Sustainable Ferriby 2025

A year of progress in low cost, low carbon energy, and community energy

Have a go at our quiz
https://forms.office.com/e/kpM5Hp6KiP

Sustainable Ferriby C.I.C.

Agenda

Keynote: Sustainably Good News

- What did we learn in 2024

Heat pumps

- What, why, how

Empowering Sustainable Homes

- Government Fully Funded Schemes (Warm Homes)
- Solar, battery storage and tariffs

North East and Yorkshire Net Zero Hub

- GB Energy, communities, policy and Yorkshire

Ferriby Sustainability Forum update

- Community Energy, getting involved

Q&A panel session

Sceptic to convert

- The road to sustainability

Coffee break

- Get yours from the bar

Simon Hudson

Ferriby Sustainability Forum

Background

- Founded 4 companies
- Microsoft MVP
- Entrepreneur in Residence, University of Hull
- Physics BSc and post grad physics and chemistry

Real Life

- Solar PV (2011 + 2021)
- Smart Home (2016)
- EV (2020)
- Battery (2021 + 2023)
- Heat pump (2019)
- Geek

https://linkedin.com/in/simonjhudson/

https://noviaworks.co.uk

https://bsky.app/profile/simonjhudson.bsky.social

https://ferribysustainability.co.uk

https://www.meetup.com/m365-north/

Microsoft® Most Valuable Professional

Housekeeping

- 📵 Set your mobiles to stun.
- 🚻 Toilets are through the door to the left of the stage - help yourselves as and when.
- 🔥 If we have anything dramatic happen exit the main doors or through the back.
- ☕ Ask at the bar if you need anything, they are lovely folk there to help.
- 💬 There will be breaks – talk to each other; ask the speakers for insights (they have lanyards with what they are experts in), look at the stands or whatever.
  - You can ask me anything!

2024 – it wasn't great

- Inflation
- Cost of living
- Climate disaster, global warming
- Politics
- EV adoption
- Unachievable NetZero
- Paris agreement breach

2024 was the hottest year on record

- Global temperatures exceeded 1.5°C above pre-industrial levels

World Meteorological Organization

Global energy demand rose by 2.2%

- Driven by:
  - Record global temperatures, which boosted demand for cooling in many countries
  - Rising consumption from industry
  - Electrification of transport
  - Growth of data centres and artificial intelligence

Misinformation Playbook

Fear

Uncertainty

Doubt

Media narrative

- Headlines vs. reporting

Social Media

- Lies for hire
- Social manipulation

Opinion
Fact

- Appeal to ignorance

Moribund political desperation

- Appeal to the extreme minority

2025 – A New Dawn

Keynote
Sustainably Good News

Simon Hudson

Sustainable Ferriby Community Interest Company

UK Energy 2024

A record amount of clean power was produced:

- 144.7 terawatt hours (TWh) renewables, 6.5% up vs. 2023
- Total 185.2TWh (65%) low carbon sources (renewables + nuclear)

Wind generation increased to a record 84.1TWh (32%)

Up from 28.1% due to higher wind speeds and increases in capacity.

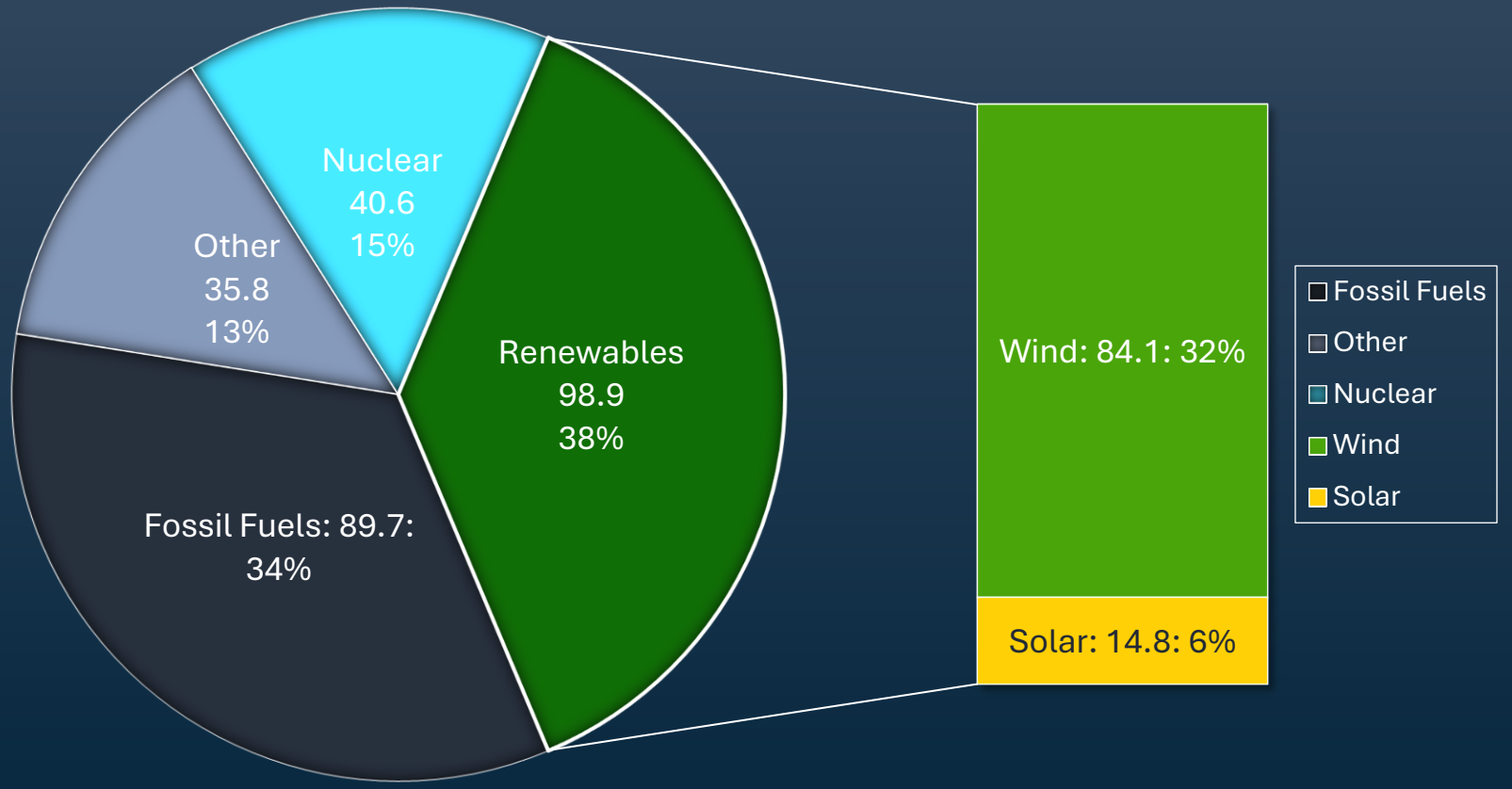
- Offshore wind:17.2% (48.9TWh)
- Onshore wind: 12.3% (35.1TWh)

Solar: 6% (14.8TWh)

