

Cross-border PPAs face hurdles

Cross-border power purchase agreements (PPAs) pose a number of obstacles for renewable producers and off-takers alike, with legal, political and price uncertainties the main barriers

Analysts told Montel there were inherently unique risks in such deals, as the hurdles outlined were in a foreign country and therefore much more difficult to assess.

Cross-border PPAs involve a corporate energy consumer investing in foreign renewable projects to cover a share or all of their demand over a set period. Typically, these are virtual deals accompanied by purchase of the corresponding guarantees of origin.

Expectations of a continued slowdown in Germany's renewables expansion this decade, for instance, may in theory



force large energy consumers to consider sourcing power from projects abroad.

The latest draft of the country's EEG renewable act plans to tender 3-4.5 GW of onshore wind, 900 MW of offshore wind and 2 GW of solar annually up to 2023, but previous auctions have been consistently underbid.

On the producer side, most analysts agreed there were dim prospects for ageing renewable capacity exiting the German government's EEG support scheme – which only provided funding for 20 years – to conclude a foreign off-taker deal, however.

"We currently don't see a lot of potential for cross-border PPAs with assets located in Germany or strong competition between post-EEG projects and newly built ones," said Patrick Schmidt-Brakling, PPA manager at BayWa.

Janosch Abegg, senior originator with Axpo Germany, agreed that the volumes produced from these old plants were too small and were less attractive since they could only run for another three to five years until they reached the end of their lifespan. *TC*

EU emissions fall 10% in 2020

Annual EU carbon emissions dived 10% year on year in 2020 amid multiple restrictions and lockdowns imposed across the region due to the coronavirus crisis, the International Energy Agency (IEA) said this week

"Lower electricity demand across the bloc and an 8% increase in output from renewables drove a more than 20% decline in coal-fired power generation," said the agency in an annual report.

"As a result, the share of renewables in electricity generation increased to a record 39% in 2020, 4 percentage points higher than in 2019.

"Transport oil demand fell by 12%, a consequence of strict lockdown measures

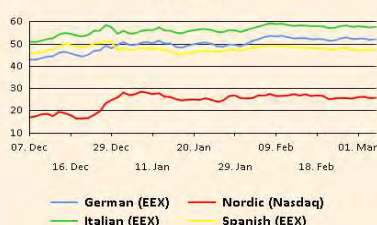
and restrictions on intra-European movement," said the IEA.

In Germany, overall energy-related CO2 emissions dropped by almost 9% last year. Its generation from coal-fired power plants plunged by more than 20% due to lower electricity demand and higher output from wind and solar.

However, the IEA found that in December global emissions were higher than in the same period in 2019. *RN*

Power

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



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



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



Statkraft agrees clean power deal with Vodafone

Statkraft will supply Vodafone Germany with 500,000 MWh of renewable energy in a two-year deal that will secure revenues for aging wind turbines whose government support has expired, the Norwegian utility said on Thursday.

The deal covers power for delivery over 2020 and 2021 and covers the equivalent power consumption of 140,000 three-person households, Statkraft said.

"We are using the biggest lever to reduce our carbon footprint: we have switched to 100 percent green power - and even retroactively to the beginning of the fiscal year," said Vodafone Germany CEO Hannes Ametsreiter.

"This brings us a big step closer to our goal of no longer emitting greenhouse gases and reduces our annual CO₂ emissions by 92 percent. In this fiscal year alone, we are thus saving 245,000 tons of CO₂."

From this year the supply deal is based exclusively on German renewable energy production and makes use of old wind turbines whose renewable energy act (EEG) contracts have ended, Statkraft said.

Last year Statkraft included Norwegian hydropower in their supply arrangement.

Germany has arranged bridging support for turbines facing the expiry of their 20-year support payments, though this has yet to gain the approval of EU competition authorities. *NW*



Politics may delay UK linking market to EU ETS

The UK and EU could link their emissions markets quickly from a technical perspective but political factors may hinder the process, experts say

The UK launched its own ETS on 1 January after completing the transitional phase of leaving the EU. Experts generally agreed the UK market had been deliberately designed to be very similar to the EU system, in order to facilitate linking the two markets in the future.

"The systems are basically identical, everybody is pushing broadly in the same direction in terms of ambition and a larger system undoubtedly makes a more cost-effective reduction," Ross McKenzie, group head of public affairs at power producer Drax, told a recent webinar.

"Where the risk really lies is in political will," McKenzie said.

