

power  
responsive

national**grid**

## Business Opportunities From Demand Response

Richard Hanson  
Business Development  
National Grid System Operator

Leicester Business Festival– 3<sup>rd</sup> November



## Agenda

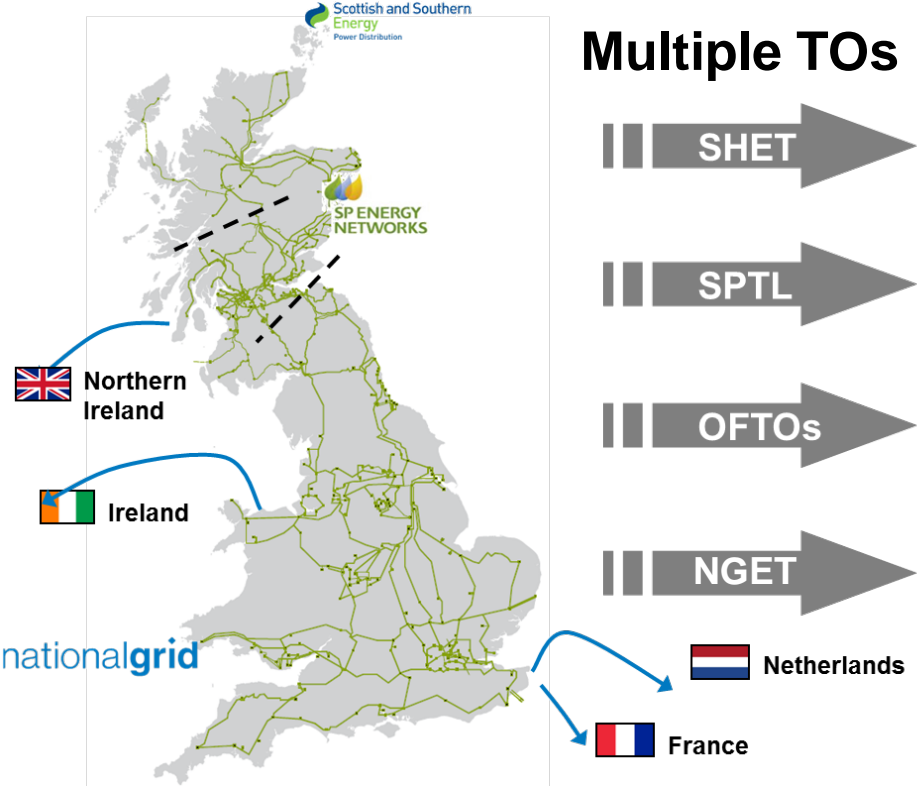
**The role of National Grid and energy balancing**

**The evolving electricity system**

**Power Responsive and flexibility revenue streams**

**Real-life case studies**

# National Grid's role as System Operator



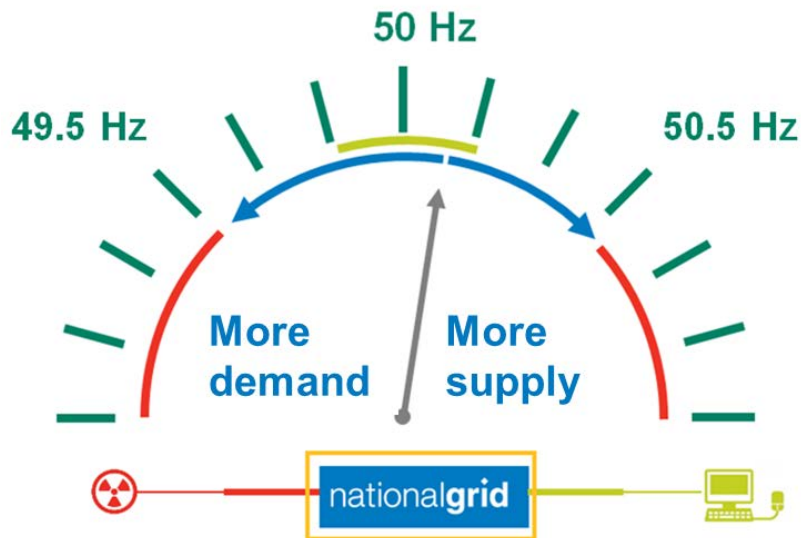
## One SO

National Grid Electricity Transmission System Operator



## National Grid's role as System Operator

Efficient, economic & coordinated development of Electricity Transmission System

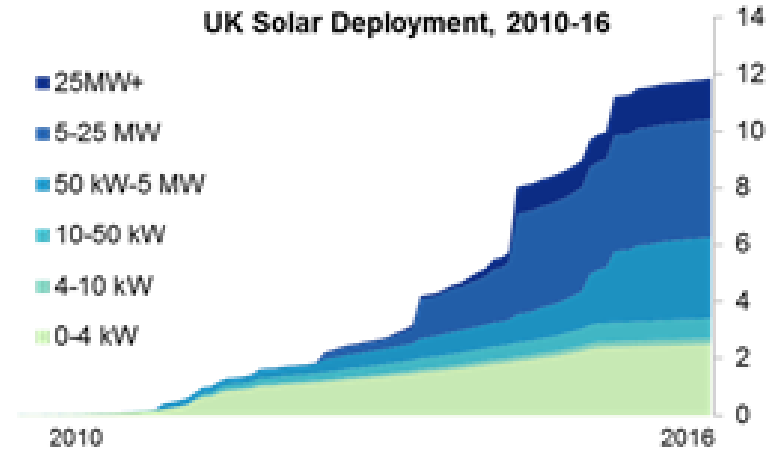


Market participants balance their position ahead of time (97%)

