

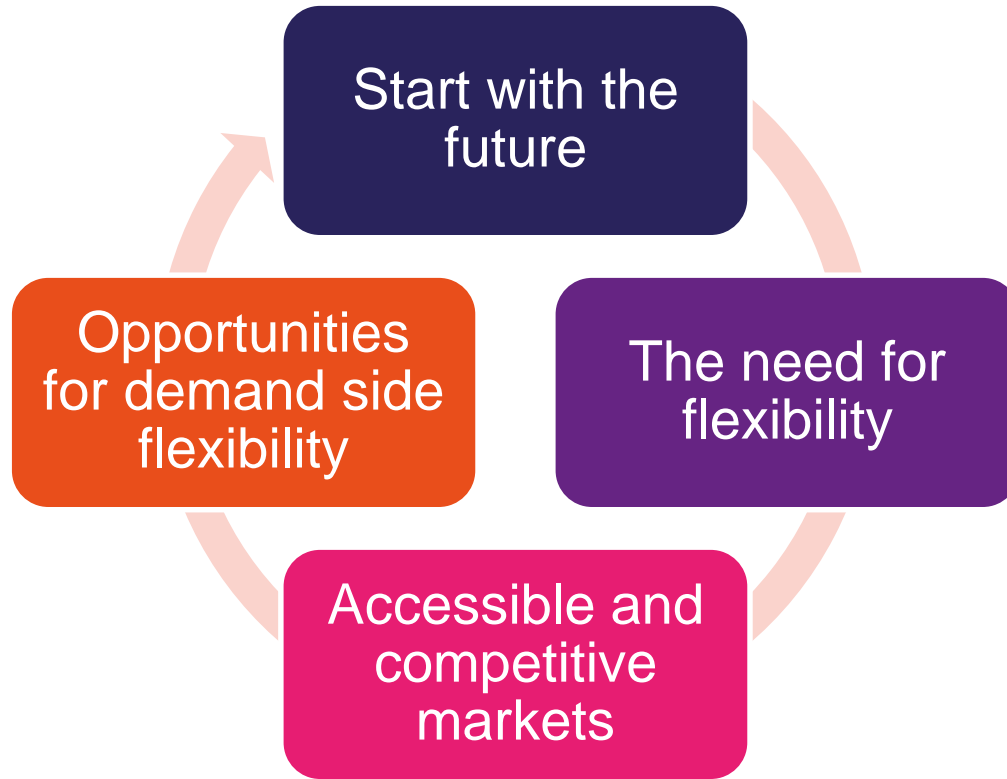
power responsive

Future Energy Scenarios & Reforming Balancing Services

Rhiannon Marsh
National Grid ESO

TEAM Energy Management Conference 2018
20th November 2018





Future Energy Scenarios – key messages

