

Ofgem's role in decarbonisation

APPG Energy Studies Briefing

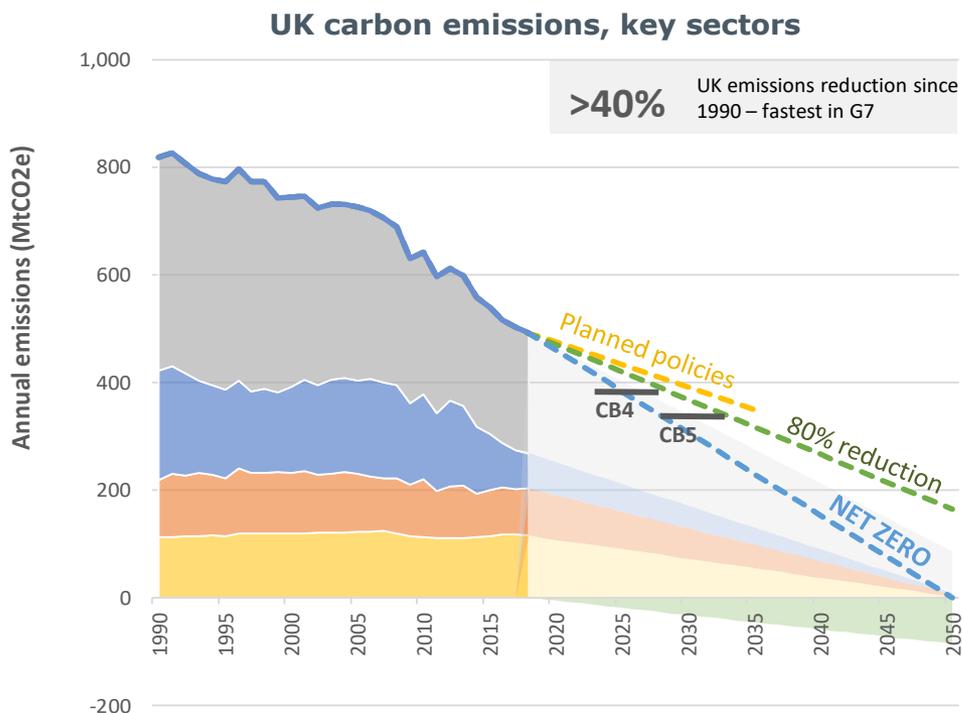


Neil Kenward
9 June 2020

The UK has made good progress to date, especially in decarbonising power. Net zero represents a step change in ambition and challenge

The UK has reduced its emissions faster than any other major economy and has made significant progress in decarbonising power.

With the net zero target, the UK must now accelerate the decarbonisation of other sectors, including heat and transport.



Sources: Ofgem, based on BEIS and CCC historic data and projections

To reach net zero, the UK needs:

POWER

Quadrupling total low carbon generating capacity, adding 6-10 GW/year, mostly wind and solar. Double investment to £20 billion pa by 2050.

BUILDINGS

Increase low carbon heat from less than 5% of homes to c.90%, c.1 million pa, with annual investment rising to £20 billion by 2050.

TRANSPORT

From 230,000 EVs now to 46 million by 2050

NEGATIVE EMISSIONS

Needed at scale, from BECCs (bio-CCS) DACCS (direct air capture) and land use change

Decarbonisation presents a range of challenges. Ofgem has a key role to play enabling decarbonisation at least cost

Reaching net zero will require a transformation of the UK's energy sector, which comes with numerous challenges, including:

- sectoral convergence with the electrification of transport and at least some heat
- massive new investments required
- a requirement for major market interventions (climate change is a massive market failure)
- rapid change, and uncertainty about which technologies are optimal
- increased participation by non-energy actors (heat as service, local flexibility markets)

Government sets the direction of policy, including decisions on taxation and public spending. But Ofgem has a key role to play and has made decarbonisation a top priority:

- In July 2019, Ofgem published a **Strategic Narrative**, identifying "*decarbonising at lowest cost*" as one of three core strategic objectives
- Our **Decarbonisation Action Plan**, published February 2020, set out nine key actions Ofgem is taking to enable the transition to net zero

ENERGY INFRASTRUCTURE

Network regulation

- Ofgem sets price controls for network companies, and will ensure their investment plans support decarbonisation

Supporting offshore wind

- Ofgem is supporting plans to develop an offshore grid, which would connect offshore wind farms: minimising costs, increasing flexibility, and reducing the number of new coastal connections required

Managing the system

- The energy system needs to become much more flexible to efficiently enable increased renewable generation. We are increasing flexibility in energy markets, and undertaking a review of how the system is managed by the System Operator (currently National Grid)

CONSUMERS

Smart and flexible markets

- Households can save money by using electricity when it is cheaper and more plentiful. For example, smart charging can save drivers money by charging their electric vehicle when electricity prices are cheapest.
- And we are working with the Government and the sector to roll out smart meters.

