

Standards for satellite-derived methane product

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In response to international agreements including the COP26 Methane Pledge and the COP28 Oil and Gas Decarbonization Charter the reduction of fugitive methane emissions from industrial processes is high on the international climate agenda. Action to meet these objectives are being enshrined in national targets and policies. 2023 legislation in the US and EU not only provides an obligation to verifiably reduce emissions but also opens the door to the use of new methods & techniques to identify & report leaks and perform 3rd party verification of the Oil & Gas sector's emission reporting to the regulators. Simultaneously, listed companies are being required to report their emissions, together with their physical and financial climate-related risk & operating in a low-carbon economy. Although a more derived application, emissions data at a facility and corporate asset level is now a contribution to regulatory reporting requirements with significant financial penalties for non-compliance.

These diverse goals can only be quantifiably met with verified data, with satellite-derived measurements being a key part of the solution to this data need. To address this data need, several new on-orbit sensors from commercial and philanthropic (new space) stakeholders are joining the longer running public missions tracking methane concentrations at a range of scales (10s m to few km). Innovations have also shown that some public missions not originally designed to monitor methane can be used to do so, albeit limited to the more intense point sources. This plenitude of satellite data has enabled multiple actors to enter the methane emissions product landscape, ranging from start-ups to academia, space agencies, on-orbit asset owners and international organizations.

This rapidly growing yet organic trade for methane emissions data has developed to meet a market need but is susceptible to a number of pitfalls. In a relatively immature and rapidly developing field, divergent emissions estimates from multiple actors will cast doubt on credibility, whereas questionable methods & data quality from new, non-expert actors could significantly undermine the reputation of the entire sector. A suitably agile standards framework would enable this market: endorsing reputable suppliers, rooting out bad actors and provide the necessary confidence to the user/customer base. Internationally adopted standards, based on transparency, traceability, independence, and evidenced QA would enable and ensure fit-for-purpose data, interoperable between suppliers as an EO contribution to impactful climate action, feeding into the wider carbon cycle economy. This presentation will report on the outcomes and next steps of the 'International Methane Standards Workshop - Towards an internationally recognised standard in methane monitoring from space' hosted by NPL in the UK on February 26-28 2024 convened as a step towards the development of pragmatic standards for the community.

Meeting homepage

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