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Adapting regulatory models to drive innovation

ESMAP Knowledge Exchange Forum:
Strengthening Energy Systems in a Time of Technology Disruption

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29/11/17

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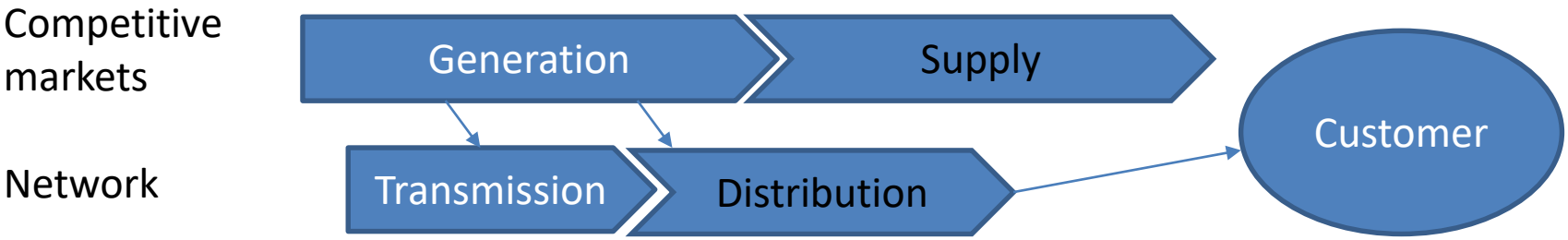
Agenda

- Context – the British energy sector
- What innovations are we seeing?
- How should regulation respond?

