

Transmission Infrastructure in GB

Regulatory framework for current and future needs

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ofgem

Office of Gas and Electricity Markets

Regulatory independence

Principle Objective: to protect the interests of **present** and **future** consumers

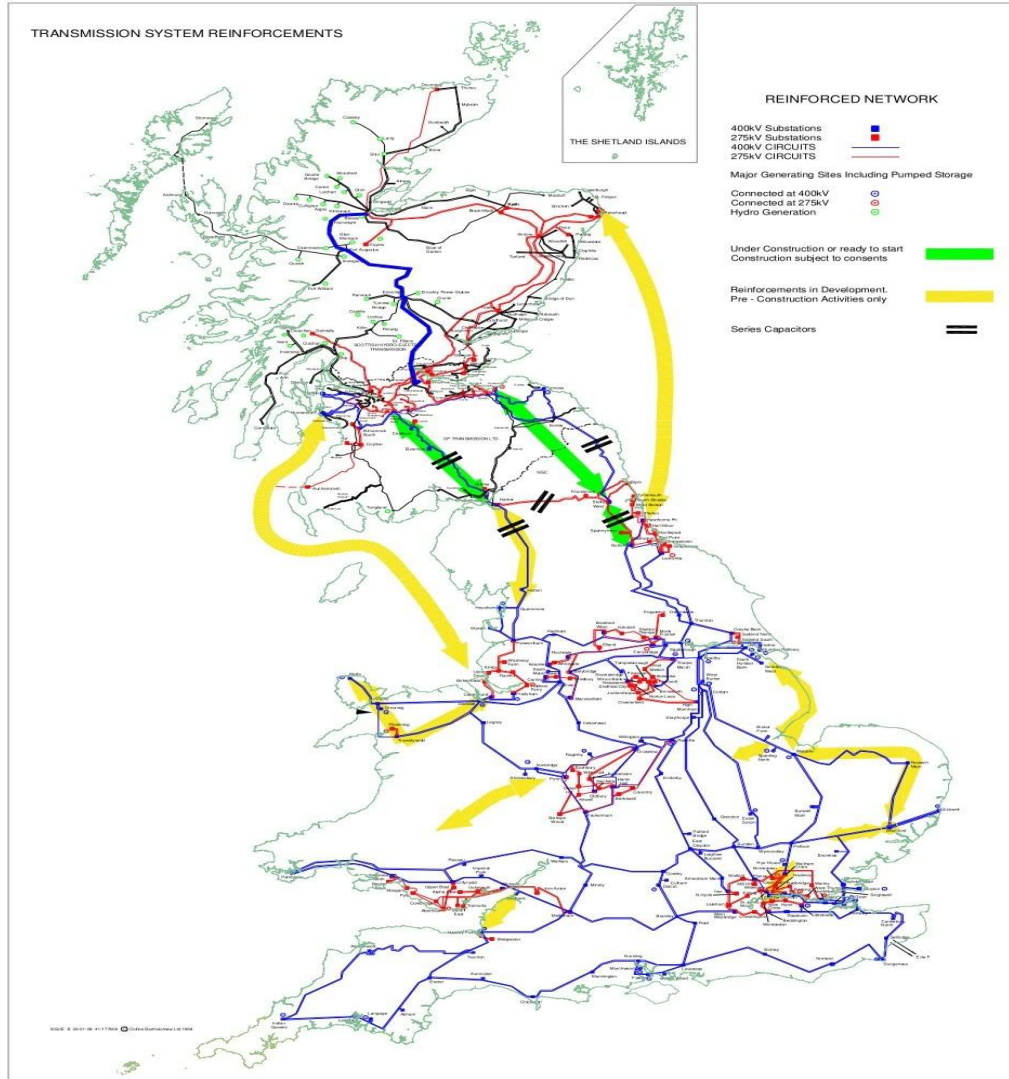
**Regulation of network
monopolies**

**Promotion of
competition**

Other statutory duties

- Support the development of a low carbon economy
- Take into account the European dimension of all our activities

The challenge



- About £110bn investment needed to meet 2020 targets
- About £30bn network investment need (£20bn Transmission)
- New types of generation on the system
- Changing and uncertain demand patterns

