

Q1 Market Report

May 2021

Executive summary

Every week this year has, so far, witnessed some excitement in the power market. In fact, a new record has almost been set weekly.

Headlines include:

- Significant volatility in the prompt and gas market, with a record Day-Ahead price and system prices reaching £4,000/ MWh, the highest since 2001
- The Carbon price (EUAs) has been on a relentless charge since the beginning of the year, increasing by almost 30% in Q1
- There was a record-breaking T-1 Capacity Market Auction and exciting announcement regarding two new Reserve Reform products from National Grid.

Read our full Q1 report to learn more on what has happened in the energy industry over the past few months.

Market update

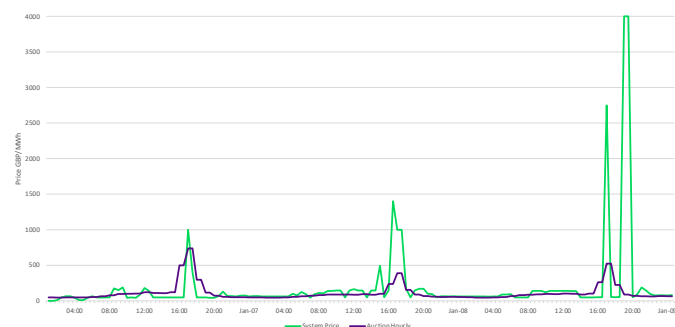
Volatility within the prompt market

There was a very turbulent start to 2021 with regards to power prices, mainly due to a high pressure weather system that resulted in negative temperatures combined with very low levels of wind. This was great for Limejump's flexible generation customers who were able to take advantage of this volatility, and reaffirming the business model for flexible assets. This weather system coincided with severe cold temperatures in Asia, resulting in a global tightness for LNG. As gas markets are key drivers for power markets, this resulted in high prices in both the prompt and forward markets in the UK.

Q1 wind, solar and hydro generation was lower than Q1 2020, by 16%, 14% and 34% respectively, while average demand was 2GW higher. These tight conditions led to more inefficient (and hence more expensive) generators being called upon to provide power to the grid; less efficient generators have a higher short run marginal cost due to expensive start-up and fuel costs.

Between 6-8 January there were two Electricity Margin Notices. This is a signal from National Grid that there is very tight supply. Historically, Electricity Margin Notices have only been called twice in the last five years, highlighting how much our energy system is transitioning and the need for more flexibility. As a result, System Prices reached over £1000/ MWh during seven settlement periods, most notably on the 8 of January where the System Price was £4,000/ MWh for two consecutive settlement periods - the highest price since 2001.

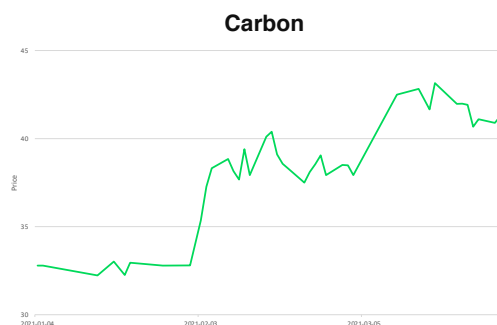
System prices



The market also saw very high bids accepted in the Balancing Mechanism with West Burton B2 and B3 having £4,000/ MWh bids accepted, and not forgetting there was also a record Day-Ahead spread at £1,400/ MWh on 13 January.

Carbon prices hit all-time high

Carbon trading hit an all-time high in Q1 of €43.15/ tonne and in early May broke through the €50/ tonne mark. EU Allowances (EUAs) are carbon allowances that fuel emitting power generators need to purchase to off-set their emissions under the EU Emissions Trading Scheme.



This continued rise in carbon is due to several factors.

Firstly, carbon allowances are gradually being reduced year on year, resulting in the price rise. Secondly, carbon pricing usually follows macroeconomic trends with emitters of not only power needing to purchase these but also institutional investors trading these units. With vaccines offering a clear route out of the pandemic, there has been more confidence in the global economy, reflected in stock markets that are reaching new highs. Relief packages, such as the \$1.9 trillion stimulus package in the US, have also contributed to this lift. There is no obvious resistance that could hinder the rise in carbon price, and it will be very interesting to see how it performs over the next quarter.

As part of the UK-EU Trade and Co-operation agreement, the UK is no longer part of the EU ETS scheme. Instead, a new UK ETS scheme will begin trading on the 19th of May for the 2021 compliance year. The UK scheme has been set up to mirror the EU ETS scheme, but is not formally linked – although both Governments may consider linking in the future. Carbon prices are reflected in wholesale power prices, so any variation between the EU and UK carbon prices may result in changes to the UK wholesale power price. The UK scheme has a floor price of £22/ tCO2 that is significantly lower than the current EU ETS price.

