ALAMY

Gas in the time of corona

EU's ambitious decarbonisation targets prompt expectations of a declining role of natural gas in Europe from 2030. But the political strive for a green future ignoring the economic reality and pressures of the pandemic may undermine its own goals by disincentivising investment into projects that can help sustainable energy transition

The European Parliament environmental committee (ENVI) in September voted to end all EU subsidies to fossil fuels by 2025, tighten the 2030 carbon emission target, and be climate neutral by 2050.

The full parliament will vote on the committee's proposal during the 5-8 October plenary session, before negotiations with member states can start.

If this is enshrined into law, countries where fossil fuels meet the bulk of energy demand would be impacted the most, as their current phase-out plans may no longer be enough to meet the new carbon cuts.

ENVI wants to reduce carbon emissions by 60% by 2030 compared to 1990 levels on both a union-wide level and member states individually. In 2014, the EU had adopted a target of at least 40%. In March 2020, the European Commission proposed a climate law, which would include a 2030 reduction target of at least 50% and towards 55% as well as climate neutrality by 2050 at EU-wide level.

The European Commission wants to use the coronavirus pandemic as an opportunity to accelerate the energy transition with more ambitious targets for CO2 emission cuts. This brought forward the time when major utilities must rethink their strategy to best position themselves in the energy transition, reduce possible stranded assets and focus on projects with a safe return on investment while demand for natural gas is still important.

Many recently wrote down the value of their reserves, because they are no longer sure to ever produce what they have on their balance sheet, according to London-based energy expert David Cox.

"Just looking forward now, most oil and gas companies are thinking what is going to be the long-term price of the commodities. That means risky projects, those that require more investment and need a quite good rate of return, probably are going to be shelved maybe forever who knows," Cox said.

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For example, BP's new strategy focuses on investments in resilient hydrocarbons assets to maximise value and cash flow.

For Total, gas will still represent 40% of its mix between now and 2050, and by 2050 about one fifth of this will be biogas and blue and green hydrogen, while electricity activities will grow to represent 40% of its portfolio in 2050 from 5% in 2019, Total senior vice president for climate and strategy Mathieu Soulas said in mid-July.

"While we mostly invest in solar and wind generation, we also need gas-fired power plants, to address the mismatch between renewable supply and actual demand, we'll get more [gas plants] in Spain with the EDP acquisition," Soulas added.

Other energy giants are accelerating the diversification of their portfolios.

French incumbent Engie aims to reduce its exposure to its French gas asset, reinvest in other activities and do a rebalancing between gas and electricity assets. That would include ceding a further stake in the French

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gas transmission system operator (TSO) GRTgaz where Engie holds a 75% stake but without giving up control. "We want to keep a consolidation of GRTgaz so it limits the flexibility we have there, €8bn of divestment is the floor in terms of what we want to achieve in divestment. We don't have any plans today to reduce our stake in GRDF," Engie board chairman Jean-Pierre Clamadieu said in late July, when presenting the company's half-year results. He added that the company plans to build a strong platform to develop renewables in countries like Latin America, USA, France and other countries in Europe, as well as reduce sell-down activities. "We are willing to keep more renewables on the balance sheet," Clamadieu said. "We see a number of opportunities linked to the development of green gases," he added.

BP announced more drastic changes to diversify its portfolio and improve the resilience of its cash flow by increasing investment in non-oil and gas. By 2025 more than 20% of BP's capital will go in what the company calls transition businesses.

"We will focus and reduce our oil, gas and refining portfolio," the company said in early August when announcing its new strategy.

By 2030 and compared to 2019, BP plans to increase its annual investment in renewables, bioenergy, hydrogen and CCUS by 10 times to €5bn/year, increase its renewables capacity by 20 times to 50GW, and cut its oil and gas production by at least 40%.

The crisis also pushed Austrian utility OMV to rethink its strategy. The company recently revised its oil price assumptions and now foresees a €600mn loss in the value of its assets. Based on this forecast, the company confirmed that the pace of the energy transition will accelerate the need to redefine its strategy.

