

تحت رعاية صاحب السمو الشيخ محمد بن زايد آل نهيان، رئيس دولة الإمارات العربية المتحدة
Under the Patronage of H.H. Sheikh Mohamed Bin Zayed Al Nahyan, President of the UAE



ADIPEC Leadership Roundtable

2023 Output summary

Decarbonising. Faster. Together.

**From consensus to concrete action:
Next steps to realise near-zero methane
emissions from oil and gas by 2030**

Host Partner	In association with
The logo for FLOGISTIX, featuring the word 'FLOGISTIX' in a bold, black, sans-serif font inside a black hexagonal shape with a white border.	The logo for GMP (Oil And Gas Methane Partnership 2.0), featuring a blue globe icon on the left and the letters 'GMP' in a large, blue, sans-serif font on the right. Below 'GMP' is the text 'Oil And Gas Methane Partnership 2.0' in a smaller, blue, sans-serif font.

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ADIPEC Leadership Roundtables

Defining the global energy future

The ADIPEC Leadership Roundtables play a pivotal role in the ADIPEC Strategic Conference programme. These sessions are held at the prestigious Middle East Energy Club (MEEC) and bring together ministers, top industry executives and policymakers from over 100 countries to engage in meaningful discussions and seek viable solutions to today's most pressing climate and energy challenges.

As part of an exclusive network of dynamic global executives, participants in the ADIPEC Leadership Roundtables are at the forefront of the energy sector, driving change with their insights and solution-oriented outcomes.

These roundtable sessions foster open and impactful conversations among influential decision-makers who are shaping the responsible energy industry's future and implementing innovative business strategies to create a cleaner and more secure energy landscape.

With a limited attendance of 30 delegates per session, each 90-minute roundtable is expertly facilitated by an experienced moderator and hosted by an industry thought leader. This format ensures highly interactive discussions and provides fresh, objective perspectives.

Foreword

According to the International Energy Agency (IEA), each year 580 megatonnes of methane is emitted globally¹. Oil and gas operations are responsible for more than 80 megatonnes of all methane emissions².

For the oil and gas industry, a near zero reduction in methane emissions would eliminate more than 30 per cent of human-caused emissions by 2030, against 2020 levels, and deliver two-thirds of the Global Methane Pledge (GMP) target.

Reductions must be prioritised to keep global climate goals within reach and buy us precious time as we accelerate the broader energy transition. The industry is well placed to implement action with actors across the sector already working to cut emissions as methane enters the mainstream. It is time, however, to up the stakes and collectively deal with the task at hand by delivering change at the scale and speed demanded of us.

Policy and regulation momentum including and permitting adoption is gaining ground, and while many countries around the world do not currently have methane emissions policies in place, this should not be an excuse not to act. The IEA has highlighted the economic argument for emissions abatement solutions: around US\$100 billion in investment is required to 2030 to deploy all methane abatement measures in the oil and gas sector. This is less than 3% of the net income received by the oil and gas industry in 2022.

Our position is: Decarbonise of the oil and gas industry through technology and innovation.



Hosted by:
Mims Talton
President and CEO
Flogistix



¹ This includes emissions from natural sources (around 40% of the total) and from human activity (around 60% of the total), also known as anthropogenic emissions.

² The largest anthropogenic source of methane emissions is agriculture, responsible for around one quarter of emissions, closely followed by the energy sector, which includes emissions from coal, oil, natural gas and biofuels

From consensus to concrete action: Next steps to realise near zero methane emissions from oil and gas by 2030

Collaborative action by key energy industry stakeholders needs to be an agenda priority in order to comprehensively address the methane emissions challenge. Accurate detection, measurement, source identification and reporting, alongside cost effective deployment of effective methane abatement technologies and regulatory solutions, are essential for accelerated abatement.

Collective progress made thus far by the oil and gas industry globally is insufficient and criticism has been levelled by some at the length of time it's taken for technology to be adopted, with a strong call to action for scope one and two emissions capture.