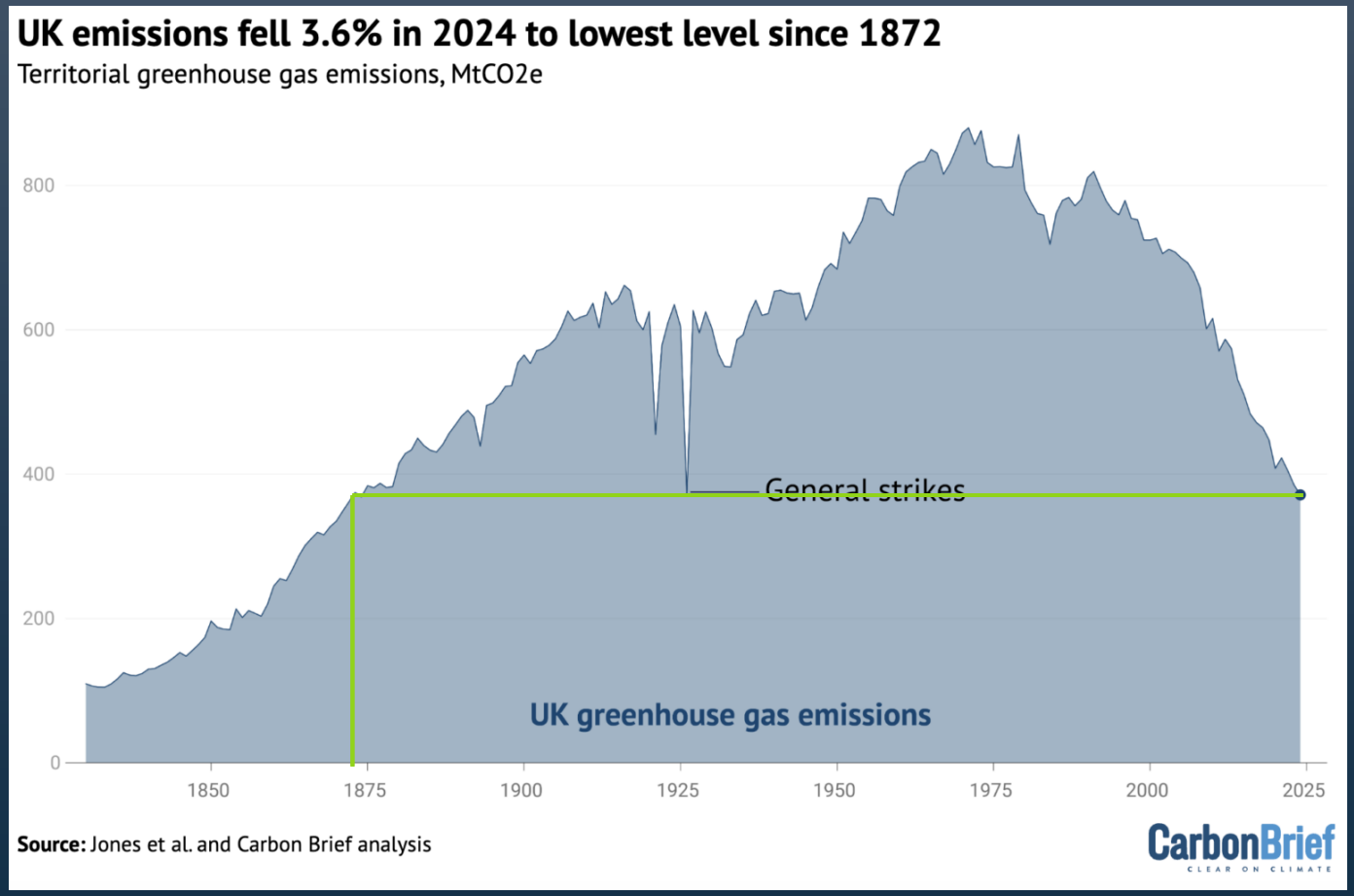
Nuclear: 15% (40.6TWh)

Fossil fuels fell to levels last seen in the 1950s at 31.5% (89.7TWh)

Generation (TWh)



Emissions UK



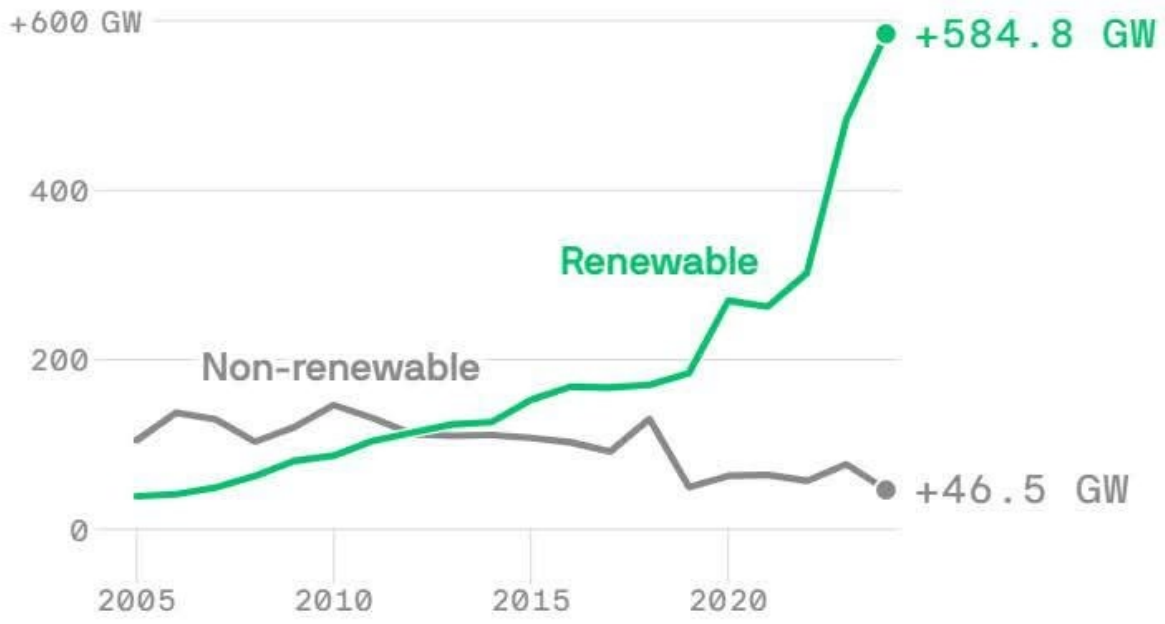
- **UK at lowest CO_2 from electricity generation since 1872**

- CO_2 emissions in advanced economies fell by 1.1% to 10.9 billion tonnes in 2024
  - a level last seen 50 years ago, despite countries have 3x greater GDP.

