ofgem Making a positive difference for energy consumers

Integration of renewable energy in the UK

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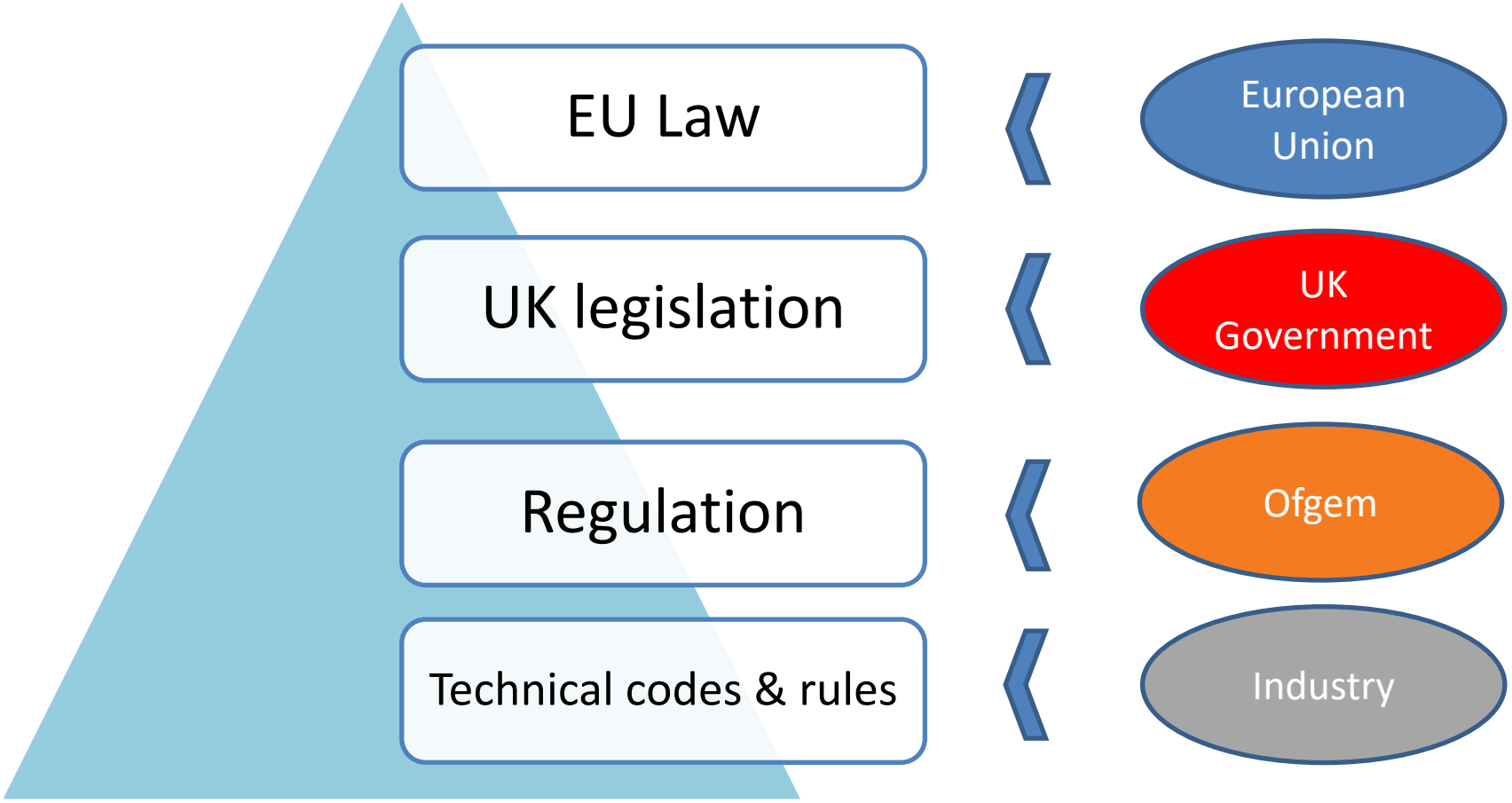
Independent regulator responsible for regulating the gas and electricity markets in GB

