

**Ofgem Future Insights:  
The Future of Networks – RIIO-2**

**Keynote Presentation**

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#RIIO2  
@Ofgem



## Investment

Around £100bn investment in grids since 1990



## Driving consumer benefits...

### Cost to consumers

17% fall in cost of transporting electricity since mid-90s

### Customer Service

Record levels of customer satisfaction within RIIO-1

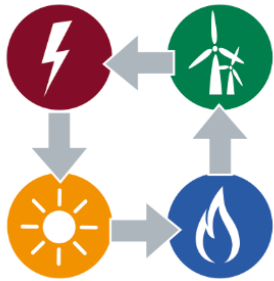
### Reliability

Power cuts on local grids have almost halved since 2001

### Innovation

£8bn of benefits could be achieved by innovation schemes





Energy transition is now moving quickly

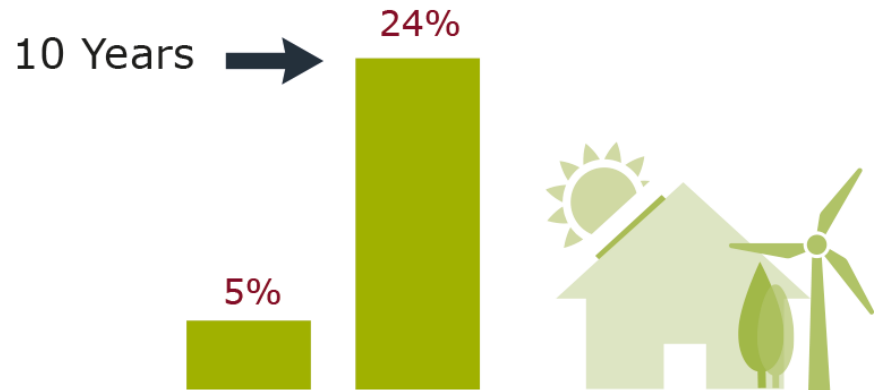


Lessons learned since introducing RIIO



## The Facts

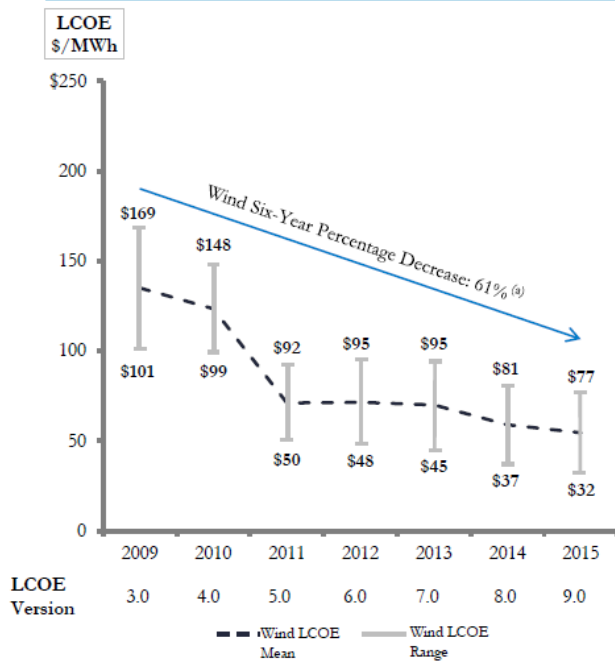
- Renewable generation increased from 5% to 24% in 10 years
- Each unit of electricity produced half as much carbon dioxide as it did five years ago



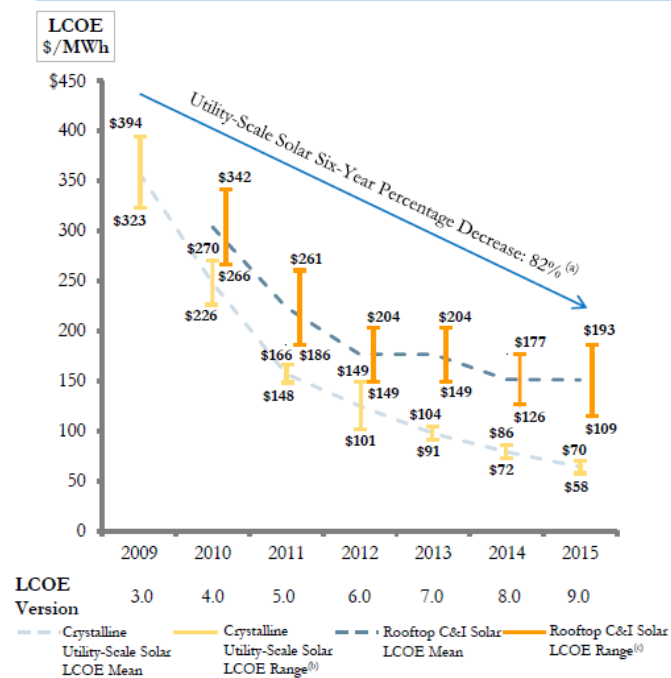
## Unsubsidized Levelized Cost of Energy—Wind/Solar PV (Historical)

