

ESO Coronavirus Preparedness

6th May 2020



Recap of topic areas from the Webinar last week

Please ask any questions via the Q&A section in Webex and we will pick them all up at the end of the session and answer those now which we can.

These slides, event recordings and further information about the webinars can be found at the following location:

data.nationalgrideso.com/plans-reports-analysis/covid-19-preparedness-materials

During the last call, we highlighted a new coal free record and the demand pick-up due to the 1-minute silence

We provided an overview of the change in relative demand since the start of lockdown and a first view of the forecast demand for the 8th May bank holiday weekend.

The new downward flexibility product (ODFM) was introduced in more detail

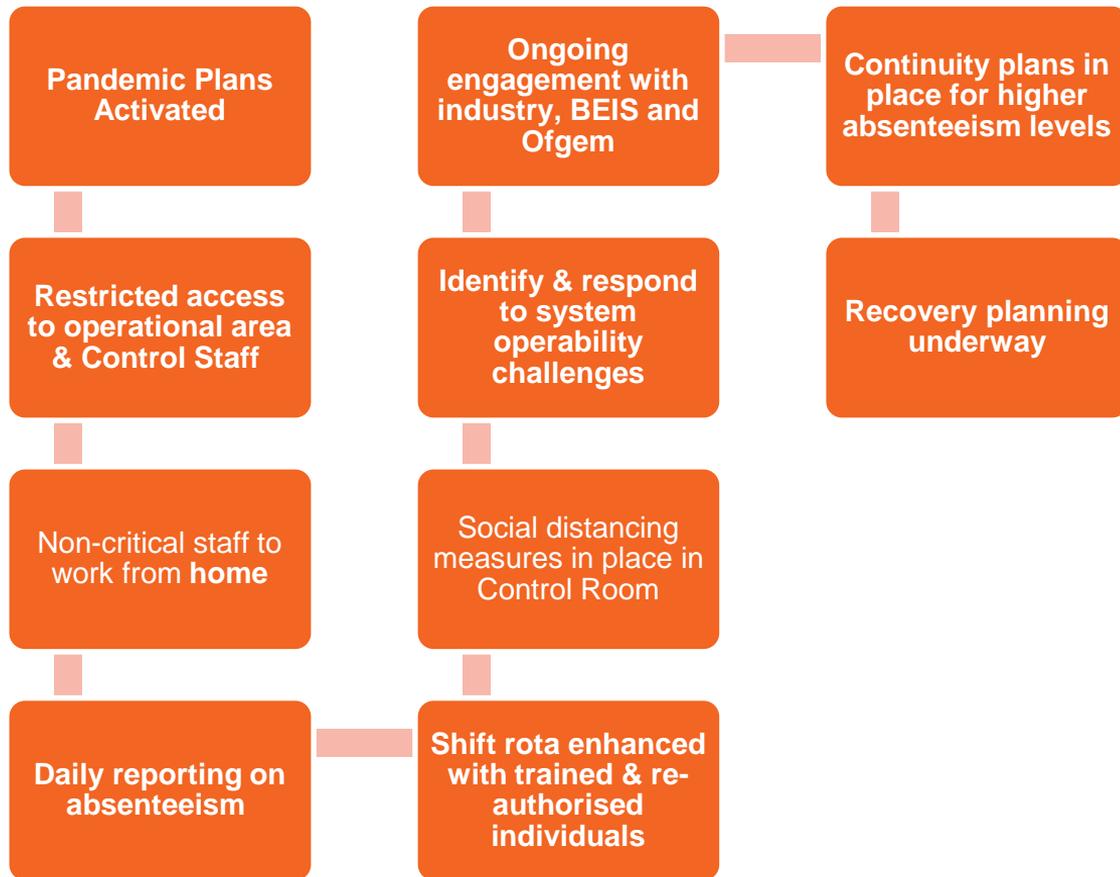
And finally, we asked for your feedback on the Electricity Ten Year Statement (ETYS)

ACCURATE

TIMELY

FLEXIBLE

Protecting Critical Staff to maintain Critical Operations



What Next?