- RIIO – our new approach to incentivising onshore network investment
- Offshore transmission
- Interconnectors
- ITPR - Integrated Regime for Transmission Planning and Delivery

RIIIO regulation – how we got here

For last 20 years we have used ‘RPI-X’ incentive regulation of energy networks

Reductions in
network charges

Improvements in
operating efficiency

More efficient
financing

Improved quality
of service

Increased
Investment

BUT stakeholders have suggested existing frameworks have led to:

**Networks focused
on short term**

**Networks focused on
Ofgem not customers**

**Limited consideration of
innovation and how best to deliver**

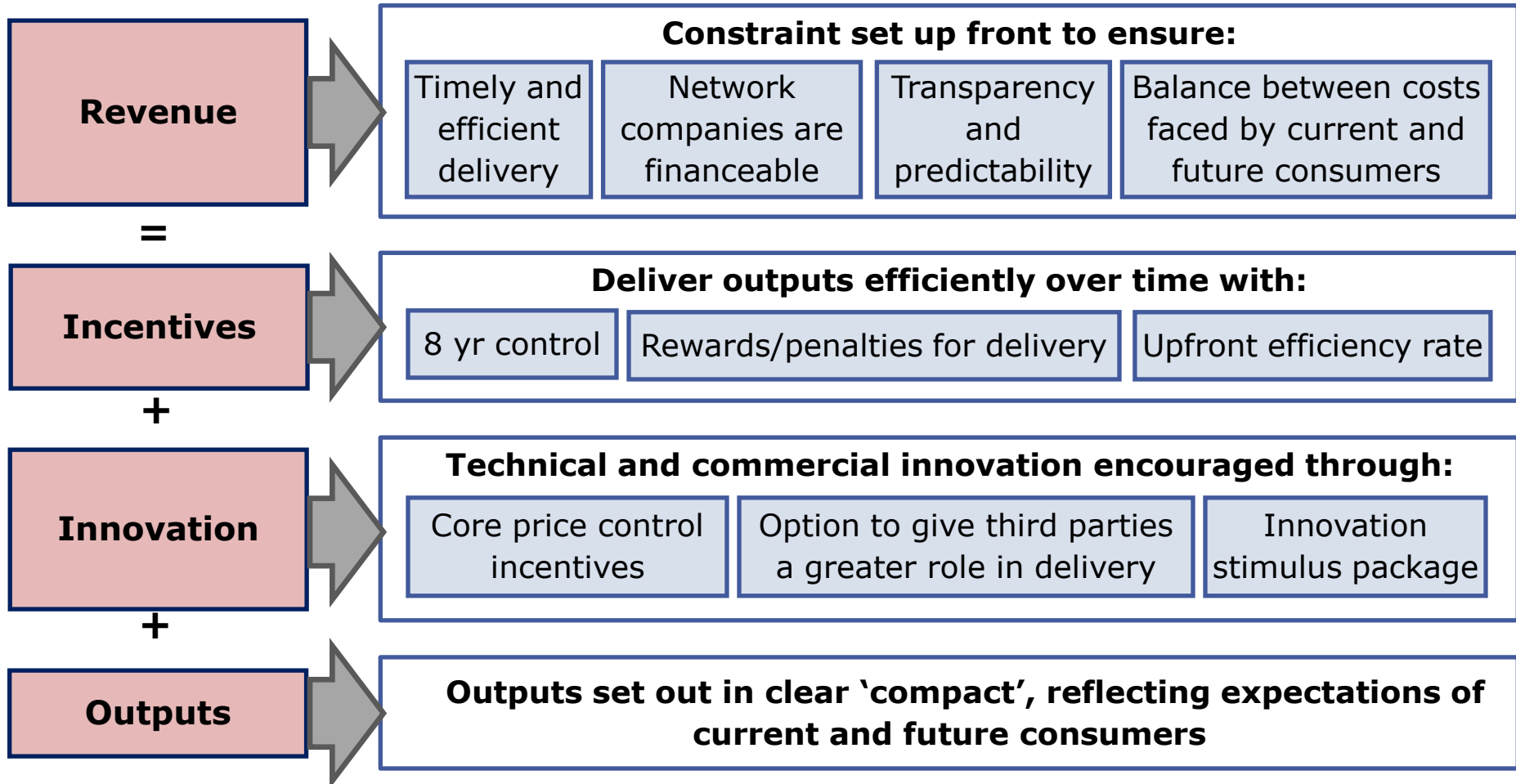
**Potentially limited
appetite for risk**

