

The Net Zero landscape

What Net Zero means for your organisation



1. What Net Zero is and why it matters
2. UK Net Zero contexts
3. Achieving Net Zero
4. How EDF is supporting the UK journey to Net Zero
5. How EDF and NEPO can support you

Please feel free to post any questions in the Q&A or Chat functions at any point during the call

A photograph in the top-left corner shows a young girl with curly hair, wearing a white patterned shirt, holding a small green plant. In the background, other people are visible in a field under bright, sunny conditions. The photo is framed by orange diagonal lines.

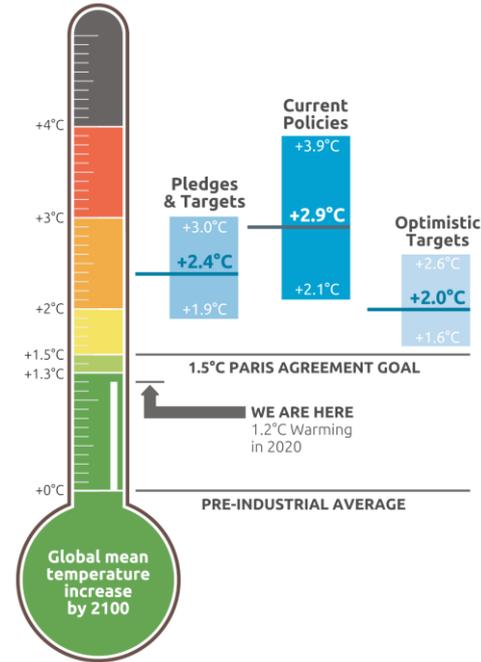
What Net Zero is and why it matters

Limiting global warming to 1.5°C



- Average global temperatures have risen by around 1°C, almost entirely caused by human activities that emit greenhouse gases (GHGs)
- The IPCC 2018 report warned that global warming of 1.5°C would result in risks to natural and human systems, including ecosystems, wildlife, sea level rise, food and water security, and human health and well-being.
- To avoid the worst effects of climate change, global GHG emissions would need to roughly halve by 2030 and reach **net zero** by 2050.

There is still a substantial gap between what governments have promised to do under the Paris Agreement and the total level of targets and actions they have undertaken to date.



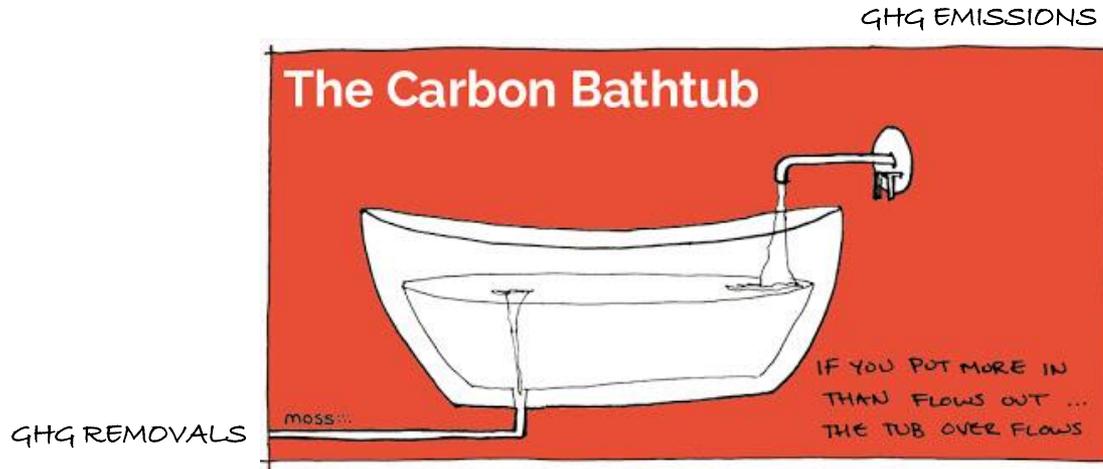
CAT warming projections
Global temperature increase by 2100

May 2021 Update

What is Net Zero?



Net Zero means balancing *overall* greenhouse gases (GHG) to zero. So, for every gram of GHG emissions you put into the atmosphere, you take a gram out.



'Achieving a state in which the activities within the value chain of an organisation result in no net impact on the climate from greenhouse gas emissions. This is achieved by **reducing value chain greenhouse gas emissions, in line with 1.5°C pathways**, and by **balancing** the impact of any **remaining greenhouse gas emissions with** the appropriate amount of **carbon removals**.