Volatile gas prices

Volatility in gas prices was a main feature in Q1 2021. We saw very high prices in January due to a concurrent cold snap in Asia and Europe which created real pressure on Liquid Natural Gas (LNG) supplies. Temperatures in Japan and Korea hit 15 degrees below normal, which meant Asian LNG prices were four times higher than Europe's, leading to all LNG cargo ships heading to Asia instead of Europe, further reducing supply and increasing gas prices here in the UK.

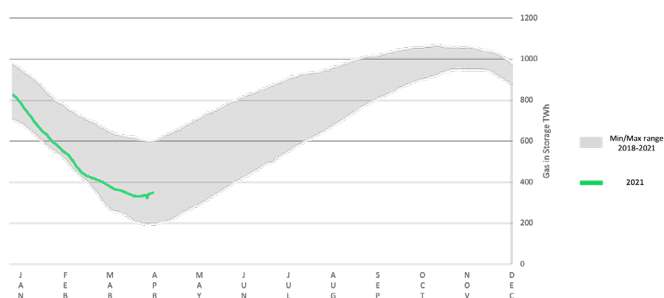
NBP Summer 2021



Forward market prices crashed in mid-February when LNG supplies started returning to normal as global temperatures rose, leading to a reduction in global demand. However, in March, gas prices had a resurgence due to cold weather coupled with tight fundamentals, meaning storage would have to be withdrawn later in the season.

The Suez Canal blockage caused extra volatility among gas prices, shown by a jump of 2.45p/ therm on 23 March, when the 'Ever Given' initially got stuck. This prevented LNG supplies from arriving in Europe for a week; however, supplies were plentiful enough for this to not cause a significant price spike. Gas storage levels are almost half of what they were this time last year.

European LNG gas in storage levels 2018-2021



Decoupling of two Day-Ahead markets

The two Day-Ahead Auctions decoupled at the beginning of this year, following the UK's departure from the EU. The EPEX Spot and Nordpool (N2EX) auctions are now run separately, occurring at different times resulting in differences in prices. This has created pricing inefficiencies that, ultimately, creates added cost for the end consumer; our strong view is that auctions should re-couple to create less inefficiencies and provide a better outcome for the market and consumers. You can read more about this on our blog [here](#).

Ancillary services

Capacity Market auctions

The T-1 (2021/ 22) and T-4 (2024/ 25) Capacity Market auctions took place in March with both auctions delivering high prices.

The T-1 auction saw record auction prices of £45/ kW PA in which 2.3GW of volume was awarded a contract. The T-1 auction is considered a 'top-up' auction as the majority of volume is purchased four years ahead in the T-4 auction. OFGEM increased the volume from 0.3GW to 2.3GW ahead of the auction due to concerns over generation cover for the winter. As a result, the auction was no longer 14x oversubscribed and instead, it was just 2x. The out-turn price was high as a large power station, West Burton (1.8GW), did not take a contract. Of the 2.3GW, 0.5GW was won by renewable generation and DSR which was a great indicator of the shift to flexible and sustainable generation.

The T-4 auction out-turned at £18/ kW PA which was the highest T-4 price since the 2016 Prequalification. The auction saw 40.8GW awarded a contract out of the 52GW entering the auction. Existing generation and interconnectors accounted for 90% of the volume. The remaining 10% included new build renewable, gas generation and DSR. Most notably, three nuclear sites (Dungeness B, Heysham 2 and Torness) did not take a contract this year.

Limejump won 11 T-4 contracts, two of which were 15-year contracts: one for the 46MW on-shore wind farm at Crossdykes in southwest Scotland and the other 50MW for the Minety/ Penso Power battery in Wiltshire.

Limejump is currently planning for the 2021 prequalification submissions for this summer. If you are interested in entering an asset or have demand response, then please **contact us**.

Dynamic Containment (DC)

The DC market is maturing, evidently through an increase in both the number of aggregators involved and the volume of MWs accepted. The price remains consistent at the cap at £17/ MWh. Over winter, the market saw some aggregators removing themselves from the auction to capture higher wholesale value and for triad chasing.

Excitingly, revenue stacking is now allowed with Dynamic Containment, opening up new revenue streams. **Limejump** is going live with Dynamic Containment with Minety/ Penso Power when their 100MW battery goes live in the next few weeks.

FFR pricing

EFA	Jan-21		Feb-21		Mar-21	
	Monthly	Weekly	Monthly	Weekly	Monthly	Weekly
1/2	9.77	5.79	10.14	6.83	10.33	4.37
3/4	10.80	8.00	11.13	10.87	11.71	7.89
5/6	12.76	9.89	14.13	12.63	13.62	8.95

During Q1, monthly FFR prices were at a premium to weekly auctions. We expect prices to remain high as battery owners have competing services, such as Dynamic Containment, meaning there is reduced competition in the FFR auction and hence less downward pressure on prices.

