

The future of UK energy policy: the net zero challenge

Donna Leong - Director of Analysis

Department for Energy Security and Net Zero

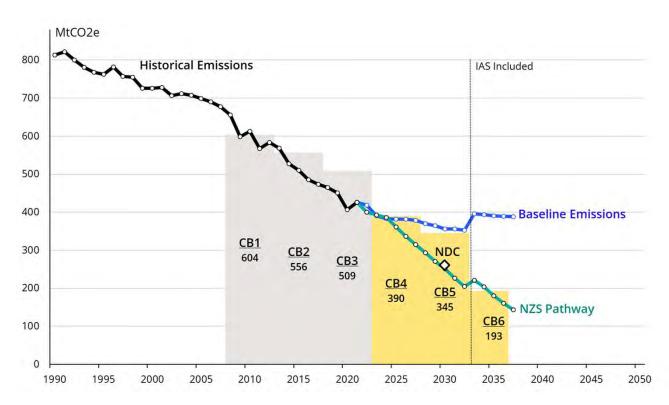
8 December 2023

Official – Not Government Policy

Please do not quote without author's permission

UK's climate change targets are ambitious

Decarbonisation: UK has met Carbon Budgets 1, 2 and 3 comfortably but targets will tighten.



Carbon Budgets

- We have legally binding 5-year Carbon Budget targets.
- The latest target CB6 (2033 -2037) requires a 77% reduction in emissions from 1990 levels.

Nationally determined contribution

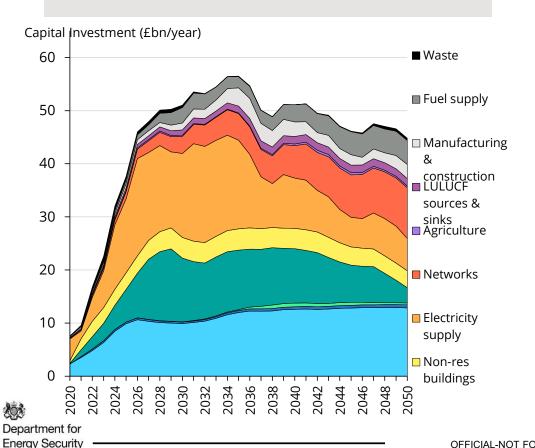
 The Nationally Determined Contribution (NDC) is a separate target for 2030, as part of the Paris Agreement. Our current NDC represents a 68% reduction from 1990 emission levels.

**NZS Pathway was set in 2021 as part of the Net Zero Strategy publication. This has been adjusted to account for the latest EEP and GHG inventory

Department for
Energy Security
& Net Zero

Energy trilemma adds challenge – but transition will also bring opportunities

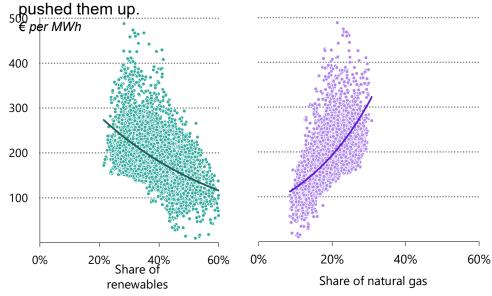
Cost: CCC estimate that an additional £40-60bn is required per annum for the NZ transition



& Net Zero

Security: renewables offer energy security and help combat fossil fuel price driven inflation - but require additional flexible supply

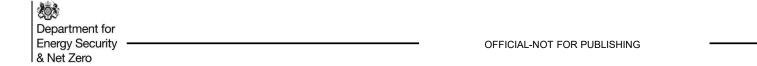
Hourly Wholesale Electricity Prices in the EU in the 1H 2022 High shares of renewables in electricity supply drove down wholesale electricity prices, while high shares of natural gas



IEA analysis based on data from the ENTSO-E Transparency Platform, 2022.

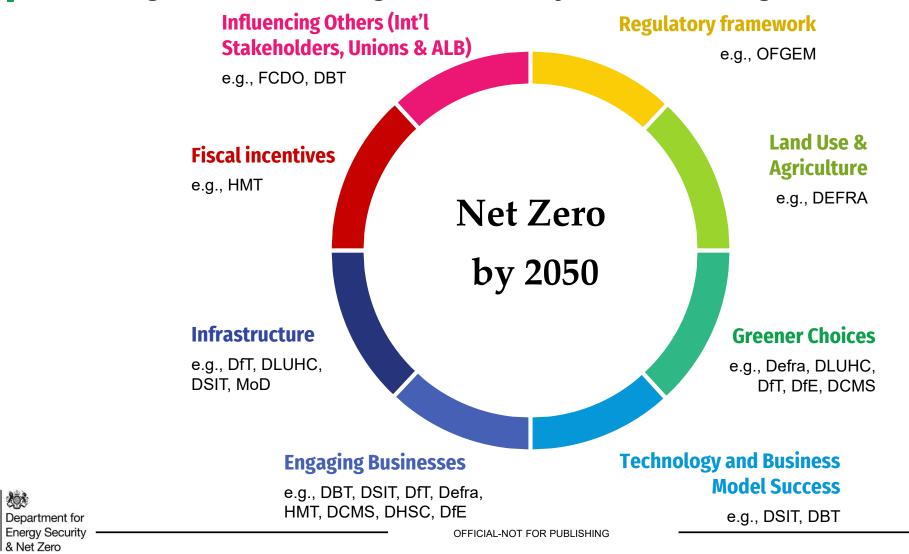
What does the decarbonisation pathway look like?