Renewables

Change in global power capacity, by source

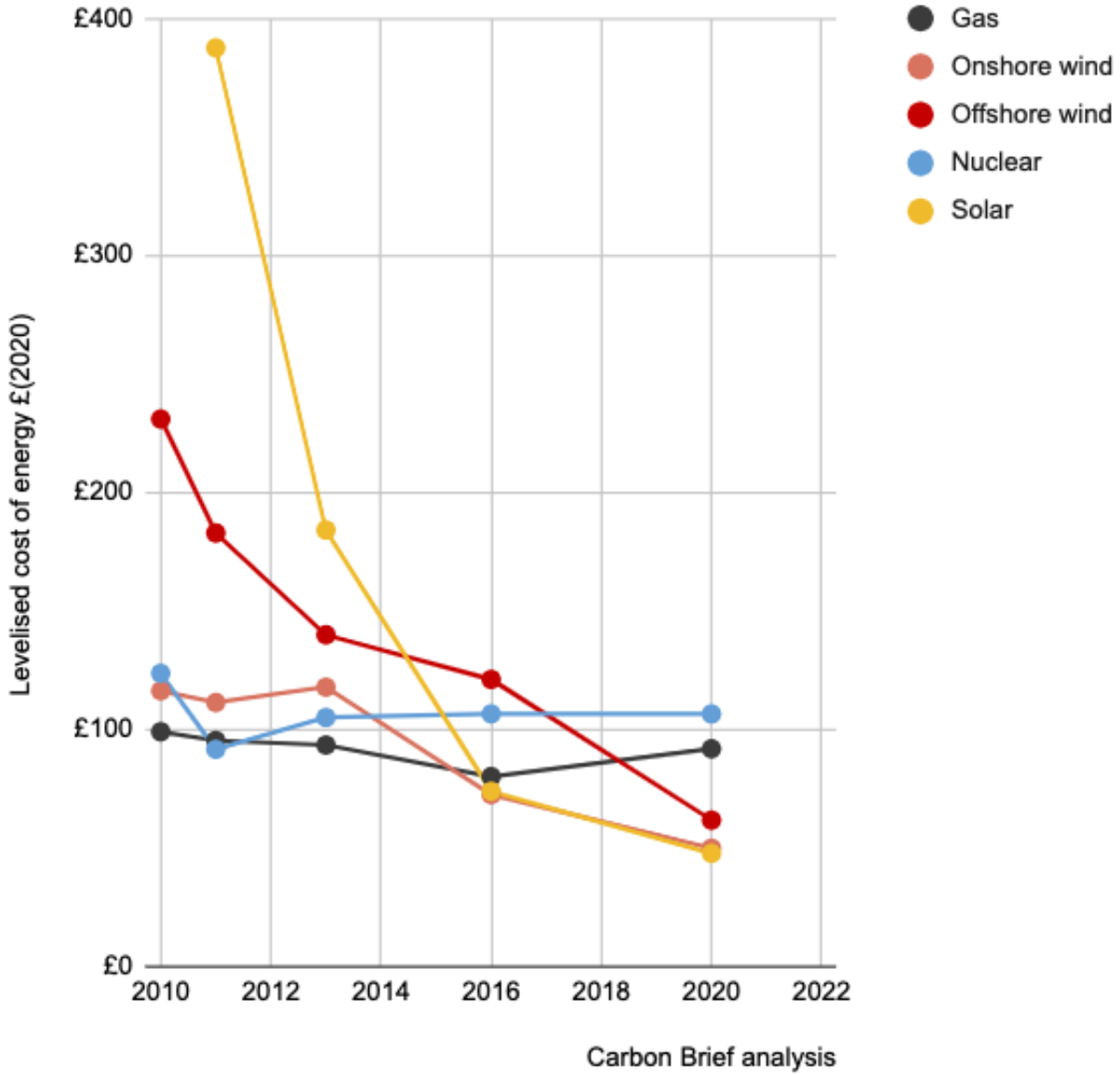
Annually; 2005–2024



Data: IRENA; Chart: Axios Visuals

Solar is now 88% cheaper than thought a decade ago, UK govt says – and half its estimate for gas power

Levelised cost estimates are down 57% for onshore and 73% for offshore wind

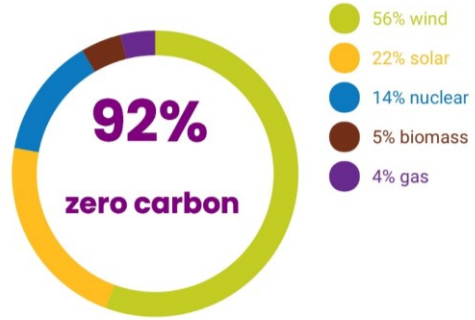


UK energy g…

Wind = G… … Gone

NESO UK last week

GB generation mix



When to use

Our carbon impact

UK

Highlights

66% Share of clean electricity

36% Share of solar and wind

34% Share of electricity from fossil fuels

In 2024, the United Kingdom generated 66% of its electricity from low-carbon sources, significantly higher than the global average of 41%. The country is the 16th largest by electricity demand.

Fra…

Highligh…

94% Share of clean electricity

6% Share of electric… from fossil fuels

94% of Franc… generated fr… sources in 2… average of … largest cour… demand.

EU

…ts

29% Share of solar and wind

…ity

…ropean Union's …as generated from …es in 2024, above the global average of 41%.

China

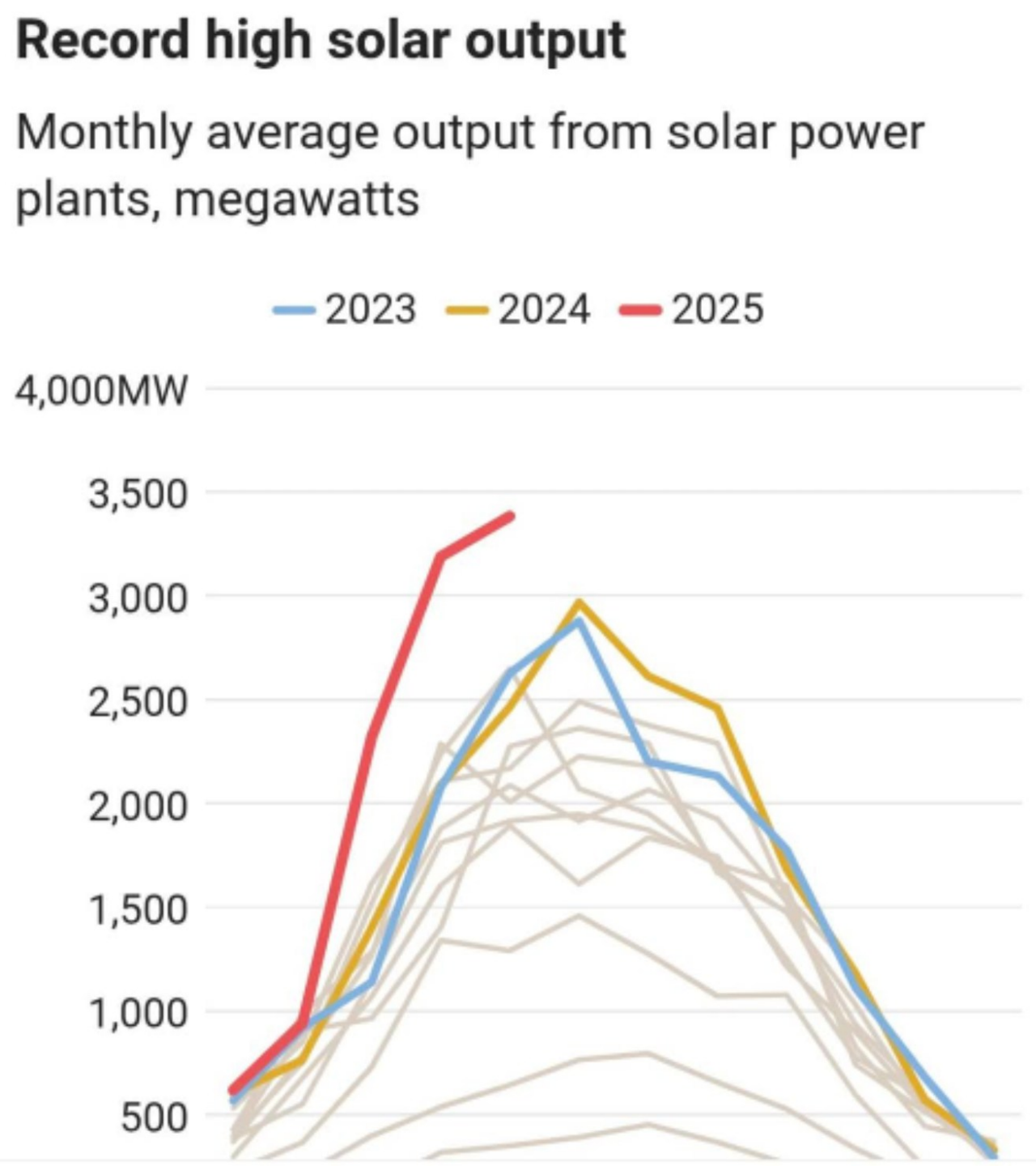
Highlights

38% Share of clean electricity

18% Share of solar and wind

62% Share of electricity from fossil fuels

38% of China's electricity was generated from low-carbon sources in 2024, just below the global average of 41%. It was the largest country by electricity demand.