Source: Science Based Targets initiative

Source: [The Grantham Research Institute on Climate Change and the Environment](#)

A decorative graphic in the top-left corner featuring a photograph of a modern glass skyscraper with a bright sun flare, set against a white background with two diagonal orange stripes.

UK's Net Zero contexts

Green industrial revolution



- In spite of the global pandemic, calls for real climate action and a green recovery are increasing. In order to meet **2050 commitments**, we must ramp up our ambitions now. It has become a far more central part of planning for the next 30 years, in order to reach Net Zero for 2050.
- In 2020, the government published three key documents, one of these being The Ten Point Plan for a Green Industrial Revolution. The **Ten Point Plan for a Green Industrial Revolution** covers clean energy, transport, nature and innovative technologies, the blueprint sets out the approach government will take to build back better, support green jobs, and accelerate the UK's path to Net Zero.



Point 1
Advancing Offshore Wind



Point 2
Driving the Growth of Low Carbon Hydrogen



Point 3
Delivering New and Advanced Nuclear Power



Point 4
Accelerating the Shift to Zero Emission Vehicles



Point 5
Green Public Transport, Cycling and Walking



Point 6
Jet Zero and Green Ships



Point 7
Greener Buildings



Point 8
Investing in Carbon Capture, Usage and Storage



Point 9
Protecting Our Natural Environment



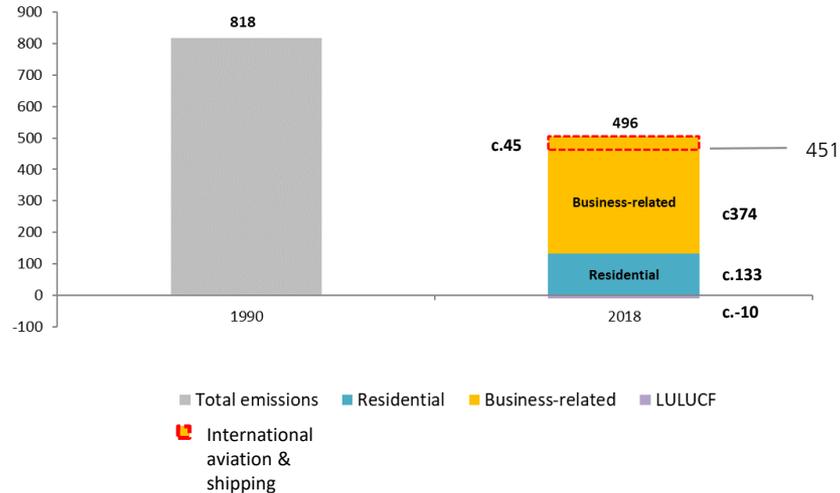
Point 10
Green Finance and Innovation

The UK has committed to net zero by 2050



Around 75% of UK territorial GHG emissions are related to “business-related” activity:

UK Territorial GHG Emissions (MtCO₂e):



Sources: Total emissions figures for 1990 and 2018 are based on BEIS and CCC data. The breakdown of business related and household emissions is based on EDF Energy analysis combining emissions & consumption data from BEIS, DUKES, National Grid-FES and DfT with emissions statistics from BEIS & ONS. Due to discrepancies across different emissions statistics, there are uncertainties around the categorisation and allocation of emissions. *Land Use, Land-Use Change and Forestry (LULUCF)

A mixed generation future



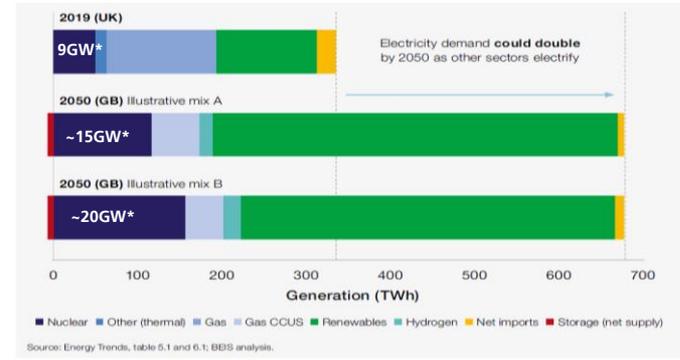
The government's recently announced its energy white paper. Within this they indicate that a combination of **renewables, nuclear and flexibility** are required to help the UK achieve Net Zero.

