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# The energy transition in oil and gas

## December roundup

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Hello readers,

Happy New Year and welcome to our first newsletter of 2025, rounding up the biggest stories from December.

2025 looks set to be an interesting year for the oil and gas industry - on the one hand Trump's promise to 'drill, baby, drill' and Exxon's plan to increase production - on the other flatlining demand and huge spare OPEC capacity. With Wall Street analysts expecting [oil prices to be lower this year than last](#), it seems unlikely we'll see a huge surge in new production - beyond what is already coming. Meanwhile, BP and Shell are retreating from their energy transition plans back to their core focus on oil and gas - which may please shareholders in the short term, but can't last forever as the energy transition continues.

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Thanks,  
Murray

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Stat of the month:

18%

*ExxonMobil's planned increase in oil and gas production by 2030.*



## Oil and gas in the transition

At the start of December, countries [failed to reach an agreement in negotiations over a plastics treaty](#), with a proposed cap on total plastic production turning out to be a crucial sticking point in the talks. The talks were hugely important to the oil and gas industry, with [plastics accounting for 15% of global oil demand](#) and as an [expected area of growth](#) - in comparison to road transport where demand is set to fall. Given its importance to the industry, it was unsurprising to see [Saudi Arabia leading a coalition of petrostates](#) in opposing a cap on plastics production or much beyond voluntary measures.

As if to reiterate just how much the world can't rely on voluntary measures, days after the summit ended [Coca-Cola announced it was abandoning its previous goals to collect and recycle a bottle or can for each one sold](#), and instead only aims to "help ensure the collection" of 70-75% of the bottles and cans it sells. For more details on last year's plastics talks, and to sign up for updates on the next round of negotiations taking place this year - see [GSCC's plastics newsletter](#).

The US Department of Energy released its [long-awaited report](#) on the impacts of LNG exports, finding that increased LNG exports could [raise domestic gas costs, increase global greenhouse gas emissions](#) and [benefit China](#). The report found that unconstrained LNG exports could push up wholesale gas prices by nearly a third by 2050, but that consumer bills would only rise by around 3%. Additional [US LNG exports would displace more renewables than coal](#) globally, according to the study, contradicting [industry claims that LNG reduces global emissions by replacing coal](#). Decisions about the future permitting of LNG export terminals will be taken by the incoming Trump administration which won't be bound by the findings of the report. However, the report is likely to be used as the basis for legal challenges against the approval of any new LNG terminals.

While the future of US LNG remains uncertain, one of Biden's major oil and gas policies - tackling methane leakage - appears to be working. The administration introduced new rules requiring drillers to find and fix leaks, and introduced new fees for excessive releases of methane. According to a study by S&P, [methane emissions in the Permian basin dropped by 26% in 2023](#). While that's progress, research found that methane emissions from US oil and gas facilities were four times the levels officially reported to the government, so there's still a long way to go.



## Energy transition strategies

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The Financial Times has a persuasive analysis of [the challenge facing BP and Shell - that they are facing a “valley of death”](#) between shareholders that want the companies to be focused on oil and gas, and those that want to invest in a clean energy company. The theory goes that some investors want to put their money into oil and gas, and don't want more money going into renewables that deliver lower returns. For those shareholders, accelerating the companies' energy transition makes them less attractive and drives down their share prices. But for other investors who are looking to invest in clean energy, BP and Shell are still too focused on oil and gas to make it into their portfolios. So the companies face a gap between the two groups that's tough to cross - though TotalEnergies seems to be managing it. In the face of this challenge, BP and Shell are retreating to the former set of investors and doubling down on oil and gas.

[Exxon increased its planned capital expenditure and is aiming to increase oil and gas production by nearly a fifth by the end of the decade.](#) The aim to increase production is in stark contrast to other firms in the sector that are reducing their planned investments, such as Chevron. Notably, for a company known for its focus on oil and gas and scepticism about the energy transition, Exxon plans to spend up to USD 30 billion on 'low carbon' technologies between 2025 and 2030, largely on CCS, hydrogen and lithium mining.

Exxon's decision to increase production is all the more remarkable given the state of oil and gas markets, with even the traditionally bullish [OPEC once again cutting its forecasts for future oil demand](#). The group has had to cut its forecasts for 2024 oil demand consecutively five times in the face of weak demand, particularly from China. OPEC has also delayed releasing over 2 million barrels a day of spare production capacity to the market, given ongoing low demand and low prices.

## Clean energy investments

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[BP announced that it will merge its offshore wind business with JERA](#), Japan's largest power generation company, to produce a new joint venture that would be the world's fourth largest player in the industry. The move has been seen as a major retreat by BP, [cutting its planned capital expenditure on offshore wind by as much as USD 5 billion](#) and potentially packaging up its wind business for a future sale. Shell has gone even further, stating that [it will not undertake any new offshore wind projects](#), with Shell's CEO Wael Sawan saying that "we do not see ourselves as being advantaged in renewable generation". [TotalEnergies has continued to buck this trend, and is instead increasing its renewables investments](#) - this time by buying German renewable developer VSB Group for EUR 1.57 billion.

In 2022, Shell started shipping 'carbon neutral LNG', with huge purchases of carbon offsets claimed to eliminate the emissions from the LNG. However a new investigation revealed that [some of the offsets Shell purchased as part of the scheme have since failed verification](#), and the emissions reduction projects may have never happened at all.



Ekaterina Lagunova, Adobe

## Hydrogen & ammonia

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Green hydrogen - made from renewable energy - is now forecast to be far more expensive than previously expected. [BloombergNEF has more than tripled its forecast for green hydrogen costs in 2050](#), to levels above the USD 1 / kg that US President Joe Biden aimed to achieve by 2030. The higher price forecasts now means that green hydrogen would only be cost competitive with grey hydrogen - made from natural gas with carbon emissions released into the atmosphere - in China and India, and not until 2040. With the underlying economics no longer in its favour, green hydrogen will need even more government support to be able to replace grey hydrogen - never mind take on new roles in the clean energy economy.



## Carbon capture and storage (CCS)

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Japan has long sought to use CCS to reduce its emissions but has faced the challenge of lacking suitable sites to store carbon, such as old oil and gas fields. [The government is now proposing an innovative solution - to drill purpose built underground storage facilities for domestically captured carbon](#). The scale of the ambition is enormous - with Japan aiming to store 20% of the country's emissions by 2050. The economics of CCS have always been challenging, so adding in the costs of drilling storage sites could prove to be prohibitive.

[The UK government could face paying compensation of up to GBP 6 billion to the developers of a new gas-CCS power station](#), if the project is blocked by legal challenges. The secret agreement, which appears to have been central to the financial go-ahead for the UK's first CCS power station, was seen by the Financial Times. The project is facing a legal challenge over its carbon emissions and the government's decision-making process in assessing its contribution to decarbonisation.

Recent academic research shows the scale of the challenge in ensuring that the storage part of CCS is effective in keeping the global climate stable. [The study found that carbon dioxide needs to be effectively stored for at least 1,000 years](#) in order to be effective in neutralising fossil fuel emissions. Given the risks of leakage or failure, the results raise the question of who will be monitoring and repairing these undersea storage facilities for the next millennium.

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In order to help gauge how oil and gas companies are positioning themselves in the energy transition, this newsletter specifically focuses on how they are moving into renewables and clean energy. To offer up-to-date analysis, it uses insight from media sources and subscription-based databases, like BloombergNEF.

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