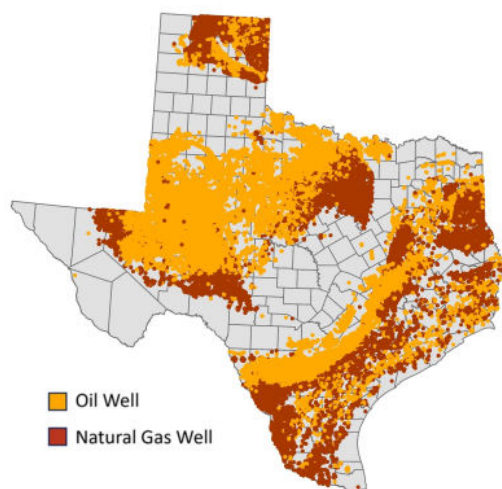


Methane Waste and Pollution in Texas

Fossil fuel producers in Texas 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

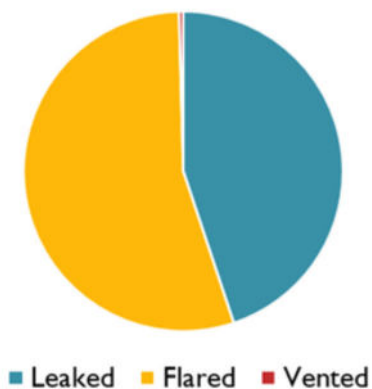
The primary component of natural gas is methane, which is a potent greenhouse gas. When methane is wasted through venting, flaring, and leaks, it means less natural gas is brought to market to sell for energy use. In 2019, Texas had approximately 294,000 actively producing oil and gas wells.



The scope of the problem in Texas

In 2019, fossil fuel producers wasted 564 billion cubic feet (Bcf) of gas in total: 55% by flaring; 45% by leaking; and <1% by venting.

Lost Natural Gas by Source



The impact of wasted gas in Texas

Economy: Natural gas waste takes an economic toll. In 2019, Texas saw \$1.7 billion of gas wasted—enough to meet the annual residential needs of the entire state twice over. The wasted gas could serve 12% of total state consumption or 247% of residential consumption. Gas wasted through venting and flaring could supply 136% of residential consumption. Oil and gas operators also avoid paying taxes on wasted gas and royalties on federal land, so federal and state governments lose revenue. In 2019, the lost potential revenue amounted to \$128 million. In Texas, this revenue would go to a variety of programs, including public K-12 and post secondary education, the Rainy Day Fund, and the State Highway Fund.^{1,2}

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 can release hazardous 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.

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 Texas, this air pollution was responsible for 73.8 deaths per million and 17,600 asthma exacerbations among children per million in 2016.³

¹ <https://www.texastribune.org/2018/01/05/hey-texplainer-how-does-texas-budget-use-taxes-oil-and-natural-gas-pro/>

² <https://www.glo.texas.gov/energy-business/oil-gas/mineral-leasing/overview/>

³ <https://iopscience.iop.org/article/10.1088/2752-5309/acc886>

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



Flaring in the Eagle Ford Shale. Photo credit EDF.

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: Texas collected a severance tax of 7.5% on gas produced and saved from private lands in 2019, as well as an oil cleanup regulatory fee of \$756 per Bcf of gas (2022\$). Private landowners may also assess a royalty rate on leases on their lands.

State lands: Texas collects royalties from Permanent School Fund land, Permanent University Fund land, and land owned by other state agencies. Royalties are typically 20 to 25% but are lower on certain historical leases. Oil and gas operators owe royalties on all gas produced on state lands.⁴ The state also collects severance taxes on gas produced and saved on state lands, as well as an oil field cleanup regulatory fee.

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 produced and saved from federal lands, as well as an oil field cleanup regulatory fee.

Volume of Wasted Gas by Land Type: In 2019, 13% of the wasted gas was lost from state lands, 87% from private lands, and <1% from federal 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	253.1	\$762,639,000
Venting	2.4	\$7,171,000
Flaring	308.5	\$929,339,000
Total	564.0	\$1,699,149,000

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	Venting	Flaring
State	\$128,000	\$57,553	\$540	\$69,933
State taxes	\$127,862	\$57,389	\$540	\$69,933
State share of federal royalties	\$164	\$164	\$0	\$0
Federal share of federal royalties	\$171	\$171	\$0	\$0

While flaring spiked in 2019, oil and gas operators continue to waste significant volumes of gas. In 2021, operators flared \$450 million worth of wasted gas resulting in \$34 million of lost revenue. In 2022, operators flared \$490 million worth of wasted gas, resulting in \$37 million of lost revenue.

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.

⁴ Reported volumes of wasted gas are often underestimated, but for this analysis, we take a conservative approach and assume that all wasted gas on state land is assessed a royalty.