

Introduction to GB utility regulation and experience



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As the independent energy regulator of Great Britain, our priorities are defined by our core objective to **protect the interests of current and future energy consumers.**

This shapes the work that we do and helps consumers benefit from:

- Lower bills
- Lower environmental impacts
- Improved reliability and safety
- Better quality of service
- Better social outcomes

We seek to achieve this in a variety of ways, including:

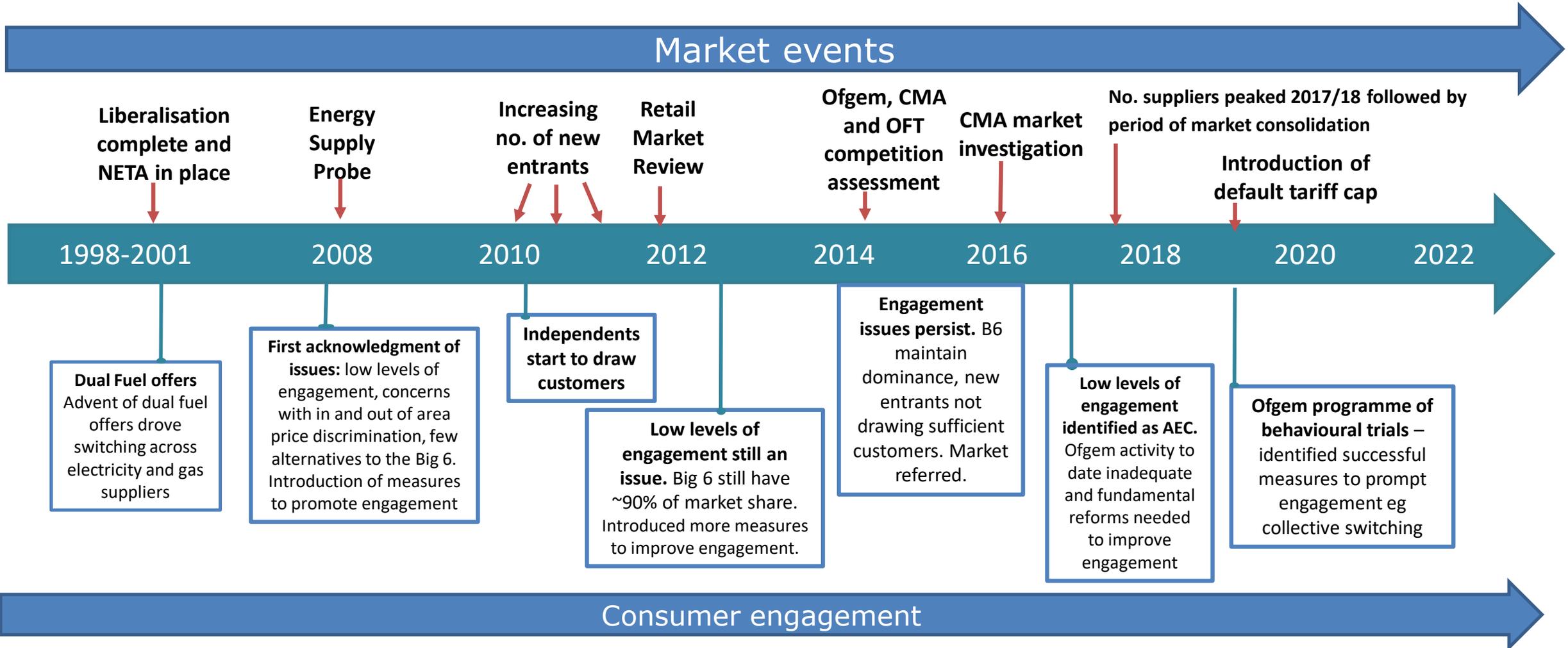
- promoting value for money,
- promoting security of supply and sustainability, for present and future generations of consumers, domestic and industrial users,
- the supervision and development of markets and competition, and
- regulating the delivery of government schemes.

We are funded by a licence fee that we levy on the energy industry and ultimately, consumers pay for this through their energy bills.

- This is done by minimising costs across the value chain, and by restricting profit margins to the cost of capital.
- Effective competition should do both.
- Some competition can be introduced even into 'monopoly' activities, using by making some investments in them contestable or using new (digital) flexible means.
- Price control can prevent the exploitation of market power, in the
- form both of raising efficiency and restricting excess returns – in networks, for example.
- Cost-plus or 'rate of return' pricing may control profits, but may also encourage inefficiency; 'incentive regulation' or price caps might do both.
- *Potentially competitive retail markets may also have high prices, if firms have 'captive customers' with informational or other problems, who over-pay.*

- Utilities produce essential services. Much UK regulation is directed at making these available to disadvantaged groups.
- It means maximising network coverage, limiting disconnection, helping customers with paying energy bills, etc.
- It is very important in 2021, because of Covid-19.

