
Fun With Methane

It's a
(Greenhouse)
Gas

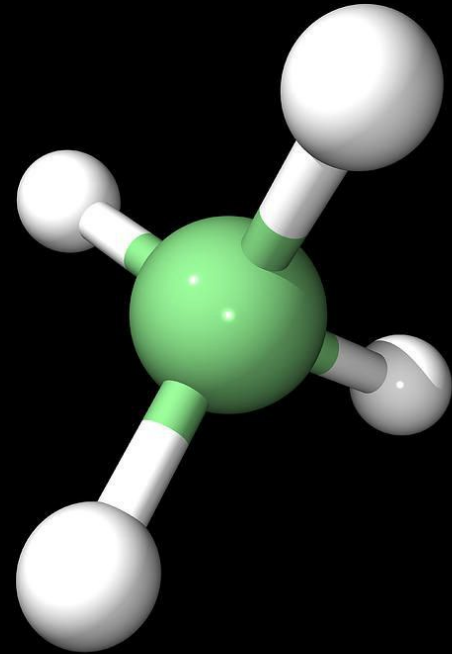
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Methane (CH₄) is a colorless, odorless, flammable gas.

It forms when organic material decays in sealed spaces (e.g., shale formations, landfills, cow stomachs).

Methane accounts for nearly one-third of Earth's warming to date.



The Methane Opportunity

1. Cutting carbon emissions alone is not enough to avoid catastrophic climate “tipping points.”
2. Methane is far more potent than carbon dioxide, but it decays quickly in the atmosphere.
3. This means that cutting methane emissions can quickly reduce the pace of Earth’s warming, alongside decarbonization.

84x
stronger than CO2

Methane in California

1.5 Million Tons/year

x 84=

126 Million tons CO₂e

Total CA GHG Emissions for 2022:
386 million tons CO₂e



27%



24%

11%





7%

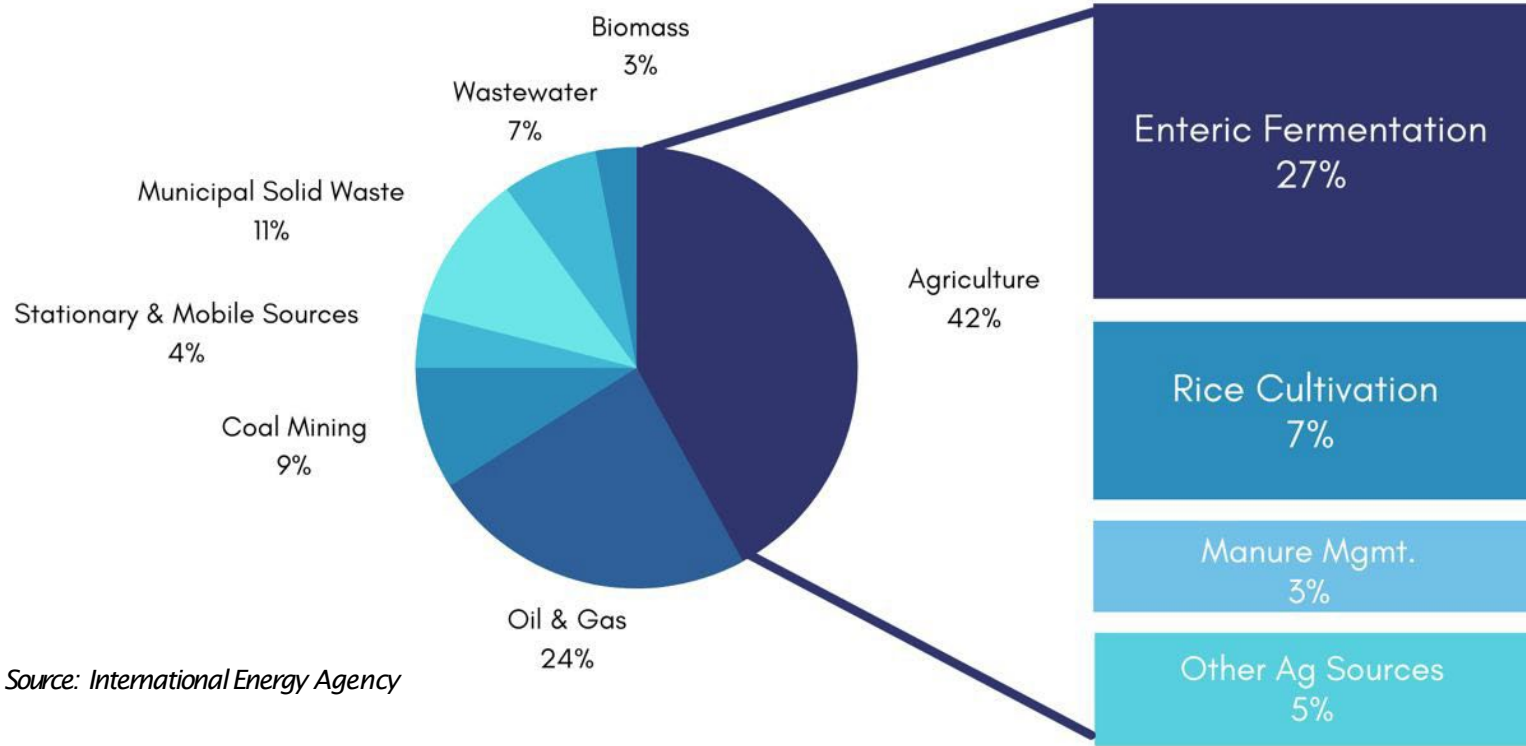
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3%

