

ESO Forward Plan 2020-21

Quarterly Reporting: April – June

21 July 2020



Foreword

Welcome to our quarterly performance report for Q1 2020-21. Each quarter, we report on the progress of our deliverables and a subset of metrics and performance indicators, which have data available at a quarterly granularity. This report provides an update on our performance and metrics against our deliverables set out in the 2020-21 Forward Plan Addendum

When we published our 2020-21 Forward Plan in March 2020, we were aware that many of our activities in the coming year would be impacted by COVID-19, but it was too early to set out the precise details of this impact. Therefore, on 17 July we published a Forward Plan Addendum², which sets out our latest view of what we will deliver, and where possible takes account of the feedback we received from Ofgem in its Formal Opinion³. We have added a new section after this Foreword which sets out how COVID-19 has impacted on our activities this quarter.

We now report our progress against our deliverables on the [Forward Plan tracker](#)⁴ which is updated monthly on our website. The Forward Plan tracker has been updated to take account of the revisions to deliverables set out in the Forward Plan addendum.

A summary of our quarterly metrics and performance indicators covering Q1 is shown in Table 1 below.

Metric/Performance Indicator	Performance	Frequency	Status
Balancing Cost Management	£139m outturn against £82.6m benchmark	Monthly	●
Energy Forecasting Accuracy	Both demand and wind forecast targets were not met	Monthly	●
Security of Supply	0 excursions for voltage and frequency	Monthly	●
System Access Management	2/1000 cancellations	Monthly	●
Customer Value Opportunities	Exceeding the benchmark with 5,115 GWh customer value created	Quarterly	●
CNI System Reliability	80 mins unplanned CNI system outages	Quarterly	N/A
Reform of Balancing Services Markets	69% spent on frequency response and 22% on reserve through competitive market	Quarterly	●
Code Admin Stakeholder Satisfaction	8.69 average rating exceeding the benchmark	Quarterly	●
Charging Futures	The BSUoS Taskforce webinar was postponed due to the COVID-19 pandemic	Quarterly	N/A
Month-ahead BSUoS Forecast	36% forecasting error	Monthly	●
Right First Time Connection Offers	97% first time connection offers	Monthly	●

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¹ <https://www.nationalgrideso.com/document/173131/download>

² <https://www.nationalgrideso.com/document/173131/download>

³ https://www.ofgem.gov.uk/system/files/docs/2020/05/ofgem_formal_opinion_2020-21.pdf

⁴ <https://www.nationalgrideso.com/document/162046/download>

Customer Connections- Customer Satisfaction	Customer and stakeholder satisfaction (SAT) surveys paused due to COVID-19 pandemic	Quarterly	N/A (surveys on hold)
Whole System - Unlocking Cross Boundary Solutions	DER connection: UKPN 21MW; WPD 119MW	Quarterly	N/A
Future balancing costs saved by operability solutions	£21.3m balancing costs saved by operability solutions	Quarterly	N/A
Capacity saved through operability solutions	Additional capacity released: UKPN 600MW; WPD 600MW	Quarterly	N/A

Table 1: Summary of metrics and performance indicators

- **Exceeding expectations**
- **Meeting expectations⁵**
- **Below expectations**

You can find out about our vision, plans, deliverables and full metric suite in the Forward Plan pages of our website⁶. We welcome feedback on our performance reporting to box.soincentives.electricity@nationalgrideso.com

Louise Schmitz

ESO Regulation Senior Manager



⁵ We have updated the colour scheme for our metrics to give increased transparency of our performance, noting that meeting expectations still represents good performance. This should give a clearer representation of the status of our activities.

⁶ <https://www.nationalgrideso.com/our-strategy/forward-plan>

Managing the effects of COVID-19

COVID-19 is an unprecedented situation, and at the ESO we are proud of how hard we have worked to respond quickly to changes and industry needs in an agile way. We put in place arrangements to keep our people safe, carried out extensive analysis of expected demand patterns, shared our forecasts in the Summer Outlook report and on a weekly basis and put in place new services to help manage the situation. We've been really transparent with industry about the effects of COVID-19, hosting webinars and publishing blogs detailing our responses on our website. Despite the inherent uncertainty, we collaborated across our teams to find the most cost-effective way to ensure system security, and shared the latest forecast cost information and cost forecast modelling with our customers via our updated BSUoS forecasts. We present further detail of these achievements within this section, and the remainder of the report contains an update on our planned deliverables and metrics during this period.

Keeping our people safe

Our key priorities during the COVID-19 period have been the welfare of our staff, and continuing to provide a secure and reliable energy supply. The preparations we had made ahead of the introduction of lockdown measures enabled us to act quickly once the severity of the situation became known.

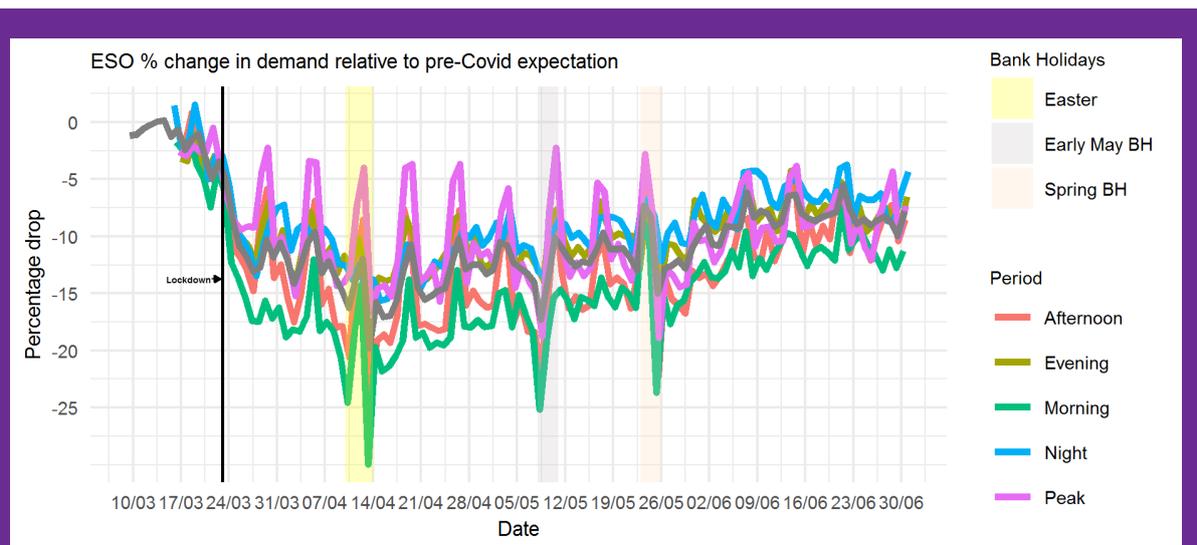
Our teams responded quickly to implement the pandemic plans we had previously prepared. Firstly, we reduced access to the control room on 6 March, and restricted external visitors and travel between our sites. We subsequently split the control room staff between our two control room sites over the weekend of 14-15 March, with no interaction between staff based at different control rooms. We then asked all staff to work from home where possible on 17 March. For those working in our control rooms, social distancing advice and enhanced hygiene regimes were put in place. Resource pools have been widened with the re-training of ex control room staff. Despite these challenges, ENCC teams and operationally critical support staff have continued to deliver business-as-usual activities, and meet the additional operability challenges described above.

The majority of our staff are now working from home, and have had to quickly adjust to deliver the significant volumes of deliverables required to successfully meet the large operability challenge resulting from the low demand levels experienced as a result of COVID-19.

Operating the system during COVID-19

In March 2020, ahead of the lock-down, stakeholders across the energy industry and government asked us to produce a revised demand forecast across the summer to take account of lockdown measures introduced to manage the COVID-19 pandemic. A range of scenarios were created, and these were benchmarked against other European countries. It was estimated that demand levels could be as low as 80% of what would have otherwise been expected, depending on the nature of the lockdown rules. The scenarios were built by taking the known proportions of demand in the UK (residential, commercial and industrial) and making pragmatic forecasts of how those demands could be affected by a number of factors. We have carefully monitored demand levels across the lockdown period, using actual demand levels to update our forecasts for the future. We also used this information to provide an updated view to industry in our Summer Outlook publications.

Our initial predictions, as well as specific forecasts of the low demands predicted to result from extreme weather, have proven to be very accurate so far, which is a result of the extensive analysis carried out by our teams. The chart below shows how the levels of demand experienced compared to the level which would otherwise have been expected.



For the electricity network to operate securely the requirements for voltage, stability, frequency, thermal and restoration must be met. These historically have been provided through large transmission connected generation. As the demand has decreased the number of power stations which are providing these services also decreases, this combined with a changing energy mix results in less power stations able to provide the key system requirements. In order to ensure the network operates securely the ESO has to take more action, more frequently and for longer to ensure that the needs of the system are met. These actions involved removing power from the system to bring on power stations to provide the system services whilst balancing the network within lower demands. The size and scale of these actions required more analysis, modelling, planning and actions to be carried out.

We successfully managed the operability challenges associated with this low demand, using a combination of standard tools and a range of bespoke new services. This has included a new optional downward flexibility management (ODFM) service to increase flexibility of distributed energy resources, a cost-reflective contract with EDF to reduce output at Sizewell (creating space on the system and delivering financial and operational benefits from reducing the largest single infeed), a new trial of a flexibility service delivered from battery storage, and increased usage of existing flexibility capabilities such as Super SEL (Stable Export Limit).

During the past quarter, we have operated the system through periods of unprecedented low demand, observing record lows for overall national demand 13.4 GW at 05:30 on 28 June and afternoon demand 15.3 GW at 15:00 on 30 May, For comparison, the previous overall lowest ever national demand observed was 15.8 GW, which was observed in July 2018 and August 2019. In terms of the afternoon minimum demand, the pre-COVID period lowest ever demand was 18.3 GW on 21 April 2019, Easter Sunday. Low demands have also fundamentally changed the energy mix, and we have observed two months with no coal fired power generation, a peak of 9.7 GW of solar generation, and the lowest ever average Carbon Intensity for Electricity Generation in May.

Increasing transparency and engagement

We have also increased the transparency around our activities, taking the lead by holding weekly webinars for customers, regular calls with transmission owners and distribution network owners, and liaising frequently with Ofgem and BEIS. We also published several articles explaining the challenges of operating the system with low levels of demand. We have reacted quickly to feedback, and have been agile and adaptive to the changing situation. Our webinars have been well received, with survey results from participants rating the webinar at 8.24 out of 10 overall and 8.23 out of 10 for its relevance to the attendee's role or company. Most survey respondents also judged the team responses to questions during the webinar as "extremely well" or "very well".

Balancing costs and charges

As a result of unexpected low demands due to COVID-19 and therefore necessary greater levels of intervention for longer periods of time, the cost of balancing the system has increased significantly, this is explained further in the narrative for metric 1A. It has also been more challenging to forecast the unprecedented electricity demands and this has affected our KPI accuracy performance in June. There still remains significant uncertainty around the societal response to COVID-19 and levels of demand, and we have therefore constructed a range of balancing cost scenarios out to September, setting out the cost impacts which would be associated with different amounts of demand suppression. We are also proactively supporting proposals to provide financial relief around TNUoS and BSUoS charges, and have learned lessons during this period that will feed into our operability plans for managing a highly decarbonised, decentralised system and delivering on our ambition for zero carbon system operation by 2025.

We also made use of the contractual arrangements set up as part of the Voltage Pathfinder to enable us to operate the system securely during this period. The pathfinder is one of the many ways the ESO is expanding who can provide the critical system services as the Voltage Pathfinder was using DER to provide reactive services for the first time.

Development of Optional Downward Flexibility Management (ODFM)

As GB entered lockdown, analysis to understand the impact of this on demand identified occasions where there would be a need for greater downward flexibility than NGEN currently had access to. ODFM was designed, developed and implemented within a few weeks to meet this need, bringing a time limited product to market in record breaking time. Simple and clear service terms were developed and processes established with market participants and DNOs to ensure the successful operation of this new service, which to date has been used 5 times. Whole system principles were key to ensuring the success of this service and the learning gained by ourselves, the market and the DNOs will feed into our Regional Development Programmes, the Open Networks Projects and applicable workstreams. We shared regular communications to explain the service and the system conditions under which it would be used at our weekly operational webinars, alongside a stand-alone webinar which received over 280 attendees. We concluded a market consultation and swiftly implemented improvements to contract terms in response to this feedback. This has resulted in over 4.5GW of contracted capacity from over 300 units, largely market players entering balancing services for the first time, and notably seeing solar farms operating in our markets for the first time. Ensuring that we have this additional tool in our toolkit has been a key enabler to our operations during this period of unprecedented levels of low demand.

Grid Code Changes

Grid Code modification GC0143 highlighted and addressed a lack of clarity in codes around last resort Disconnection of Embedded Generation which was implemented on 7th May providing clarity to all stakeholders.

Independent Assurance

We also sought independent assurance of our management of the operational challenges brought by COVID-19. The independent report concluded that our teams had quickly adapted their ways of working during lockdown and that "process established to ensure efficient work processes and flows of information...is unique among European TSOs". The report also stated that the ESO was "well prepared to meet a probable extremely low demand scenario" and that "by building on existing approaches and ways of working and thinking around the operability challenges to tackle the unprecedented COVID-19 scenario, ESO has and is able to react in an agile fashion and bring about an approach to deliver analysis and requirements for this extreme situation".

