

# The changing energy and regulatory landscape



ESO RIIO-2 workshop – 22 June 2018

**Join the debate:**

[slido.com](https://www.slido.com)

Event code #4991

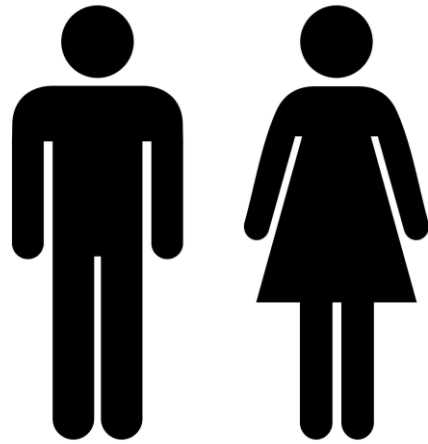
# Welcome and Housekeeping



ESO RIIO-2 workshop – 22 June 2018  
Ro Quinn – Head of System Operator Strategy

# Housekeeping

---



# Agenda

---

Time	Item
9.30am	Welcome and Housekeeping
9.40am	The changing energy landscape
10.40am	Break
11.00am	The ESO's regulatory framework
12.45pm	Next steps and close
1.00pm	Lunch

# Join the debate

---

- On your phone go to **slido.com**
- Enter event code **#4991**
  
- Test question – “How are you feeling today?”
  - Excited!
  - I’m OK...
  - Is it lunch yet?

# Purpose of the workshop

---

- Discuss the use of scenarios as a base for our business plan
- Consider how the energy landscape is likely to change over the next 10 years and how this might affect the energy industry and consumers.
  - Discuss whether the ESO has a role to play in managing and responding to these changes
- Seek feedback on a range of possible funding models that can be considered for the ESO's first separate price control

# Our stakeholder approach

---



## **Our ambition:**

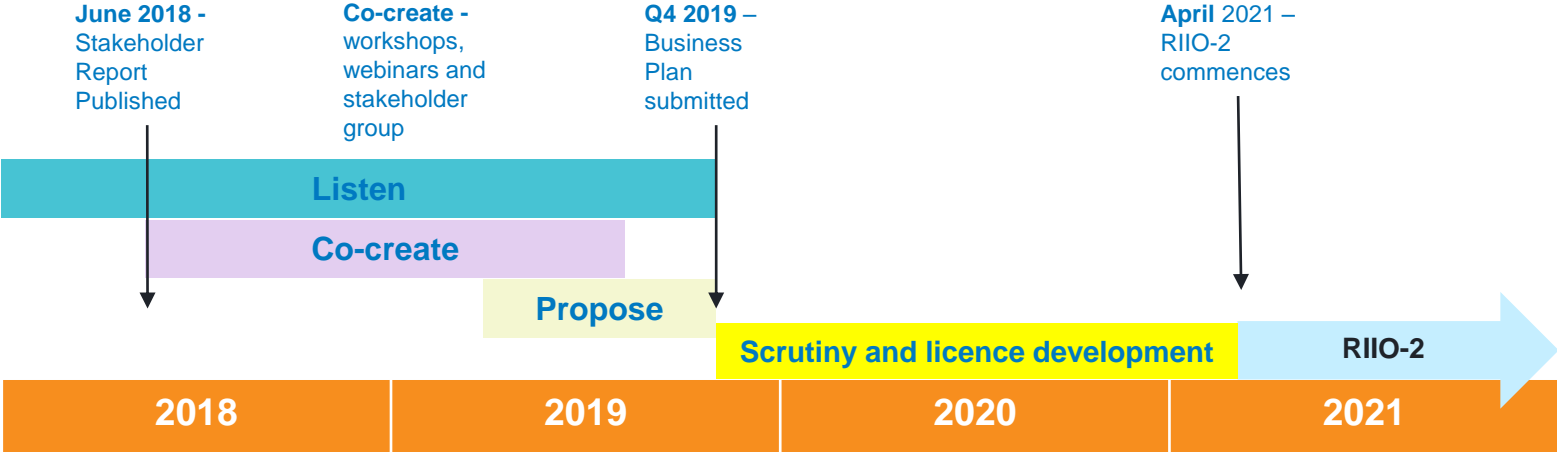
We will work with stakeholders to understand how the ESO can best deliver customer and consumer value, promote a whole energy system approach and be adaptable to future market conditions.