26% in CA

Human-Driven Methane Sources



Source: International Energy Agency

Methane Policies

California & Federal

SB 605 (2006)

Required CARB to develop a strategy for methane and other super-pollutants

SB 1383 (2016)

Aims for a reduction in statewide methane emissions of 40 percent by 2030, compared to 2013

For landfills, requires a 75% cut in organic waste by 2025

For livestock, provides grants for improved manure practices; includes incentives for the capture of manure methane through the Low Carbon Fuel Standard

Scoping Plans (Latest in 2022)

CARB blueprint for climate mitigation, including methane strategies for livestock, landfills, and energy

Inflation Reduction Act (2022)

Federal law that funds methane research and monitoring

Taxes methane from high-emitting oil and gas facilities,
making methane the first GHG to be federally taxed

Finding Methane

(not so easy)

There's often more
than we thought.



Methane emissions from the energy sector are 70% higher than official figures

Press release
23 February 2022

Methane emissions from cattle are 11% higher than estimated

Bigger livestock in larger numbers in more regions has led to methane in the air climbing faster than predicted due to 'out-of-date data'

EPA May Underestimate Landfill Methane

By underestimating the garbage going in, the EPA may be underestimating the methane seeping out

By Bobby Magill, Climate Central on September 21, 2015

New Report: US Gas Flaring Releases 5 Times More Methane Than Previously Thought

Methane is over 80 times more potent than carbon dioxide in terms of its global heating potential.