Solar PV

There are **1.5M homes** with solar

Domestic installations increasing at 3 times rate of businesses

- 7.6 TWh Jan – May 2025
  - Offset ~16TWh (10%) of imported gas, costing £600m
- Peak (average): 3.4 MW
- Actual peak: 13.2GW (6th April; 40% of UK demand)

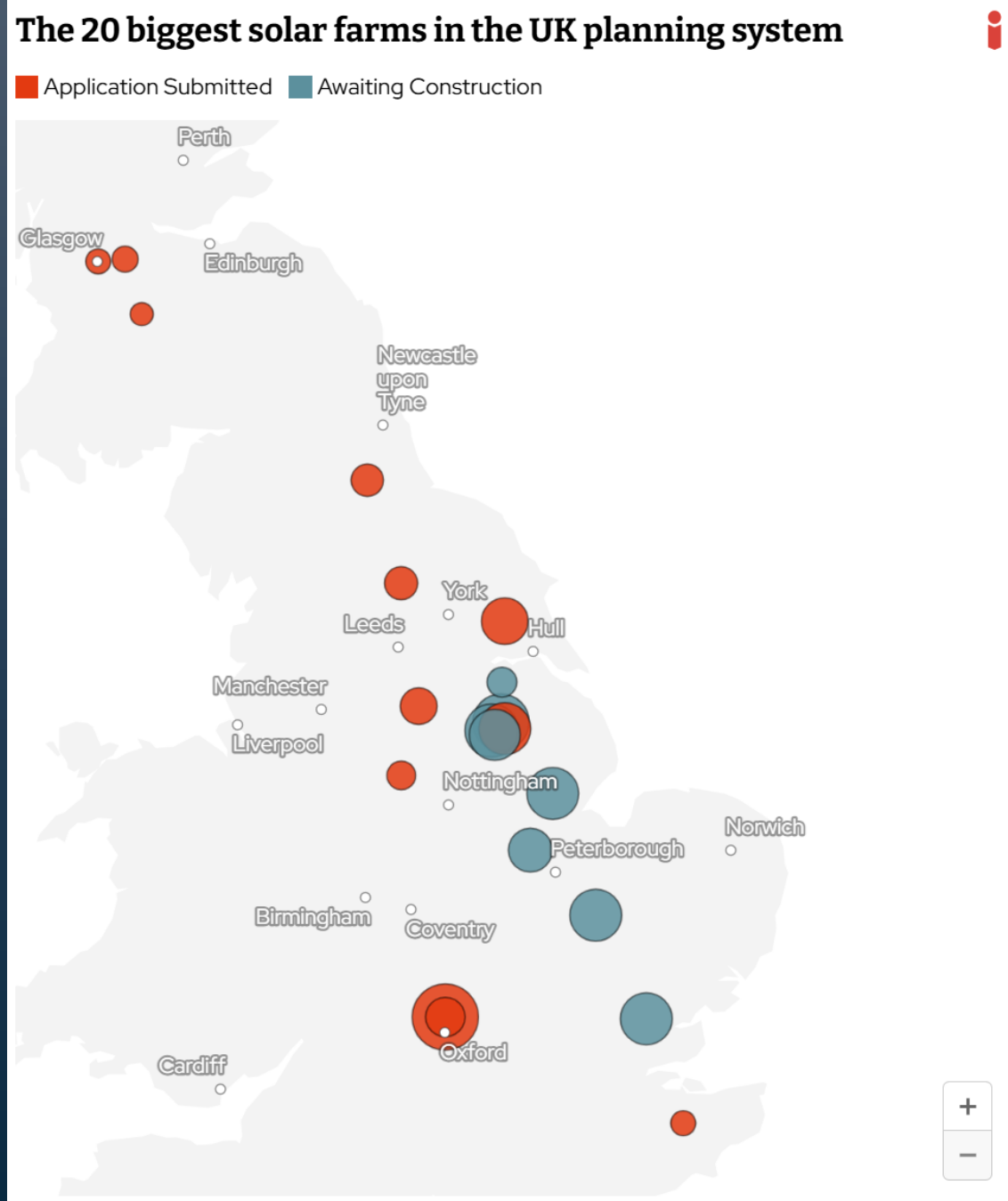
Solar is the cheapest source of energy in the world, per MWh

Carbon Brief analysis of figures from the National Electricity System Operator (NESO).

Solar PV

- 50% more solar generation capacity in 2025 vs 2024
  - 2/3rd from ‘ground-mounted’ solar farms
  - 1/3rd from split rooftop panels on households and businesses.
- UK’s solar capacity now 20 gigawatts
  - ~5% of UK electricity generation.
- 3,500 solar farms in the planning system
- Over the next five years HM Government promise to triple this to ~55 GW

“We have seen an absolutely astonishing rise of solar installations in Britain and also globally. That’s because the cost of solar has plummeted. It has become so cheap that some solar panels are now cheaper than roof tiles or fence panels.”



https://inews.co.uk/news/environment/uks-solar-revolution-mapped-3500-projects-pipeline-3585370

Analysis of roofing costs - slate vs solar panels

Base cost:

- In-roof solar panels £32m^2
- Slate £26m^2

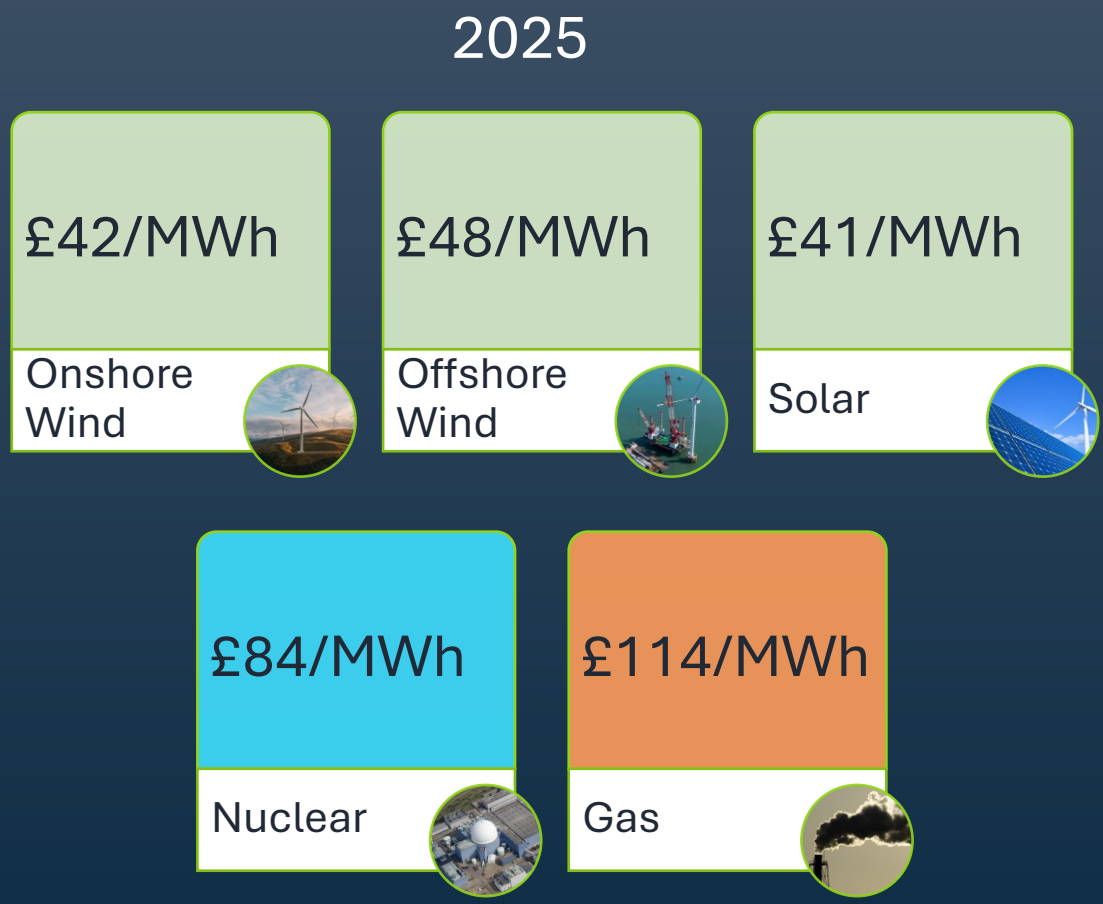
With installation:

- ~ £100m^2 for both
  - Solar includes trays for panels, wiring & inverter

Impact

The cost per unit of electricity from solar is to fall to £41 per MWh.