## **Our approach:**

We believe that enhanced stakeholder engagement will help us develop business plans that better reflect your needs, and will deliver greater consumer value

# We are moving into the “co-create” phase

- At our webinar on 26 April, you told us your stakeholder priorities for the ESO in RIIO-2. We published these in our stakeholder report
- We are now moving to the “co-create” phase
- Here we build on your priorities, working with you to develop the detail around our business plan proposals





# Our Consumer and Stakeholder Priorities

---

## Our consumer priorities...

I want an affordable energy bill

I want to use energy when I want

I want a decarbonised energy system, fit for the future

I want a safe and secure energy system

## ...are delivered through our stakeholder priorities...

I want you to protect the system from cyber and external threats

I want efficient whole energy system operation

I want you to enable the smart, flexible and low carbon energy system of the future

I want to engage in more active wholesale and capacity markets

I want to provide more balancing and ancillary services

I want to connect to the electricity network in a timely manner

I want transparent and stable charges

I want you to be open, engaging and easy to work with

I want the information I need to be accurate and user friendly

# The energy system of the future



**Decarbonisation of energy, particularly the transport and heat sectors**

**The need to facilitate a more decentralised whole energy system**



**Creation of more market based solutions**

# The changing energy landscape



ESO RIIO-2 workshop – 22 June 2018

David Bowman

Russell Fowler

## Aim of this section of the workshop

---

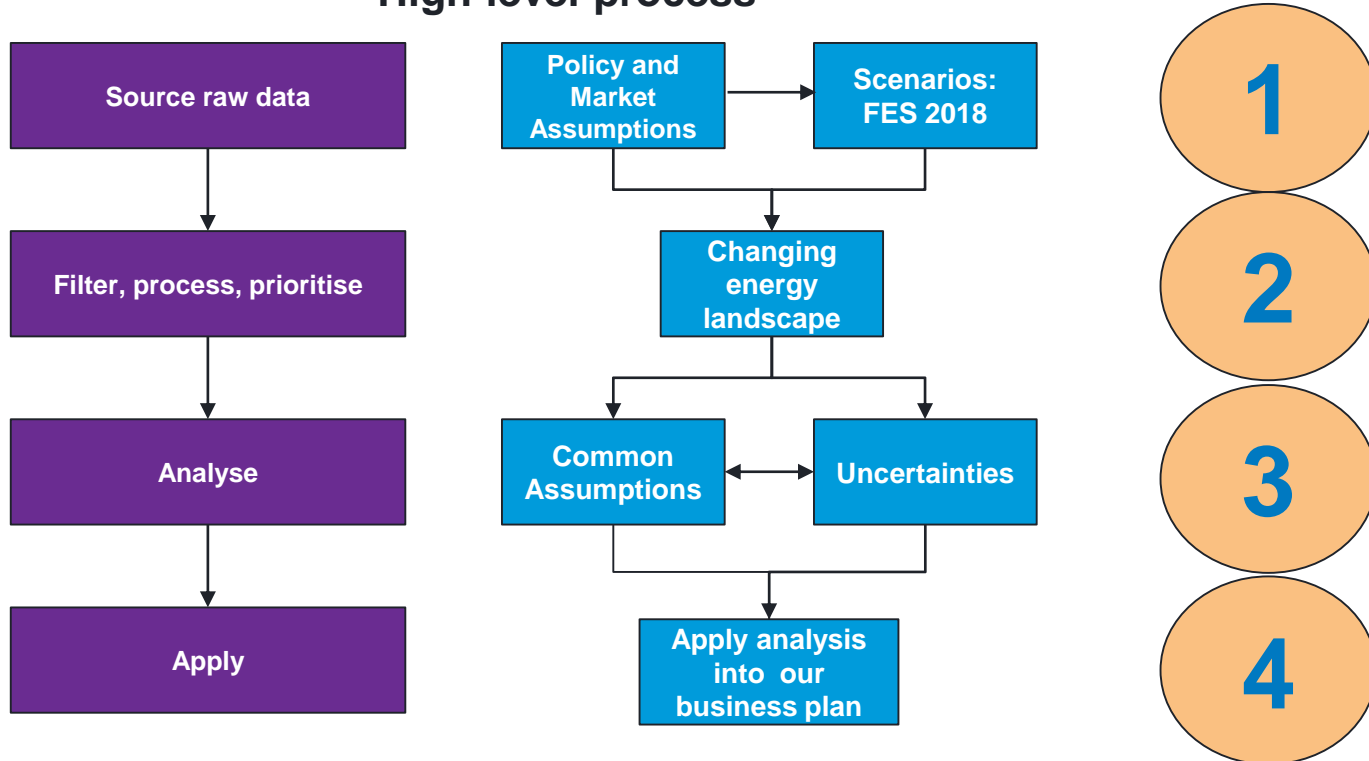
- Provide an overview of National Grid's Future Energy Scenarios (FES) and why we propose to base the analysis for our business plan around the 2018 FES analysis
- Identify the significant changes in the energy landscape and understand their potential affects on consumer value and the energy industry

