#### **Clearing the Air** The Real Costs and Benefits of Oil and Gas for Colorado



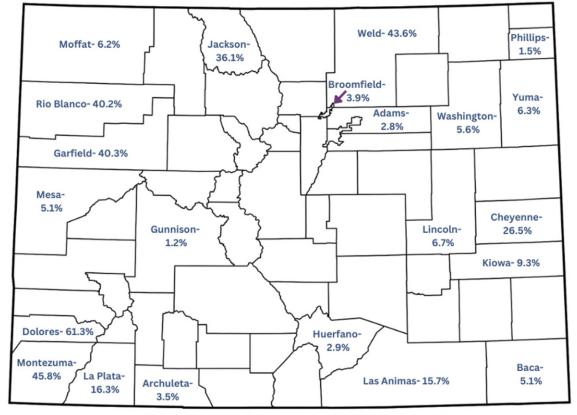


Chris Stiffler and Pegah Jalali January 2023

# Economic benefits (2021)

- Share of GDP: 3.3%
- Share of total jobs: 0.7%
- Share of total wages: 1.8%
- Severance taxes paid:
  \$0 in FY 2020-21
  \$300M in FY 2021-22
- Share of property taxes: 5.2%

#### Percentage of County's Assessed Property From Oil & Gas



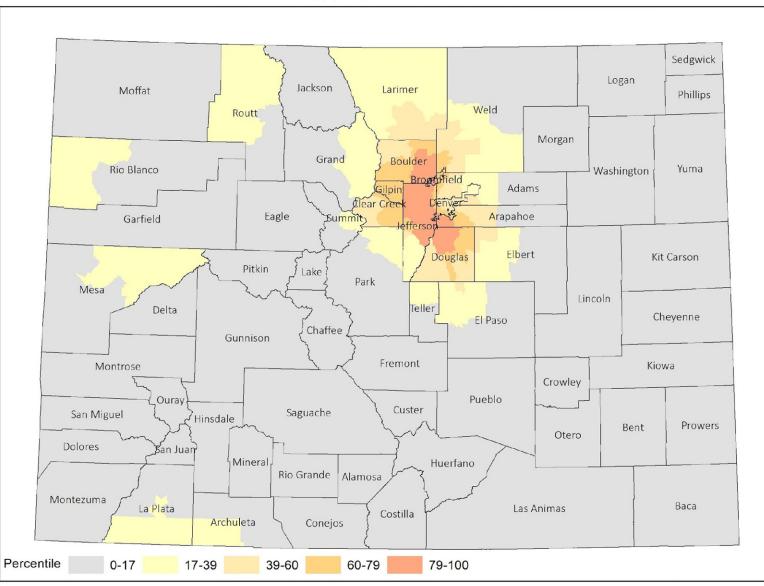
\*Any counties not labeled have less than 1% oil and gas property\*

#### Environmental costs

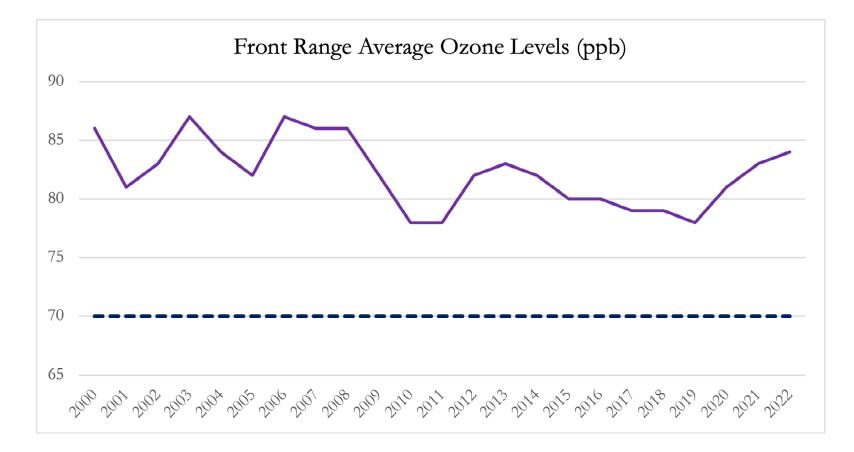
- Air pollution
- Greenhouse gases
- Water pollution
- Land use



