California's Airborne AI Methane-Leak Detection — From AVIRIS-NG Plumes to Statewide Enforcement Data

AI in the Public Sector · Good practice · United States of America

Quality score: 87/100

Evidence strength: Strong

Summary

CARB flew AI-assisted imaging spectrometers over 22,000 sq. miles of California, examining 272,000+ facilities and finding under 0.2% of infrastructure caused 34–46% of the state's methane emissions, feeding a satellite-based enforcement pipeline.

Key dimensions

Dimension	Score
Evidence of impact / measured public value	3/3
Transparency, fairness & accountability	3/3
Transferability / demonstrated replication	2/3
Scalability beyond pilot	3/3
Governance, capability & sustainability	2/3

Evaluated by C-NAPSE

Data sources

C-NAPSE web research — accessed 2026-07-31

California Air Resources Board (CARB), with NASA Jet Propulsion Laboratory, UC Riverside and Lawrence Berkeley National Laboratory — accessed 2026-07-31

CARB — California Methane Surveys — accessed 2026-07-31

CARB — Aerial methane survey finds a fraction of point sources responsible for more than a third of California's methane emissions — accessed 2026-07-31

IOP Science — Attribution of methane point source emissions using airborne imaging spectroscopy and the Vista-California dataset — accessed 2026-07-31

SciTechDaily — Mapping Methane Emissions in California Using Precision Instruments and Machine Learning — accessed 2026-07-31

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