The technical window for linking the two markets quickly was very small, said Jos Delbeke of the European University Institute and former director general of climate at the European Commission.

"There is a bit of time but not too much," Delbeke said.

"The surrender date for 2021 verified emissions is the deadline. If we want a link to go smoothly we would need to have April 2022 in the back of our minds."

There are some differences between

the two markets, such as the UK's cost containment reserve and a minimum price in auctions but these were not insurmountable difficulties, Delbeke said.

However, he noted the commission was expected to set forth proposals to reform the EU ETS in the summer, which might create greater divergence between the two markets' design.

"[EU ETS reforms create] a little bit of uncertainty that will have to be managed."

"It's absolutely important that there are good [communications] between the UK and the EU, to prevent a divergence of positions."

However, the overriding concern is that there might not be the political will in Britain in the short term to bring the markets together.

"Linking emissions trading systems risks being the dog that never barks," Drax's McKenzie said.

"We are starting to see discussions moving on to [other] political priorities and there's a risk that the link just never happens. From the UK's side, it doesn't take a genius to work out there's a liquidity risk [in the UK ETS], a risk of instability and I think there is a lot of desire to be part of the EU market." *AV*

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 trade near record lows

European 2020 guarantees of origin (GO) prices continued to trade near record lows this week amid softer demand, particularly from the UK, and on oversupply, according to market participants

The Nordic hydro Cal 20 – the European GO benchmark – was last seen at EUR 0.09/MWh, after hitting a record low of EUR 0.075/MWh in mid-February. GOs for European 2020 wind were trading at EUR 0.10-0.11/MWh, while solar stood at EUR 0.11-0.12/MWh, according to traders.

Meanwhile, the Nordic hydro Cal 21 was last seen at EUR 0.23/MWh.

Market participants pointed at lower UK demand as one significant bearish factor, as regulatory uncertainty following Brexit made British buyers reluctant to acquire continental certificates.

“What we’re noticing this year is that we’re not finding the same demand

for GOs tradeable in the UK as we did last year,” said Inigo Laguna, account manager at Spain’s Factor CO2.

“Because it is not clear yet whether they (continental GOs) will be accepted in the UK.”

The UK government had warned it would review the system this year so that, long term, domestic recognition of EU GOs would take place only on a reciprocal basis – meaning EU states also had to recognise UK renewables certificates.

Despite a steady annual increase of about 15% in GO demand over the past few years, the market was also heavily oversupplied, traders said.

“The GO market is structurally long,

there is an excess of supply and the price remains flattened at very low prices,” said a European trader.

“In theory the interest from consumers is rising, however the goal is to greatly increase production from renewable sources, so GOs will likely stay at these low prices.”

According to recent data from the Association of Issuing Bodies, in 2020 supply of GOs grew 17% to more than 760 TWh due the entry of new members, such as Portugal, Serbia and Slovakia, auctioning mechanisms and favourable weather conditions in the Nordic region.

GOs enable energy suppliers to certify their power as being from renewable sources. *ET*

UK GO prices poised to recover – consultant

Prices for renewable energy guarantees of origin (Regos) in the UK will rise steadily over the next three years but generate only a small portion of generators’ revenue, an energy consultant said.

Cornwall Insight told Montel it expects prices to reach pre-pandemic levels.

Rego prices plummeted in the UK last year after electricity demand slumped due to the Covid-19 pandemic. At the same time, the supply of Regos rose as renewables generation increased and more projects were commissioned.

Demand for green electricity certificates has started to recover, following the height of the pandemic and relating lockdowns last year, with an increase in the number of residential consumers switching to renewable tariffs helping to boost growth, analyst Luke Ansell said.

According to the latest Cornwall Insight Green Certificates Survey involving 59 market participants, average Rego trading prices last month were at GBP 0.20/Rego and GBP 0.32/Rego for Fuel Mix Disclosure (FMD) certificates for 2020-21 and 2021-22, respectively.

Prior to the pandemic, average prices were reported at GBP 0.66/Rego for FMD 2020-21 and GBP 0.72/Rego for FMD 2021-22, the survey showed.

Other findings of the survey included almost half of respondents calling for reform of the Rego system amid some criticism relating to so-called greenwashing.

Suggestions to overhaul the current system included only issuing Regos to unsubsidised renewables production; providing greater granularity and transparency to consumers through the certificates; and improving a focus on additionality, or investing in new power plants.

