyoming can quickly reap these benefits with smart, cost-effective policies that cut oil and gas methane pollution and waste.

Cutting Methane Emissions Reduces Energy Waste

Methane is the main component of natural gas, a valuable energy resource. U.S. companies currently waste enough methane to meet the annual needs of more than 12 million households[4]. In 2019, Wyoming had the third highest volume, 13.9 Bcf, of wasted gas from public lands which resulted in $5.22 million in lost state revenue[5].

Wyoming has a history of policy leadership and innovation in this space, notably their requirements for green completions[6], strong new source rules[7], and pioneering rules to protect air quality and reduce emissions in the Upper Green River Basin[8] . In June 2023, the University of Wyoming joined Colorado State University and Penn State University "to demonstrate that high-frequency sampling can be used to create inventory emissions estimates that accurately represent emissions in a basin."[9] The University of Wyoming has also been involved in several high-profile measurement campaigns in places such as the Permian Basin. Wyoming has a proud legacy of working to reduce energy waste, and WYDEQ has an opportunity to build upon it now.

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[2] MethaneSAT, *New Data Shows U.S. Oil and Gas Methane Emissions Over Four Times Higher than EPA Estimates,* https://www.methanesat.org/project-updates/new-data-show-us-oil-and-gas-methane-emissions-over-four-times-higher-epa-estimates

[3] EDF, *New Study Quantifies Natural Gas Wasted on U.S. Public and Tribal Lands,* https://www.edf.org/media/new-study-quantifies-natural-gas-wasted-us-public-and-tribal-lands

[4] EDF calculation based on statistics from the Energy Information Agency on natural gas consumption and number of residential consumers. Accessed - https://thehill.com/opinion/energy-environment/3491442-biden-can-make-good-on-eu-gas-supply-and-climate-pledges-by-ending-methane-leaks/

[5] Environmental Defense Fund (2023). Accessed - https://www.edf.org/content/onshore-oil-and-natural-gas-operations-federal-and-tribal-lands-united-states

[6] EDF, *A Wyoming Two Step for Better Air Regulations*, https://blogs.edf.org/energyexchange/2014/07/10/a-wyoming-two-step-for-better-air-regulations/

[7] EDF, *Wyoming Moves to Slash Oil and Gas Emissions*, https://www.edf.org/media/wyoming-moves-slash-oil-and-gas-emissions

[8] EDF, *Bold New Rule Cuts Oil and Gas Air Pollution in Wyoming*, https://www.edf.org/media/bold-new-rule-cuts-oil-and-gas-air-pollution-wyoming

[9] University of Wyoming, *UW Center for Air Quality Collaborates With CSU on Methane Project*, https://www.uwyo.edu/news/2023/06/uw-center-for-air-quality-collaborates-with-csu-on-methane-project.html

Cutting Methane Stimulates Economic Growth and Economic Competitiveness

State-led efforts to cut methane pollution also support job creation in the rapidly growing methane mitigation industry, which provides the goods and services needed to help companies measure and reduce their emissions. Between 2014 and 2017, the methane mitigation service sector while the manufacturing sector has grown by a third. A 2021 Datu Research analysis identified 200 companies in more than 750 locations nationwide, including 12 manufacturing facilities and 1 service location employing thousands of people right here in Wyoming[10]. More than 75% of these firms expected to create additional jobs with strong methane policies in place[11].

Jobs in the methane mitigation industry are high-paying – 10% more than the national average salary – and cannot be offshored[12].

These rules deliver another economic benefit by keeping the Wyoming oil & gas industry competitive as foreign and domestic markets demand cleaner sources of energy. Earlier this month, more than twenty companies joined an expansion of Japan and South Korea's CLEAN Initiative, a public-private partnership collectively representing 25% of global demand for LNG, aimed at reducing the LNG supply chain's methane footprint through transparency and cooperation[13]. In May, the European Union adopted a new law to impose methane intensity limits on oil and gas imports[14]. And leaders in industry have committed to rising to that challenge. To date, 155 companies have signed the Global Methane Pledge to reduce emissions 30% from 2020 levels by 2030[15].

Gov. Mark Gordon has stated support "to develop gas responsibly and ensure it is used to meet the energy needs of America and the world." For Wyoming wants to access these vast overseas markets and meet the Governor's stated objective, steps such as this new source rule and the forthcoming existing source rule are essential.