# Scenarios for RIIO-2



To set up analysis for our business plan we need comprehensive scenarios and a process to prioritise our work

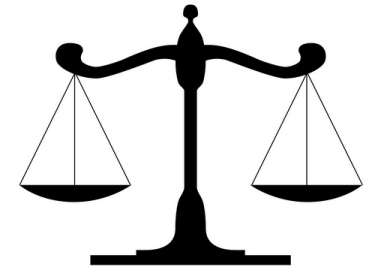
## High-level process



## Using scenarios is the best way to manage and understand the level of change and uncertainty in the energy industry

---

- There is much uncertainty in the energy industry; it is increasingly difficult to establish a single accurate long-term forecast around which to base our business plan
- Using credible and broad scenarios allows us to explore this uncertainty, these need to balance:
  - Uncertainty around how the energy future will evolve
  - The need to have a sound basis for our business plan
- Scenarios provide a consistent, coordinated and easily comparable approach across industry



Good scenarios should consider the whole energy system, be flexible, evidence-based and developed with stakeholders

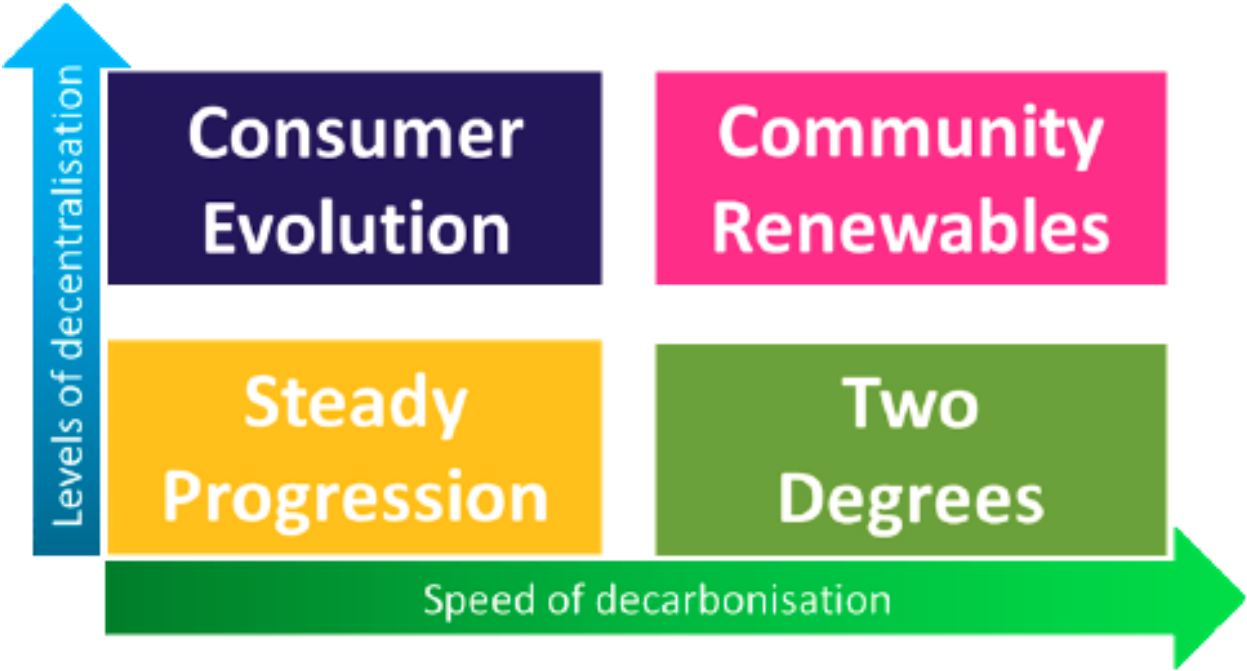
---

We believe that good energy scenarios should:

- **Consider the whole energy system in a holistic way**
  - across fuels (gas, electricity & hydrogen), networks (transmission & distribution) and sectors (power, heat & transport)
- **Be consulted and developed with stakeholders**
  - stakeholders should be at the heart of the process
- **Be evidence-based using high-quality analysis**
  - To support financial decisions across the energy industry
- **Be flexible to be used across the industry**
  - used independently outside their core area by third parties



FES helps us explore a range of credible futures and to better understand what is common and the uncertainties facing the industry



# Stakeholder engagement is fundamental to the creation of FES and has helped shape its development

nationalgrid