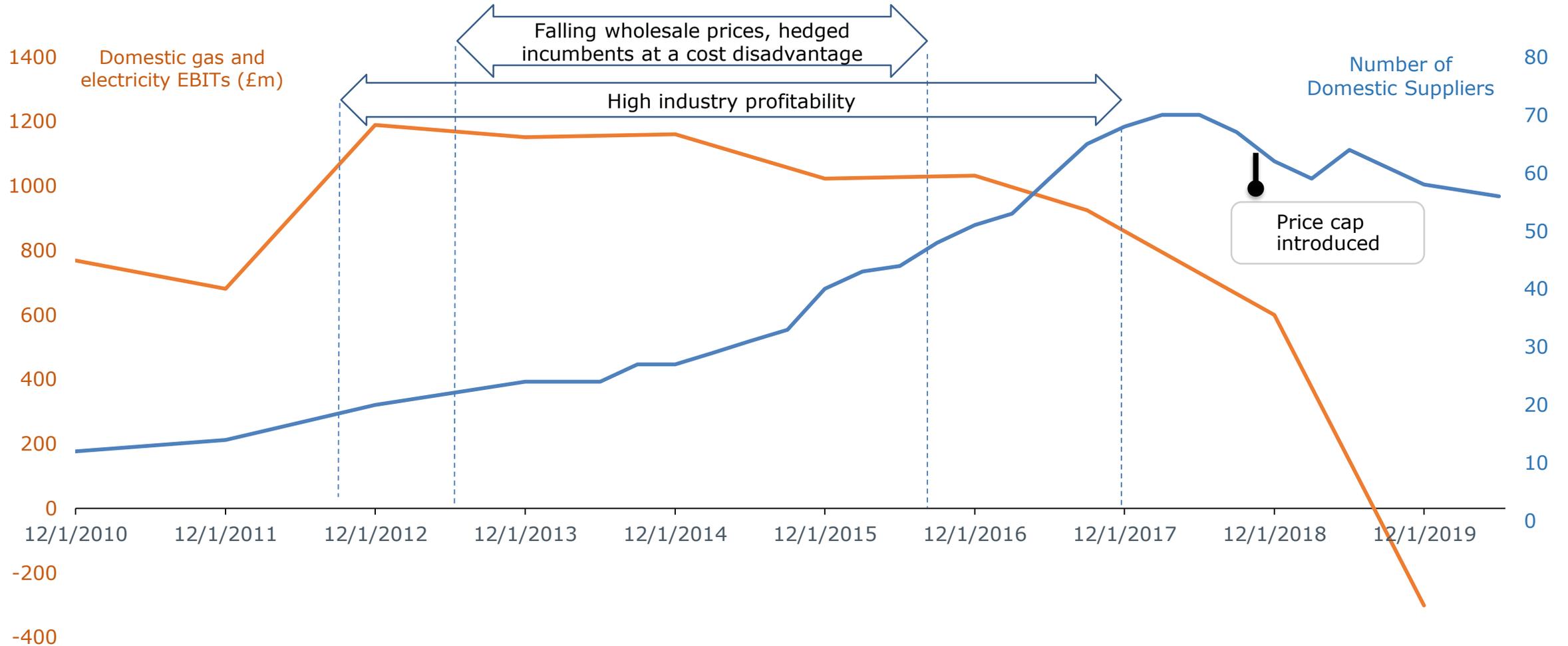
- (Last but not least) a comprehensive and fundamental overlay.
- Affects whole value chain, and includes both government policy (e.g. carbon taxes) and regulatory measures.
- Regulatory measures include:
 - generation: promoting (subsidising) renewable energy.
 - networks: authorising anticipatory electricity network expansion to allow replacement of the internal combustion engine in transport.
 - retail: pricing end-user electricity consumption by time of day to reduce use of fossil fuels.



When the market was originally envisaged, we believed that enabling switching was enough. This was not the case. Over time we and other regulators have learnt, that having firms/suppliers in the market is not enough to support and drive consumer engagement.

High profitability and relatively low barriers to entry resulted in rapidly expanding supplier numbers

The increase in number of suppliers in the mid-2010s appears to be linked with key events supporting new entry and profitability of the sector



Source: EBITs reported in Consolidated Segmented Statements. Number of domestic suppliers reported in Ofgem data portal.

Fixing today's market and preparing the market for tomorrow.

- a) The price cap, better supplier switching experience, and customer engagement trials are tools we have used or are using to fix today's problem of a 'two-tier' market.
- b) The current market design may not be fit for purpose for energy consumers over the longer term.

Want to ensure all consumers fully benefit from increasing digitalisation, decentralisation & innovation, and that the market structure does not prevent it.

Will build on the current work on consumer engagement in today's market, looking towards a market for the age of electric vehicles, bundled cross-sector utilities and storage.