**Bias for ‘capex’ solutions rather
than non-network options**

**Limited focus on ‘cross-
sectoral’ interactions**

RPI-X is not broken but new “fit for purpose” framework is needed

RIIO regulation – what it is



RIO regulation – customer focused outputs

Safety

- Compliance with HSE legal requirements
- No financial incentive
 - Asset health and condition measures

Reliability and availability

- Energy not supplied (electricity transmission)
 - Interruptions no. and duration (electricity distribution)
- Strategic wider works/volume drivers
 - Compliance with gas obligations

Environmental

- Direct emissions
 - Visual amenity
- Broader contribution to environmental improvement of sector

Connections

- Timely connections (transmission)
 - Quality standards
- Facilitating competition in connections (distribution)

Customer/Stakeholder satisfaction

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

Social obligations

- Currently no specific social obligations in transmission
 - Fuel poor network extensions (gas distribution)
- CO (gas distribution)

Offshore – size of development

- **11-18 GW of generation by 2020**
- **Up to 50 GW potential**
 - Substantial infrastructure investment
 - Predominantly in offshore wind
- **Tidal and Wave generation set to increase**
 - As technologies become proven and commercially viable
- **About £8bn offshore transmission assets needed by 2020**
- **Much more in longer run**



Offshore – size of development

Effective tendering of transmission assets

● Tender Round 1 (9 projects)

- Investment appetite: £4 billion for £1.1 billion of assets in TR1
- Completed to date: 7 projects at c.£660million

● Tender Round 2 (4 projects)

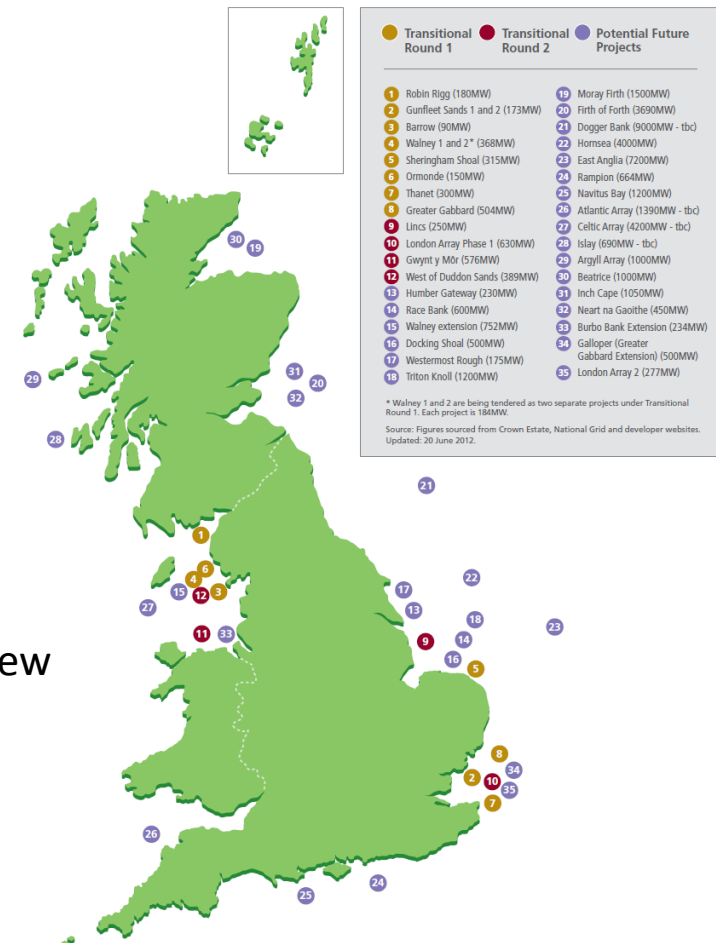
- £1.4billion of assets being tendered
- Investment to date: £459million (London Array)

