

## Hydrogen for power needs CO2 at €200

EU carbon prices would need to rise to EUR 200-250/t to make burning clean hydrogen in gas-fired power plants viable today, said Uniper CEO Andreas Schierenbeck this week

Most of Uniper's 9 GW of gas plants in Europe were already technically capable of using hydrogen as part of their fuel mix but it was "prohibitively expensive", he told the Clean Energy Summit webinar.

The current cost of CO2 meant clean low-carbon or renewable hydrogen would first be used in hard-to-abate industrial sectors such as chemicals and produced close to the point of demand with minimal transport required, said Schierenbeck.

The European Parliament's energy committee also supported this view



in a non-binding opinion adopted late Monday, which said clean hydrogen demand should focus on industry, aviation, maritime and heavy-duty transport.

"We want to start with blue hydrogen so we can decarbonise huge (hard-to-abate) industrial sectors quickly, but it's a bridging technology until enough renewable hydrogen is available," German centre-left MEP Jens Geier told the webinar.

Blue hydrogen is made from natural gas

with carbon capture and storage, while renewable or green hydrogen is made by using renewable power to electrolyse water.

Switching steel production to clean hydrogen could cut emissions by two-thirds, said Geier, who led the energy committee's debate on the opinion.

The committee's opinion called on the European Commission to develop an EU strategy for clean steel, with an "appropriate focus" on using renewable hydrogen. *SH*

## Draft taxonomy sparks discord

A draft EU taxonomy identifying sustainable activities has fuelled debate over natural gas and nuclear's future roles in helping the bloc cut its emissions ahead of the European Commission's final version expected on 21 April

At stake is preferential access to financing, as private investors and public authorities look for low-carbon and renewable projects to achieve the EU's goal of net-zero emissions by 2050.

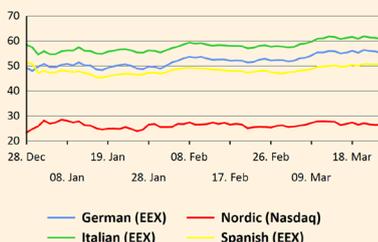
Those against natural gas and nuclear worry that labelling them as sustainable will divert money away from renewables and potentially lock in current technologies, while those in favour argue the EU will need all low-carbon options to meet its 2050 goal.

NGOs and scientists have criticised changes to the draft which would classify directly replacing a coal or oil-fired combined heat and power plant or district heating system with a natural gas-fired version as sustainable under certain conditions.

These include that the new facility's direct emissions are lower than 270g of CO2 per kWh of energy output, it comes online by the end of 2025, and it is in one of the EU's coal-dependent "just transition" regions, according to a draft leaked to media. *SH*

Power

European Power, front year (base), EUR/MWh



TGE Polish Power, front year (base), PLN/MWh



ICE UK power, front quarter (base), GBP/MWh



The next issue will be out on 9th April

# Global green investment rises in 2020

Global investment in renewables capacity likely exceeded USD 300bn last year, higher than the previous year and despite the Covid-19 pandemic, following a flurry of activity in China towards year end, Bloomberg NEF said on Wednesday.

By sector, offshore wind in particular enjoyed a “breakthrough year”, while new players such as South Korea and Vietnam boosted investment in solar, Angus McCrone, chief editor at BNEF told the annual Scottish Renewables conference.

With respect to oil and gas majors, McCrone said that the tumbling levelised cost of electricity would likely trigger further investment in cleaner energy. Global costs relating to offshore wind, for example, had fallen by around 70% over recent years.

“We’d expect to see further aggressive reductions putting pressure on fossil fuel alternatives.”

Further, McCrone said there was zero chance of a new coal plant being built in the UK, given the government’s plans to transition to a greener economy. Plans to build a coal mine in Cumbria to produce coking coal for the UK’s steel sector had nonetheless garnered some support.

In contrast to the enthusiasm of banks and financial institutions to invest in mainstream renewables projects, however, companies operating in the UK would hesitate to invest in hydrogen and carbon capture and storage (CCS), McCrone said.

“The bigger problem is hydrogen and CCS, which are not economic at the moment. The government will have to intervene for investment to mobilise perhaps via capital grants.” *KP*



# MSR needs repairs to stay relevant – experts

An automatic stabiliser that has revived faith in Europe’s carbon market in recent years will need touching up to remain relevant this decade

This year’s rally in carbon prices to records above EUR 40/t has in part been attributed to scarcity re-introduced since the launch of the market stability reserve (MSR) in 2019, policy analysts told a webinar on Tuesday.

By curbing fresh auction supply, the reform has helped mop up an overhang of allowances that depressed carbon prices below EUR 5/t for much of the past decade.

