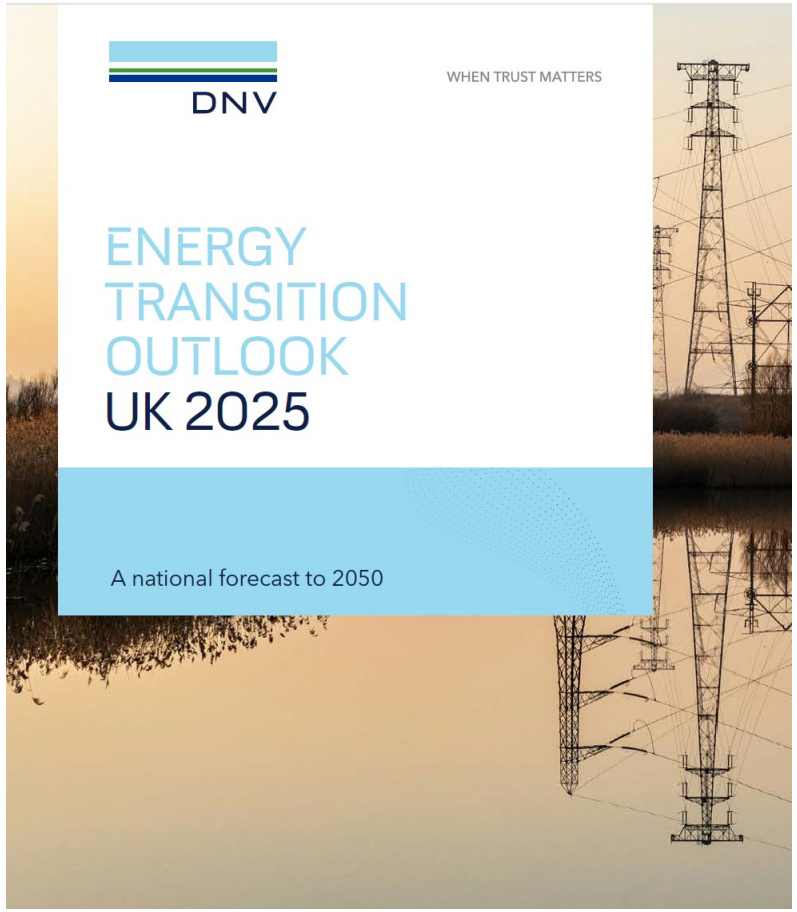
WHEN TRUST MATTERS

UK Energy Transition Outlook 2025

London, UK | 9 July 2025

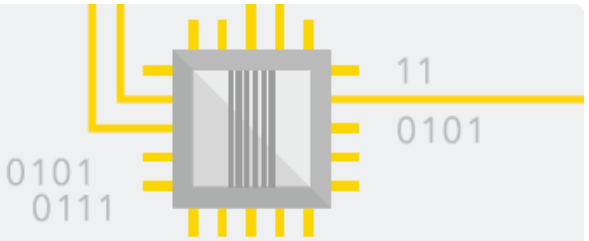
Sarah Kimpton
Energy Transition Director UK

Our forecast



Our **best estimate**, not the future we want
a **single forecast**, not scenarios