● Tender Round 3 (2 projects)

- Tender commencement early 2014
- Refinancing mechanism & biddable indexation are new
- Ability to run shorter tender process

● Future Tenders

- 20+ potential projects, inc. Crown Estate Round 3
- Billions of pounds of potential investment
- Multiple OFTO opportunities for many wind farm projects



Offshore transmission regime

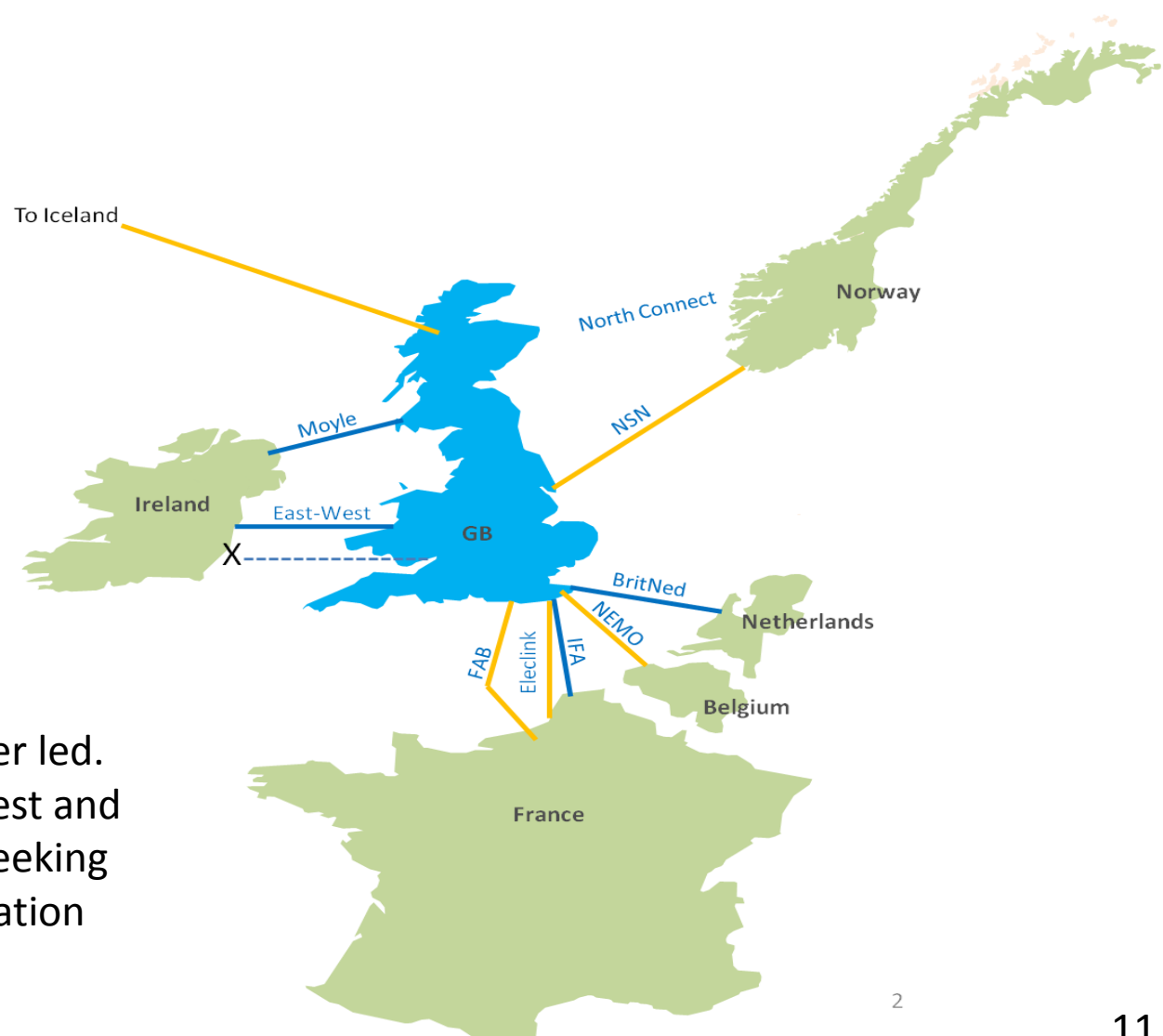
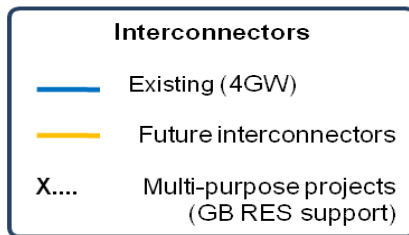
Offshore transmission licences are awarded by competitive tender.

