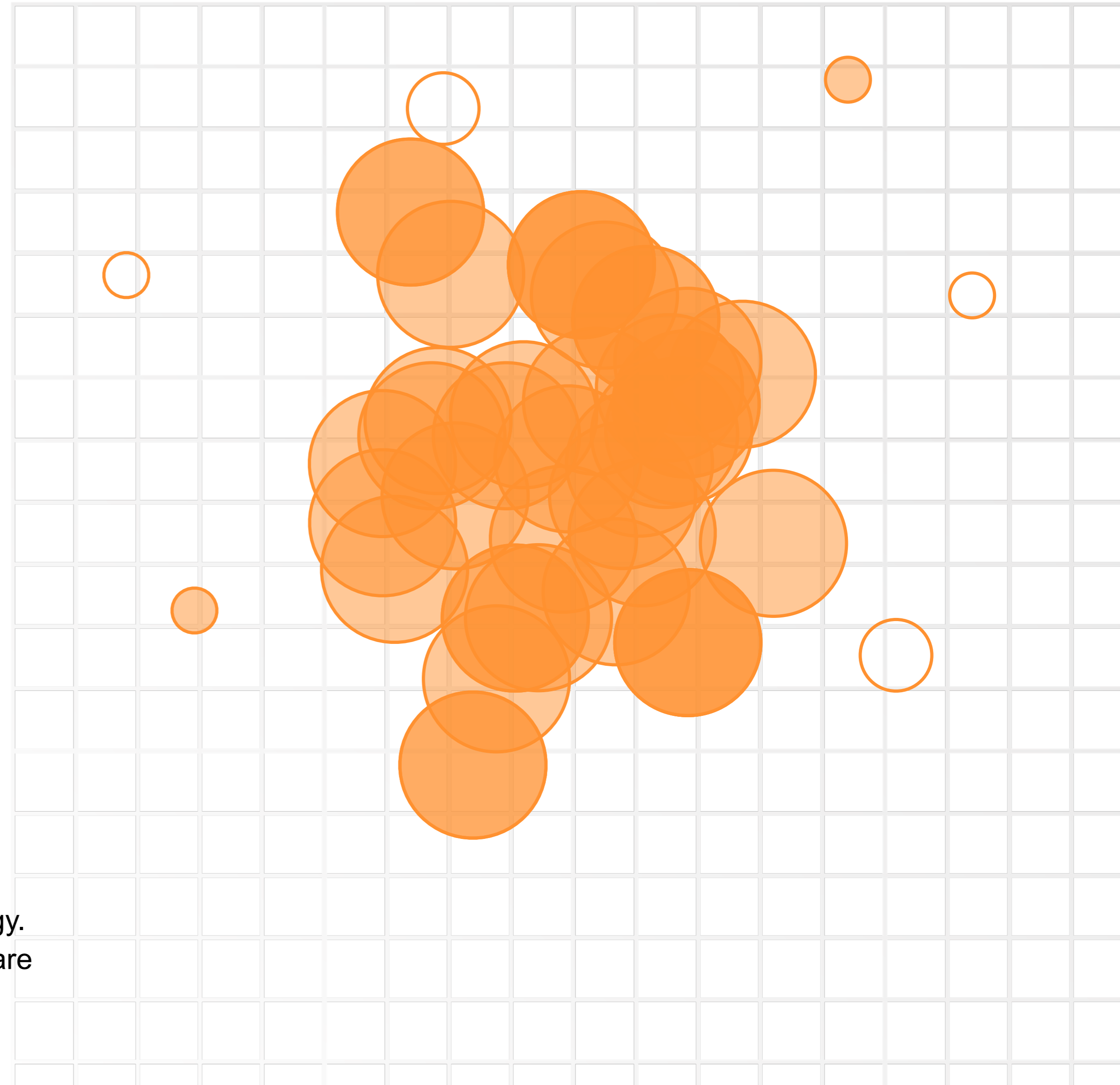
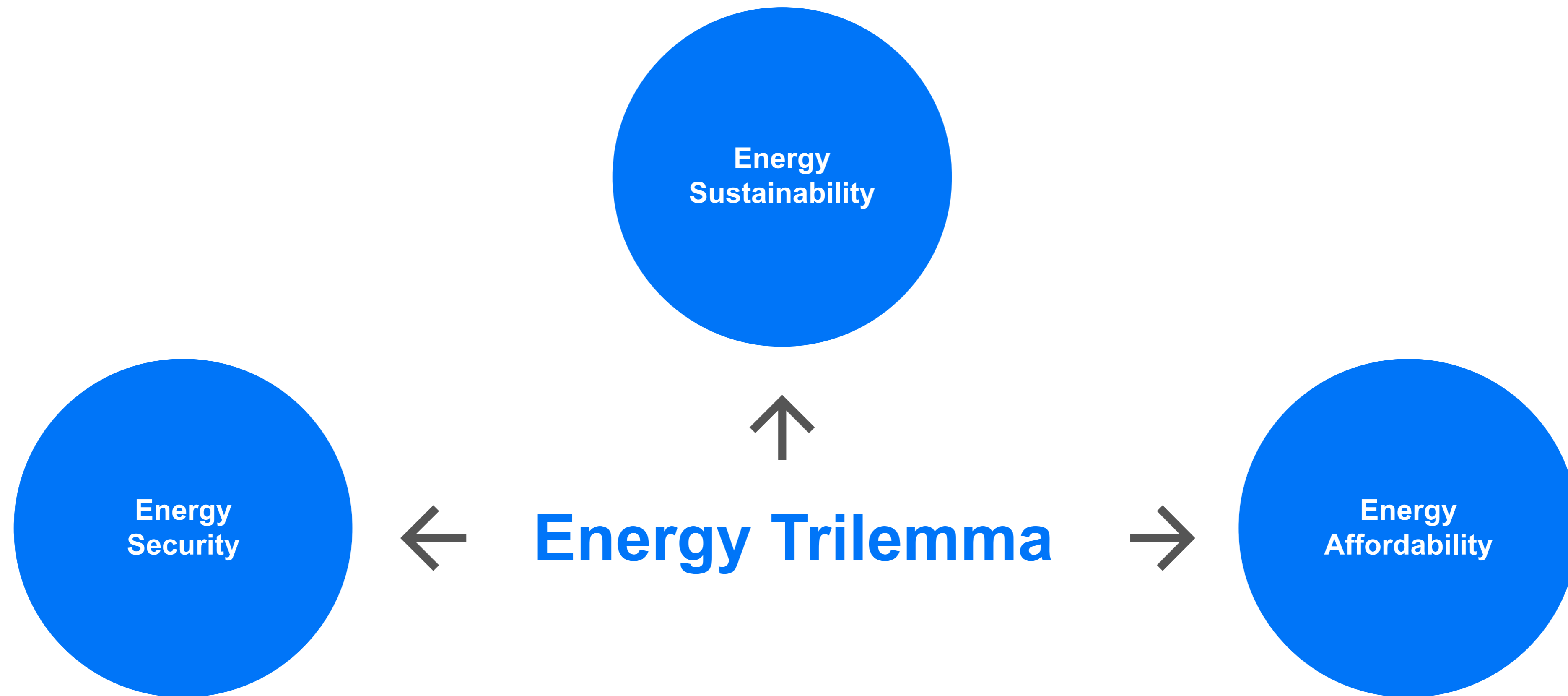


