



# Challenges to GB Electricity System Operation

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# We are the Electricity System Operator for GB

As the electricity system operator for GB, we move electricity safely, reliably and efficiently through the transmission system.

We balance the system in real time, making sure that electricity supply and demand is always met.

We operate 24/7 365 days a year.

We help to make sure that the rules which govern the industry's roles and responsibilities are fit for purpose.



# OUR MISSION

To enable the transformation to a sustainable energy system,  
and ensure the delivery of reliable, affordable energy for all  
consumers.

# Success

In 2025 looks like:



An electricity system that can operate carbon free




A whole system strategy that supports net-zero by 2050



Competition everywhere



The ESO as a trusted partner



**COVID-19** has also created challenges for the ESO in operating the electricity system.

The environment that we live and work in, has changed dramatically.



We are experiencing unprecedented levels of **low demand**.



# In light of COVID-19, these are our key priorities:

- **Keep our people safe and protect their wellbeing** – making sure we have enough staff to carry out critical functions
- **Keep the lights on** – including coping with periods of low demand due the current season and UK lockdown



# Managing periods of low demand

## 1 Requirements

- Voltage
- Stability
- Thermal
- Frequency
- Restoration

## 2 Market Provision

Assess the requirement against what is already being provided by the market

## 3 Additional Requirement

Understand and plan for additional units which are required to fulfil the operability requirement

## 4 Space

How much further action is required to enable the plant on to the system

## 5 Action Required

What other actions are required to create the required space

# Actions we have taken

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



# We remain focussed and committed to achieving net-zero

We are undertaking exciting and innovative projects to make sure that we are ready to operate a zero carbon electricity system, by 2025:

- Wider access to the balancing market
- Pathfinder projects – stability, voltage, constraints, inertia
- New frequency response and reserve products and platforms
- Distributed ReStart innovation project



# Thank You

We are passionate about driving the energy transition and helping GB achieve it's net-zero target.

We are keen to work closely with others in the industry so that we can continue to deliver clean, green, reliable and affordable electricity to all.

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