Project re-prioritisation and Forward Plan Addendum

During the first quarter of 2020-21, we identified the need for several new workstreams in order to ensure that the system was operable at the unprecedented low demand levels caused by the COVID-19 pandemic and associated lockdown. This additional workload, along with the requirement for social distancing and the changing priorities of our stakeholders, meant that we had to reassess whether the activities that we had originally planned were the right ones to focus on. In

May 2020 we shared our revised priorities with stakeholders in a webinar, outlining our prioritisation framework which sets out the priority order of keeping our people safe, keeping the lights on, financial management, licence obligations, managing and meeting expectations, and RIIO-2 enablement.

We have subsequently agreed regulatory flexibility with Ofgem for a number of projects which have been directly impacted by COVID-19, although we note that the COVID-19 pandemic has impacted on every aspect of the way we work, from how we engage with our stakeholders, to how we collaborate with our colleagues, and how we manage the interactions between our personal and business priorities, and as such we anticipate that COVID-19 will continue to impact on our ability to deliver. We will continue to use our regular reporting processes to keep our stakeholders informed.

In July 2020, we published a Forward Plan Addendum⁷ to set out our revised view (as of July 2020) of what we will deliver during the year. We have also taken the opportunity to address some of the feedback Ofgem provided in the Formal Opinion, updating some of our metric benchmarks and providing more detail about our deliverables. This quarterly report, and all subsequent incentives reports, will set out our progress against the deliverables and metrics outlined in the Addendum.

⁷ <https://www.nationalgrideso.com/document/173131/download>

Role 1 Control Centre operations

1A Balancing cost management

June 2020 Performance

The approach we use for measuring our Balancing Costs performance is based on a linear trend in a five year rolling mean, based on annual Balancing Services Costs (excluding Black Start). In order to meaningfully employ a linear trend, the data points need to handle one-off permanent changes to the system network which would not be captured by the five-year trend. So far, the only change modelled in this way has been the Western Link. We also make adjustments for significant events which we expect to have an impact on balancing costs, whether this is an upwards or downwards adjustment. These are trends which we would not expect to be captured in the 5-year rolling average, because they relate to either new assets or new trends in market behaviour. Additional information regarding balancing costs calculation and benchmark adjustment can be found on our website⁸.

Low demand periods are challenging to manage and the volume of actions required by the ESO to ensure the system remains secure lead to higher costs. During the period where demand is impacted by the COVID-19 pandemic, the ESO's balancing costs spend is expected to be significantly higher than the benchmarks stated here. During this period, we will continue to report our performance in comparison to the benchmark, but will focus on providing a detailed narrative which explains the costs we have incurred. We also welcome Ofgem's review of costs incurred over the summer period, and will be as transparent as possible with our stakeholders about the actions we have taken.

Please note that the benchmarks were re-calculated in July 2020 to remove the ElecLink adjustor since the interconnector go-live date has been delayed.

	Apr	May	Jun	Jul	Aug	Sep	Total
Benchmark cost (£m)	67.0	48.2	82.6	65.5	102.0	103.7	1199.3
Additional cost forecast due to WHVDC fault (£m)	0	0	0	0	0	0	0
Benchmark adjusted for WHVDC (£m)	67.0	48.2	82.6	65.5	102.0	103.7	1199.3
Outturn cost (£m)	121.4	159.0	139.0				
Status							

Table 2: Apr-Sep 2020 Monthly balancing cost benchmark and outturn.

	Oct	Nov	Dec	Jan	Feb	Mar	Total
Benchmark cost (£m)	126.9	82.8	126.6	133.2	142.5	118.3	1199.3
Additional cost forecast due to WHVDC fault (£m)	0	0	0	0	0	0	0
Benchmark adjusted for WHVDC (£m)	126.9	82.8	126.6	133.2	142.5	118.3	1199.3
Outturn cost (£m)							419.4 [YTD]
Status							

Table 3: Oct-Mar 2020-21 Monthly balancing cost benchmark and outturn.

⁸ <https://www.nationalgrideso.com/document/166231/download>

Supporting information

Q1 2020-21 Balancing Costs have been significantly affected by the COVID-19 pandemic.

With lockdown restrictions in place, the demand levels on the system have been much lower than those experienced in previous years. Lower demand levels lead to increased challenge in operating the system, more intervention in the market, higher volumes of actions and ultimately higher Balancing Costs. Long periods of very low demand drive costs even higher as the actions available for use are limited (e.g. pumped storage units can only be run for a certain period of time before water management issues means that the volume is no longer available).

Although April demands were suppressed due to COVID-19, the weather was fairly stable with many warm, sunny but still days. The high costs experienced were contributed to throughout due to the low demands but concentrated largely around the very low demand points at Easter. May experienced long periods of very low demand particularly around the bank holidays, coupled with many days of very high wind and much sunnier conditions in general. The very high costs experienced largely fell on the bank holiday weekend periods but the overall average demand for May was significantly lower than previous years and the cost to manage the system at these demand levels was reflective of this. ODFM was used on a number of occasions.

Balancing Costs for June were down from May but remain above the benchmark. The impact of COVID-19 reducing the demand level has continued with the slow easing of lockdown restrictions and the average demand was still significantly lower than that of June 2019. The slightly lower demand suppression, lack of bank holidays, lower wind levels and experience gleaned from operating the system in earlier months meant the system was slightly less challenging to manage with energy and constraints both down from May.

Although the lowest demand point in Q1 (and on record) was experienced in June, the more favourable conditions experienced (shorter periods of very low demand, interconnectors exporting) meant that ODFM was not required.

Performance benchmarks

- **Exceeding expectations:** at least 10% lower than the figure implied by the benchmark.
- **Meeting expectations:** within 10% of the figure implied by the benchmark.
- **Below expectations:** at least 10% higher than the figure implied by the benchmark.

1B Energy forecasting accuracy

June 2020 Demand Forecasting Performance

As outlined in the Forward Plan Role 1 Energy Forecasting Accuracy metric (Metric 1b), the ESO's forecasting performance will be assessed at the end of the performance year. Annual performance targets have been calculated with exceeding, in-line with and below expectations values set out. To allow transparency of our performance during the year, each month we will report an indicative performance for both metrics.

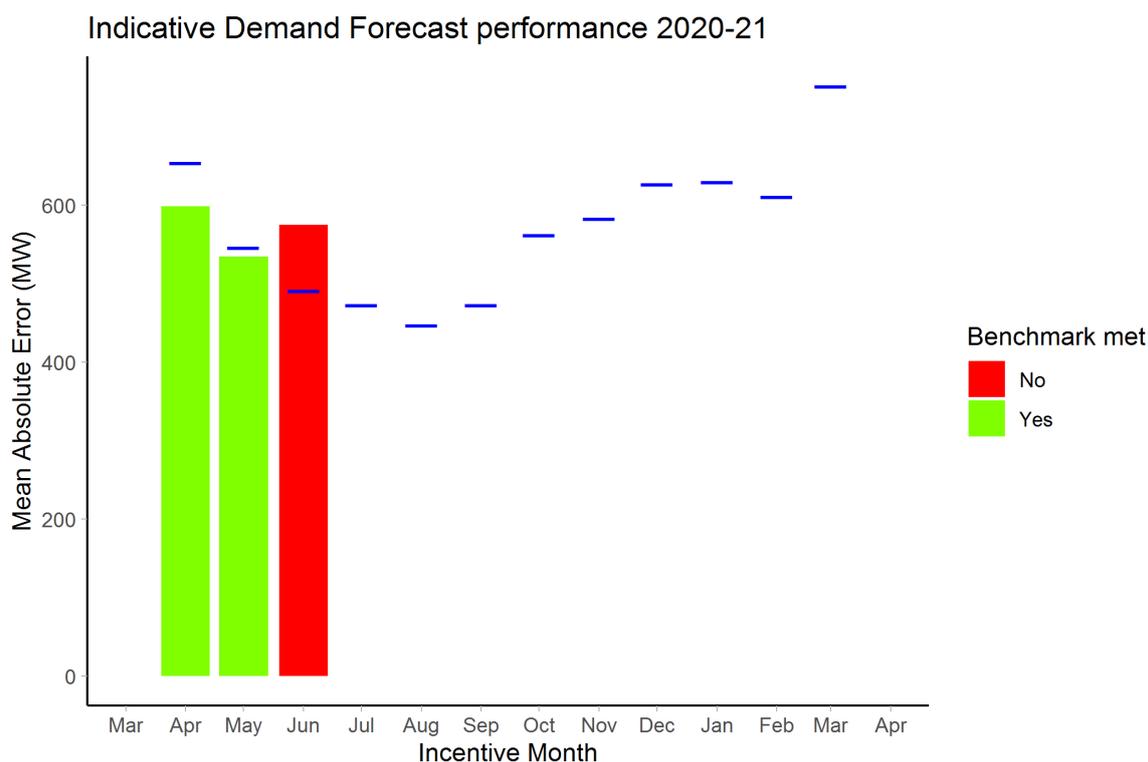


Figure 1: Demand Forecasting , shows our performance for April as the green histogram against the blue target line.

Day ahead demand forecast benchmarks for financial year 2020-21

Month	Benchmark (MW)	Month	Benchmark (MW)
April	654	October	562
May	546	November	583
June	491	December	627
July	473	January	630
August	447	February	611
September	473	March	752

Table 4: Demand Forecasting Benchmarks

Supporting information

DA Demand Indicative Performance for June: 575MW

In June 2020, our day ahead demand forecast indicative performance was worse than the benchmark of 491MW. June's MMAE (monthly mean average error) was 575MW.

As mentioned earlier, COVID-19 brought with it uncertain demand levels and shape across the overnight, morning, afternoon and evening periods. For example, the morning period across Q1 experienced lows of 25 to 30% demand suppression and ESO managed some unprecedentedly low national demand outturns. Despite these challenges on the first two months of Q1, day ahead demand performance was within the indicative monthly target, 598MW & 535MW respectively.

Uncertainty levels increased further in June as the UK government started to relax lockdown measures. The demand response was challenging to forecast during this time as it was unclear how much demand would return and at what consumption level, however ESO managed this well. The main reason of the errors in June came from the errors in the solar generation forecasting. This is going to continue to be the most impactful source of error as the solar capacity increases.

The weather impact was also difficult to assess in June (see below as discussed in the day ahead wind section, for more information).

June 2020 Wind Generation Performance

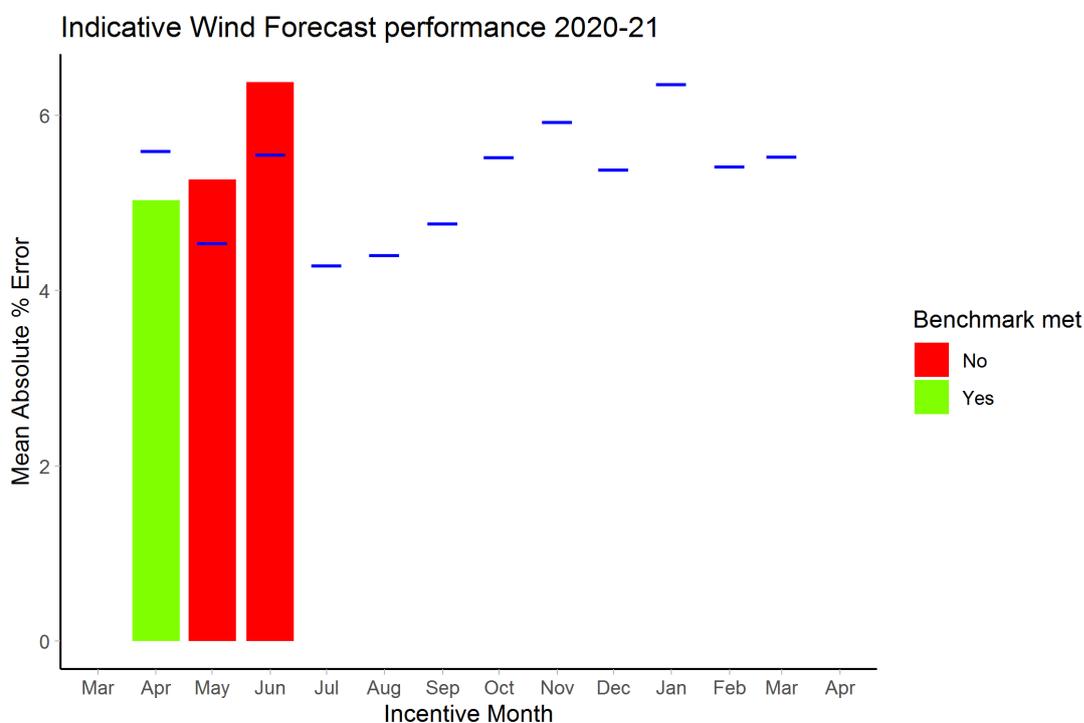


Figure 2 shows our performance this month as the green histogram, against the blue monthly target.⁹

⁹ Corrected on 28 January 2021

BMU wind generation forecast benchmarks for financial year 2020-21

Month	Benchmark (%)	Month	Benchmark (%)
April	5.60	October	5.53
May	4.54	November	5.93
June	5.56	December	5.38
July	4.29	January	6.36
August	4.41	February	5.42
September	4.77	March	5.54

Table 5: Wind Forecasting Benchmarks

Supporting information

DA Wind Indicative Performance: 6.47%¹⁰

In June 2020, our day ahead wind forecast indicative performance was not within the target of 5.56%. June's MMAPE (monthly mean absolute percentage error) was 6.47%.¹⁰

Monthly indicative day ahead performance target in April and May was 4.88%⁹ and 5.27% which resulted in one successful month.