- Electrification will result in an approximately **doubling of electricity demand** compared to 2019. Renewables will provide the bulk (in particular offshore wind).
- Variable renewables cannot achieve deep power sector decarbonisation alone; **other forms** of firm low-carbon generation are needed like **nuclear** which offers a reliable baseline for low carbon electricity.
- Two illustrative 2050 mixes shown, both with very high renewables and **15 and 20GW of nuclear**, respectively, and follow up modelling uses two scenarios with 21GW and 31GW of nuclear.
- A smart, more flexible energy future will bring significant benefits to customers and the wider economy.

It's all in the governments Energy White Paper



ELECTRICITY MIX TODAY AND ILLUSTRATIVE 2050 MIXES



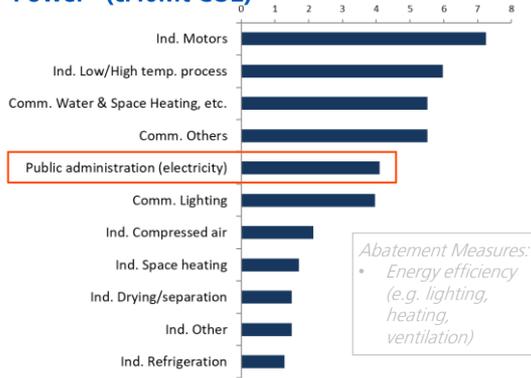
*GW capacity source: EDF

Where business can make a difference

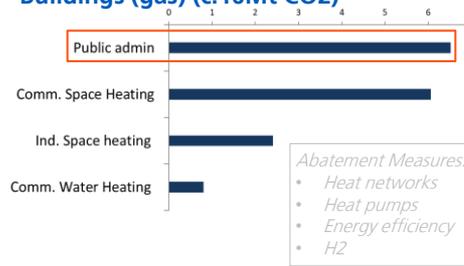


Business accounts for c.374Mt (c.75%) of UK emissions, Mt CO₂e

Power* (c.40Mt CO₂)

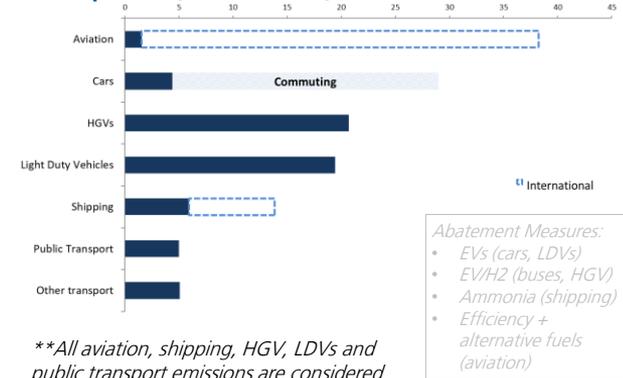


Buildings (gas) (c.16Mt CO₂)



Key: UoM = Mt CO₂

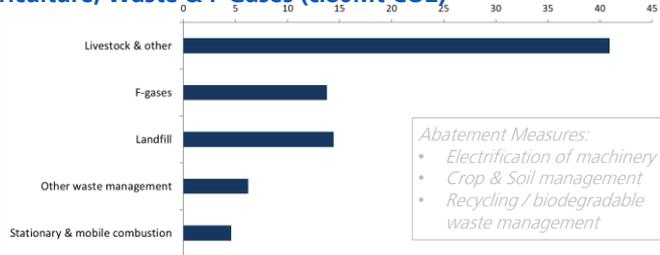
Transport** (c.131Mt CO₂)



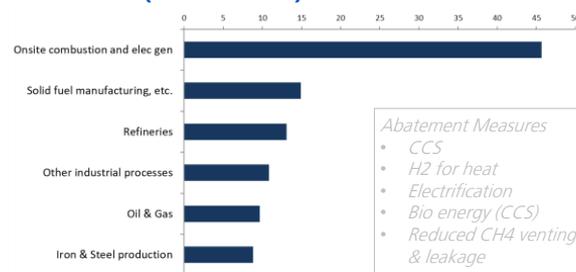
*Does not include EV charging as minimal impact today

**All aviation, shipping, HGV, LDVs and public transport emissions are considered business related in addition to business mileage from cars.

Agriculture, Waste & F Gases (c.80Mt CO₂)



Industrial (c.103Mt CO₂)



Sources: EDF Energy analysis combining emissions & consumption data from BEIS, DUKES, National Grid-FES and DfT with emissions statistics from BEIS & ONS.

CCC: UK's 6th Carbon Budget



Another of the key documents published in 2020 was by the **Committee on Climate Change's** sixth carbon budget.

