Comparison of CARB's 2023 Methane Inventory with San Joaquin Basin MethaneSAT Data

This analysis uses CARB's 2023 methane inventory by sector; the CARB direct download of the relevant methane inventory is accessible here.

The figures below were pulled from CARB's inventory and converted into metric tons per hour to match the MethaneSAT data.

CARB Methane Inventory and MethaneSAT Emissions Comparison

Component	t/hr	Source
O&G Production & Processing (statewide)	4.11	CARB GHG inventory row 28, 0.900 $MMTCO_2e$
Transmission & Distribution in-scene (estimated 20% of 23.71 t/hr statewide)	4.74	CARB GHG inventory rows 31+48, 5.193 $MMTCO_2e$ × 20% CA population share within scene
Total CARB-accounted	**8.85**	
MethaneSAT estimated	**18**	
Ratio	***2.0×***	
Gap	***9.15***	

The analysis conservatively uses the full statewide figure for O&G production and processing emissions. Statewide production and processing emissions are less than ¼ of the total oil and gas emissions in the MethaneSAT study area.

An estimated 20% of statewide transmission and distribution emissions stem from inside the MethaneSAT study area. The study area contains approximately 20% of California's population (about 8 million of 39.0 million, computed from the MethaneSAT study area shapefile against CA DOF 2023 estimates). Population should be the primary driver of distribution emissions, which make up the majority of transmission and distribution emissions per the SB 1371 Joint Report methodology.