AURORA ENERGY RESEARCH

Decarbonising Energy Generation in Great Britain – Opportunities for Asset Finance

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Leasing Foundation Webinar

June 2025

Agenda

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I. About Aurora

II. Power market overview

III. Clean Power 2030

1. Overview
2. Impact on energy bills
3. Key opportunities

IV. Conclusions

Aurora provides data and analytics to support the global energy transition

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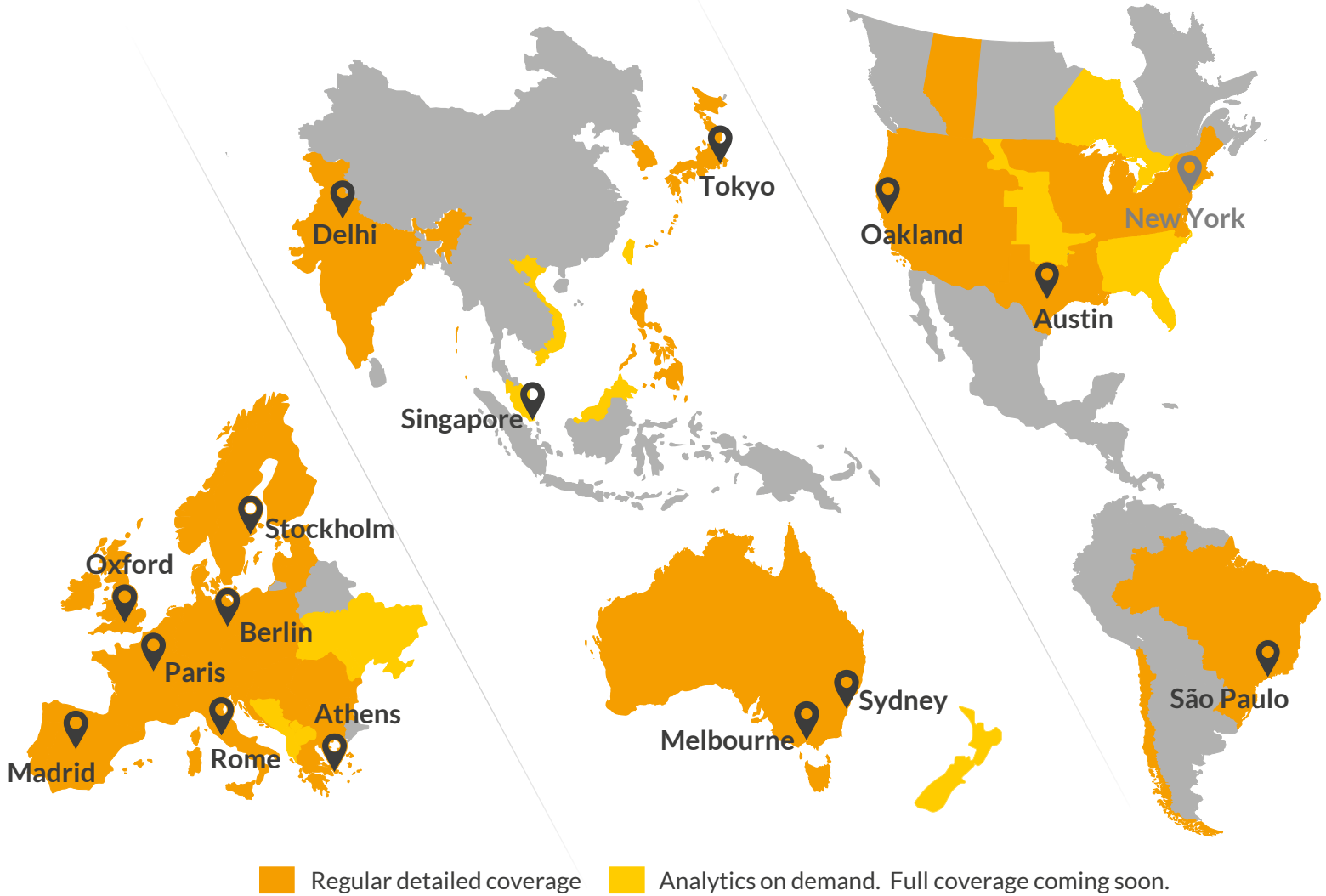
- Power markets
- Renewables & PPAs
- Storage
- Grid & Congestion
- Electric vehicles
- Hydrogen H_2
- Carbon CO_2
- Natural gas



15 offices
and New York coming soon

800+
market experts

1,000+
subscribing companies

200+
transactions supported in 2023

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Wind overtook gas to be the primary source of power generation in 2024

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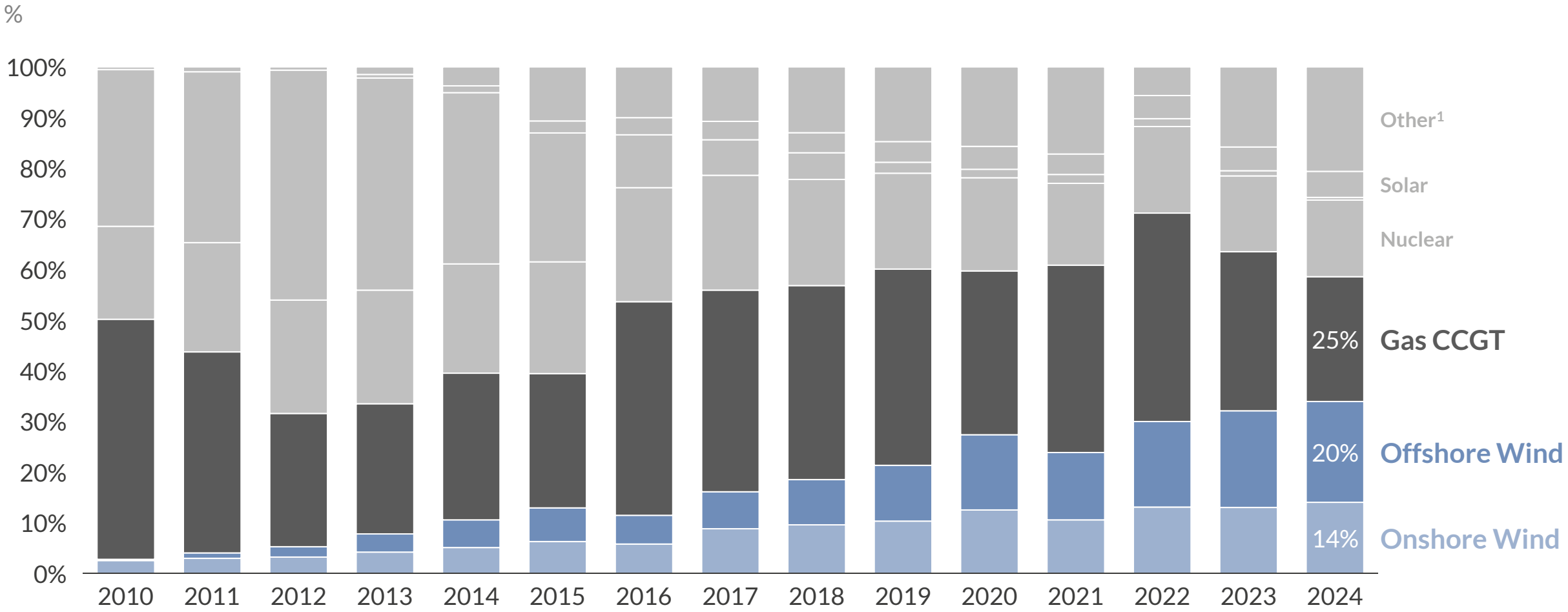
Generation mix



1) Other includes imports, battery storage, pumped storage, peaking, oil, CHP-CCGT, OCGT, biomass and hydro.