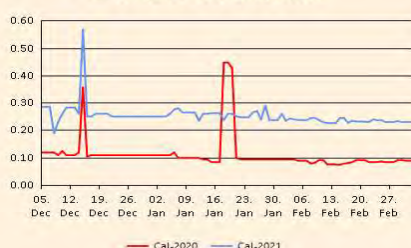
Fifty-one per cent of those questioned did not think any reform necessary.

“Green certificate markets have been the subject of much debate amid the rise in demand for renewable supply tariffs in parallel to stricter national emissions reduction targets, and amid the uncertainty of EU guarantees of origin treatment with Brexit,” Ansell said.

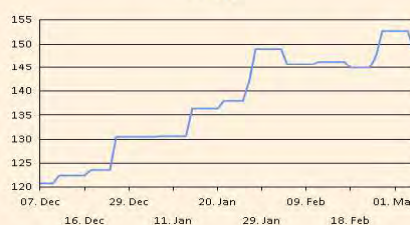
“Nonetheless, green certificate markets are set to continue to develop,” he added. *KP*

GOs

GPH Hydro GO, EUR/MWh



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



Spanish PPAs dip after green tender

Spanish power purchase agreement (PPA) prices – Europe’s leading market – have declined marginally in the wake of the country’s renewables auction in January

“It’s obvious that in the past month and a half, after the January tender, prices for offtake schemes have come off slightly from where they were [before],” one Spanish trader said.

Around 3 GW of green power was auctioned at the end of January, with average prices of EUR 24.47/MWh for solar and EUR 25.31/MWh for wind.

The trader added that consumers remained cautious about committing to long-term fixed-price schemes, so it was taking longer than it did a year ago to close new PPAs.

Looking further ahead, the trader said Spanish wholesale prices had dropped compared with their European counterparts from year ahead onwards.

Spain’s Cal 23 contract has been trading EUR 10 below the French equivalent, which he said was a “good measure of the selling pressure in the market”.

Market sources saw annual baseload prices for a 10-year Spanish solar and wind PPA for 2022 between EUR 37.50 and EUR 38. Pay as produced, 10-year PPA prices for next year were pegged at around EUR 32 for solar and EUR 34 for wind.

“The cannibalization rate is really high for solar assets, wind assets are not so affected, and their price capture ratio remains pretty stable over the years,” the trader said.

A range of EUR 31-34 was seen at another broker for a pay as produced, 10-year solar and wind PPA in Spain with a commercial operation date of 1 January 2022.

“I am not aware of any PPAs [concluded] in Spain over the last week,” another trader said.

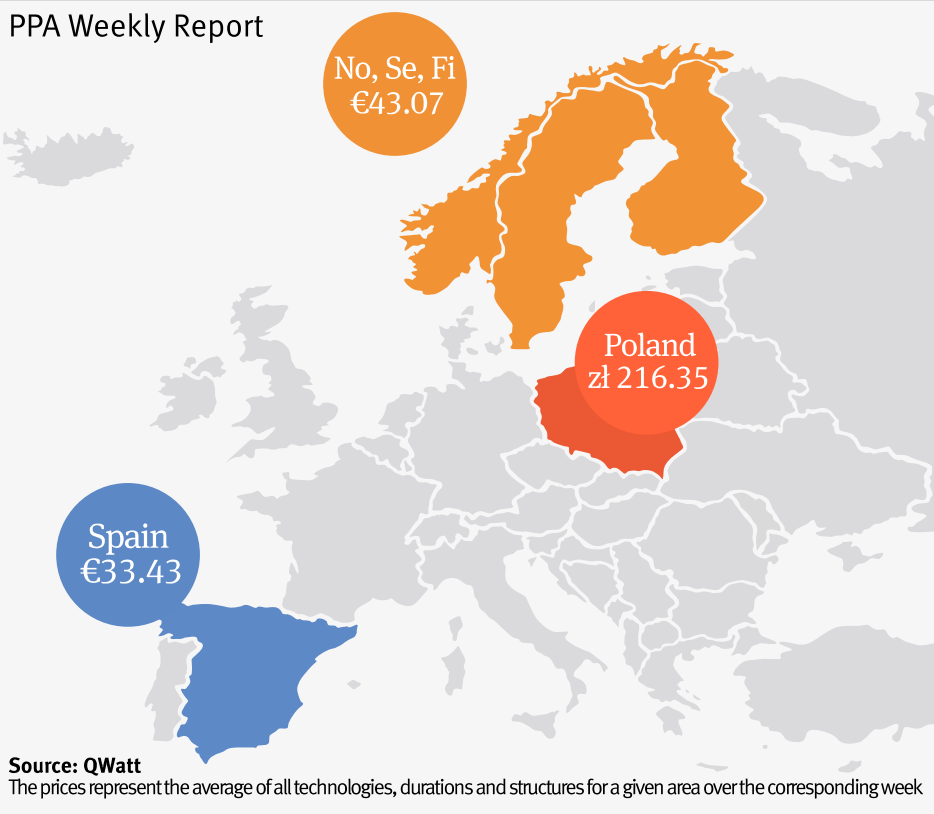
He added that this was “quite normal”, with an average of two or three PPAs published per month, depending on the time of year.

