A Pathway to Net Zero

Key policy recommendations to support a lower carbon future

centrica

A Pathway to Net Zero

Climate change is the greatest threat facing society and the energy sector is at the forefront of the need to respond. That's why we've set out our commitment to be net zero by 2050 and why we've created key policy recommendations to support a pathway to net zero.

We welcome the political momentum that has developed around the need to tackle climate change and we are committed to working with governments, regulators and legislators, to ensure we have the right policies and frameworks in place to achieve net zero by 2050.

The next decade is vital if we are to mitigate the worst effects of climate change. We do not, however, believe that the world is moving fast enough in taking action or finding solutions to some of the challenges around net zero. Decarbonisation will require action at all levels of society – it will involve inspiring and empowering consumers, as well as policy support to introduce and scale up activities and technologies for a lower carbon future.

Towards this aim, we have set out key policy recommendations for the near term that will support energy's pathway to net zero across the critical areas of power, heat, the gas network and transport. With the UK now committed to become net zero by 2050, we have focused primarily on outlining the policy recommendations that we believe will help the UK Government achieve this, while summarising how we advocate for lower carbon policies beyond the UK.

2,000

Households to become carbon neutral each day for the UK to reach net zero by 2050

£800bn+

Investment we believe is needed for the UK to get to net zero by 2050

Our commitment to net zero

Since 2015, we have been repositioning our business away from centralised power generation and oil and gas production, towards providing energy services and solutions that enable a lower carbon future. And in 2019, we set 2030 Responsible Business Ambitions to:

- help our customers reduce their emissions by 25% through direct and indirect action;
- enable a decarbonised energy system with 7GW of flexible, distributed and low carbon technologies; and
- be net zero by 2050 and develop a pathway to it by 2030.

Net zero

Power

The power sector has been at the heart of the energy transition and is where the quickest progress can be made in reducing emissions over the next 20 years. Despite generation from renewables being at an all-time high and generation from fossil fuels at an all-time low[1], the UK still needs a quadrupling of renewable capacity by 2050[2]. To maximise utilisation and minimise costs, we also need a mix of technologies to back-up intermittency and balance the grid while avoiding the need for expensive network upgrades and the construction of large-scale centralised assets.

We're calling on the UK Government to:

- stimulate investment and reduce risk in expanding renewable generation by allowing developers to participate in regular renewable auctions (CfDs), and set an escalating carbon price with a clear forward trajectory; and
- implement a policy framework and reforms to the network architecture that support renewables by driving expansion of flexible and decentralised technologies such as storage, solar and demand response.

2.7GW

Flexible, distributed and low carbon capacity we've delivered

(1) Carbon Brief, Analysis: UK electricity generation in 2018 falls to lowest level since 1994, 2019.
(2) Committee on Climate Change (CCC), Net Zero Report, 2019.

Heat

Fossil fuels dominate heating, so transforming how we heat our homes and businesses is an urgent challenge. With 85% of UK homes having a gas boiler[3], we need to accelerate the deployment of lower carbon heating solutions. Hybrid heat pumps are the most practical and cost-competitive alternative in the near term, while hydrogen is needed longer term.

We're calling on the UK Government to:

- enable the roll-out of heat pumps, including hybrid heat pumps, by setting up a grant scheme when the Renewable Heat Incentive ends in 2022, while expanding wider energy efficiency funding for industrial, commercial and public sectors;
- introduce higher decarbonisation standards by bringing forward the Future Homes Standard to 2022 from 2025, banning the use of gas and oil-fired heating in new builds as well as phasing out oil and coal usage in off-grid homes by 2022; and
- stimulate investment and research to define the longer-term role that heat networks, heat pumps, biogas and hydrogen can play.

9,000

Our global footprint of skilled engineers and technicians to help decarbonise homes and businesses

(3) CCC, Heat in UK Buildings Today, 2017.

The gas network

Gas provides an important back-up to intermittent renewables and will remain a key part of the energy mix as we transition to a lower carbon future. We believe green gas and hydrogen should increasingly be injected into the network to replace natural gas. This would also help decarbonise heat in the least disruptive and most cost-effective way.

We're calling on the UK Government to:

- provide greater clarity on the mechanisms that support green gas beyond 2022 (e.g. the proposed Green Gas Levy), to boost investment and increase blending of green gas in the network;
- collaborate across the sector to update the Gas Quality Index which will allow more green gas to be injected into the network and carbon savings to be banked more efficiently; and
- encourage policy to accelerate trials and adoption of hydrogen and Carbon Capture and Storage (CCS) in the long term. Key sites should be identified to support large-scale projects, while new funding models are needed to encourage investment with more effective allocation of risk between the developer and government.

Largest UK biomethane provider

We have a 50% share in Barrow Green Gas, the UK's largest supplier of biomethane

Transport

Transport is the most polluting sector in the UK[4] and electric vehicles (EVs) provide a great opportunity to cut emissions. With EVs set to become cost-competitive by the mid-2020s and The Paris Declaration on Electro-Mobility and Climate Change targeting 100 million EVs to be on the road by 2030, it's vital that we continue their drive into the mainstream and expand the charging infrastructure rapidly.

