Carbon Reduction Plan
Vodafone UK

Version 4,
Issued 10th July 2024

Together we can
vodafone
business

Introduction

Commitments and data overview

Reducing our environmental impact

The ICT sector contributes 1.8%-2.8% of global greenhouse gas emissions[1] and at Vodafone UK we have been actively reducing our emissions for numerous years. Given the growing demand for data and digital connectivity, we recognise the need for us to take further steps and expedite our activity.

This report details the progress we have made and the plans we have in place.

We are dedicated to innovating our network technology and operations to support our journey towards net zero, helping to drive the transition to a low-carbon future for our planet and its people.

Vodafone UK's emissions reduction targets

Vodafone has set ambitious goals to reduce our greenhouse gas emissions. Our long-term, SBTi-validated science-based target is to achieve net zero emissions across our entire value chain globally by 2040. This involves an absolute reduction of our Scope 1, 2, and 3 emissions by at least 90% by 2040. Additionally, we aim to halve our value chain (Scope 3) emissions by 2030.

Vodafone UK is striving to reach net zero for our operational emissions (Scope 1 and 2) by 2027, expediting our global targets.

Vodafone UK has already reduced its operational carbon emissions by 93% since the baseline year. We are now focussed on further reducing our energy use, enhancing the efficiency of our network and investing in new technology and renewable generation.

Scope 1, 2 and 3 emissions

Greenhouse gases (or 'GHGs'), such as carbon dioxide (CO_2) and methane (CH_4), cause climate change by trapping heat within the earth's atmosphere. The more GHG emissions that are released, the faster the planet warms up. There are three classifications used to measure GHG emissions:

- Scope 1 emissions are directly released into the atmosphere when a company burns fossil fuels (such as petrol, diesel or natural gas) in equipment it operates or industrial processes, or releases gases containing GHGs (such as fluorinated gases or 'F-gases'), which can leak from chemicals used in cooling equipment or fire suppressant systems.

- Scope 2 emissions are those released into the atmosphere to generate the energy purchased and used by a company in its operations (e.g. the emissions released by a power plant to generate electricity). Scope 2 emissions can be calculated based on the location where the energy is used (called 'location-based') or on contractual

agreements (such as renewable energy certificates) that specify the source used to generate the energy (called 'market-based').

- Collectively, Scope 1 & 2 emissions are known as operational emissions.
- Scope 3 emissions are released into the atmosphere as an indirect result of the company's activities or business model. They originate from the production of goods and services that the company buys (upstream emissions), the use of its products or services by its customers (downstream emissions) or the activities that it finances through its investments.
- Collectively, Scope 1, 2 and 3 emissions are known as full value chain emissions.

Our baseline emissions

Baseline emissions are the reference point against which emission reductions can be measured. Vodafone's baseline year for reporting carbon data is FY20 and total operational emissions in this year were **93,514 tonnes of CO_2e.**

Emissions	Total (tonnes CO_2e)
Scope 1	**9,806**
Scope 2	**83,708**
Scope 3	N/A[2]
Total Emissions	**93,514** (Scope 1 and 2 only)

The detail

Our reductions and projections

Current emissions

Our current emissions relate to the most recent carbon data against which our progress can be measured. Vodafone UK's total operational emissions in the financial year ending 31st March 2024 were **6,828.42 tonnes CO_2e**.

Emissions	Total (tonnes CO_2e)
Scope 1	**6828.42**
Scope 2	**0**
Scope 3 (Included Sources)	**28,768** This figure is the sum of the following Scope 3 emission sources, as selected for reporting by UK Government: • Transportation and distribution of products from Tier 1 suppliers to Vodafone • Waste generated in our operations. • Business travel • Employee commuting • Transportation and distribution of products sold by Vodafone to our customers
Scope 3	**488,739**
Total Emissions	**6,828** (Scope Scope 1 & 2 emissions only) **35,596** (Scope 1, 2 & 3 emissions from the included sources) **495,568** (Scope1, 2 & 3 emissions from all sources)

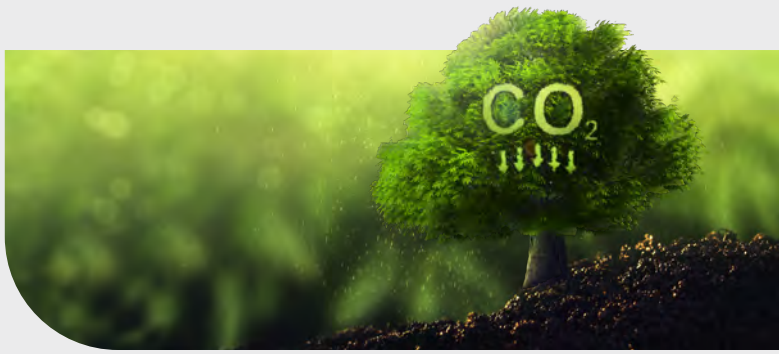
Carbon emission reduction

Vodafone UK has made considerable progress against our net zero goals in the last four years. In the financial year ending 31st March 2024, we reduced our operational emissions (Scope 1 & 2) by **93%** compared to our baseline year. This equates to a reduction of **86,685.58 tonnes CO_2e**.