Consumer protection, including how we protect vulnerable consumers as we enable new business models, will be at the heart of the reform.

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

It delivered significant benefits for consumers:

Reductions in
network charges

Improvements in
operating efficiency

More efficient
financing

Improved quality of
service

Increased
Investment

BUT stakeholders suggested these frameworks led to:

**Networks focused on
short term**

**Networks focused on
Ofgem, not customers**

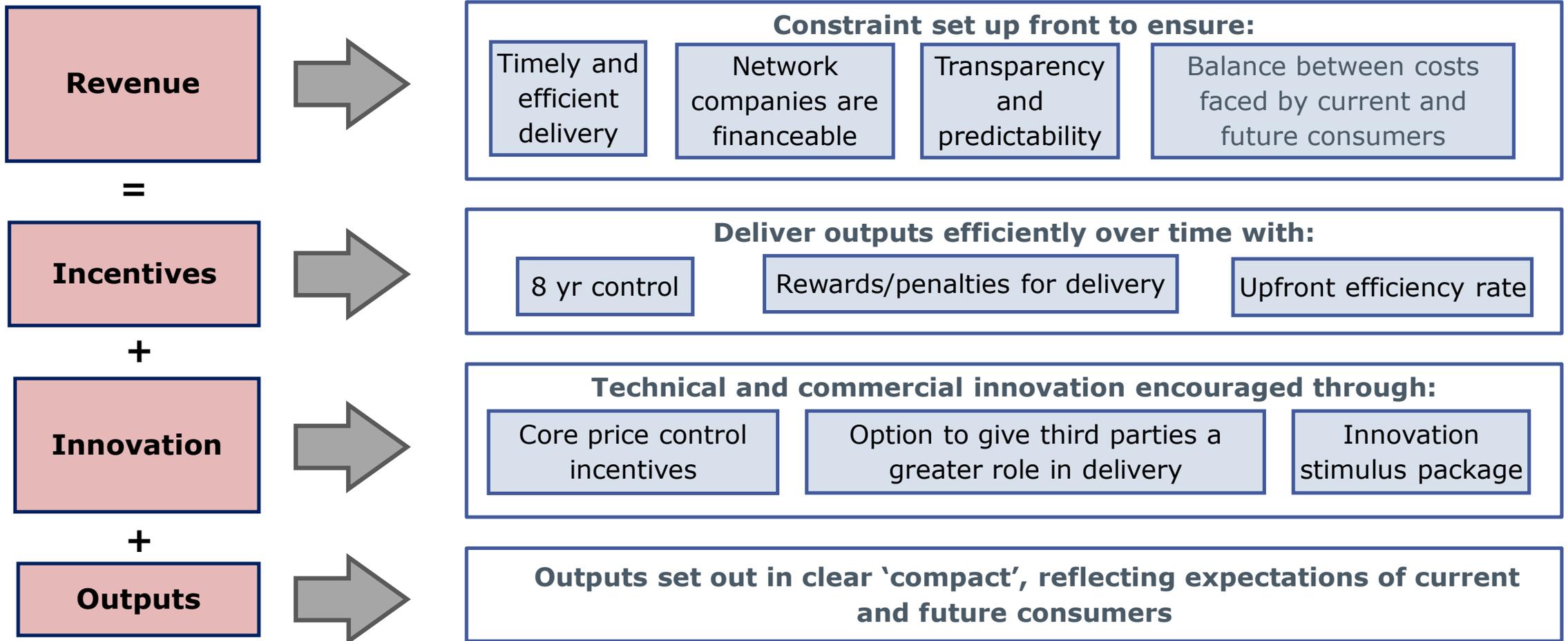
**Limited consideration of innovation and
how best to deliver**

**Potentially limited
appetite for risk**

**Bias for 'CAPEX' solutions rather than
non-network options**

**Limited focus on 'cross-
sector' interactions**

RPI-X was not broken but new "fit for purpose" framework was needed



From **2013** Ofgem replaced RPI-X with a new model of price control called **RIIO**.

In RIIO-1, companies delivered their output targets but returns have been far too high

