

# JRC Annual Seminar 2019

Delivering the policy context for enhanced operational control of energy networks



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Meet the needs of consumers and network users



Delivering high quality and reliable services to all network users and consumers, including those who are in vulnerable situations

Maintain a safe and resilient network



Delivering a safe and resilient network that is efficient and responsive to change

Delivery an environmentally sustainable network



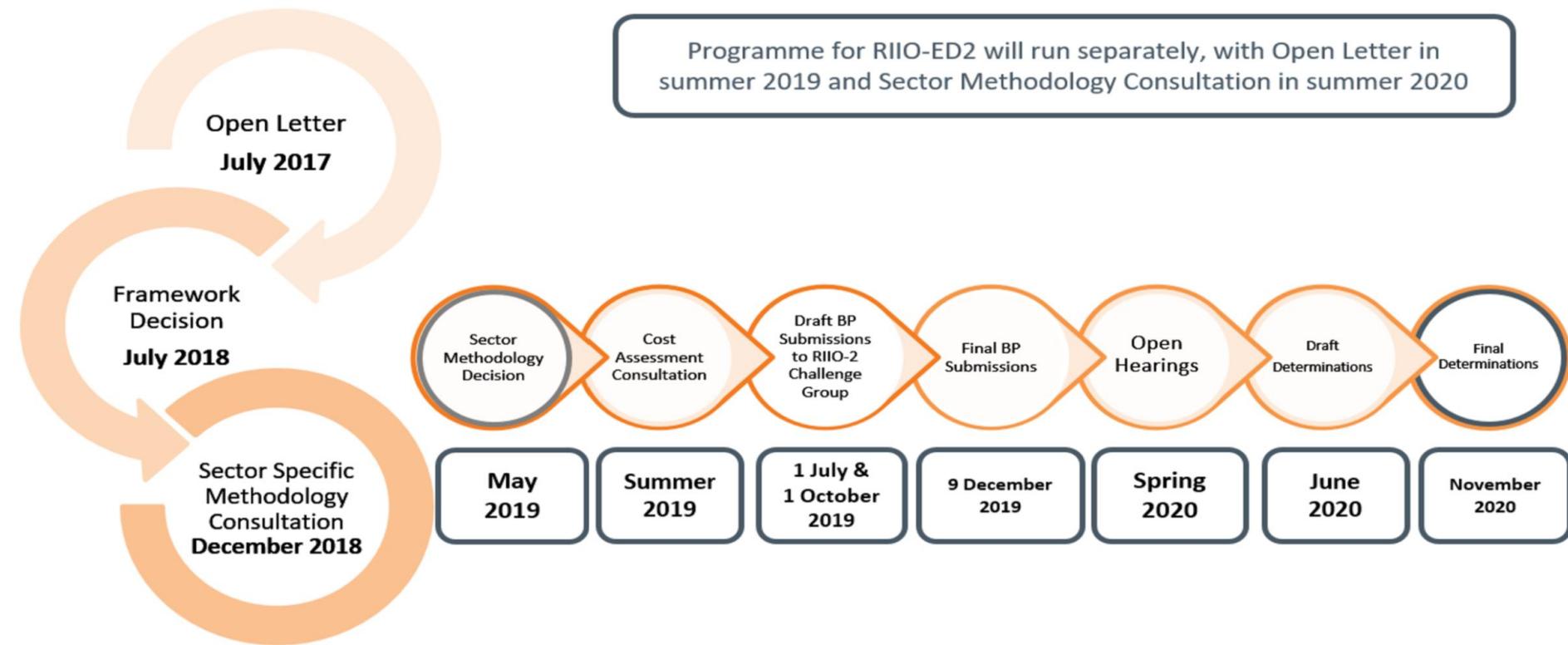
Enabling the transition to a smart, flexible, low cost and low-carbon energy system

Financeability



Enabling companies to finance their activities by providing investment returns that reflect the risk they face and represents value to consumers

- We have learned lessons from previous price controls and aim to drive a better balance between the interests of consumers and investors while reflecting environmental challenges we face
- But we are retaining rewards for companies delivering great customer service and outperforming tougher targets through efficiency and innovation



**RIIO-2 will drive the delivery of high quality network services at lower cost (than RIIO-1) whilst preparing our networks for the energy system of the future. We do this by:**

- confirming an **outputs and incentive framework** focused on what consumers value, with rewards and penalties set accordingly
- retaining a **TOTEX** incentive regime that ensures networks strive for efficiency but with a higher share of the savings returned to consumers
- **reducing the return to equity investors** through better alignment with current market conditions and the risks that networks face
- confirming the opportunity to use **competitive processes** to reveal efficient costs and ideas, where the benefits are likely to exceed the costs
- confirming the introduction of **return adjustment mechanisms** to protect against extreme deviations from expectations set at the start of the control.
- retaining a strong **innovation stimulus** covering both large-scale transformational R&D projects and smaller scale technological innovations
- providing scope to support **anticipatory investment** for a zero carbon energy system

## Innovation: Sector Specific Methodology Decision ([May 2019](#))

### Encouraging more innovation as part of BAU activities

- Confirmed expectation that companies fund more innovation in RIIO-2 using their totex allowances.

 Companies can include need for additional funding to roll out proven innovations

- Confirmed use of Business Plan Incentive.

 Business Plan Incentive minimum requirements re innovation set out in Business Plan Guidance

### Network Innovation Allowance

- Confirmed opportunity for additional NIA funding.
- Confirmed focus primarily on energy system transition or consumer vulnerability.
- Confirmed innovation allowances based on justification and need for individual allowances in Business Plan submissions.