Resolving the energy trilemma with methane abatement

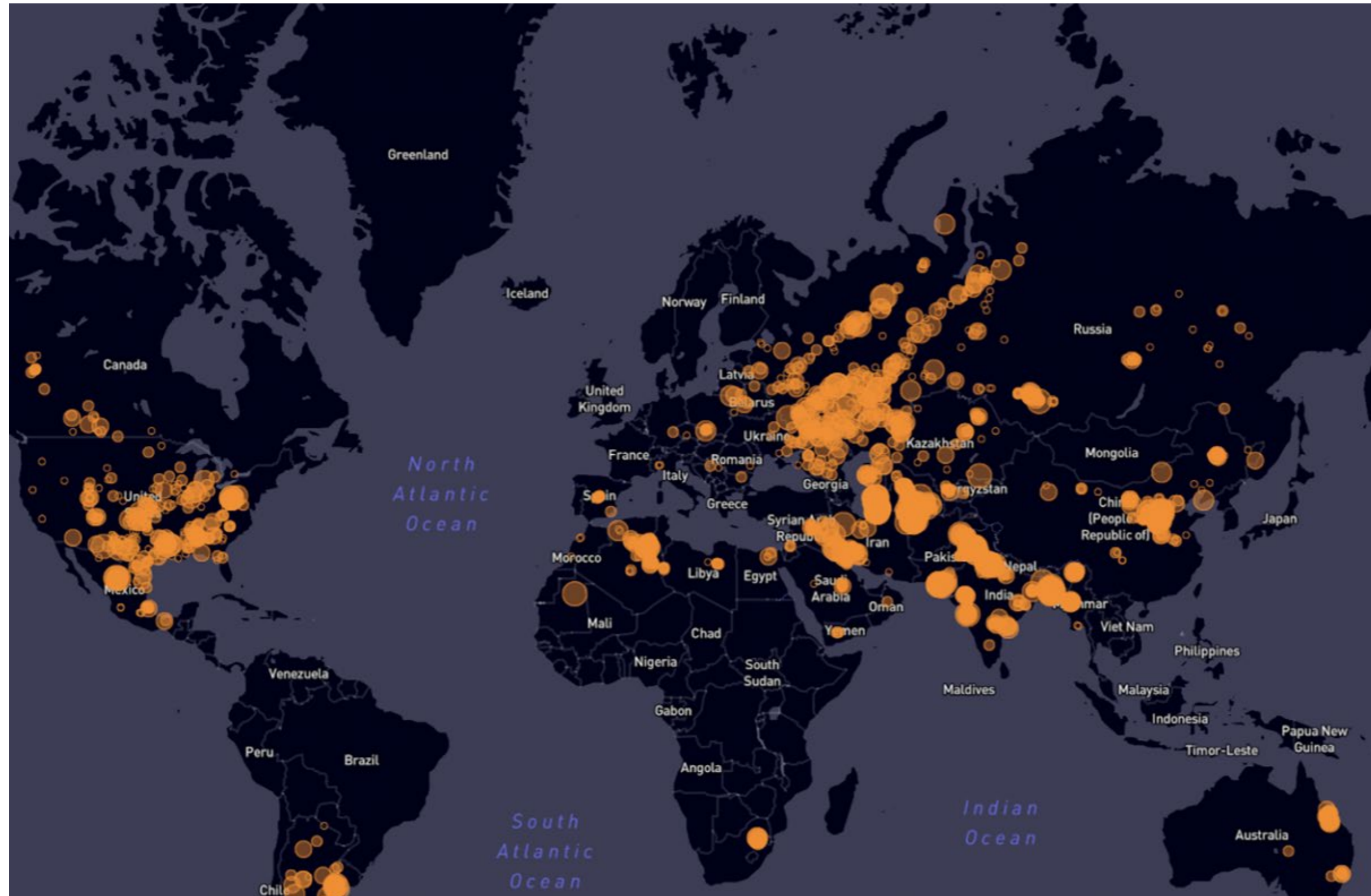
Kayrros is the leader in global environmental intelligence and asset observation technology. Applying AI and cutting-edge geoanalytics to satellite imagery and ground-truth data, we are trusted to deliver critical intelligence on energy, climate and sustainability.





Natural gas at the heart of the trilemma

- Integrating renewables into the energy mix
- Making up from Russian gas supply disruption
- Cleaner burning but methane emissions must be abated



A golden opportunity for GHG emission cuts

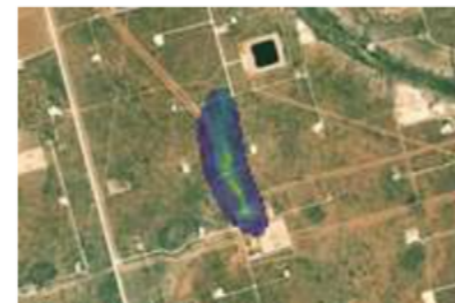
- **Technology is here** to detect, measure and attribute methane emissions.
- **High gas prices** reduce abatement costs.
- **Venting is wasting:** abatement boosts supply.
- Europe ought to use its **buying power** to drive emission cuts.

