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Is output-oriented regulation an adequate solution to reach a reliable and efficient network?

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IEA/CEER workshop on
Network Investment and Regulation

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Overview

"To date, increasingly effective regulatory arrangements have allowed for more efficient use of network capacity."

1. GB experience with national transmission regulation

2. Extension offshore and interconnection

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GB experience

- 1990s
  - Basic RPI-X framework
  - Main incentive: cost efficiency – reveals cost information over time
- 2000s
  - Improve monitoring/regulator's understanding, more benchmarking
  - Add output incentives and add-ons for new investments
  - Start to encourage innovation and social and environmental responsibility
- 2010-
  - RIIO framework onshore
  - Competitive tendering for new separable assets (offshore wind links so far)
  - Value based regulation for interconnectors

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Significant benefits from 'RPI-X'

We used RPI-X as a basis for regulating energy networks for about 20 years

Reductions in network charges	Improvements in operating efficiency	More efficient financing	Improved quality of service	Increased Investment

But some challenges with the initial formulation…

- 4-5 year control – reset weakens incentives, especially for innovation
- No flexibility mechanisms, everything agreed upfront – risk of overpaying for things not needed or non-delivery of needed investment that was not foreseen
- No outputs – companies able to outperform settlement by not delivering capex as per plans => customers not getting what they had paid for
- Strong incentives to reduce costs, but consumers' interests are wider than this – quality of service etc
- Unequal efficiency incentives on opex and capex (not constant for capex) leading to capex bias
- Network companies increasing focus on managing the regulator

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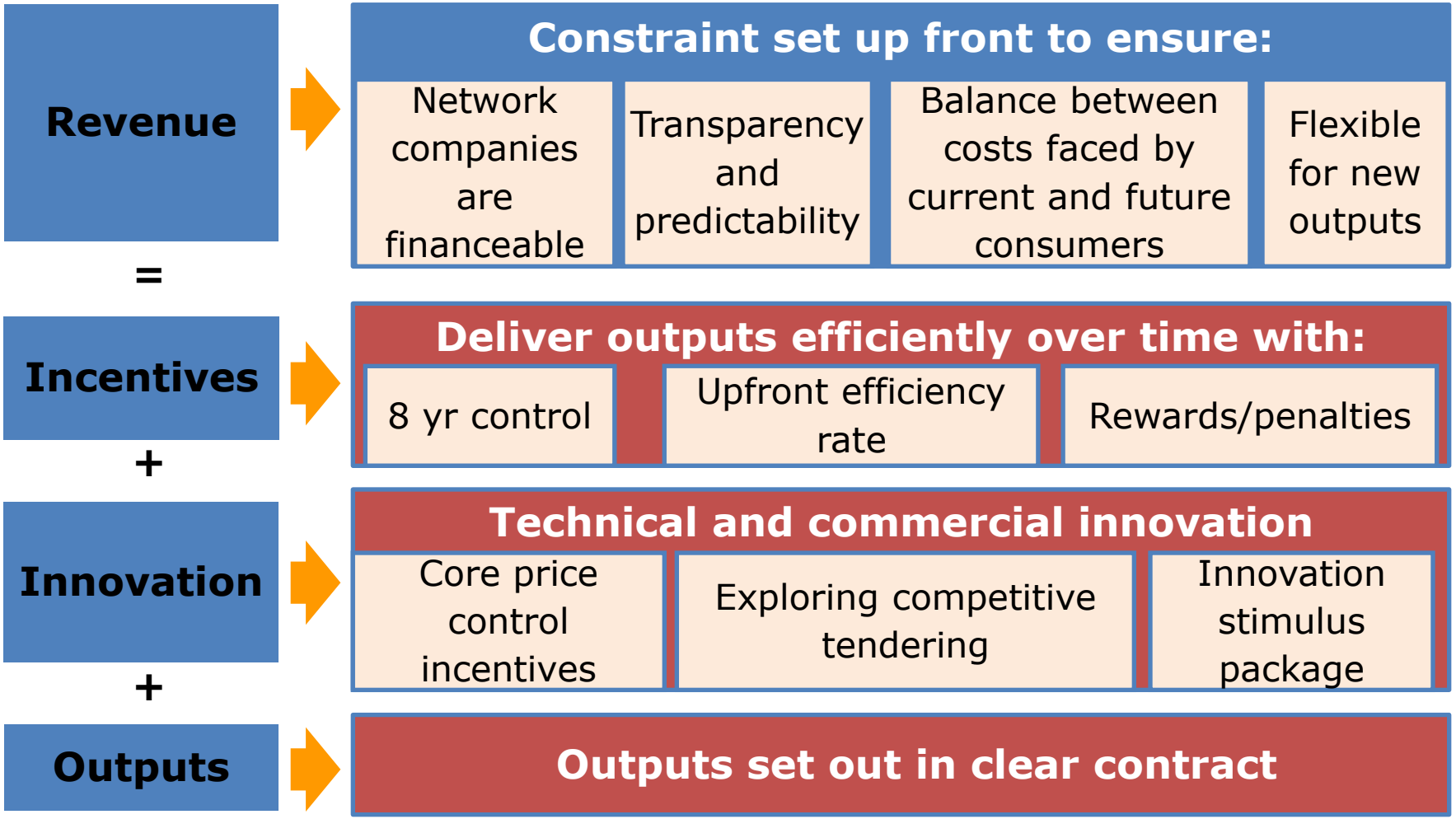
RIIO framework