1 A new energy world



2 Electric vehicle growth



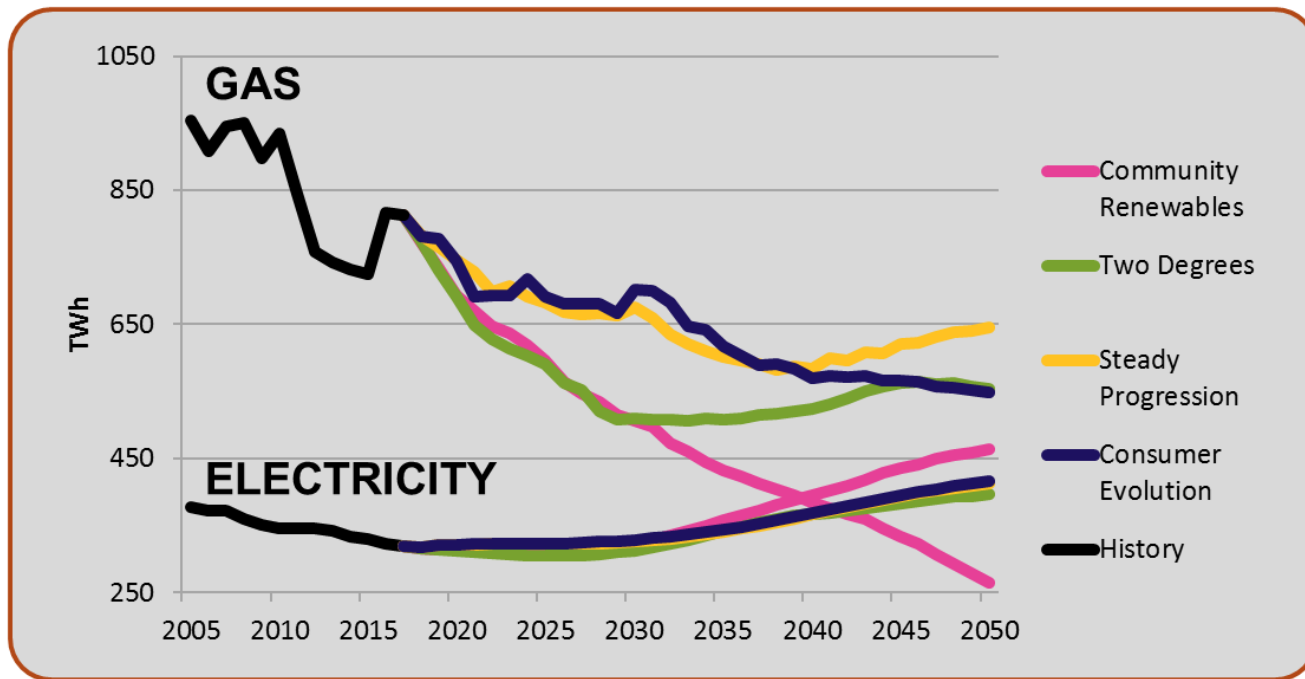
3 Action on heat



4 A role for gas

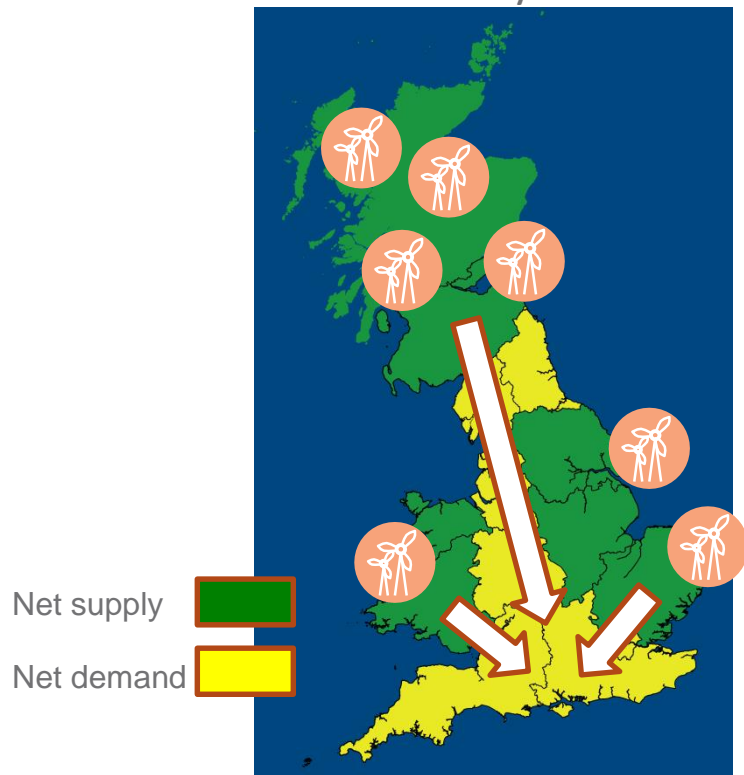


Future Energy Scenarios – Gas and electricity annual demand (TWh)