Electricity value chain

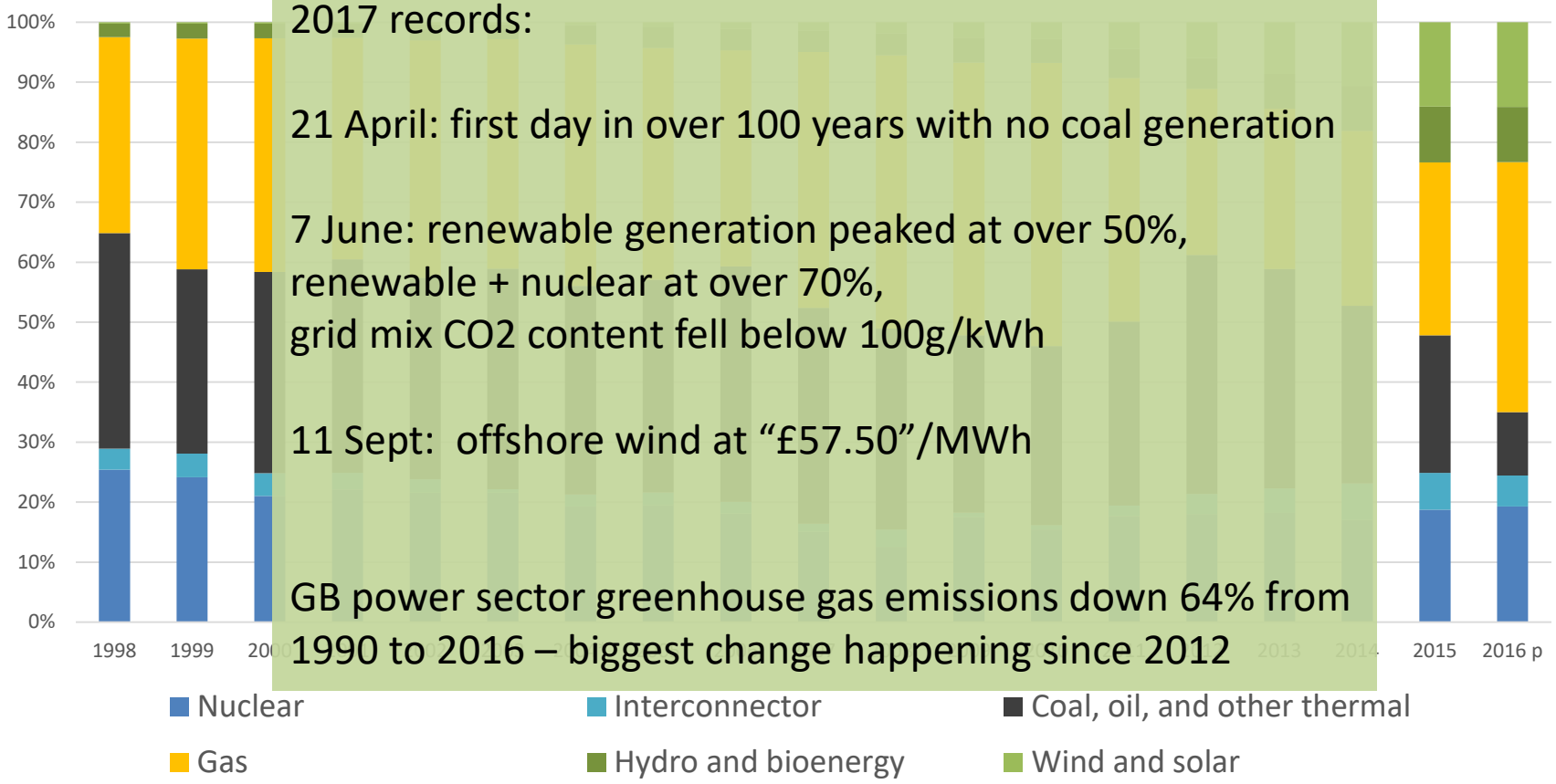


Key features:

- Unbundling
- Competition in generation, support contracts for renewables (and new nuclear) and for capacity
- Competition in retail – two-tier market, price caps coming back
- Revenues capped for monopoly networks

Generation mix

Electricity supplied by fuel type



2017 records:

21 April: first day in over 100 years with no coal generation

7 June: renewable generation peaked at over 50%,
renewable + nuclear at over 70%,
grid mix CO2 content fell below 100g/kWh

11 Sept: offshore wind at "£57.50"/MWh

GB power sector greenhouse gas emissions down 64% from 1990 to 2016 – biggest change happening since 2012

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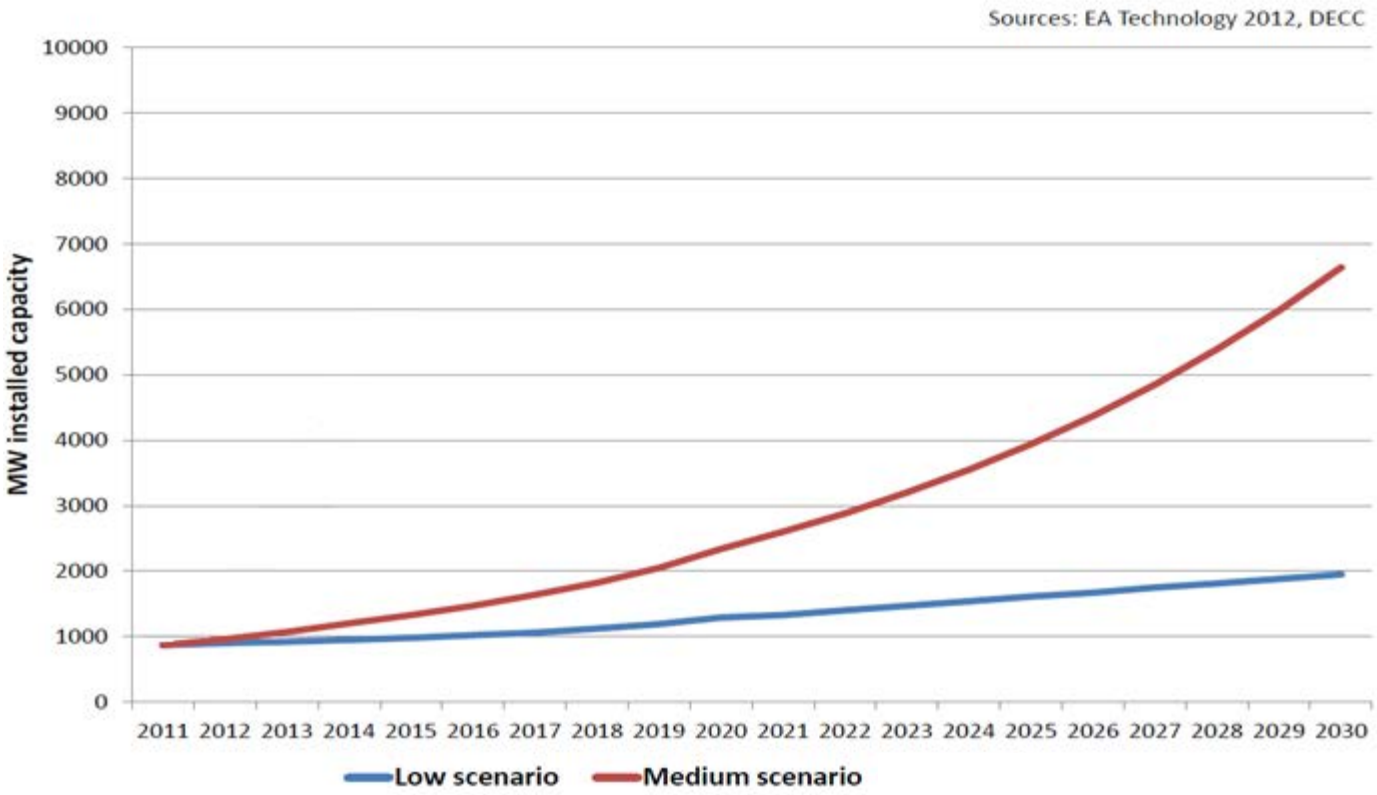
Case study – solar PV