The main ways we've achieved this are prioritising energy efficiency and reduction initiatives, investing in onsite renewables, the transition to electric vehicles and the reduction of fluorinated gases in our data centres. We are powered by 100% renewable electricity via Power Purchase Agreements (PPAs) and renewable energy guarantees of origin (REGOs).

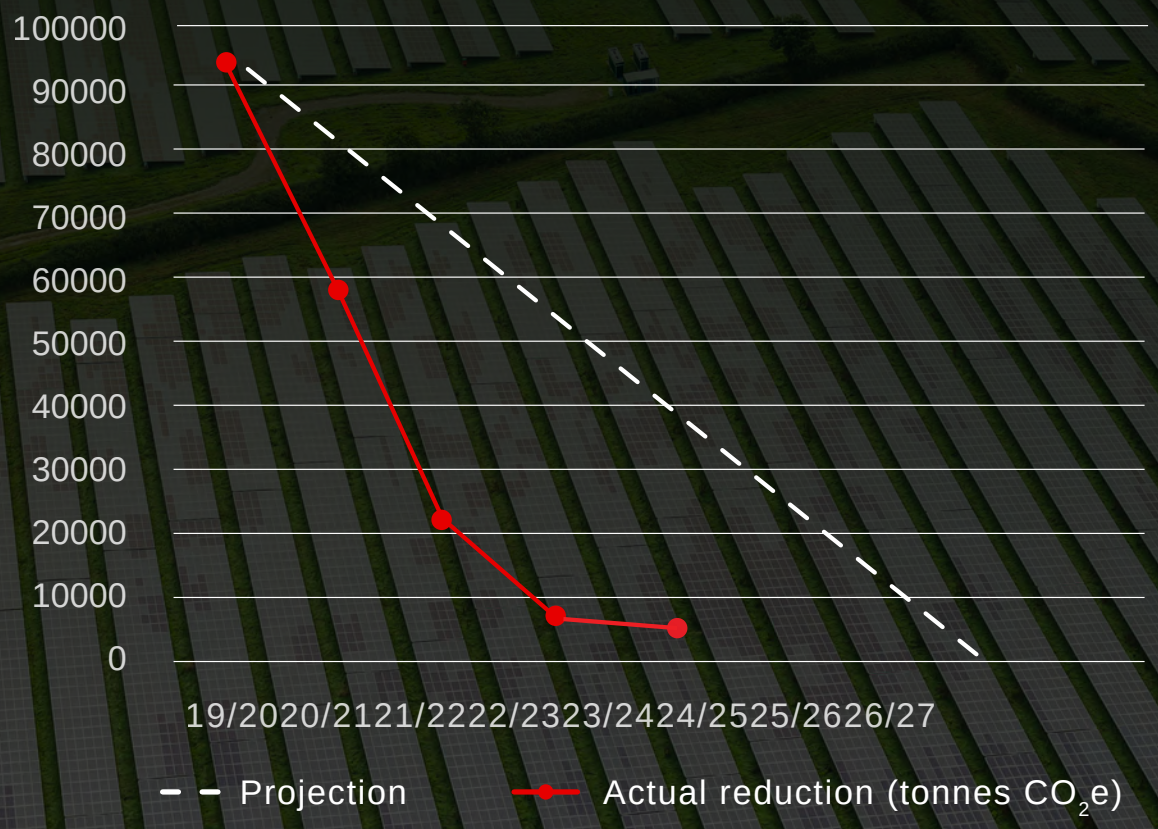
Our total Scope 3 emissions for the UK have increased by 3% from FY23 to FY24 due to improvements in the completeness and accuracy of data.

Vodafone UK has reduced operational carbon emissions by 93% compared to the baseline year.



Carbon emission projections

We project that Vodafone UK's operational carbon emissions will decrease by 95% to less than 4,623 tonnes of CO_2e by 2027. As a last resort, we will offset any emissions that we cannot abate through purchasing credible certified carbon offsets. We will limit the use of carbon offsetting to 10% until 2030 and 5% after 2030 in line with SBTi recommendations.



Completed carbon reduction initiatives

Scope 1 & 2 carbon reduction achievements

What Vodafone UK has delivered: Scope 1 & 2

Driving energy efficiency

We remain committed to a continued programme of energy efficiency projects across our mobile, fixed and technology locations, which together account for 96% of our total global energy consumption.