Bloomberg



Exxon Broke Rules With Late Reporting of Permian Methane Leak

It's the biggest US operator to publicly acknowledge a misstep in reporting its emissions since high-resolution satellite imagery of methane concentrations has become more widely available.



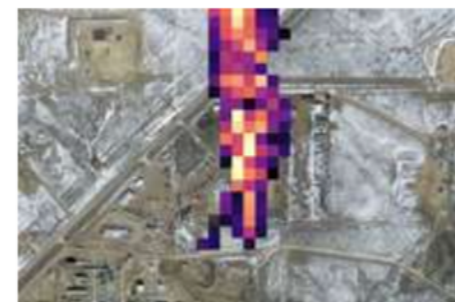
ESG Texas Probes Targa's Failure to Swiftly Report Big Gas Release

State regulators investigate why US pipeline operator took two weeks to report emissions release in Permian Basin that created plume of methane.



ESG The Cheap, Powerful Climate Fix Energy Companies Are Ignoring

Preventing routine methane releases would be the single most meaningful measure countries could take to cut emissions from oil and gas, IEA says in annual report.



ESG This Five-Mile-Long Cloud of Methane Was Spotted Over Wyoming

Three satellites observed a big plume of the potent planet-warming gas over the US state last month, which scientists attributed to a natural gas facility.

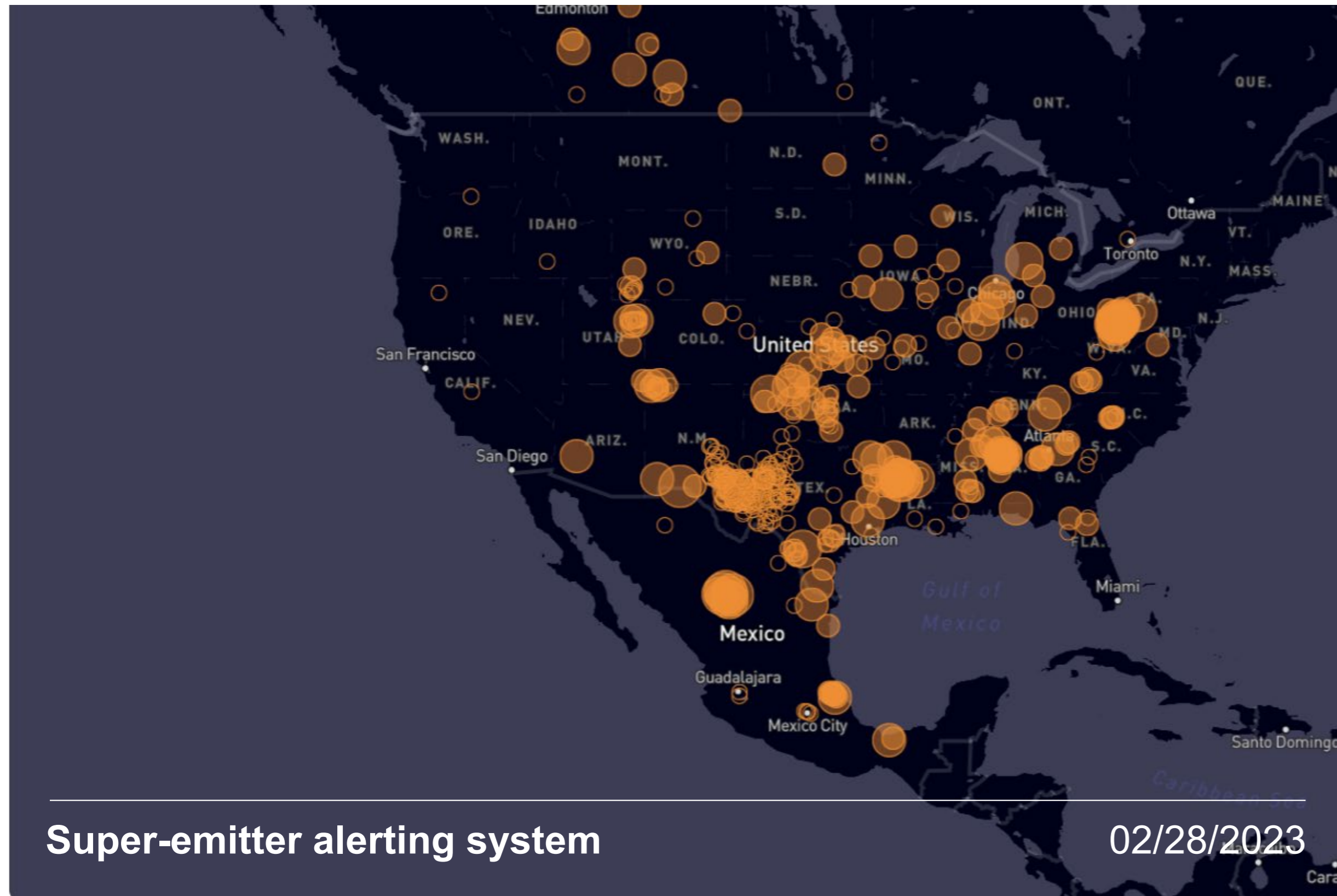
ipcc
INTERGOVERNMENTAL PANEL ON climate change



CLIMATE CHANGE 2023: SYNTHESIS REPORT

IPCC last warning Time for action

- Setting **Europe as a model** of methane abatement.
- **Pricing methane** at EU's borders.
- **Building abatement measures** into supply agreements.