The first day of June was good from a wind power forecasting perspective. But the 2nd and 3rd had a band of changeable weather that passed across GB. This was the cause of the greater than 15% errors for much of those 2 days. On 6 June, a low pressure system passed directly over Scotland. It is normal to get increased wind power forecasting error because the timing, track and intensity of these systems is difficult to predict accurately.

On Tuesday 16 June a significant band of thunderstorms passed over and indicated atmospheric instability which is often difficult to predict. This continued for the following day with an intense band of rain and squall line that developed across the Midlands. On the 26 June, a heavy thunderstorm passing near to Peterhead indicated atmospheric instability there. The weekend of the 27th and 28th had a very large scale wind storm that was centred around Scotland bringing windy conditions all the way across England and Wales. Difficult in predicting the exact timing of the departure of this storm system was the cause of the larger wind forecast errors in the last days of June.

Performance benchmarks

- **Exceeding expectations:** Error which is at least 5% lower than the benchmark
- **Meeting expectations:** Error which is within 5% of the benchmark
- **Below expectations:** Error which is at least 5% higher than the benchmark

¹⁰ Corrected on 28 January 2021

1C Security of Supply

June 2020 Performance

Quality of service delivered in running the electricity network by providing the number of reportable voltage and frequency excursions that occurred during the previous month, and a total for the year to date.

	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar
Voltage excursions	0	0	0									
Frequency excursions	0	0	0									

Table 6: voltage and frequency excursions over 2020-21

Supporting information

There were no excursions on both voltage and frequency. Our performance was therefore exceeding expectations in June.

Performance benchmarks

- **Exceeding expectations:** 0 excursions for both voltage and frequency over 2020-21
- **Meeting expectations:** 1 excursion for either voltage or frequency over 2020-21
- **Below expectations:** More than 2 excursions in total over 2020-21

1D System Access Management

Publishing this metric encourages the ESO to investigate the causes of outage cancellations and amend processes where appropriate to prevent a repeat. We will ensure that we seek to minimise costs across the whole system and all timescales when making a decision to recall or delay an outage on the transmission system.

June 2020 Performance

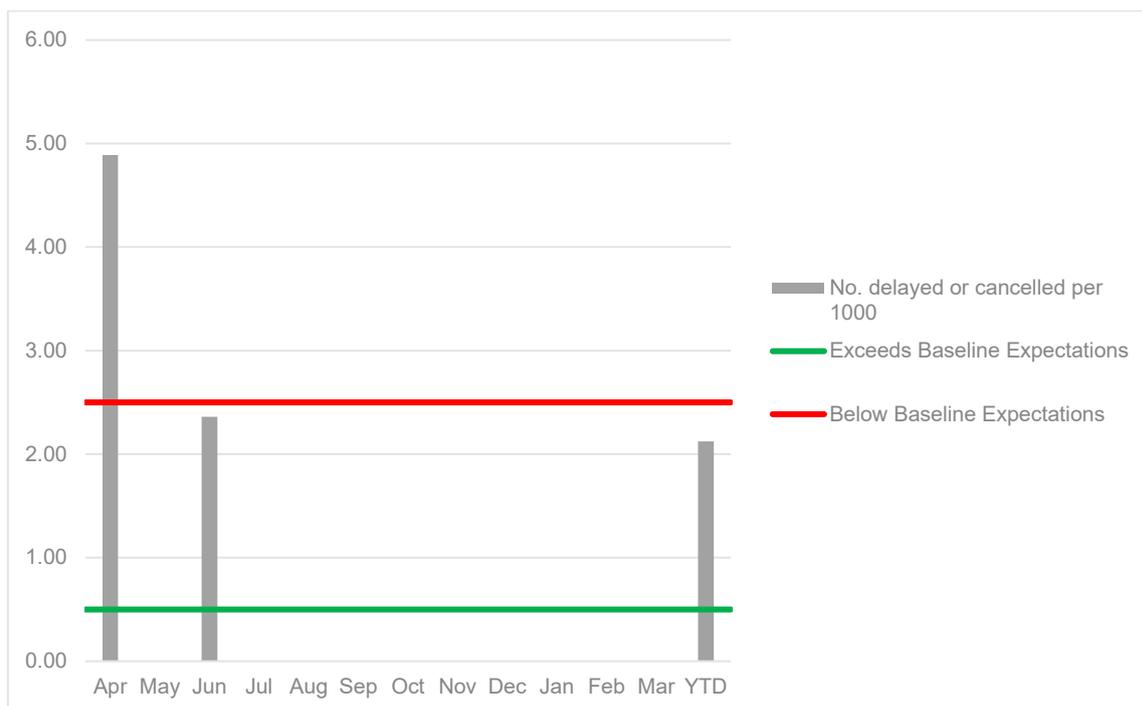


Figure 3: Number of outages delayed by > 1 hour, or cancelled, per 1000 outages

	Number of outages	Outages delayed/cancelled	Number of outages delayed or cancelled per 1000 outages
Apr	409	2	4.89
May	629	0	0
Jun	847	2	2.36
July			
Aug			
Sep			
Oct			
Nov			
Dec			
Jan			
Feb			
YTD	1885	4	2.12

Table 7: Number of outages delayed by > 1 hour, or cancelled, per 1000 outages

Supporting information

For June, the number of delays or cancellations per 1000 outages has risen a small amount to 2.12, which is within our 'Meets Expectations' target of 2.50 cancellations or delays per 1000 outages. There was a further increase of 218 outages this month, totalling 847 for June, as more works resume on the transmission network and greater access has been provided. Overall there was a total of two cancellations or delays caused by the NGESO.

There was a discrepancy between the offline Transmission Analysis software results used within planning timescales to assess an outage combination, and the real-time software simulation which the control room use. After the outage plan left the planning department the ENCC saw that with the outage released, there could be a fault that would cause unacceptable voltage levels on the system. Therefore, the decision was made to delay the outage and investigate the discrepancy between the two offline analysis tools which is still on-going. The second delay was due to human error in the planning department where a combination of Main Interconnected Transmission System (MITS) outages had not been fully assessed. When this was handed to the control room there would have been an active, high-cost, constraint if released. The decision was made to delay the outage until another circuit returned the following day to minimise the impact on system constraints.

The NGESO has continued to engage with the TOs, via a monthly managerial call, and DNOs regularly to ensure there is effective communication in re-planning work that was initially postponed.

Performance benchmarks

- **Exceeding expectations:** < 1 outage cancellations per 1,000 outages
- **Meeting expectations:** 1 - 2.5 outage cancellations per 1,000 outages
- **Below expectations:** > 2.5 outage cancellations per 1,000 outages

1E Customer Value Opportunities

April – June 2020 Performance

The TOs need access to their assets to upgrade, fix and maintain the equipment. They request this access from the ESO and we then plan and coordinate this access. This metric will sharpen our focus on creating and capturing added value for the customers and stakeholders as part of the network access process.

We will look for ways to minimise the impact of outages on energy flow and reduce the length of time generation is unable to export power into the network. We will measure the outcome of the metric in terms of avoided MWh lost (or constrained 'off').

This work can benefit end consumers if we spend less managing system constraints, and can benefit connected customers (e.g. generators) if the volume of MW and/or duration they are constrained off is reduced (particularly if they have non-firm connections agreements). There are indirect benefits to the end consumer as a result of the direct customer benefits, for example the less time a wind generator is constrained off then the less time it is being prevented from providing low-carbon energy to the system. Another indirect consumer benefit of minimising constrained generation is that it reduces the impact on market liquidity and competition.

Ofgem's Formal Opinion feedback indicated that some of our metric benchmarks should be more ambitious. We have reviewed the feedback provided by Ofgem, and made changes to our benchmarks for this metric to take account of last year's performance, and make the benchmarks more challenging.

The total outturn customer value created from both direct and indirect savings in 2019-20 was 11,518 GWh. We add a 10% increment of 11,518 GWh to work out our baseline of 12,500 GWh. We further stretched this target to 15,000GWh as the benchmark for exceeding expectations.