The UK government has agreed to legislate a new target to reduce national emissions supporting the CCC recommendation of a **78% reduction in UK territorial GHG emissions by 2035**. This requires reducing demand and improving efficiency, deploying low carbon solutions, expansion of low carbon energy and offsetting emissions

Timescales:

- **By 2025**, reductions front-loaded to create investment to help COVID recovery
- **By 2030**, zero carbon investments, 100% car electric, 1m heat pump installs each year, 11m insulation measures each year, 40GW offshore installed, 5 Carbon Capture and Storage (CCS) clusters, meat consumption fallen 20%
- **By 2035**, electricity system grown 50%, zero carbon electricity, 14m home insulations, heat pump installation, CCS widespread, meat consumption reduced 25%
- **By 2050**, plant new woodland, 100GW of offshore wind, low carbon hydrogen for transport and industry produced electrolysis, biomass CCS, genuinely net zero society

CCC RECOMMENDS A 78%
REDUCTION IN UK TERRITORIAL GHG
EMISSIONS BY 2035 – REQUIRING
ACTION ACROSS 4 KEY AREAS:

REDUCING DEMAND
and improving efficiency

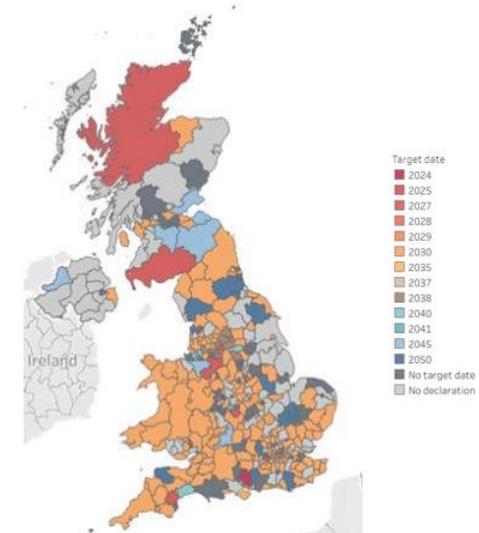
TAKE UP
of low carbon solutions

EXPANSION
of low carbon energy

OFFSETTING
emissions

- Over 300 local authorities have declared Climate Emergencies of which a third have developed delivery strategies and action plans
- Local authorities are responsible for 2 – 5% of local emissions but has significant influence an area's emissions through place-shaping and leadership.
- Around a third of the UK's emissions are dependent on sectors that are directly shaped or influenced by local authority practice, policy or partnerships.
- The sector is at the forefront for calls for a resilient, green recovery from the pandemic.
- In England and Northern Ireland, there is no overall plan on how local authorities fit into delivering Net Zero. The Scottish and Welsh administrations have stronger frameworks and support systems in place to work effectively in step with their local authorities.
- Decisions now could lock in emissions beyond the 2020s.
- Regional and cross-boundary coordination and cooperation is needed for transport, waste, energy and heat planning to prevent a fragmented strategy for net zero.

Figure 1.1 Local Authority climate emergency declarations



Source: Map by Aethor (2020) Progress towards UK local climate emergency targets based on Climate Emergencies declared as at October 2020.
Notes: dates shown are earliest targets, some relate to council emissions rather than area-wide emissions.

[Report published in December 2020](#)

Key actions for local authorities – CCC report



Buildings	Transport	Waste	Electricity generation	Land
<ul style="list-style-type: none"> Maximise opportunities to deliver energy efficiency Develop an energy efficiency and decarbonised heat strategy and action plan for delivery in the 2030s Bring carbon reduction plans for the council estate in line with net zero Provide advice and information to residents and businesses on energy efficiency and low-carbon heating options Support smart meter rollout Adopt net zero local planning policies including requirement for new developments to exceed current buildings standards, especially on council-owned land 	<ul style="list-style-type: none"> Ensure policies and plans support walking, cycling and public transport, and prioritise at the master planning stage for new developments Identify sites for consolidation centres near road links and local micro-consolidation centres Use parking powers to repurpose parking spaced for carb clubs, cycle parking and EV charging Implement low-emission and clean air zones Support broadband and mobile connectivity schemes Promote EV uptake 	<ul style="list-style-type: none"> Follow the waste hierarchy for disposal Plan ahead as waste contracts have long lead-times (10 years) Be aware of GHG emissions from energy from waste plants Buy electric/ H₂ waste and recycling vehicles Separate waste collections Continue to educate the public about waste minimisation Adopt a zero waste procurement policy Support development of circular economy 	<ul style="list-style-type: none"> Prepare local energy plans in partnership with DNOs, neighbours and others Any gas peaking plants consented will have to be decarbonised by 2035 Switch to zero carbon electricity and where possible, ensure purchasing agreements lead to additional capacity being built rather than just buying existing output Local plans should support low-carbon energy Local planning consent repowering of existing onshore wind and develop an onshore wind strategy Support local and community energy and link to energy efficiency behaviours 	<ul style="list-style-type: none"> Prioritise biodiversity net gain alongside emission reductions Support woodland creation and management Increase urban green space Introduce marine management strategies Support green finance initiatives Promote benefits of woodland, wildlife and nature Retain county farms Provide business and modernisation support to farmers and landowners Support peatland restoration Promote healthy eating and increased plant-based diets