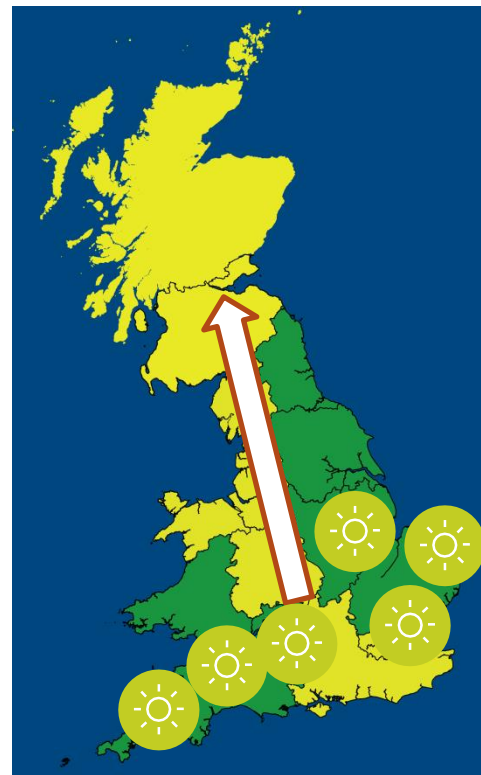


Future Energy Scenarios – Electricity supply

Winter 2030 in Community Renewables

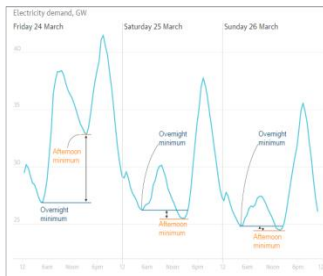


Summer 2030 in Community Renewables



Increased need for flexibility

Mar '17



May '17



Mar '18



Apr '17



Jun '17



Apr '18
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Facilitating accessible, competitive markets

System Needs and Product Strategy (SNAPS) document



Reserve &
Response
Roadmap



Reactive
Power
Roadmap



Restoration
Roadmap



Wider access to
the Balancing
Mechanism



Reform of balancing services

Provider on-boarding

Interviews to understand and improve end to end provider journey

Frequency Reserve and Response

Exclusivity Clauses

Consultation on Exclusivity Clauses to improve service stacking

FFR Auction Platform

- Closer to real-time procurement helps facilitate more variable generation and demand

Reactive Power

Simplification

Working to make historic services more access to all providers

Power Potential project

With UK Power Networks to procure from DER

Transparency

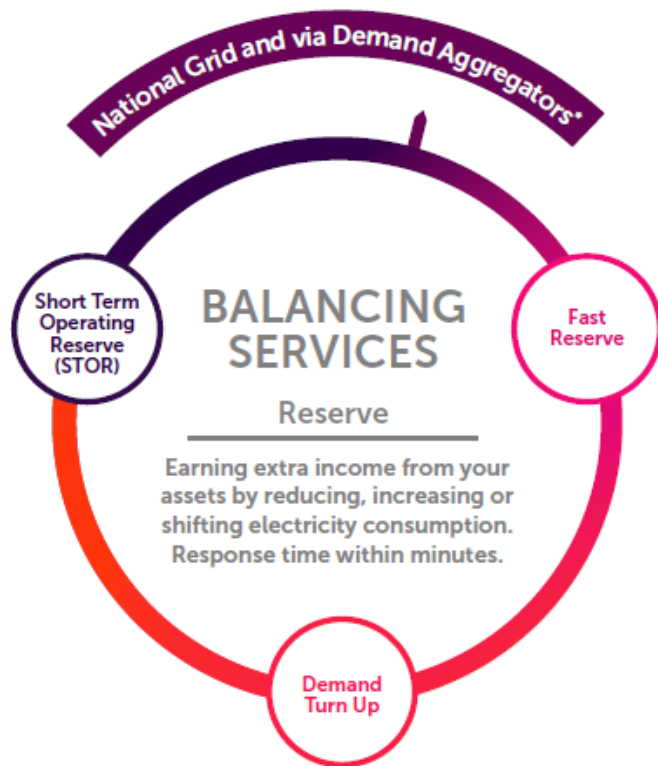
Improving information on costs and requirements

Restoration (Black Start)