Stakeholders already active in the space have expressed frustration that not everyone is on the same page, spotlighting a duty to deliver a clean barrel of oil on Scope 1 and Scope 2 as the absolute minimum. Practical decarbonisation solutions that can be scaled do exist and can be immediately applied without the need to wait for new technology to become available.

By leveraging technology, data, improved operational practices, industry actors and finance under a spirit of shared responsibility this will drive further innovation, ensuring access to funding and alignment of policy efforts; however, this requires a unified approach that transcends both organisational boundaries and national borders.

The oil and gas industry is already equipped, or has access to, the technologies and know-how required to detect, measure, identify sources of emissions and deploy the correct abatement measures. For example, deployment of next-generation satellite detection and measurement technology offers improved resolution and wider coverage.

Access to quality data and measurements is critical. This is coupled with a need for more transparency and improved knowledge sharing across this hugely diverse industry in order to drive coordinated action and accelerate progress.



Co-hosted by:

Giulia Ferrini

OGMP 2.0 Programme Manager
OGMP 2.0



Moderated by:

Samuele Bellani

Managing Director & Partner
Boston Consulting Group



Martha Vasquez

Partner and Association Director
Boston Consulting Group

ROUNDTABLE THEMES

- How will companies translate industry-wide climate ambition into credible emission reductions?
- What are the barriers to enabling methane emissions reduction solutions?
- Are we doing enough, and do we need to help others to do more?
- What are the next steps to accelerating tangible and effective progress on methane?

Moving the needle, but more work ahead

At the 2022 ADIPEC methane roundtable, the push was to get members to join the Oil and Gas Methane Partnership (OGMP) 2.0 and the Aiming for Zero Methane Emissions Initiative. Fast forward to Q4 2023 and over 120 companies have joined the partnership, representing 35 per cent of production, with 20 producers committed to realising near-zero methane from operational assets. This is progress, but it's not enough. The industry as a whole has to adopt a zero tolerance mindset.

The key ingredients for methane emissions solutions largely exist, and oil and gas companies are putting clear pathways to near or zero methane emissions in place. This is yielding positive results around the globe, both in terms of large-scale strategic commitment and through the integration of simple, standardised solutions.

In the UAE, for example, ADNOC is piloting various leak detection and repair technologies including satellite imaging, aerial drones and robotic inspectors equipped with advanced imaging sensors and laser dispersion spectroscopy, to prioritise repair response time. It also has continuous monitoring system capabilities with real-time data reports and is simultaneously focused on employee engagement and awareness around methane emissions and its operations-wide zero flaring policy.

In Canada, where anti-flaring rules have been in place for around 15 years and emissions reporting for a decade, the government has initiated a number of new programmes funded through carbon tax. The country was the first North American nation to launch a carbon trading system and its CAN\$750 million Emissions Reduction Fund is anchored by a compelling methane focus.

This has cascaded down to each province with Alberta, for example, establishing a methane performance database that could also be rolled out nationally. Solutions funding support has seen 20 service providers partner on 103 emissions reduction projects with 49 producers, resulting in carbon reduction of 16.6 megatonnes. This demonstrates the value of creative partnerships with government and private sector stakeholders through the provision of financing and support structures.