The European Commission is expected to unveil proposals to reform the MSR in the coming months that would address how much supply it is able to withdraw or insert when activated – as well as the thresholds that determine when it is triggered.

Some policymakers eyeing Europe’s goals to raise climate ambitions this decade have suggested making permanent a temporary 24% rate of auction withdrawals.

But this was unlikely to prove sufficient, Verena Graichen of Germany’s Institute of Applied Ecology told a panel organised by the green-oriented think tank.

“The current configuration of the MSR is able to compensate for the Covid shock in a high emissions scenario, but not able to cope with long-term structural surplus.”

Increasing the MSR’s intake rate would be “essential” to prevent the ETS from foundering if the market turned long this decade, with few downsides if it were to turn short, she added.

“We have seen emissions below the cap in the last years and we are expecting emissions – especially in the power sector – to decline further. But of course, for the ETS, if the market is long, it will not be able to work as it could.”

The upper threshold for triggering the MSR was likely to have a greater impact on carbon prices this decade than the withdrawal rate, said Marcus Ferdinand, head of EU power and carbon analytics at Icis.

Icis expects utility hedging requirements to halve from present levels by 2030, given an 80 GW reduction in European hard coal and lignite-fired power plant capacity by then.

The MSR presently kicks in when the total number of allowances in circulation, an estimate of excess supply in the market, exceeds 833m permits. Cutting this threshold to 600m allowances could support prices up to almost EUR 60/t by 2024, according to Icis. *NW*

AI

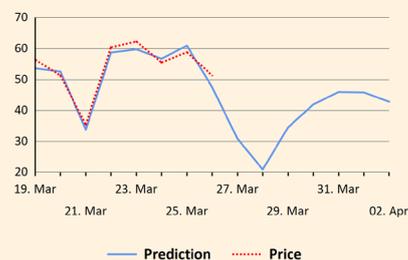
Montel AI Day Ahead Auction forecasts Nord Pool (base), EUR/MWh



Montel AI Day Ahead Auction forecasts France (base), EUR/MWh



Montel AI Day Ahead Auction forecasts Germany (base), EUR/MWh



# GO prices rise on compliance buying

Prices of European guarantees of origin (GO) rose this week amid buying interest and could increase over Easter due to an expected drop in supply, traders said this week

The Nordic hydro Cal 20 – the European GO benchmark – traded at EUR 0.12/MWh this week at one broker, up from around EUR 0.09/MWh.

This was due to increased demand as many companies finalised their compliance for 2020 before the 31 March deadline in the Nordic region, said one Scandinavian trader.

“We do see some activity of clients closing the books – the Nordics has done this quite in advance, companies are busy with the cancellation of GOs and the purchases that are done in the market are to cover some final volumes that they might still have open,” he said.

Prices could rise by a “couple of cents” in the coming weeks due to an expected drop in liquidity and less supply over the Easter holidays, he added.

Compliance buying also saw prices rise from EUR 0.09-0.10/MWh to EUR

0.30-0.35/MWh last month for GOs covering 2020 in Spain.

“Demand was so high and there was little availability. People want to buy the GOs because they need to cancel for consumption. The market was crazy. Even biomass, which is normally a cheaper GO, was at the same rate [as other technologies],” said Inigo Laguna, account manager at Spain’s Factor CO2.

The 2020 market closed on 10 March in Spain and there has been low demand for 2021 GOs but this was expected to increase in the week ahead, he added.

Installed renewable energy capacity had increased across the continent at a fast pace which would continue to have a bearish effect on GO prices, said market participants.

“We think the price is going to be low this year – 2021 looks similar to 2020 because the system hasn’t changed for

demand from last year,” Laguna said.

Oversupply was likely to outstrip demand as more projects were due to come online throughout the year, he added.

Prices for 2021 GOs in Spain had dropped from around EUR 0.23/MWh to EUR 0.20/MWh since January and were expected to gradually decrease throughout the year to EUR 0.10-0.15/MWh, he predicted.

“There has been an increase in demand and supply but as we have seen, supply has increased faster than demand. There was a lot of production in 2020 and it will affect the prices for 2021 and ripple into 2022,” the first trader said.

There were also several other bearish factors, including new countries joining the Association of Issuing Bodies and an expected drop of GOs exported to the UK due to Brexit, traders agreed. *RB*

## France sells 2 TWh of wind GOs at EUR 0.18/MWh

France sold 2 TWh worth of guarantees of origin (GO) on wind power produced in December, for an average weighted price of EUR 0.18/MWh, at the latest monthly auctions, the EEX exchange said this week.