Secondary Infection Peak

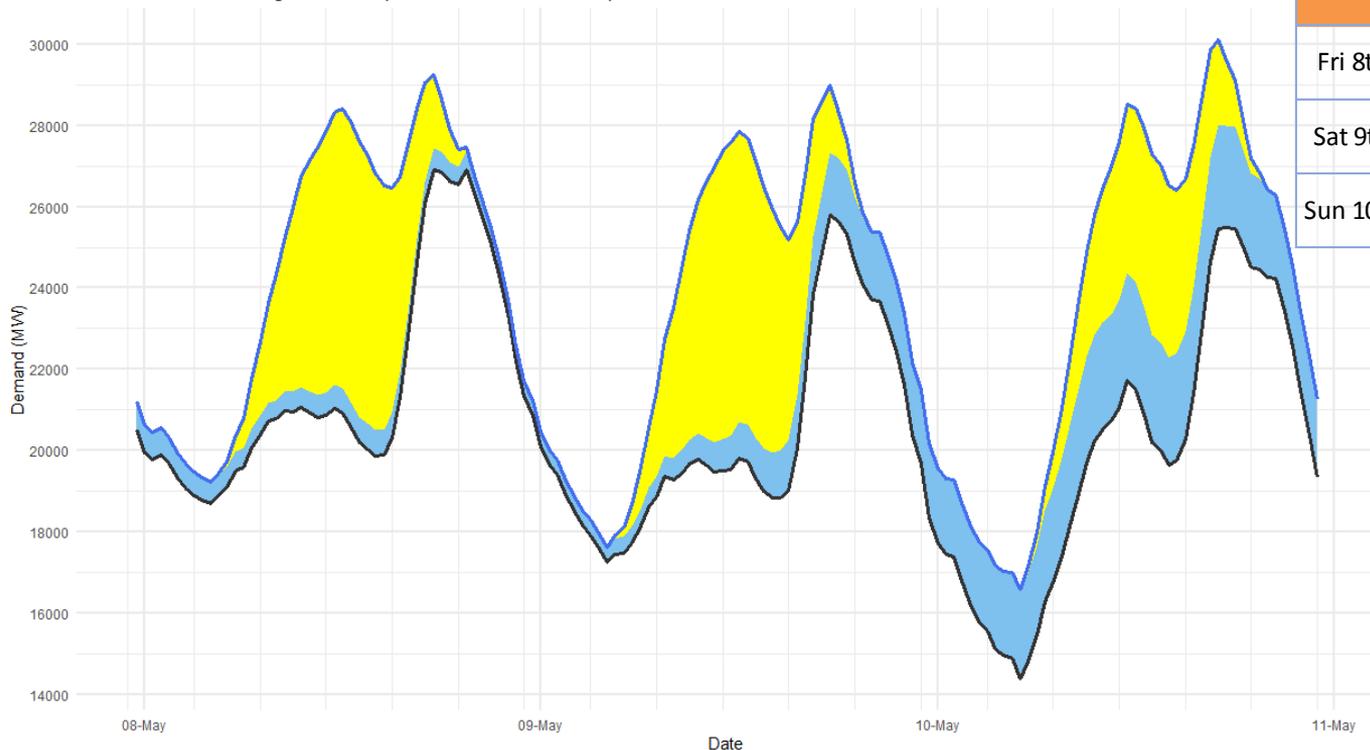
Continuity plans include further measures to protect Critical Staff (isolated living etc)

Recovery Phase

*Planning underway for recovery
Will be in line with governmental guidance*

Bank Holiday Weekend (8th to 10th May)

ESO Demand from Friday 8th May to Sunday 10th May 2020
based on the current government policies in relation to the pandemic and on the latest weather forecast