Sources: Aurora Energy Research, Elexon

2024 saw record low power system carbon intensity in Great Britain

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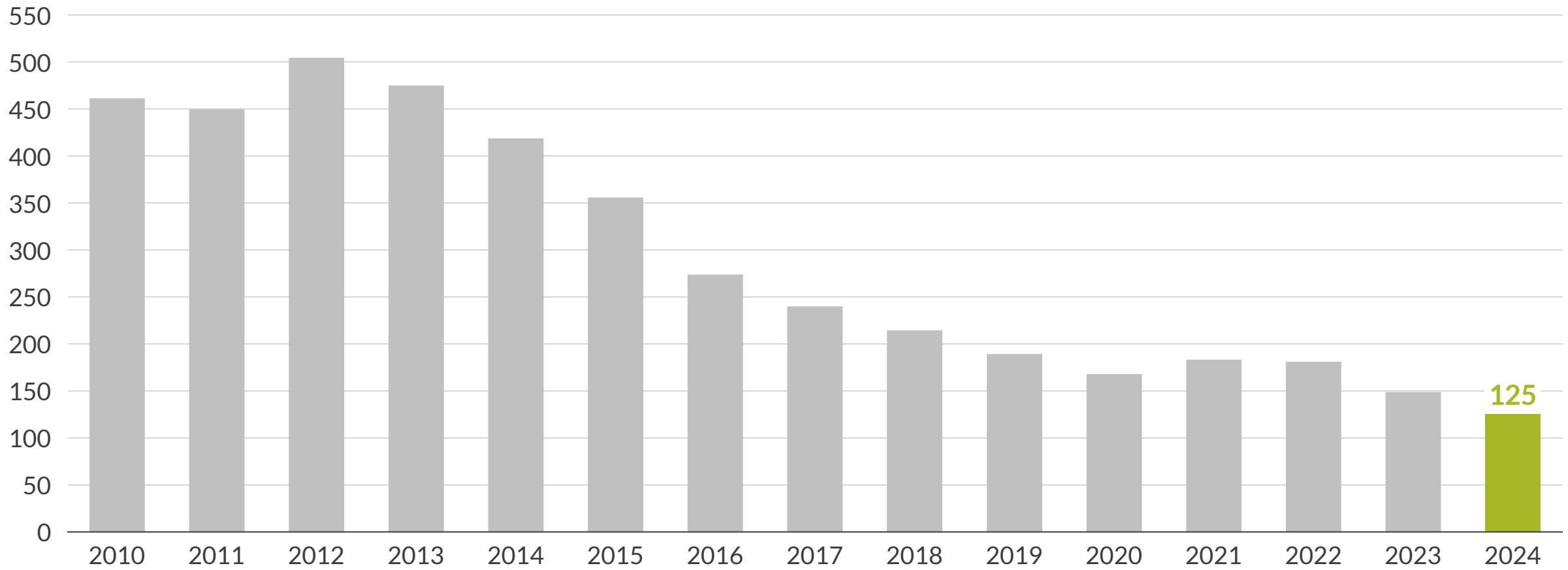
Power system carbon intensity

gCO_2e/kWh

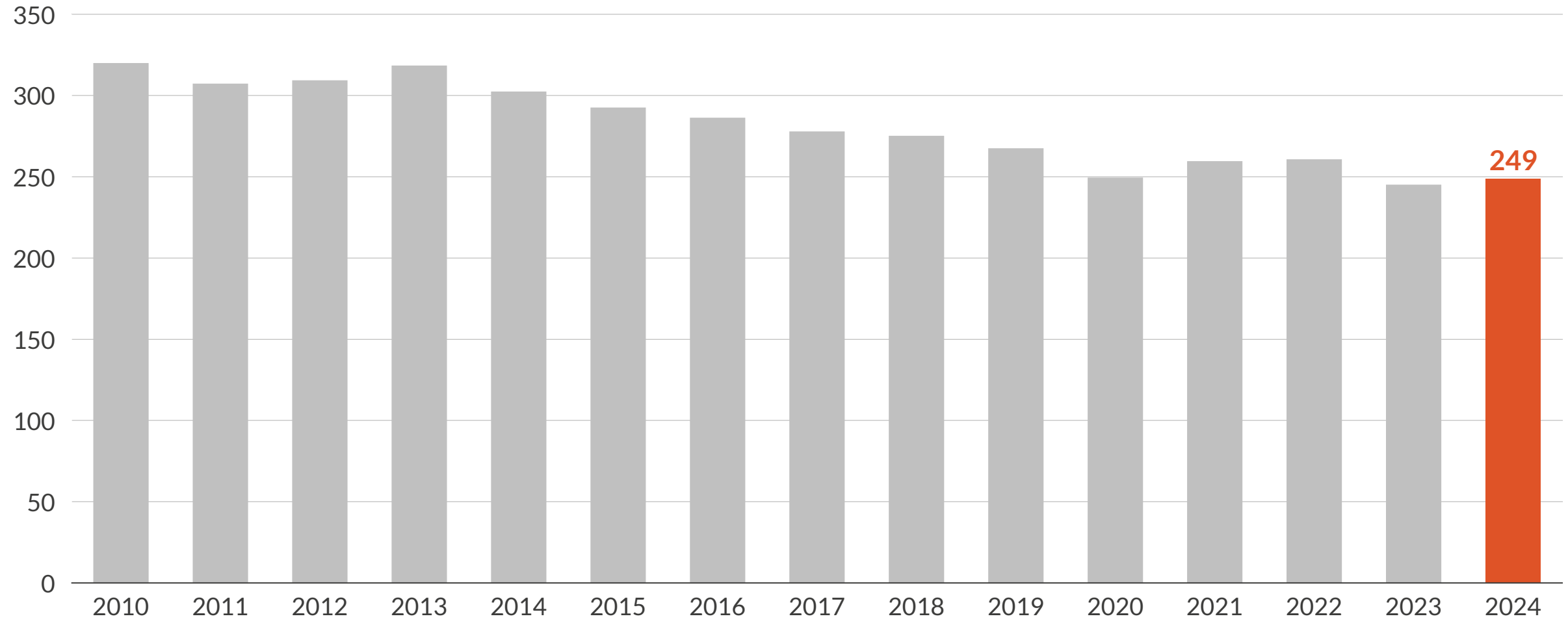


Sources: Aurora Energy Research, NESO

Total annual power demand remained relatively flat year-on-year

Power demand[1]

TWh



1) Demand data presented here is Initial Transmission System Demand Out-Turn, and includes station transformer load, pumped storage demand and interconnector demand, but does not include embedded demand.