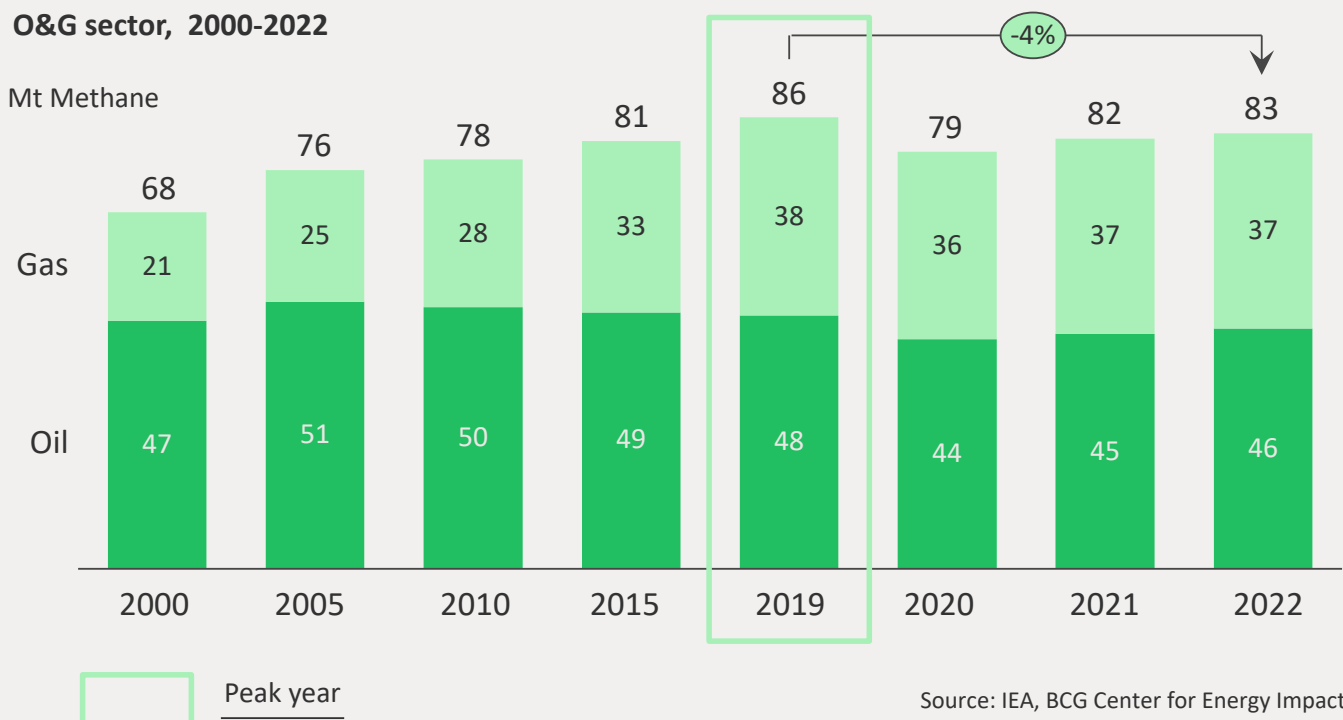
Australia's Queensland Gas Company reported a halving in methane emissions between 2019 and 2021 with coal seam methane converted back to LNG while a UK North Sea legacy platform replaced the methane purge process step with a nitrogen unit, effectively eliminating 700 tonnes per annum.

These, and other examples, illustrate that the pathway between credible data and collective understanding to sensible action is achievable.



O&G methane emissions appear to have peaked, an important step in reaching total peak emissions

Global methane emissions from the O&G sector, 2000-2022





Awareness and accountability from the top down

Perceived oversimplification of the methane emissions challenge has been red flagged.

This begs the question: Do we need a regulatory or incentivisation approach to drive change? There is no single solution, and there has to be voluntary engagement and action; particularly in markets where policy and regulation lack. Closer collaboration between industry and technology providers is critical yet operator pushback on data confidentiality often presents an additional challenge.

Mapping needs to be prioritised at the very top with conscious effort made to cascade this down through the company hierarchy, as well as to boards and investors, who have also not necessarily been looped in on the urgency of the methane emissions challenge. This requires hard-hitting awareness and education campaigns that home in on the importance of the problem and the solution.

Forums like the Association of Southeast Asian Nations (ASEAN) Energy Sector Methane Roundtable are key to awareness raising and programme actioning. A success emerging from this particular roundtable was the ASEAN Energy Sector Methane Leadership Programme launched in June 2023, which unites energy operators, governmental agencies, and international organisations in collaboration on various methane abatement flagship projects. This presents a unique opportunity to bring together leading industry minds to discuss major barriers and compare technology solutions, systems and processes.