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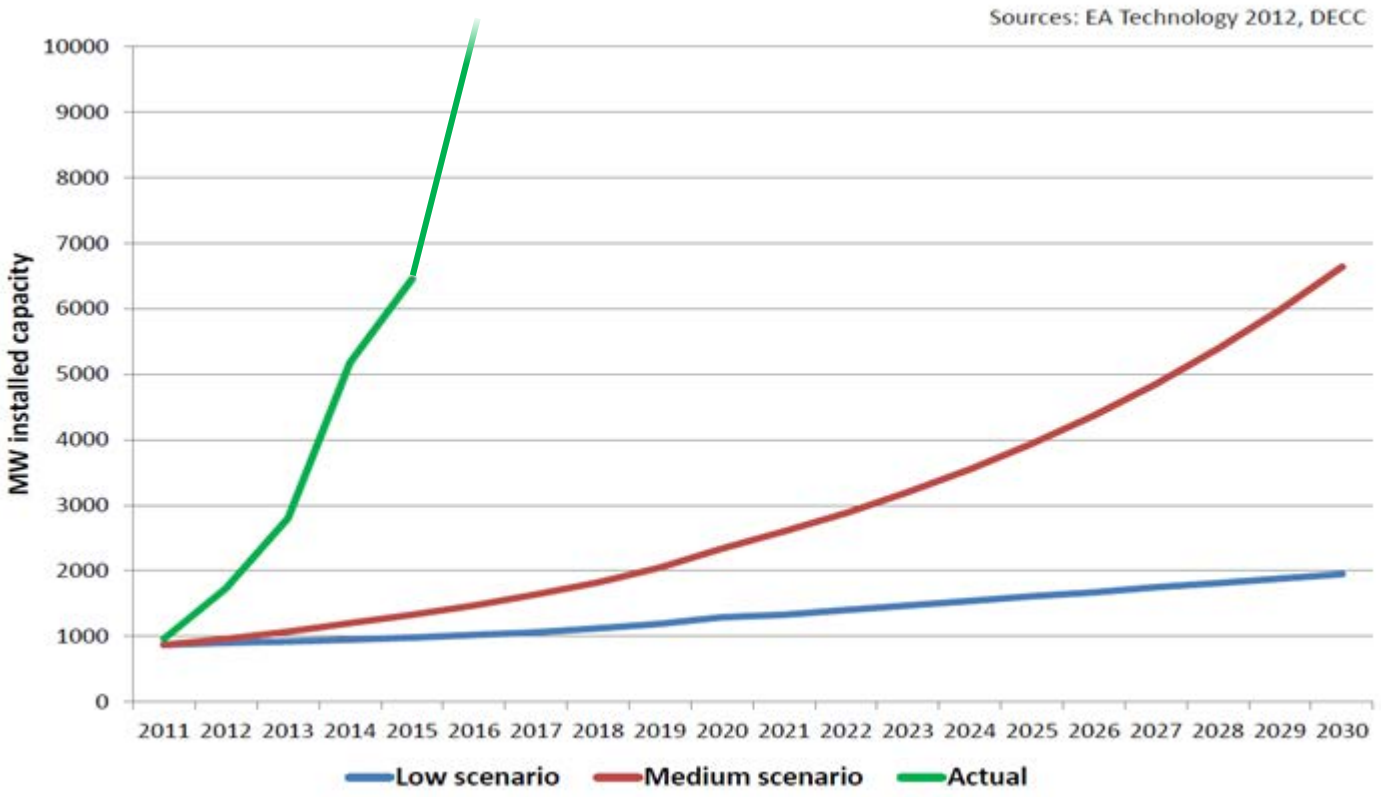
Case study – solar PV



Outturn vs expectations. Cumulative capacity now stands at approx. 12GW

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The energy sector is changing

We expect…

- An increasingly flexible system
- A more decentralised energy sector
- Increasing interdependence
- A more diverse commercial environment
- New innovative services for consumers
- Whole systems innovations

Driven by…

- Technological change
- New business models
- Behaviour
- Economic developments
- Decarbonisation agenda
- Policies / incentives

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How should regulation respond?