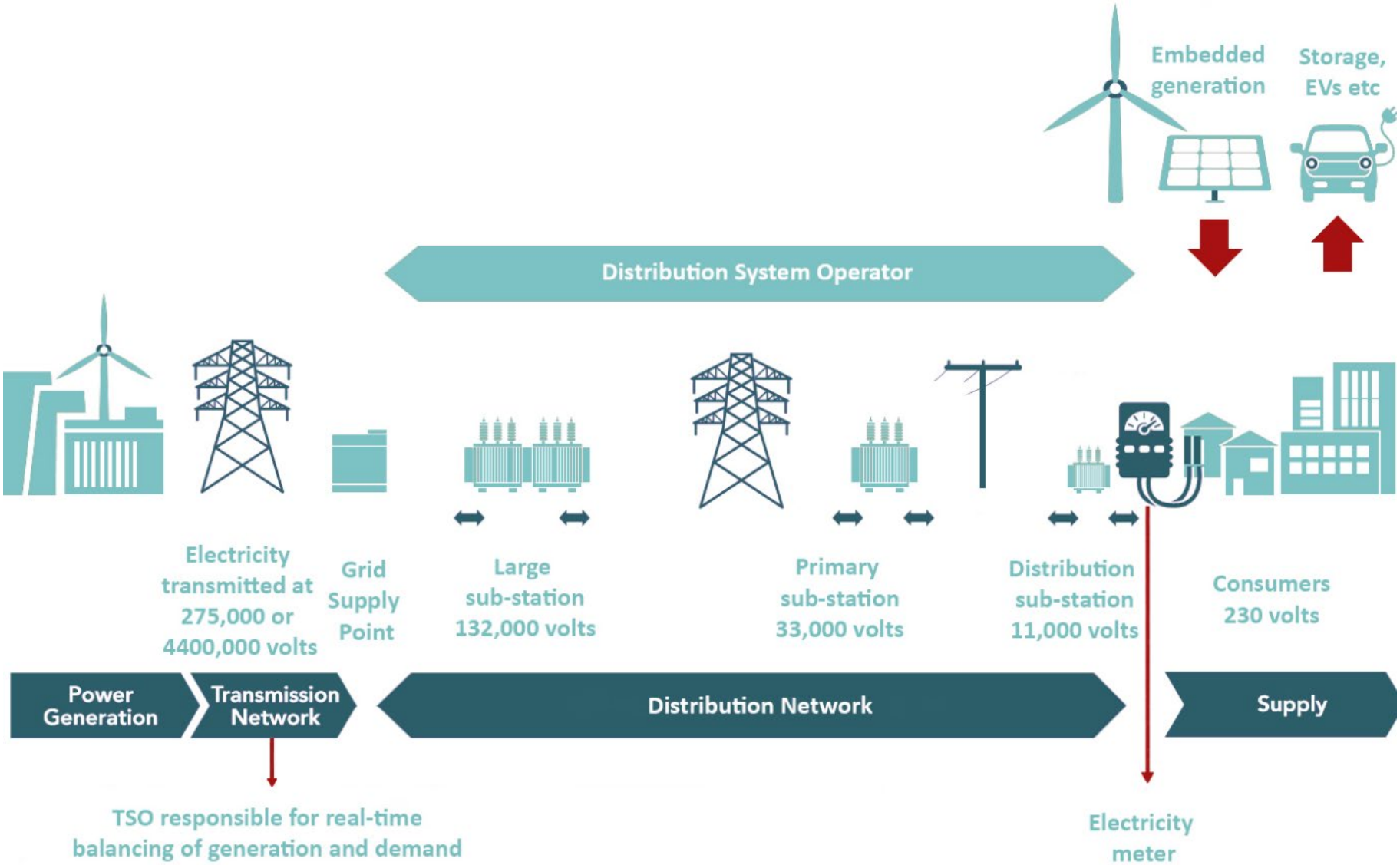
Principal objective
……is to act in the interests of existing and future consumers