**Stakeholder Feedback Document**  
Future Energy Scenarios  
January 2016



FES is the start position for our analysis and is used across the industry

## The SO Suite of publications



Customers and Stakeholders have told us they use FES in a variety of ways:

Building own analysis and scenarios

Benchmarking

Academic source material

Informing investment decisions

Market view

We believe using FES is the right approach for creating our **nationalgrid**  
business plan - do you agree? What about other areas?

- We plan to use FES to support our business plan do you agree?
- To what extent would you expect other RIIO-2 business plans to have a shared view of the future energy landscape?

# Q&A

---

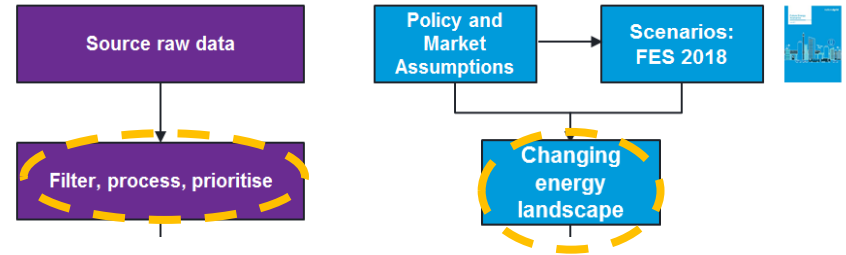


# Changes in the energy landscape



# Aim for this section of the workshop

- Identify the top changes in the energy landscape over the next 10 years and their effect on:
  - The energy industry
  - Consumers
- Does the ESO have a role to play in this change?



We are considering changes in the energy landscape over the next 10 years that have a high degree of uncertainty and potentially a large impact on the industry and consumer value


- These may be **Technology** or **Policy & Market** based

Technology change	Scope
Installed Offshore Wind Capacity in 2025/26	Between 8 GW and 20 GW by 2026
Number of Electric Vehicles (EV) in GB	Between 2 million and 5 million by 2026

Policy & Market	Scope
Fundamental review of the Capacity Market	Timing of any review, scope and impact of the review
UK's relationship with the Internal Energy Market (IEM)	Timing of the final arrangements, scope of transitional arrangements