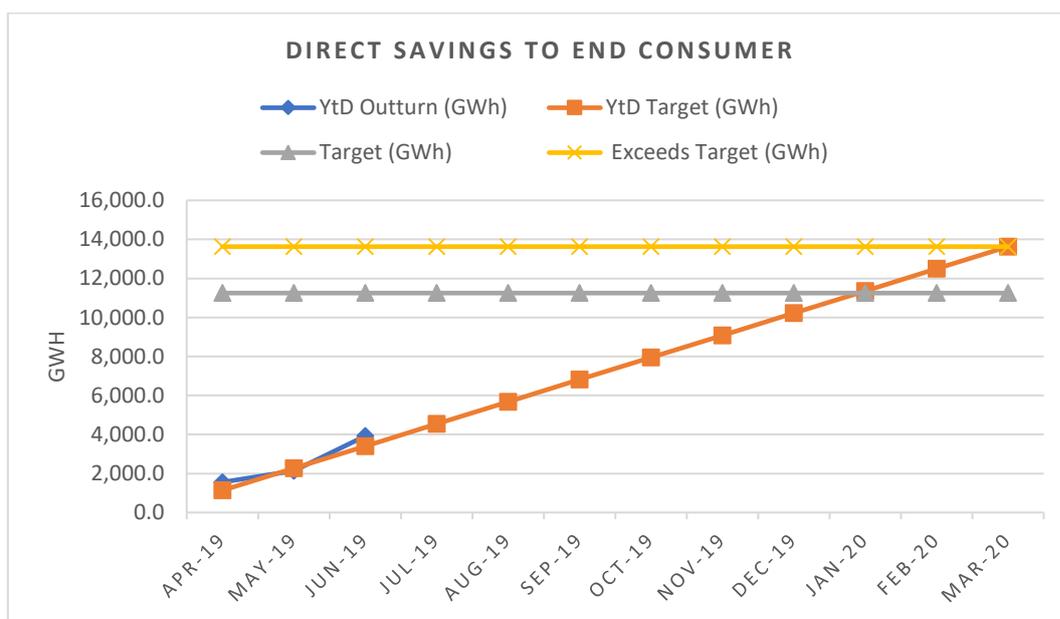


Figure 4: Direct Savings to End Consumer

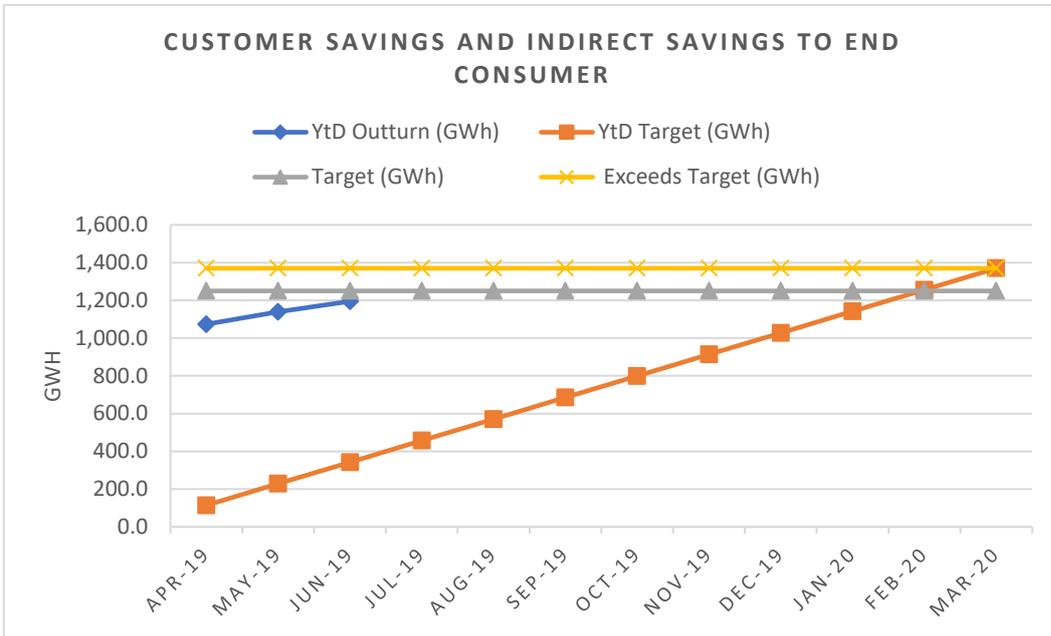


Figure 5: Customer Savings and Indirect Savings to End Consumer

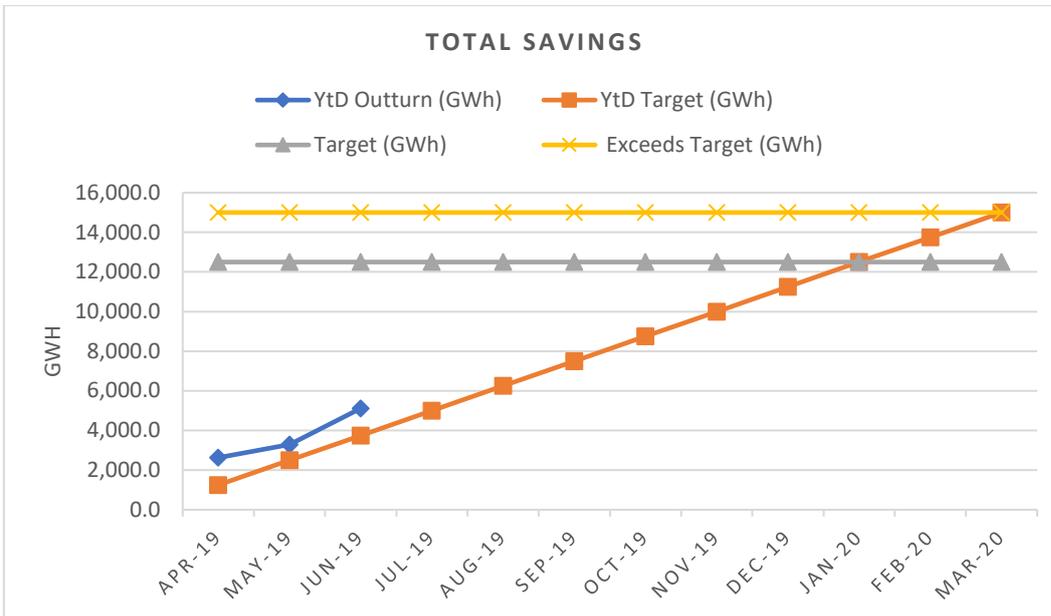


Figure 6: Total Customer and End Consumer Savings

Supporting information

Following Network Access Planning's (NAP) success with the Customer Value Opportunities metric in 2019-20, all teams in NAP have continued to improve and find more innovative ways of planning system access to deliver savings and benefit to the end consumer.

The Network Access Planning team has made excellent progress this quarter, and we are currently on track to exceed our metric target for both direct savings to the end consumer (figure 4) and indirect savings to the end consumer (figure 5). In total, we are performing above the metric benchmark at this point of the year (figure 6).

During this quarter, the Network Access Planning team in collaboration with our stakeholders (TOs and DNOs) identified and recorded about 60 instances (170% increase from last year) where its actions directly resulted in adding value to the end consumers and its innovative ways of working facilitated increased generation capacity to the connected customers. This represents a total of 5,115 GWh of extra generation capacity, which would have otherwise been constrained at a cost to the consumer.

Performance benchmarks

Total Savings:

- **Exceeding expectations:** Greater than 15,000GWh
- **Meeting expectations:** Total savings between 12,500GWh and 15,000GWh
- **Below expectations:** Less than 12,500GWh

Direct savings to end consumer:

- **Exceeding expectations:** Greater than 13,630 GWh
- **Meeting expectations:** Between 11,250 GWh and 13,630 GWh
- **Below expectations:** Less than 11,250 GWh

Customer savings and indirect savings to the end consumer:

- **Exceeding expectations:** Greater than 1,370 GWh
- **Meeting expectations:** Between 1,250 GWh and 1,370 GWh
- **Below expectations:** Less than 1,250 GWh

1F CNI System Reliability

April – June 2020 Performance

This is a Performance Indicator to report on unplanned outage minutes, for a subset of the CNI (Critical National Infrastructure) systems, as an indicator of our control system performance. Reporting this on a quarterly basis allows us to establish a suitable benchmark level, ahead of RIIO-2 where it could be used as a metric to measure our performance.

Unplanned CNI System Outages (mins)				
	Q1	Q2	Q3	Q4
Balancing Mechanism (BM)	60			
Integrated Energy Management System (IEMS)	20			

Table 8: Unplanned CNI System Outages

Supporting information

A loss of functionality was experienced in BM on 26 April for 60 minutes after a server process failed and had to be manually restarted.

Monitoring has been put in place to detect this failure in the future.

IEMS required two emergency mode changes in Q1 to allow support teams to resolve issues on the Active system, leading to 10 minutes of “hands off” while systems were swapped between data centres. The first issue involved State Estimation of transmission system due to a bug with Static VAR Compensators (SVCs) under certain load conditions, and the second was to roll back a bug introduced from a system build change.

More enhanced testing is now being conducted on future builds to prevent a re-occurrence of the second issue.

Role 1 Deliverables

This section reports on our performance against the deliverable descriptions and dates set out in the Forward Plan addendum.

April – June 2020 Performance

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Upgrade of information systems			
Widen access to API (Application Programming Interface) System	Q1-Q2 2020-21		<p>The scaling requirement is an ongoing process to allow a wider range of connections for market participants.</p> <p>Code changes are being progressed to allow for a wider range of connection options.</p>
Expand dispatch facility to handle a large number of small Balancing Mechanism Units, subject to market take-up	Q1-Q4 2020-21		<p>There has been 1 VLP connection during Q1 of 2020-21. On 23 April, Flexitricity successfully went live as the first VLP unit actively participating in the BM through the Wider Access arrangements which went live in December 2019. In total, we are in conversations with 18 participants who would like to use the VLP route.</p>
Interconnector programmes	Ongoing		<p>NGESO's activities are on track, but we anticipate delays to commissioning dates for some interconnectors.</p>
Significant upgrading of IT systems to prepare for European Network Codes	Q3 2020-21		<p>The ESO was granted a derogation from Ofgem in respect of project TERRE, which was valid until the end of June 2020.</p> <p>The impact of COVID-19 has now delayed the forecast go-live to Q3 2020-21 at the earliest.</p>
Frequency and Time Equipment version 3 (FATE-3) Project	Q4 2020-21		<p>The FATE-3 project has a dependency on new phasor data infrastructure and establishing a connection to Scottish Power Transmission. Our Inertia Monitoring projects also require this, so we have adjusted the timing of the FATE-3 project such that it will be delivered in line with when the new</p>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			infrastructure is available to use. The new timing also aligns with the availability of new data centres, hence optimises code development for FATE-3.
PI gateway refresh	Q2 2021-22		The PI Gateway project has completed software development with our software supplier and has all test environments in place. Delivery was delayed due to difficulties aligning suppliers and stakeholders, and due to the requirement to make changes to equipment, causing a delay from Q4 2019-20 to Q2 2021-22. The existing PI link can be maintained until we further upgrade our systems.
Platform for Energy Forecasting (PEF)	Q1-Q4 2020-21		New version of Strategic Roadmap published on 25 June ¹¹ .
Design Authority	Q3 2020-21		Design Authority is on track, and received its first stage of approvals from the ESO RIIO-2 Stakeholder Group (ERSG) on 20 May.
Improving information access	Q4 2020-21 - Q4 2025-26		This project is on track for delivery later in the year. The timescales we are working to are: <ul style="list-style-type: none"> • Digital and Data Strategy – December 2020 • Data Roadmap and Investment Plan – Q4 2020-21 • Data and Analytics Systems Architecture – Q3 2020-21 • Data Foundation project (begin implementation of the foundational elements of the architecture) – Q3 2020-21

¹¹ <https://data.nationalgrideso.com/backend/dataset/b290ba7c-8076-4122-9e83-de723e1e5425/resource/6573bd88-c17c-41d8-b4d1-6ae89d796e40/download/ngeso-pef-energy-forecasting-strategic-roadmap-june-2020-update.pdf>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Transmission Outages, Generation Availability (TOGA) replacement	Q3 2020-21		<p>The project is delivering in an agile way, and its requirements can expand in complexity when the design phase and detailed analysis for each release and sprint are completed.</p> <p>We are incorporating requests from external stakeholders, and there may be more changes and feedback through the continued demonstrations through our engagement activity. There is also the desire to include 'regional/ national diagrammatical outage representation'.</p> <p>In addition to this, we have been progressing an OC2 code change to support Generator Outage And Maintenance Planning (GOAMP) replacement - GC0130.</p> <p>We are now targeting a functional Go-Live date in November 2020 across both the TOGA replacement system (Electricity Network Access Management System ENAMS) and GOAMP replacement.</p>

Transparency of data used by our ENCC in our close-to-real-time decision making

More clarity of operational decision making	Q2-Q4 2020-21		<p>We went live with the jpeg version of the System Operating Plan (SOP) in June. Have identified a high level process for publishing machine readable version, it will require a small BM change (4-6 FTE days) so will require prioritisation and potentially funding.</p> <p>The Super Stable Export Limit (SEL) tool has been created, further discussion on the go-live date is ongoing. Migration of trade data across to Data Portal to be submitted for internal sanction in August. P399 will feed into this deliverable.</p> <p>The skip rate publication (item 1) will provide details on the reasons actions were taken out of price merit, which will</p>
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Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			<p>therefore support understanding system needs and how the market operates (item 3).</p> <p>Prior to its postponement, we had started discussions internally about the inclusion of an interesting day (using skip rate data) at our next operational forum, we will continue to look for a suitable opportunity to do this as an intermediate step toward skip rate publication. We will provide an update on when we plan to do this in the next few weeks.</p>
Publishing the BMU ID for trades	Dependent on P399 code change		<p>Work group for modification P399 met on 17 July 2020, 4 IT solutions were presented to industry by National Grid ESO. The work group voted for option 1 which is about publishing the information on the NGESO website, whilst adding the additional data in to BMRS. This has now gone to work group consultation and will follow the normal BSC change process. The end date of the modification process is based on when the work group can get the relevant information to Panel.</p>
Support access for Intermittent Generation			
Deliver Power Available integration phase 1	Q1 2020-21	Target date met	Power Available (PA) phase 1 has now been completed.
Deliver second phase of Power Available integration	Q3 2020-21		<p>In order to provide industry with a view of how balancing service frameworks will evolve, we are producing a “wider strategy for flexibility from intermittent generation” mini-report as part of our 2019-21 Forward Plan commitments. The strategy will cover current opportunities for intermittent generation and focus in particular on opportunities for wind.</p> <p>The PA project is a key example of how the ESO has sought to unlock the potential of wind to provide balancing services, and</p>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			<p>provide greater transparency of provider capability. We will use the capabilities PA provides to open up markets further to intermittent generation providers and support our ambition of zero carbon system operation by 2025.</p> <p>Delays in implementing Phase 1 have caused a knock-on impact to the delivery of Phase 2.</p>
Implement State of Energy signal	Q3 2021-22		Builds on the work of PA, so delays in that project are expected to cascade into the state of energy signal project.
Whole system operability			
Inertia measurement	Q2 2020-21 (first supplier) Q1 2021-22 (second supplier)		<p>In the first quarter of the year we have installed and carried out initial testing using test data of the first system. We are in the process of establishing data links with NGET and SPT to obtain the live monitoring data from their networks to complete the installation and full testing.</p> <p>For the second system, a tender has been completed to design and build the modulator required to provide an accurate controlled signal across the network. This will be built over the next 12 months enabling this system to now go live in summer 2021.</p>
Product Roadmap for Restoration implementation			
Deliver competitively tendered black start contracts	Q1-Q2 2021-22		The tenders are running as expected.
Electricity Operational Forum and stakeholder engagement			
Electricity Operational Forum	Changed format and delivered throughout the year.		Weekly ENCC webinars are being held to maintain stakeholder engagement while social distancing measures are in place
ENCC visit days	Changed format and delivered		Weekly ENCC webinars are being held to maintain

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
	throughout the year.		stakeholder engagement while social distancing measures are in place

Notable events this quarter

Power Available

We were proud to integrate the Power Available signal into our Control Room systems and processes. This was a significant piece of work, requiring major industry code change, and modifications to critical IT systems. Our control systems can now more accurately calculate the response and reserve capability held on each generator, enabling wind generation to compete with other generation technologies to provide real time response and reserve services. We were able to deliver this despite challenges associated with the COVID-19 pandemic, managing the safety of our people and continuing to operate the system securely.

Arenko trial

Following our requests to industry to explore flexibility we partnered with Arenko to trial a new approach to accessing flexibility from battery assets – these learnings have been shared, and a second trial will take place with the learnings used to develop a better industry trial later in the year.

System Operating Plan (SOP) publication

On 29 June, as part of our drive to be more transparent in our operational decision making, we started publishing on our data portal the System Operating Plan (SOP) developed by our control room. The SOP is a snapshot of key information that is available to the ENCC at that time of its creation, and based on this information provides a flexible strategic plan to ensure the ESO fulfils all its obligations to balance the system. This information within the SOP ensures that the most economic, secure, and flexible plan is developed for that moment in time at the time of handover.

Notable events this month

Non-BM Ancillary Service Dispatch Platform (ASDP) Instructions

From 25 June 2020, we began publishing a Non-Balancing Mechanism Short Term Operating Reserve (N-BM STOR) instructions on our Data Portal. These instructions were only visible to the market, via Balancing Services Adjustment Data (BSAD), ten minutes after the end of the Settlement Period (SP), unlike actions in the Balancing Mechanism (BM) which are visible within two minutes of acceptance. This deployment solves this market issue without the need for a modification to be raised. ASDP is the first ESO system to connect to the Data Portal.