By Jessica Corbett, COMMON DREAMS
September 30, 2022

RESEARCH ARTICLE | EARTH, ATMOSPHERIC, AND PLANETARY SCIENCES |

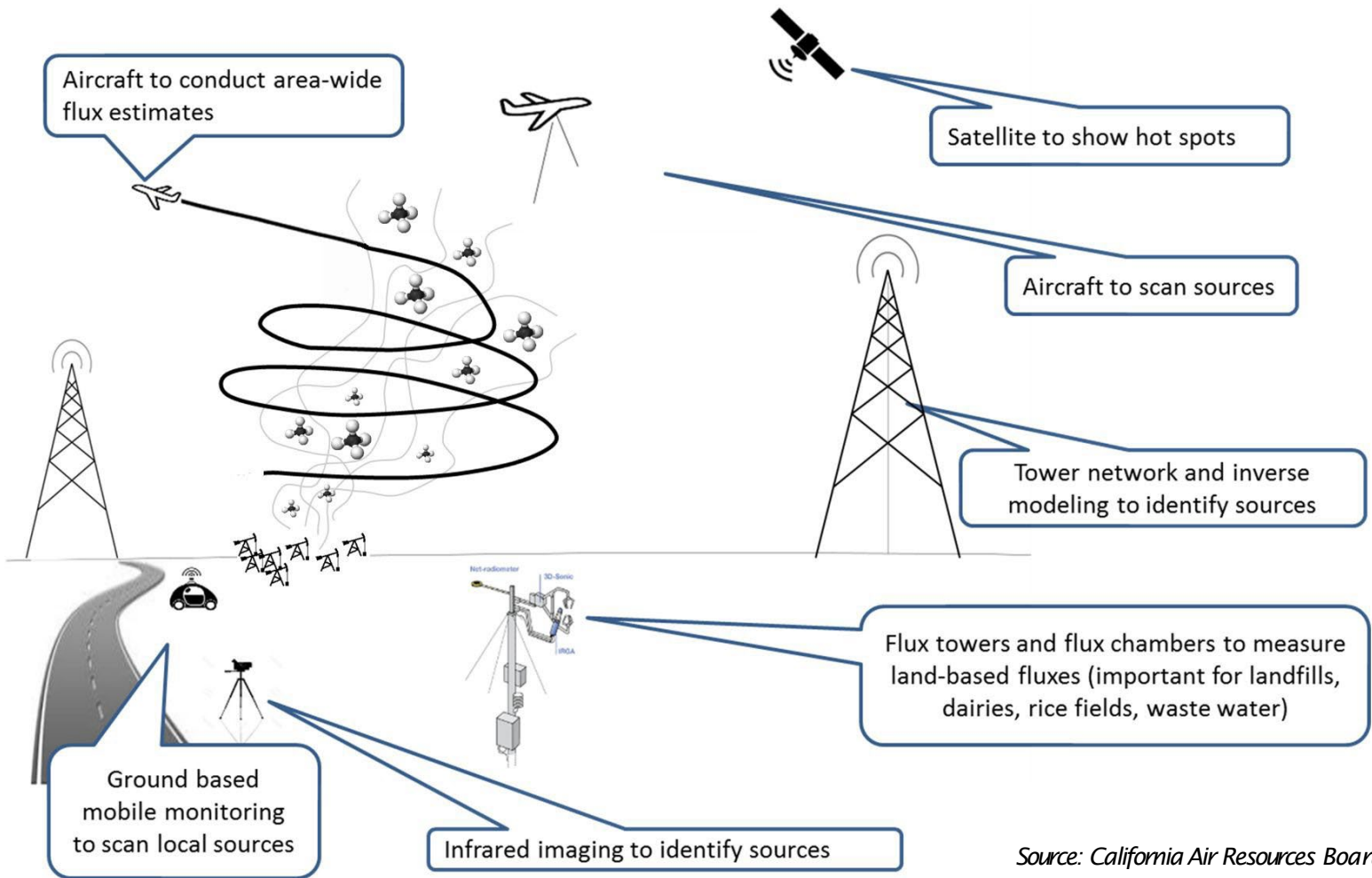


Excess methane emissions from shallow water platforms elevate the carbon intensity of US Gulf of Mexico oil and gas production

Alan M. Gorchov-Negron , Eric A. Kort , Yuanlei Chen , +7, and Ángel F. Adames-Corraliza [Authors Info &](#)

THE PRESENT — FEBRUARY 19, 2020

'Vastly underestimated': Fossil fuels emit 40% more methane than previously thought, study finds



Source: California Air Resources Board

Different Sectors, Different Issues

Oil & Gas (every piece can leak)

Coal (coal bed covers, other strategies)

Agriculture (rice, livestock)

Waste (landfills, diversion, covers)

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