- Compared to
  - £114 for gas
  - £43 for both onshore and offshore wind.



Department for Energy Security and Net Zero (DESNZ)
https://www.gov.uk/government/publications/electricity-generation-costs-2023

Impact

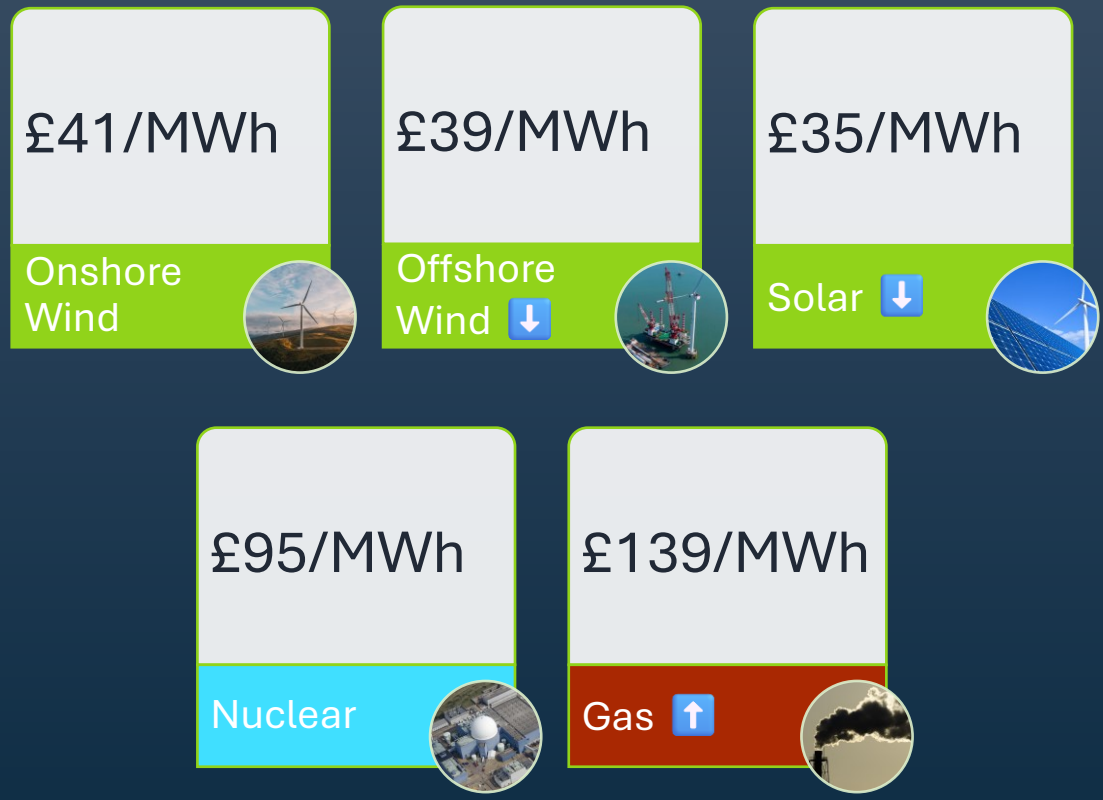
The cost per unit of electricity from solar is to fall to £41 per MWh.

- Compared to
  - £114 for gas
  - £43 for both onshore and offshore wind.

By 2030 solar will have fallen to about £35 per MWh

- Gas is expected to rise to £140

2030



Department for Energy Security and Net Zero (DESNZ)
https://www.gov.uk/government/publications/electricity-generation-costs-2023

Global perspective

40% of total global generation came from non-carbon sources for the first time.

- New renewable power capacity installed rose to **700 GW**
  - A new annual record for the 22nd consecutive year.
  - New nuclear capacity was 5th highest level in last 30 years.
- 80% of the increase in global electricity generation in 2024 was provided by renewables and nuclear

China installed more renewables that the rest of the world combined

Adoption of clean energy limited rise in CO_2 emissions to 0.8%

CO_2 increases becoming decoupled from economic growth.

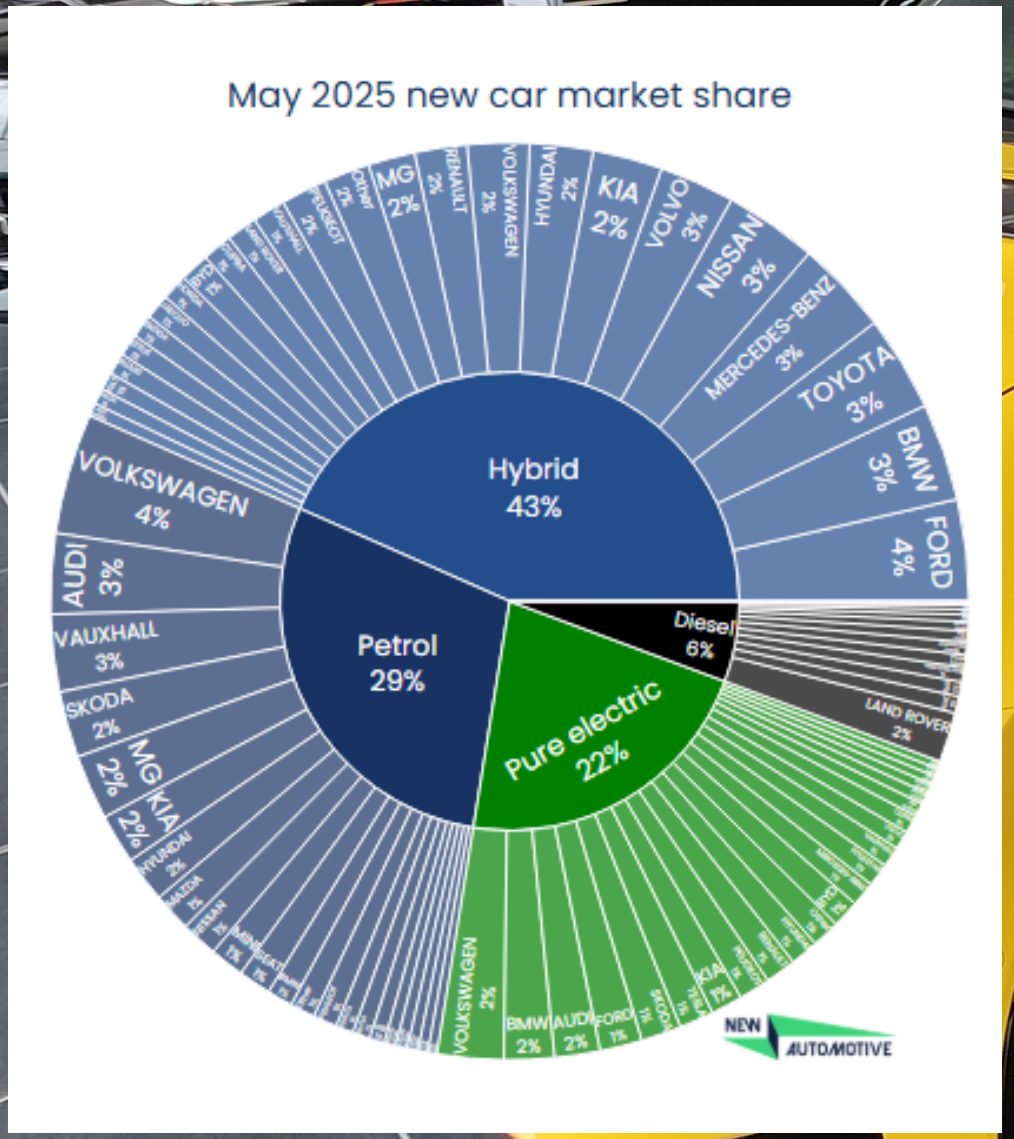
Record temperatures contributed rise in global CO_2 emissions.