In the auction held on Wednesday, the government also sold 61.5 GWh of solar GOs at EUR 0.12/MWh, the EEX exchange said late on Friday. However, participants only bought 95 GWh of hydropower GOs – out of 289.6 GWh offered – paying EUR 0.12/MWh. Out of 236 GWh of thermal-powered GOs on offer, only 11 GWh sold, fetching EUR 0.28/MWh.

The average weighted price of the 2.2 TWh of GOs on energy produced in December reached EUR 0.18/MWh, compared with EUR 0.11/MWh on 864.4 GWh sold in February.

By contrast, GOs for wind power in 2020 were trading at EUR

0.14/MWh on the Green Hub on Monday, while GOs for all renewables in Q4 2020 were seen at EUR 0.11/MWh.

“A big player found itself short and paid a bit above the OTC market to secure a sizeable volume, because it was the last auction to cover 2020,” said Ivan Debay, CEO of Origo, which holds one of France’s biggest GO portfolios.

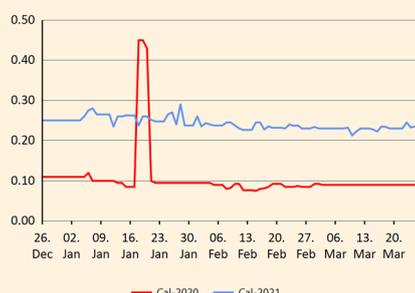
Suppliers have until the end of March to obtain certification for renewable power consumed last year.

In 2019, the French state began monthly auctions of certificates for power produced on subsidised output three months previously.

In France, as of January, GOs must be issued in the same month in which the electricity is consumed, whereas in the rest of Europe, certificates remain valid for 12 months. *ST*

GOs

GPH Hydro GO, EUR/MWh



EEX Wood Pellets, CIF NWE, Front Month, USD/t



# Interview: Real-time GO tracking unlikely by 2026

Proposals for tracking energy sources 24/7 and in real time with guarantees of origin (GO) are unlikely to be common practice within five years, says the director of green certificate lobby group Recs International

The initiatives would allow consumers to track their energy sources and are aimed at more transparency.

“The 24/7 matching initiatives are interesting, they can add dynamism to certain segments of the market, but they will need to develop step-by-step,” **Adam White** told Montel's **Enza Tedesco** in an interview.

Firstly, the technical system of retrospective matching of production and consumption on an hourly basis can be scaled up in response to market demand.

A possible second step would be trying to conduct this matching in real time, so that consumers can shift their demand to match the production they want to consume, he added.

“This is much more complex in terms of system and data and I don't see it within the next five years at least,” he noted.

GOs match energy supply and demand over a yearly period, while some countries such as France do this on a monthly basis. Initiatives such as EnergyTag and Project Origin would support consumers trying to track the source of their energy on an hourly basis, potentially in real time.

These projects have received substantial interest. “If [they] can add dynamism into the market, great. If [they] can add demand, great. But what's most important is that the promotion of 24/7 matching should not undermine the standard use of GOs,” White said.

While many argue 24/7 matching is more accurate, White said he prefers to be cautious, as it might make a “GO look untrustworthy and we already have issues educating consumers on how the GOs and book-claim systems work.”

White said consumers seeking 24/7 matching would need significant data capacity to understand their consumption and production across the European-wide grid and move their consumption to match the fluctuating production of variable renewables in real time.

“That doesn't seem very realistic to me. People talk about wanting to match the GO market with the power market, but the power market is a pure commodity and is very sophisticated at keeping supply and demand in balance,” he said. “The GO market is nothing like it. It's being set up to match, at the moment, over a year period... But that's nothing like doing it every 15 minutes.”

## Lack full disclosure

Meanwhile, the revised EU renewable energy directive (RED 2) supports guarantees of origin (GO) but falls short of full disclosure and a more harmonised system, White said.

“For us, the 2018 directive is a step in the right direction, but doesn't go far enough.”

“We would have liked to see things like full disclosure, the consideration of a compliance market, more incentives to buy renewables and a more harmonised and standardised system across the member states.”

Current rules for GOs were set out in the directive of 2001 and 2009. RED 2 was approved in December 2018 and would need to be adopted by national governments in their laws by 30 June.

Following the increase in European climate targets for 2030 and 2050, RED 2 is being reviewed and may be revised. The EC is expected to make proposals in June. It's unclear whether article 19, on GOs, will change.

White argued that other locations, such as several US states, have compliance markets where power suppliers are required to ensure that a minimum amount of their energy comes from renewables.

“The EU could significantly increase the uptake of renewable energy by moving from a voluntary market to a compliance market, placing a requirement on suppliers to ensure that a given proportion of the energy they sell comes from renewables,” Recs said in a recent report.