 Companies can include any need for additional innovation funding in Business Plans

### New strategic innovation funding pot

Confirmed new innovation funding pot to refocus innovation funding on the energy system transition and what is strategically important.

- Increasing third party involvement, including consideration of direct third party access to funding

Focus on innovation strategies for whole system solutions that provide a net benefit to the sector

Developing uncertainty mechanisms to support net zero carbon challenges

**Key Challenge** – Decarbonising energy in Power, Heat and Transport

### Key Features: Transmission

- Large Scale Renewables (Offshore Wind)
- More Interconnectors, New Nuclear Build
- Grid Scale Storage
- Peaking Plant fuelled by Gas (CCSU) and/or Hydrogen
- Demand growth from Electrification of Heat & Transport
- Operability (Inertia, Frequency Response, Reserves etc)



### Key Features : Distribution

- Embedded Solar, Wind & Low Carbon Distributed Generation
- On Site PV, Storage and Smart Energy Management
- Local Energy Plans
- EV Charging (fast/rapid, home/street/on route/destination)
- Demand Side Response & Vehicle to Grid



### Key Enablers

- Technology, Digitisation and Smart Systems
- Legislation, Regulation, Incentives & Funding



### Key Challenge – Decarbonising Heat

### Key Features Heat: No magic bullet

- Better insulated homes
- Electrification of Heat (e.g. Heat Pumps)
- Combinations of Hydrogen/BioGas/SynGas/Natural Gas/BioFuels for Boilers, Hybrid Heating Systems, CHP, District Heating etc
- Large scale Hydrogen production (SMR+CCSU and Electrolysis)
- Alternatives : TBD



### Repurposing Gas Networks

- Feasibility of transporting Hydrogen or CH<sub>4</sub> / H<sub>2</sub> Blends
  - NTS supplying Natural Gas to SMR Plants
  - New pipelines transporting captured CO<sub>2</sub> for storage
  - Gas Distribution Networks supplying homes and business

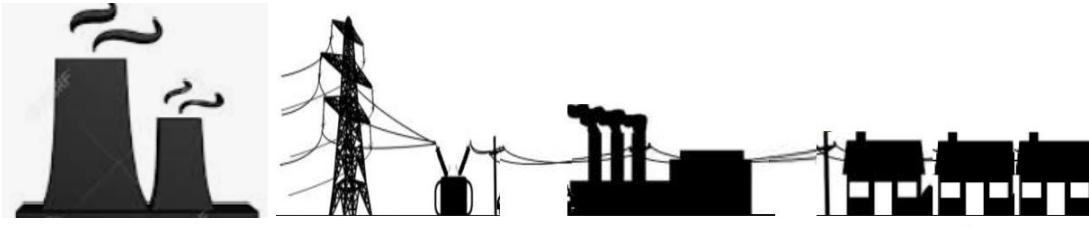
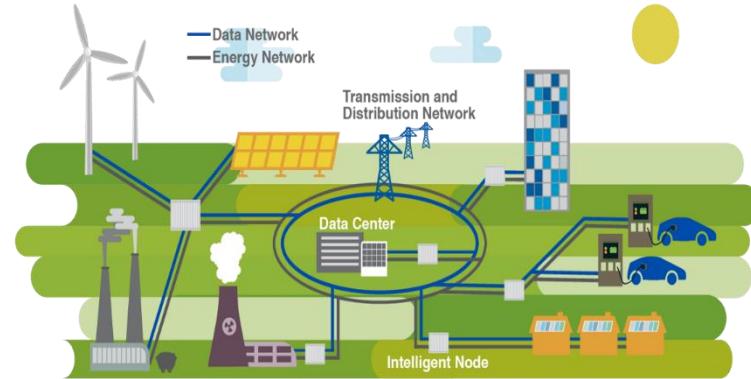


### Key Enablers

- Demonstrating the Feasibility / Safety / Economics of Hydrogen
- Legislation, Regulation, Incentives & Funding



## Changes in the system means changes in regulation

**Decarbonisation****Decentralisation****Digitalisation**

- Cleaner energy production
- Technological innovation
- More integrated energy system
- Increased complexity / automation
- New services/operating models
- Increased customer participation
- Increased use of data
- Increased resilience

### Impact on energy system

- More agile, responsive regulation
- Breaking down traditional boundaries
- Ensure a safe, reliable network that keeps bills as low as possible
- Increased focus on long-term sustainability over short term costs

### Impact on regulation

**Right incentives on customers****Right framework for system operators****Right incentives on network companies****Right approach to cost recovery**

## **Growth in Distributed Generation and Storage, with increased demand for heat and transport**

- Consequence : More connections, more network capacity needed, networks becoming more active

## **DSO Challenge : Key Enablers**

- Smarter pricing signals to drive behaviours
- More visibility / data for users
- Fair arrangements for network access
- Use of technology to maximise network capacity
- More monitoring, automation and smart control systems
- Procuring flexibility services to deal with congestion
- Traditional reinforcement if cost effective
- Compete for innovative solutions
- Enable local energy initiatives

**Our core purpose is to ensure that all consumers can get good value and service from the energy market. In support of this we favour market solutions where practical, incentive regulation for monopolies and an approach that seeks to enable innovation and beneficial change whilst protecting consumers.**

**We will ensure that Ofgem will operate as an efficient organisation, driven by skilled and empowered staff, that will act quickly, predictably and effectively in the consumer interest, based on independent and transparent insight into consumers' experiences and the operation of energy systems and markets.**