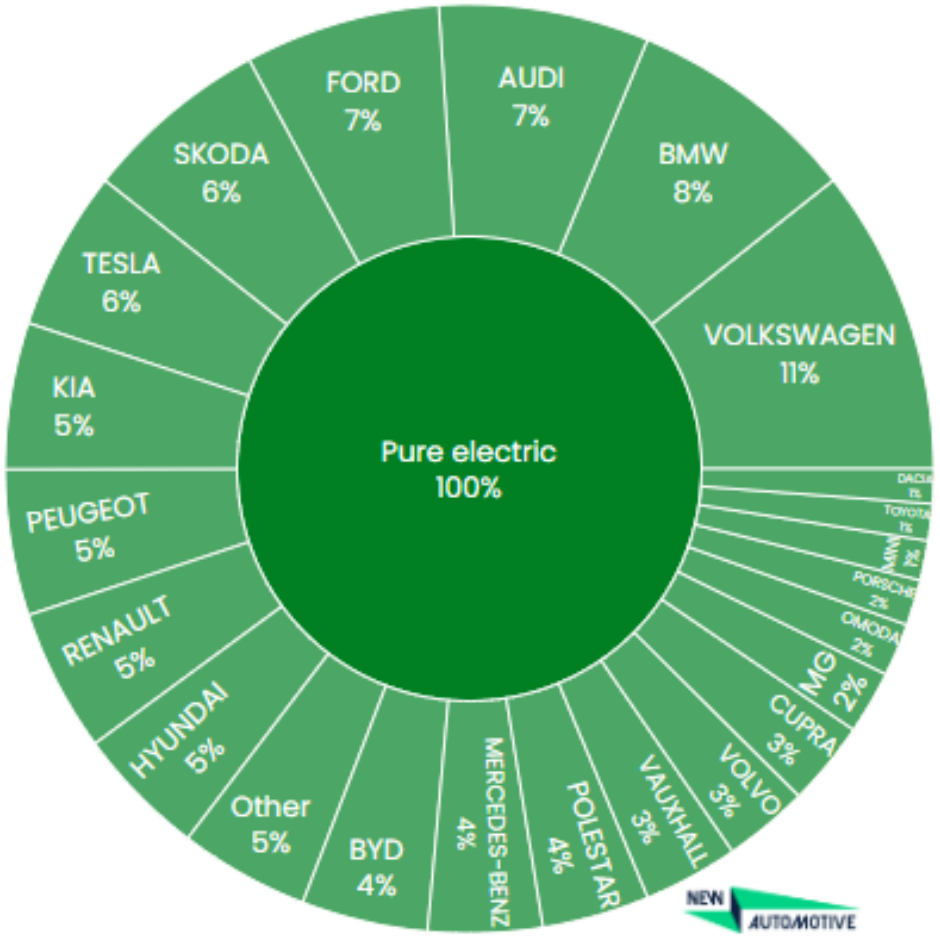
Global use of solar PV, wind, nuclear, electric cars and heat pumps avoids 2.6 billion tonnes of CO_2 annually

- 7% of global emissions

https://www.iea.org/news/growth-in-global-energy-demand-surged-in-2024-to-almost-twice-its-recent-average

EVs


May 2025 new car market share
Hybrid 43%
Petrol 29%
Pure electric 22%
Diesel 6%
VOLKSWAGEN 4%
AUDI 3%
VAUXHALL 3%
SKODA 2%
MG 2%
KIA 2%
HYUNDAI 2%
MAZDA 1%
NISSAN 1%
MERCEDES-BENZ 1%
MINI 1%
SUZUKI 1%
HONDA 1%
PEUGEOT 2%
DS AUTOMOBILES 1%
RENAULT 2%
VOLKSWAGEN 2%
HYUNDAI 2%
KIA 2%
VOLVO 3%
NISSAN 3%
MERCEDES-BENZ 3%
TOYOTA 3%
BMW 3%
FORD 4%
BMW 2%
AUDI 2%
FORD 1%
SKODA 1%
LAND ROVER 2%
NEW AUTOMOTIVE


May 2025 new car market share
Pure electric 100%
VOLKSWAGEN 11%
BMW 8%
AUDI 7%
FORD 7%
SKODA 6%
TESLA 6%
KIA 5%
PEUGEOT 5%
RENAULT 5%
HYUNDAI 5%
Other 5%
BYD 4%
MERCEDES-BENZ 4%
POLESTAR 4%
VAUXHALL 3%
VOLVO 3%
CUPRA 3%
MG 2%
OMODA 2%
PORSCHE 2%
MINI 1%
TOYOTA 1%
DACIA 1%
NEW AUTOMOTIVE

Electric Vehicles

https://www.zap-map.com/ev-stats

1,538,000 EVs in the UK

(+ 843,000 PHEVs)

4.5% of ~34 million cars in the UK

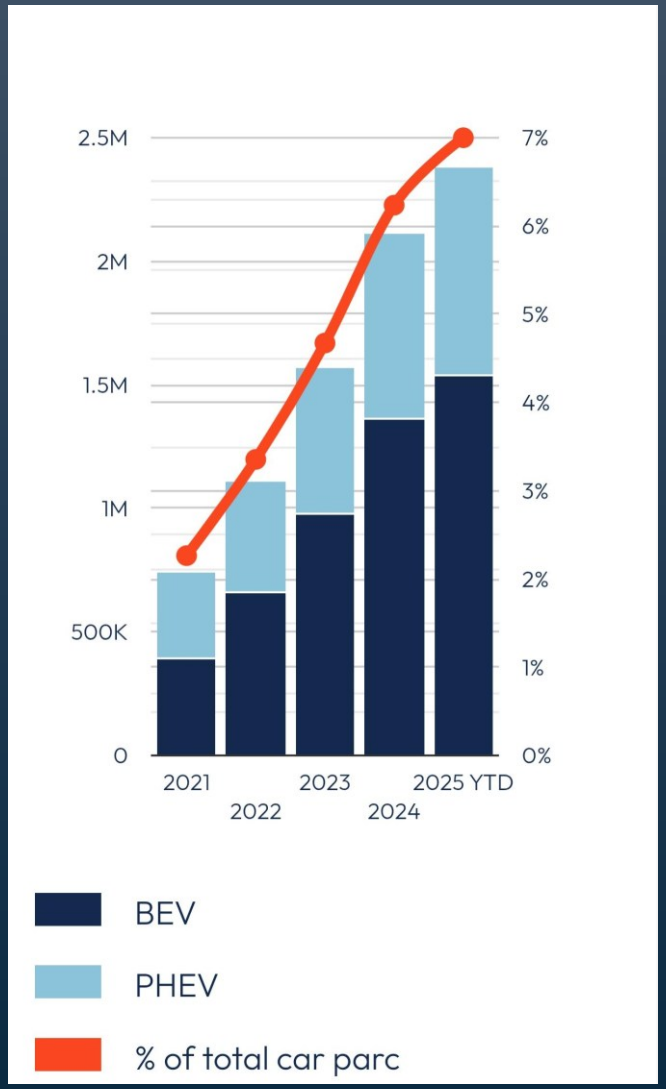
May 2025

177,487 EVs sold this year

(up 37,718 on last year)

21.8% of cars sold in May were BEVs

(32,738 were fully electric and 17,898 were plug-in hybrids.)