“I think prices [will] keep relatively stable in 2021,” he said. “The main change is the [reduced] appetite for PPAs, as off-takers reach their targets and more and more projects keep coming.”

Pay as produced prices for a 10-year PPA in Spain for 2022 were pegged at EUR 33.51 for solar and EUR 31.89 for onshore wind, according to Qwatt estimates.

Annual baseload prices for a 10-year Spanish solar and wind PPA for the same year are currently around EUR 36.67/MWh, Qwatt said. *RB*

PPA Weekly Report



Grid, permit issues main challenges for PPAs

Problems with grid connections and permits for new renewable projects are the main challenges for Europe’s power purchase agreement (PPA) market, said a senior executive at BayWa Re.

While countries like Germany, France and Italy are becoming more attractive markets for PPAs, they have issues with the permitting process for large-scale projects, Andrea Grotzke, global director of energy solutions at the German renewables developer, told Montel.

“The main hurdles to overcome for large potential sites in these countries involve the processes of acquiring land and the necessary permits, which can be complex and time-consuming.”

The use of PPAs linked to renewable energy projects is growing in popularity across Europe, as governments look to curb subsidies and corporations seek to reduce their carbon footprint by using green power supply.

Germany has accumulated the most wind and solar power capacity in the EU over the past few years, due mainly to its feed-in tariff scheme, rather than through PPAs. A feed-in tariff is a payment for power fed to the grid

from a renewable source.

Whereas in a country such as Spain, which has seen relatively large-scale solar power projects emerge, the main issue for developers has been obtaining grid connection, said Grotzke.

“Grid connection approval has started to be a challenge, so I think this is something which could be, or probably will be, the biggest problem in that country,” she said.

The Spanish government in December approved new regulations for obtaining grid connection permits for newly installed renewables, a move welcomed by BayWa’s managing director in Spain, Rafael Esteban.

There was still plenty of demand for PPAs linked to renewable projects, which saw a surge at the end of last year in reaction to the pandemic, Grotzke said.

More resources and larger plants make Spain “significantly cheaper” than other countries such as Germany or Poland, which could see a growing number of cross-border virtual PPAs, such as that signed by Belgian brewer AB Inbev last year, Grotzke said. *RB*

EUAs trade flat in cautious market

EUA prices are likely to continue to trade between EUR 36.50-39/t in the coming week as traders keep a watch over macroeconomic news and the wider energy complex, with sources not ruling out a downward move.

The benchmark Dec 21 futures contract last traded on Friday down 0.3% at EUR 38.03/t on Ice Futures, a gain of 2% from last Friday's settlement.

Prices have been fluctuating in a narrower band than in previous weeks. As of this morning, the benchmark contract had traded in a EUR 1.85 range, compared to ranges in excess of EUR 3 in each of the three previous weeks. Prices moved within a corridor bordered by the 20-day and 30-day moving average price.

"EUAs are consolidating, finding some common ground ahead of a possible breakout," said Justina Mocevičiute of Danske Commodities.

"It might be frustrating for speculative traders but it's natural after such a dramatic increase," she added, referring to the sharp rise at the start of February.

Compliance buyers remained alert to opportunities to buy whenever prices dropped, several sources noted.

"There was very good compliance buying on Wednesday afternoon and Thursday morning as prices fell," said

Tom Lord of Redshaw Advisors.

"That demand will have provided a strong underpinning to the market. Even if prices had dropped below EUR 36.50/t there would have been strong support."

Other compliance buyers are still waiting in the wings.

"There are still plenty of industrials who expect prices to fall to EUR 35/t, so they are waiting," said Bernadett Papp of Vertis Environmental Finance.