A decorative image in the top-left corner showing a field of dandelions at sunset, with the sun low on the horizon and the sky in shades of orange and yellow. The image is framed by a white border and an orange diagonal shape.

Achieving Net Zero

Reductions and removal



Given it is unlikely that all sources of GHG emissions can be eliminated, Net Zero will be achieved through a combination of reductions and removal:

- **GHG emissions reductions** - by lowering the emissions we are sending into the atmosphere, from activities such as industrial processes, power generation, transport and intensive agriculture. We can do this by using less and more efficiently, deploying the low carbon solutions available at scale, expanding on low carbon energy and offsetting emissions to replace GHG emitting activities with clean ones.
- **GHG emissions removal** - using nature-based solutions (e.g. forest preservation, reforestation, soil restoration, sea kelp forests) and technology like carbon capture and storage (So for every molecule of GHG we put into the air, we also take one out, making our net emissions zero.)

NET ZERO WILL BE ACHIEVED WHEN WE ADD NO MORE EMISSIONS THAN THE AMOUNT WE TAKE AWAY FROM THE ATMOSPHERE.



Measuring change



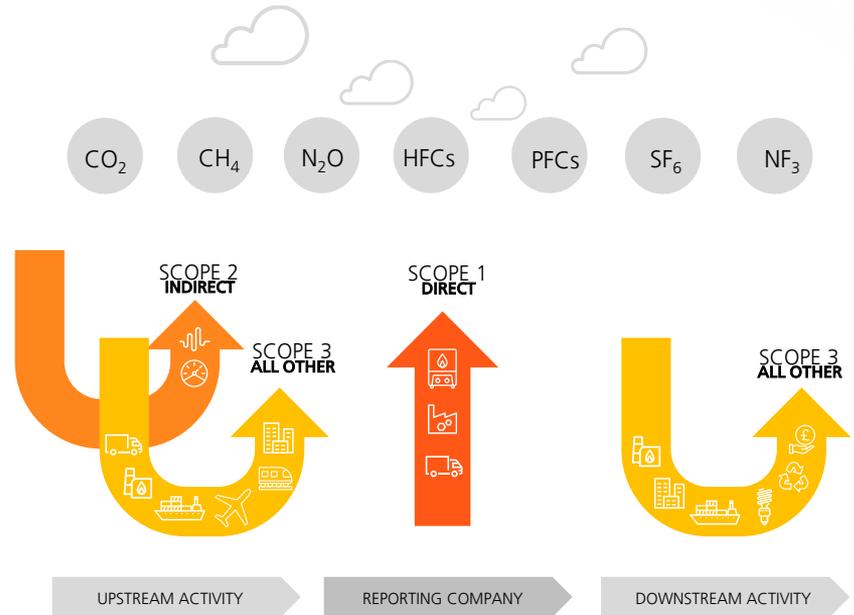
To reach Net Zero, organisations will need to **measure the carbon impact of** what they are doing. The generally accepted approach to accounting for a company's GHG emissions is through the **GHG protocol**. It breaks the emissions down into 3 scopes:



SCOPE 1
DIRECT
COMPANY
EMISSIONS
Emissions from sources that a company owns or controls such as burning of fuels in boilers, manufacturing processes and vehicles

SCOPE 2
INDIRECT
EMISSIONS FROM
PURCHASED
ENERGY
Emissions from the generation of electricity, steam, heating and cooling purchased and consumed by the company

SCOPE 3
ALL OTHER
EMISSIONS IN
VALUE CHAIN
All other emissions that occur in a company's value chain. For most companies, scope 3 emissions accounts for **>80% of their GHG impact**.



Source: GHG Protocol

- Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the **Paris Agreement** – limiting global warming to well-below 2°C above pre-industrial levels and pursuing efforts to limit warming to 1.5°C.