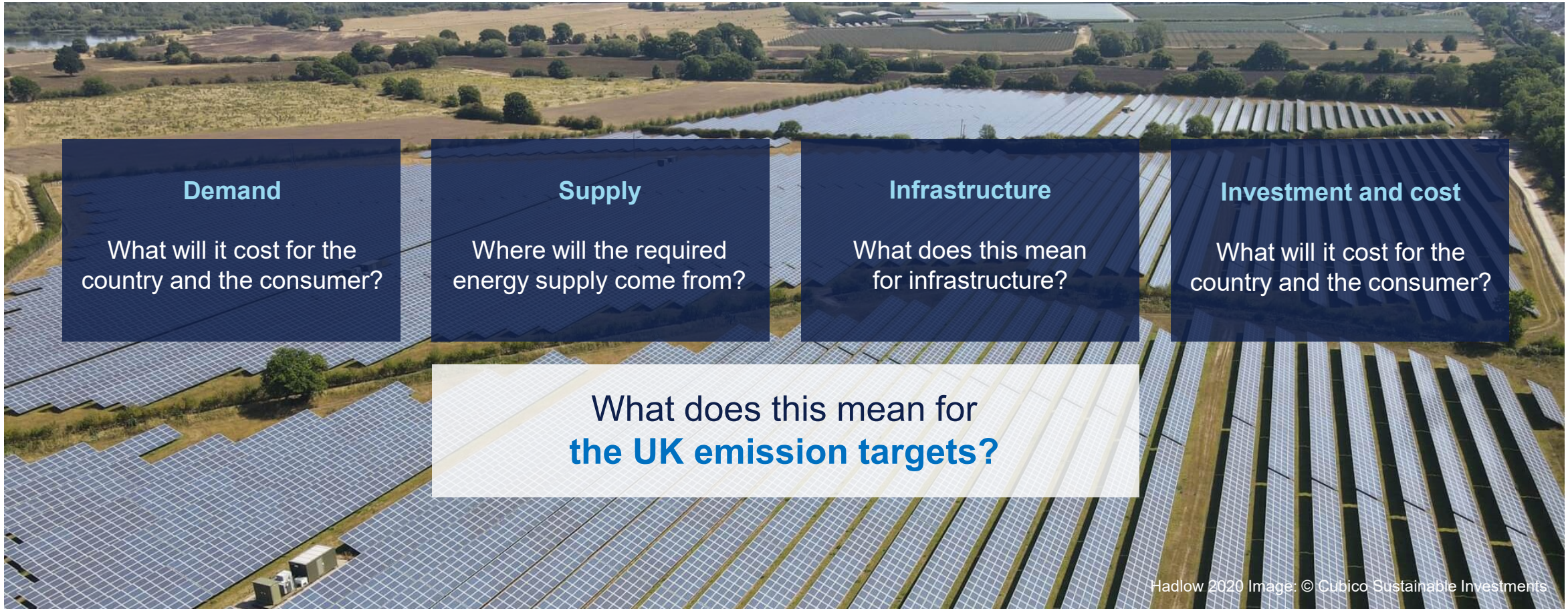
UK as part of the **global energy system** – through technology, economy, energy resources



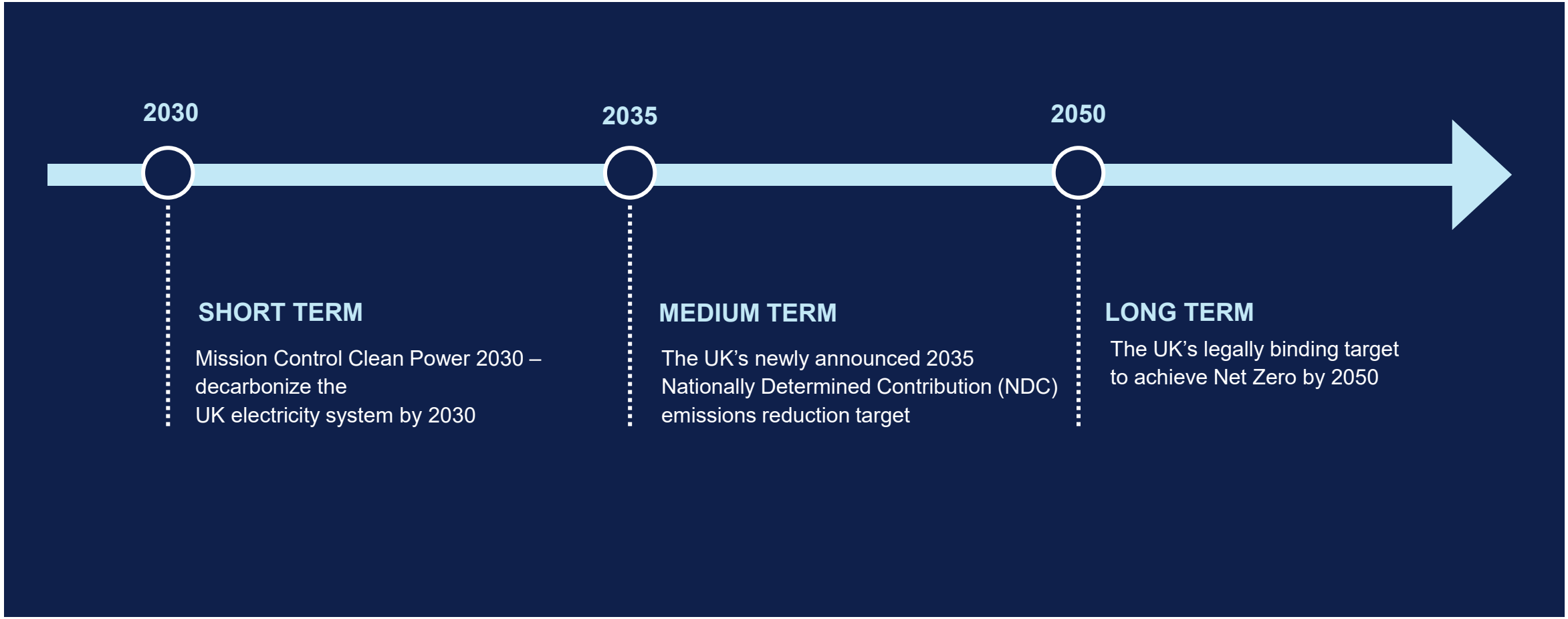
Technology uptake is mainly cost driven – reflecting global trends and learning curves