Sources: National Grid, Aurora Energy Research

The baseload price continued to decrease year-on-year in 2024

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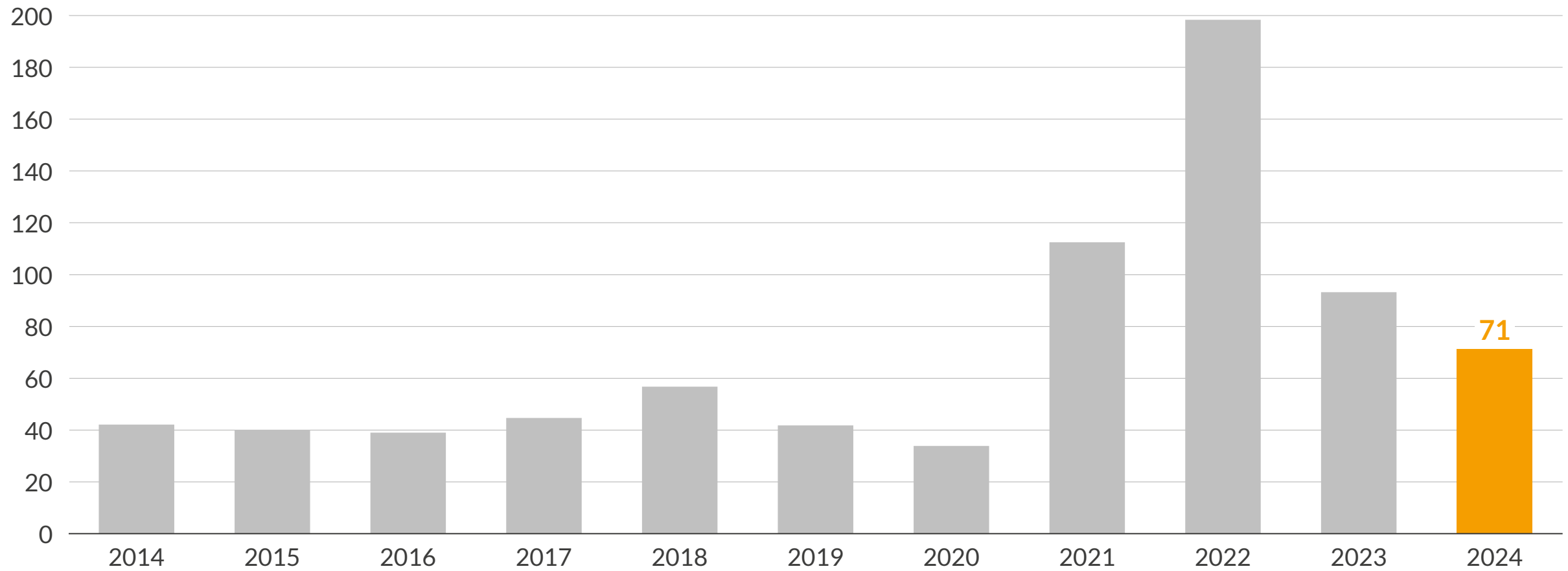
Baseload electricity price
£/MWh



Sources: Aurora Energy Research, Elexon

Energy costs in GB remain amongst the highest in Europe

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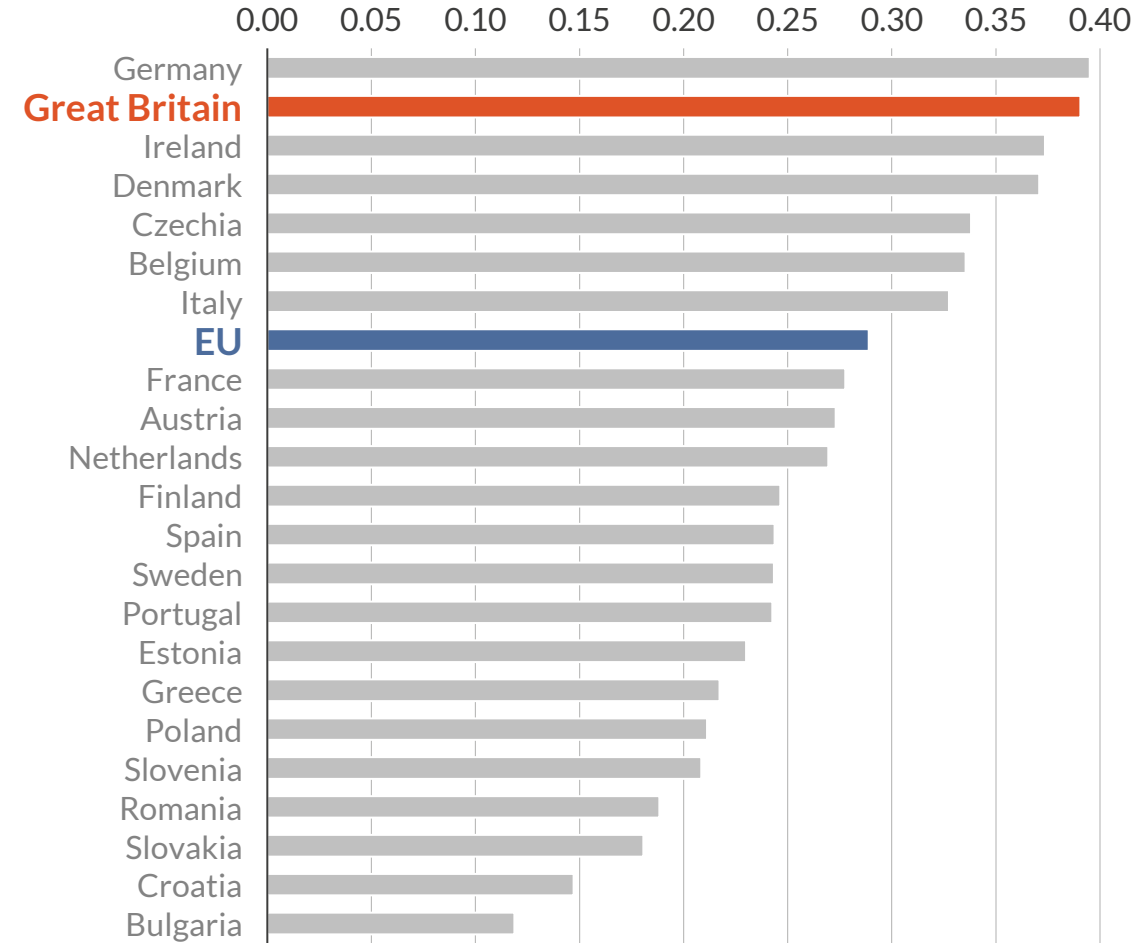
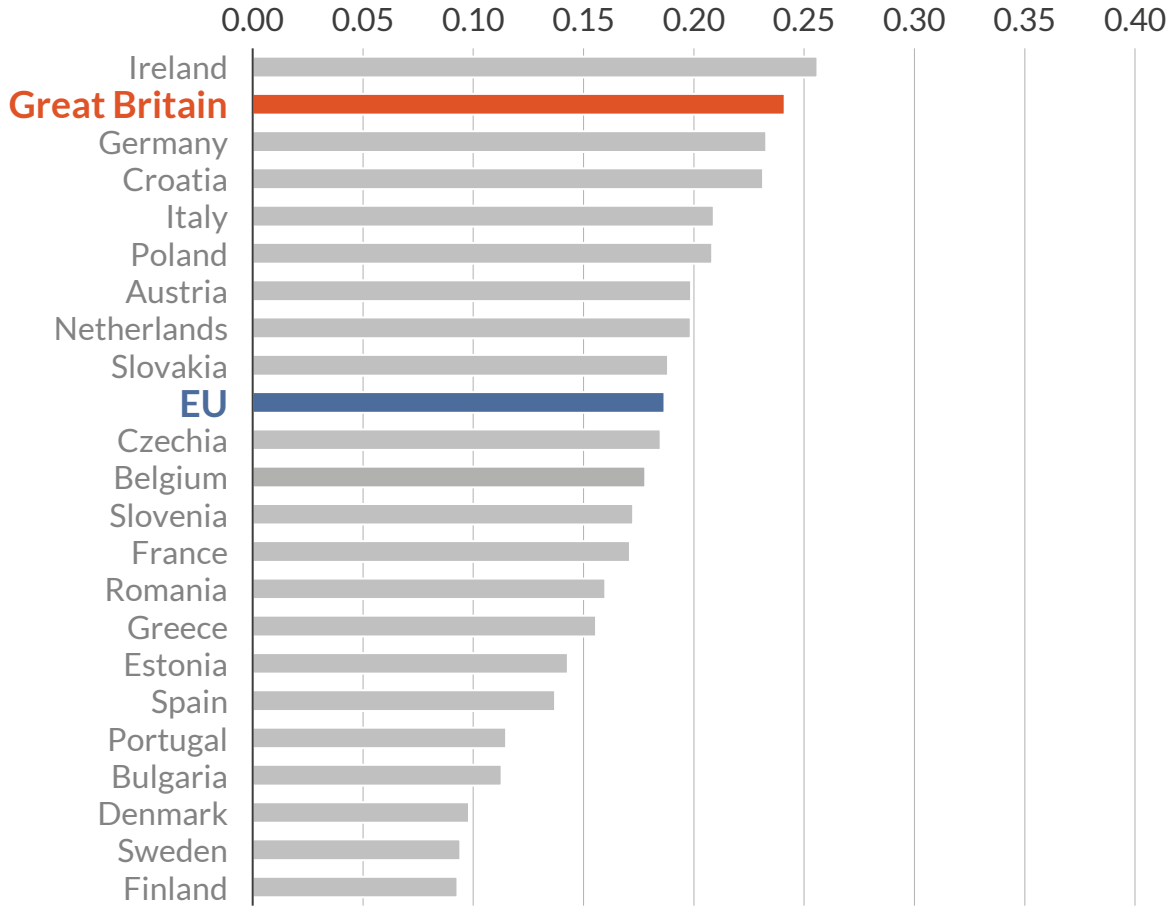
Domestic electricity prices