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[10] Datu Research, *Find, Measure, Fix: Jobs in the U.S. Methane Emissions Mitigation Industry* (2021), https://www.edf.org/sites/default/files/content/FindMeasureFixReport2021.pdf.; https://www.edf.org/sites/default/files/content/Wyoming-Methane-Economy-EDF-003.pdf

[11] Id

[12] Id

[13] Nikkei Asia, *Japan, South Korea LNG buyers seek transparency on methane emissions*, https://asia.nikkei.com/Business/Energy/Japan-South-Korea-LNG-buyers-seek-transparency-on-methane-emissions

[14] Regulation (EU) 2024/1787 of the European Parliament and of the Council of 13 June 2024 on the reduction of methane emissions in the energy sector and amending Regulation (EU) 2019/942, Text with EEA relevance https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ:L_202401787

[15] Global Methane Pledge https://www.globalmethanepledge.org/#pledges

Reducing Methane Protects Public Health and Safety

In the U.S., oil and gas is the largest industrial source of methane[16] and as a sector it emits more methane than would be emitted by 200 million cars every year[17]. Oil and gas operations also release other dangerous air pollutants such as volatile organic compounds and oxides of nitrogen that contribute to ground-level ozone (or "smog") that worsens respiratory diseases and increases the risk of heart disease and heart attacks. This air pollution is a significant issue for vulnerable Wyomingites: namely the state's 11,000 children with pediatric asthma, 40,000 people with adult asthma, or the 6,000 pregnant women who are, on average, breathing in this air every day[18].

The American Lung Association's most recent State of the Air Report issued failing grades to Natrona, Sweetwater, Fremont, Teton, Converse, Big Horn, and Johnson for their poor air quality, and Laramie, Campbell, Albany, and Sublette all received "F" grades for High Ozone Days[19]. Reducing methane and co-emissions keeps Wyoming's air free and clear from these unhealthy pollutants that make a day outside more dangerous for the vulnerable.

Methane is a potent greenhouse gas, with over 80 times the warming power of CO2 in the near-term. Human-made emissions of methane drive about one-third of the current global temperature increase, which in turn drives abnormal and severe weather conditions, longer, more intense wildfire seasons, and water insecurity due to drought and decreasing snowpack. This is a threat to Wyoming's stability and underscores why swift cuts in methane across the oil and gas sector are needed now to slow our current rate of warming by 30% according to peer-reviewed science[20].

Emission reduction impacts

EPA estimates that when fully implemented these protections will cut pollution from covered sources by 80%, reduce tens of millions of tons of climate-damaging methane and other toxic, smog-forming pollution from leaks, venting and flaring – delivering vital health, climate and economic benefits for Wyoming communities[21].

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[16] Alvarez et al., *Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain*, 361 Science 186 (2018), https://science.sciencemag.org/content/361/6398/186

[17] EDF, *Understanding the Near- and Long-Term Impacts of Emissions*, https://blogs.edf.org/climate411/2022/09/09/edfs-new-calculator-shows-the-dire-impact-of-methane-pollution/

[18] American Lung Association (2024) State of the Air. https://www.lung.org/research/sota

[19] Id

[20] Ocko et al., *Acting rapidly to deploy readily available methane mitigation measures by sector can immediately slow global warming*, 16 Env. Research Letters 054042 (2021), https://iopscience.iop.org/article/10.1088/1748- 9326/abf9c8

[21] EPA, *EPA Issues Final Rule to Reduce Methane and Other Pollution from Oil and Natural Gas Operations Fact Sheet*, https://www.epa.gov/system/files/documents/2023-12/epas-final-rule-for-oil-and-gas-operations.-overview-fact-sheet.pdf

These requirements are extremely cost effective for producers. According to EPA, the range of price impact per barrel of crude caused by these standards will be between zero and a maximum of 25 cents[22]. At current prices of around $80 a barrel, this is about a 0.4% impact at the most. Compliance costs from these standards are estimated to make up less than 1% of annual revenue for producers. EPA also estimates that compliance costs will make up a similarly low percentage of revenue for small operators[23].

This is all possible because methane mitigation is overwhelmingly cost-effective and would require just a small fraction of the record profits oil and gas companies have experienced in recent years. In fact, methane pollution reductions can often add to the bottom line of operators by enabling them to sell the otherwise-wasted gas they capture. The cost-effectiveness of methane mitigation has grown steadily over time, as innovations in monitoring and mitigation technologies have helped further improve the cost-effectiveness of detecting and preventing methane emissions.

Some leading operators in Wyoming have prioritized methane emissions reductions in their operations and shown that significant pollution reductions are feasible--but not all producers have made these choices. Implementing these safeguards will raise the bar in Wyoming, provide regulatory certainty, and ensure that all producers control their pollution. Wyoming can provide this certainty and EDF is ready for meaningful stakeholder engagement to ensure the rule's vital benefits are fully realized here.

Thank you for the opportunity to provide my testimony.

[22] Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review at 171 (pre-publication Final Rule), https://www.epa.gov/system/files/documents/2023-12/eo12866_oil-and-gas-nsps-eg-climate-review-2060-av16-final-rule-20231130.pdf

[23] *See* EPA, Regulatory Impact Analysis of the Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review at 4-77