New EVs coming to the UK in the next 12 months

Model	Retail Price	Range (miles)	Bidirectional V2X Charging
Renault 5 Techno	£28,000	200	Yes
Peugeot e-3008	£52,000	435	Yes
Fiat Grande Panda EV	£22,000	160	No
Vauxhall Frontera	£23,495	155	Yes
Audi Q6 e-tron Sportback	£61,975	315	Yes
Renault 4 Techno	£28,995	247	Yes
Alpine A290	£36,000	220	Yes
Alpine A390	£75,000	280	Yes
BMW iX3	£65,000	350	Yes
BYD Sealion 7	£40,000	320	Yes
Caterham Project V	£85,000	250	No
Citroen e-C3 Aircross	£29,000	200	Yes
Cupra Raval	£34,000	210	Yes
DS No8	£40,000	240	Yes
BYD Surf	£18,000	136	V2L

Chinese cars

"Chinese carmakers exist in this highly competitive market. While they're beholden to Chinese law and that may require compliance with national security agencies, none of them want to damage their ability to grow and to have international exports by being perceived as a security risk," he says. "The Chinese government equally is conscious of the need for economic growth. They're not hell-bent on solely conducting surveillance."

Joseph Jarnecki,
Research fellow at The Royal United Services Institute

Pros

- Extremely good value
- Great build quality
- State of the art tech
- Great supply chains and support
- No worse than the US and currently more stable

Batteries and charging

$99 /kWh in 2025
40% 🔽 vs 2022

Price

- Run your house from your car

Bidirectional

- 65% of homes have off street parking
- Street charging increasing
  - Metal Channels 1,200
  - Pop-Up Chargers 800
  - Lamp-Post Chargers 5000
  - Bollard Chargers 800

Off street parking

30% reduction in Cobalt containing EV batteries to **31% in 2024.**

Forecast is below **10% in the future**.

Removal of cobalt etc.

EV charger installations no longer require planning permission

- https://www.autocar.co.uk/car-news/electric-cars/ev-charger-installations-no-longer-require-planning-permission

Urban charging

A family doing 70 miles/week only needs to plug in for an evening once per week

UK has over **150 thousand places** for EVs to charge**:**

- 108,000 public connectors
- 33,000 workplace chargers
- 9,200 shared home chargers

Time taken to fuel a petrol car

Drive to petrol station…

1. Arrival and Parking: Average 2-3 minutes for a car to find a free pump.
2. Fuelling Time: Time to dispense fuel is typically 3-5 minutes for petrol (4-6 minutes for diesel)
3. Payment and Departure: 2-3 minutes

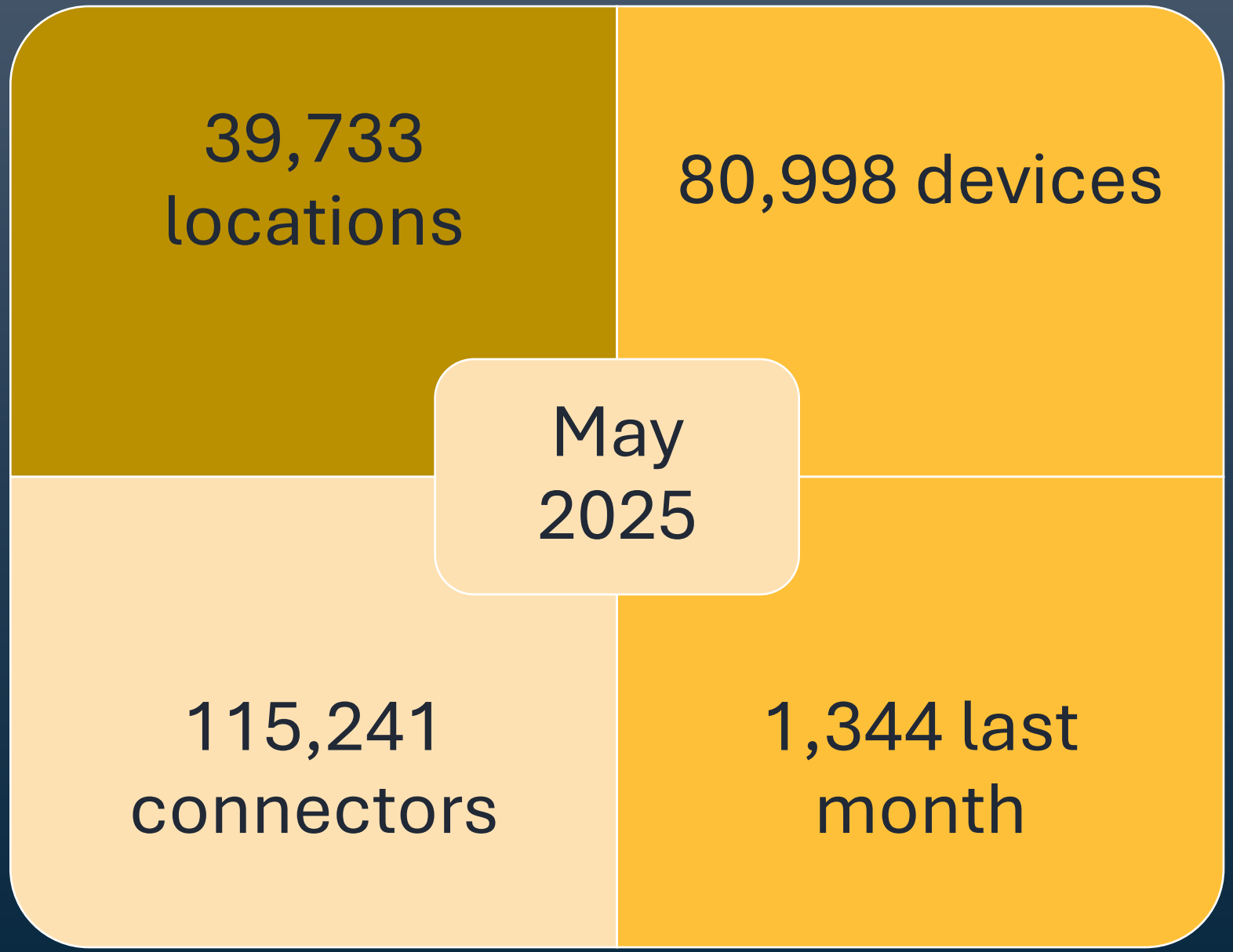
7 – 11 minutes

Breaking news

EV charger installations no longer require planning permission

- https://www.autocar.co.uk/car-news/electric-cars/ev-charger-installations-no-longer-require-planning-permission

The Exemption from Value Added Tax (Public Electric Vehicle Charging Points) Bill had it's second reading in parliament yesterday



Political climate

"UK Government Shifts to Proactive Sustainability: From Cautious Policy to Bold Net Zero Commitments"

Dozens of solar farms that are ‘ready-to-go’ to jump the queue for a connection to the UK’s electricity system.

£200M earmarked for solar on schools, hospitals and community groups.

- https://www.theguardian.com/environment/2025/mar/21/government-absolutely-up-for-the-fight-over-net-zero-ed-miliband-says

GB Energy

3 June 2025	First schools install Great British Energy solar panels
24 April 2025	£300 million boost for UK clean energy industry
11 June 2025	Rolls-Royce chosen by Great British Energy to build SMRs in UK

DEZNZ Headline findings report, Winter 2024

Net zero and climate change

Overall awareness of the 2050 Net Zero target was 91%, remaining broadly stable since Winter 2021. Knowledge (knowing a lot or a fair amount) increased to 53%.

80% of people said they were very or fairly concerned about climate change, with 37% very concerned.

Concern about climate change was higher among older people aged 65 and over (43% compared with 32% - 35% in age groups 16 to 44) and people with a degree (48% compared with 30% of those with no qualifications).