We're calling on the UK Government to:

- require EV charge points to be smart and interoperable to maximise usability and reduce 'range anxiety' which is a key barrier to take-up;
- allow EV charging to take place in a competitive market to ensure consumers get the best deal; and
- enable research and development into low carbon gases like biogas and hydrogen, which will likely support the decarbonisation of larger vehicles and shipping.

17,200

Electric vehicle charge points we've installed since 2013

(4) Office for National Statistics, Road Transport and Air Emissions, 2019.

Our global recommendations

Tackling climate change is a global imperative, so we also advocate lower carbon policies beyond the UK. Below are a few examples from our core markets.

Ireland priorities:

- ensure that natural gas remains the most cost-effective fossil fuel during the transition to net zero, and introduce appropriate supports to stimulate investment in grid-injected Renewable Gas projects;
- implement appropriate support schemes, funding mechanisms and skills development to help customers transition to lower carbon heating solutions;
- support CCS near Whitegate Power Station to provide a clean and reliable back-up to renewable generation; and
- enable EVs by developing the charging infrastructure and increasing support for Compressed Natural Gas (CNG), Bio-CNG and hydrogen.

North America priorities:

- support robust competitive markets to give consumers greater choice and access to a range of low carbon and energy efficiency solutions;
- develop smart grid capabilities that enable data insights, flexibility and distributed energy solutions to balance a lower carbon grid;
- promote electrification and reform wholesale markets to send fair price signals that recognise the full value of carbon-free generation, energy efficiency and demand response; and
- support the transition to EVs, which includes robust competition for charging services.

Enabling a lower carbon future

Pioneering local energy markets

Our Cornwall Local Energy Market trial is testing flexible, smart energy solutions for the UK.

The £19 million[1] trial will test how flexible demand, generation and storage can reduce pressure on the grid, enable the growth of renewables and avoid expensive network upgrades.

New energy technologies like battery storage, smart home solutions and a virtual energy marketplace, have been rolled out to over 200 homes and businesses, enabling them to generate, use and trade their own low carbon energy. It's the largest working example of a 'virtual power plant' in the UK, with the combined energy capacity traded via a secure platform to help provide balance to the local grid and maximise the amount of renewable energy generated locally.

Construction has also started at Cornwall's first smart grid-connected wind turbine. The 2.2MW turbine will deliver enough energy to power around 1,200 homes and will cut Cornwall's carbon emissions by more than 2,800 tonnes a year.

220 Homes and businesses participating in the trial

Smarter solutions for homes

We're delivering smart home services and solutions that make our customers' lives easier and more sustainable.

One of the ways we're doing this is through our Hive smart home products which can be controlled conveniently via the app. Customers with our Hive smart thermostats for example, never have to heat an empty home which can save up to £120 a year alongside 20% of carbon emissions from heating. And in 2019, we introduced and sold 100,000 Hive Radiator Valves to improve temperature management in individual rooms.

Innovative technologies are also developed through our £100 million Centrica Innovations fund which includes investment in Mixergy. Mixergy is a smart hot water system that only heats the amount of water required by adjusting to household routines while storing excess renewable energy from the grid. This improves grid flexibility and reduces energy use from heat losses by up to 40% a year.

We're additionally leading the UK's smart meter roll-out having installed over 7.7 million in homes and businesses, improving energy management and bill accuracy.

> **"No longer do we have hot or cold spots within the house as the heating is more even and we only heat rooms which we use at certain times."**
>
> **Richard Southgate** gave his Hive Radiator Valves a 5-star rating on Trustpilot

UK's leading green gas supplier

We've acquired a 50% stake in Barrow Green Gas, to help green the UK's gas supply.

Barrow Green Gas are the only business in the UK focused solely on the green gas market, and are responsible for supplying almost half of all green gas delivered to homes and businesses across the country. They facilitate the supply of biomethane to gas buyers while providing Green Gas Certificates to energy suppliers.

Our partnership creates a unique platform for us to grow the green gas market internationally, while meeting the changing needs of customers by strengthening our ability to offer them a wider choice of renewable energy products as they transition to renewable energy sources.

At the same time, Barrow Green Gas can access our capabilities in international markets, market information and tools.

50% Barrow Green Gas supplies almost half of all green gas to UK homes and businesses

Driving electric vehicle solutions

We're accelerating the transition to electric vehicle (EV) transport to make it the new normal.

We've already installed over 17,200 electric vehicle charge points but we need to expand capacity and find solutions to charging in public spaces. Towards this in 2019-20, we:

- partnered with global manufacturers like Ford and Volkswagon, to offer new charging installations and energy tariffs at scale;
- collaborated with organisations like the NCP to provide more convenient public charging spaces;
- offered businesses our 100% renewable tariff certified by the Carbon Trust alongside solutions that encourage companies to switch their fleet to electric; and
- signed up to EV100, a global initiative by the Climate Group, which commits us to electrify our 12,500-strong feet by 2030.

We've also cross-trained a hundred of our engineers to deliver charging points and we will ramp this up further next year.

> **"With their scale, experience and access to the electric grid, our partnership with Centrica will enable us to offer a one-stop shop for our customers as they transition to an electrified vehicle."**
>
> **Andy Barratt**
> Managing Director of Ford of Britain

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Centrica plc
Registered office:
Millstream
Maidenhead Road
Windsor
Berkshire
SL4 5GD

Company registered
in England and Wales
No. 3033654

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