Use regulatory principles	Design for outcomes rather than being prescriptive
Flexible and iterative	Recognise a changing sector while protecting consumers
Allow breathing room	Foster safe regulatory spaces for new ideas to be trialled: Sandbox model
Open and available	Designate specialist teams to work with entrants; Listen and learn, be open to radical change www.ofgem.gov.uk/innovation-link

Fundamental uncertainty: prioritise agility, markets, economic analysis

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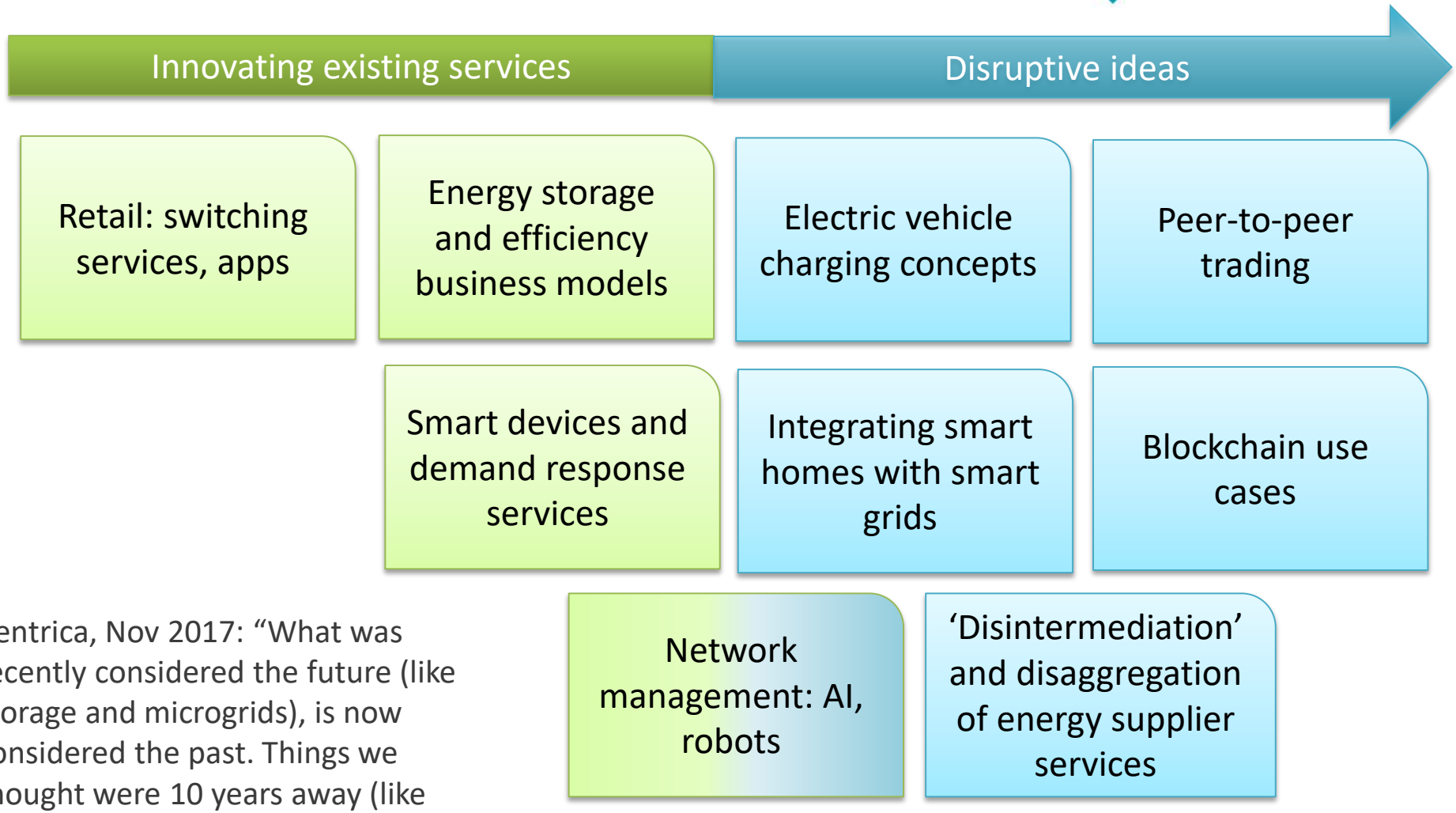
What are we seeing?