Key confirmed **policy** trends included: e.g. phase out of ICE, commitment to industrial clusters

The four pillars of the UK energy system



The UK Energy Transition – a tale of three targets



Mission Control Clean Power 2030

TODAY

15 GW

15 GW

15 GW

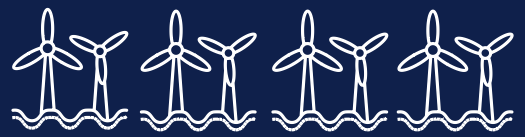
TOTAL 45 GW

35%

CLEAN POWER 2030 TARGET

Double – 30 GW

Treble – 45 GW



Nearly quadruple – 50 GW

TOTAL 125 GW

< 5%

OUR 2030 FORECAST

Double

Double

Double

TOTAL 90 GW

13%

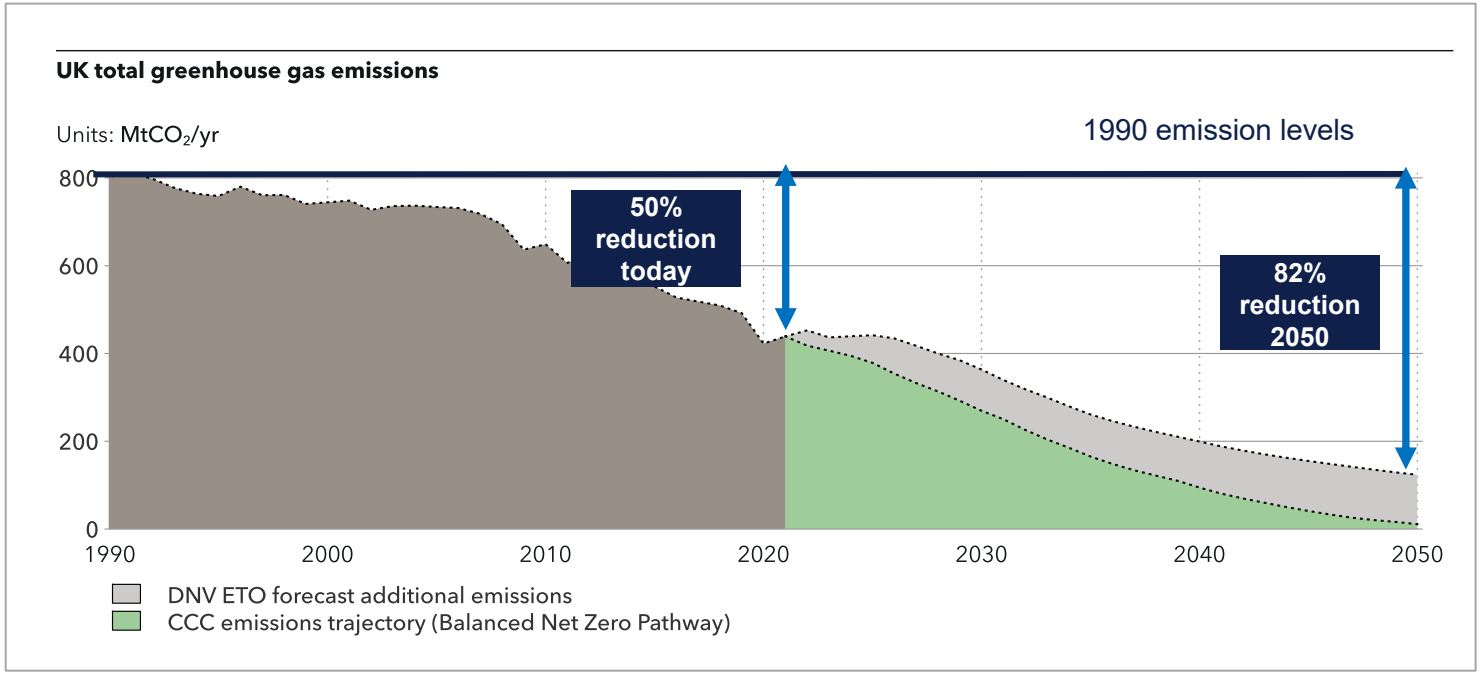
Nationally Determined Commitment

81% emission reduction by 2035

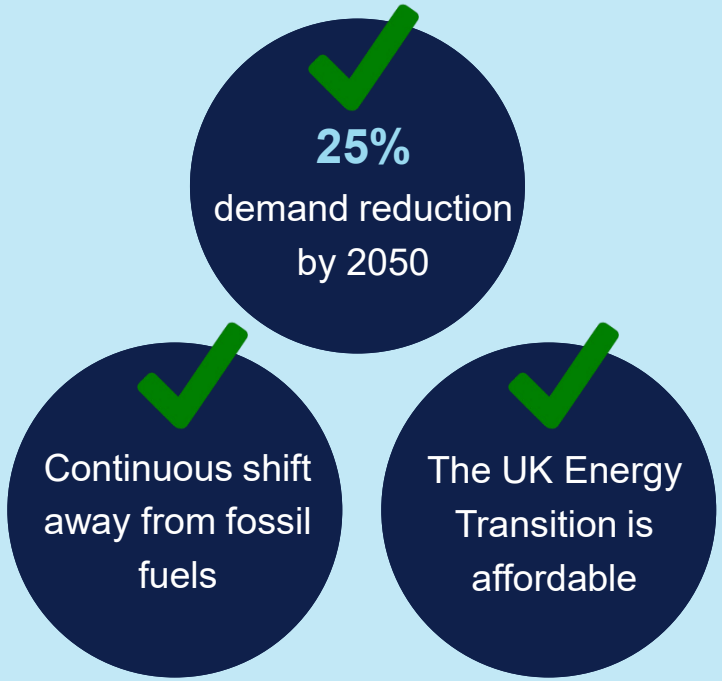
UK will not meet legally binding 2050 Net Zero target

We will achieve **82%** reduction by 2050

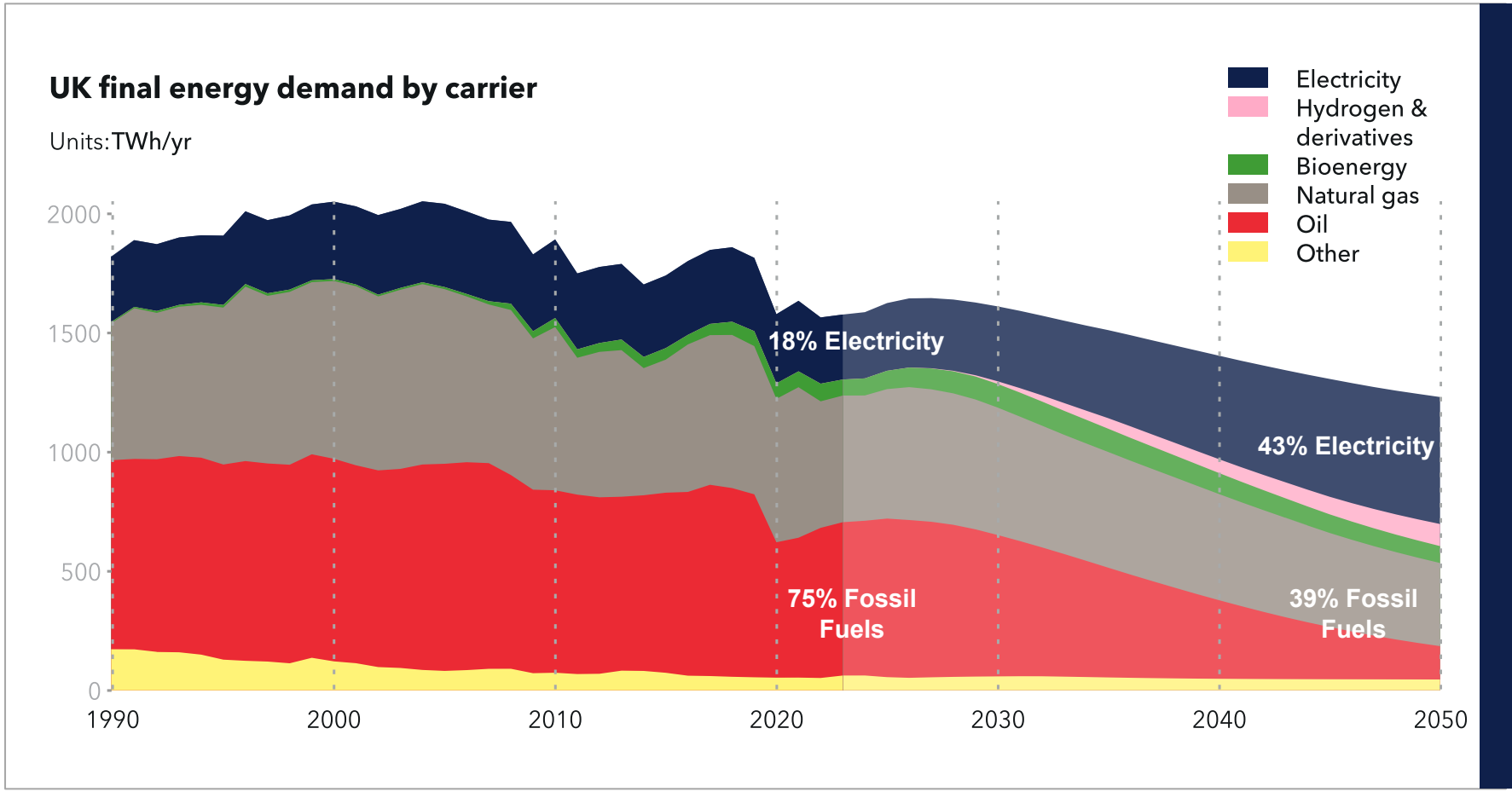
Still emitting **145 $MtCO_2$/year** in 2050 – with remaining emissions mainly from building sector and transport