€/kWh



Non-domestic electricity prices

€/kWh



Sources: Aurora Energy Research, Eurostat, DESNZ, Ofgem

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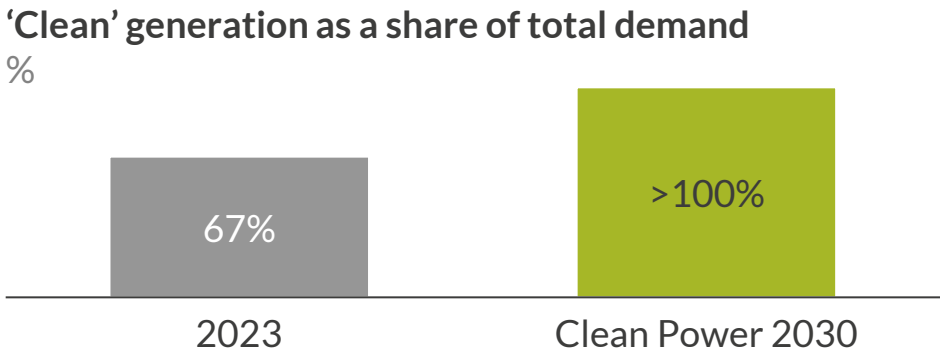
The Government's current target is for the power sector to be 'clean' by 2030

Clean Power system definition

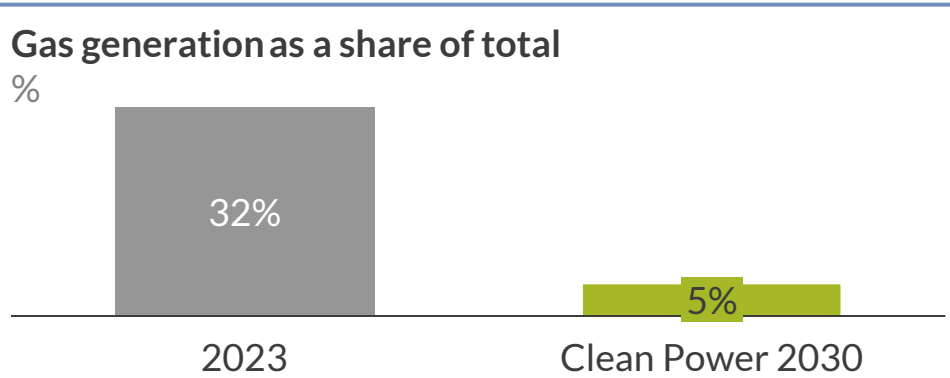
1

Sources of 'clean' generation produce more electricity than total demand



2

Unabated gas generation provides less than 5% of total generation[1]



1) Target within an average weather year.

Sources: Aurora Energy Research, DESNZ, NESO

Large change is necessary across the system if this target is to be achieved

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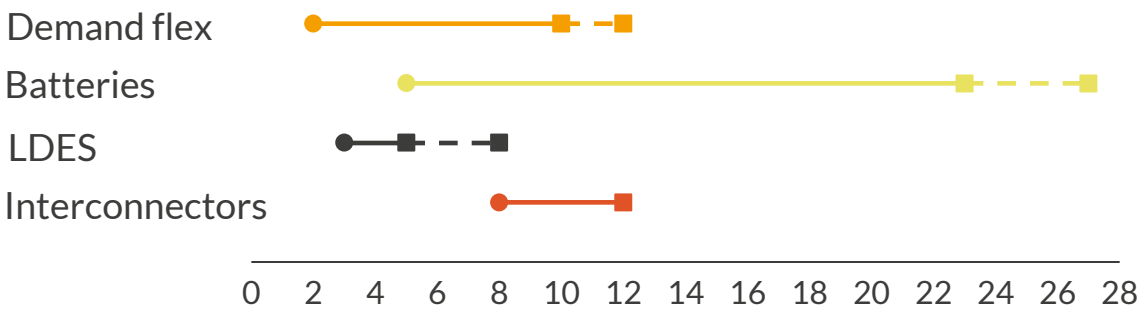
Range across scenarios ● 2023 ■ 2030