including their interest in the reduction of emissions and greenhouse gases

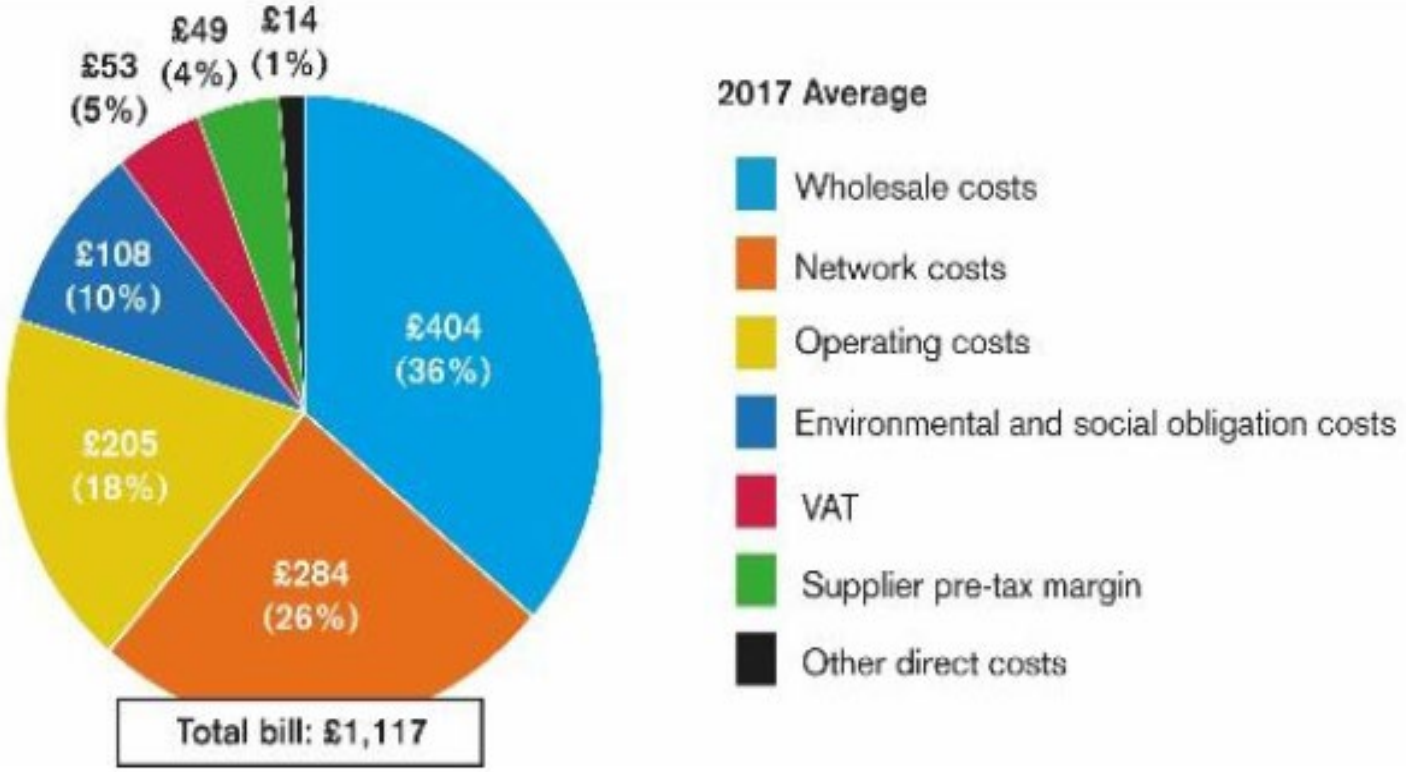
Regulatory framework



Overview of electricity market