We are continuing to deploy and optimise energy saving software solutions across our technical estate to reduce energy consumption during periods of low or no network traffic. We are retiring more energy-hungry legacy systems and rationalising our property portfolio. This has reduced our energy usage by 171 million kilowatt-hours (kWh) in the last six years.

We have an ISO14001:2015 certified Environmental Management Standard, encompassing all Vodafone UK sites, contracts and operations. Additionally, our technical sites and offices have an ISO 50001:2018 certified Energy Management System. This assures strong environmental performance at our sites. This year we included our radio base station estate in the certification.

The transition from our 3G network to our 4G and 5G networks enables additional energy savings, with data transmitted via 5G using 7% of the energy to send the same amount of data.

Switching to renewable electricity

Vodafone UK has been powered by 100% renewable electricity since July 2021 and we are now focused on supporting the development of new UK-based renewables.

This year, we have installed 650-kilowatt peak (kWp) of rooftop solar panels across three mobile telephone exchanges which should generate 550,000 kWh of renewable electricity a year, supplying around 12% of the site's annual energy requirement.

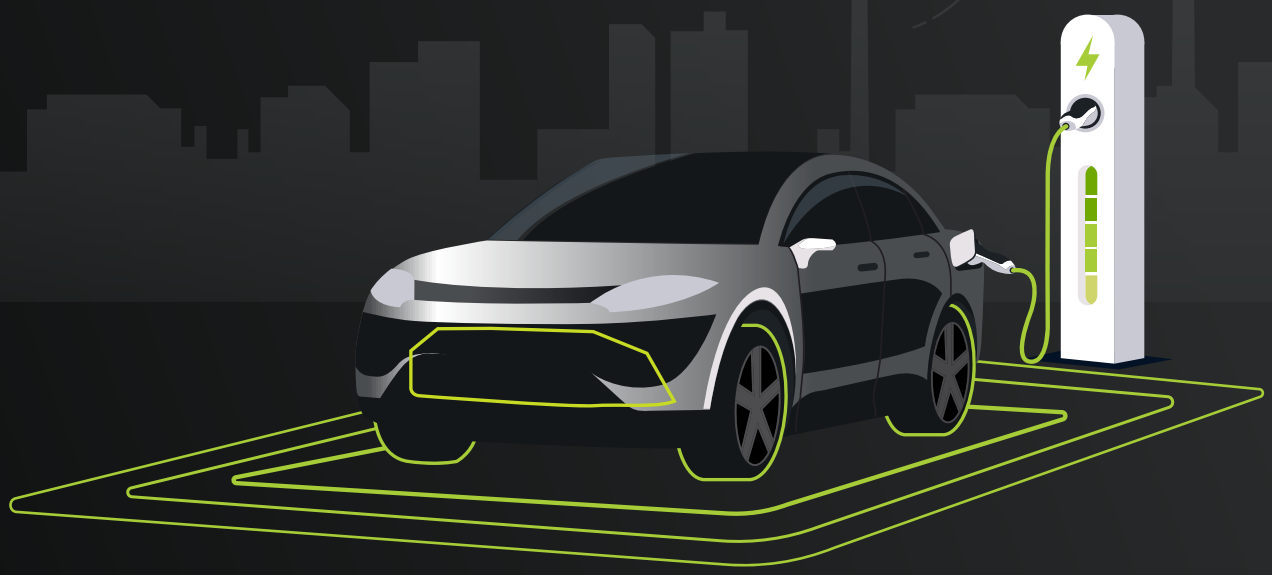
Vodafone UK has also secured long-term power purchase agreements (PPAs), totalling 216 GWh, which provide high quality, long-term supply of renewable energy from UK-based sources.

Electrification of our car and van fleet

We have increased the proportion of electric vehicles (EVs) in our company fleet. We have continued our policy to have EVs as the only option for company cars. Additional investment has been made in EV charging points across the Vodafone estate to support this transition. In 2021, we removed all internal combustion engine cars from our fleet lists, and in 2022, we removed all hybrid cars. We have an adoption rate of 70% for pure Battery Electric Vehicles in our company cars and 45% across our entire fleet, including commercial vehicles.

Fluorinated gases

We use fluorinated gases (F-gases) in cooling equipment and fire suppression systems. Fugitive emissions from the accidental release or leakage of F-gases directly contribute to greenhouse gas emissions. We have enhanced methods to prevent the accidental release of F-gases and increasing the use of alternatives with lower Global Warming Potential (GWP) where possible. During FY24, we reduced our overall holding of FM200 by 33%.



Completed carbon reduction projects

Scope 3 carbon reduction achievements and our partnerships

Scope 3

For our Scope 3 emissions, we have less direct control of reduction activities, greater uncertainty about data availability and increased reliance on partners in our value chain. We have set a trajectory to reduce these emissions from our base year (2020) to our near-term target year (2030), and our long-term net zero target year (2040).