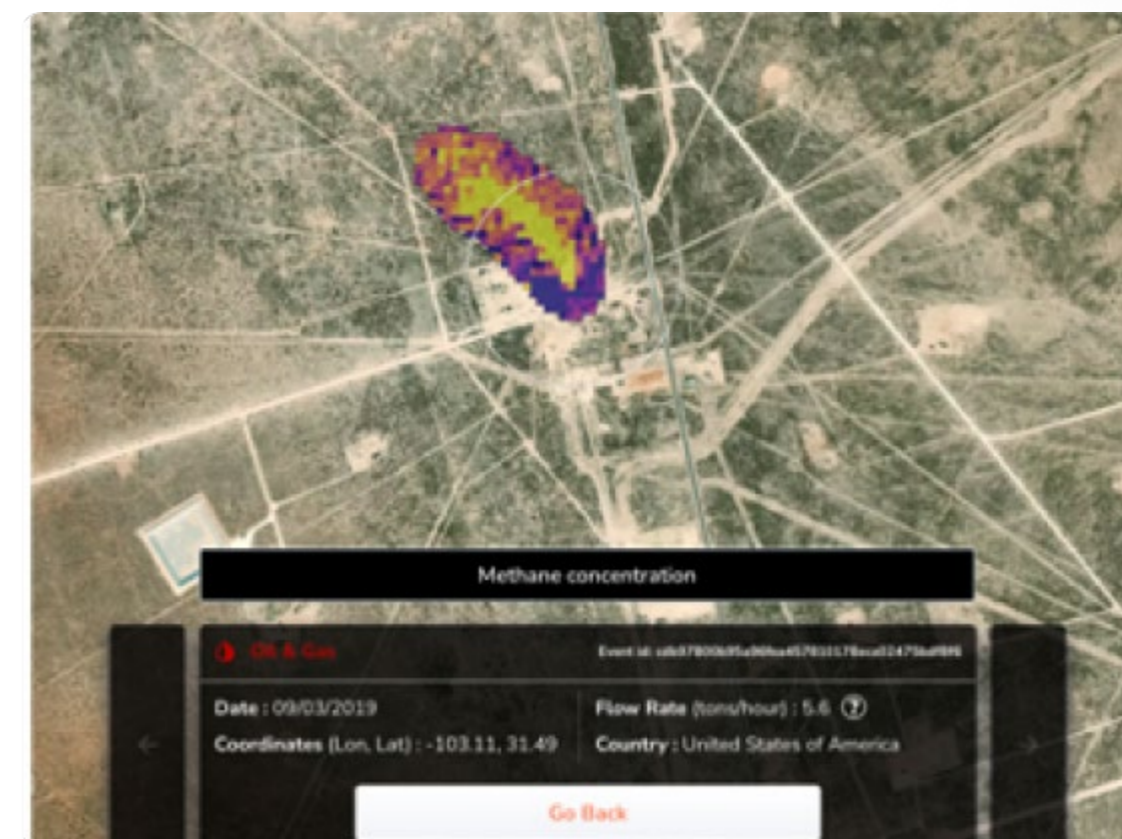
Super-emitter alerting system

02/28/2023

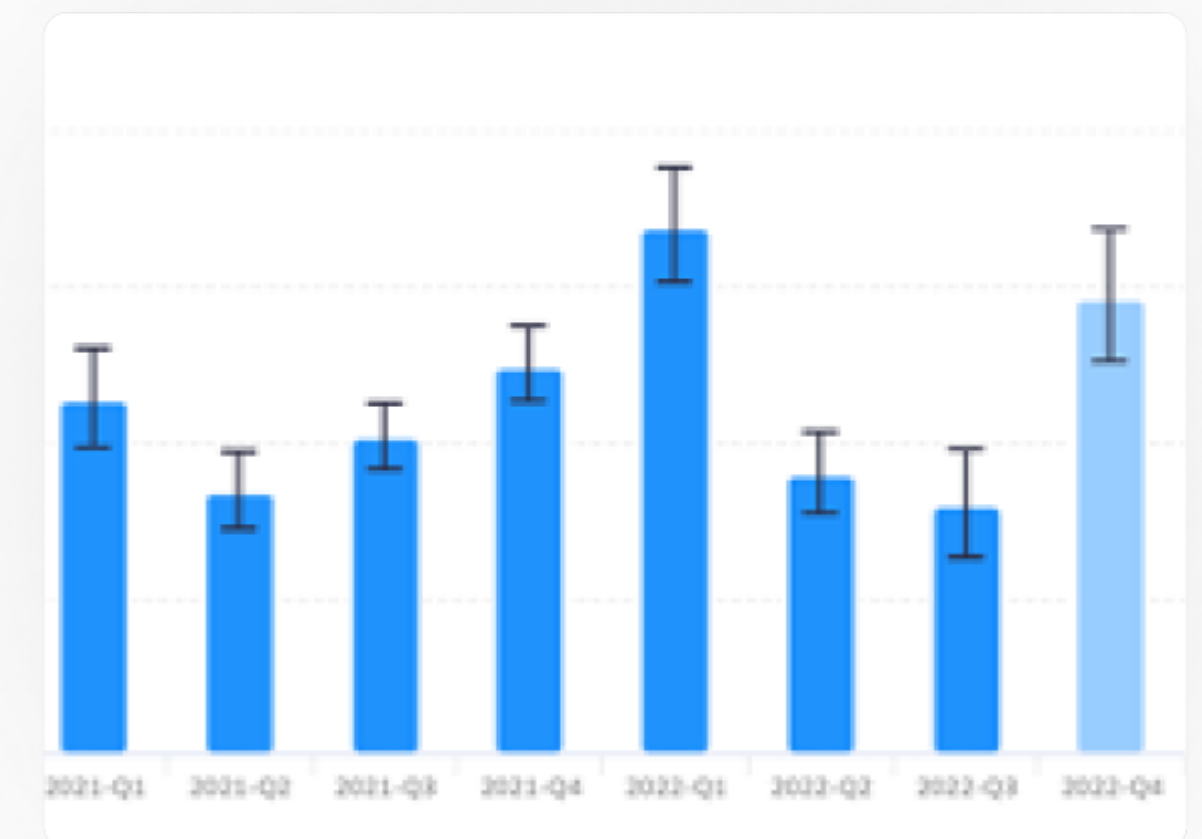
Two monitoring approaches

- **Basin-level inventories** to establish methane intensity by producing region.
- **Super-emitter** continuous, independent monitoring.