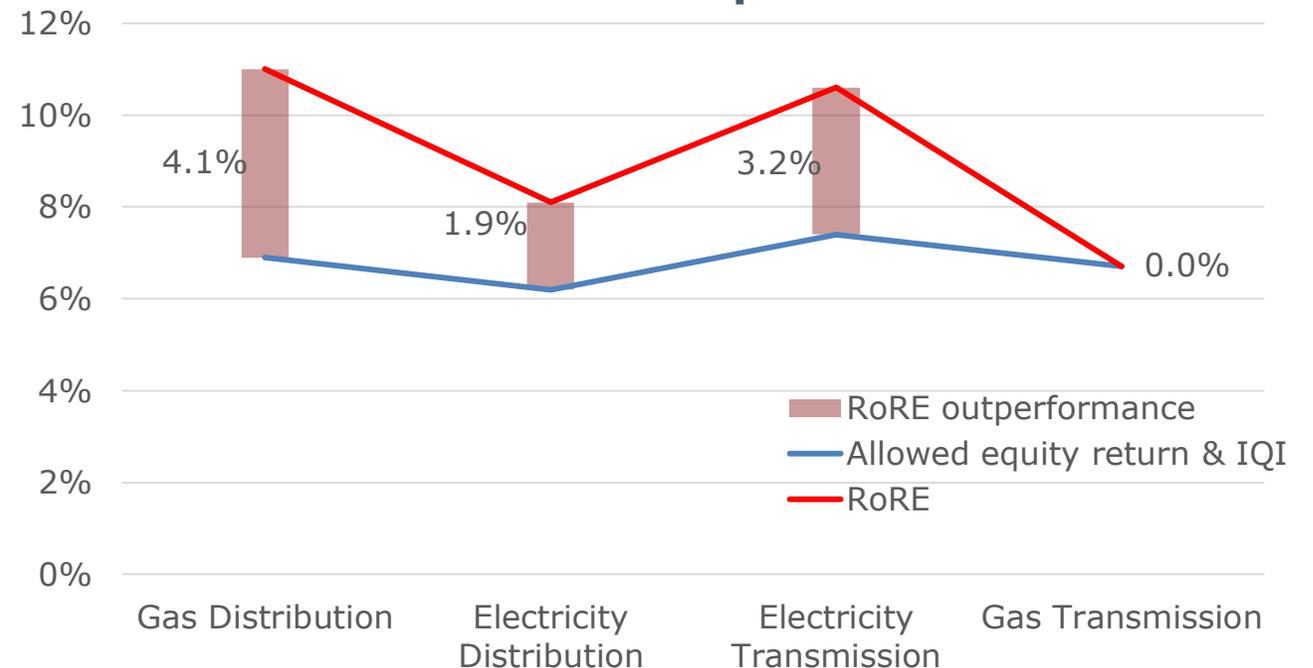
RIIO has driven improvements in service levels and innovation

- Record levels of customer satisfaction, with companies performing well on output targets.
- Power cuts on local grids are sharply lower. Electricity and gas networks are currently 99.99% reliable.
- Innovation spending is at its highest and could deliver £8bn of benefits for consumers.
- 25% of all electricity generation is now connected to lower voltage networks.

But company returns have been higher than expected in three of four sectors

- Some allowances were set too high.
- Some targets were set too low.
- Some allowances were given for work that turned out not to be needed.
- The base allowed equity return was set at 6-7% across the sectors. This looks extremely high in hindsight given the low risk nature of these network monopolies.

Sector performance in RIIO-1



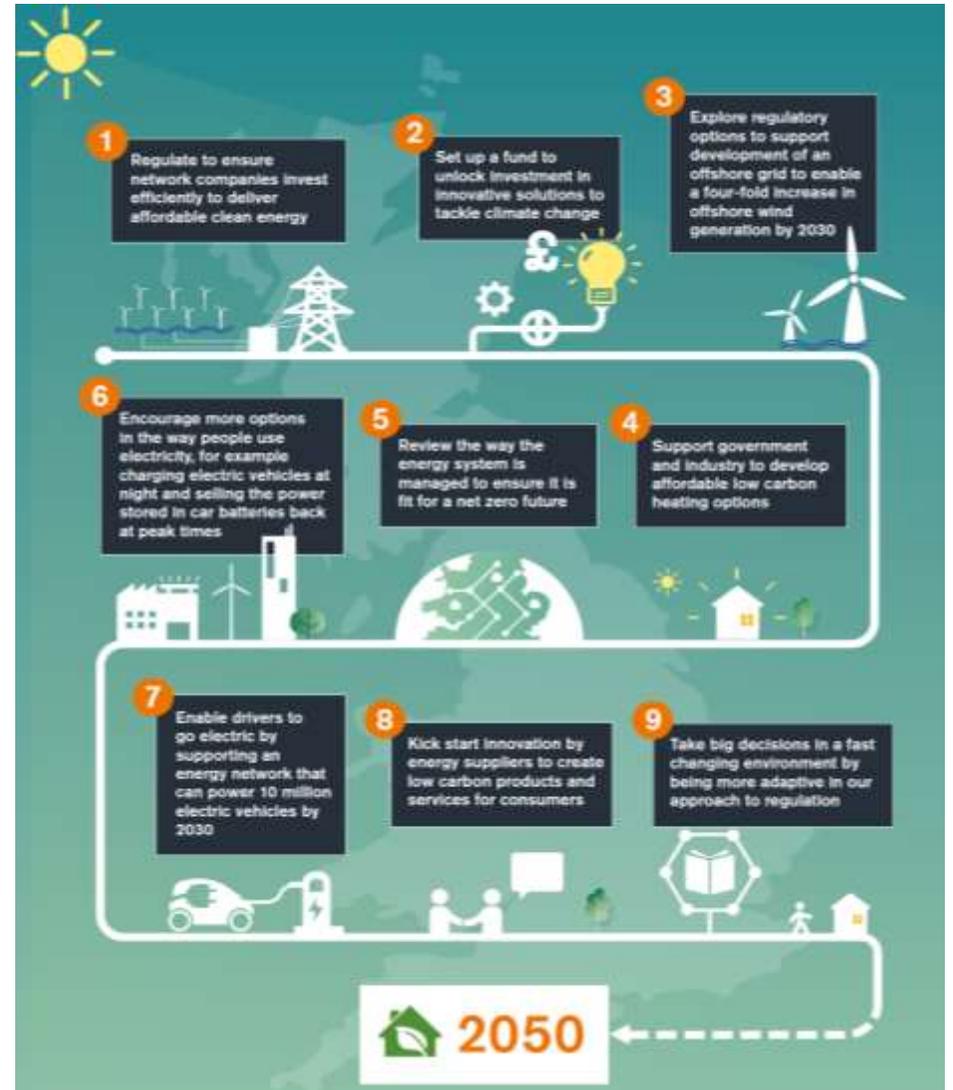
Note – average sector performance shown for RIIO-1 as of end March 2020 (as per Regulatory Financial Performance Reporting).