EUAs tracked energy markets during the week, particularly on Thursday when crude oil prices spiked after Opec producers agreed to maintain current output cuts in April.

Participants said the market was characterised by caution at the moment.

Investment funds slightly reduced their long positions in the week ending 26 February, according to Ice Futures data, and sources suggested some traders might even be building short positions in anticipation of a decline.

The outlook for next week was generally flat to moderately bullish, sources said.

A gradual shift to warmer temperatures might limit potential demand from utilities and district heating, said Vertis' Papp, and there might also be an uptick in renewable generation, both of which would be bearish for carbon. AV

Higher carbon prices "logical"

The recent EU carbon price rises are logical and needed, given the bloc's climate ambitions, and policymakers should not intervene to change them, two key architects of the original EU ETS said on Thursday.

"A higher carbon price is what was always intended to drive change and blunting the instrument must be avoided," Jos Delbeke and Peter Vis said in a paper for the European University Institute.

Prices jumped to record highs of above EUR 40/t in February, from around EUR 30/t in early December, prompting concerns about speculators inflating prices. The Dec 21 EUA contract was last seen at close to EUR 38/t.

But current prices were "at the lower end" of the range needed for the EU to achieve its goal to have net-zero emissions by 2050 and a minimum 55% cut from 1990 levels by 2030, the two authors said.

The EC had modelled carbon prices of EUR 32-65/t by 2030 based on achieving a 55% cut target.

"The market considers these projections to be credible," they said.

The authors were sceptical about the immediate price impact of rumours that the EC could introduce restrictions on how many EU allowances financial investors could hold in the ETS registry in a bid to combat any speculation. SH

UK to keep current carbon tax of GBP 18/t to 2023

The UK will maintain its existing carbon tax of GBP 18/t of carbon dioxide until 2023, the government said on Wednesday.

"The government is committed to carbon pricing as a tool to drive decarbonisation," the government said in its annual budget on Wednesday.

The UK's carbon price support was introduced in 2013 and has helped drive the share of coal-fired generation in the UK power mix from 25% in 2015 to less than 2% last year, according to TSO data.

In 2020, the average renewables share rose to around a third.

The budget also stated the government intended to set out additional proposals for expanding the UK emissions trading scheme over the course of 2021.

The UK will hold its first auction of UK emissions allowances (UKAs) on 19 May, Ice Futures said late last week. LW

ICE EUA, Front Dec, EUR/t



EEX EUA Auction Results & Calendar

	This week's results	Next week's schedule
	EUR/t	Volume
Monday	37.66	3,288,500
Tuesday	37.25	3,288,500
Wednesday	37.56	2,575,000
Thursday	36.90	3,288,500
Friday	38.08	2,651,000

Europe can develop liquid hydrogen markets by 2030 – EEX

Europe may develop the first liquid hydrogen markets by 2030 and has the potential to set a global reference price, says the EEX exchange's chief strategy officer

"We see the potential for Europe to become a global hub for hydrogen," Tobias Paulun told delegates at the digital Energie Cross Medial conference on Tuesday.

The EU's green recovery plans to emerge from the coronavirus crisis led in the "right direction" and the planned boost for production and use of hydrogen should lead to the development of liquid markets this decade, he said.

A key "chance" for the development of such markets was using guarantees of origin (GO) to make hydrogen a tradable

commodity, despite a current lack of grid infrastructure, said Paulun.

He added the carbon market, with its certificates, was a good example.

"It's not necessary to make a regulatory decision about which quality of hydrogen to have," he said pointing to the colour debate about green, blue, turquoise or grey hydrogen.

There could be several products on offer and the market would then decide which products and standards prevail, according to Paulun.

Green hydrogen needs renewable

energy to power the electrolysis of water while blue and turquoise hydrogen are produced with natural gas, but avoid carbon emissions.

The production of grey hydrogen needs fossil fuels and leads to carbon emissions.

The European Commission and a number of member states, such as Germany or France, have tabled hydrogen strategies to boost the use of the fuel in order to decarbonise processes such as steel production and to reach climate neutrality by mid-century. *AL*

Hydrogen network would not reach gas grid scale

Europe needs a core hydrogen network to reach its decarbonisation targets, but it would not reach the scale of the current gas grid, an Agora Energiewende analyst said.

Small-scale clusters and corridors to transport renewable hydrogen would emerge, but they would not reach the 4,000 or 5,000 TWh of natural gas used today, according to Matthias Deutsch, a senior associate at the German firm.