Energy generation and end uses in 2019 – still High electrification Net Zero scenario: energy largely fossil fuels generation and end uses in 2050 Transport biofuels Industry biomass -Other domestic biomass Buildings biomass -**Buildings** electricity Wind **Buildings electricity** Bioenergy Electricity generation Industry electricity Electrolysis Transport electricity Nuclear Electricity generation Electricity exports **Electricity imports** Industry coal -Transport electricity **Buildings** coal Other renewables Other renewables Industry electricity Gas CCS Buildings natural gas Natural gas Agriculture Industry gas, including with CCS Other biomass Power BECCS Industry natural gas Natural gas Industry biomass Bioenergy Transport biofuels Agriculture Hydrogen BECCS Biomass imports Transport hydrogen Hydrogen from waste Energy crops Hydrogen production Industry hydrogen Transport oil Electrolysis Industry coal, including with CCS Oil Coal Transport oil Oil



Industry oil

Delivering Net Zero is a x-government systems challenge



The Net Zero Strategy and Carbon Budget Delivery Plan provide a Road Map to meet these targets

> 190 polices across all sectors can be mapped into **6 key priorities**:

Transform the Power System

Electrify Large Parts
Of The Economy

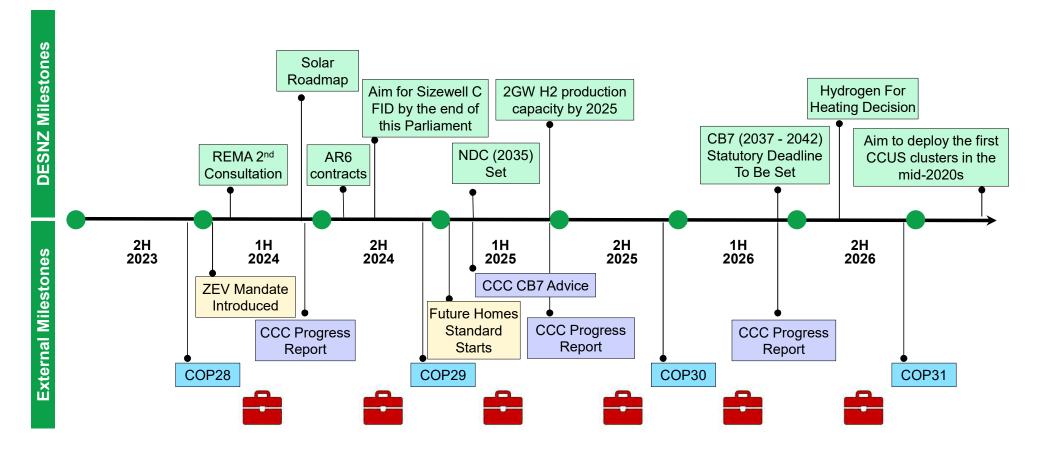
Develop Alternative Low Carbon Technologies Where Hard To Electrify

Improve Resource & Energy Efficiency

Address Land Use & Agriculture Emissions

Develop Negative Emissions Technologies

What are we focusing on over the next few years – an illustrative timeline



What are we focusing on over the next few years – REMA

First announced in April 2022 in the British Energy Security Strategy, the Review of Electricity Market Arrangements (REMA) is a major review into the design of Britain's electricity market.

- **Objective:** To identify and implement the reforms needed to electricity market arrangements, to drive the necessary **investment** in, and efficient **operation** of, a secure, **low carbon electricity** system by 2035 whilst ensuring **affordability** for consumers and attractiveness for **investors**.
- Scope: REMA considers options for long lasting reforms to all electricity (non-retail) markets and covers policies including investment and market operation.

April 2022:

REMA announced in the British Energy Security Strategy

July 2022:

First public consultation launched

March 2023:

Summary of responses published

Second public consultation launched

What are we focusing on over the next few years – Strategic Spatial Plan

Summary

A consultation on our proposals to make local plans (and minerals and waste plans) simpler, faster to prepare, and more accessible.

This consultation ran from 25 July 2023 to 11:59pm on 18 October 2023

Consultation description

Our vision is for local plans (and minerals and waste plans) to be simpler to understand and use, and positively shaped by the views of communities about how their area should evolve.

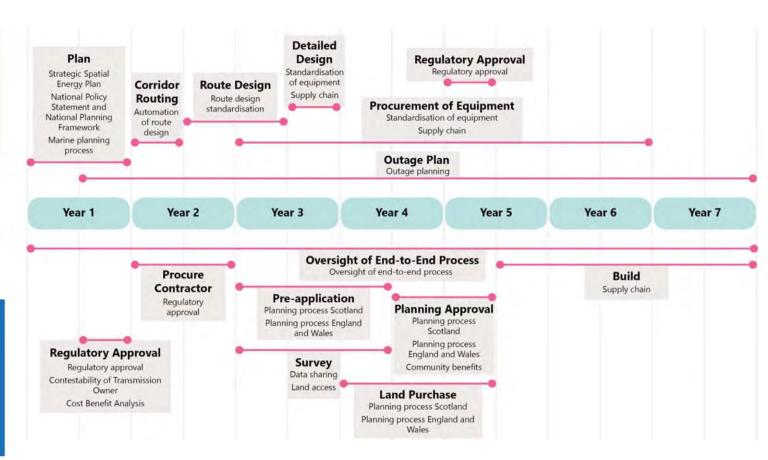
We want them to clearly show what is planned in a local area – so that communities and other users of the plan can engage with them more easily,

Summary

We're seeking views on a recommended approach to community benefits for electricity transmission network infrastructure.

This consultation ran from

7am on 30 March 2023 to 11:45pm on 15 June 2023





Future collaboration

Discussion:

- ➤ How can our analysis be bolstered by the work of the wider community?
- ➤ Can we collaborate in a more structured way?

The end