# We have highlighted some of the top changes in the energy landscape



## Policy and Market changes

Capacity Market review

Contracts for difference review

Increased peer-to-peer trading

CCUS policy

Heat decarbonisation policy

Real time procurement of balancing services

Electricity Charging review

Competition in networks

UK's relationship with the Internal Energy Market

## Technical changes

Increasing offshore wind capacity

Increasing onshore wind capacity

Decommissioning coal power plants

New gas power plants

Increased levels of interconnection

Changing electricity demand profiles

Minimum electricity demand

Increasing solar PV

Increased peak distributed generation

Increased (Battery) storage

Increased electrification of transport

Increased electrification of heat

# When considering the effect of the changes on consumers, the consumer priorities serve as a guide

## Our consumer priorities...

I want an affordable energy bill	I want to use energy when I want
I want a decarbonised energy system, fit for the future	I want a safe and secure energy system

## ...are delivered through our stakeholder priorities...

I want you to protect the system from cyber and external threats	I want efficient whole energy system operation
I want you to enable the smart, flexible and low carbon energy system of the future	I want to engage in more active wholesale and capacity markets
I want to provide more balancing and ancillary services	I want to connect to the electricity network in a timely manner
I want transparent and stable charges	I want you to be open, engaging and easy to work with
I want the information I need to be accurate and user friendly	

**On each table:**

- Please discuss:
  - Whether any changes have been missed
  - Your Top 5 changes
  - How each of these could affect energy industry parties and consumers (using consumer priorities as a guide)
  - Does the ESO have a role to play here? **20 mins**
  
- Each table to feedback one of their Top 5 changes. **10 mins**



With your facilitator, each table should complete the following table that is attached to your flip chart

---

Top 5 change	Impact on industry	Impact on consumers	Does the ESO have a role to play?

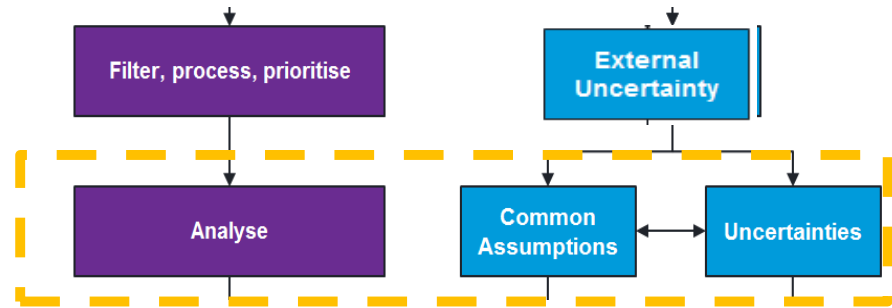
# Playback

---



# We will collate and further test your outputs at our forthcoming engagement

- Your feedback will guide the more detailed **Analyse** stage of our process, by allowing us to prioritise the areas where you believe we can and should have a role, and where there is opportunity to drive consumer value
- We will test these further as we continue our engagement.



# Q&A

---



# The ESO's Regulatory Framework



ESO RIIO-2 workshop – 22 June 2018

Angelita Bradney      Louise Clark



## Aim of this section of the workshop

---

- Share our view of principles for a good RIIO-2 framework for the ESO and hear your views
- Discuss the role that incentives can play and share how we intend to learn from the 18-21 scheme to inform incentives in RIIO-2
- Share our work so far looking into different funding models for the ESO
- Undertake an assessment of the models with you in the breakout session

## Context

---

- Ofgem's minded to position is that the ESO will have a separate price control in RIIO-2 to reflect the fact that it is a different type of company
- This is a unique opportunity to develop a tailored regulatory framework for the ESO to ensure that we can deliver for customer and consumer needs
- Ofgem will make the ultimate decision on the ESO's RIIO-2 framework, but we are undertaking our own work to explore what it should look like to inform this decision
- We want to engage stakeholders throughout the process on different options for the framework to test our emerging views, invite challenge and understand which will best deliver for you

