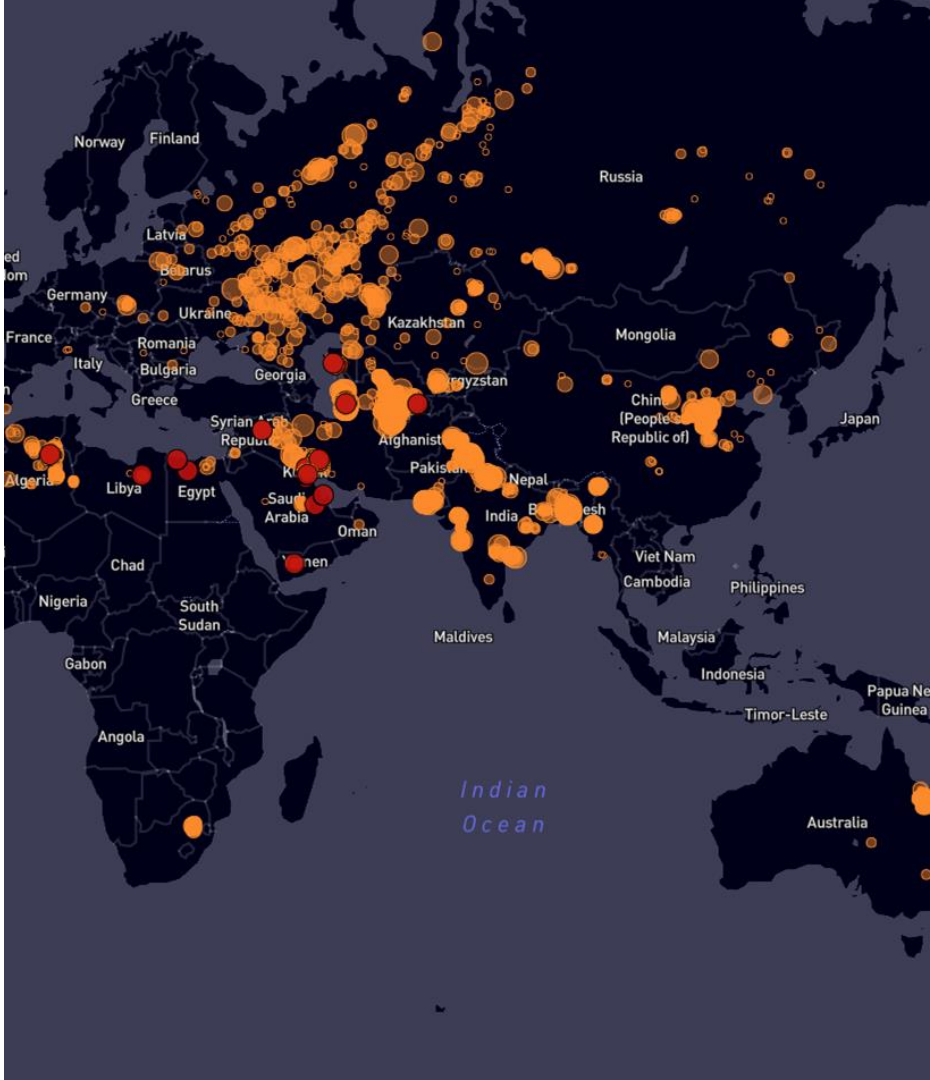
KAYRROS

European Commission

Leveraging EO for the Implementation of the EU Methane Strategy

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KCEO - Workshop on Compliance Assurance
Thu. 20 June, 2024