Bidders compete to offer the lowest revenue requirement.

They produce financial models to work out how much revenue they require.

Ofgem determines which preferred bid based on an assessment of cost (ie who's offering the lowest revenue?) and robustness (ie which bid is most reliable?).

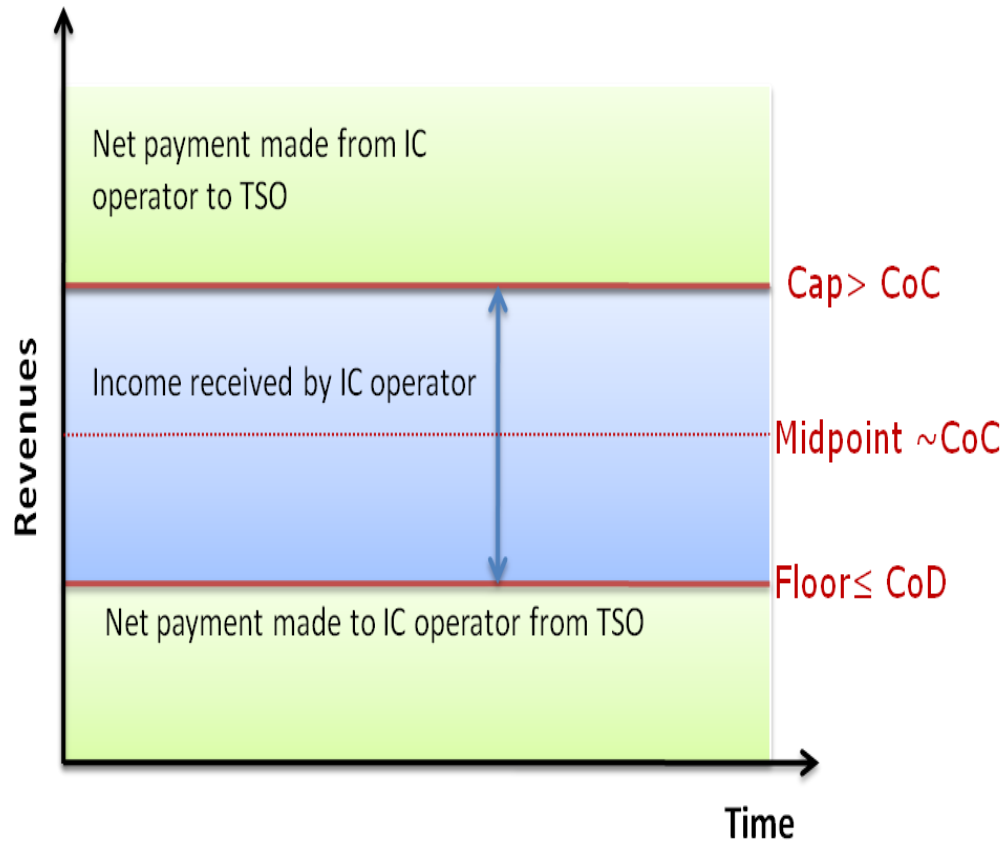
Interconnection – existing and potential projects



Current Regime: developer led.
Merchant developers invest and
receive market returns, seeking
exemption from EU legislation