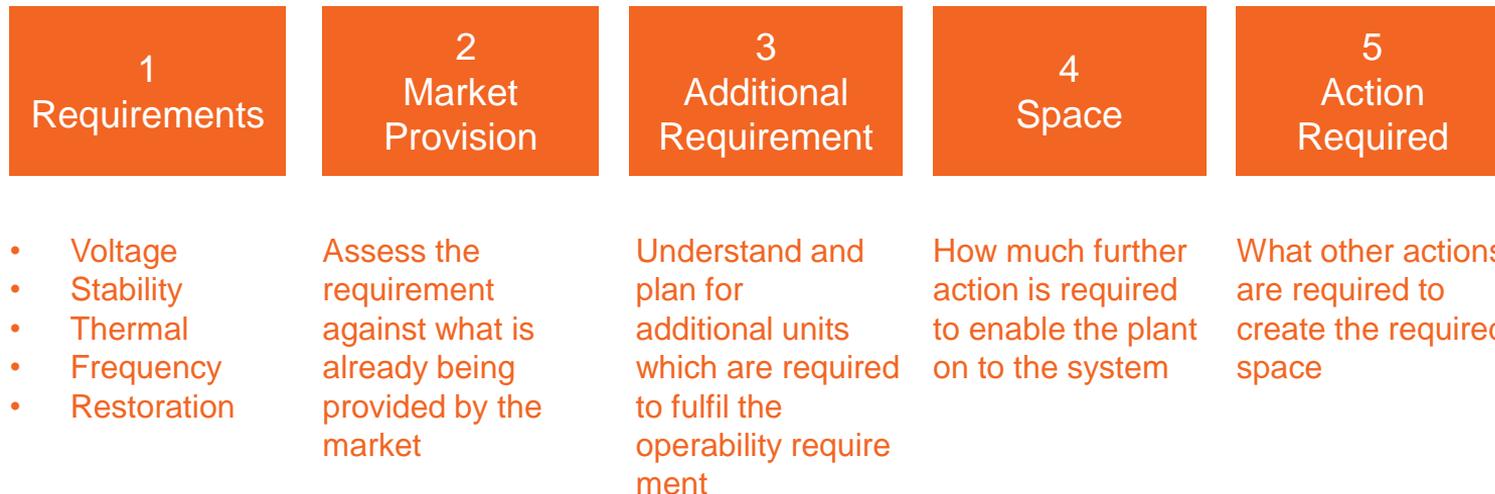


Date	Forecasting point	National Demand (GW)
Fri 8th May	Overnight min	18.7
	Afternoon min	19.9
Sat 9th May	Overnight min	17.2
	Afternoon min	18.8
Sun 10th May	Overnight min	14.4
	Afternoon min	19.6

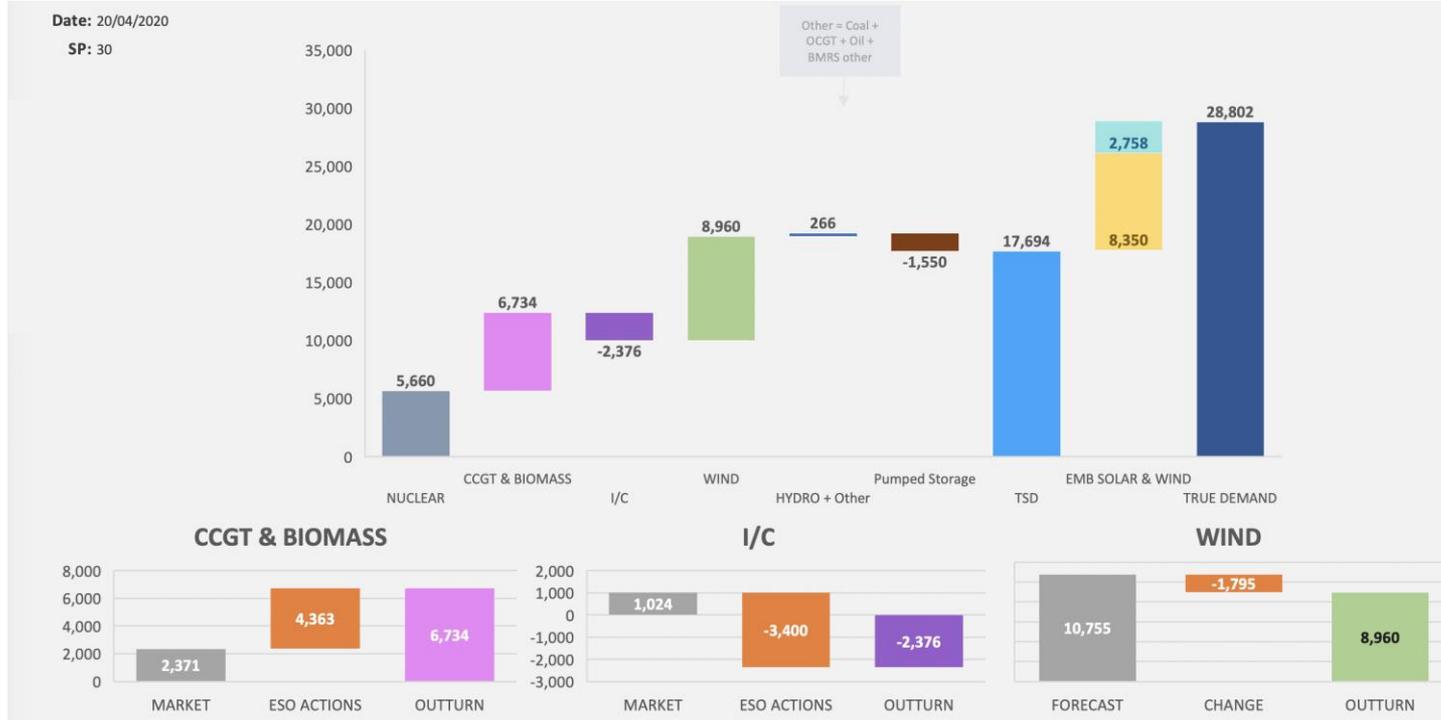
Renewable type
■ Distributed_PV
■ Distributed_Wind