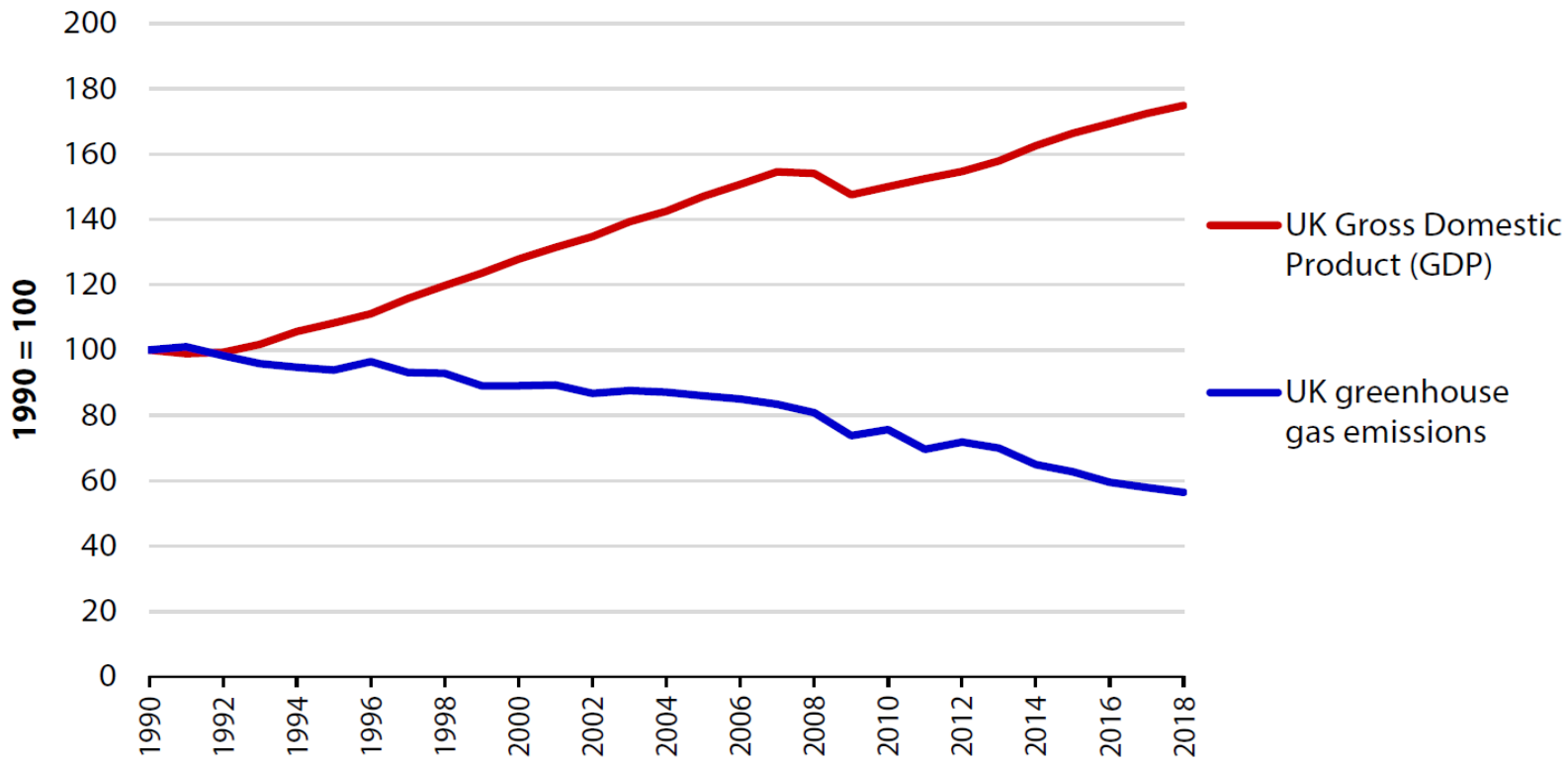


Costs that make up an average domestic dual fuel bill

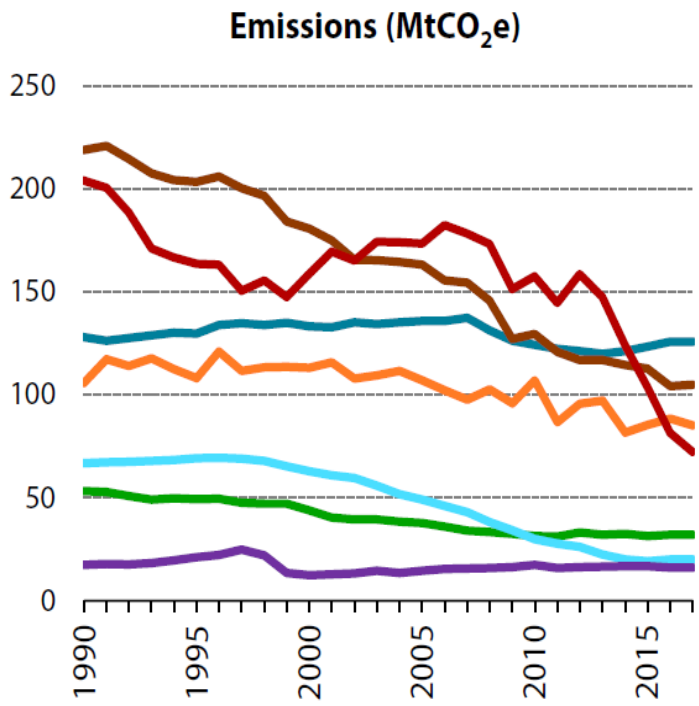


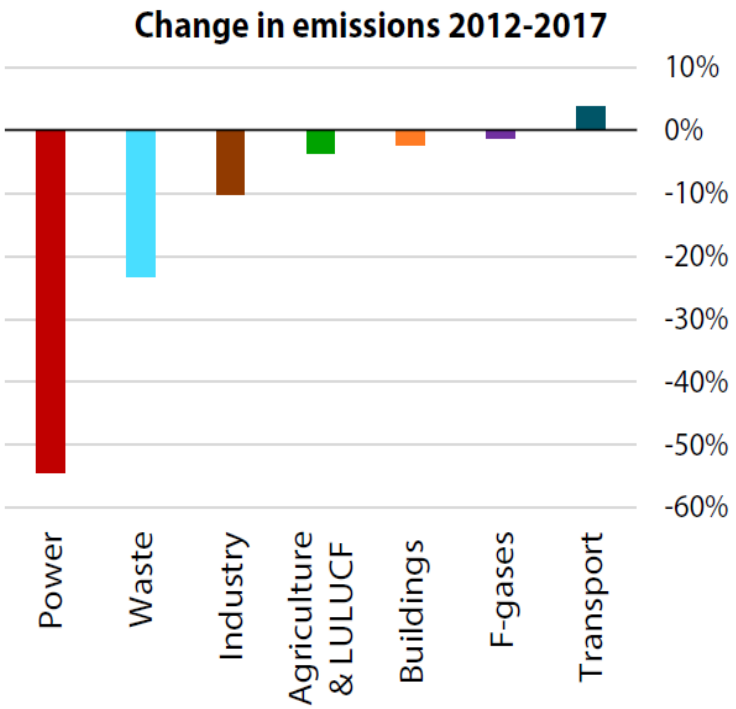