# We have developed a set of principles for the ESO's overall nationalgrid RIIO-2 framework, for discussion

---

- Holistically supports and encourages the ESO to take the actions and investments needed to deliver long term value for customers and consumers, using appropriate incentives to drive exceptional performance and value for consumers;
- Provides an appropriate risk-reward framework tailored to the ability to bear risk and the potential value delivered to consumers;
- Sets clear, manageable and measurable outputs, while building in flexibility to manage uncertainty and respond to changes in customer and consumer needs;
- Encourages whole energy system thinking and use of market-based solutions to support the continuing low-carbon transition of GB's energy system;
- Promotes innovation within the SO and across the system and market;
- Ensures the ESO is financeable and credit-worthy, and able to operate;
- Prevents windfall gains and losses that are not justified by underlying performance;
- Is sufficiently transparent for the ESO, Ofgem and industry stakeholders to understand.

# Incentives can be an effective tool to drive delivery of customer and consumer value

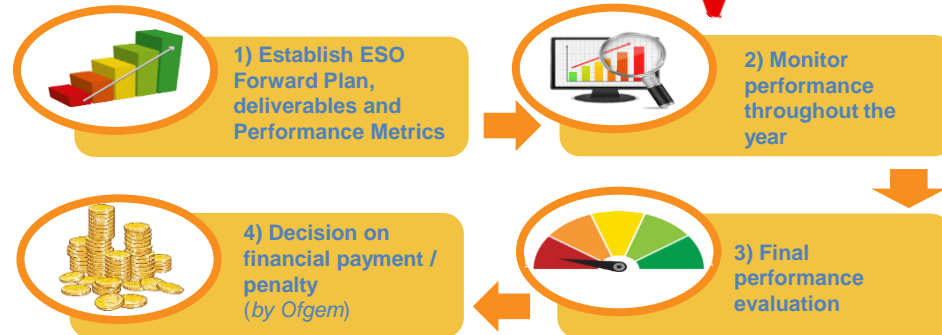
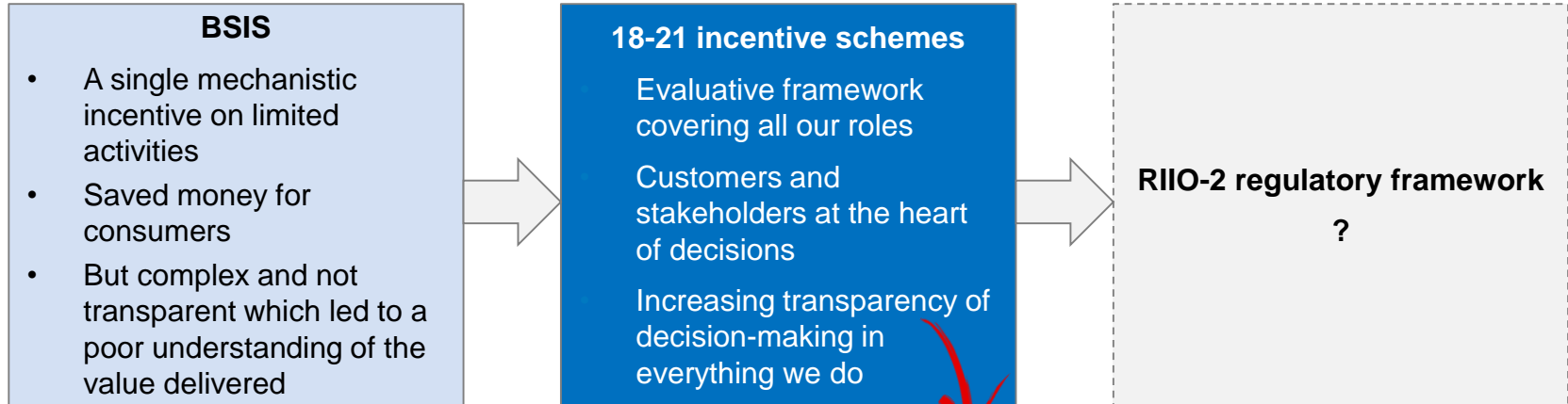
- Incentives can support the new and existing roles the ESO will play to facilitate industry transformation
- Well designed financial incentives have a key role in aligning the interests of a shareholder-owned ESO with those of consumers
- In a monopoly business like the ESO, financial incentives mimic competitive pressures, driving innovation and going “above-and-beyond” in delivering value for customers and consumers

Previous incentive schemes have provided consumer value...