Interconnection – Cap and floor regime

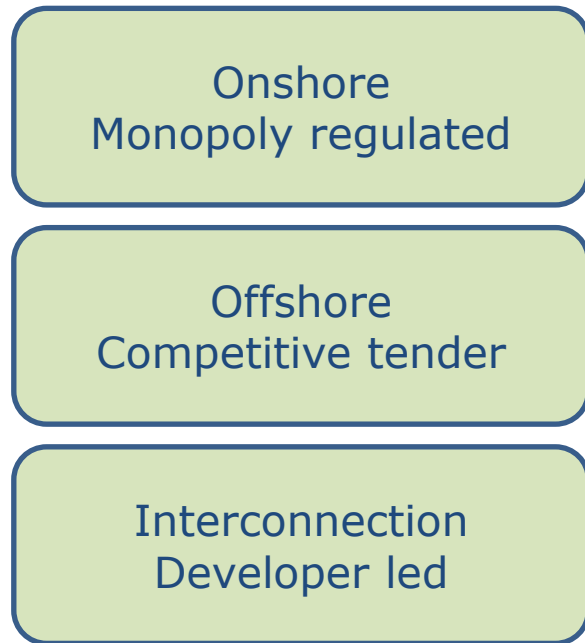
A new approach for application to GB/Belgium interconnector



- Unique example of regulatory cooperation to realise further investment
- Allows revenue regulation, protects consumers from market power
- Maintains element of market valuation of interconnection
- Within the regulated regime favoured by Third Package
- Recoup returns within bounds of pre-set cap and floor
- Revenues over cap – paid back to consumers
- Revenues fall below floor – triggers payment from consumers

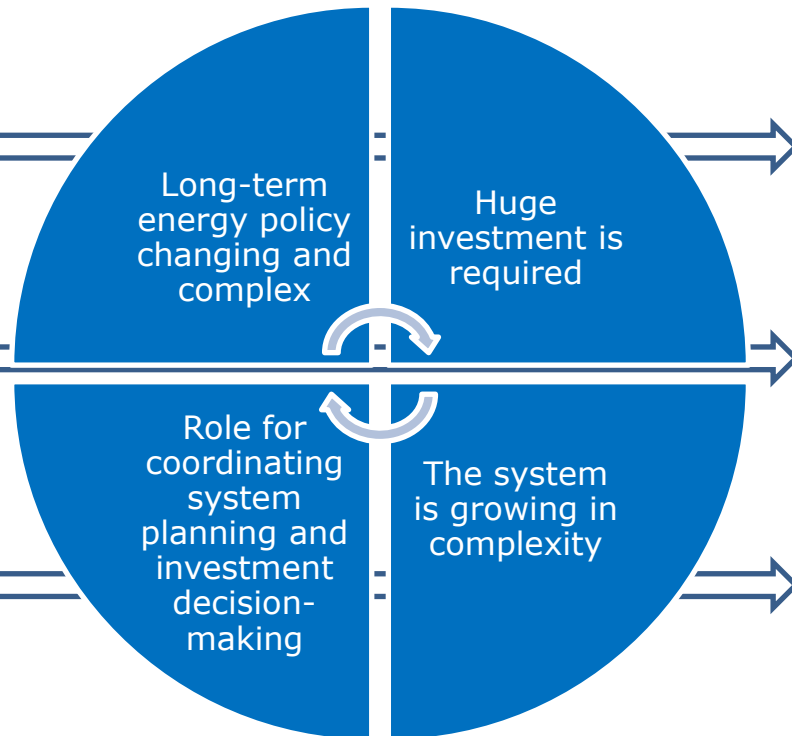
ITPR - why review planning and delivery?

Currently



Three successful regimes

Continuing to be improved -
RIIO, offshore coordination,
interconnector cap and floor.