There are several tools available to help local authorities:

- Tyndall Carbon Targeter for UK Local Authorities online tool allows users to calculate a carbon budget for any UK administrative area larger than local authority scale, and set climate change targets which meet the objectives of the Paris Agreement.
- The approach is based on a carbon budget setting approach for local authority areas developed through the BEIS funded Setting City Area Targets and Trajectories for Emissions Reduction (SCATTER) project.
- The P-CAN (Place-based Climate Action Network) Place Profiles helps assess some of the co-benefits such as fuel cost savings and employment creation alongside carbon savings.

Carbon offsetting



The CCC has recommended that:

- All local authorities should prioritise emissions reductions over the use of offsets
- Offsets should only be used for areas where emissions are not avoidable due to lack of technical alternatives
- Beyond 2030, offsets should be permanent removals, demonstrate additionality and promote sustainable development - credibility is key

Use of offsets	Desirability
1. Compensating for <u>limited residual</u> emissions which it may not be feasible to fully eliminate in a sector even in the long term (example: nuclear is amongst the lowest-lifecycle GHG generation technologies but still involves some emissions)	Green
2. Compensating for emissions on a <u>temporary basis</u> whilst a company / sector is in the process of implementing direct emissions saving measures	Yellow
3. Broad use of offsets in the absence of real action to reduce emissions	Red

1 and 2 above also align with the SBTi and Oxford Principle approaches on the use of carbon offsets.



COP26 - the race to zero



- **UN Climate Change Conference of the Parties - COP26** is the United Nations Climate Summit being hosted by the UK, taking place in Glasgow in November 2021 (after the conference was delayed by the pandemic).
- It will be a key opportunity to pledge lasting commitments with key political negotiations - **strengthening contributions** to the original Paris Agreement.
- The government are looking to business to support them in showing that the UK is an international leader in terms of the **transition to the Net Zero economy**.

COP26 – Global objectives

- Driving ambitious **global action in 5 areas**: Clean energy, Clean transport, Nature-based solutions, Adaptation and resilience and Finance
- By COP26 member states must **declare new** Nationally Determined Contributions (NDCs). If you add up the current NDCs, the world is on track to 3°C warming by 2100.

RACE TO ZERO IS A GLOBAL
CAMPAIGN TO BUILD
MOMENTUM AROUND THE SHIFT
TO A DECARBONISED ECONOMY
AHEAD OF COP26





How EDF is helping the UK journey to Net Zero

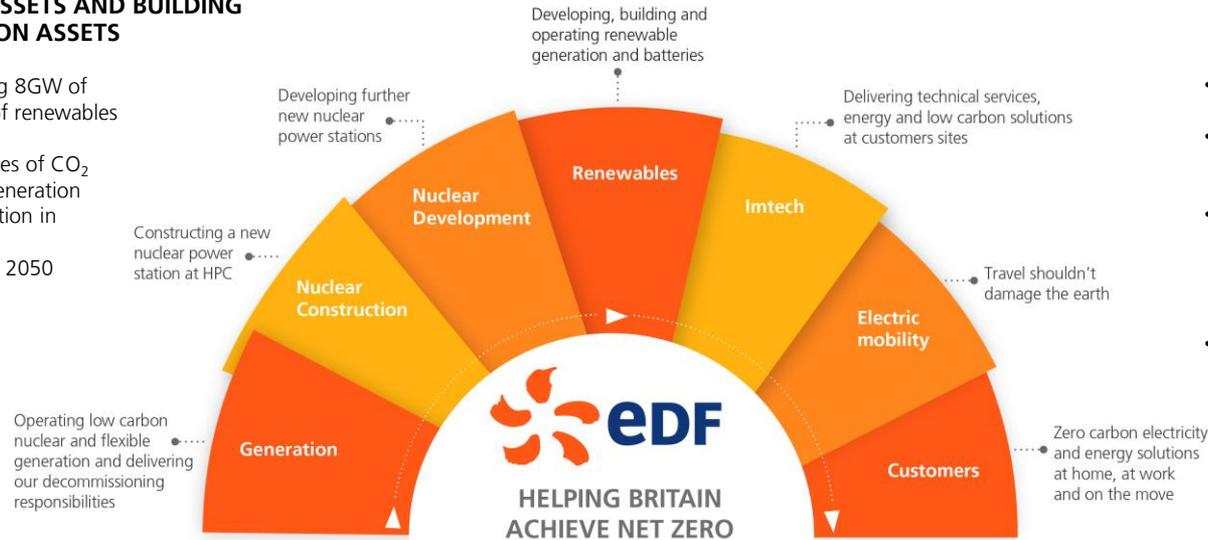
EDF in the UK: Helping Britain Achieve Net Zero