ESO posts update on STOR and Fast Reserve tenders

We posted an update letter¹² on the Short-term operating reserve (STOR) and Fast Reserve tenders on 18 June 2020. The ESO continues to engage with Ofgem on its derogation requests against Article 6.9 of the Clean Energy Package (CEP). As part of this engagement, we have started to share the outline plans for making the necessary changes to the system in order to be

¹² <https://www.nationalgrideso.com/document/171616/download>

fully compliant with the CEP by April 2021. We are currently finalising more detailed plans and undertaking a complete review of the systems and process changes that will be required for full compliance with the CEP. On 16 July 2020 we published an update to our letter¹³ from 18 June 2020.

Platform for Energy Forecasting (PEF) Strategic Project Roadmap

Our strategic forecasting project aims to replace our existing Energy Forecasting System (EFS) with an advanced cloud-based Platform for Energy Forecasting (PEF) system, while designing and improving forecasting models, methodologies, and applying advanced statistical learning and machine learning modelling techniques as well as automation. This Roadmap¹⁴ was published on 25 June 2020 and is an update to the PEF roadmap published in June 2019. In the updated roadmap, we have included a high-level modelling approach, methodologies and forecasting accuracy improvements made so far.

Summer Operational Liaison Meeting

The Summer Operational Liaison Meeting (webinar) held on 23 June 2020 provided an opportunity to ensure the industry is kept updated on the actions the ESO are taking to prepare for the operability challenges this summer. There were 32 attendees from NGENSO, TOs, DNOs, OFTOs, BEIS and Ofgem. The webinar shared our views on the outlook this summer. It also provided an update on some of our longer-term activities, such as the pathfinders, as well as some individual projects and initiatives. The Q&A section in the meeting provided an opportunity to raise concerns, share ideas and receive valuable feedback from the industry. Our stakeholder highly recommended this webinar with “excellent update” and “great information so far” according to the meeting feedback. The next Operability Liaison Meeting will be held in November and look forward to winter challenges.

¹³ <https://www.nationalgrideso.com/document/173101/download>

¹⁴ <https://data.nationalgrideso.com/backend/dataset/b290ba7c-8076-4122-9e83-de723e1e5425/resource/6573bd88-c17c-41d8-b4d1-6ae89d796e40/download/ngeso-pef-energy-forecasting-strategic-roadmap-june-2020-update.pdf>

Role 2 Market development and transactions

2A Reform of Balancing Services Markets

April – June 2020 Performance

This metric encourages us to provide a high quality service to our stakeholders as well as visibility, transparency and engagement. The reform of balancing services markets should increase competition and lower prices.

Performance is measured using metrics such as total spend and total volume procured. Where possible, we will look to include average market price paid. The measures will be by service area rather than individual market. The data for each measure is split into two categories: competitively procured or competitive bilateral.

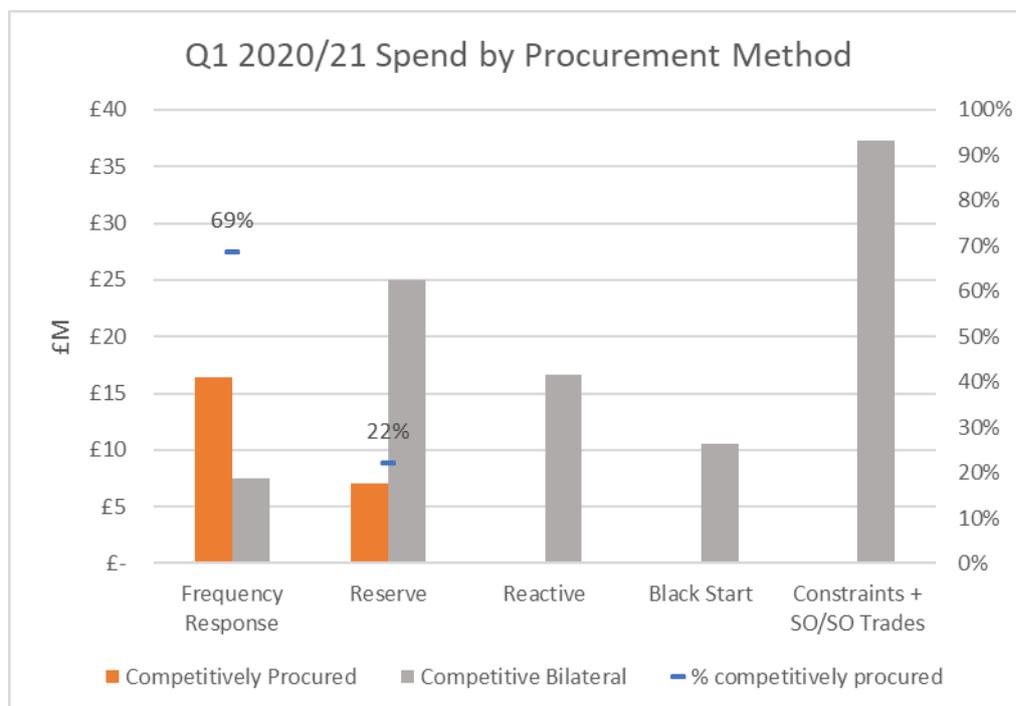


Figure 6: Cumulative spend on services per procurement category in £millions

Service	2019-20 %	Target % for 2020-21	Actual % for Q1 2020-21
Frequency Response	81%	85%	69%
Reserve	43%	55%	22%
Reactive	0%	5%	0%
Black start	0%	10%	0%
Constraints	0%	10%	0%

Table 9: Percentage of total spend and total volume procured through open and competitive market

Supporting information

Frequency Response – We have seen the clearing price in the weekly auction trial decrease slightly due to greater levels of competition, and the spend in the mandatory market also reduce. This has resulted in a decrease to the percentage spent in competitive markets.

Average clearing price (weekly auction trial): £6.29/MW/h dynamic product; £5.3/MW/h static product.

Reserve – We have spent £9m more on competitive bilaterals this quarter compared to Q1 2019-20 as a result of the suspension of Short Term Operating Reserve (STOR) and Fast Reserve procurement in January. We suspended the markets whilst we continue to engage with Ofgem on our derogation requests against Article 6.9 of the Clean Energy Package (CEP). This has had a significant impact, with the percentages shown in Figure 6 much lower than our targets. For now, we intend to continue with our decision not to procure any further firm STOR or Fast Reserve contracts, and will continue to operate with existing firm STOR contracts and the optional routes for both Fast Reserve and STOR. In addition, the Virtual Lead Party route has been implemented for providers wanting to offer their capacity in the Balancing Mechanism.

Average market prices: Whilst the STOR and Fast Reserve markets are suspended, there are no average market prices available. For optional Fast Reserve instructed within day, average utilisation price is:

April-20: £84 per MWh

May-20: £57 per MWh

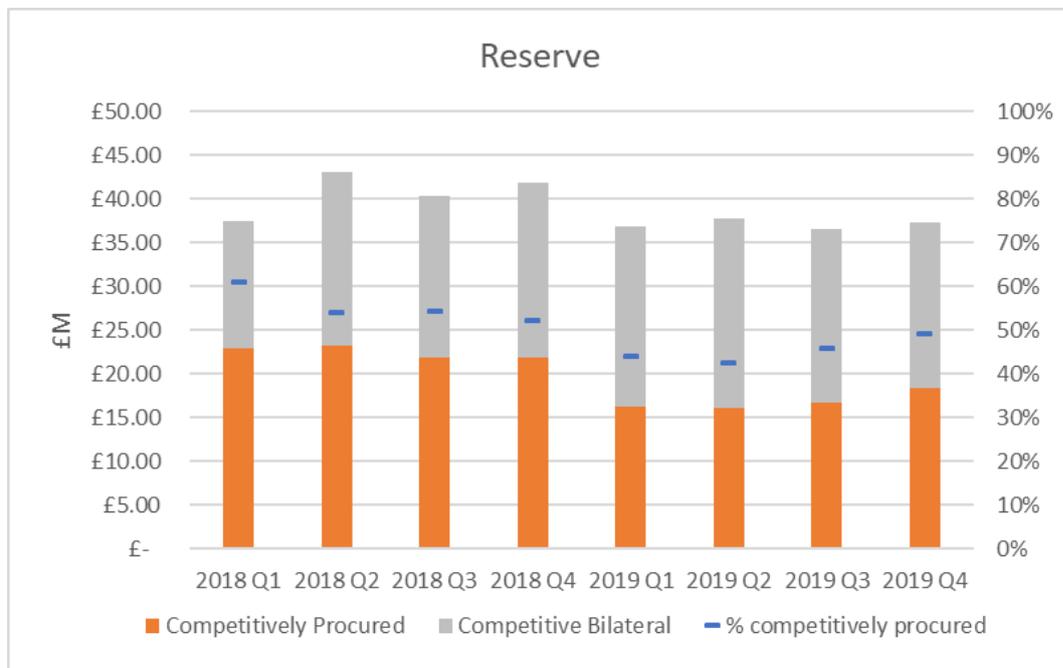
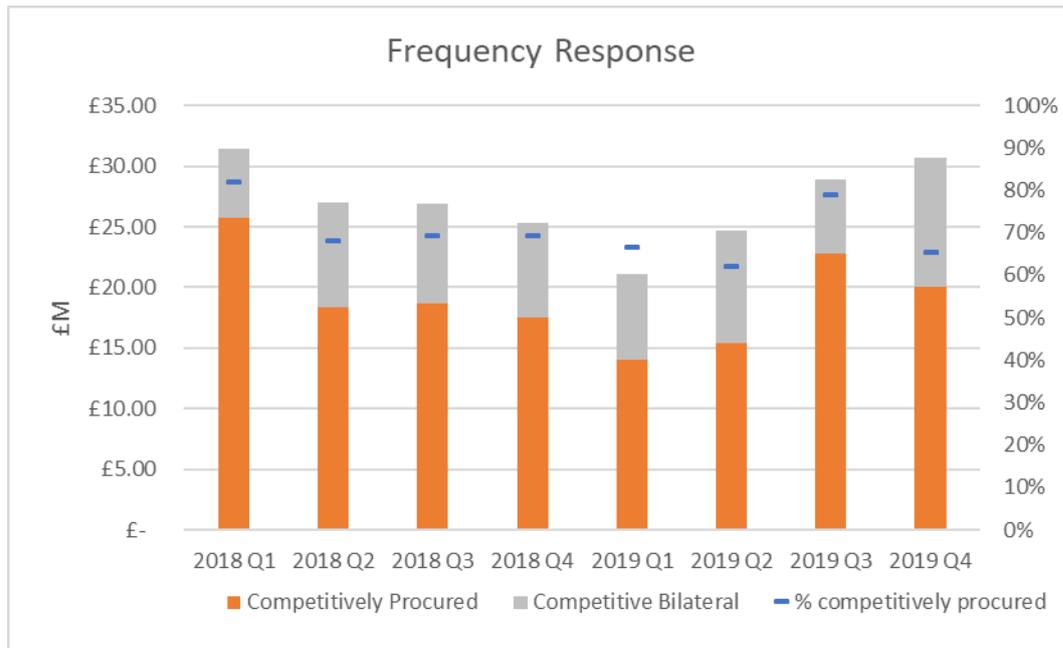
June-20: £51 per MWh

Performance benchmarks

	Exceeding expectations	Meeting expectations	Below expectations
Frequency response	95% or above	Above 75% and less than 95%	75% or less
Reserve	60% or above	Above 50% and less than 60%	50% or less
Reactive	15% or above	Above 0% and less than 15%	0%
Black start	20% or above	Above 0% and less than 20%	0%
Constraints	20% or above	Above 0% and less than 20%	0%

Historical data

The following figures show the metric calculated using historical information. This is provided as context for the current metric. Only frequency response and reserve are included, as the other services have no regular competitive marketplaces.



2B Code Admin Stakeholder Satisfaction

April – June 2020 Performance

As code administrator, we have a central role in making the development of technical and commercial codes a transparent and accessible process. Improved performance in our code administration function enables all network users to contribute more effectively to future arrangements.

ESO Code Administrator Stakeholder Survey Performance

Workgroup	Month surveyed	Average rating
CMP317/327/339	June	8.67
CMP324/325	June	9.00
CMP334	June	8.00
CMP337/338	June	9.50
CMP345	June	9.00
GC0131	June	8.00
2020-21 Average rating		8.69
2019-20 Average rating		7.34

Table 10: Workgroup Satisfaction Performance

Supporting information

We are now exceeding expectations in this area and are pleased with this improvement. We do not have data from a CACoP survey as this has been delayed due to the pandemic.

Performance benchmarks

- **Exceeding expectations:**
 - CACoP – Performance above 5% of the average stakeholder satisfaction score across all code administrators for the 2020 CACoP survey, across all our three codes.
 - ESO led stakeholder surveys – increased performance by at least 5% above our baseline score.
- **Meeting expectations:**
 - CACoP - Performance (within +/-5%) of the average stakeholder satisfaction score across all code administrators for the 2020 CACoP survey, across all three of our codes.
 - ESO led stakeholder surveys – Maintain performance within 5% of our baseline score. Our baseline performance is based on average survey scores taken for the 2019-20 period. These results and baseline score are set out in our benchmark calculations section.
- **Below expectations:**
 - CACoP – Performance below 5% of the average stakeholder satisfaction score across all code administrators for the 2020 CACoP survey, across all our three codes.
 - ESO led stakeholder surveys – performance below our baseline score by at least 5%.