“The requirement could also be placed on consumers to ensure that a given proportion of the energy they consume comes from renewables.”

GOs were introduced for disclosure purposes as proof to final consumers that the energy they consumed was produced from renewable energy sources. Currently, the system is voluntary and each producer can decide whether to apply for certificates.

White said full disclosure and transparency are key to encouraging further consumer commitment and critical to the revised directive.

“The most important thing for a GO is the information that it gives to the consumer. It tells the consumer where they're buying their energy from and allows them to choose where they want to buy it from,” he said.

He applauded the extension in RED 2 of GO issuances to all renewable energy while leaving open the possibility of issuance for all energy sources, renewable or non-renewable. That would be a step closer to full disclosure, ensuring a level playing between renewable and non-renewable sources.

However, White said work remains in achieving harmonisation across Europe, particularly when it comes to opening GO trading accounts and cancellations.

“There are still a lot of differences among different member states to allow you to have an account or cancel on behalf of clients,” he said.

# Auctions, weak power add to deal complexity

Power purchase agreements (PPAs) in Europe are becoming increasingly complicated amid pressure from lower power prices and auctions, market participants said this week

Europe's main PPA market, Spain, has been under pressure from a recent green tender, where prices averaged EUR 24.47/MWh for solar and EUR 25.31/MWh for wind.

Together with declining power prices due to an influx of solar projects, this has caused "a bit of change in the PPA products or offers to the market", Carlos Rey Micolau, director of Foresight Group, told the Iber-Ren virtual event this week

Over the last 24 to 36 months the PPA market has been "quite easy to access" and structured mainly around 10-year, fixed price PPAs, he added.

"I think the auction and related low prices or the expectation from some players that we're happy with low power prices, which is not the case, is going to change the paradigm," he said.

"There are interesting months ahead to reassess what we need, what the banks require and what the offtakers are able to offer."

The Covid-19 pandemic caused delays in permitting and completion times for PPAs last year, according to market participants.

It also led to more force majeure clauses being included in contracts, although "hopefully it will be less of an issue through 2021", said Lisa McDermott, executive director of project finance at ABN AMRO Bank.

The bearish impact of the pandemic on power prices, which last year saw some new all-time lows had led to banks being more cautious, she added.

She said the drop in power prices and "search for yield to compensate" for this had seen more "exotic features" being included in PPAs.

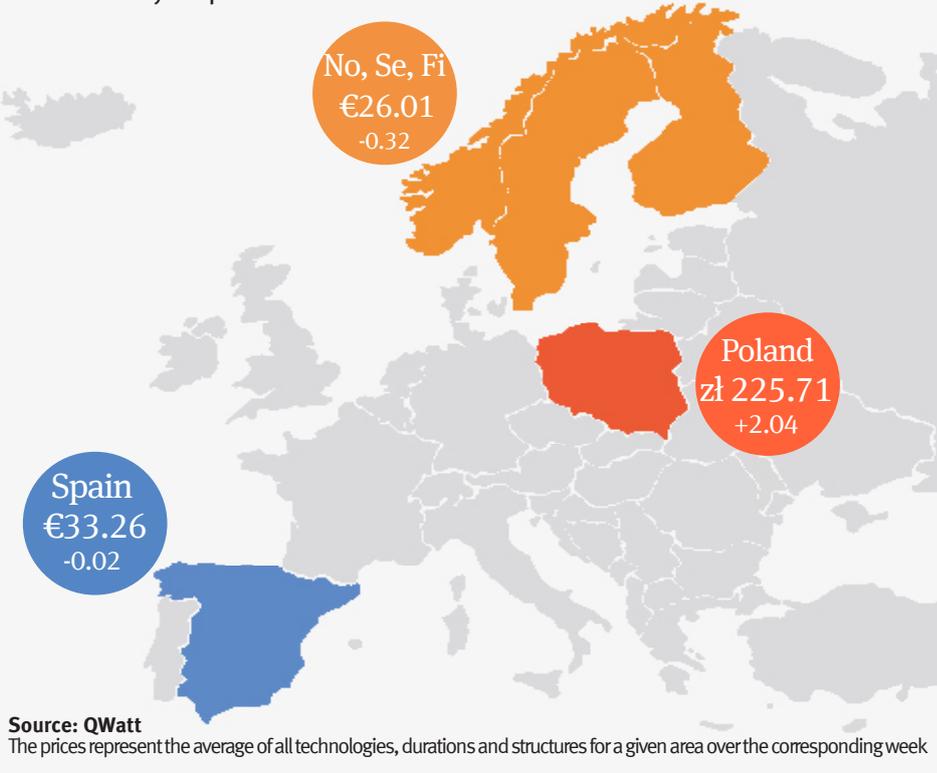
There has been a move away from pure pay as produced deals towards baseload-style structures, McDermott said.

