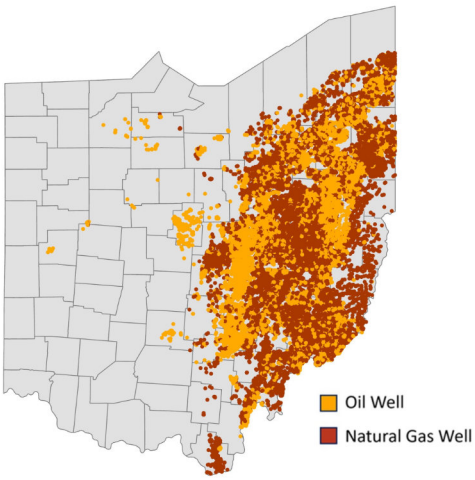
Methane Waste and Pollution in Ohio

Fossil fuel producers in Ohio are wasting energy resources in the form of methane. In doing so, they're harming the climate, public health, and the economy.

Methane waste problem

The primary component of natural gas is methane, which is a potent greenhouse gas. When methane is wasted through venting, flaring, and leaks, it means less natural gas is brought to market to sell for energy use. In 2019, Ohio had approximately 44,342 actively producing oil and gas wells.



The scope of the problem in Ohio

In 2019, fossil fuel producers wasted 31 billion cubic feet of gas in total: 99.6% by leaking and 0.4% by flaring and venting.

Well pad in Monroe County, OH. Photo courtesy of Ted Auch c/o FracTracker Alliance

The impact of wasted gas in Ohio

Economy: Natural gas waste takes an economic toll. In 2019, Ohio saw $93 million of gas wasted—enough to meet the annual needs of 11 percent of the residential gas customers in the state. Oil and gas operators also avoid paying taxes and royalties on wasted gas, so federal and state governments lose revenue. In 2019, the lost potential revenue amounted to $1.4 million. In Ohio, this revenue would go to a variety of programs, including plugging orphan wells and the state Geological Mapping Fund.[1]

Air quality: Oil and gas production sites emit volatile organic compounds (VOCs) and hazardous air pollutants alongside methane that worsen air quality and harm public health. These VOCs contribute to the formation of ground-level ozone, also known as smog, which exacerbates asthma and other respiratory diseases and can lead to heart attacks, strokes, and other cardiovascular harm. In addition, oil and gas production releases toxic pollutants such as hydrogen sulfide, toluene, xylene, and benzene. Exposure to these pollutants can lead to serious public health impacts, including increased incidence of cancer.[2]

EDF found that air pollution in 2016 from the oil and gas sector in the US resulted in $77 billion in total health impacts. In Ohio in 2016, this air pollution was responsible for 44 deaths per million and 8,080 asthma exacerbations per million among children.[3]

Climate: Methane is a greenhouse gas over 80 times more powerful than carbon dioxide at trapping heat in the near term and is responsible for at least a quarter of today's global warming.

[1] https://codes.ohio.gov/ohio-revised-code/section-5749.02/9-29-2013

[2] https://blogs.edf.org/energyexchange/2019/11/21/new-study-finds-elevated-health-risks-due-to-pollution-from-oil-and-gas-activity-in-colorado/

[3] https://iopscience.iop.org/article/10.1088/2752-5309/acc886

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Well pad in Jefferson County, OH. Photo courtesy of Ted Auch c/o FracTracker Alliance

Lost revenue from wasted gas

Sources of Government Revenue: Governments receive revenue from gas extraction through royalties and taxes. The sources of revenue depend on land ownership:

> **Private lands**: Ohio collected a severance tax of $0.025 per MCF of gas extracted from private lands in 2019 and a regulatory cost recovery assessment of $0.005 per MCF of gas. Private land owners may also assess a royalty rate on leases on their lands.
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> **State lands**: Ohio collects royalties on gas extracted from state lands. Royalty rates vary by lease. EDF, TCS, and Synapse decided to use 12.5% as a conservative estimate of the average rate on Ohio Department of Natural Resources land and 20% on Muskingum Watershed Conservancy District land. The state also collects severance taxes on gas extracted from state land.
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> **Federal lands**: The federal government collects royalties on gas extracted from federal lands. In 2019, the royalty rate was 12.5%. The federal government returns 49% of this revenue to states. The state also collects severance taxes on gas extracted from federal land.

Volume of Wasted Gas by Land Type: In 2019, 2% of the wasted gas was lost from state lands, 1% from federal lands, and 97% from private lands.

Amount of Lost Revenue: Wasted gas resulted in the following lost potential volume and value by source:

Source of Wasted Gas	Volume of Wasted Gas (Bcf)	Value of Wasted Gas (2022$)
Leaking	30.8	$92,705,000
Flaring and Venting	0.1	$382,000
Total	**30.9**	**$93,087,000**

The following revenue could have been collected from royalties and taxes if the gas had not been wasted:

Level of Government	Revenue Lost (thousands $2022)		
	Total	Leaking	Flaring and Venting
Federal share of federal royalties	$85	$85	$0
State	$1,346	$1,341	$4
State taxes	$1,050	$1,046	$4
State royalties	$215	$215	$0
State share of federal royalties	$81	$81	$0

Benefits of policy action

Strong, commonsense rules to cut methane waste and pollution will help slow the rate of climate change happening today, protect public health, create jobs, generate additional tax revenue, and prevent the needless waste of domestic energy resources.