ENERGY TRANSITION

Falling emissions in a growing economy 2000-2018



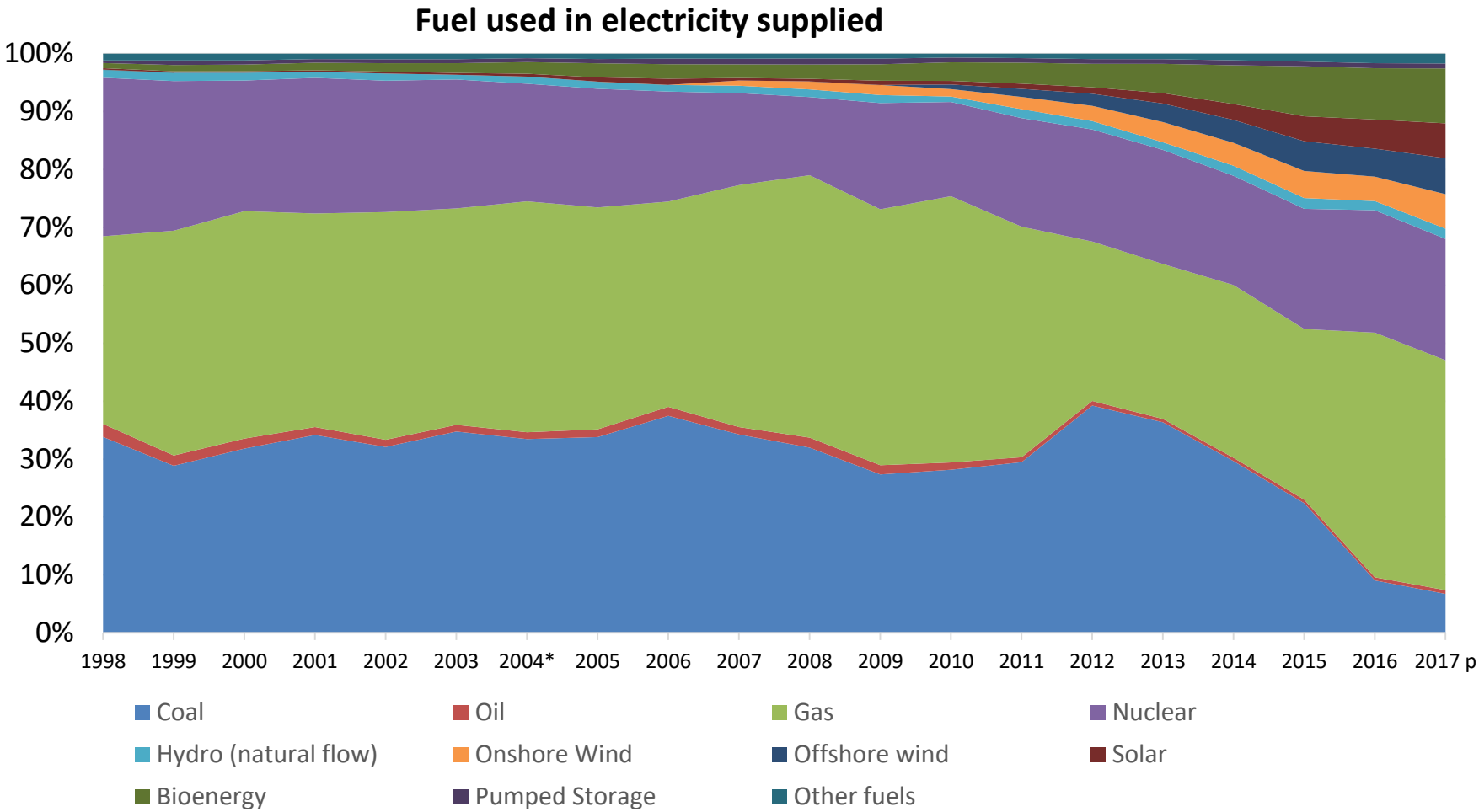
Emissions reductions have been focused in the power sector