£500m saved for consumers during 2013-17 under the Balancing Services Incentive Scheme

£19.4m underspend on ESO internal costs under RIIO-1 efficiency incentive from 2013-17 resulting in £10m consumer savings

# We will learn from and build on our 2018-21 performance evaluation framework to develop the right incentives for RIIO-2



# Q&A

---



# Regulatory funding models



# We have explored five different funding models and have developed a strawman for each of them

	RAV	Margin
Attributes	<p>Baseline profitability based on <math>RAV \times WACC</math></p> <p>WACC reflects high operational gearing</p> <p>Outperformance on totex allowances possible</p>	<p>Two margins: on controllable costs and on pass through costs, both ex-ante</p> <p>Outperformance on totex allowances possible</p>
Example	RIIO-T1	DCC
Considerations	<p>Not reflective of the ESO's business or risks</p> <p>Value not captured without distorting the WACC to very high levels</p> <p>All parties familiar with this model</p>	<p>Too crude a measure</p> <p>Not reflective of all risks</p> <p>Margin can only be identified through benchmarking</p>



# We have explored five different funding models and have developed a strawman for each of them

	Layered	Commitments	Performance
Attributes	<ul style="list-style-type: none"> <li>• RAV*WACC for capital</li> <li>• Margin for operating</li> <li>• Margin for revenues collected</li> <li>• Allowance for guarantee</li> <li>• Incentives</li> <li>• Premium for any asymmetry</li> </ul>	<p>Commitments defined through constructive engagement</p> <p>Initial tariffs proposed by the ESO and negotiated with customers</p> <p>Price cap set by Ofgem</p>	<p>No baseline equity profitability</p> <p>Returns based on incentive mechanisms</p>
Example	SONI	Gatwick Airport	No known GB precedents
Considerations	<p>Remunerates different activities, risks and layers of capital efficiently</p> <p>Well defined layers can ensure financeability and avoid abnormal profits</p>	<p>Aligns with customer and consumer requirements</p> <p>Unclear on the level of engagement needed from customers and the ESO</p>	<p>Limited margin for error could create a risk-averse business</p> <p>Incentives must be skewed positively and designed perfectly to enable financeability</p>

## Q&A

---



## Breakout session – over to you

---

### What are the strengths and weaknesses of the model?

In thinking about this, we suggest you consider how the model delivers against the ESO framework principles and the objectives Ofgem set out in the RIIO-2 open letter last summer:

- Giving consumers a stronger voice
- Fair returns that properly reflect the risks faced by the ESO
- Incentivising the ESO to drive consumer value
- Driving innovation and efficiency
- Simplifying the price control and making it more transparent



**We also want to know what matters to you in terms of the models**

# Playback

---



## Next steps on the funding models

---



## Ofgem's ESO RII02 industry workshop

When: Likely to be a half day on Monday 6<sup>th</sup> August (tbc)

Where: Ofgem, Canary Wharf office

How: to be added to the initial invite list email:

- [electricitySOreform@Ofgem.gov.uk](mailto:electricitySOreform@Ofgem.gov.uk)  
and/or
- [Grendon.Thompson@Ofgem.gov.uk](mailto:Grendon.Thompson@Ofgem.gov.uk)

What: To explain our approach and to understand industry participants' priorities and views on some significant questions and options related to the ESO's RII02 price control



Thank you for attending! You can get involved further

---



**28 June ESO Webinar**

nationalgrid

[Home](#) [About us](#) [Get involved](#) [Creating our plans](#) [Energy data](#) [Electricity System Operator](#) [Electricity Transmission](#) [Gas Transmission](#) [Contact us](#)



**[yourenergyfuture.nationalgrid.com](http://yourenergyfuture.nationalgrid.com)**



**[Box.ESO.RIIO2@nationalgrid.com](mailto:Box.ESO.RIIO2@nationalgrid.com)**