Facility-level monitoring



Basin-level inventories

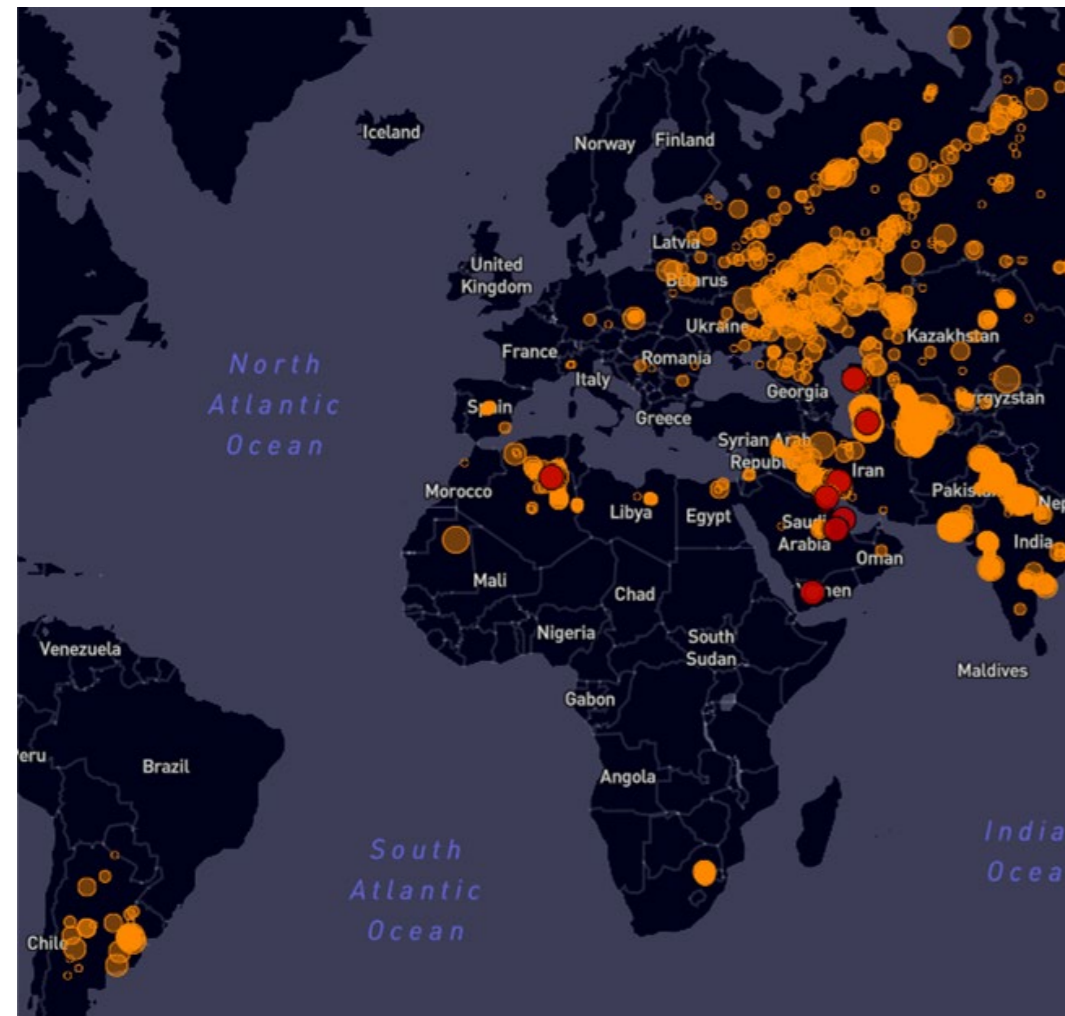


Global standard

Monitoring satellites as foundation of methane reporting

Global Coverage

Supported by extensive asset database.



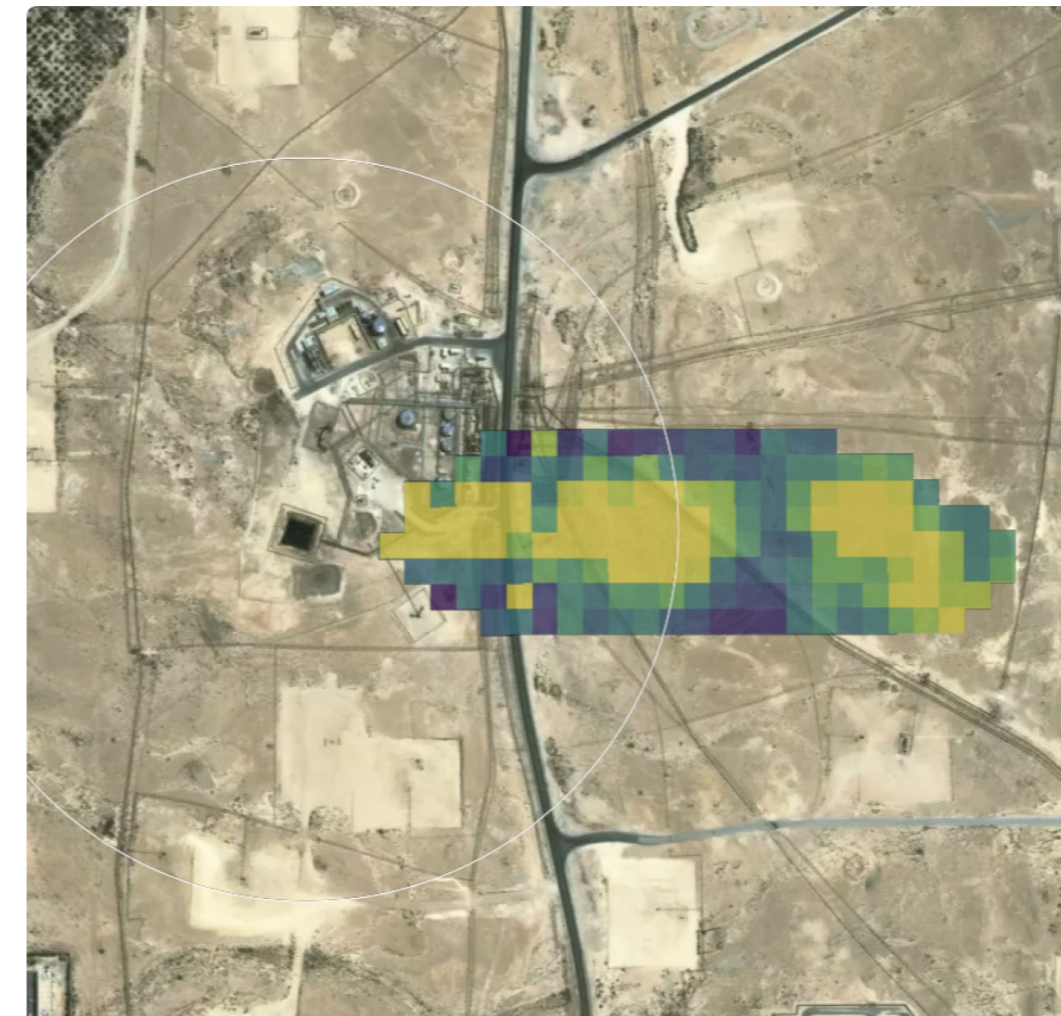
Temporal Resolution

Near real-time updates.