Ozone (ppb), State Percentiles



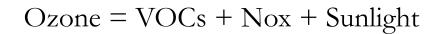


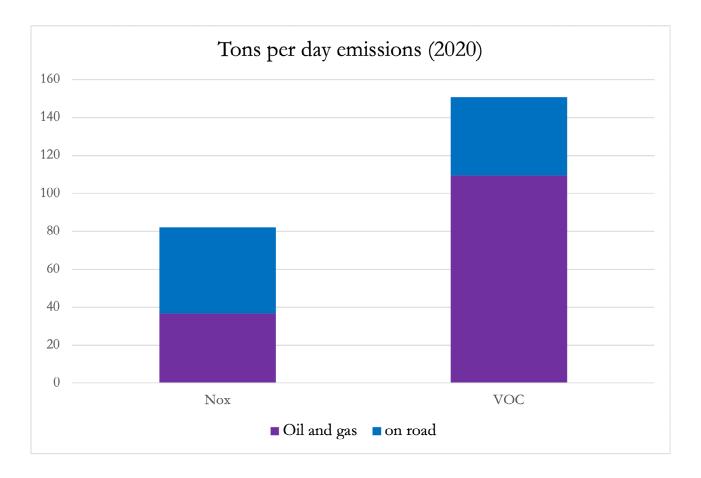


More than 3.5 million people live in the NCFR ozone NAA.

Source: <u>RAQC</u>





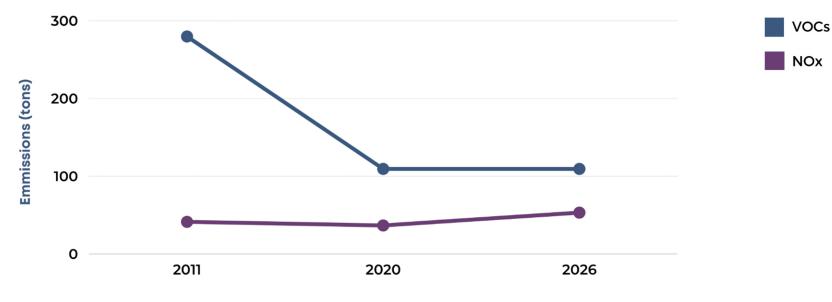


Source: RAQC



## Oil and gas ozone trend

**Emission Trends (TPD)** 



Source: Draft State Implementation Plan

Total cost of ozone pollution from the oil and gas sector: \$100 million- \$180 million in 2025

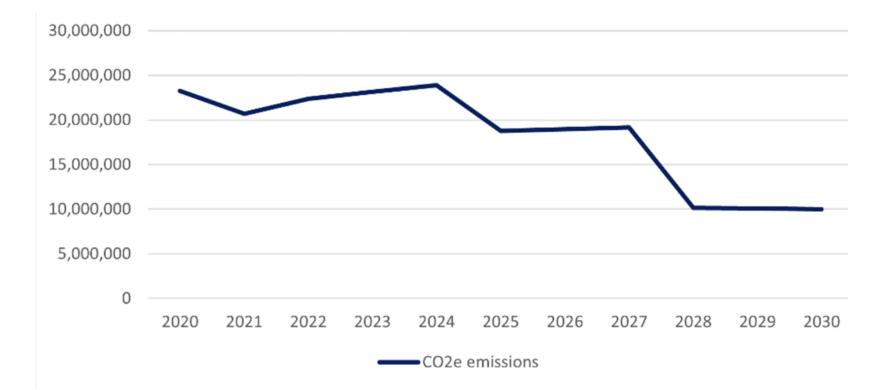


#### Health costs

- Premature deaths: 37 from  $PM_{2.5}$  and 34 from ozone by 2025
- Asthma exacerbation cases: 40,000
- Toxins: Cancers, respiratory diseases, heart problems, and mental health problems



#### GHG emissions



Total economic damages : \$13.6 billion



#### Other Costs

• Water use and quality

hydraulic fracturing uses about 1.6 million gallons of water per well (or about 80,000 gallons per year over the average 20-year life of a well).

- Habitat loss and fragmentation damages from oil and gas production in the U.S. amounts to \$4 billion
- Housing prices

In Western Slope, the houses within one mile of the drill site sell for 35% less than comparable properties without proximate drilling.



### Other Costs

- Farming industries and food supply
- Tourism:  $\approx 20$  ppb of additional ozone in RMNP
- Ozone 'climate penalty': up to 3–6 ppb increase in surface ozone per degree of temperature increase



# Costs of plugging wells

- 60,000 unplugged wells (including currently producing wells, stripper wells, injection wells, temporarily abandoned wells)
- Half of the state's unplugged wells are stripper wells—low-producing operations with small profit margins often at the end of their lifespans.
- Average cost for closing a site with a well: \$92,710