Day-Ahead STOR

In 2020, STOR tenders were suspended as it did not comply with the Clean Energy Package. National Grid has now redesigned tendering in order to comply with the legislation and the Day-Ahead STOR is now in operation. The Day-Ahead auction is for an availability payment only, and if you are successful in the availability then you can set the utilisation price that you are willing to accept from National Grid closer to delivery. Interestingly, STOR prices have become much more dynamic, with prices moving according to DA fundamentals.

Regulation update

Reserve reform consultation

In March, National Grid launched a consultation regarding its new 'Reserve Products'. These new products are required to meet the System Security and Quality of Supply Standards, requiring National Grid to hold enough capacity to meet the largest loss on the system. Currently, National Grid has STOR in its offering and, more recently, ODFM.

National Grid has proposed two products as part of its new Reserve Reform:

- Quick Reserve is proposed as full delivery by 30 seconds with one-minute extension for up to 20 minutes
- Slow Reserve is proposed as full delivery by 15 minutes, extendable by one-minute increments up to 240 minutes

Both products will be paid a 'pay as cleared availability payment' set at Day-Ahead and a utilisation price set close to real time. Consultation will continue over Q3 with the aim to launch these products in March 2022. **Limejump** is actively involved and responded to the first consultation; our regulatory team will keep customers updated on developments ahead of participating in the new products next year.

Quick reserve

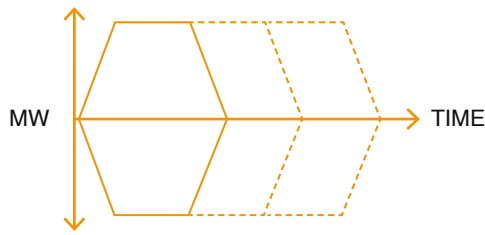


Figure 1: A representation of upwards and downwards dispatch of Quick Reserve, showing two, one-minute extensions

Slow reserve

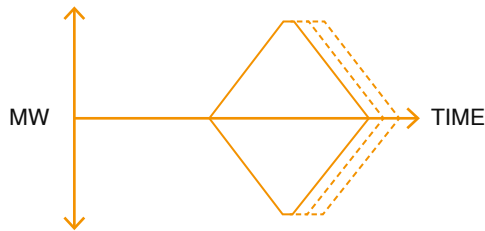


Figure 3: A representation of upwards and downwards dispatch of Slow Reserve, showing two, one-minute extensions

Optional Downward Flexibility Management (ODFM)

National Grid has reinstated ODFM for Summer 2021, which went live on 30 March. It was first introduced last year when we saw low demand during the pandemic.

ODFM will only be called upon after all other commercial products have been deployed and is expected to be infrequently used unless we see very low demand levels.

Participants are required to submit a weekly availability and will be notified a day ahead by 6pm. Payments will be pay as bid for utilisation and there is no availability payment. Participants must not be participating in the BM. **Limejump** is participating in this service again this summer.

Loss of mains protection

If you are a distribution connected generator connected before 1 February 2018, and you have not yet updated your mains protection then you should register for the Loss of Mains Change Programme (**register here**).

All upgrades must be completed by 1 September 2022. If your asset is at least 500kW and you have a loss of mains protection of 0.2Hz/s, then you are eligible for up to £5,000 of funding under the early bird scheme, but you must register by the 10 May 2021. Currently, National Grid operate the system with ROCOF (Rate of Change of Frequency) protection of 0.125Hz/s, but this is being increased to 0.5Hz/s as the system can operate at this level and reduce the costs to manage it.

P375

The approval of modification P375 allows behind the boundary meters, that meet the new Code of Practice (COP) 11 standards, to be used for settlement purposes for service providers registered as Virtual Lead Parties (VLPs). This modification comes into force in June 2022 and enables the full benefit of VLPs to be realised.

Over the next 14 months, Elexon will be testing their processes and systems to support settlement of the behind the boundary meters. We plan to capitalise on VLP and P375 from June 2022 when they are most effective. We currently offer our customers full access to the Balancing Market via our Supplier route.

Network charge changes

On 1 April we saw the end of BSUoS (Balance System Use of System) export embedded benefits as the Targeted Charging Review came into effect. Embedded generators will no longer be able to benefit from payments from Suppliers who will now pay BSUoS on gross demand rather than net of embedded generation.

We also saw the introduction of two benefits for stand-alone storage generators. Following modification 'CMP281' BSUoS, charges will no longer be applied to imported energy for a stand-alone storage facility holding a generation licence.

As a result of modifications DCP341/ 342, stand-alone storage facilities will no longer be required to pay Residual DUoS (Distribution Use of System) charges. You can benefit from this change even if you do not hold a Generation Licence for your site.

Conclusion

Q1 and Q2 have already offered a vast amount of exciting insight and events. The next two quarters will certainly be interesting, as there still appears to be a certain level of instability thanks to the global pandemic, unpredictable weather and various political factors. Whatever the future of the energy sector looks like, we look forward to analysing this in the next report.

If you have any questions or comments about our report, please get in touch with us at info@limejump.com