Under a pay as produced contract, the offtaker agrees to buy all, or a proportion, of the power produced. Baseload deals set a minimum level of power demand and do not allow for spikes or dips in production.

She warned that baseload structures do not always fit so well with intermittent energy, particularly not the wind projects.

Hourly baseload delivery for wind PPAs has been proposed in some more northern European countries which "introduces huge complexity", she said.

## PPA Weekly Report



"It's a very complex exercise to work out when you're going to be in the money or out of the money, how much liquidity reserve you need to trade that sort of PPA," she added.

Ten-year annual baseload PPAs in Spain were trading at EUR 36.78/MWh for wind and solar, according to price comparison site Qwatt. Wind was at EUR 33.11/MWh and solar at EUR 32.17/MWh for a pay as produced, 10-year contract, Qwatt estimated.

Meanwhile, two PPA deals were announced this week. German investment fund Luxcara and Norwegian utility Agder Energi announced on Thursday that they signed a 15-year contract to supply 2-3 TWh annually to Swedish mining and smelting company Boliden's activities in Sweden and Finland. Engie's subsidiary in Belgium signed a 39 MW PPA to supply German chemical firm Covestro with power from onshore wind farms from 1 April, the company said Wednesday. *RB*

The banner features a background image of a wind turbine and solar panels. The text includes the title 'Energy Transition Weekly', a question 'Are you prepared for the green shift?', and a call to action to sign up for the newsletter. A URL is provided: <https://info.montel.energy/energy-transition-weekly>. The Montel logo is visible in the bottom right corner.

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# CO2 to trade over EUR 40 ahead of 2020 data

EUAs are expected to consolidate above EUR 40/t next week as the market prepares for the release of verified emissions data for 2020, sources said on Friday.

The benchmark Dec 21 EUA contract last traded 2.1% higher at EUR 41.20/t on Ice Futures, a loss of 1.8% from last Friday's settlement. After dropping below the EUR 40/t level for the first time since 9 March, EUAs have recovered slightly.

"Carbon's tracked oil pretty closely all week," said Tom Lord of Redshaw Advisors.

"This market seems to have the hallmarks of what happened in February – an early leg higher, followed by consolidation lower over the rest of the month."

The EU typically releases aggregate emissions data for more than 11,000 installations at the start of April each year, while the installations have until the end of the month to surrender allowances covering their verified emissions.

"With 2020 emissions expected to be lower, I'm not sure there is as much support for higher prices," said Justina Mocevičiute of Danske Commodities.

"However, there are a lot of new entrants into the market, who view EUAs as an investment asset for the green transition."

Analysts estimated 2020 EU emissions fell by 12.3%, the largest

one-year decline since the EU ETS was launched, as demand fell amid widespread lockdowns across Europe.

Trader concerns over renewed Covid-related restrictions in Europe, meanwhile, pushed prices lower this week. EUAs posted successively lower lows and lower highs throughout the week before falling through the EUR 40/t mark on Thursday amid steady selling pressure.

Some sources also pointed to concerns over potential intervention after Poland was reported to have formally requested an investigation into the role of speculators in the market.

The outlook for next week was generally stable to slightly bullish, sources said, with the market's rapid rally back above EUR 40/t on Thursday seen as a sign that there was strong buying support.

"The [verified] data sentiment is already priced in," said Redshaw's Lord. "It's been very widely reported that power emissions likely fell by 200m tonnes in 2020. If the data comes in higher than that, then prices may dip but there's healthy support."

The next two weeks also had one fewer auction, which might help support prices during compliance season.

Bernadett Papp of Vertis was more bullish, expecting prices to move in a EUR 40-45/t range next week. *AV*

## EC eyes 2030 CO2 cut target accord in April

The European Commission hopes that EU negotiators will agree a new 2030 CO2 cut target by 22 April as part of the 27-nation bloc's climate law, executive vice president for the EU green deal, Frans Timmermans, said on Tuesday.

"The most important thing is we get the climate law agreed... hopefully within a month," he told a webinar.

EU negotiators from the EC, European Parliament and the EU Council, representing national governments, plan to meet again to discuss the draft law on Friday, an EU diplomatic source told Montel.

The 2030 target is the most controversial element of the law and has been left to the final stages of the negotiation.

The EC proposed and the council backed a minimum 55% CO2 cut from 1990 levels by 2030, while the parliament has called for a 60% cut. The current target is a minimum 40% cut.