Fast-track process harnesses competitive rivalry between network company management

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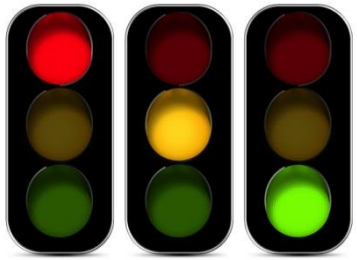
Outputs and incentives

Safe and reliable networks



Connections

Reducing harmful environmental impacts

Customer satisfaction

Network availability and wider works

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Some examples

Safety

- Compliance with legal health & safety requirements
- No financial incentive
- Secondary deliverables on asset risk

Connections

- Timing of pre-connection period in electricity
- Timing of build in gas and electricity
- Are guaranteed standards sufficient?

Reliability: Electricity

- Energy not supplied/SAIDI/SAIFI
- Suite of asset health secondary deliverables

Customer satisfaction

- Broad measure of customer satisfaction (survey evidence, stakeholder engagement and complaints handling)

Reliability: Gas

- Compliance with obligations to transport volumes of gas at system entry and exit
- Suite of asset health secondary deliverables
- Secondary deliverable on indicators to identify future network development needs

Environment

- Direct emissions - targets
- Visual Amenity – funding for undergrounding
- Environmental Discretionary Reward – to driver wider culture change