Spatial Resolution

20m high-resolution at asset-level.



Cost-Effectiveness

Source-agnostic model without need for own satellite fleet.

Ensuring frequent & holistic data quality

Scientific Validation & Partnerships



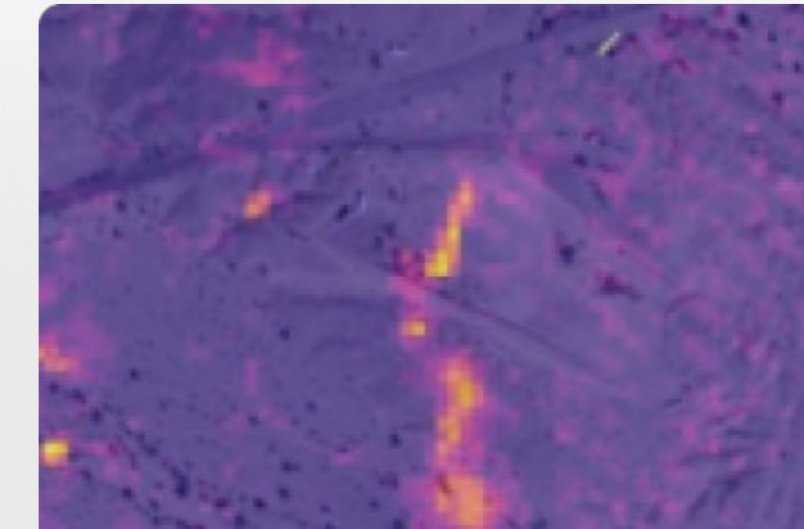
Our Partners

Backtested & peer-reviewed



01

Stanford conducted a blind test in Arizona during Oct. - Nov. 2021.



02

Kayrros used 4 different satellites to detect & measure super-emitters.



03

The results showed a strong correlation with ground data and were validated by Nature.



UNIVERSITAT POLITÈCNICA DE VALÈNCIA



GREENHOUSE GASES

Global assessment of oil and gas methane ultra-emitters



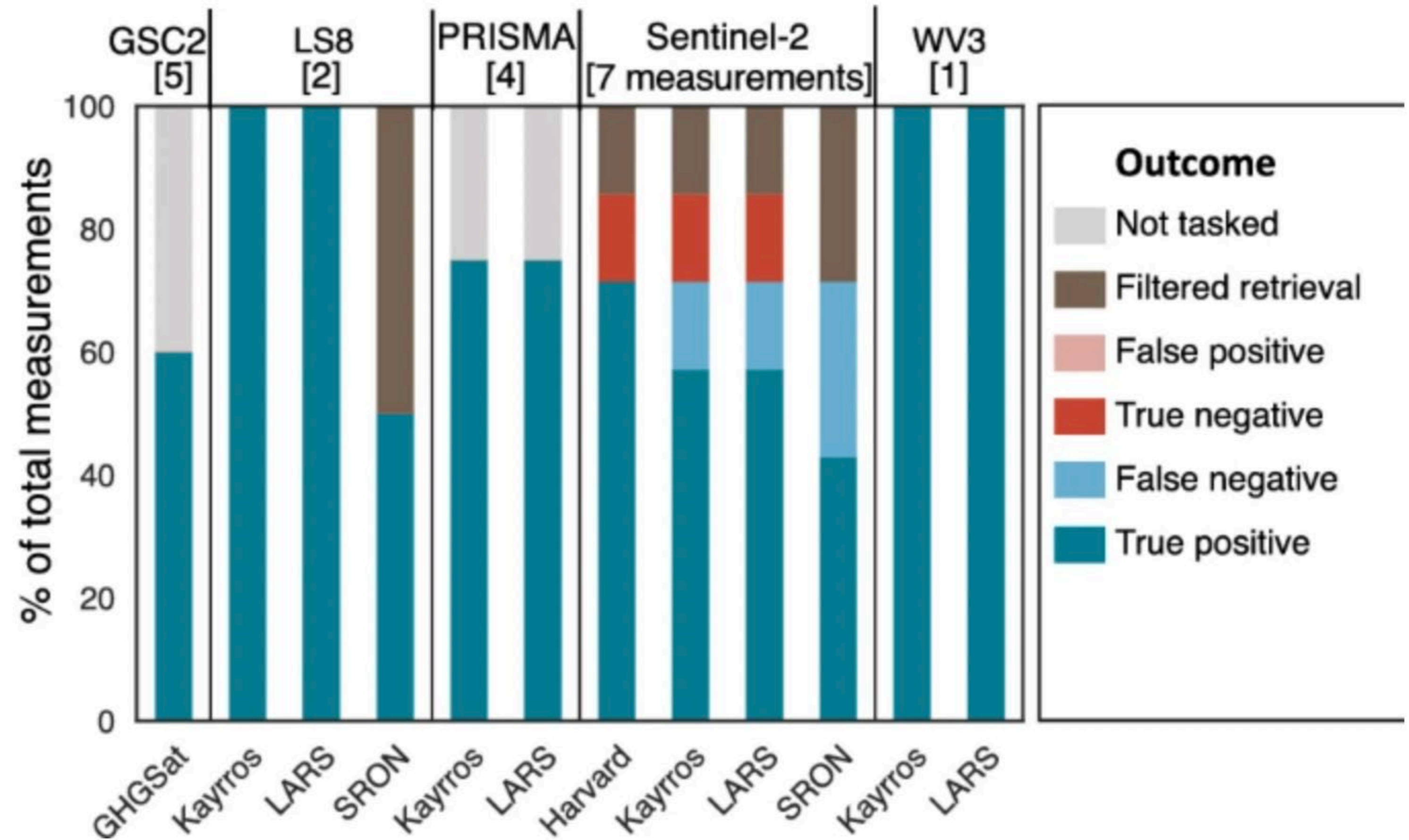
T. Lauvaux^{1*}, C. Giron², M. Mazzolini², A. d'Aspremont^{2,3}, R. Duren^{4,5}, D. Cusworth⁶, D. Shindell^{7,8,9}, P. Ciais^{1,10}

Stanford: scientific report

nature

Published: [March 07, 2023](#)

“Single-blind validation of space-based point-source detection and quantification of onshore methane emissions”.