Three long-term positive trends

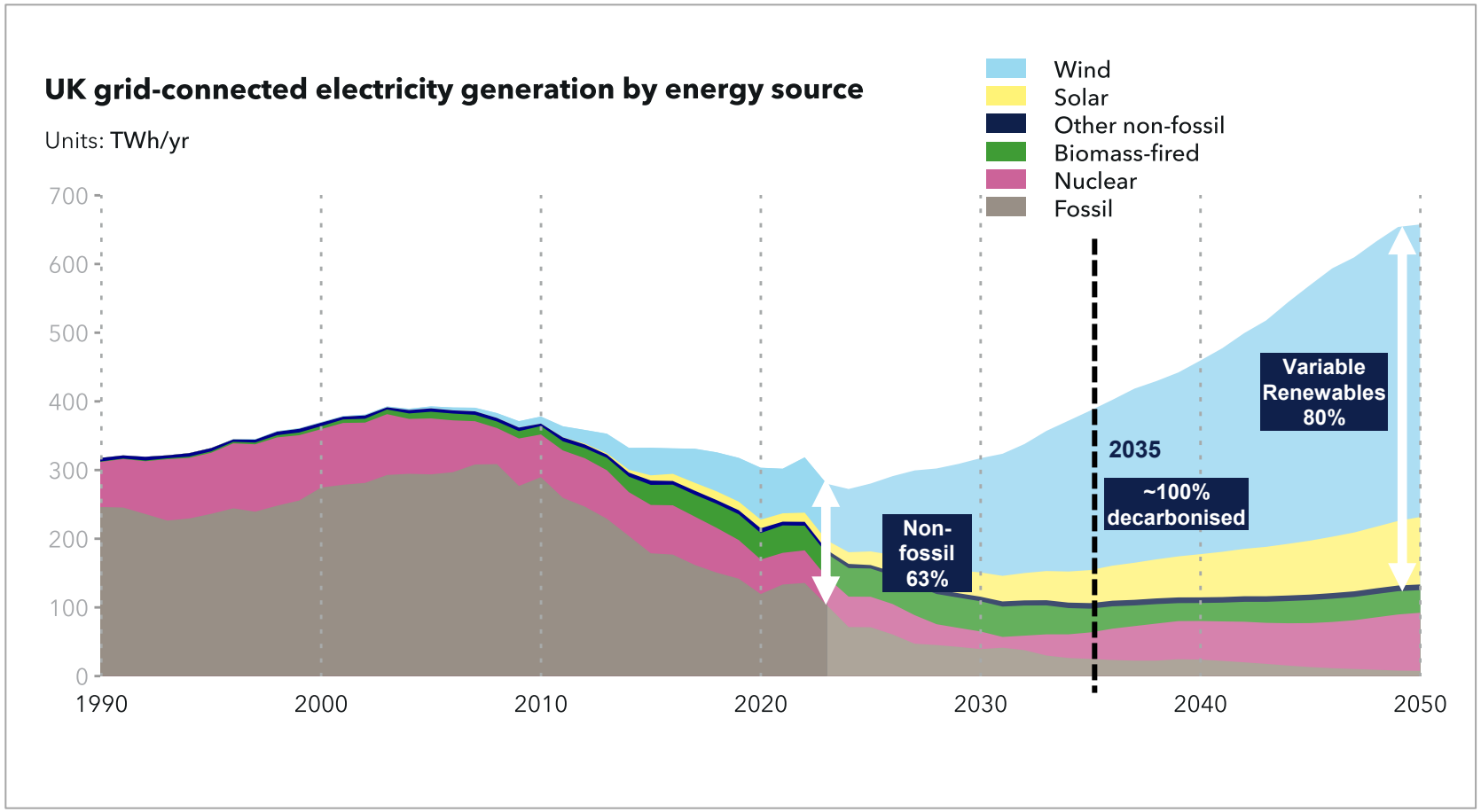


Despite growth in GDP & population, energy demand will reduce by 25% by 2050



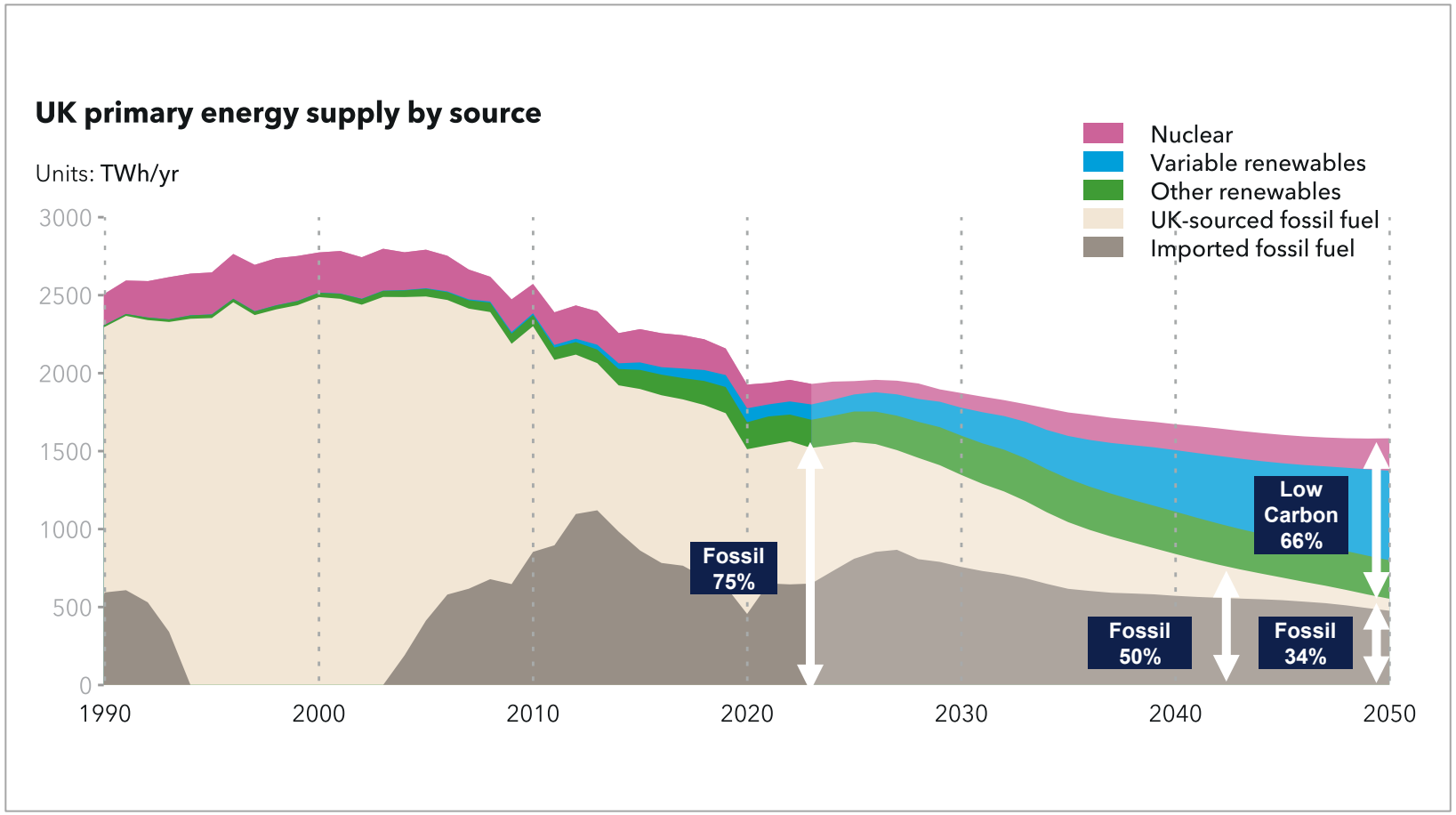
- Demand will drop thanks to large scale electrification across all sectors
- Today three quarters of demand is supplied to customers as fossil fuels
- By 2050 nearly half of demand will be supplied as electricity
- Fossil fuels will still deliver 39% mainly for heating & commercial transport
- More than half of UK homes still use gas for heating by 2050