Removing barriers

Developing combined services approach to meet service requirements

Routes to market – National Grid ESO balancing services



Frequency Response & Reserve

Frequency
50 Hz

Large plant
loss

Frequency
falls

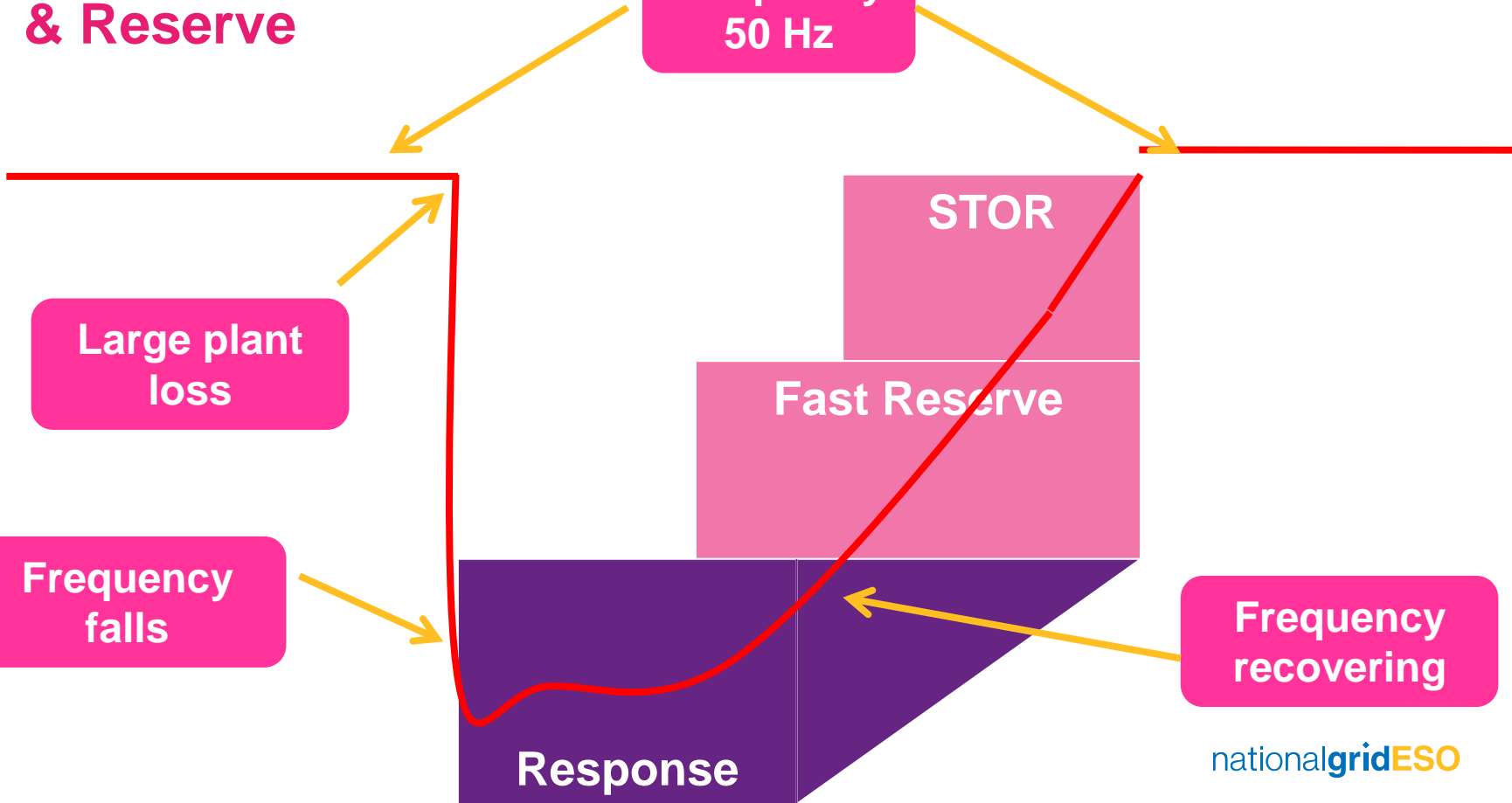
STOR

Fast Reserve

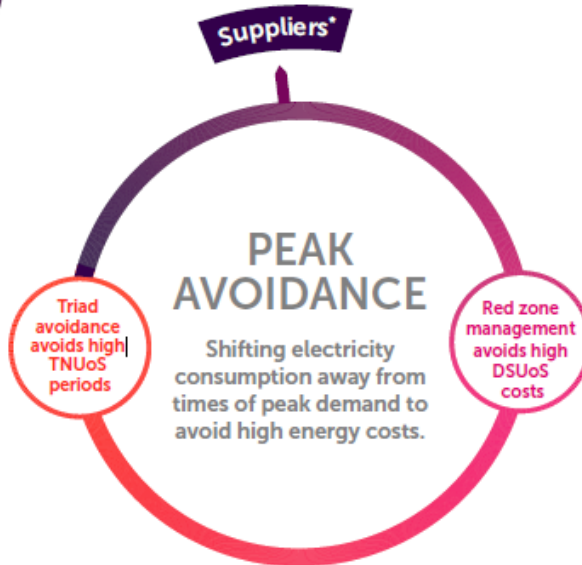
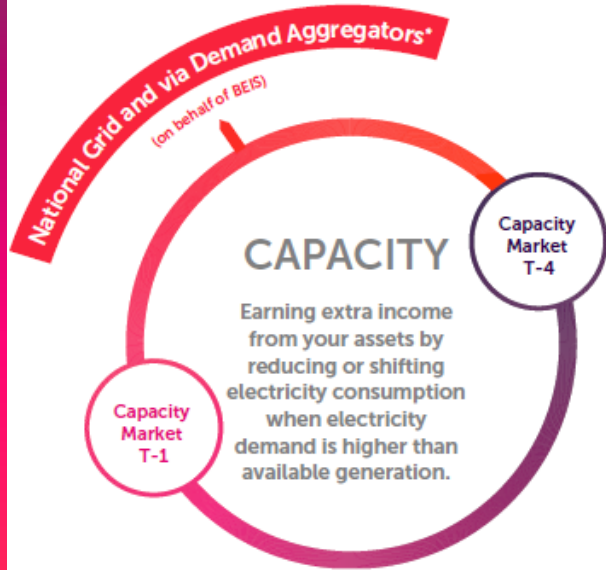
Frequency
recovering

Response

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Routes to market – other opportunities



Power Responsive

Purpose

- Programme of work launched in 2015 to promote participation of demand side flexibility in GB markets
- Scope: load response, electricity storage and small scale generation

Objectives

1. Customer engagement & awareness raising

2. Increase confidence in flexibility through information provision

3. Support evolution of flexibility markets – giving demand side a voice



Public Sector



Hotel & Leisure



Stay involved

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**Future of Balancing
Services Newsletter**



Reform of Balancing Services