Over the last six years, wind and solar PV have become increasingly cost-competitive with conventional generation technologies, on an unsubsidized basis, in light of material declines in the pricing of system components (e.g., panels, inverters, racking, turbines, etc.), and dramatic improvements in efficiency, among other factors

WIND LCOE

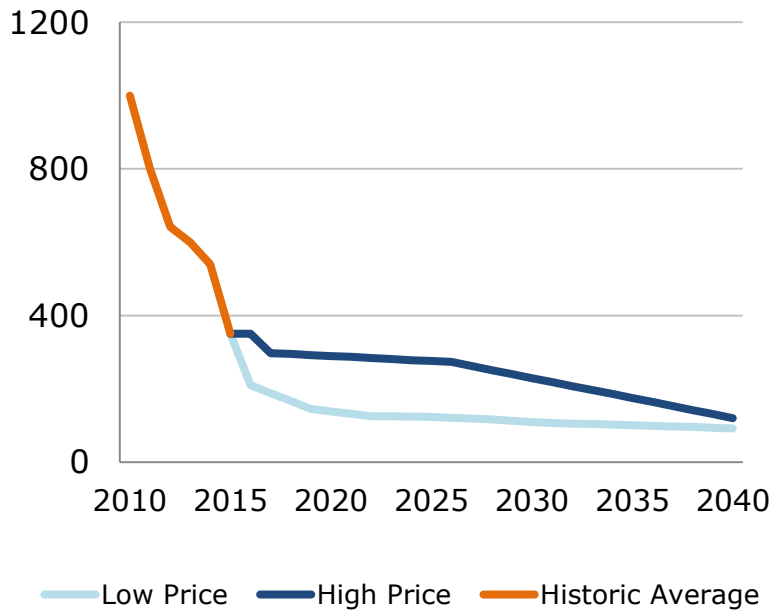


SOLAR PV LCOE

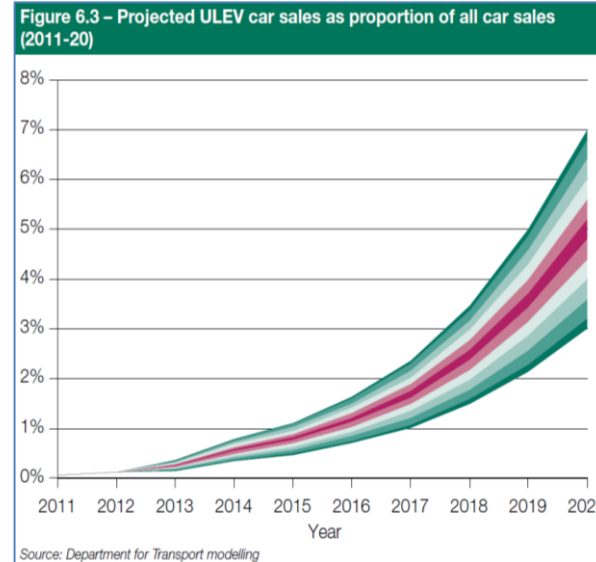


## Reduction in battery storage costs?

Li-ion battery price trend and projection (USD/kWh)



## Uptake in electric vehicles?



## 'Experts' have not always got their predictions right

"Soon gas will be too cheap to meter"

"In the 2010s we will not need gas or oil at all"

"In 2 years [from 2013] oil will break \$200 a barrel"

"Solar is unlikely to be affordable in the UK"



### RIIO framework has delivered...

- Benefits through **innovation**
- Capex bias reduced through **totex**, efficiencies **incentivised**
- **Outputs** focused companies on consumers

### However...

- Uncertainty increases forecasting challenges
- Market evidence suggests investors will be willing to accept lower returns
- Consumer engagement improved but could be better





**Giving consumers  
a stronger voice**

- New **approach to stakeholder engagement**

**Responding to  
how networks are  
used**

- **Five year price control** by default
- Maintain **current timings**
- **Separate electricity system operator price control**

**Driving  
innovation and  
efficiency**

- **Innovation** to support energy transition challenges
- **Expanding scope of competition** in all sectors

**Simplifying the  
price controls**

- **Simpler incentives for high quality business plans**

**Fair returns and  
financeability**

- **Cost of equity** – indicative range of 3-5%,
- Refinements **to cost of debt**
- **Failsafe mechanisms**



## Distribution Companies

### Customer Engagement Group

Challenge business plan proposals

## Transmission Companies

### User Group

Provide input and challenge to 'co-create' business plans

### RIIO-2 Challenge Group

Assess all business plan proposals and report to Ofgem

### Open Hearings

Hear arguments in favour or against company proposals

### Ofgem

Set final proposals, supported by output from Groups



We are moving to a system that is smarter and more flexible...

