



Data Gathering

32 Flights

June - October 2023

12 Basins

Where ~70% of U.S.
oil and gas is produced

10,000 km²

Daily flight coverage
with 10m x 10m resolution

Data Findings

860 Tons per Hour

Extrapolated to ~7.5 tg/year

12 - 260 Tons per Hour

Range of total emissions across measured basins

1.6%

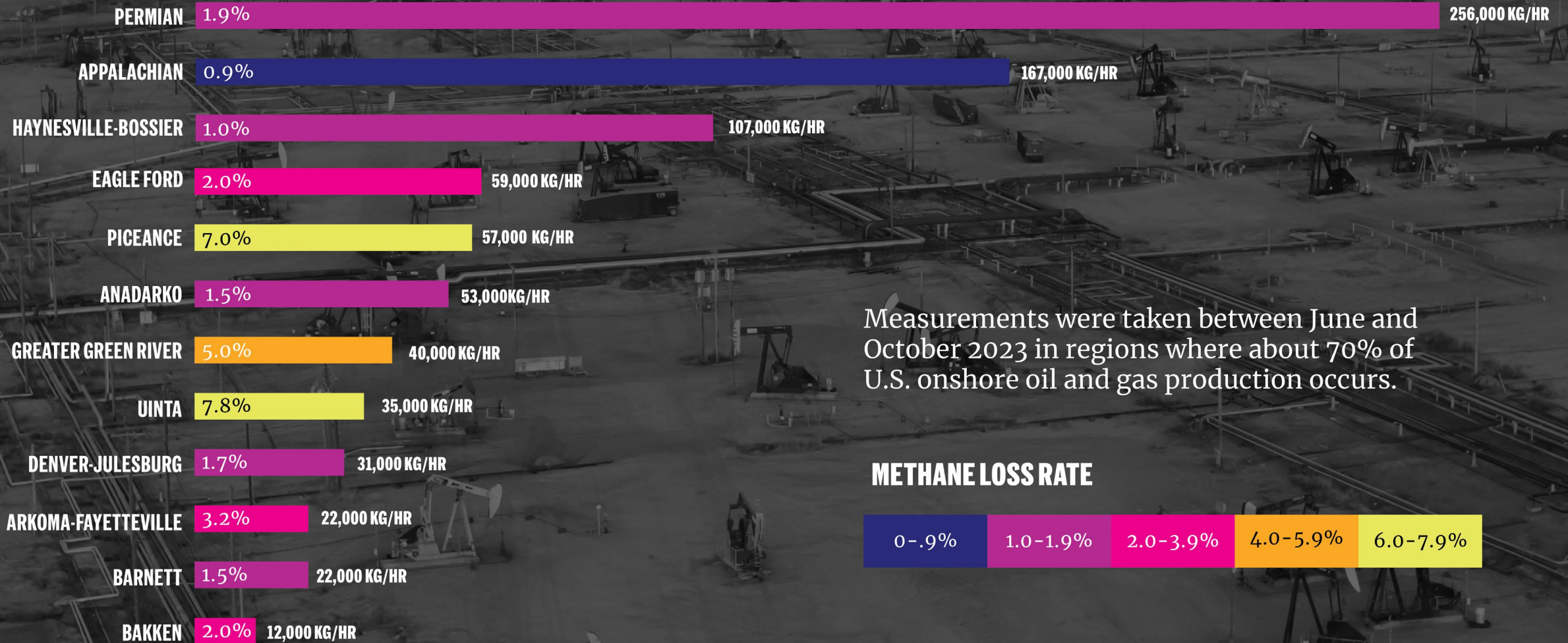
Average loss rate across measured basins

1 - 8%

Range of loss rate across measured basins

Comparing methane emissions across major U.S. oil and gas basins

MethaneSAT technology provides detailed snapshot of methane emissions



Measurements were taken between June and October 2023 in regions where about 70% of U.S. onshore oil and gas production occurs.