- A key objective of RIIO-2 is to **prepare the regulated network companies and ESO to deliver Net Zero at lowest cost to the consumer**, while maintaining world-class levels of system reliability.
- We have added further flexibility to the price control to **fund what is justified now and reopen what is needed later**.
- Challenging the companies to **be as efficient as possible in how they run and finance themselves**.
- A **reasonable allowed return** reflecting current market rates.
- **Expect the average company to outperform**, but modestly compared to the high levels of RIIO-1.

Beyond our enduring priorities, we have set out five strategic programmes to deliver the greatest impact in the coming years.

1. Enable investment in low carbon infrastructure needed to deliver net zero.
2. To balance the system and keep costs down as the level of intermittent renewables rises, we will need full chain flexibility, for example, through flexible charging of electric vehicles.
3. Deliver a future retail market with innovative new retail products that, for example, enable consumers to benefit from the flexibility they can provide, while ensuring protections are in place for all.
4. Unlock the benefits of data and digitalisation to enable these changes at least cost.
5. Promote energy system governance arrangements that are fit for the future, including Ofgem's role.

2020 Decarbonisation Action Plan



Annex



ELECTRICITY AND GAS TRANSMISSION NETWORKS

- Scottish Hydro Electric Transmission (SHE)
- Scottish Power Transmission (SPT)
- National Grid Gas (Transmission) (NGGT)
- National Grid Electricity Transmission (NGET)



GAS DISTRIBUTION NETWORKS

- SGN
- Northern Gas Networks (NGN)
- Cadent Gas
- Wales & West Utilities (WWU)