The oil and gas industry needs to assume a changemaking leadership role, to overcome historic over-reliance on governments to drive emissions reductions programmes from the equation. Efforts should be redirected into collaborations with innovative, forward-thinking private sector players, initiated by developed nations with access to key resources that have the power to drive market momentum.

Multi-tiered tech package to cover all bases

The relative availability of detection and abatement technology does not correlate to fit-for-purpose solutions. There can be a disconnect between technology providers and operators in understanding the best approach, solutions and value-add for specific areas.

Technology is also fallible with issues of data accuracy muddying the discussion. Satellite vision, for example, can be impeded by clouds and bad weather while it is not economically viable to site sensors across a large-stream oil or gas field. A multi-tiered model for near real-time monitoring is the optimal solution, with investment into a package of technologies from satellites and handheld field devices to drones and sensors.

Innovation remains a fundamental component to address the scalability of meaningful tech deployment and also to sustain action post-2030.

A carrot or stick approach to near-zero?

Increased funding to advance technological innovation, along with incentivisation, is critical to drive near-zero methane emissions compliance, although available solutions are among the most cost-viable in the emissions reduction universe.

Incentivisation to adopt a zero-waste approach, whereby operators are classified as 'zero-waste producers', could be further explored. Instead of talking about eliminating emissions, we need to reframe the conversation to focus on the wasting of natural gas, a precious resource that could be put to better use elsewhere or transformed into a tradable commodity such as methanol or electricity.

This speaks to the challenge of the methane emissions conversion and commercialisation. The commercial viability of gas otherwise flared, for example, is a hotly debated topic with carbon taxes viewed as sanctions-type leverage in some quarters. Commitment – and improved funding – must come from government if commercialisation is the goal.



Oil and gas companies face the decision of choosing to opt for sustainable operations or commercial opportunity. Is it more cost-effective to eliminate rather than sell? For new build plants and fields, the idea of a methane leakage warranty on valves and other equipment prone to leakage could be considered.

If commercialising converted emissions is the way forward, one idea mooted is to establish a global fund.

At the same time, would certification of end products like LNG add further commercial value and help distinguish the positive performers in terms of delivering a quality product? Converting the three per cent of methane emissions from upstream production into LNG could help fund abatement of shipping greenhouse gas emissions.

Markets also need to exercise their buying power and prioritise lower emission intensity gas. This requires the introduction of private industry initiatives to drive down emissions from gas, certified gas, and globally differentiated gas and is something that global policymakers are currently collaborating on. To get it right, the process needs industry data to support supply chain analysis and modelling. If credible data can be provided to buyers, then this has the potential to create a powerful mechanism and incentives that will benefit all stakeholders and encourage greater collaboration. Not all national oil companies and producers will have the capabilities, funding or in-house expertise to drive this and we need creative solutions to collectively address these hurdles.

There similarly has to be industry-wide willingness to adopt a commercial emissions transformation strategy and again, this requires investment into artificial intelligence (AI) and analytics-driven monitoring technologies to support environmental compliance requirements.

ROUNDTABLE TAKEAWAYS

- A zero-tolerance mindset must be adopted across the industry, spearheaded from the top down and supported by awareness and education, to reinforce the importance of achieving near-zero methane emissions while also addressing CO₂ emissions.
- Regulation is needed and regulators must work hand-in-hand with the relevant stakeholders to understand what is required to drive achievable progress. At the same time, there needs to be recognition that not all countries will have clear policies in place and will require external global industry-wide support to encourage adoption.
- Closer collaboration and information sharing between technology providers and the industry is critical, with the overarching focus on ensuring operational excellence.
- Boards and investors have a key role to play in incentivising leadership teams to perform better and accelerate action.



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