Demand type
— Estimated_Total_Demand
— National

Managing Low Demands



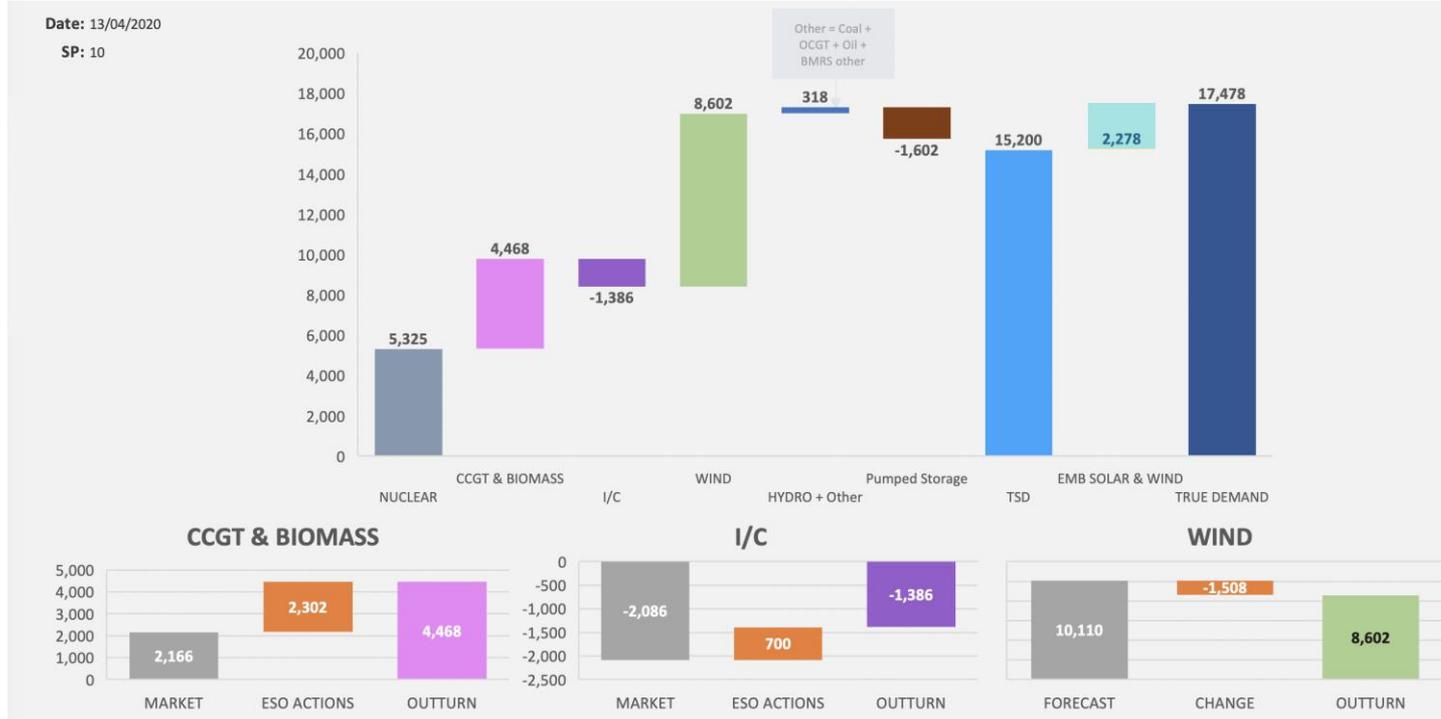
2, 3, 4 Assessing and resolving | Daytime