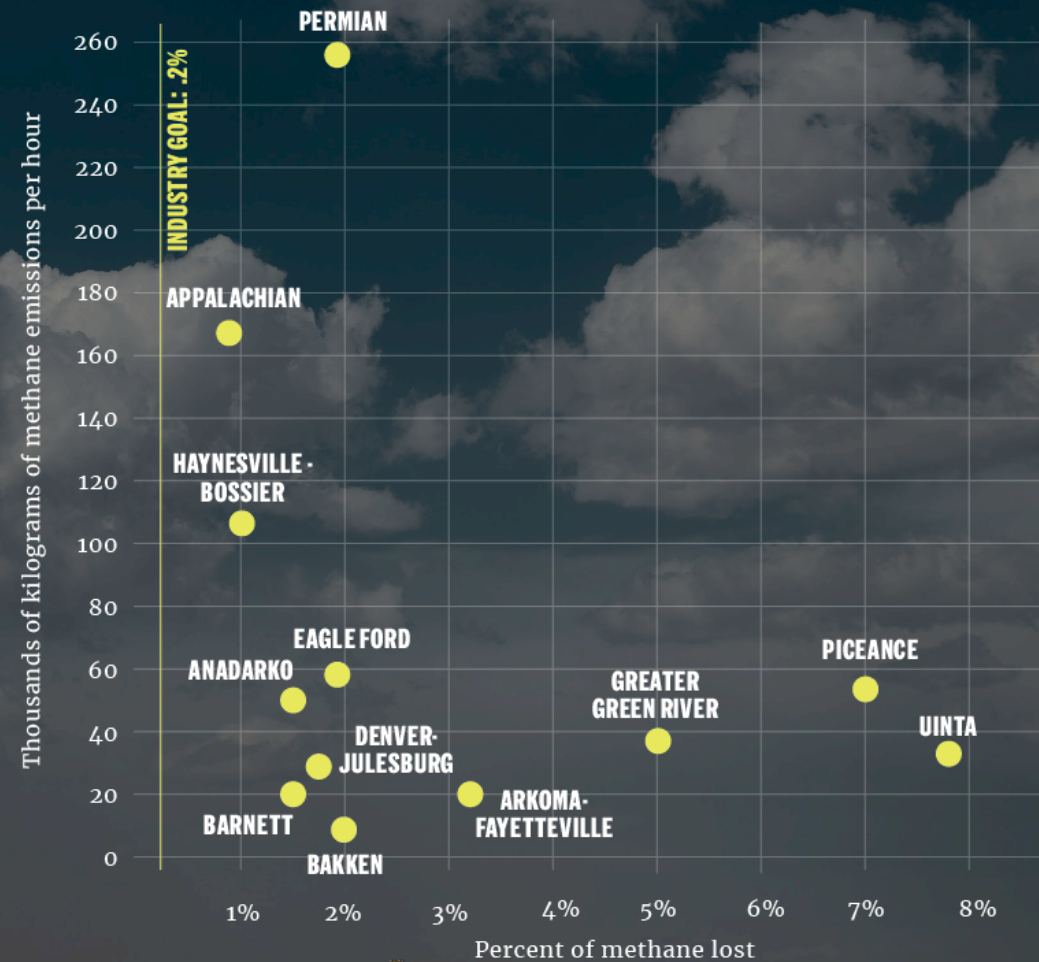
METHANE LOSS RATE



MethaneAIR

The range of estimated intensities across basins suggests that emissions will have to be reduced by ~80% or more to meet industry targets (i.e., OGDC 0.2% by 2030).

These are also significantly higher than the methane intensity thresholds set under the US MERP for the methane fee, and implicates import standards being set by the EU.



Comparing MethaneAIR Data with EPA Inventory

MethaneAIR derived oil/gas emission rate of 860 ton/hr (7.5 Tg/yr) from 72% of contiguous US onshore production is **4.5X times higher** than the corresponding EPA gridded oil/gas emission rate.

The observed discrepancies are potentially due to a combination of underestimation due to less representative emission factors and use of spatial allocation methods that over emphasize the role of infrastructure density.

It appears that the observed discrepancy can be better addressed by incorporating more measurement-based data on total emissions and how emissions are spatially distributed.

This discrepancy has potentially large implications to how EPA inventory accounts for emissions in terms of both total and spatial allocation.