Electricity demand in the UK will increase by a factor of 2.3 by 2050



- Electricity supply is greening – from 63% low carbon sources today to a fully decarbonised system by 2035 (with CCS/H2)
- Extraordinary growth of variable renewables
- Stable contributions from nuclear and bioenergy providing base-load
- Gas-fired contribution greatly reduced from 37% today to less than 5% by 2035

UK's primary energy supply will shift from fossil fuels to low-carbon sources – still one third fossil fuels in 2050



- Today 75% of supply are fossil fuels
- In 2050 supply will be 66% low carbon
- Essential role for CCS and H2 to decarbonise the 'tail'
- **CCS** to decarbonise power generation and industry – forecast 40 $MtCO_2$/year by 2035
- **H2** to decarbonise industry and maritime/aviation transport

An affordable transition: Investment increases by 80% but remains at 1.3% of GDP

Last 30 years

£28 billion annual energy infrastructure spend

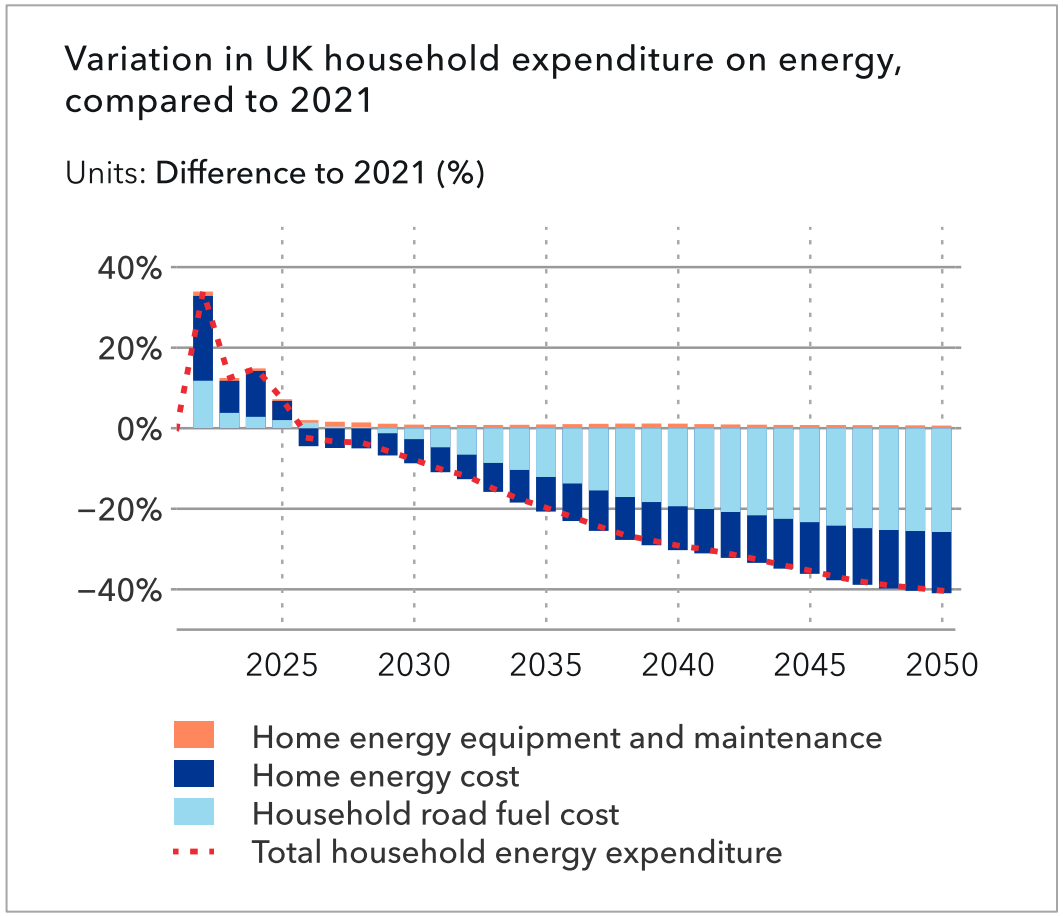
50% on fossil fuels

Next 30 years

£50 billion annual energy infrastructure spend

60% on renewables and grid system

Household energy spend will reduce by 40% compared to 2021 levels



- Substantial green prize for UK economy: cleaner, more efficient and less expensive energy system
