UPDATED: Kayrros Surveillance Technology Reveals Dramatic and Unexpected Annual Increase in Large Methane Leaks

Advanced technology leverages European satellite imagery and attributes methane emissions to accelerate climate action, boost regulatory efforts, and revitalize Paris accords

Paris – October 15, 2020

Kayrros, the leading advanced data analytics company focused on satellite imagery and alternative data for enhanced decision-making, announced today that its new Methane Watch emissions surveillance technology recorded a substantial increase in large global methane leaks.

When comparing the first eight months of 2019 to the same period in 2020, Kayrros Methane Watch has recorded a marked increase in the overall number of large methane leaks around the world.[1] Based on a study of the number of methane hotspots detected in the oil and gas sector, this has increased by approximately 32%. In Algeria, Russia and Turkmenistan, the increase is even higher, totaling over 40%.

"Such increases in methane emissions are concerning and in stark contradiction to the direction set in the Paris Agreement of 2015," says Antoine Rostand, President of Kayrros. "*Despite much talk of climate action by energy industry stakeholders, global methane emissions continue to increase steeply. In 2019 alone, our technology tracked a combined volume of visible large methane leaks of 10Mt, equivalent to over 800Mt of CO_2 over a 20 year period*," Rostand adds, and notes that in that year, the largest contributors were the US, Russia, Algeria, Turkmenistan, Iran and Iraq.

This increase in emissions is thought to reflect the impact of changing operational practices with oil and gas operators in light of the global coronavirus pandemic and adjusted activity surrounding pipelines. The leaks detected by Kayrros are typically associated with the energy industry and other industrial assets such as mines, oil wells, natural gas compression stations and pipelines. They may be driven by operational events such as well completions in shale plays and pipeline network maintenance. Methane released can be flared or vented, the latter being more cost efficient.

Kayrros's market-leading Methane Watch surveillance technology has continuously unveiled the most accurate and global data on methane emissions. Methane Watch is an automated system that uses data from the European Space Agency's Sentinel-5P satellite and other satellites to detect, quantify and attribute large emissions of methane directly to their sources. Methane Watch is a major driver for transparency in the energy industry as it enables oil and gas companies to meet the required level of reporting to reach the Gold Standard of the United Nations Environmental Program Oil and Gas Methane Partnership framework on their onshore assets.

These latest methane emissions figures coincide with the announcement by the European Union today of its new methane strategy. The initiative, announced by the European Commission's Directorate for Energy while referencing Kayrros imagery[2], aims to integrate policy across energy, agriculture and waste to improve data, reporting and global transparency on the source and size of methane emissions. There is particular focus on reporting pertaining to the energy sector, including on methane emissions outside of EU borders, as a precursor to enforcing action where voluntary measures are deemed insufficient to fight the causes of climate change.

Commenting on today's EU announcement, Kayrros President Antoine Rostand remarks: *"We welcome the European Union's recognition of the importance of reducing emissions by establishing a new Europe-wide methane strategy. Europe imports a significant amount of gas, and the combination of a*

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1 A methane hotspot is a leak detection with flow rate larger than 5T/hour. This estimate is adjusted for coverage (missing observations due to weather, etc.).

2 Tweet posted by EU Commissioner Kadri Simson with Kayrros imagery: https://twitter.com/KadriSimson/status/1316074283299414017

defined EU methane strategy and products like Kayrros's Methane Watch will help regulators to implement more ambitious policies and can protect investors from financial and reputational risks. It can also help EU energy companies to reach net-zero targets."

Tim Gould, Head of Division for Energy Supply Outlooks and Investment at the IEA said at a recent Webinar on Stopping Methane, *"Kayrros technology is a huge step forward in transparency. We assumed that these leaks were there, but we've never been able to pinpoint where exactly. I think the crucial thing is that this technology really does move the needle."*

Background on methane emissions

Methane emissions are responsible for a high proportion of total greenhouse gas emissions, reaching approximately 20% in 2019 according to reports by the International Energy Agency (IEA). While the agricultural sector is the largest single source of methane emissions worldwide, the energy sector – including oil, natural gas, coal and bioenergy sources – is the second largest source.

While many possible opportunities exist to reduce methane emissions from the energy sector at a low cost, reduction has often been hampered by a lack of reliable data. Methane Watch products are already seen to have a wide variety of applications. For example, consumers can switch to the lowest-emitting energy suppliers, investors can allocate capital according to energy producers' financial and reputational risks, regulators can implement carbon border taxation, and energy companies could eliminate emissions equivalent to the annual carbon footprints of Germany and France combined.[3]

Used extensively by Kayrros, the Sentinel-5P satellite operated by the European Space Agency Copernicus program provides frequent readings of methane concentration across major oil and gas basins with a resolution of 5.5 km by 7 km. Kayrros analyzes these readings to identify large sources of emissions. The current detection threshold is above 5 tons per hour, with a methane leak of 5 tons per hour being equivalent to approximately 3.7 million tons of CO_2-equivalent per year of continuous emission. The so-called super-emitters detected by Kayrros in the oil and gas sector using Sentinel 5-P satellite imagery, which also includes clusters of smaller sources, release on average an estimated 26,000 tons of methane globally on any given day.

Please note that the press release titled "Kayrros Surveillance Technology Reveals Dramatic and Unexpected Annual Increase in Large Methane Leaks" issued at 8 am CET on 14 October 2020 has subsequently been updated to clarify that the 32% figure refers to an increase in the number of methane hotspots.

About Kayrros

Kayrros is the leading global asset observation platform built on fundamental science, strong R&D, and leading technology. Harnessing satellite imagery and multiple sources of unconventional data with machine learning, natural language processing, and advanced mathematics, Kayrros monitors and measures energy and natural resource activity worldwide. With access to data on more than 200,000 industry assets, Kayrros customers track individual or multiple assets in configurable proprietary or collaborative workflows to analyze industrial and environmental performance for maximum insight and optimal operational and financial decisions. For more information, visit www.kayrros.com.

Media contacts

[3] Large global methane leaks from the fossil fuels industry in 2019 were equal to the total volume of CO_2 emitted by Germany and France combined, according to Kayrros data.

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