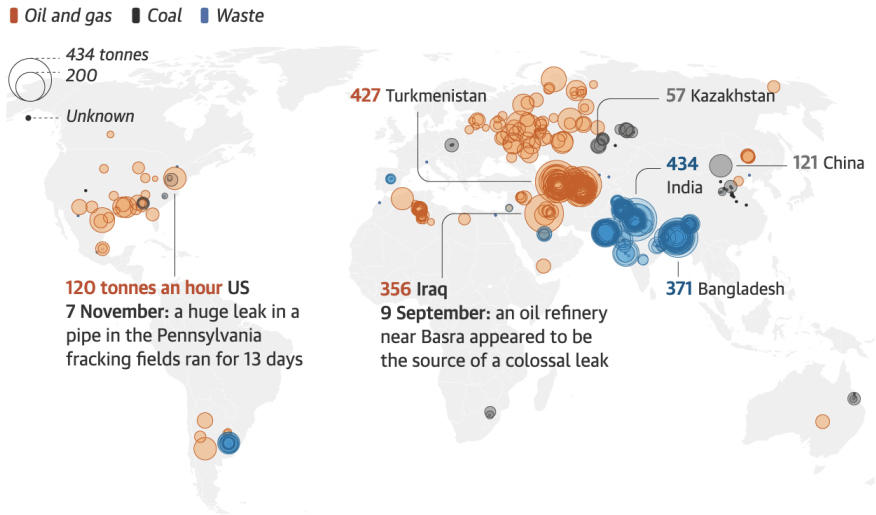


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Kayrros developed a tool to monitor methane emissions globally

More than 1,000 human-caused methane super-emitter events were detected in 2022

Emissions rate in tonnes of methane an hour, by source



Kayrros Methane Watch. Note: minimum leak rate is one tonne an hour. Leak rates for some events cannot be calculated and have been assigned a location only. Natural sources not shown

The Guardian

Revealed: 1,000 super-emitting methane leaks risk triggering climate tipping points

Using data and insights, reported that methane leaks from Turkmenistan caused more global warming in 2022 than the entire carbon emissions of the UK.

How it works?

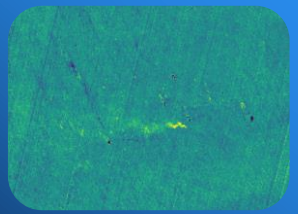
Image acquisition



Kayrros retrieves products from multiple satellite constellations:

- Sentinel-2 (ESA)
- Sentinel-3 (ESA)
- Sentinel-5P (ESA)
- LandSat 8/9 (NASA)
- PRISMA (ASI)
- EnMAP (DLR)
- EMIT sensor (NASA-JPL)
- WorldView-3 (Maxar)

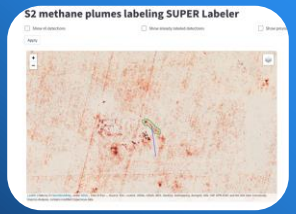
Detection and quantification



Kayrros automatically processes every satellite images captured over many AOIs to enhance methane abnormal concentrations.

Kayrros applies Deep-Learning algorithms to detect methane plumes and then quantifies their flow rate by Integrated Mass Enhancement (IME).

Manual labeling



Each methane plume detected by the AI model is manually analyzed by two distinct Data Labeler.

False Positives are filtered out.

Attribution



Kayrros identifies the source of the emission thanks to the high spatial resolution of the satellite imagery.

The asset's owner is often identified using Kayrros' internal asset database.

Delivery



Methane super-emitters detections can be delivered either through the Kayrros Platform, programmatically through an API or through a CSV file

Kayrros' workflow in numbers:

- 2500+ super-emitters detected in 2023
- 3 days delay between capturing and making the detection available

Tariffs and fees: Rapid Alert Mechanism

- UN International Methane Emissions Observatory (IMEO) uses satellites to detect, measure and attribute large emission events and assess the methane intensity of oil & gas suppliers
- IMEO Methane Alert & Response System (MARS) powered by Kayrros data
- IEA Global Methane Tracker leverages Kayrros satellite insights to shed light on global emission levels, trends and successes

Council of the EU | Press release | 27 May 2024 11:30

Fit for 55: Council gives final green light to cut methane emissions in the energy sector

European Council
Council of the European Union

EHS Daily Advisor

Final Rule Issued to Cut Methane Emissions, Strengthen GHG Reporting for Oil and Gas Industry

On May 6, 2024, the EPA announced it issued its final Subpart W rule to strengthen, expand, and update methane emissions reporting...