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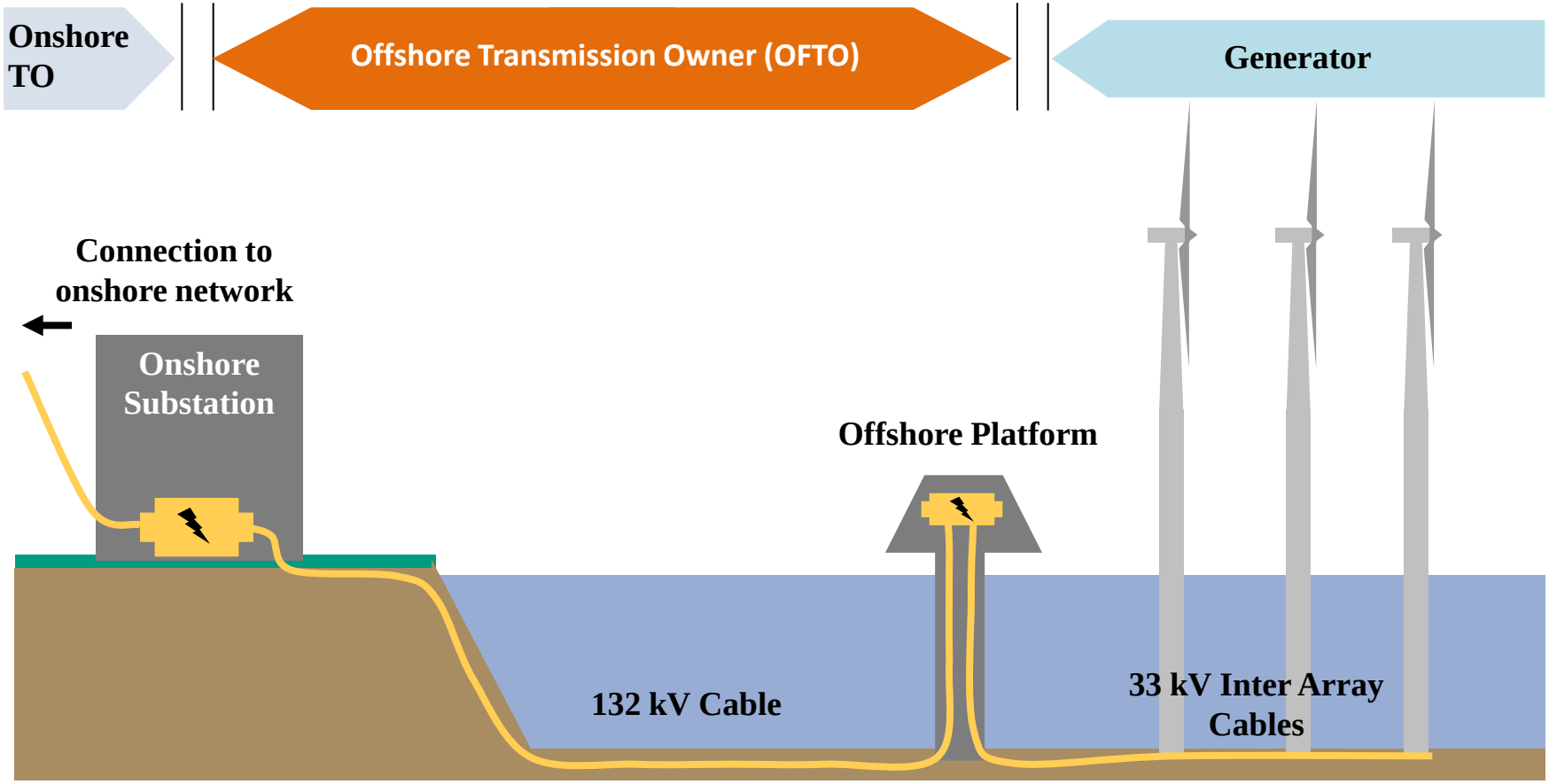
GB model: offshore transmission



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Key benefits of OFTO regime

- **For Generators**
  - Delivers cheaper and more timely offshore grid connections
  - Focused on generator's requirements; fit for purpose assets
  - Flexibility for future offshore generation needs
  - Reduces generators' overall capital need per MW
- **For OFTOs**
  - Enable new entrants to compete in this market and bring innovation
  - Long term regulatory certainty and light-handed regulation
  - Low risk – OFTO protected against generator failure and credit risk (and construction for transitional projects)
- **For Consumers**
  - Value for money in electricity bills - £200m+ savings on Tender Round 1

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Vision for interconnection

More interconnection

Develop efficient levels of interconnection to maximise social welfare, integrate renewables and contribute to security of supply

Efficient Regulation

Developed "cap and floor" framework so business case driven by use of interconnector

- Regime is contestable to non-TSOs
- Commercially viable projects
- Risk is shared between consumers and developers
- Strong incentives for efficiency
- Facilitates regulatory cooperation

Currently working on 7 live interconnector projects: from 4GW towards 12GW

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Our priority is to protect and to make a positive difference for all energy consumers. We work to promote value for money, security of supply and sustainability for present and future generations. We do this through the supervision and development of markets, regulation and the delivery of government schemes.

We work effectively with, but independently of, government, the energy industry and other stakeholders. We do so within a legal framework determined by the UK government and the European Union.

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