SO responsible for residual balancing (3%)

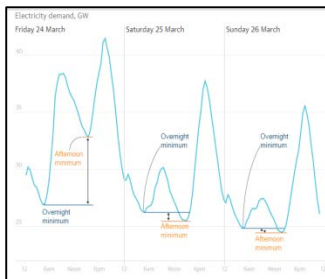
## The system has evolved more quickly than expected

	2012 prediction for 2020	Actual 2017
Solar	1 GW	12 GW
Wind	12GW	15 GW
% Embedded	12%	23%



# We have had a summer of 'firsts'

25-26 Mar



26 May



11 June



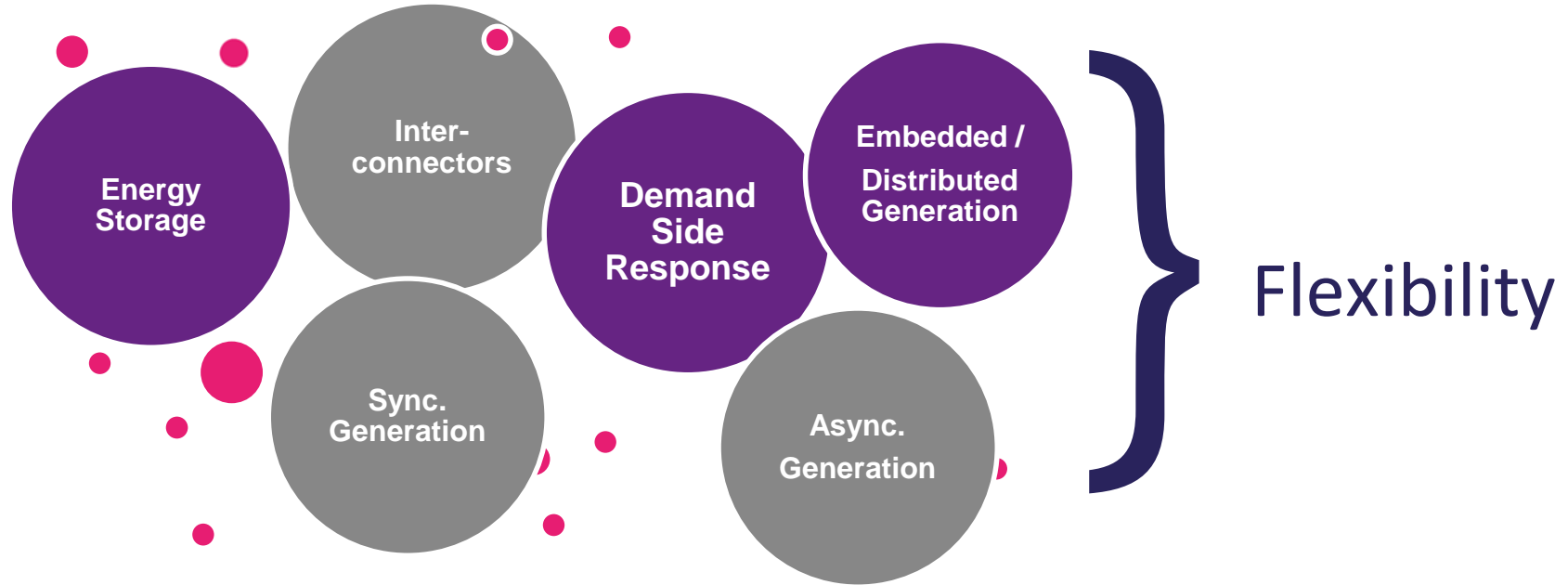
21 Apr



7 June



## The role of flexibility



## Power Responsive programme objectives

### 1. Continued Customer Engagement

- Continued deeper engagement with DSR stakeholders
- Broaden engagement activity to include Storage stakeholders

### 2. Increase Confidence in Flexibility

- Providing information to market that supports confidence to invest in demand side flexibility
- Support activity to build confidence in working with partners to deliver flexibility

### 3. Evolution of Flexibility Markets

- Simplifying Balancing Services product set to encourage participation
- Trial sharing of services with distribution networks, towards a shared services framework



# Flexibility routes to market



Cost Savings

Triad Avoidance

Red Zone Management



Revenue Potential

Frequency Response

Firm Frequency Response (FFR)  
Enhanced Frequency Response (EFR)

0 – 30 Secs



Reserve

Short Term Operating Reserve (STOR)/Runway  
Demand Turn-up  
Fast Reserve

30 Sec – 2 hrs



Local Distribution Schemes

Capacity Mechanism

Transitional Arrangements  
Capacity Market

Up to 4 hours



Department for  
Business, Energy  
& Industrial Strategy

## Dŵr Cymru Welsh Water



After labour, energy is Welsh Water's highest cost. That provides strong incentive to maximise the value of flexibility.

Anaerobic digestion and renewable hydro generation

Compliance comes first – DSR activities work around core business, protecting habitats and serving customers

Venturing into FFR market

## Next steps for participating



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To get in touch...

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