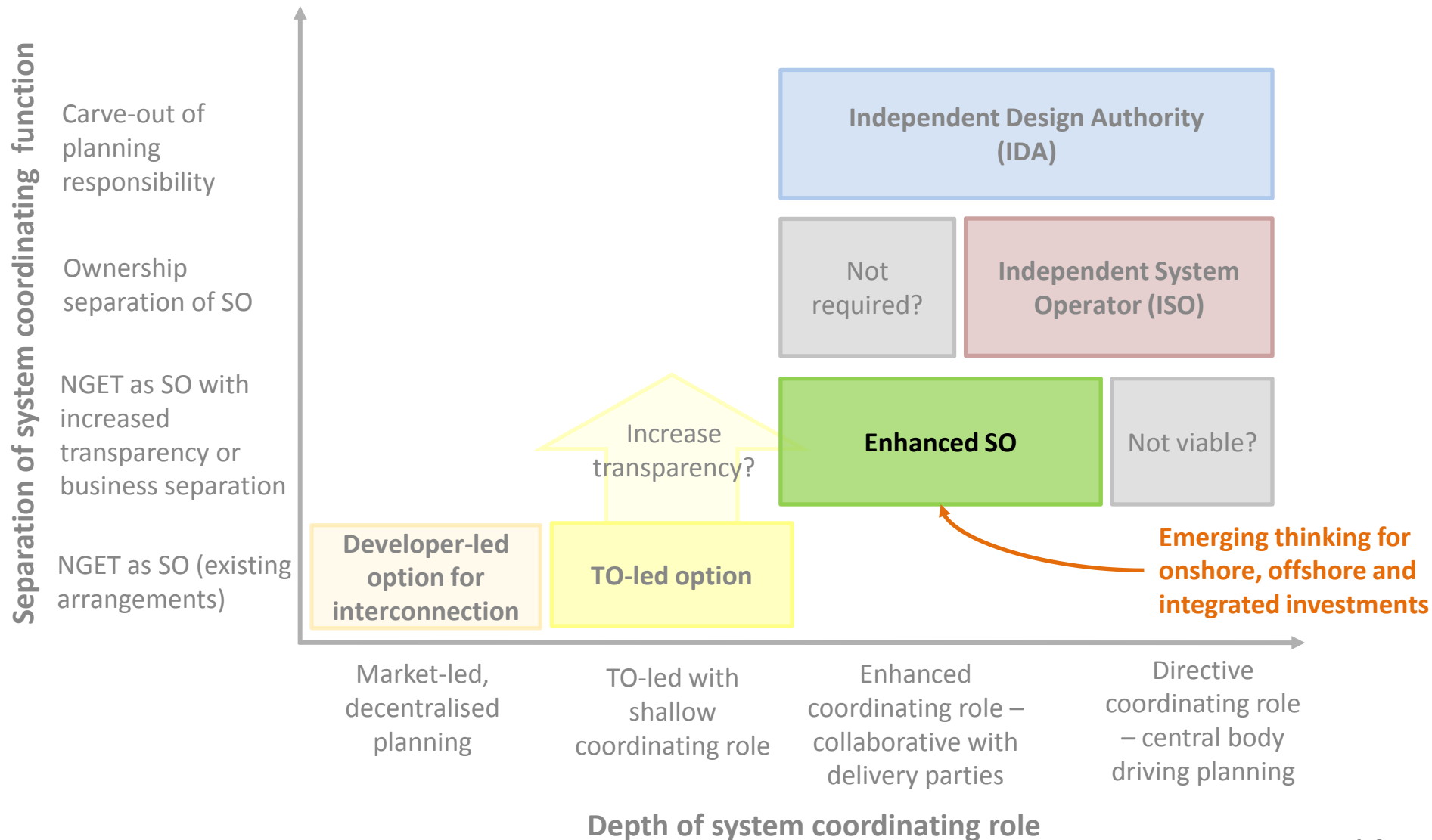
Uncertainty in scale,
timing, cost and
technical complexity of
developments