The generation mix has changed significantly

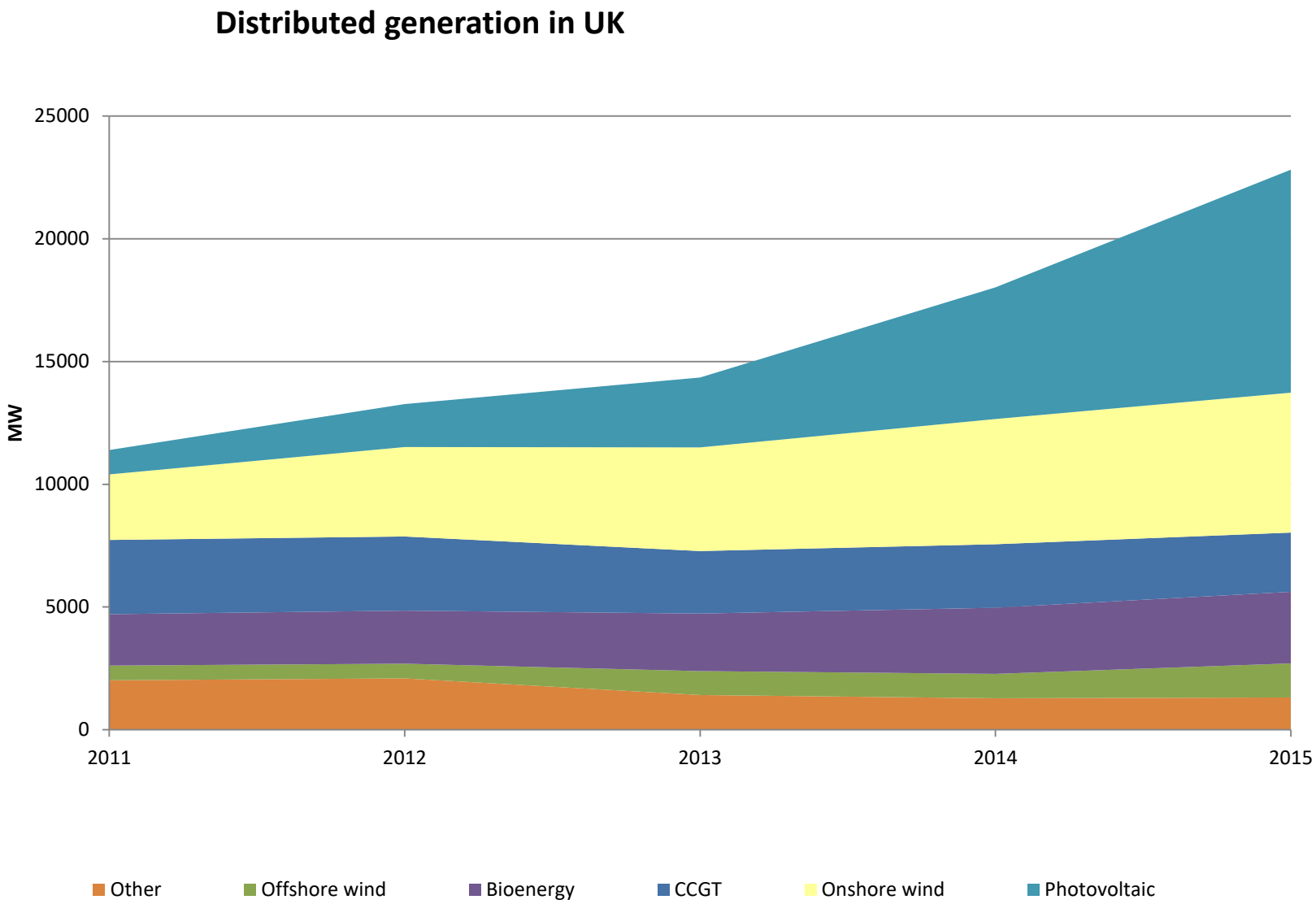
In a little over 10 years renewables have increased from below 5% of total UK generation to around 33%*



*Renewables' share of electricity generation increased from 30.0 per cent in 2017 Q3 to a record 33.1 per cent in 2018 Q3.