"We will reposition our portfolio towards products, which are also essential in a widely decarbonized world," OMV CFO Reinhard Florey said. Already in its half-year results, OMV announced €2bn divestments in gas share by the end of 2021.

Shell, likewise, revised its margin outlook and announced a $16.9bn loss in the value of its oil and gas assets in the second quarter, including $8.2bn in integrated gas activities mainly in Australia, $4.7bn in upstream activities mostly in offshore and shale assets in Brazil, North America and Europe, and $4bn in oil refining mostly in North America and Europe.

Total wrote down $8.1bn in the second quarter, mainly on Canadian oil sands assets and LNG assets in Australia, both being giant projects with high construction costs.

Total also reviewed its oil assets that can be qualified as "stranded", meaning with reserves beyond 20 years and high production costs, overall reserves of which may therefore not be produced by 2050. The only projects identified in this category are the Canadian oil sands projects Fort Hills and Surmont.

Legislative push

Asking both the EU and individual member states to emit no more carbon than they can absorb will likely increase pressure on countries that heavily rely on fossil fuels for their electricity generation such as The Netherlands, Germany and Poland.

If the European Council and Parliament approve the Commission's new targets for the transition, this would accelerate the phase-out of the most polluting fossil fuels like oil, coal, lignite and peat, and increase scrutiny over the gas industry.

While EU institutions recognise gas could have a role in the transition and help accelerate the phase-out of coal, they request it to demonstrate its sustainability, compatibility with carbon neutrality and synergy with renewables. In line with this, EU laws are being changed to tighten the criteria for energy projects to be eligible for EU funding, indicating that gas will find it harder to receive Brussels' help and approval.

The taxonomy regulation, in force since mid-July, tightens selection criteria for strategic gas projects receiving EU funding and will likely reduce the number of eligible projects in the future. The legislation creates the first classification system for sustainable economic activities to help drive private investments in green and sustainable projects. According to this legislation, only production of biogas and retrofit of gas transmission and distribution networks meet all of the criteria. Meanwhile, activities linked to transport and storage of any fossil fuel, including gaseous and liquid fossil fuels, do not contribute to the EU climate objectives and so should not be considered sustainable under the taxonomy rules.

In mid-September, the European Parliament asked that gas projects in regions heavily reliant on coal, lignite or oil be eligible for EU funding from the EU Just Transition Fund (JTF) as long as they meet certain sustainability conditions and comply with the taxonomy legislation. The fund will help mitigate the socio-economic repercussions of the transition to a carbon-neutral EU on the bloc's most vulnerable regions. Negotiations on the budget allocated to this fund will start as soon as possible the parliament then said.

The TEN-E regulation is another key piece of legislation and to be revised by the end of the year to be more in line with the 2050 climate neutrality objective. This regulation sets out the guidelines for the selection of EU strategic energy projects, also known as projects of common interest (PCIs), eligible for EU funding. In June, the Association for the Cooperation of European Regulators (ACER) and the Council of European Energy Regulators (CEER) called for the new TEN-E regulation to be based on the taxonomy regulation and focus on the projects' ability to reduce CO2 emissions, support intermittent renewable generation and enhance the deployment of renewable gas.

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Banks' approach

A lot of EU banks are turning to renewables projects rather than gas and hydrogen.

The European Investment Bank will stop lending to fossil fuel projects from the end of next year. Meanwhile, the European Bank for Reconstruction and Development (EBRD) will continue to focus on supporting commercially viable mainstream technologies.

"What we do with our capital is look to see where we can best achieve transition with it. Most of the time that tends to be renewables because renewables still is a growing industry and still is a minority player when it needs to become a majority player," Harry Boyd-Carpenter, head of Energy EMEA within the EBRD's Sustainable Infrastructure Group, told ICIS in early May.

But there may be instances where a gas project is a really important part of a low carbon transition and then the EBRD will consider supporting it.