- Due to current supply crisis household energy spend expected to remain high for next 1-2 years
- Costs will drop below 2021 levels by 2026
- Long-term costs will decline by nearly 40% by 2050
- Majority of reduction driven by more efficient energy use through electrification

CLEAN POWER 2030

Doubling of renewable generation capacity

45 GW short of target

Gas-fired generation reduced from **37%** to **12%**

2035 NDC 81% REDUCTION

Achieve **35%** reduction of today's emissions

Main lagging segments are buildings and transport:

*Only **13%** heat pump penetration*

*Still **60%** ICE cars on the road*

NET ZERO 2050

Achieve **82%** reduction compared to 1990 levels

Still emitting **145 $MtCO_2eq/yr$**

>50% homes on gas

Transport emissions from heavy road transport and aviation

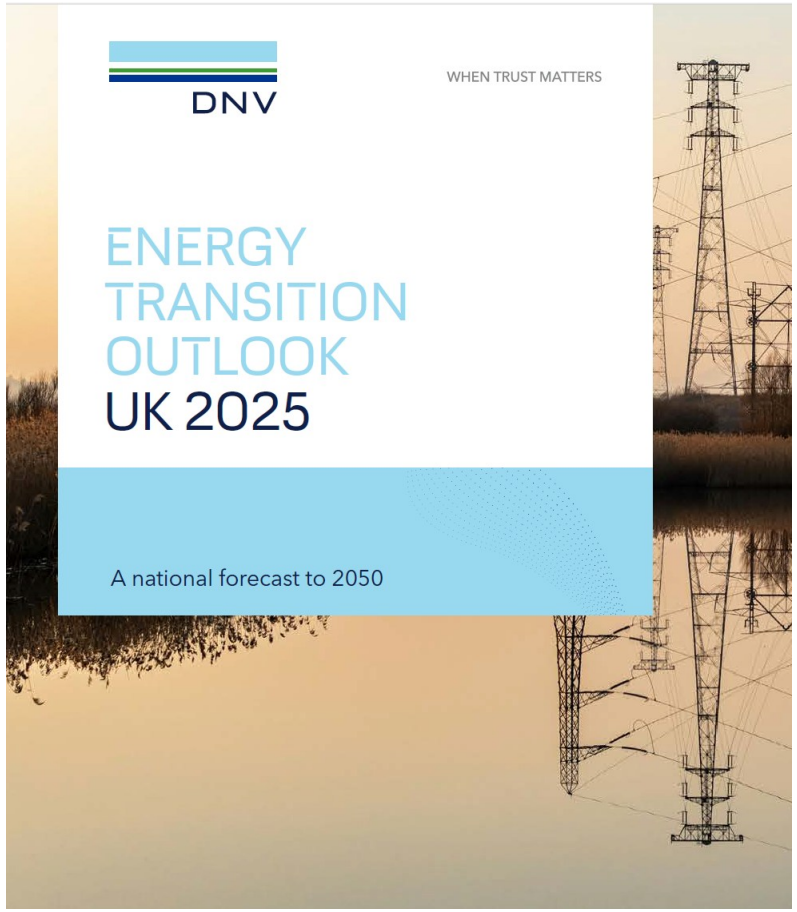
POSITIVE TRENDS

25% demand reduction by 2050

Continued shift away from fossil fuels

The Energy Transition is affordable

The 2025 UK ETO Report is now live!



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Thank you

Sarah Kimpton
Vice President

Sarah.kimpton@dnv.com
+44 7964 133 912

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