Tax Foundation

Methane Fee to Take Effect in 2024: A Mini Carbon Price

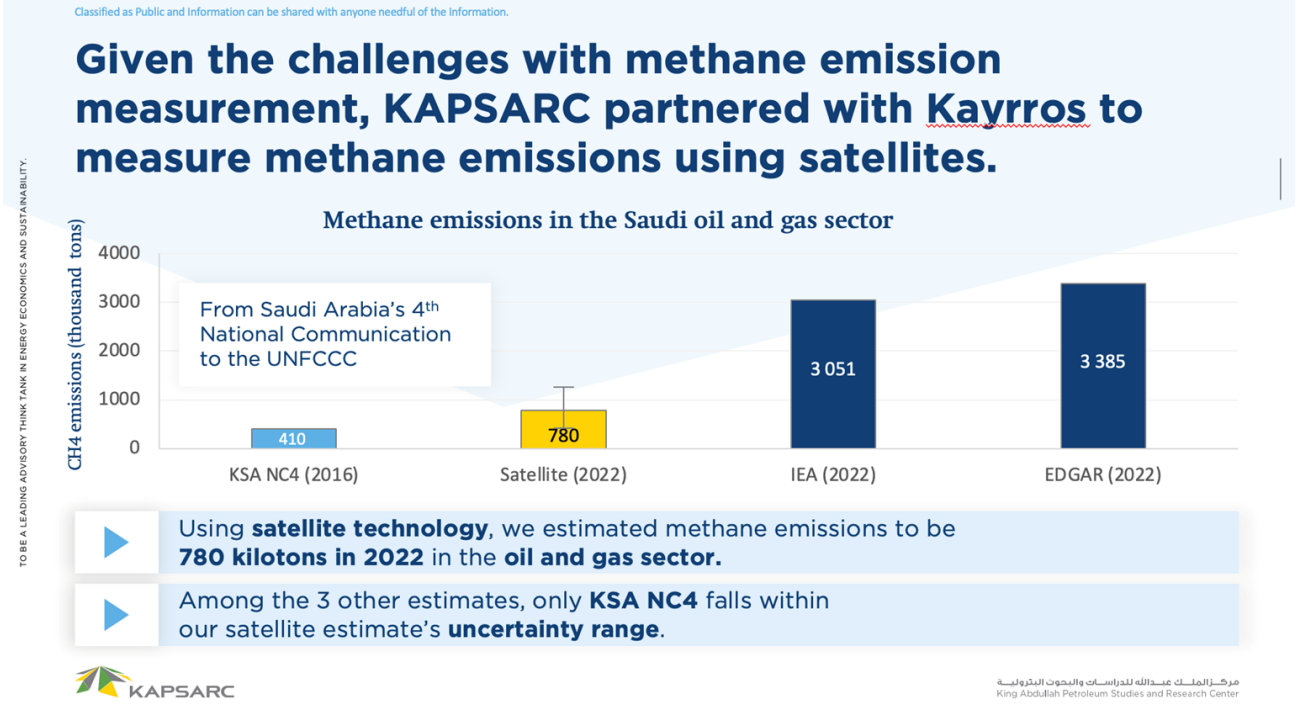
The Inflation Reduction Act's methane fee will take effect in 2024 and will act as a mini carbon price. Learn more on methane and natural...

Jan 2, 2024

Stock take and inventories: Determine maximum methane intensity

Satellite measurements are the most rigorous way to establish a science-based, accurate emission baseline at country level

Kayrros partnered with KAPSARC to measure Saudi Arabia's methane emissions from the oil & gas and waste sectors



KAYRROS

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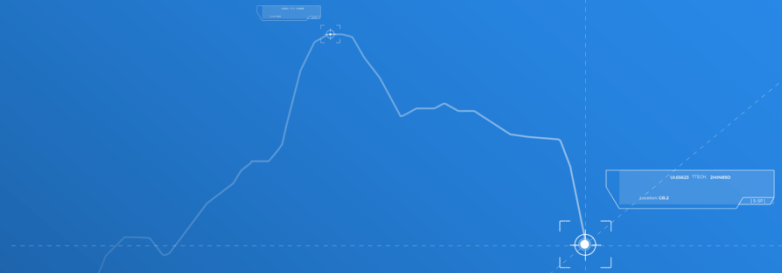
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