2C Charging Futures

April – June 2020 Performance

Charging Futures supports network users by giving them opportunities to learn about the changes, and to contribute to how future arrangements work. Surveys are conducted following Charging Futures Forums and webinars with their attendees. This year, we will not include survey results for webinars where the main content is not led by National Grid ESO.

Benchmarks will be based on the average feedback scores received throughout the performance year 2019-20.

Supporting information

There is no data to report for this period. The BSUoS Taskforce webinar for Q1 was postponed to July due to the pandemic.

Performance benchmarks

- **Exceeding expectations:** Average scores from surveys undertaken throughout the year are more than 5% higher than the baseline score.
- **Meeting expectations:** Average scores from surveys undertaken throughout the year are within the range of +/-5% of the baseline score.
- **Below expectations:** Engagement scores achieved throughout the year fall more than 5% below the baseline score.

2E Month ahead forecast vs outturn monthly BSUoS

BSUoS forecasts are important to our stakeholders, although we note that our ability to forecast BSUoS is impacted by factors outside of our control. BSUoS costs are factored into the wholesale price of energy charged by generators, and therefore a forecast is vital for those parties when working out where to price their generation.

Due to the volatility in the comparison of our month ahead forecast with the outturn, we report the percentage variance so there can be large swings in accuracy. This metric does not just look explicitly at the volatility, but at the number of occurrences outside of a 10% and 20% band.

June 2020 Performance

Month	Actual	Month-ahead Forecast	APE	APE>20%	APE<10%
April-20	4.74	3.69	0.22	1	0
May-20	6.24	3.87	0.38	1	0
June-20	5.28	7.18	0.36	1	0
July-20					
Aug-20					
Sept-20					
Oct-20					
Nov-20					
Dec-20					
Jan-21					
Feb-21					
Mar-21					

Table 11: Month ahead forecast vs. outturn BSUoS (£/MWh) Performance

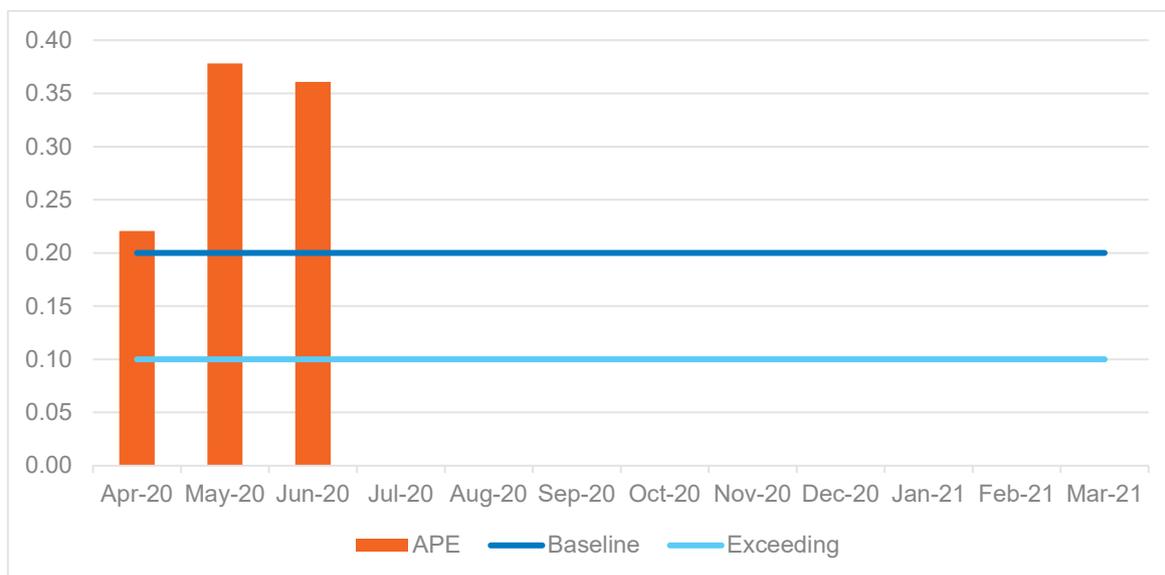


Figure 7: Monthly BSUoS forecasting performance

Supporting information

In May we produced two BSUoS forecasts, one forecast which was a view of costs with no new services introduced to deal with the COVID-19 pandemic challenges, and one forecast which was a view of expected costs with the introduction of the Optional Downward Flexibility Management (ODFM) service and Sizewell contract. These were both new services intended to make the system operable at very low demand levels which were forecast for the duration of the Summer. BSUoS charges outturned lower than expected even with the introduction of these new services, as generally higher demands and more favourable system conditions meant that ODFM was not required in June, and balancing costs were lower than forecast.

Performance benchmarks

- **Exceeding expectations:** Less than 5 out of 12 monthly forecasts are above 20% Absolute Percentage Error, and 5 or more forecasts less than 10% Absolute Percentage Error
- **Meeting expectations:** Less than 5 out of 12 monthly forecasts are above 20% Absolute Percentage Error
- **Below expectations:** 5 or more out of 12 monthly forecasts above 20% Absolute Percentage Error

Role 2 Deliverables

This section reports on our performance against the deliverable descriptions and dates set out in the Forward Plan addendum.

April – June 2020 Performance

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Product Roadmaps for Response and Reserve implementation			
Implement the first new frequency response product	Date is being revised		ESO experts working on Dynamic Containment (DC) have been redeployed to solve short-term operability challenges caused by low demand. We intend to engage further on DC when the project team reconvenes, and we will continue to share updates via the Future of Balancing Services newsletter and our website.
Consult on future frequency response products	Date is being revised		We assume that disruption will continue during the months ahead and as we aren't quite clear on the impact on the full breadth of our activities and the energy industry just yet, we haven't currently changed the delivery dates of the roadmap. However, we will be constantly reviewing our project plans taking into account changing priorities for the ESO and the time our stakeholders need to engage and take part in new services.
Report on auction trial	Q2-3 2020-21		We are on track to share our learnings with industry in Q2 2020-21.
Market design and implementation plan for reformed reserve products	Date is being revised		We will recommence engagement on the design of the new suite of response products when the Dynamic Containment project reconvenes. We are considering the reserve design in light of how the new pan-European Standard product TERRE will be used, and what the impact of wider access will be on the makeup of the Balancing Mechanism. We will be progressing reformed

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			reserve products once we have more clarity on these areas.
Support development and implementation of Pan-European replacement reserve standard products	Q1-4 2020-21		We have advised the industry that because of the COVID-19 pandemic we cannot go-live with TERRE in June 2020, but will have to delay until October 2020. For MARI, we are starting the process of code modifications and fully participating in the central project.
Product Roadmap for Reactive implementation			
Publish our strategy for the future of reactive power	Q3 2020-21 - Q2 2021-22		We are on track to share a high level strategy on reactive power with industry in Q3 2020-21.
Power Potential trial with UKPN	Q3-Q4 2020-21		NGESO and UKPN have confirmed to the project participants that the Power Potential trial calendar has been delayed to a September start date. This reflects the need to re-plan site visits for installation and commissioning of DER equipment in light of COVID-19 priorities.
Power Responsive			
Deliver innovation projects to unlock demand flexibility	Q2 2020-21		We have been working with a number of companies through the Residential Response Network Innovation Allowance (NIA) Project. This project is looking at the various barriers to providing frequency response from domestic assets, such as metering, prequalification, and portfolio management.
Improving the way we facilitate code change			
Incorporation of all 14 Code Administrator Code of Practice (CACoP) Principles	Ongoing		Two modifications were raised in March to facilitate the 14th CACoP principle; sandboxing. Due to congestion from high priority modifications, they were given a low priority. The modification will proceed in line with Panel's decision on where it sits in terms of a priority

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			against other modifications. We anticipate that this will not be progressed with any urgency at this stage. We therefore do not have any control over the speed in which it progresses.
Customer focussed communications	Q1 2020-21	Target date met	The email subscription tool has now been implemented. The first Code Administrator Annual report ¹⁵ has also been published on our website in direct response to stakeholder feedback asking us for more transparency.
Onboarding process for new industry parties	Q2–Q3 2020-21		The ESO Code Administration team are currently in the process of updating all onboarding documentation and information. In the first phase, the website pages were updated. Moving forward, the team will be ensuring that there is appropriate and engaging information for those already familiar with the governance process, as well as new industry parties. The team will also look to provide virtual training for new parties or those wishing to upskill.
Improving industry confidence in ESO Code Governance	Q1-Q4 2020-21		The ESO Code Administration team has updated the majority of its documentation and proactively engaged with Industry to seek feedback during the process. The team are also completing Plain English training to complement the new style documentation. The website has now been updated to make it easier for industry parties to get the information they require. The team will continue to make improvements in line with feedback and best practice.

¹⁵ <https://www.nationalgrideso.com/document/172316/download>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Facilitate electricity network charging reform through Charging Futures			
Facilitate electricity network charging reform through Charging Futures 1. Targeted Charging Review (TCR) 2. Access and Forward Looking Charges Significant Code Review (SCR) 3. Reform of Balancing Services Charges	Q1-Q4 2020-21		Due to COVID-19, the usual programme of Forums may be altered until Government advice changes. We will continue to update industry on electricity charging reforms via webinars, newsletters and other regular communications. We paused the Balancing Services Charges Task Force for three months to alleviate pressure on industry as a result of COVID-19.
Transform the customer experience for network charging			
Publications and guidance of the impact of charging reform to our customers	Q3-Q4 2020-21		The next update to be provided to industry, will be through the publishing of the TNUoS tariffs 5 year forecast Report and Webinar at the end of August 2020.
Introduce new 'new entrant' e-learning on charging	Q1-Q4 2020-21		In our recent publication of the 2021-22 Forecast TNUoS Tariffs report ¹⁶ , we provided industry with a first look of the confirmed/potential impacts of the TCR. In addition to this we have also provided insight into the generation re-zoning which falls part of CUSC modification proposal (CMP324/325). In conjunction with this report, we produced a pre-recorded webinar providing further insight into upcoming changes. Work will continue throughout the year to provide industry with updates and clarification to these changes through our quarterly updates and 5-year forecast. The next update to be provided to industry will be through the publishing of TNUoS Tariffs 5 year forecast Report and Webinar at the end of August 2020.
Improve the digital customer experience for TNUoS, BSUoS and	Q1-Q4 2020-21		Work is in progress and will fall in line with the Targeted

¹⁶ <https://www.nationalgrideso.com/charging/transmission-network-use-system-tnuos-charges>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Connection Charging Data; including improvements to existing NGESO billing system to improve user experience			Charging Review (TCR) timetable.
Establish a 'cross party' approach to onboarding, mapping out whole industry requirements:	Q1-Q4 2020-21		We held an initial discussion with Elexon to align the objectives early this year. Following lockdown and challenges on industry party resource, it is anticipated that it will take longer to complete the exercise than originally thought. However, we are still aiming to deliver by Q4 2020-21
Transform industry frameworks to enable decentralised, decarbonised and digitised energy markets			
Implement Targeted Charging Review (TCR) decision in conjunction with DNOs.	Q1-Q4 2020-21		We continue to progress the modifications to deliver the Targeted Charging Review: <ul style="list-style-type: none"> • The Code Administrator Consultation on the definitions required for the demand residual has just opened. • A second Code Administrator Consultation on the BSUoS embedded benefits is due soon, we are consulting again due to Ofgem's approval of CMP281 (storage) which needs to be incorporated into the legal text.
Supporting the Access Significant Code Review (SCR)	Q3 2020-21 and ongoing		We continue to provide analysis and support to the Access SCR, both through Ofgem's subgroups for the SCR and bilaterally to provide FES and TNUoS modelling.
Lead code modifications	Q3-Q4 2020-21		The delivery date is at risk, but we have not amended it yet. It will be influenced by the CUSC panel prioritisation planning over the next few months.
Balancing Services Charges Task Force	Q2 2020-21		Following lockdown and challenges on industry party resource, we have agreed with

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Capacity Market Modelling - Cross-border participation in capacity markets	Q1-Q4 2020-21		Ofgem to pause the taskforce for three months. The taskforce will recommence in July 2020 with the aim of delivering its report to Ofgem at the end of September.
Capacity Market (CM) Modelling – facilitating broader participation in the CM to provide security of supply at best value for consumers.	Q1-Q4 2020-21		<p data-bbox="1034 707 1382 1200">ENTSO-E have a mandate to develop the methodology under Regulation (EU) 2019/943 as part of the Clean Energy Package, which will help facilitate direct participation of cross-border capacity in the capacity market. National Grid ESO are participating in the ENTSO-E Task Force to play a leading role in developing the methodology. The impact of COVID-19 presents a risk that could lead to National Grid ESO needing to commit resources to other work priorities that would reduce our involvement in the ENTSO-E work.</p> <p data-bbox="1034 1245 1382 1413">ACER have issued a consultation¹⁷ on the participation of cross-border capacity in capacity mechanisms, which will run until 9 August 2020.</p> <p data-bbox="1034 1447 1382 1939">ESO has been supporting a Distribution Connection and Use of System Agreement (DCUSA) Change Proposal referred to as DCP350 to create a register of embedded assets. This was approved by the DCUSA panel in May 2020 and by the Authority on 1 July 2020. We now expect this data to be provided in July to August 2020. We intend to use this data to improve our modelling of embedded generation for the capacity market, which may lead to a change in how we determine de-rating factors. The impact of COVID-19 presents a</p>

¹⁷ <https://www.acer.europa.eu/Media/News/Pages/ACER-consults-on-cross-border-participation-in-capacity-mechanisms.aspx>.