Timmermans said the final 2030 target would "probably" be at least a 55% cut.

The draft climate law also includes a binding target for the EU to have net-zero emissions by 2050, and EU negotiators are still discussing the trajectory to achieve this. The aim is to reach an informal accord on the climate law that can be signed off by the parliament and council in full before the EC proposes detailed legislation in June to help achieve the new stricter 2030 CO2 cut target. *SH*

## Sale of German emission certificates starts in Oct

Leipzig-based EEX will oversee the sale of allowances for the German national emissions trading scheme from October, the Federal Environment Agency (UBA) said this week.

The domestic scheme is aimed at helping Germany achieve its climate targets by putting a price on emissions from heat and transport. Both sectors are not covered by the EU ETS.

The contract with Leipzig-based EEX will run up to and including 2025, according to UBA. Participants in the domestic scheme

will be able to purchase allowances via the EEX from September.

Initially, the scheme will cover petrol, diesel, heating oil, LPG and natural gas until 2022, although other fuels could be included thereafter. Participants in the scheme are so-called distributors of fuels, such as gas suppliers.

The fixed price for a certificate – equivalent to a tonne of CO2 – will start this year at EUR 25/t and gradually rise to EUR 55/t by 2025. *JD*

ICE EUA, Front Dec, EUR/t



EEX EUA Auction Results & Calendar

	This week's results	Next week's schedule
	EUR/t	Volume
Monday	41.80	3,288,500
Tuesday	41.77	3,288,500
Wednesday	40.94	2,575,000
Thursday	40.69	3,288,500
Friday	40.86	No Auction

# German experts advise against EU carbon border tax

The EU should abandon plans for a CO<sub>2</sub> tax on imports in favour of a carbon pricing club with its main trading partners – the US and China, a German advisory panel said this week

Setting common minimum CO<sub>2</sub> duties on carbon intensive industries such as steel and cement would become an increasingly important component of international trade in the coming years, the German economy ministry's independent board of academic advisors said in a report on Monday.

However, European attempts to do this unilaterally would prove counterproductive and likely displace emissions abroad, it added.

“Failure to engage sufficient numbers of other countries in an ambitious climate policy threatens to trigger new trade disputes and undermine the effectiveness of EU climate policy,” said contributing author, Gabriel Felbermayr of the Kiel Institute for the World Economy.

Felbermayr said the EU should focus first on reaching a deal with the US, given a narrow window of opportunity available to the new Biden administration, which has made climate policy a priority.

US climate envoy John Kerry recently warned the EU against plans to tax the CO<sub>2</sub> component of imports unilaterally.

The European Commission has flagged such a policy as part of its efforts to raise its 2030 emissions reduction without harming industries exposed to competition with parts of the world that do not price carbon.

The EU is expected to present a proposal next year and could have legislation in place by 2023.

## Change course

There was still time to change course and reach a deal on common carbon prices with trading partners, said Klaus Schmidt, chair of the advisory panel.

European carbon prices – which have struck records above EUR 40/t in recent weeks – were also still low enough to make negotiations easier, he added.

Felbermayr said prices could rise above EUR 100/t within the next 10-15 years as the kinds of prices needed to reflect a budget for meeting the Paris

climate agreement rose.

Reaching a deal within a small group of countries could result in lower climate ambition than Europeans could agree among themselves, but it was also more likely to prove successful than pursuing a “one size fits all” deal that covered the world, Felbermayr said.

It would also encourage those outside the club to raise their standards by targeting the imports of all non-members, he added.

Felbermayr pointed to the experience of EU attempts to extend emissions trading to aviation as an example of the kind of trade disputes that could ensue if the EU were to act alone.

The EU ultimately applied the rules only to domestic air traffic after the US and China threatened retaliation if the scheme were applied to flights in and out of the EU.

The German economy ministry's 38-member board of academic advisors meets five times a year to deliver advice on issues of their choosing. *NW*

## Heavy industry to become key CO<sub>2</sub> price driver

Heavy industry's hedging strategies will become key CO<sub>2</sub> price drivers in the coming years as falling emissions reduce the power sector's influence in the EU ETS, according to analysts.

The problem is such strategies are harder to predict than the power sector's, creating uncertainty about the level of surplus EU ETS allowances needed for efficient hedging, Stuart Evans at consultancy Vivid Economics told a webinar on the EU ETS market stability reserve on Wednesday.

Heavy industry's access to free allowances and ability to bank them – hold on to them between ETS trading phases – meant that so far it had not had to hedge its future CO<sub>2</sub> price risk as much as power utilities, said Evans.