The ESO was actions to add CCGTs and Biomass to the system for Inertia management, voltage support and additional frequency capability

To make space for these units we were taking actions on the interconnectors, pump storage units and wind providers

2, 3, 4 Assessing and resolving | Overnight



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5 Action Required | What we have done

From the beginning of April we have been highlighting the need for flexibility at these webinars. In mid April we confirmed that we would be looking at Super-SEL and accessing providers who are 'inflexible' in the BM and developing services to access DER. Below is a summary of how we have delivered against those plans.

Service	When	Description
Develop Requirements	April	Developed tools, models and forecasts to understand the impacts of COVID-19 and lower demands. Understood what is required to solve the operability challenges and developed the requirements for the capabilities required.
Super-SEL	Early April	Bringing on BM providers at lower output levels means the ESO does not have to take as any actions to reduce other providers output
Further Flexibility from BM providers	May	We are speaking to providers to seek additional flexibility from their units.
ODFM	End of April	Optional Down Flexibility Service for providers who the ESO can't currently access.
Grid Code Mod GC0143	End of April	Following feedback from DNOs and providers that the Grid Code wasn't explicit enough regarding Emergency Instruction we have sought clarity through this grid code modification

What have we done | Downward Flexibility Product | Update

Final contract terms for ODFM were published on Thursday 30th April

Letter to industry published Friday 1st May to invite participants to sign onto the terms to enable them to offer optional downward flexibility

Engagement with a range of providers underway (solar, wind, aggregators) - several parties with 100MWs in their portfolio's looking to commence delivery ASAP

Feedback on the service terms is positive with effort now focused on providers themselves getting ready

Downward Regulation | NGENSO Order of Action

Everyday Actions	Order	Comments
Bid actions on all other flexibility in the BM, including super-SEL	#1 based on Cost	Forecast at Day Ahead volumes, action taken in real time
Selling power to the continent to create exports on the interconnectors	#1 based on Cost	Forecast at Day Ahead, action taken at Day Ahead by National Grid Traders
Creating demand through pumping demand at pump storage sites	#1 based on Cost	Managed within the control timescales action taken within day
Enhanced Actions (if everyday actions are insufficient)	Order	
Usage of ODFM service	#2 based on Cost	Enacted at day ahead based on forecasts of other actions.
Issuing an NRAPM and flag as alert status on the ENTSO-E transparency platform.	#3	Issue if, the above actions still leave a requirement. Managed within the control timescales action taken within day
Taking additional actions obtained through NRAPM	#4	Managed in real time
Emergency Actions	Order	
Emergency Instruction to Transmission connected generation	#5 can only be done following #2	Unlikely to offer an capability due to actions already taken, the ESO won't EI a unit we've instructed on
Emergency Instruction to DNO to disconnect DER	#5	GC0143 to clarify usage

Customer webinar | How we have responded

We thought it was worth reflecting on how this webinar has developed over the last few weeks. Below is a high level summary of the feedback we have had and how we have responded to it. Please continue to provide feedback so we can develop the webinar to meet your needs.

You said	We responded
How are you protecting ESO staff and ensuring BAU operation	Presented overview of our pandemic plans on the webinar and are providing regular updates,
How is lock-down impacting demands?	Regular feedback on how demand is being impacted by the lockdown period
Challenges of managing the system with low demands?	Deep dive on webinar on operability challenges and how the ESO responds to them. Letter sent to providers request feedback on flexibility
What new services do you require and how can I help?	Letter sent to industry requesting feedback on any possible flexibility and service available.
How can I let you know what services I can provide?	Please feedback to your usual contacts within ESO.
Impact of COVID-19 on ESO forward plan and deliverables	Webinar held last week to share this with you.
You have asked over 100 questions	By answering as many as possible on the calls and answering those in following webinars

Q&A

Please ask any questions via the Q&A section in Webex and we will try to answer as many as possible now

Please continue to use your normal communication channels with ESO

If you have any questions after the event, please contact the following email address:

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nationalgrideso.com

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