

GAS

Cutting methane emissions

New research published by the Energy Institute highlights attitudes in the oil and gas sector towards future opportunities and challenges for natural gas, in particular the imperatives of global emissions targets.

Entitled *The future of gas – The role of natural gas in the future energy system*, the report covers the results of a survey of global oil and gas professionals alongside commentary from industry stakeholders such as Shell, BP, the Sustainable Gas Institute and the International Energy Agency (IEA).

Most respondents are confident that natural gas will play a significant role in the energy mix through to 2050. Around half of respondents expect decarbonised natural gas (using carbon capture and storage (CCS)) to play a significant long-term role for power generation and industrial use. Respondents expect the biggest change within transport. Over half anticipate that gas will provide a significant proportion of primary transport energy, in contrast to the relatively minor role it plays today.

For heat, the largest proportion (47%) believe unabated natural gas will dominate supply. If this plays out, it could undermine the net-zero emissions required by 2050 to achieve the 2°C target set out by the Paris Agreement. Although natural gas contributes to reduction of

climate change impacts when it displaces coal in power generation and heating, emitting about 40% less CO₂, it is still a significant source of emissions.

Oil and gas professionals take a largely positive and pro-active view on the potential to tackle carbon emissions from combustion. They believe CCS offers the greatest potential of any technology to reduce emissions in the natural gas lifecycle, over and above reducing methane leakage, displacing natural gas with green gases or low carbon electricity. Nine out of 10 believe industry has a role to play in developing and implementing CCS. However, of those working in organisations that could have some involvement with CCS, only 55% are currently active in advancing the technology.

The enthusiasm around CCS is only one side of the emissions reduction story. Methane, the primary component of natural gas, is a greenhouse gas 28–36 times more potent than CO₂ over a period of 100 years. Many professionals underestimate the significance of fugitive methane emissions during the production of natural gas, and the possibilities for reducing them cost-effectively.

The International Energy Agency (IEA), in its *World energy outlook 2017*, has assessed that much more could be done technically during production and distribution of natural gas to reduce leakage of methane. The IEA suggests it is possible to avoid 75% of current methane emissions in the natural gas supply chain, and 40–50% of these emissions could be avoided at no net cost. Two-thirds of survey respondents expressed surprise at the extent of the problem and the potential within their own operations.

On the agenda

Gas was very much on the agenda at this year's International Petroleum (IP) Week. Though oil has traditionally dominated the conference schedule, both gas and the imperatives of decarbonisation were discussed across all three days. During the gas conference on Day 2, the 'bridge versus destination fuel' debate continued, with an audience member commenting that 'if gas was a bridge fuel, it was the longest bridge he'd ever seen.'

Another audience member put an important question to the panel during the gas conference. 'In light of the threat methane poses to the long-term role of gas, and the lack of understanding of the issue among industry professionals identified in the EI's survey, what is being done to embed awareness of methane leakage in the culture of their organisations?' Clare Harris, Executive Vice President Integrated Gas Venture Development, Shell International Exploration and Production, said it was shocking how far the industry still has to go to build awareness about this issue, but that engineering problems such as methane leakage were well within the industry's ability.

Tor Martin Anfinnsen, Senior Vice President, Statoil, agreed that methane leakage could be engineered out, and pointed to the economic arguments for doing so: methane that doesn't leak can be sold. He suggested a sufficiently high carbon tax would help to incentivise action. The panel ended with agreement that the gas industry could do more to communicate the potential of gas to the public and policymakers. Anfinnsen said: 'Industry needs to define itself as part of the solution to get invited to the table and begin influencing policy.'

Call for action

Speaking at the IP Week dinner, EI President Malcolm Brinded CBE FREng FEI, said: 'The EI report's findings are a call for action across the industry. Just as health and safety are embedded in operating cultures, tackling climate change in all ways needs to become equally – and profoundly – part of business-as-usual. It must enter all our DNA.'

Industry cooperation through organisations like the Oil and Gas Climate Initiative and the Climate and Clean Air Coalition's Oil and Gas Methane Partnership (hosted by UN Environment) demonstrate that cultural change is beginning. However, sceptics will point to results like those of the EI's survey as proof that, greenwash aside, the oil and gas industry is not yet doing all that it should to be part of the solution. But the conversation continues, and awareness could be the first step towards action and cultural change. ●

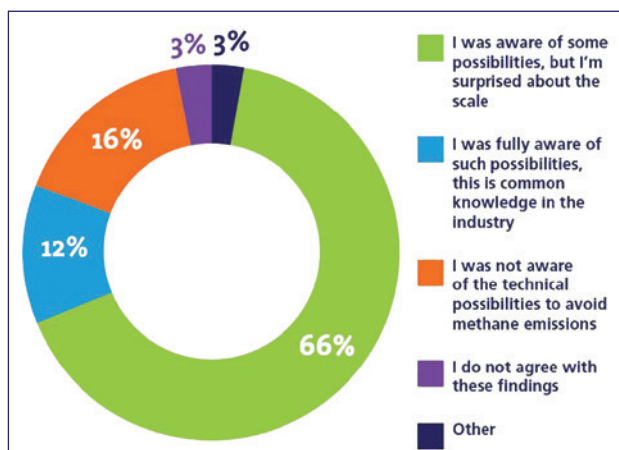


Figure 1: Which of the following statements most accurately describes your response to the IEA's findings on methane emissions in the natural gas supply chain?

Source: *The future of gas – The role of natural gas in the future energy system*, Energy Institute, 2018