"Even under the most optimistic scenarios, any future H2 network will be smaller than the current natural gas network," he said at a joint webinar with Afry management consulting on Thursday.

He warned against "oversizing" any future hydrogen network and urged developers to focus on "inescapable demand, robust green hydrogen corridors and storage".

Hydrogen, a clean-burning fuel that can be created synthetically, is a key part of the EU's decarbonisation plans.

Europe does not have the policy support instruments for renewable hydrogen yet and needs mechanisms such as contracts for difference to bridge the cost gap and make it more competitive, Deutsch added.

There is a "fairly big gap" of around 15 GW between the EU's 40 GW ambition of electrolysis capacity and member states' individual targets, said Stefano Andreola, senior consultant at Afry.

Only 1 GW of installed capacity is currently operational in the region, which could be due to a lack of coordination, he added.

"There's a lack of certainty over the investments in demand-supply but also infrastructure systems, so that the players in each of these roles in the value chain can't have any certainty that the other steps of the value chain will be there when needed," he said.

Demand for low-carbon hydrogen should be around 300 TWh a year between 2020 and 2050 from hard-to-decarbonise industries, according to a recent report by Afry.

Electrolyser capital expenditure could drop to EUR 436/kW by 2030 if a mixture of green and blue hydrogen is used, according to the analysis. This would drop to EUR 96/kW in a "fast green" scenario with more carbon-free production due to aggressive cost reductions, Andreola added.

Green hydrogen is produced using renewable electricity and water while its blue counterpart uses natural gas and carbon capture.

Meanwhile, connecting electrolyzers to the grid would allow them to produce hydrogen when power prices are low, according to Angus Paxton, principal at Afry.

He warned that having them powered by dedicated renewable sources risked "failing to capture some additional value that may be available to them if they were connected to the electricity grid".

"Hydrogen is not only a useful commodity in its own right, but it's also providing some useful storage services to the electricity market," he added. *RB*

UK's Drax to stop commercial coal generation this month

UK independent generator Drax is on course to halt commercial generation at its two remaining 645 MW coal-fired units later this month, with the country's three other coal plants to follow suit by 2025

A spokesman for Drax said this week there was no official fixed date for the unit closures later in March.

"Things of this nature are a bit of a moveable feast influenced by wider energy market moves," he said.

But he noted the two units – Unit 5 and Unit 6 – had capacity market agreements until September next year.

"They will be kept operational between this month and then, should the National Grid require them, as per the agreement, for system stress events," he said.

The UK currently has around 6.2 GW of coal-fired generation capacity, via four plants, and the country will phase-out all unabated coal units by mid-decade, or potentially earlier.

Meanwhile, Uniper's 2 GW Ratcliffe-on-Soar coal-fired plant, in Nottinghamshire, was the only coal-fired plant to be awarded

capacity in the UK's latest capacity market auction, held on Tuesday.

"Ratcliffe has capacity market agreements in place until the end of September 2024," said a spokesperson for Uniper UK.

She said Uniper was "working within current government policy", which would require the utility's only UK coal-fired power station to close by 1 October 2025.

"In December 2020, the government published its consultation on bringing forward the coal closure date by one year to 1 October 2024, and we now await the outcome," she added.

At the same time, EDF spokesman Martyn Butlin said the utility was exploring the option of securing secondary trading agreements for its 2 GW West Burton A plant, also in Nottinghamshire.

This would ideally keep one, or

more, of the four units operational until September next year, he said.

West Burton A currently has capacity agreements until September this year.

Ian Luney, the commercial director of EP UK Investments – a subsidiary of Czech utility EPH – said the firm's 566 MW Kilroot plant, in Northern Ireland, was scheduled to switch to gas.

"The two coal units are due to be replaced by new flexible open cycle gas turbine units on 1 October 2023," he said.

He noted the Kilroot plant does not participate in UK capacity auctions, as the Northern Ireland energy market is part of a consolidated "all island" market with the Republic of Ireland.

Coal's share of the UK power mix last month amounted to just 2.4%, down from a one-year high of 4.2% in January, TSO data showed. *LW*

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The background of the poster is a stylized illustration. On the left, a large white wind turbine stands prominently. In the foreground, there are rows of blue solar panels. To the right, a man in a dark suit is seen from the back, holding a laptop. The sky is a mix of blue and white, suggesting clouds or a bright day. The overall theme is renewable energy.

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