



Tackling the oil and gas industry's methane challenge

Introduction

Methane is responsible for almost a third of the emissions-induced increase in global temperatures since the start of the industrial era, second only to carbon dioxide [CO₂] in its impact on climate change.

To help reduce this, the oil and gas industry must tackle its methane emissions. The sector accounts for almost a quarter of human-caused methane emissions, coming from both large-scale venting and innumerable small, undetected or unreported leaks across the oil and gas value chain.

Tracking and tackling methane emissions

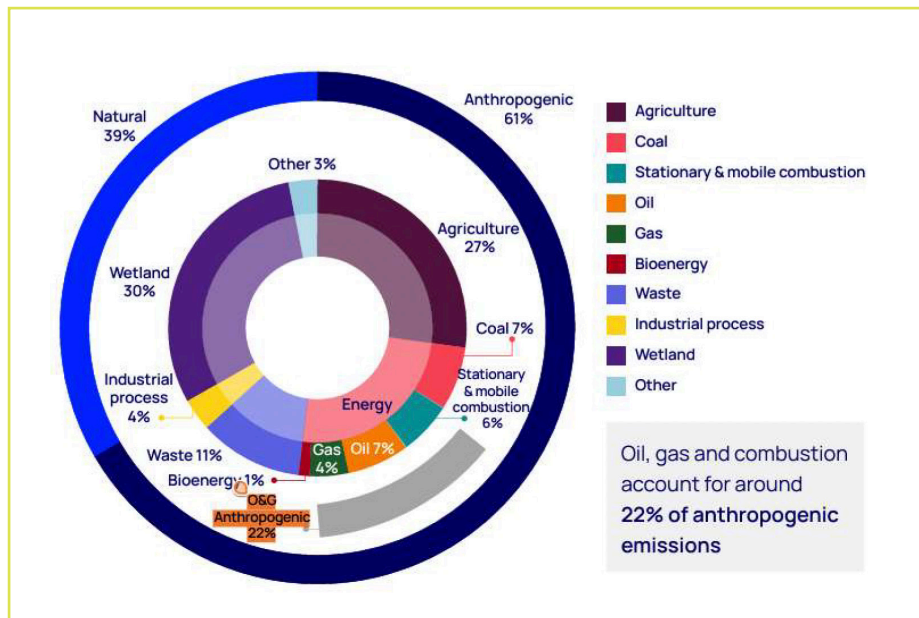
For the oil and gas sector to take effective action, methane emissions must first be measured. And there is the rub: there is currently no feasible technology that can track all methane losses.

At the same time, regulation and penalties for emitters are set to increase. While commitments on tackling methane to date have been largely voluntary or tied to more general action on greenhouse gases, regulation is stepping up. The EU has just agreed new restrictions

on methane emissions for Europe's energy producers and on its imports of oil and gas from 2027. In the US, the EPA has proposed halting all venting and flaring and the government will introduce financial penalties for methane emissions from next year. Methane was high on the agenda at COP with actions being pledged to deliver on the goal to cut methane by at least 30 percent by 2030.

For oil and gas companies, the good news is that existing methane reduction technologies are relatively simple, often cost-effective and bring environmental benefits over a relatively brief time horizon, thanks to methane's shorter duration in the atmosphere than CO₂. The incentives can also be financial: reducing methane losses can increase gas sales and, in turn, revenues.

Methane emissions by source



In this paper for the GET Critical Agendas session, Wood Mackenzie and our partner, Ball Aerospace, propose to examine the scale of the oil and gas industry's methane challenge, how technological improvements can help and what companies and governments must do to resolve it.

The proposed paper will cover a range of key topics, including:

- Quantifying the scale of the oil and gas industry's methane emissions – from super-emitters to smaller-scale 'snowballers'
- The emissions measurement challenge, the role of satellites and the future of methane detection and monitoring
- Methane regulation - how the shift from voluntary reductions to country-specific regulatory demands for emissions reporting and reduction is changing the outlook and what COP28 will mean for oil and gas producers
- Recommendations for oil and gas companies and governments on the most cost-effective and impactful ways to tackle methane emissions

Tackling methane emissions is now among the oil and gas industry's top priorities. None of this will be achievable without improved detection and data accuracy. Better measurement makes for better regulation and more effective mitigation.

This paper will argue that there is no reason to delay. The COP 28 negotiations in Dubai proved a watershed for regulating methane emissions, with, existing, low-cost methods to curb emissions already offering effective solutions for smaller leaks even as the measurement of losses and tighter regulations advance.

Tracking and tackling methane have never looked more urgent.

Themes:

Methane emissions; oil and gas companies; COP28; satellite monitoring technology



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