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			risk that could lead to National Grid ESO needing to commit resources to other work priorities that could lead to this work being delayed. As the capacity market modelling follows an annual process, any delay would be 12 months to coincide with the next annual cycle.
Delivery of the Power Responsive initiative			
Support coordination of Distributed Energy Resource (DER) engagement on flexibility developments	Q1-Q4 2020-21		COVID-19 has delayed a lot of development work and made workshops more challenging, which has delayed some of the work. However, we went ahead with the first engagement session at the Steering Group on 5 June 2020 with the Regional Development Plan team.
Power Responsive Stakeholder Engagement	Q1- Q4 2020-21		We have been developing alternative virtual content to physical events, starting with the Summer Insights Series ¹⁸ , which was a series of industry podcasts concluding with a panel session Q&A.

¹⁸ <http://powerresponsive.com/summer-insights-2020-industry-podcasts/>

Notable events this month

CUSC modification CMP345

SSE raised a Connection Use of System Code (CUSC) modification proposal to defer additional COVID-19 costs for Balancing Service Use of System (BSUoS) charges to 2021. The proposal was granted urgency by Ofgem due to the need for a quick response to increased COVID-19 related costs. We understood the concerns raised by BSUoS liable users of the increased costs due to COVID-19 and wanted to provide support. However, the ESO, post legal separation, does not in its own capacity have the balance sheet strength to support solutions to the defect identified by SSE and we recognised early in the process that any eventual approved modification would require the support of our stakeholders. The development of a solution and support for its implementation was therefore made a priority for our Board and we engaged with our stakeholders to enable us to financially support the implementation of the alternate chosen by Ofgem. The ESO reprioritised work over several teams to support the development of the modification proposal and its implementation.

BSUoS Scheme Go Live

On 23 June 2020, Ofgem published their decision and directed National Grid ESO to implement the Workgroup Alternative CUSC Modifications - WACM2 option, to tackle the impact of COVID-19 on system balancing costs. The Ofgem letter can be found on their website¹⁹. The WACM2 option puts a cap on BSUoS costs at £15/MWh. The £15 cap will be applied to all settlement periods between 25 June and 31 August 2020.

We will report weekly on the settlement periods and the BSUoS costs which have exceeded £15/MWh. We will provide an initial report based on the Impact on Invoicing (II) data and the final report based on the Settlement Final (SF) data which will be used to calculate the deferred cost and credit payment. Subject to Ofgem's approval, the ESO would recover these costs, along with the ESO finance and administration costs, equally across all settlement periods in 2021-22.

CUSC modification CMP317/327

The ESO raised Connection Use of System Code (CUSC) modification proposals to give effect to Ofgem's Targeted Charging Review (TCR) Decision and follow the Direction that they published in November 2019²⁰. The proposals have now finished the Workgroup stage and are out for consultation with industry. The Workgroup process has been challenging with a substantial amount of disagreement and concern from industry members over the scope and potential effects of the changes. The ESO has, in conjunction with the Workgroup, created a set of potential solutions which will allow Ofgem to make a decision that complies with its Direction and Decision for the TCR and, if necessary, also allow it to take into account particular interpretations of European regulation where these have been raised by industry parties.

The Workgroup process was challenging and was only successfully concluded to meet the implementation date of April 2021 as the ESO allocated additional resource and expertise to produce the Workgroup report to the necessary level of detail and create the 84 sets of legal text necessary for the modification proposal to proceed to consultation²¹. The ESO's expectation is that Ofgem will receive the final proposal in August, enabling a decision to be made later in 2020.

¹⁹ https://www.ofgem.gov.uk/system/files/docs/2020/06/cmp345_decision_letter.pdf

²⁰ https://www.ofgem.gov.uk/system/files/docs/2019/12/full_decision_doc_updated.pdf

²¹ <https://www.nationalgrideso.com/industry-information/codes/connection-and-use-system-code-cusc-old/modifications/cmp339>

Role 3 System insight, planning and network development

3A Right First Time connection offers

June 2020 Performance

This metric measures whether the ESO aspects of connection offers were correct the first time they were sent out to customers.

Connections Offers	Results
Year to date number of connections offers	72
Year to date ESO related reoffers	2
Year to date percentage of Right First Time connections offers determined from ESO related reoffers	97%

Table 12: Connections re-offers data

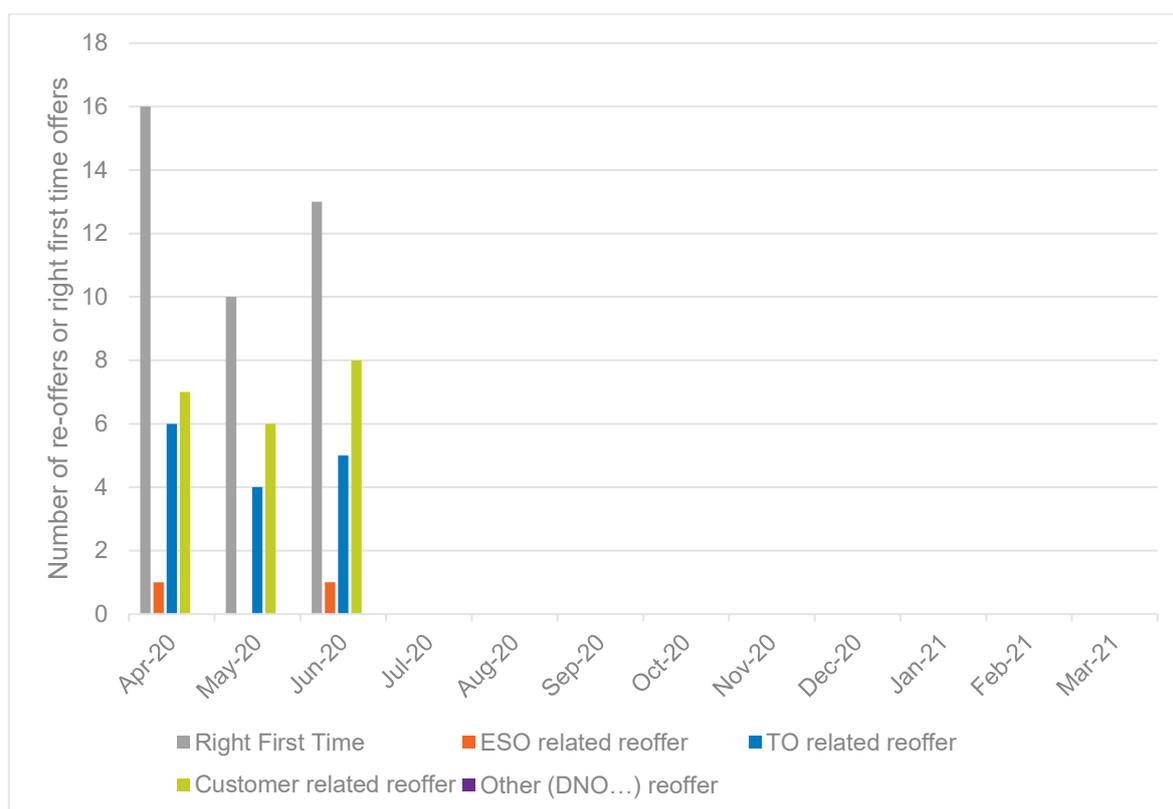


Figure 8: Connections offers monthly performance

Supporting information

We saw 25 offers returned in June, 12 of which were subject to a re-offer. There was one ESO related re-offer on contracts signed in this period and 11 non ESO related re-offers. This means that we are meeting our target at 97% Right First Time.

Performance benchmarks

- **Exceeding expectations:** 100% of connection offers Right First Time (excluding those where the error was not due to the ESO)
- **Meeting expectations:** 95-99.9% of connection offers Right First Time (excluding those where the error was not due to the ESO)
- **Below expectations:** Less than 95% of connection offers Right First Time (excluding those where the error was not due to the ESO)

3C Customer Connections- Customer Satisfaction

April – June 2020 Performance

Supporting information

The ESO paused its customer and stakeholder satisfaction (SAT) surveys from the point that the UK went into 'lockdown' due to the COVID-19 pandemic. We felt that during this period it wouldn't be appropriate to survey our customers and stakeholders whilst they were trying to adapt to new ways of working and dealing with potential challenges in their own homes and businesses brought about by the pandemic.

The ESO has been encouraging our teams to "pick up the phone" even more than usual and adopt a more personal approach to contacting our customers during this period to see how they are doing.

We are now preparing to start the SAT surveys up again, although traditionally most of our surveys have been carried out in the second half of the financial year (September to February), so we are likely to see the first results during that time period.

In the meantime, we will have qualitative insights available from a series of bespoke surveys, done at team level around operational process, which we have and will be doing with customers throughout the year. Our internal Customer and Stakeholder team will work with teams across the ESO organisation to ensure we are capturing and acting on what our customers are telling us, as well as communicating with them to keep them up to date on how we have responded to their feedback.

Performance benchmarks

- **Exceeding expectations:** Score out of 10 of 8.2 or more
- **Meeting expectations:** Score out of 10 between 7.8 and 8.2
- **Below expectations:** Score out of 10 of 7.8 or below

3D Whole System, Unlocking Cross Boundary Solutions

April – June 2020 Performance

This Performance Indicator is an assessment of the effectiveness of our whole system actions, measured in terms of their outputs. This indicator measures the changes to contracted Distributed Energy Resources (DER) in each of the Regional Development Programmes (RDP) regions for this quarter, as a result of the UKPN/ESO collaboration in the South East Coast region and the WPD/ESO collaboration in the South West region.

Q1 2020 Performance (UKPN)

Grid Supply Point (GSP)	MW	Commentary on DER technology types
Bolney	0	No new DER
Canterbury	0	No new DER
Ninfield	5	New acceptance for 5MW of battery storage
Sellindge	16	New acceptances for 16MW of Gas
Total	21	

Table 13: Contracted MW capacity of UKPN DER connections

Q1 2020 Performance (WPD)

Grid Supply Point (GSP)	MW	Commentary on DER technology types
Abham	0	No new DER
Alverdiscott	-5	A new acceptance for 28MW Solar. 37MW Solar terminated.
Axminster	0	No new DER
Bridgwater	85	New acceptances for 130MW Mixed technology. 45MW Mixed technology terminated.
Exeter	38	New acceptance for 47MW of PV 9MW of Gas terminated
Indian Queens	-30	30MW of PV terminated
Landulph	29	New acceptances for 29MW Mixed technology
Taunton	0	No new DER
Total	119	

Table 14: Contracted MW capacity of WPD DER connections

Supporting information

It's generally been a quieter quarter for connections in the South East Coast region. UKPN's region has historically been less active in terms of DER than the South West Peninsula. There is also more of a shift to Energy Storage projects rather than conventional generation in this area. We are seeing a significant decline in the number of new Distributed Energy Resources (DER) connections across the South West at the reported GSP's. This is possibly due to a combination of the current economic climate and issues around planning. In addition, the local DNO network requires significant reinforcement to connect further DER connections at some of the more congested areas of their network.

3E Future balancing costs saved by operability solutions

April – June 2020 Performance

This is a Performance Indicator to demonstrate the consumer benefit of implementing new operability tools such as Stability, Frequency, Constraint Management Services and Loss of Mains.

Year	Annualised cost through RIIO 2
Counterfactual Spend (£m)	76.9
Contract cost for Stability Pathfinder phase 1 (£m)	54.7
Savings due to Stability Pathfinder phase 1 (£m)	8.7
Contract cost for Voltage Pathfinder Mersey Ring (£m)	1.0
Savings due to Voltage Pathfinder Mersey Ring (£m)	12.6
Total savings (£m)	21.3

Table 15: Future balancing costs saved by operability solutions

Supporting information

Last quarter, we successfully released commercial service contracts under Stability Pathfinder phase 1 and Voltage Pathfinder Mersey Ring, and as a result, we expect future balancing costs savings in the next few years. The saving was estimated based on the counterfactual spend forecast if no new operability solution was brought in, we then annualise the figure through the contract length based on the assumption that all contracts will be delivered on their contractual dates. However, if there is any delay to those dates, we may need to update those annual figures.

In our 2019-20 Forward Plan publication in March 2020, we included a balancing cost saving forecast from the Loss of Main protection change programme. COVID-19 has impacted the programme's delivery assurance process. Activity has resumed with new safe working practices, which means that programme milestones can now be met. Given these changes the saving forecast will be updated in our mid-year report.