By leading a just and fair transition to a cleaner, low emission electric future and tackling climate change

UK'S NUMBER 1 LOW-CARBON ELECTRICITY GENERATOR OPERATING A FLEET OF WIND, NUCLEAR, SOLAR AND STORAGE ASSETS AND BUILDING NEW LOW CARBON ASSETS

- Plan to be operating 8GW of nuclear and 5GW of renewables in 2035
- Avoiding 26m tonnes of CO₂ compared to gas generation
- Ending coal generation in September 2022
- Further ambition to 2050



A UK LEADER HELPING CUSTOMERS DECARBONISE IN B2B AND B2C ELECTRICITY SUPPLY, MOBILITY AND HEAT

- Generating and supplying zero carbon electricity
- Leading provider of offtake and flexibility services for renewables and batteries
- Charging company Pod Point with c82k 'sockets' in UK helping decarbonise transport (our customers are a 7m tonnes CO₂ opportunity)
- Progressing low-carbon heat strategy with 7m tonnes CO₂ opportunity

EDF Group wide SBTi targets

Creating green jobs and upskilling

UK and local content

Supporting communities

Constructive Union relationships

Fairness for consumers

Innovation and R&D

Safety and quality

EDF in the UK's Sustainability Roadmap



LOW CARBON ELECTRICITY

To accelerate the UK's shift to low carbon nuclear and renewable energy and storage.



SUSTAINABLE LIVING

To help households switch to low carbon lifestyles through smarter innovative solutions.



SUSTAINABLE WORKING

To empower our business customers to switch to zero carbon growth.



RESPONSIBLE BUSINESS

To bring everyone with us as our business transforms towards a Net Zero impact.

2035 ambition

12GW

20% UK demand



2035 ambition

>70%

CO₂e emissions



2035 ambition

>80%

CO₂e emissions



2035 commitments

1. Towards a Net Zero environmental impact
2. Be a great place to work
3. Make a positive social contribution



EDF UK AND FRANCE HAVE THE THIRD LARGEST EV100 COMMITMENT WORLDWIDE. BY 2030 WE WILL:
CONVERT OVER 41,000 FLEET VEHICLES TO ELECTRIC + INSTALL >1,500 CHARGE POINTS AT OUR SITES

EDF Group - key initiatives



- EDF group is committed to achieving carbon neutrality by 2050. It confirmed this ambition in 2020 by signing the “Business Ambition for 1.5 °C commitment” and as a result is part of the Race to Zero campaign for COP26.



- In December 2020, EDF’s emissions reduction targets across scopes 1, 2 and 3 emissions by 2030 were validated by the Science-Based Targets Initiative (SBTi) as aligned with a “well-below 2 degrees” pathway. With already very low baseline emissions per kilowatt hour of electricity output at more than 5 times lower than the European average, the group aim is for a carbon intensity of 35g / kWh at Group level by 2030 and less than 10g/ kWh in the UK by 2035.



- EDF were an early adopter and became an official TCFD supporter in 2017 and reporting on implementation of TCFD recommendations annually in the [Universal Registration Document](#)
- In December 2020, strengthened governance and were appointed Climate responsibility to members of the Executive Committee and Board of Directors



- EDF was the first French group to sign up to EV100 committing to converting our fleet to 100% electric by 2030 (40,000 vehicles and 1,500 charge points).
- In the UK we are already well on our way and have installed new charge points in numerous offices.



- EDF included in the Climate Change A-list of the CDP for the 4th time in 2020. We are one of 2.8% of companies to achieve this.



- In 2019, EDF achieve an overall score of 73 out of 100 (Advanced Level) plus Gold Recognition at the Ecovadis awards
- EDF group is in the top 5% of the 211 companies in its business sector and the top 1% of companies across all sectors!

- The leading electricity company for installed renewables capacity in the EU and **no. 5 globally**.
- EDF is the **biggest** renewable energy producer in Europe. 90% of EDF’s electricity production is carbon-free at the point of generation
- The EDF group is the **world’s leading** nuclear operator in terms of the number of reactors in operation in January 2021
- A major energy supplier for **37.9 million** customers worldwide
- Nearly 94% of EDF group investments in 2020 contributed directly to creating a **carbon-free economy**
- EDF’s 2030 strategy is based around the **fight for climate change**: energy efficiency and energy decarbonisation

Our plan for a Green Recovery



With the right policies in place, we plan to enable investment in low carbon technologies in the UK worth over £50bn by 2035.

This amounts to 12GW of wind, solar and nuclear power – meeting one fifth of UK demand.