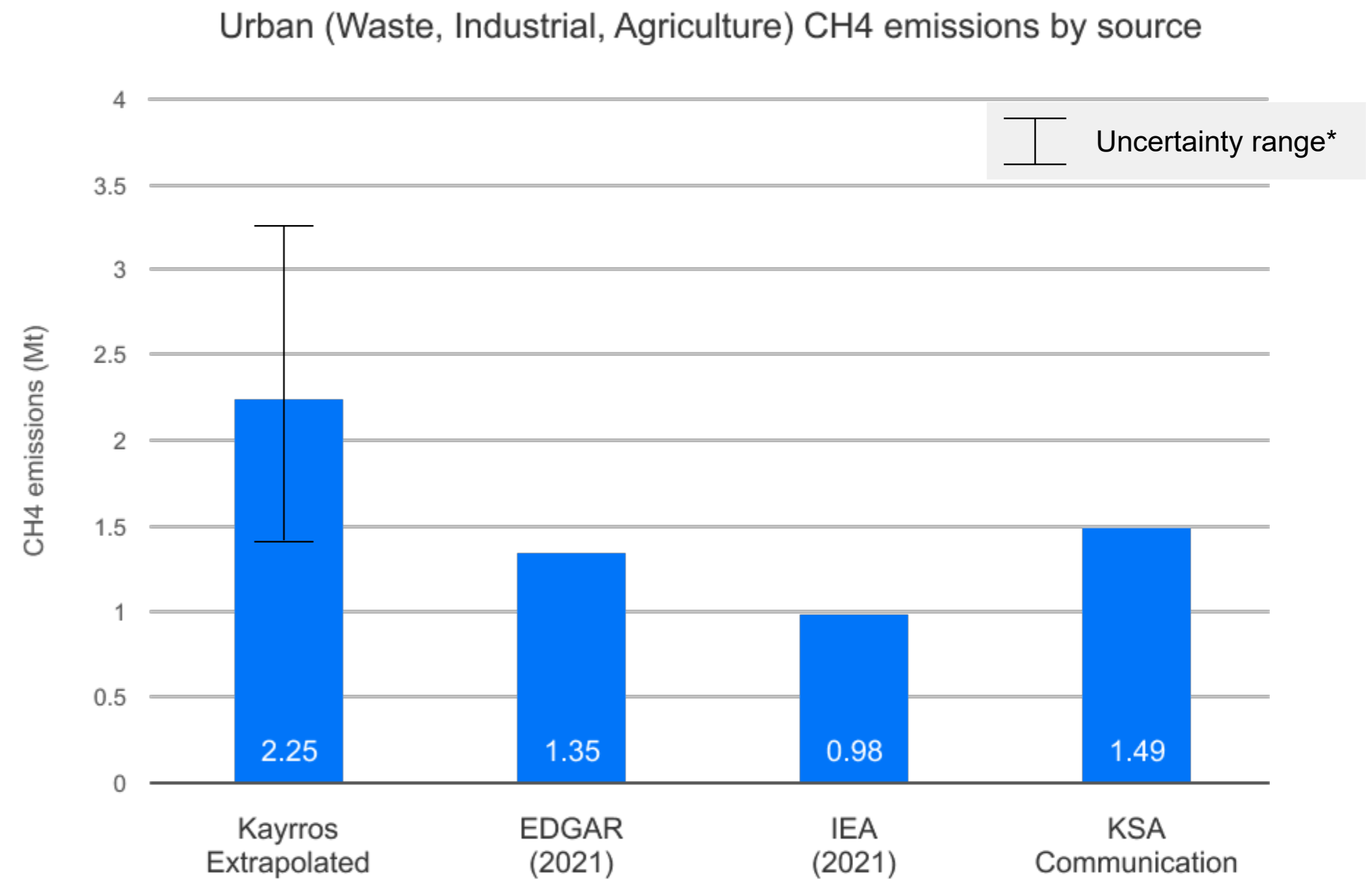
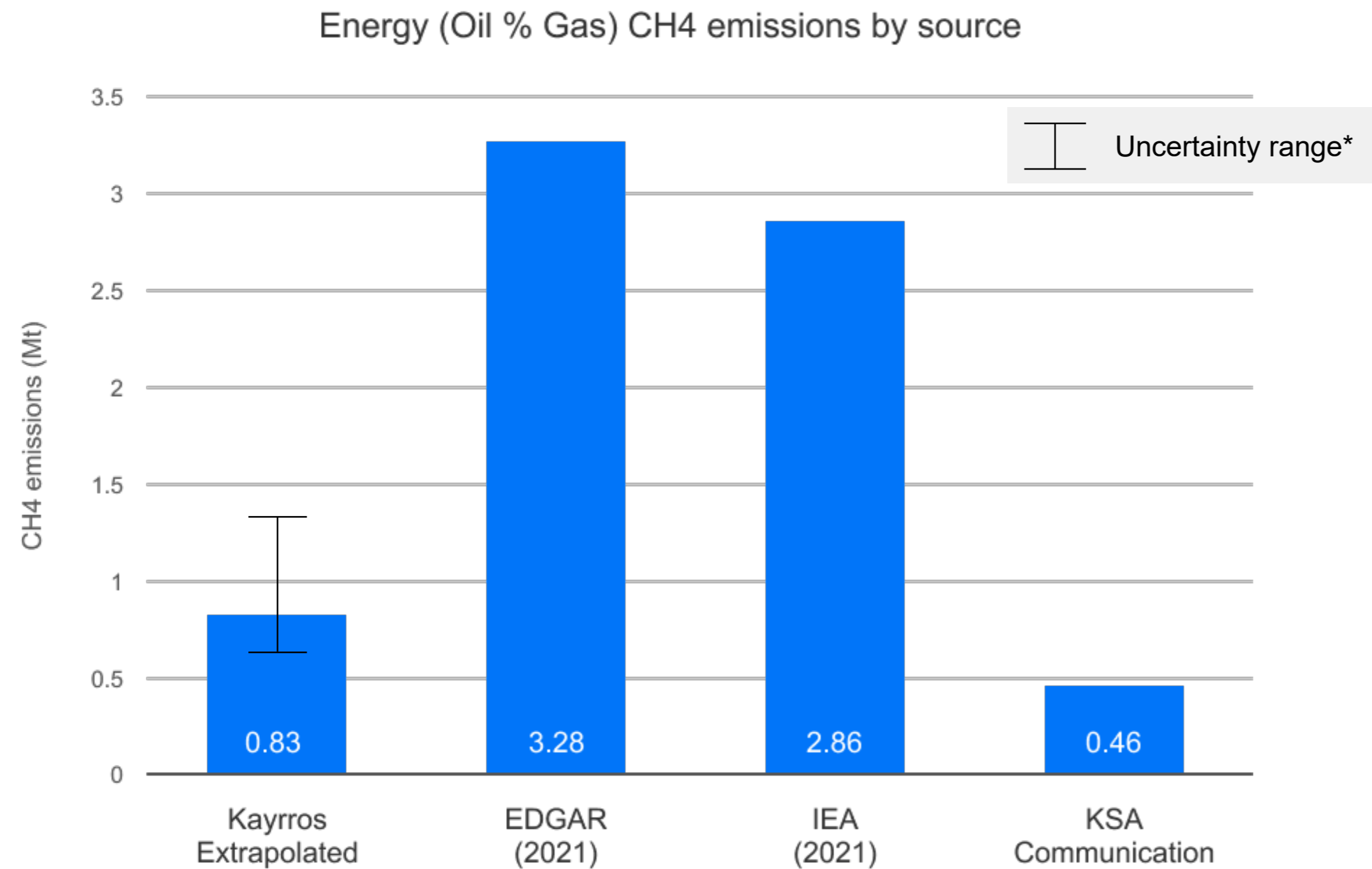