Source: DUKES
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/766383/Renewables.pdf

….and increasingly connected at distribution level

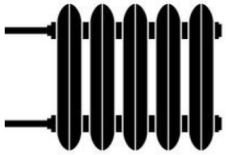


Pace of change will accelerate..

In the UK the Government has committed to a legally binding target of zero emissions by 2050.

Electrification will increase with electricity demand expected to double, with all power produced from low carbon sources, by 2050

The Government expects by 2050 for every car and van to be zero emissions.



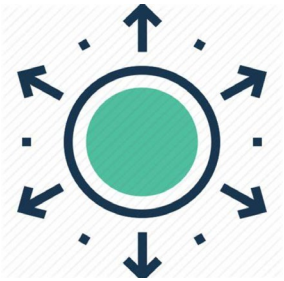
Decarbonising heat will have a key role to play in meeting our emissions targets.

Essential to have data available on a transparent basis to encourage new business models.

Key challenges

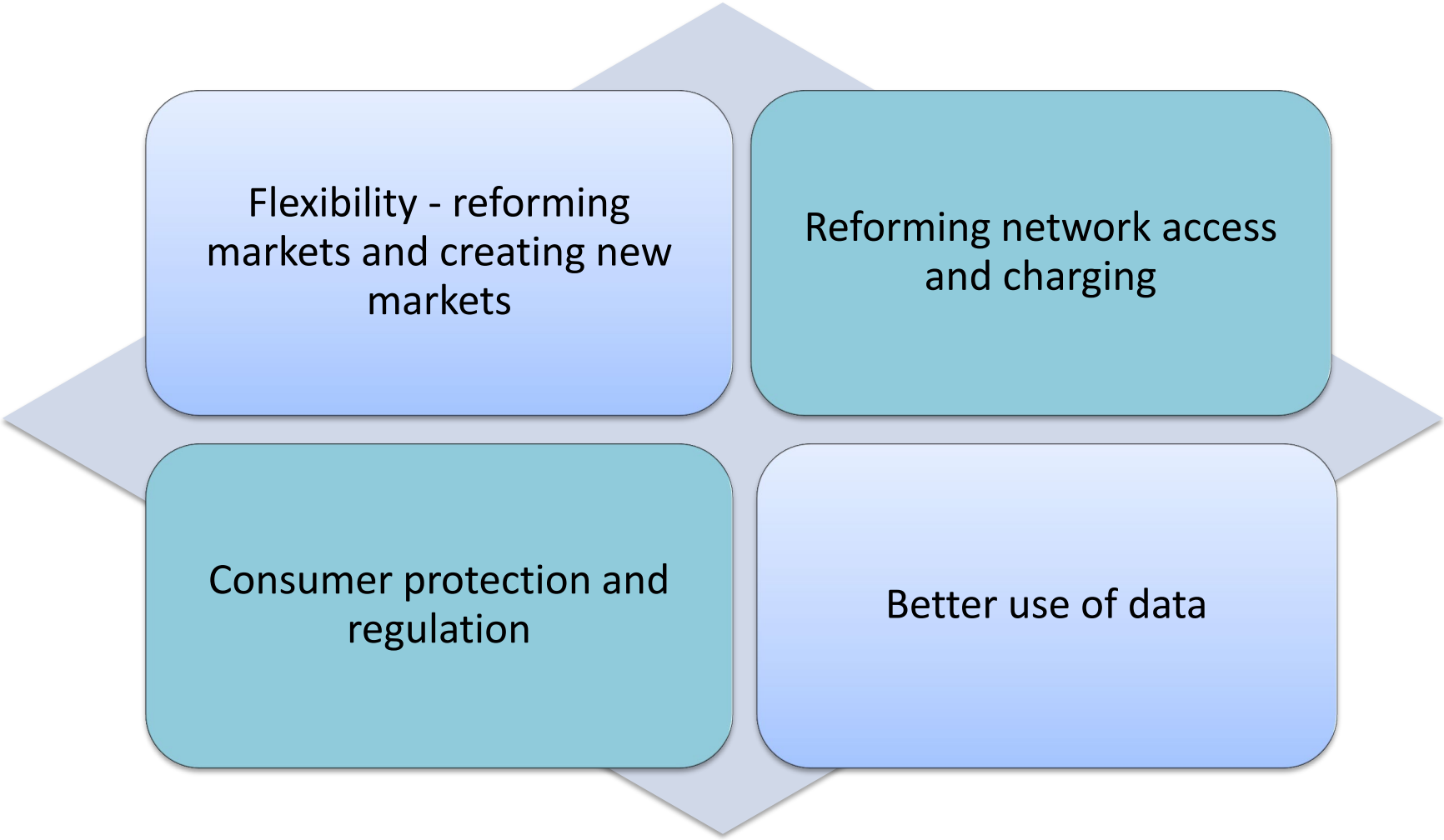
Intermittency

Decentralisation



Protecting consumers

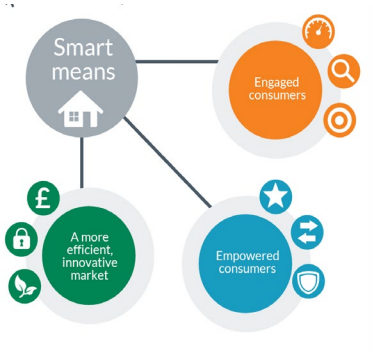
Solutions


Flexibility - reforming markets and creating new markets
Reforming network access and charging
Consumer protection and regulation
Better use of data

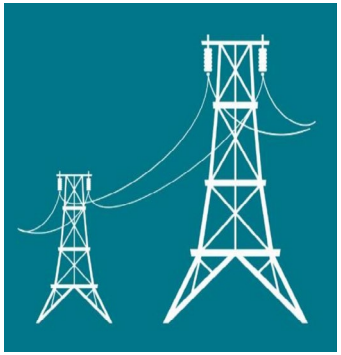
Reforming markets - flexibility

- We are reforming our framework to encourage the development of storage facilities
- Currently there is **700MW** of battery storage capacity with an expected increase to **1.2 GW** by end of 2019

- **Whole systems approach** - we are bringing changes that will require network companies to cooperate and consider opportunities outside of their own boundaries.
- **DSO** – with the need for more efficiency we expect to see the development of system operator functions at the distribution network level.



- **Smart meters –** smart technologies have a central role to play in giving consumers control over their bills and energy use.