TV news was the most reported source used to get information on tackling climate change (60%), followed by social media (40%), TV and radio documentaries and podcasts (39%) and newspapers or newspaper websites (39%).

The most common topics people wanted to know more about were reducing energy consumption at home (48%) & choosing environmentally friendly products (43%)

Overall, 38% of people agreed that the UK is a global leader in tackling climate change, 21% disagreed and 30% did not provide an opinion either way.

69% said that it was important that the UK is a global leader in tackling climate change, while 23% said it was not important.

Renewal energy

82% of people supported using renewable energy like wind, solar, and biomass for electricity, fuel, and heat).

Levels of strong support for renewable energy were:

Highest in the South West (60%) and Yorkshire and the Humber (58%),	Lowest in the North East (40%), East of England (42%), East Midlands and Wales (both 43%).

60% said they were aware of Great British Energy (GBE), only 12% reported knowing a lot or a fair amount about it.

Awareness of GBE was most reported in Scotland (67%) and the East of England (66%); in contrast awareness was lowest in Northern Ireland (46%).

Challenges

Energy Transition & Net Zero Goals

- The UK must accelerate its shift to renewable energy while balancing grid stability and affordability.

Gas marginal cost pricing set electricity cost

- Electricity prices are set by the most expensive generator needed to meet demand at that time, which is often a gas-fired power plant. Even though renewables provide a significant share of electricity really cheaply, the final price is determined by the last unit of electricity needed, which tends to be gas.

Zonal Pricing

- Aims to reduce grid congestion and incentivize local generation, but concerns over fairness, investment uncertainty, and potential price disparities make it one of the most divisive energy policy discussions in years

Climate Resilience & Infrastructure

- Extreme weather events demand better flood defenses, sustainable urban planning, and green building initiatives.

Corporate Sustainability Reporting

- Stricter ESG regulations require companies to improve carbon transparency and supply chain accountability.

Balancing AI Growth with Sustainability

- The rise of AI-driven industries is increasing data center energy consumption, posing challenges for sustainability.

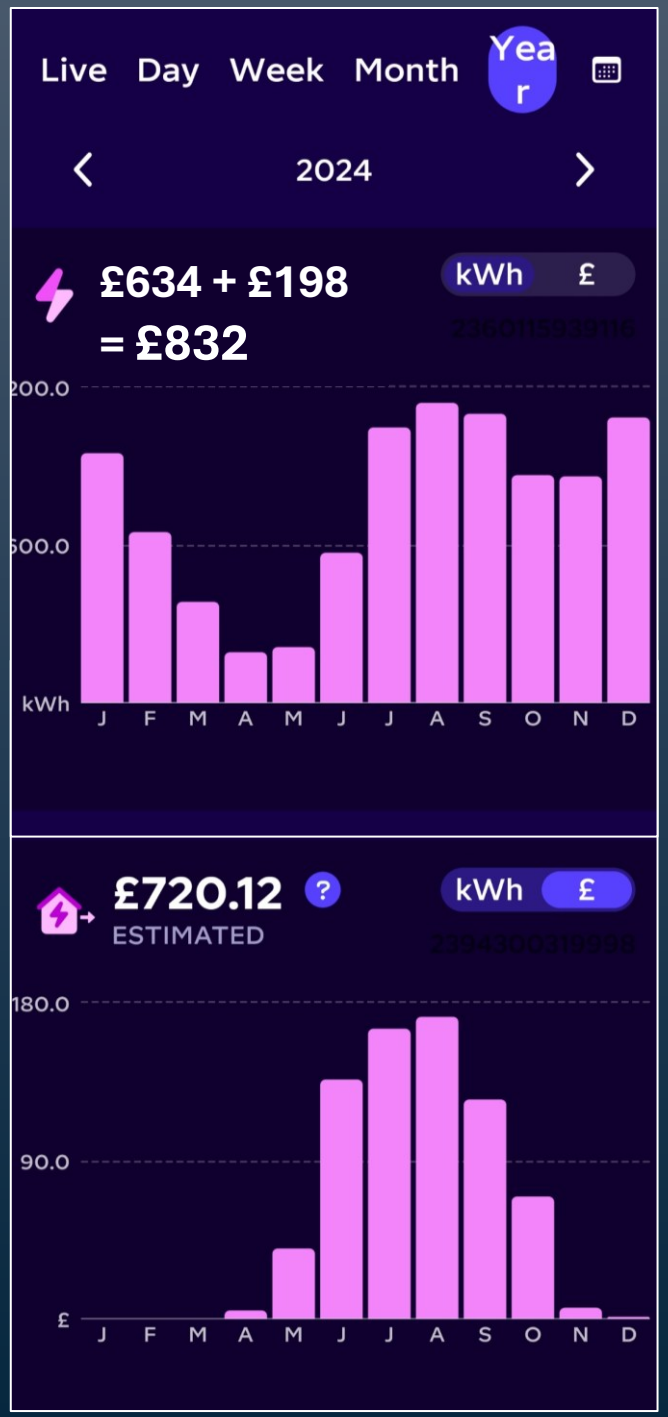
Good climate news this week

8th June

- 1,000-mile EVs delete range anxiety
- Global 2025 energy investment to hit record $3.3tn
- New South Korea President to boost renewables and re-start coal closures
- China’s Ministry of Ecology and Environment and 14 other departments issue joint plan for national standard system to respond to climate change
- Deforestation in Colombia down 33% in early 2025
- Solar across 9 largest solar producers in Eastern Europe has grown at over twice the pace of Europe as a whole over the past 5 years
- UK solar power surges 42% after sunniest spring on record
- Total's promotion of fossil gas under fire in France’s first greenwashing trial against an oil company
- €500bn German asset managers divests all of its holdings in Exxon, accusing the company of insufficient commitment to climate targets
- New law in Japan fines employers if they fail to protect workers from extreme temperatures
- EU's climate science adviser European Scientific Advisory Board on Climate Change warns bloc against watering down climate targets

Haven energy use 2024

Haven energy use 2025



Live: https://app.netzero.energy/ and https://global.solaxcloud.com/blue/#/overview

Walk, cycle or drive – carbon emission choices

It's revealing to compare the carbon emissions of EVs, walking, cycling, and horse riding. The results are surprising, except when compared with fossil fuel vehicles.

May 28, 2025

Public transport vs EV. Which should you use?

We are told to use public transport rather than drive; it's better for the environment and road congestion. But what if you drive an EV. We look at the data.

May 25, 2025

Choosing the right tariff

Shifting to sustainable energy solutions like heat pumps, battery storage, and solar panels can significantly reduce household emissions. Choosing the right energy tariff is essential for maximizing savings and sustainability. The article reviews effective tariffs for energy-efficient homes and offers insights on optimizing energy usage to combat climate change effectively. This article helps you make...

May 20, 2025

How Lifestyle Choices Shape Carbon Footprint: The Biggest Ways to Cut Emissions

Reducing greenhouse gas emissions is one of the most effective ways individuals can combat climate change. While governments and industries play a massive role in

Funding your sustainability journey

Investing in green home improvements can be financially rewarding, with quick payback periods and potential home value boosts of up to 14%. Solar PV

Sustainable Ferriby 2025

SUSTAINABLE FERRIBY 2025 is a community workshop on sustainable homes and how to lower your energy costs and carbon footprint. Presentations, Q&A discussions, and panel sessions on topics such as

Find out more

- Visit the SF site
  - https://ferribysustainability.co.uk
- Talk to us
- Visit us

- Join Solar & battery UK (Facebook)
  - https://www.facebook.com/groups/2197329430289466
- Read ZapMap report
  - https://www.zap-map.com/ev-stats/ev-market
- Look at Carbon Brief

Sustainable Ferriby 2025 Participation Survey

- Please engage with us via our survey.
- We'll ask several more times today…