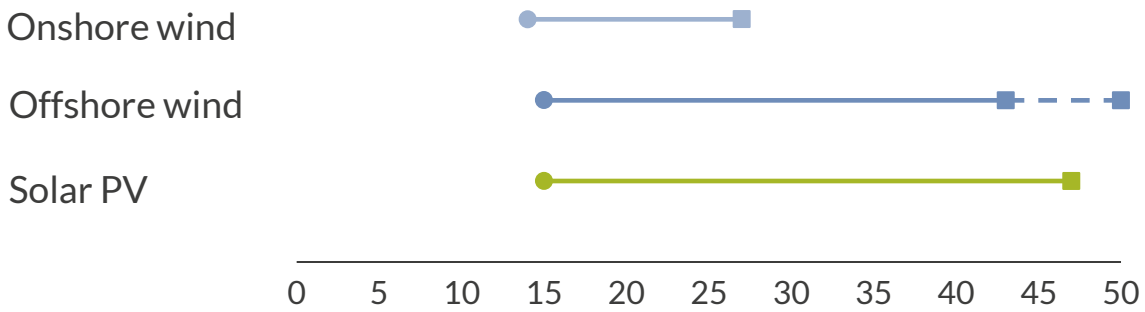
Supply and demand flexibility capacity projections

GW



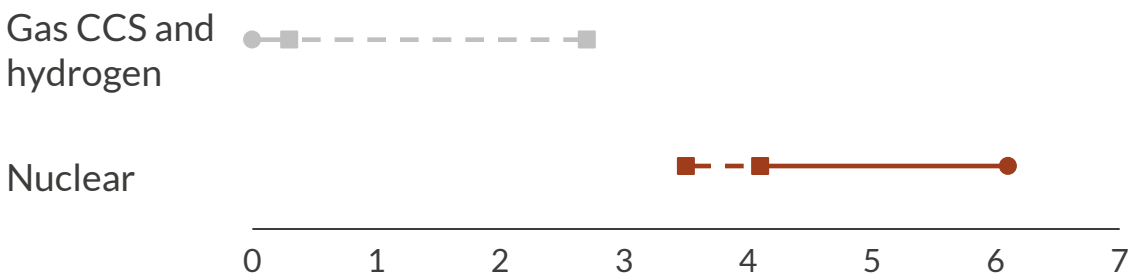
Renewable capacity projections

GW



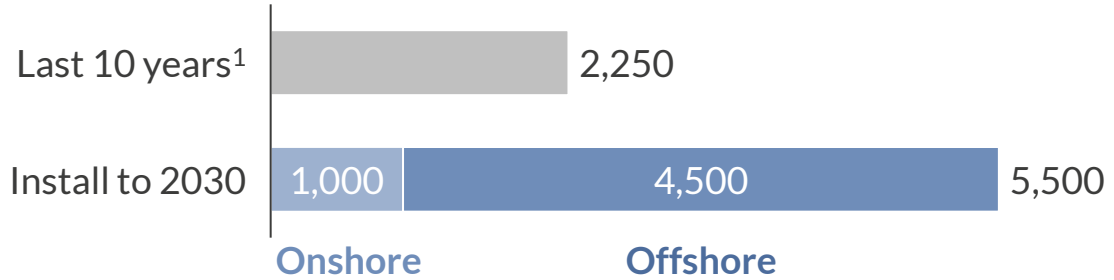
Low-carbon dispatchable capacity projections

GW



Grid deployment projections

Km



1) Implied newbuild grid length based on claims made in the NESO CP2030 report.

Sources: Aurora Energy Research, NESO, DESNZ

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A typical household energy bill was over £1800/year in Q2 2025

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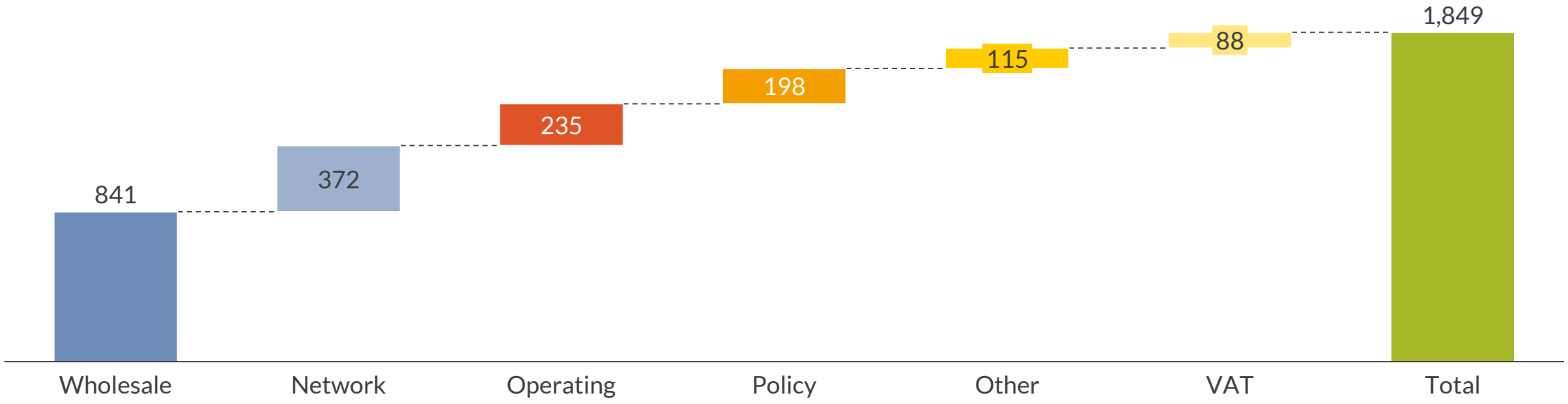
Typical household bill - Ofgem energy price cap (Q2 2025)
£/household/year



Labour policies will 'help families save up to £300 off their energy bills by 2030.'

Labour's first steps for change
Keir Starmer, Jun 28, 2024

Reducing energy bills in the near term will be challenging

Cost component	Likely future cost direction
Wholesale costs	
Network costs	
Supplier operating costs	
Policy costs	
Other costs	
VAT	