Documenting good performance

Key Insights of our project with the Kingdom of Saudi Arabia

- EDGAR and IEA’s estimates of energy-related CH₄ emissions are way higher than Kayrros’ and KSA’s.

- Kayrros estimation of urban emissions is 2 to 3x higher than EDGAR/IEA.
- Kayrros estimates higher urban CH₄ emissions than from energy, like KSA national inventory.



* Uncertainty range calculated with a 69% confidence interval: Schneising, O. et al., [Remote sensing of methane leakage from natural gas and petroleum systems revisited](#)

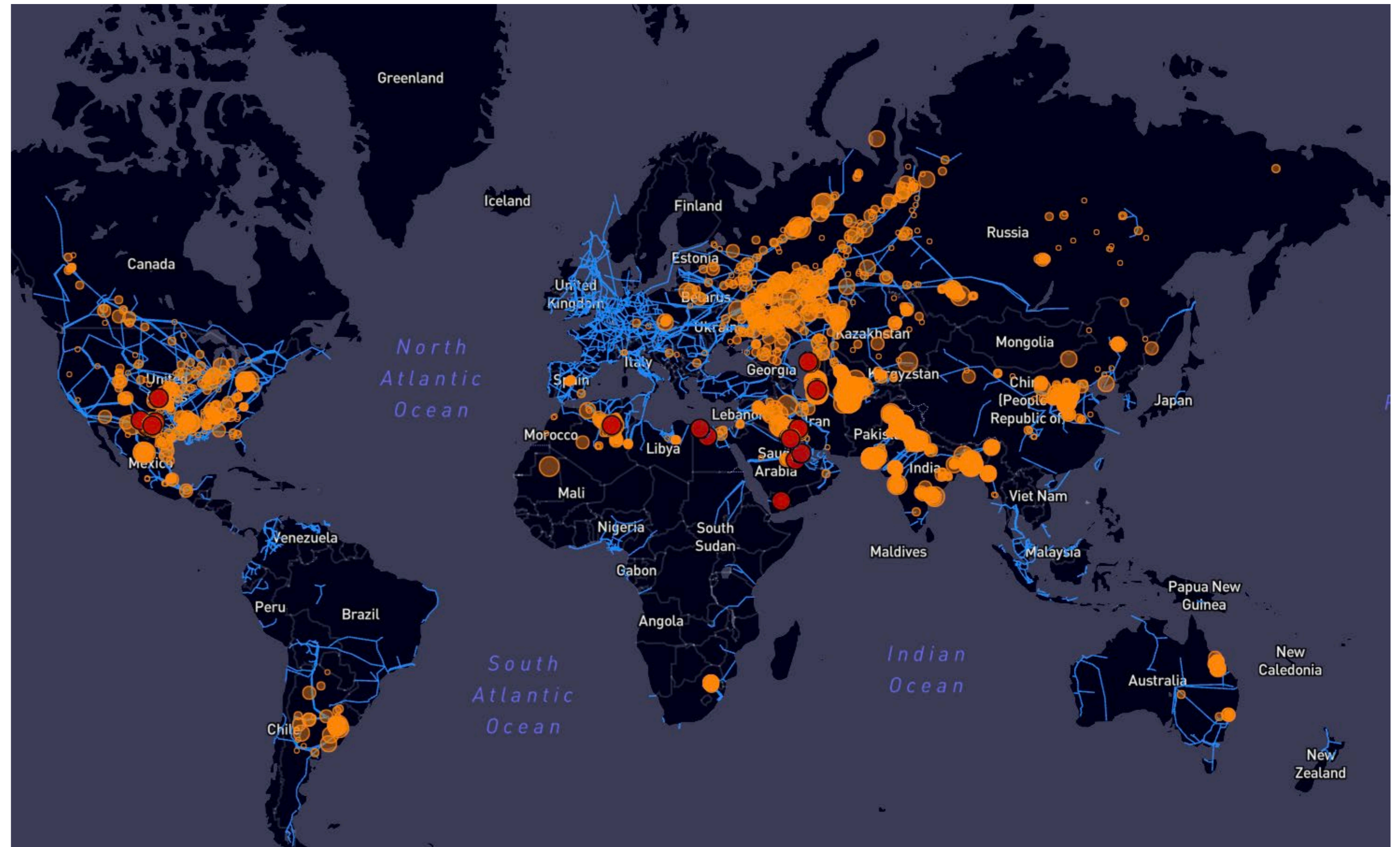
Methane reduction potential

50%

Reduction of methane super-emitters

Equivalent to removing 330 million cars driven for one year.

This map could go dark in 3 years



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