The publication of the Future Vision & Product Strategy (FVPS) in June last year was the start of our journey to improve balancing services and markets. We followed that consultation up with the first of our Product Roadmaps in December, focusing on frequency response and reserves. The next set of documents have now been published, which set out our programme of work for reactive power and ancillary (black start). This will be followed up in the next few weeks with a report on thermal constraints. These documents will set out our plans and ambitions in these service areas.

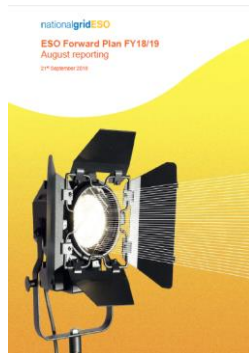
Market Standardisation

We have rolled out the use of 4 hourly blocks and seasonal averages in FVPS from the May tender. These will improve transparency of market price and our requirements, and enhance competition. The first long-term tender for reserves closed on 17th June and we are now assessing the received tenders.

FVPS is also available in the 'Simplification Update' on the FVPS webpage, along with a recent report outlining our analysis of various state of charge management approaches for storage assets.

<https://www.nationalgrid.com/uk/eso>

**Monthly Product
Roadmap
newsletter**



**Monthly & Quarterly
ESO Forward Plan
progress updates**



**Power Responsive
Mailing List**

www.futureofbalancingservices.com

www.powerresponsive.com
powerresponsive@nationalgrid.com

power
responsive

Thank you