The free allowances are a measure to combat carbon leakage, which happens when production shifts from the EU to regions with less strict carbon constraints.

They are being gradually phased out, making heavy industries' hedging demand “volatile”, said Evans.

Adding to this uncertainty is the European Commission plans to propose in June a carbon border adjustment mechanism (CBAM), which could see some heavy industries lose their free allowances more quickly.

The CBAM could impact heavy industry's future hedging demand by anything from tens of millions to hundreds of millions of allowances, said Evans.

Other analysts agreed that heavy industry would become more important to the carbon market, and that hedging demand would be less predictable.

The power sector was rapidly decarbonising, and if carbon prices continued to rise from EUR 40/t, then most fuel switching to lower-carbon options would be exhausted by 2030, Refinitiv's head of carbon research, Haegle Fjellheim, told the webinar.

Heavy industry would not be able to cut its emissions as quickly, even with higher carbon prices, she said.

Bloomberg NEF's head of European carbon, Jahn Olsen, agreed, saying the power sector's share of ETS emissions was set to drop to a third by 2030, while industry's would increase to nearly two-thirds.

“We are moving away from the power sector as the price setter in the EU ETS,” said Olsen.

This shift in hedging needs was relevant for the thresholds in the ETS market stability reserve, which aims to keep enough allowances circulating to enable efficient hedging and soak up any surpluses beyond that, the analysts said.

Each year the European Commission calculates the total number of allowances in circulation and if this is above 833m then 24% of the total is placed in the market stability reserve. This rate of 24% a year is due to drop to 12% from 2024 under the current ETS rules. *SH*

# Coal could fall to 13% of Poland's energy mix by 2030

Poland could shave coal's share in the energy mix from 70% today to 13% in the coming 10 years by replacing coal plants with renewables and still keep the lights on, says to a report by Warsaw-based think tank InStrat

“This means a reduction of CO2 emissions in the power sector by 59% in the period of 2015-2030 – two times faster than in the official Polish Energy Policy until 2040 (PEP2040),” said report's author and InStrat analyst Pawel Czyzak.

To achieve that, Poland would need to close 17 GW out of a total 33 GW of coal-fired power capacity and install 38.2 GW of solar and wind capacity on top of the existing 10 GW.

The largest chunk of the new capacity would be 20.2 GW solar farms, followed by 12.4 GW onshore wind and 5.5 GW offshore wind.

Poland's 2040 energy policy expects the country to produce 75-113 TWh from coal in 2030, depending on carbon prices. InStrat reckons coal output could dive to 22 TWh, from 110 TWh last year, under a

tougher climate policy.

The government's plan relies on new subsidies for the coal-fired fleet, although this still needs approval by the European Commission.

Brussels is unlikely to approve the Polish plan because it jeopardises the EU's 2030 climate goals to cut emissions by at least 55% from 1990 levels, as proposed by the European Commission and backed by member states, according to InStrat.

Poland has no other choice than to quickly replace coal with renewables, the think tank says, adding that nearly half of the country's coal-fired fleet was operating at a loss last year due to a surge in carbon prices.

And the percentage of unprofitable units will only increase this year, the InStrat analyst said, estimating average CO2

prices to rise to EUR 36.7/t in 2021, from EUR 26.5/t last year.

The InStrat report is the latest of many urging Poland to build more renewable facilities to ensure there is sufficient supply to meet demand and to mitigate the damaging effect of high carbon prices on the country's economy.

In November, Warsaw-based think tank Forum Energii urged the government to build 22.7 GW of renewable capacity to replace 15 GW of coal-fired power plants due to shut by 2030.

Meanwhile, Polish power prices could fall 5% by 2030 if the country raised its renewable energy ambitions from a 32% to a 40% renewables share of the energy mix, said a study published by think tank Instytut Jagiellonski earlier this month. *MC*

## No significant battery capacity in Iberia before 2025 – Afry

The Iberian region could fail to see a significant volume of battery capacity installed in the coming 10 years, consultancy Afry said on Tuesday.

Storage was unlikely to develop to “tens or hundreds” of MW until the mid to late 2020s, Javier Revuelta, senior consultant at energy management consultancy Afry, told the Iber-Ren virtual event.

This questioned Spain's target to build 2.5 GW in battery capacity by 2030, with an intermediate goal of 500 MW by 2023, as it aimed to tackle renewables intermittence and conventional capacity phase-outs.

“We don't really see batteries operational before 2025, at least not substantial MW, and for pump storage hydro-power, we think we need to wait towards the end of the decade,” Revuelta said.

Batteries and pump storage would need additional government support or extra revenue streams to make them economically viable, he added.