"We have a whole series of internal checks to make sure we avoid the stranded asset or the carbon lock-in risks – to make sure that the project is really accelerating, not obstructing, decarbonisation. We are very cautious but I think it is possible a few projects will pass those tests and be part of the low-carbon transition," Boyd-Carpenter added.

The European Central Bank will play its role in supporting climate change as an objective of the EU, without prejudice to its primary mandate to preserve price stability in the euro area, the bank told ICIS in early May. For example, following the principle of market neutrality, the Eurosystem purchases green bonds under the asset purchase programme and under the pandemic emergency purchase programme.

Other European countries

The Energy Community Secretariat said its contracting parties, while sharing similar ambitions as EU member states, are starting from much lower economic indicators.

"We support all possible solutions to make the energy sectors less black and brown, if you wish, by both promoting renewables and the gas related projects on the agenda where appropriate," the secretariat told ICIS in early May.

For contracting parties like Serbia, Bosnia and Herzegovina and North Macedonia, which have gas infrastructure and a high share of coal in their electricity production,

natural gas could be an obvious, rapid and very effective solution in the energy transition, the secretariat said.

For those like Kosovo, Montenegro, Albania without gas infrastructure in place, it would be very difficult to expect natural gas to play an important role in the energy transition. It would be probably more realistic to imagine a bigger role of renewables for heat and electricity production, as well as in transport, than to invest in gas infrastructure which would have only a limited, transitional purpose, the secretariat added.

But for contracting parties with a well-developed gas infrastructure, like Ukraine, gas will continue to play an important role in the energy transition – with declining demand for heat production and possible increasing demand in other sectors (such as industry and transport) to employ existing gas infrastructure capacity, the secretariat said.

Ukraine's extensive gas network comprises 38,000km of pipes and 31 billion cubic meters (bcm) of storage, Europe's largest storage capacity. Gas was the second most important fuel in the country's generation mix in 2018, providing 28% of Ukrainian electricity.

Conventional natural gas still plays an important role in Europe's economies and it will still do so in an economic recovery from the current crisis, a regulatory source close to the matter told ICIS. The source added that new investment in natural gas assets should be checked to ensure consistency with decarbonisation targets, they added, confirming the general push for enhanced scrutiny over gas projects.

Role of gas in Europe

While experts are confident that will stay in demand in Europe in the next 10-20 years, they believe its role is bound to drop at some point between 2030 and 2050 if the EU is committed to carbon neutrality by 2050.

Demand for methane has to go into decline at some point in the 2030s, according to James Henderson, director of the natural gas research programme at Oxford Institute for Energy Studies.

"It would need to go into decline and, if demand is now around 500bcm, by 2050 it would have to be near 300bcm with a large chunk of that going into hydrogen, for us to have any chance of meeting our target," Henderson added.

Cox estimated that it is difficult to see the complete replacement of natural gas quicker than 20 years. Other industry experts see a longer-term future for natural gas in Europe. Wolfgang Peters, managing director of The Gas Value Chain Company, said the role of gas is not limited to the medium-term as the EU cannot afford to write off gas.

"It is clear though that fossil gas will over time converge into non-fossil gaseous molecules," Peters said.

He added big oil companies have diversified their business out of oil to some extent and shifted more into gas, while their budgets the RES portion is miniscule.

According to Cox, gas also has a place in power generation, in the medium term, and even in the longer term if it become possible for carbon capture and storage (CCS) work economically.Gas will certainly keep its place in the merit order in large-scale generation; however, the carbon price will affect its place, he added.

Pandemic impact

The coronavirus crisis and its aftermath might force the European Commission to rethink its strategy for decarbonising the bloc taking into account the cost of transition, which could involve reconsidering the role of gas.