Challenges

Timelines of delivering new energy infrastructure

Renewables demand higher upfront capital

Political priorities

Dependence on international gas imports

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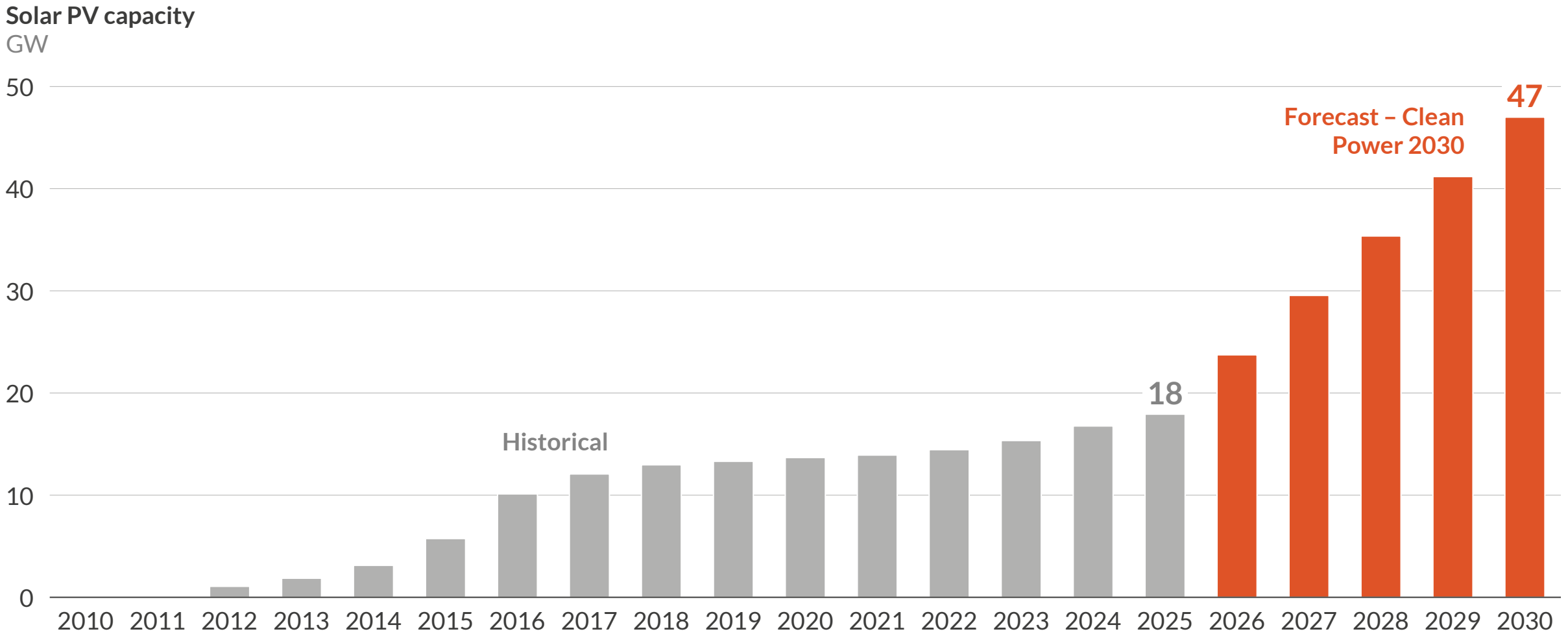
The Government wants to accelerate solar development rapidly to hit the Clean Power 2030 target



Sources: Aurora Energy Research, DESNZ,

Solar capacity worldwide is growing exponentially, driven by rapidly declining costs

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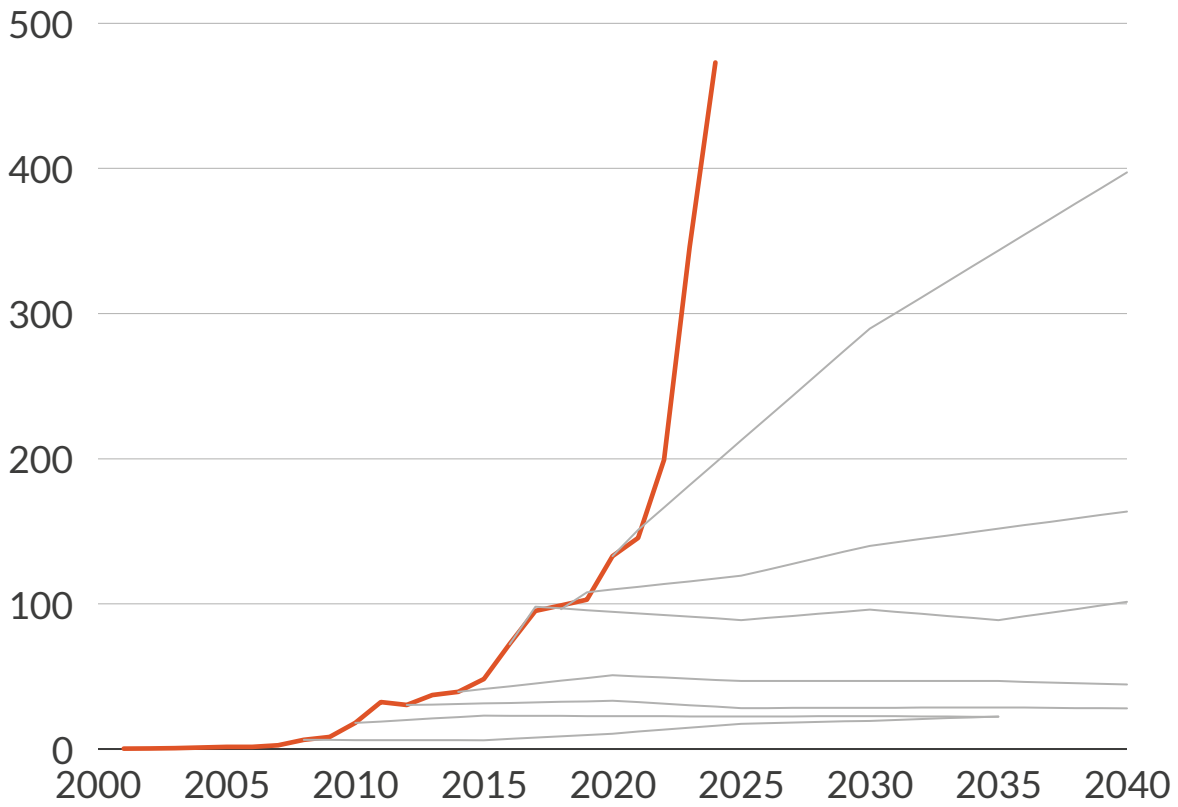
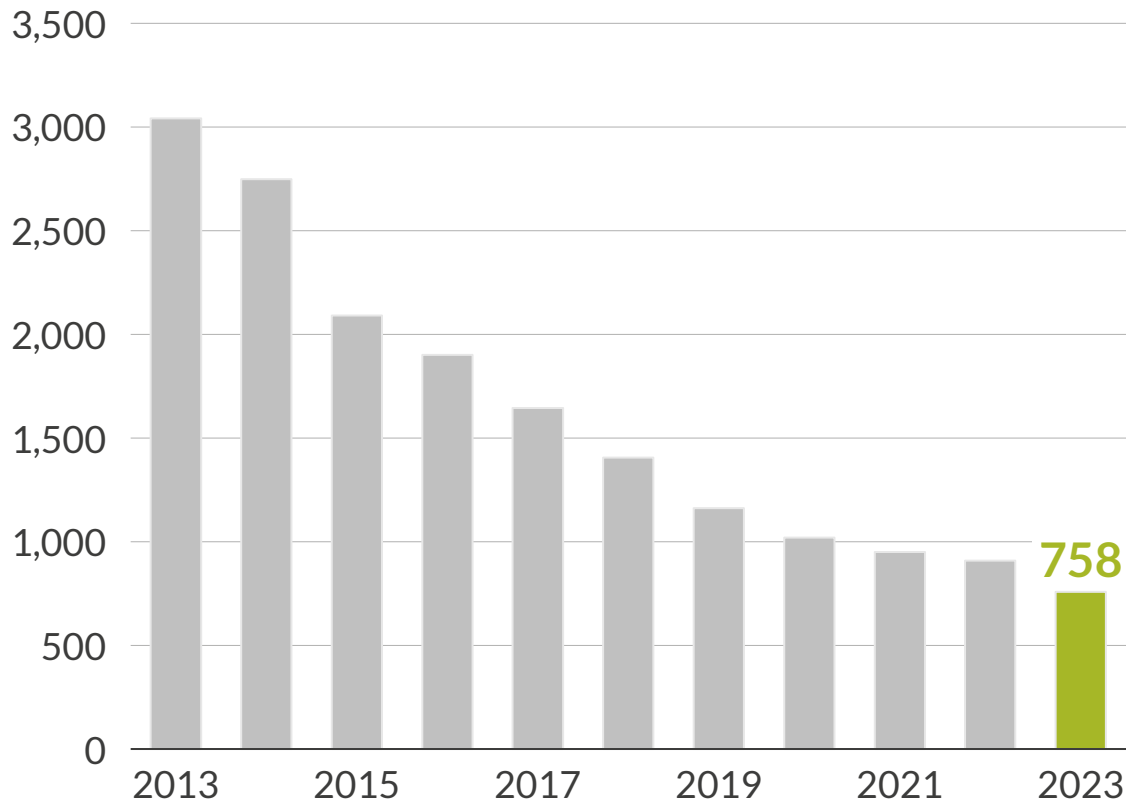
Annual global solar PV additions