The economics “are not great without some regulatory changes, without some additional incentives”, he said.

Spanish utilities had started to consider pump storage projects in Iberia, including Iberdrola's 1.2 GW Tamega hydropower complex – currently under construction – and

Repsol's 1 GW Aguayo extension.

Storage could play an important role in the future as the Spanish power system would have to deal with a “huge penetration” of intermittent renewables output and decreasing thermal capacity, Revuelta said.

Power supply security was currently well guaranteed “but this would not be the case in the second half of the decade”, he added.

Spanish utilities agreed a nuclear exit by 2035 and had already requested permits to phase out coal-fired generation.

“We should not take for granted that the nuclear decommission[ing] can happen as currently stated,” he noted.

However, the government is currently adhering to its 2027-35 nuclear phase-out plan and approved the final licence extension for the Cofrentes (1.1 GW) plant until 2030 last week.

Meanwhile, future demand from electric vehicles could eventually hit the market in hours of peak demand, with “critical” consumption lasting for up to four hours, Revuelta said.

“[This means] that one-hour batteries will be pretty much useless to provide security of supply... We need to think of four-hour batteries.” *PB*

# Interview: Solar needs better regulation to meet EU 2030 goal

Improvements in regulation and market design are needed to reach 700 GW of solar capacity in Europe by 2030, **Naomi Chevillard**, senior policy advisor at lobby SolarPower Europe told Montel's **Rachael Burnett** in an interview

The EU has 137 GW of installed PV which is set to increase to 250 GW by 2024, SolarPower Europe estimated.

A total of 18.2 GW was added in the region in 2020 compared to 16.2 GW in previous years – making it the second-best year despite the coronavirus pandemic.

Significant extra capacity will be needed in the coming decade, partly to replace fossil fuels and nuclear production, she said.

The lobby has estimated that installed solar capacity would need to reach at least 700 GW by 2030 to meet the 27-nation bloc's climate goals.

The European Commission and EU member states want to slash net emissions at least 55% by 2030 from 1990 levels, while the European Parliament wants a 60% cut. A higher target would mean a bigger call on renewables in the energy mix.

Chevillard called for the EC to increase its renewable energy target from 40% by 2030 to 45%. Yet power markets need to modernise to integrate more renewable sources and anticipate future price evolutions, such as cannibalisation – when installations produce at the same time and reduce the average income for all.

“Price cannibalisation is something that could happen with the integration of larger amounts of renewable electricity. We will need to innovate and deploy new



technological and regulatory solutions,” she said.

A “positive and enabling regulatory environment that allows innovation to thrive” is needed, she added.

One potential solution is storage, but Chevillard said there are not enough tenders for solar and storage and that balancing markets are not always “very open” to it.

## Regulation and permitting issues

A more positive political environment and improved access to financing would be needed because this is “still challenging”, Chevillard said.

Other important elements are improved regulation, tenders that function and incentive schemes for rooftop PVs, she added.

She called for energy strategies to facilitate land access and simplify permitting procedures to ensure solar projects can be built.

“The market has grown by 100% between 2018 and 2019. Administrations have to follow behind and make sure we can install all the projects.”

Power purchase agreements (PPAs) are also “a real driver to add capacity without public funding,” she said.

“Tenders will still have their importance and some public support to drive the market, not so much public money but public regulation will be very important to keep investment in PV through tenders.”

## Grid connection problems

There is potential across Europe to add solar capacity to existing wind plants to help overcome grid connection issues, she said.

“We’re having more and more issues with grid connection, accessing a grid connection at a reasonable cost is sometimes challenging,” she added.

“There are discussions on how to share the grid connection costs especially with solar and wind which are quite complementary in terms of load curve.”

Chevillard urged the EU to update its industrial policy to “recognise renewable technologies are important and we should also facilitate all of these projects.”

## Israeli firms buy 90% stake in Spain solar projects

Israeli firms Nofar Energy and Noy Fund have agreed to jointly purchase a 90% stake in two photovoltaic projects in Spain, totalling 235.5 MW.

The Sabinar 1 and 2 projects, located in central Spain, would have an installed capacity of 152.5 MW and 83 MW, respectively, Nofar said in a note.

The projects would see construction starting in Q3, with investment costs of EUR 180m, it said, without providing further details.

The firms completed the purchase through a joint venture, with infrastructure fund Noy owning a 60% stake and energy firm Nofar the remaining 40%.

Both projects are located near the under construction 169 MW Olmedilla solar plant, which both Israeli firms invested in last year.

“Increasing the capacity of Nofar Energy’s Spanish projects to 400 MW in 2021 represents a major leap forward in our global presence,” said CEO Nadav Tene. *BB*

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