- ➔ Network companies need to work together, RIIO-2 must support delivery of outcomes which benefit **whole system**
- ➔ Networks should be **efficiently utilised and appropriately invested in**, with greater justification of new investment
- ➔ There may be a role for companies in **reducing future demand**



### Innovation

- More delivered through framework
- Coordinated with other public support
- Increased involvement of third parties
- Greater alignment to energy transition R&D challenges

### Competition

- Extended across all sectors
- Developing late models (eg current SPV model)
- Considering potential for early models for ideas / solutions



Price controls are complex but there are ways we can simplify...

- ➔ Clarifying approach for **outputs and incentives** – to drive improvements that consumers value
- ➔ Enhancing approach to setting **cost allowances** – greater use of indexation
- ➔ **Removing fast-tracking in transmission** – considering simpler approach to incentivise quality business plans



### Cost of Capital

- New methodology for cost of equity
- Potential to index cost of equity
- Enhancing options for cost of debt

### Financeability

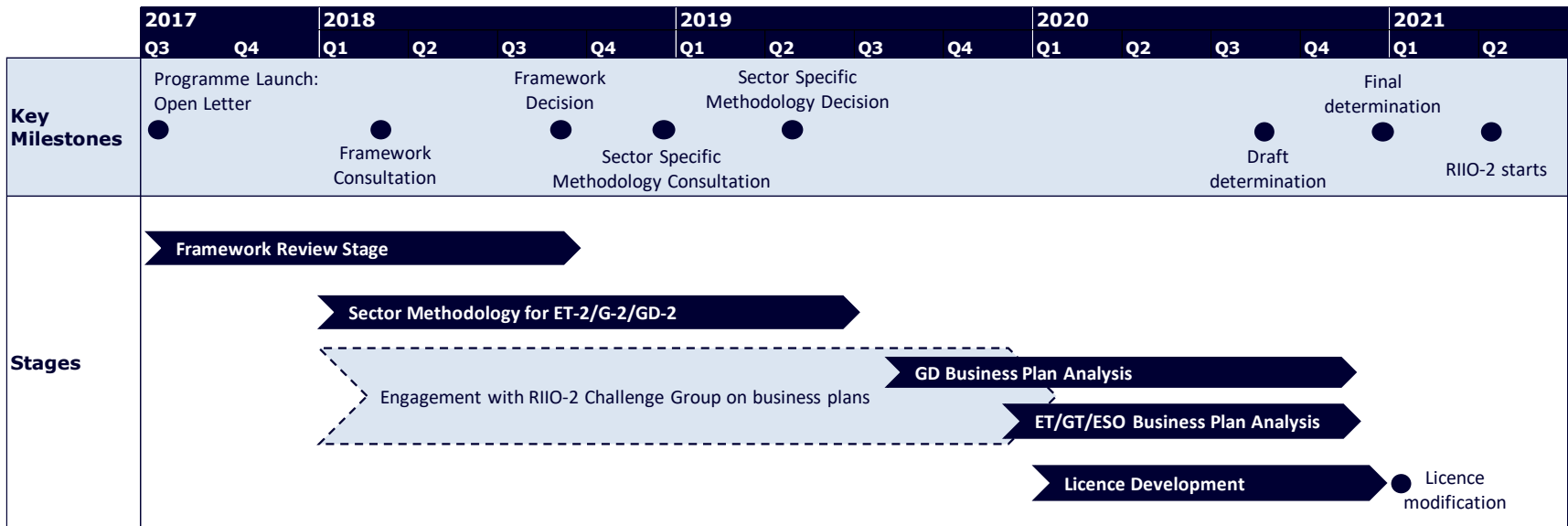
- Options to ensure financeability
- Move from RPI to CPI/CPIH
- Other finance issues including tax



**5 'failsafe' options** to protect consumers against higher than expected returns:

- **Hard cap and floor**
- **Discretionary adjustment** to claw back returns due to unforeseen events
- **Constraining incentives** on expenditure and output delivery
- Applying **sharing factor** to RoRE
- **Anchoring returns** by setting average rate of return for the sector





**Beyond today's discussion, we welcome responses to our consultation by 2<sup>nd</sup> May**  
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