GW



Global solar PV CAPEX

$/kW (real 2023)



Actual — IEA 2010 — IEA 2012 — IEA 2014 — IEA 2016 — IEA 2018 — IEA 2020 — IEA 2022

Sources: Aurora Energy Research, IRENA, IEA

Commercial behind-the-meter solar installations are a growing market opportunity

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Selected benefits of behind-the-meter solar installations

Lower electricity costs

✓ Costs can be agreed below current wholesale price levels

Sustainability and ESG

✓ Green electricity reduces dependence of the grid and can lower scope 2 emissions

Lower volatility

✓ Agreements provide cost visibility over several years

Excess power sales

✓ Excess power can be sold back to the grid via the smart export guarantee

Example: Great British Energy has invested £180m in solar power for hospitals and schools

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BBC NEWS

Schools and hospitals get £180m solar investment

- 11 schools have installed solar panels, saving £175,000 per year

Great British ENERGY

Great British Energy's first major project will be to help our vital public institutions save hundreds of millions on bills to reinvest on the frontline. Great British Energy will provide power for pupils and patients

Great British Energy to cut bills for hospitals and schools
Ed Miliband, March 21 2025

The system requires more demand flexibility as we move to a renewables-based system

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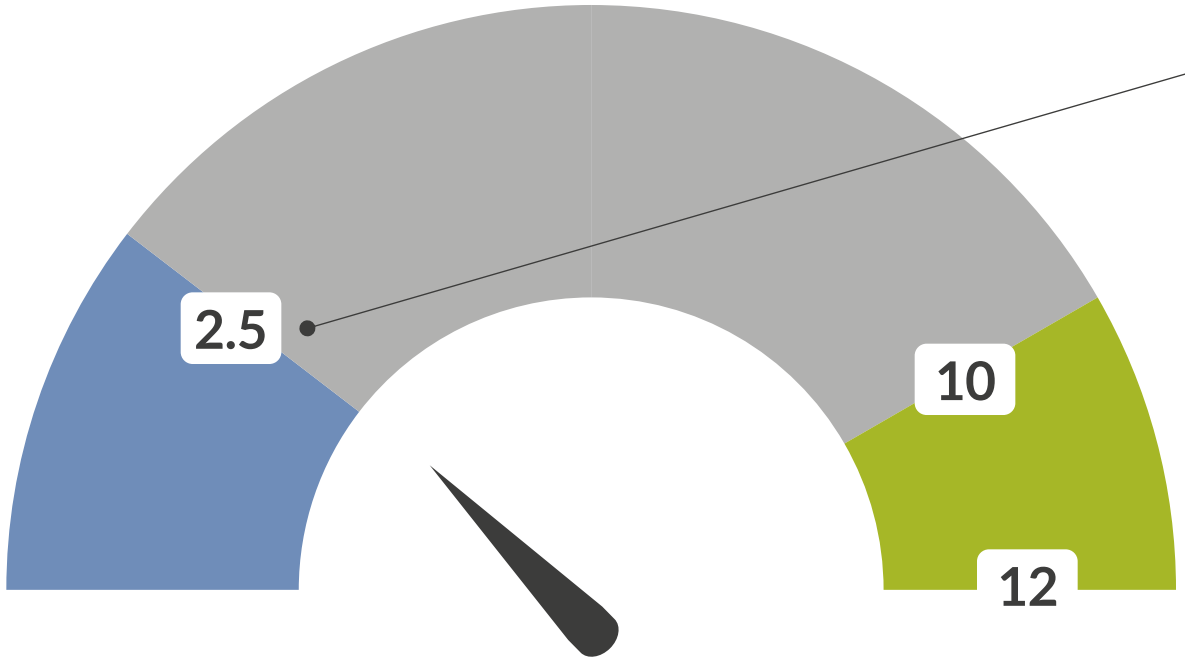
Clean Power 2030 target - consumer led flexibility

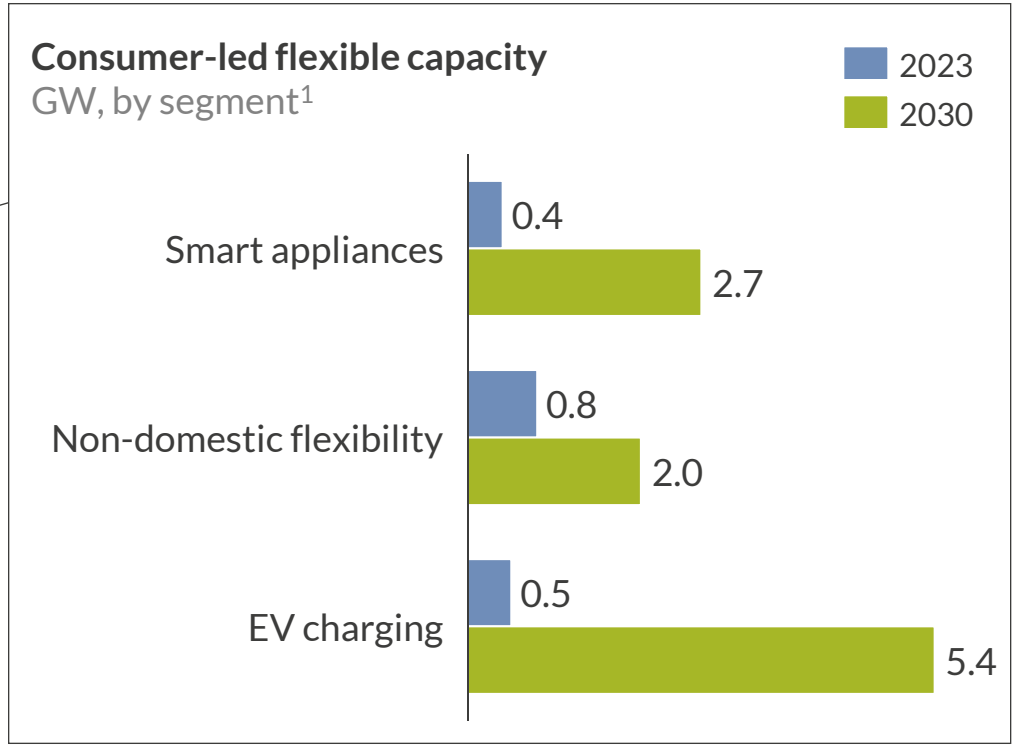
GW



2023 capacity Clean Power 2030 range

Consumer-led flexible capacity

GW, by segment[1]