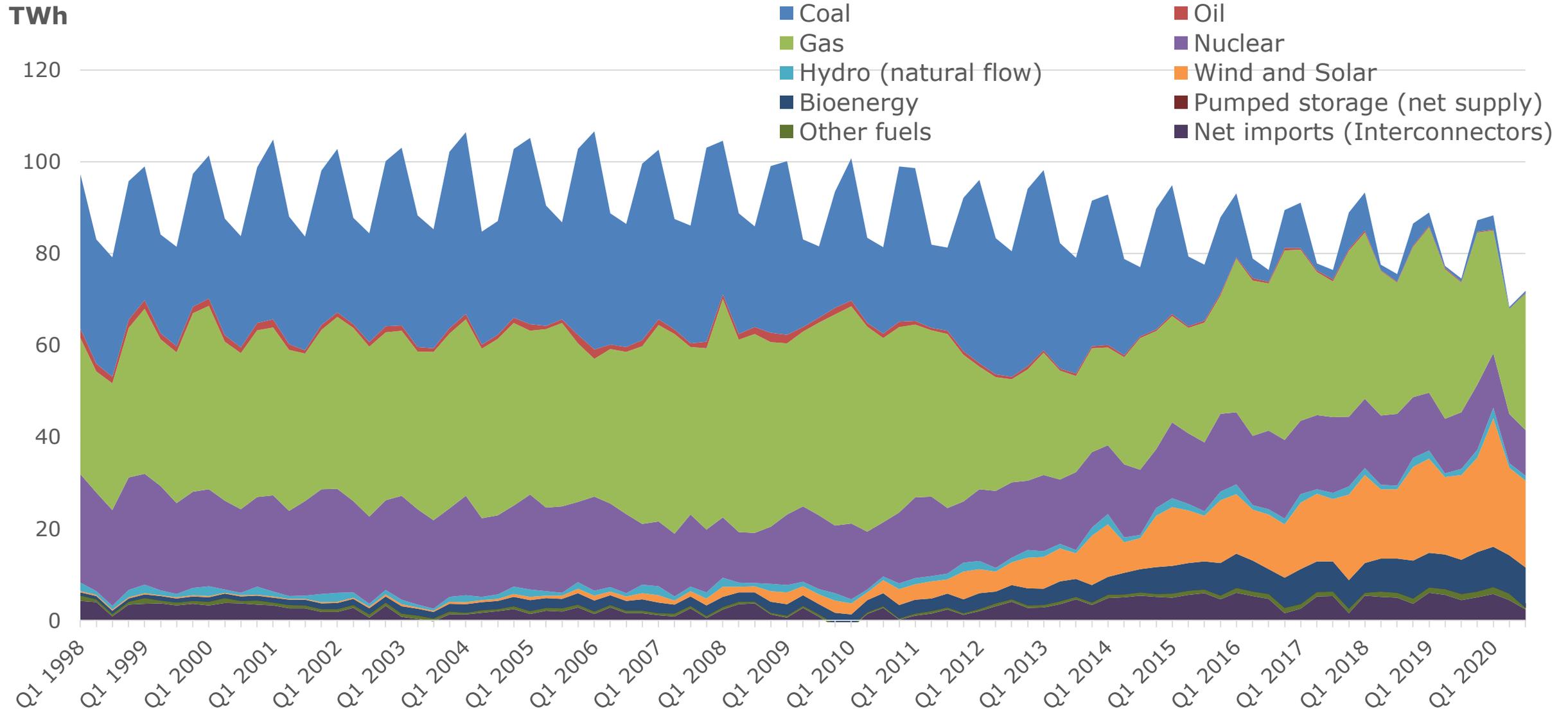


ELECTRICITY DISTRIBUTION NETWORKS

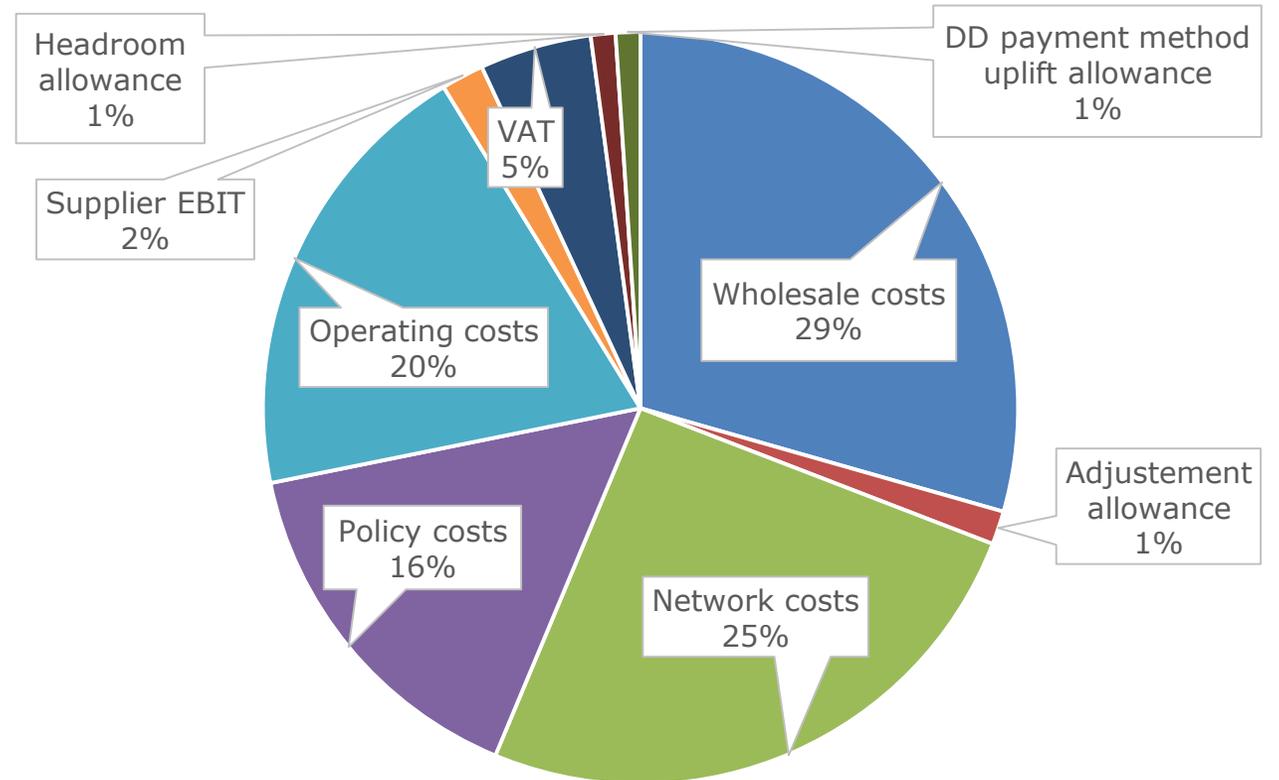
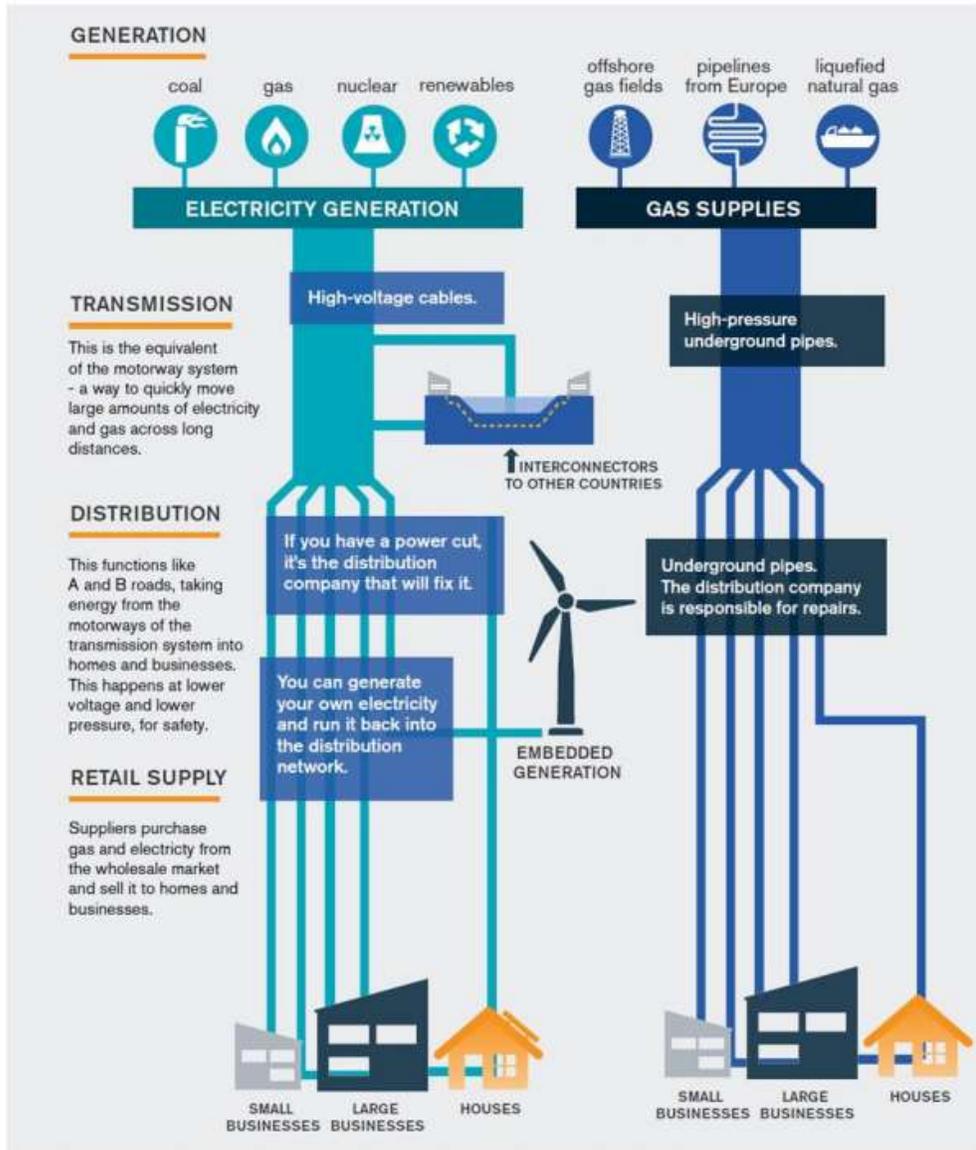
- Scottish & Southern Electricity Networks
- SP Energy Networks
- Electricity North West
- Northern Powergrid
- UK Power Networks
- Western Power Distribution

GB electricity generation mix by quarter and fuel source

Source: [Ofgem data portal - data correct as of January 2021](#)