For both the Stability Pathfinder and Voltage Pathfinder projects, the counterfactual spend is the forecast cost of balancing the system based on the forecast of future system conditions such as those contained within the Future Energy Scenarios (FES) and other relevant market intelligence information, if no new commercial solution were implemented. After introducing the new commercial solutions through an open market tender, that counterfactual spend would disappear, but there would be additional contract costs relating to the payment for the service providers who deliver those new commercial solutions, so the savings are calculated as the difference between the counterfactual spend and the contract cost.

3F Capacity saved through operability solutions

April – June 2020 Performance

The Regional Development Programmes (RDPs) are taking a whole system view of the required transmission network capacity. As such, we monitor the progress of both transmission and distribution connections to ensure the RDP is delivered and capacity released when needed. Changes in the total DER contracted background will be monitored and reported through this indicator to ensure current RDPs are being progressed in line with the system need. This indicator will also report on new RDP areas where work has been progressed throughout each quarter to provide new whole system solutions.

The required network capacity needs to be sufficient to cover a range of credible system backgrounds accounting for the operations of both transmission and distribution connected parties. In some areas of the network, where there are multiple transmission connected parties, there may be a much higher capacity required than just that needed to manage DER volumes.

WPD N-3 Intertripping

Year	2020-21	2021-22	2022-23
DER Contracted (MW)*	1900	2100	2300
Baseline Transmission Capacity (MW)**	1700	2300	2300
Additional Capacity Released*** (MW)	600	N/A	N/A

Supporting information

The N-3 intertripping project with WPD is aiming to release capacity against a South Coast 1 constraint under outage and fault conditions. This will be achieved through the management of DER via a transmission-level Operational Tripping Scheme and a distribution-level Active Network Management Scheme.

The DER Contracted MWs are taken from the latest connection information. The Baseline Network Capacity is taken from the original technical study work and the Additional Capacity Released is noted as the incremental capability that this functionality delivers.

*This figure is based on 100% connection of contracted DER, with no load factors applied.

**Network Capacity if no RDP solution in place.

*** RDP solution contractual delivery date: April 2021.

UKPN N-3 Intertripping

Year	2020-21	2021-22	2022-23
DER Contracted (MW)*	1500	1600	1750
Baseline Transmission Capacity (MW)**	1700	2300	2300
Additional Capacity released (MW)***	600	N/A	N/A

Supporting information

The N-3 intertripping project with UKPN is aiming to release capacity against a South Coast 1 constraint under outage and fault conditions. This will be achieved through the management of DER via a transmission-level Operational Tripping Scheme and a distribution-level management of DER.

The DER Contracted MWs are taken from the latest connection information. The Baseline Network Capacity is taken from the original technical study work and the Additional Capacity Released is noted as the incremental capability that this functionality delivers.

*This figure is based on 100% connection of contracted DER, with no load factors applied.

** Network Capacity if no RDP solution in place.

***RDP solution contractual delivery date: October 2020.

WPD MW Dispatch

Year	2020-21	2021-22	2022-23
DER Contracted (MW)*	1900	2100	2300
Baseline Transmission Capacity (MW)**	2600	2600	2600
Additional Capacity released (MW)***	N/A	N/A	1300

*This figure is based on 100% connection of contracted DER, with no load factors applied.

** Network Capacity if no RDP solution in place.

***Based on delivery of IT infrastructure by Q3 2022.

Supporting information

The MW Dispatch project with WPD is looking to deliver coordinated operational visibility and commercial controllability of DER for transmission constraint management. Work is currently ongoing to deliver the necessary commercial frameworks to achieve this, with the IT development commencing once this is in place.

The DER Contracted MWs are taken from the latest connection information. The Baseline Network Capacity is taken from the technical study work and the Additional Capacity Released is noted as a notional number (against scenario planning) however, the Network Options Assessment process will determine whether it is economic to continue to allow connections in this manner.

UKPN MW Dispatch

Year	2020-21	2021-22	2022-23
DER Contracted (MW)*	1500	1600	1750
Baseline Transmission Capacity (MW)**	5100	5100	5100
Additional Capacity released (MW)	N/A	N/A	1350

*This figure is based on 100% connection of contracted DER, with no load factors applied.

** Network Capacity if no RDP solution in place (this capacity is also shared by transmission-connected parties and is required to accommodate flows on the interconnectors).

***Based on delivery of IT infrastructure by Q3 2022.

Supporting information

The MW Dispatch project with UKPN is looking to deliver coordinated operational visibility and commercial controllability of DER for transmission constraint management. Work is currently ongoing to deliver the necessary commercial frameworks to achieve this, with the IT development commencing once this is in place.

The DER Contracted MWs are taken from the latest connection information. The Baseline Network Capacity is taken from the technical study work and the Additional Capacity Released is noted as a notional number (against scenario planning) however, the Network Options Assessment process will determine whether it is economic to continue to allow connections in this manner.

SPT – Generation Export Management Scheme (GEMS)

Year	2020-21	2021-22	2022-23
Transmission Contracted Connections (MW)*	1500	1600	2300
Baseline Transmission Capacity (MW)**	1800	1800	1800
Additional Capacity released (MW)***	N/A	N/A	500

*This figure is based on 100% connection of contracted transmission-connected parties, with no load factors applied.

** Pre-GEMS deployment. Baseline capacity accounts for diversity in generation output.

***Based on delivery of IT infrastructure by October 2022.

Supporting information

The GEMS project with SPT is aiming to deliver enhancements to the way in which transmission-connected generation is dispatched to ensure network capability is maximised. This will enable the connection of further generation within the South West Scotland area however, the Strategic Wider Works process will track if operationally managing the group continues to provide the most economic output for GB consumers. The Additional Capacity Released is presented as a notional value as the GEMS solution continues to enable connections within the group.

Role 3 Deliverables

This section reports on our performance against the deliverable descriptions and dates set out in the Forward Plan addendum.

April – June 2020 Performance

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Whole system operability			
Lead the of Loss of Mains Protection setting programme	Q2 2020-21 and ongoing		COVID-19 has impacted on the programme's delivery assurance process. Activity has resumed with new safe working practices, which means that programme milestones can now be met but with a risk to programme performance in 2021-22
Address actions raised in the E3C report into the GB Power Disruption Event of 9 August 2019	Q1 2020-21	Target date met	Completed. Actions addressed.
Implement approach for efficient reactive power flows between networks	Q4 2020-21		Indirectly impacted by COVID-19 and likely to remain de-prioritised relative to higher value deliverables.
Defining roles and responsibility for voltage management across the transmission-distribution interface.	Q3 2020-21		Proposals have been developed for additional information exchange and action in the planning process. Agreement on some issues is outstanding, meaning conclusions have been delayed.
Pathfinder projects			
Stability pathfinder	Q2 2021-22		We launched the Stability Pathfinder Phase 2 RFI ²² on 17 June 2020. We held an RFI webinar on 25 June 2020. Webinar recording and FAQ document is available on our website. Works on going responding to stakeholder questions. The deadline for responses is 15 July 2020. Based on the RFI feedback, we will provide an update on next steps.
Mersey Voltage pathfinder: Project recommendations	Q1 2020-21	Target date met	On 22 May 2020 the ESO awarded 9-year contracts ²³ for static voltage support in the Mersey region to PeakGen (200 MVAR Reactor) and Zenobe (40 MVAR of reactive capability from battery storage). These contracts are worth a total of £8.67m and are due to commence from April 2022.

²² <https://www.nationalgrideso.com/research-publications/network-options-assessment-noa/network-development-roadmap>

²³ <https://www.nationalgrideso.com/document/169751/download>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
			This pathfinder is the first time that we have directly compared market solutions to a TO network asset build approach for a long term transmission level requirement.
Pennines Voltage pathfinder	Q2-Q4 2020-21		We are currently working out the details of the requirements for the Pennine region and will be announcing the timings of the tender process over the summer period.
Constraint Management Pathfinder	Q1-Q2 2020-21		The constraint management pathfinder is looking to develop a service as a solution that all providers can participate in. We are still committed to providing a decision to tender at the end of Q2 2020-21
Early Competition			
Early Competition plan setting out implementation for models.	Q1-Q4 2020-21		Consultation ²⁴ was published on 3 July 2020 for six weeks until 14 August 2020.
NOA: Enhanced communication			
Improve accessibility of Electricity Ten Year Statement (ETYS) and Network Options Assessment (NOA) publications	Ongoing		This is an ongoing project which is on track.
Regional Development Programmes (RDPs)			
Development of commercial arrangements for Transmission Constraint Management (TCM) service from DER	Q2-Q4 2020-21		Discussions ongoing with both WPD and UKPN.
Co-ordinated DER inter-tripping functionality for transmission fault management. Including completion of work with WPD and UKPN	Q2-Q4 2020-21		Delivery date with UKPN has been realigned to Q3 2020-21 following discussion between both organisations to cater for the required systems upgrades and ensure that adequate time is available for full end-to-end testing of this new functionality. Discussions are ongoing with NGET to arrange system outages to deliver WPD functionality.
Develop the Generation Export Management	Q2-Q4 2020-21		Project remains on track with draft technical specification shared with SPT.

²⁴ <https://www.nationalgrideso.com/document/172476/download>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Scheme (GEMS) in South West Scotland to manage transmission constraints			
Whole System thought leadership			
Support BEIS and industry in developing a strategy for clean heat.	Q1-Q4 2020-21 and ongoing		We will provide updates as part of our quarterly reporting when engagement begins again with BEIS.
Active engagement in the development of DSO and co-ordinated flexibility markets including cross-sector considerations	Q3 2020-21		ESO has provided significant input into the Open Networks DSO implementation plan ²⁵ , which was published on 1 July 2020, and is currently actively involved in the drafting of the Open Networks 2020 flexibility consultation that is due on 31 July 2020.
Network value assessment tools			
Voltage needs identification tools/ processes.	Q4 2020-21 and ongoing		On track. Developed Historical Data Mining Tool and completed initial view on potential next priority regions for high voltage assessment. Initial outcome of voltage needs identification process was published at the end of June 2020.
Enhanced customer experience			
Continue to work with Customers and Network Owners to understand the requirements and scope of a system wide single platform to provide online account management and connection application functionality	Ongoing, due to be completed in 2022		Discussions with Customers and Stakeholders regarding scope of Portal completed in January 2020. Engagement with TOs and development of TO solutions to continue through 2020-21. ESO to begin design and development of ESO portal in Q2 2021-21
Insights documents			
Operability Strategy Report	Q3 2020-21		The frequency of this report has changed to annual (rather than every 6 months) to align with our other publications.
FES: Bridging the gap to net zero	Q3-Q4 2020-21		On track to work with stakeholders through Q3 2020-21.

²⁵ <https://www.energynetworks.org/electricity/futures/open-networks-project/dso-implementation-plan.html>

Deliverable	Target delivery date (from Forward Plan Addendum)	Actual delivery date	Status
Summer Outlook	Q1 2020-21	Target date met	Completed. Report published April 2020 ²⁶ .
Winter Outlook	Q3 2020-21		On track for publishing in October 2020.
Winter Review and consultation	Q1 2020-21	Target date met	Completed. Report published 24 June 2020 ²⁷
Future Energy Scenarios (FES)	Q2-Q3 2020-21		Launch conference for stakeholders to be shifted to a virtual event online. This year we have designed the FES report to be digital first, reducing our environmental footprint and making the overall length of the document 25% shorter, whilst including broader analysis and new sections on whole system flexibility not previously covered by FES.

Notable events this month

Stability Pathfinder Phase 2 RFI published

We published the Request for Information (RFI)²⁸ for Phase 2 of the Stability Pathfinder on Wednesday 17 June 2020. We also held a webinar on 25 June. The primary requirement for Stability Pathfinder Phase 2 is for regional short circuit level. This differs from Phase 1 which responded to an opportunity to procure national inertia. The contribution of solutions to national inertia will be valued alongside regional short circuit level in our Phase 2 assessment. The deadline for responses was 15 July 2020.

Winter Review 2020

On 24 June 2020 we published the ESO's first standalone Winter Review & Consultation²⁹ looking back at electricity operation over the recent Winter, with National Grid Gas³⁰ providing a similar view of the gas network. This report plays a central role in our Winter Outlook work, as it allows us to analyse the accuracy of the forecasts from last October, helping us to understand what changes will be needed for the year ahead. Ahead of the winter we also use the document to pose questions to stakeholders, allowing us to get a better understanding of their preparations for the winter months. With COVID-19, this year's consultation will be more important than ever, so we are using the weekly ENCC webinars to run through this year's report and ask for industry participation in the consultation. Information on these webinars, including a link to registration, can be found here³¹.

²⁶ <https://www.nationalgrideso.com/document/167541/download>

²⁷ <https://www.nationalgrid.com/uk/gas-transmission/document/131756/download>

²⁸ <https://www.nationalgrideso.com/research-publications/network-options-assessment-noa/network-development-roadmap>

²⁹ <https://www.nationalgrideso.com/document/171986/download>

³⁰ <https://www.nationalgrid.com/uk/gas-transmission/document/131756/download>

³¹ <https://data.nationalgrideso.com/plans-reports-analysis/covid-19-preparedness-materials>

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