1) Not all segments shown

Commercial and industrial demand flexibility is a small but growing market

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Overview of distributed demand-side flexibility

Flexibility procurer- Distribution System Operator (DSO)

e.g. UKPN, NG DNO

Flexibility Service Provider (FSP)

e.g. Enel X Flexitricity, Kraken Flex

Commercial consumer

e.g. EV charging infrastructure owner

FSP overview

- Flexibility service providers **optimise demand usage on behalf of customers** using power when it is cheapest, saving consumers money and helping to balance the grid

Flexitricity

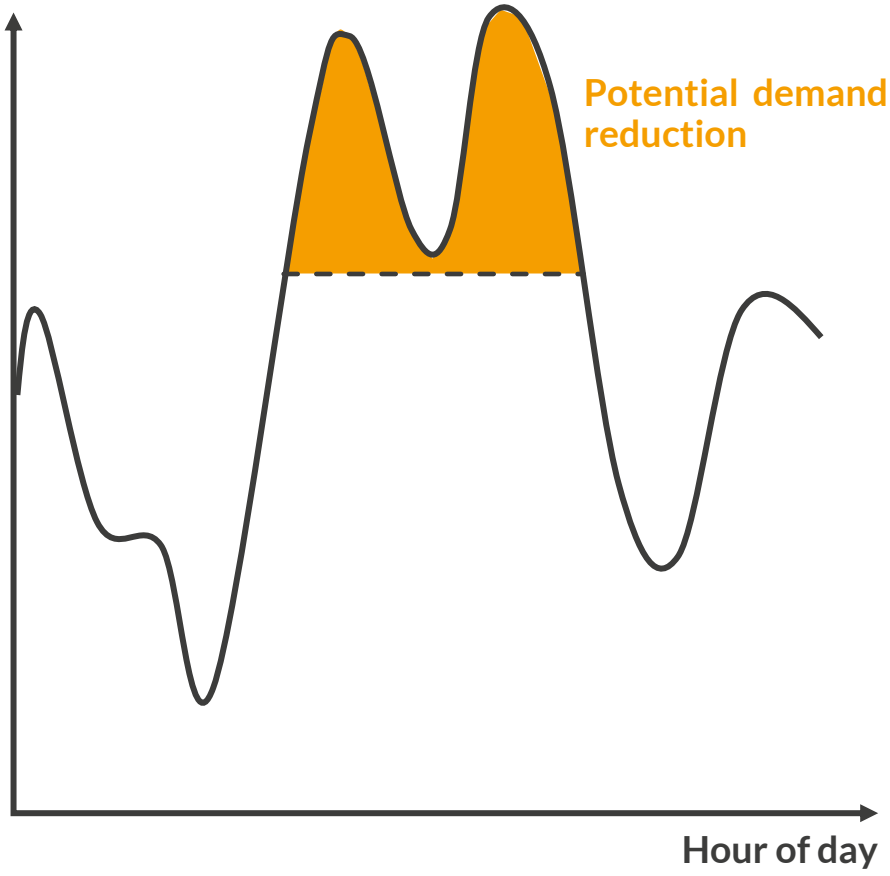
KRAKEN FLEX

Commercial consumer overview

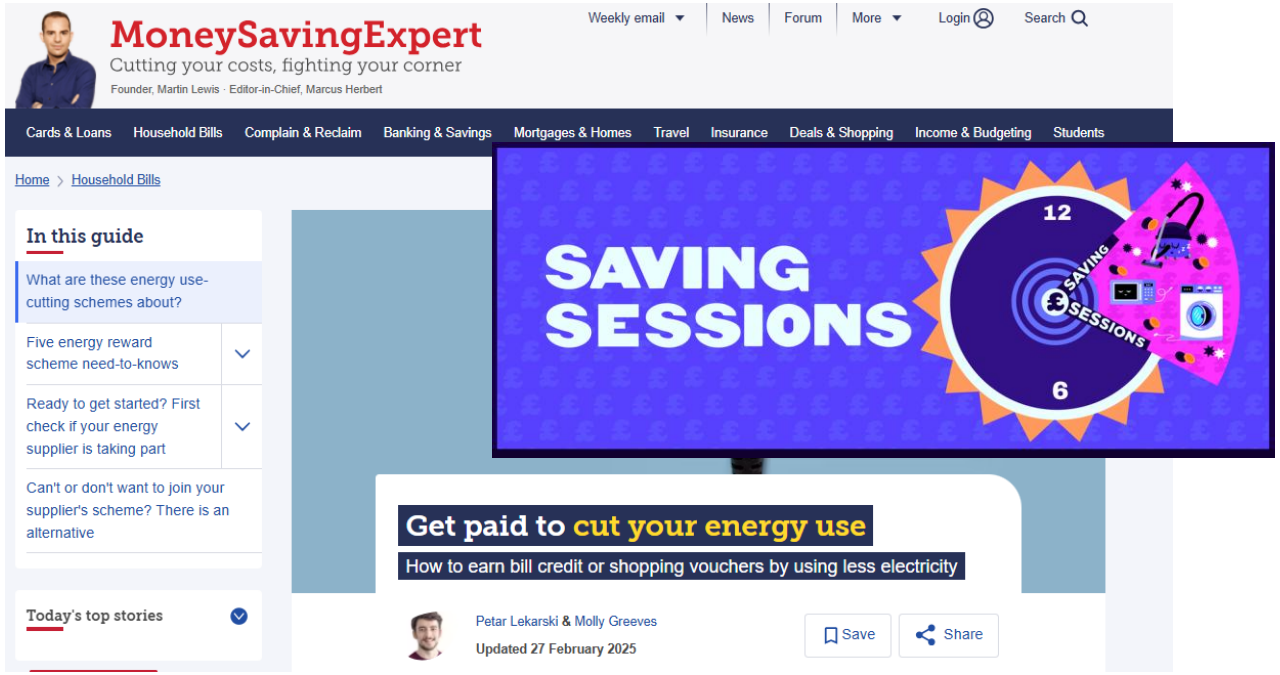
- C+I demand flexibility can be offered by:
  - EV chargers
  - Behind-the-meter generation (e.g. solar+batteries, diesel generators)
  - Electric heating

Example: Octopus home saving sessions have allowed customers to save money during peak hours

Power demand by time of day
Illustrative



2.2 million sign up to Demand Flexibility Service



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Conclusions

1. The GB power sector has massively transformed in the past 10 years. Power demand has consistently fallen year on year, whilst generation from renewables, in particular from wind, have displaced gas and coal in the generation mix.

2. The Government's Clean Power 2030 Action Plan presents a holistic trajectory of the power sector over the next 5 years. The plan envisages a huge expansion in renewable generation, with gas expected to contribute less than 5% of total generation.

3. Sharply declining costs, alongside strong policy targets make behind-the-meter solar generation and demand flexibility increasingly attractive opportunities as the power sector continues to decarbonise.

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