Britain's energy system and components – average cost breakdown

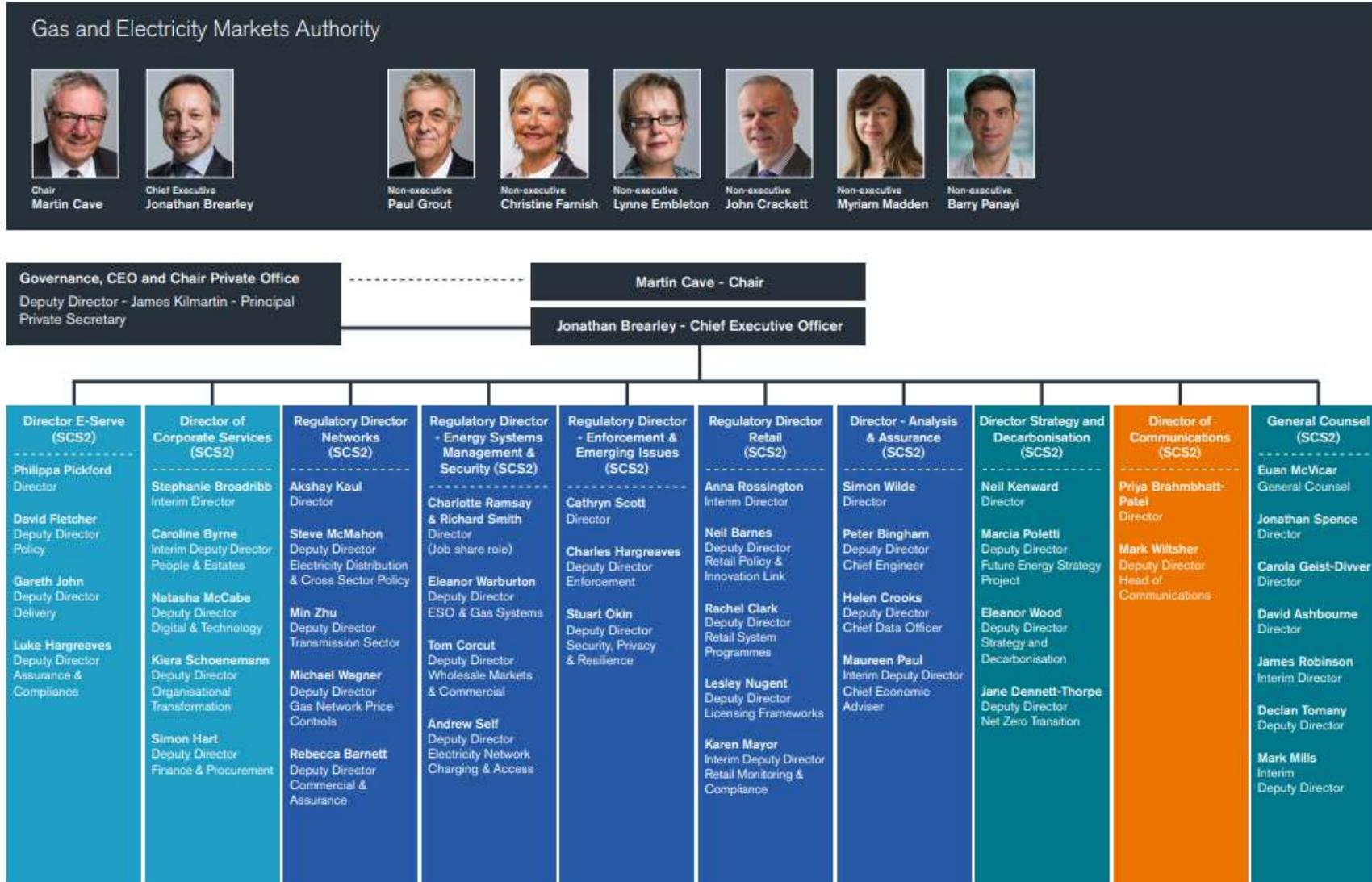


Source: [Ofgem - breakdown of default tariff price cap \(GBP £, direct debit\)](#)

Oct 2020 to Mar 2021

Note – this is only a proxy for the typical cost breakdown for an average domestic customer in GB.

Source: [Ofgem's State of the Energy Market 2019](#)





UK Government

Provides democratic legitimacy

Duties:

Providing the overarching policy framework. policy decisions for social & environmental outcomes that levy significant costs or redistribute costs

Tools Include:

Legislation (legal framework);
Regulation (e.g. standards);
Taxation (levies);
Spending (grant schemes);
Policy statements (Strategy Policy Statement to set Ofgem's objectives)



Provides independent

regulation Protect interests of existing and future consumers

Duties:

Economic regulation;
National Competition Authority;
Regulating monopoly networks;
Consumer protection;
Enforcement

Tools include:

Licence conditions;
Approval of industry code changes;
Price controls;
Competition act powers



Ensures the reliable delivery of electricity and gas at efficient cost

Duties (for electricity):

Managing system balance and operability;
Facilitating competitive markets;
Facilitating whole system outcomes;
Supporting competition in networks includes system investment planning

Duties (for gas):

Forecasting;
Residual balancing;
System investment planning