Centrica, Nov 2017: "What was recently considered the future (like storage and microgrids), is now considered the past. Things we thought were 10 years away (like peer-to-peer energy sales and local energy markets) are happening now."

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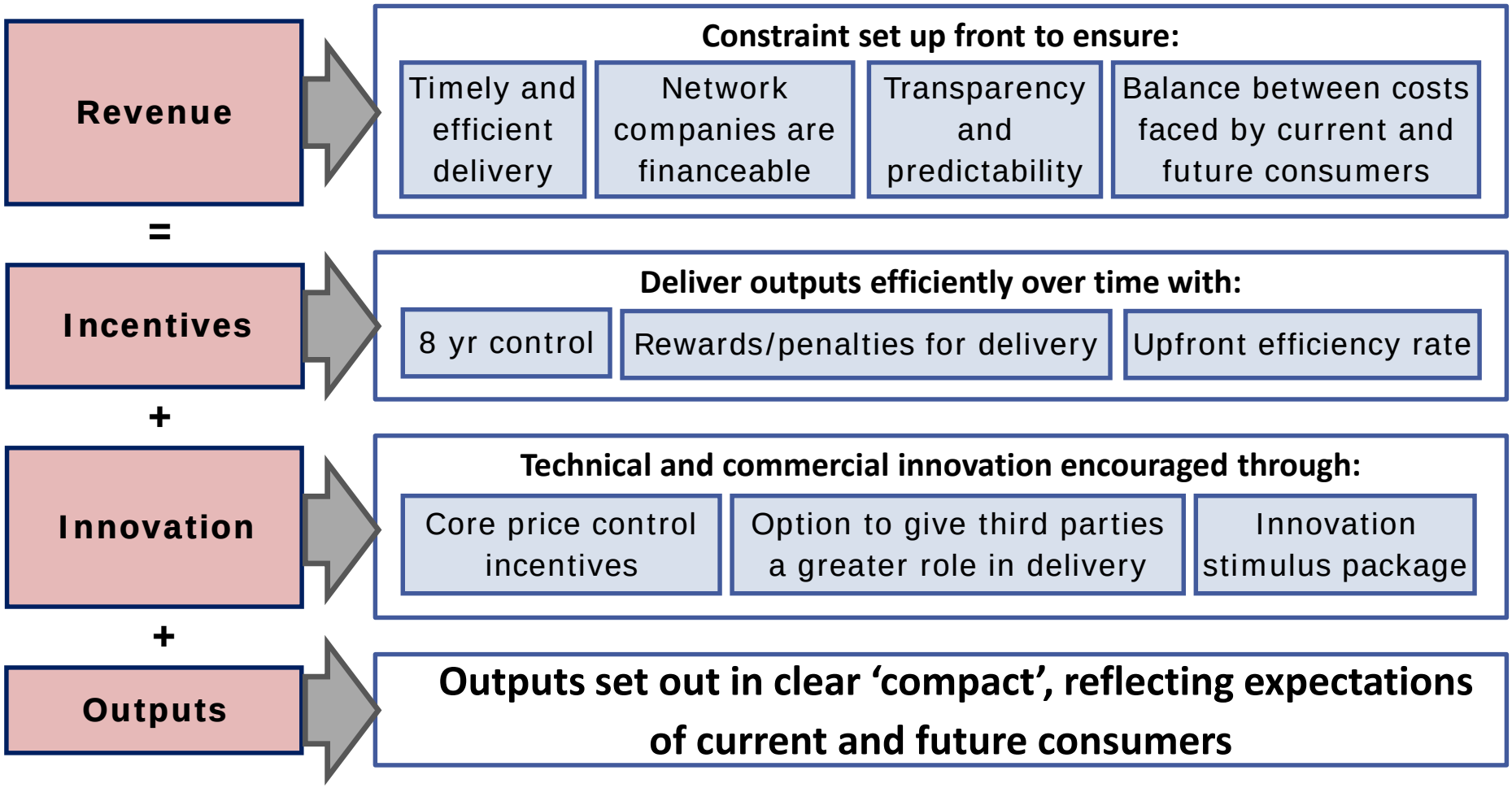
The RIIO Framework



RIIO 1 controls started in 2013 and 2015

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Conclusions for GB

Change is accelerating

Technology, business models, consumer behaviour…

A great opportunity

Regulatory response:

- Balance predictability (regulatory stances) and change
- Markets where feasible – more flexible
- Cost and value reflective pricing; minimise distortions
- Principles where outcomes matter, prescription for consistency
- Network regulation based on outcomes and incentives (RIIO)
- Support for trials and demonstration
- Practical help for innovation

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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.