Future

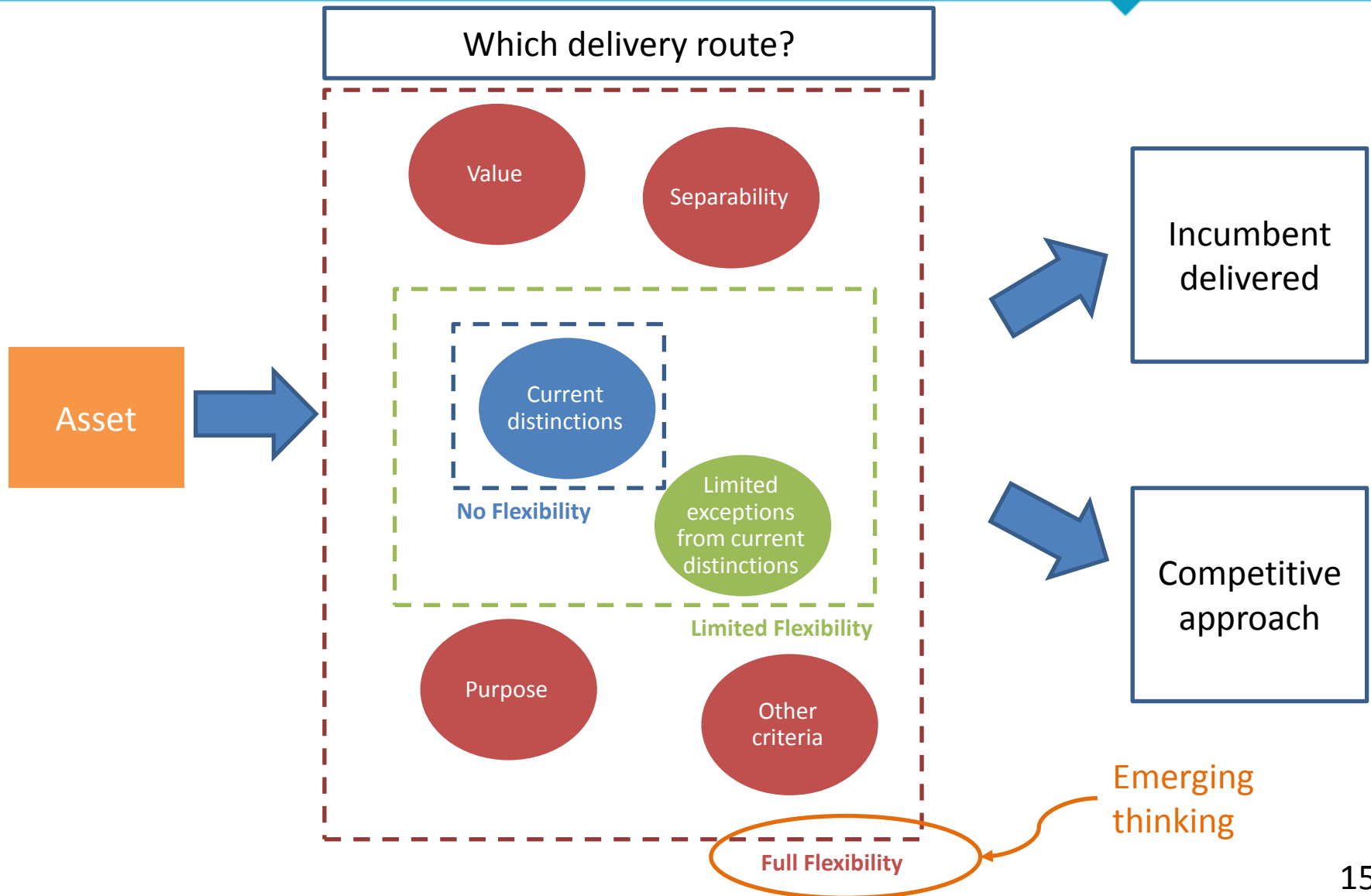


Efficient,
economic and
coordinated
investment for
the longer term.

ITPR – emerging thinking on system planning



ITPR – emerging thinking on delivery



In summary

- Recent developments to regulatory framework helps incentivise innovative, cost effective transmission solutions
- This is particularly important given scale of change needed to support transition to low carbon economy
- Work is still ongoing!

Other issues and contact

- Ofgem website: www.ofgem.gov.uk
- Transmission charging – project TransmiT, our review of transmission charging www.ofgem.gov.uk/electricity/transmission-networks/charging/project-transmit
- Facilitating critical investments during price controls: www.ofgem.gov.uk/electricity/transmission-networks/critical-investments/strategic-wider-works

Ofgem is the Office of Gas and Electricity Markets.

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.