- **DSR and smarter tariffs** - we expect there be greater opportunities for consumers to take part in DSR with the roll out of smart meters and reforms to tariffs.



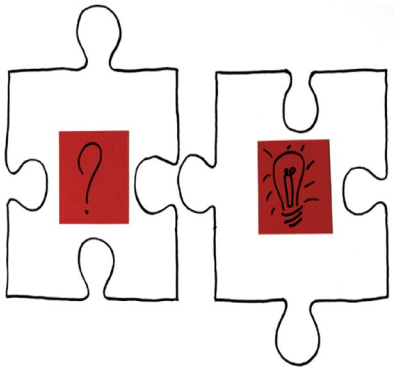
RIIO 2

- Revenue = incentives + innovations + outputs
- 10 year settlement
- Simplifying the price controls
- Responding to changes in how networks operate
- Ensuring fairer returns
- Driving innovation and efficiency

Reforming network charging

- **Targeted charging reforms** – making changes to try and ensure a level playing field. By for example, seeking to spread fixed costs network infrastructure among all consumers.
- **Access reforms** – making changes to free up grid capacity and driving down costs for connecting EVs, decentralised generation and storage

Encouraging innovation and better use of data



Innovation link

- Encouraging innovation and breaking down regulatory barriers
- 160 businesses supported with new initiatives
- Blockchain and peer to peer trading

Data

- Data is essential for a smart energy system with smarter electricity networks
- DSR, storage smart tariffs need real time data provision.
- Networks need data about capacity about their grid and how it is being used.
- We are putting reforms in place to enable the sharing of data, while protecting consumers.

Key lessons

Regulatory and policy framework

- Powerful tool to achieving decarbonisation
- Driver for innovation and change
- Facilitate a flexible system
- Key to protecting consumers
- Responsive to change

ofgem Making a positive difference for energy consumers

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.

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