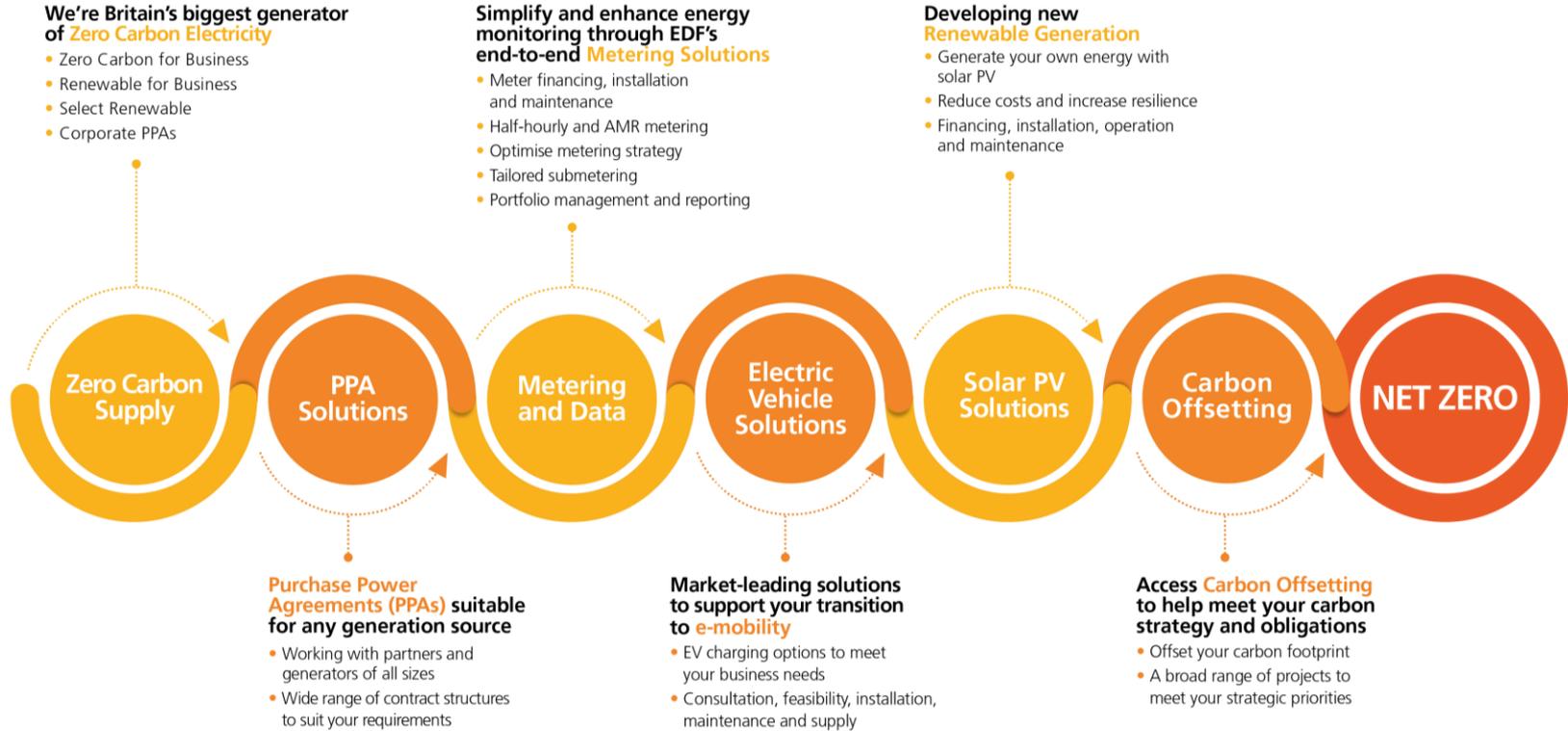
- **Creating a decarbonised power system and an electrified economy**, delivered by investment in low carbon electricity generation from wind, nuclear and solar.
- **Growing emerging low carbon sectors**, with a focus on decarbonising transport, heating and industry.
- **Ensuring a green recovery is affordable** for all energy customers.





How EDF & NEPO can help you

Supporting your Net Zero Journey



Access via NEPO 301



NEPO Framework Energy Solutions

As a NEPO member you have access to an exciting range of innovative energy solutions to assist you in reducing and controlling your energy consumption and costs, as well as potentially realising additional income.

These solutions are defined in Schedule 12 of the framework contract and the associated call-off form.

This pack has been designed to make your life easier, helping you to navigate and understand the solutions available to you.



Thank you