The commission could be more and more supportive of hybrid electrification -- based on electricity and gas -- rather than full electrification, which is significantly more expensive, according to Oxford Institute for Energy Studies researcher Katja Yafimava. "As is clear from its Hydrogen Strategy, published in July 2020, the commission is very supportive of renewable hydrogen (produced from renewable electricity). But renewable hydrogen can only be relatively low scale well into the 2030s, which means in the transition period large scale hydrogen will have to come from low carbon hydrogen (which includes fossil based hydrogen with carbon capture) – if large scale projects are developed in the 2020s - which is also less expensive," Yafimava said. "For hydrogen to become an important part of the EU energy system decarbonisation, both renewable and low carbon hydrogen will be needed," she added.

The commission's hydrogen strategy says that other forms of low-carbon hydrogen are needed in the short and medium term, mainly "to rapidly reduce emissions from existing hydrogen production and support the parallel and future uptake of renewable hydrogen".

The commission's hydrogen strategy published in early July gives indications on the trajectory the decarbonisation of the gas sector may take as renewable (green) hydrogen is the main candidate fuel to replace natural gas in pipelines. "In the short and medium term, however, other forms of low-carbon hydrogen are needed, primarily to rapidly reduce emissions from existing hydrogen production and support the parallel and future uptake of renewable hydrogen," the strategy says.

But this approach is unlikely to encourage any investment in blue hydrogen if investors have no certainty on a return on investment, according to Alex Barnes, director at consultancy Alex Barnes & Associates. "Companies are more likely to invest in renewable hydrogen because there is a clear preference by the commission. Companies may be reluctant to invest in low carbon (blue) hydrogen if the commission expects investment in it to be less than 4% of that in renewable hydrogen," Barnes also said.

If the coronavirus crisis delays investments in renewable generation, there won't be enough extra capacity to supply the electrolysers for renewable hydrogen, as 36% of EU generation was still gas and coal in 2019, Barnes said. There is a risk the 2030 CO2 target could be missed as a result, he added.

Indeed, there has been little progress towards scaling-up of either green or blue hydrogen production and creating a market for this fuel similar to the existing natural gas market. The crisis could further delay the investments needed to develop a market for hydrogen, which could negatively impact decarbonisation targets.

The drop in carbon prices during lockdowns may be one of the causes behind the cut in renewables investment. The benchmark contract for these carbon allowance certificates (December '20) traded at a daily average of €24.3/tCO2e in 2020 before falling to €15.3/tCO2e on 18 March when lockdowns started in several member states, and recovered above €24.3/tCO2e in mid-June, after lockdown restrictions started to ease. This meant that for four months it cost less to pollute and so the incentive to invest in greener sources of energy decreased too.

Limiting the role of the currently cheapest type of hydrogen - blue - to the medium term only may further hamper the development of the hydrogen market. A limited timeline for return on investments will likely desincentivise potential investors.

OMV CEO Rainer Seele said at a news conference announcing the first half of 2020 results: "My thinking is focused on to what extent the hydrogen market will actually develop. If you want to invest here then the market needs to be developed in a more convincing manner." No breakthrough is likely in the near future for this technology, but OMV expects a significant improvement in economic feasibility as the result of the development of hydrogen production methods with lower or neutral carbon emissions and not tied to any single technology, the company told ICIS in late August.

More convincing will also be needed for the development of green hydrogen. As underlined by Henderson, the rational use of renewable electricity is not to prioritise hydrogen, it is to put it into the grid. "You are not going to incentivise someone to build an electrolyser if it only runs 20 or 30% of the time, you cannot run an electrolyser just on excess renewable energy," he said.

If hydrogen is going to be taken seriously then blue hydrogen has a longer-term future than 15-20 years, according Henderson. If EU policy makers are pragmatic and keep eyes on the goals, and not the technologies to achieve them, then blue hydrogen has a chance alongside stationary storage, according to Michael Grossmann, managing partner at Tumbleweed Partners, a Paris-based energy consultancy.

By insisting that only green hydrogen is acceptable, ideology is standing in the way of making a forceful push forward to achieving cleaner energy future. **Diane Pallardy**