Retail markets

- Ofgem supports energy firms to create low carbon products and services for consumers for example by expanding our regulatory 'sandbox' service, and conducting trials on consumer uptake of Time-of-Use tariffs

Scheme delivery

- Ofgem also delivers government decarbonisation programmes such as the Renewable Heat Incentive

There will be costs, but also opportunities

- In the short term, making the transition to net zero is likely to incur additional costs as new investment is required and new technologies are rolled out.
- Ofgem will work to ensure that the costs of decarbonisation are as low as possible – much of the cost can be gradually recouped from energy bills over decades.
- Net zero is massive challenge but also massive opportunity – getting it right will result in a cleaner, more efficient and user-friendly energy system and create new, sustainable jobs and industries

ANNEX SLIDES



Ofgem's Decarbonisation Action Plan set out nine priority actions:

Preparing the networks to deliver

1. Designing cost effective networks for net zero
2. Long-term planning and innovation
3. More effective coordination to deliver low cost offshore networks
4. Preparing for low-carbon heat

Ensuring the electricity system is ready

5. Preparing system operators for a net zero future
6. Supporting flexibility
7. Enabling electric vehicles at low cost

Opening up retail innovation and driving behaviour change

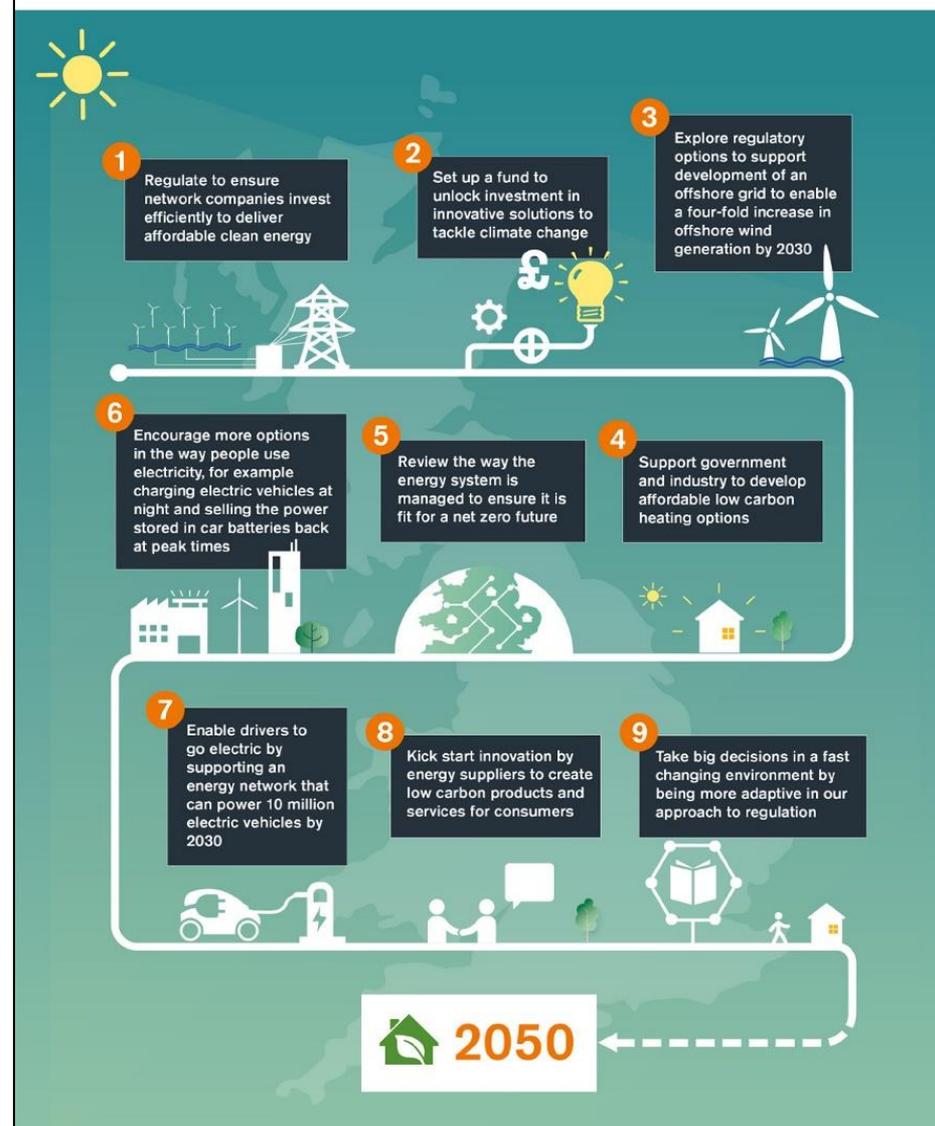
8. Opening up retail innovation

Reforming the organisation – how we will change

9. Adapting the organisation

Annex A: Decarbonisation Action Plan

How we'll decarbonise energy to deliver a net zero future at the lowest cost to consumers



1989 Electricity Act, including 2008 and 2010 amendments:

The principal objective of ...[GEMA] ...is to protect the interests of existing and future consumers in relation to electricity conveyed by distribution systems or transmission systems.

Those interests of existing and future consumers are their interests taken as a whole, including: their interests in the reduction of electricity-supply emissions of targeted greenhouse gases; ...

In performing the duties [...] [GEMA] shall have regard to: ... (c) the need to contribute to the achievement of sustainable development.

Additional guidance issued by the Secretary of State in 2010:

The Government considers that the Authority has an important role, consistent with its principal objective, general duties and functions, in bringing about an energy system that encourages substantial carbon emission reductions in a timescale consistent with the above [80% reduction] targets.