Currently, one of the key drivers of year-to-year trends in our Scope 3 emissions is improvements in the quality of data inputs, emission factors or calculation methods. We continue to invest in improving the quality, accessibility and availability of carbon footprint data to enable better measurement and reduction of Scope 3 emissions across our industry.

This year we have further invested in enhanced Environmental, Social, Governance (ESG) reporting capabilities to improve the quality of our data. As of this year, our Scope 3 data disclosed by Vodafone Group in their annual report has been subject to external assurance.

Vodafone requires key suppliers to set a **1.5°C science-based carbon target** and to report on environmental performance to CDP. Vodafone also launched a new environmentally linked supply chain financing programme in March 2023, to collaborate with our smaller suppliers on net zero programmes.

To reduce our value chain emissions, we introduced a **20% weighting** for environmental and social criteria in our **supplier evaluation Request for Quote (RFQ)** processes. Having robust environmental policies, addressing carbon emissions and using renewable energy are all key considerations for selecting and working with our suppliers.

We have a **CO_2 analytics dashboard** for our supply chain teams to view and track progress against our reduction targets. This helps our procurement team to identify suppliers, markets and categories which contribute higher emissions and helps us subsequently work on efficiencies with our partners.

Activities to influence our downstream emissions include increasing the range of refurbished devices and we have seen year-on-year sales growth.

Partnerships

We are proud to be signatories to the following campaigns:

UN Global Compact - a voluntary initiative that encourages businesses to adopt sustainable and socially responsible policies and practices.
RE100 - a global renewable energy initiative bringing together businesses committed to 100% renewable electricity.
Race to Zero campaign - a global initiative aiming to mobilise businesses, cities, regions, and investors to achieve net-zero carbon emissions by 2050.

Reporting

We report to various disclosure schemes at Group level, including responding to the CDP's climate change questionnaire since 2010. In February 2024, Vodafone was recognised for its leadership on corporate transparency and performance on tackling climate change by global environmental non-profit CDP, securing a place on its prestigious annual 'A List'.

Future carbon reduction projects

Scope 1 & 2 carbon reduction initiatives

Continuing progress towards net zero: Scope 1 & 2

Improving energy efficiency

We are investing in rationalisation efforts to eliminate legacy networks while innovating infrastructure to move towards cloud-based technology. Additionally, we are transitioning to highly energy-efficient servers within our technology centres, allowing us to increase operating temperatures and drive energy savings. We're also focusing on energy efficiency during end-of-life replacement of electrical and mechanical infrastructure on items such as:

- LED lighting for fluorescent tubes
- Gas heating systems replaced with electric heat pumps
- Cooling systems upgrades
- Building Management System upgrades

Vodafone is gathering data on traffic, weather, and smart meters. By using big data analytics, artificial intelligence, and machine learning algorithms, we are identifying opportunities to reduce carbon in our data centres.

Renewable electricity supply

We are investing in additional on-site renewable electricity generation to expand our sustainable energy sources. Vodafone UK also plans to install rooftop solar photovoltaic on additional sites across the UK over the next few years.

Natural gas for heating

We're committed to gradually reducing our reliance on natural gas for heating and hot water in our office and technical facilities. Instead, we're transitioning to electric heat pumps and point-of-use water heaters. This transition will be completed over the next three years.

Diesel generators

Eliminating the use of diesel generators is extremely challenging due to the need for emergency, temporary, and standby power. Therefore, we are currently transitioning our generators to operate on biofuel, hydrotreated vegetable oil, and/or hybrid modes (battery and/or solar). Additionally, we are exploring alternative on-site generation options.

Fluorinated gases

We are improving the maintenance and operation of cooling and fire suppression systems to minimise accidental releases, updating our operating standards accordingly. We are further investigating and beginning to use alternative refrigerant gases with lower Global Warming Potential (GWP) during routine equipment replacement or refurbishment. Given that lower GWP gases can be toxic or flammable, we are monitoring innovations in low GWP refrigerants and evolving F-gas regulations. We aim to replace 61% of our stored volumes by the end of the financial year ending March 2025.

Electric car and van fleet

We are transitioning our fleet to electric vehicles (EV) and will be fully EV across our car fleet by 2026. We are closely monitoring advancements needed in battery technology that are expected to occur within this timeframe. All office locations are now equipped with high power charging stations with a plan to complete most of the technical estate locations during this financial year.

Future carbon reduction projects

Scope 3 carbon reduction achievements and our partnerships

Scope 3 emissions

Vodafone will continue to develop and implement an annual programme of supplier engagement to set expectations for supplier climate action and data sharing. Where possible, we are focussing on receiving higher quality supplier-specific data rather than using estimates and assumptions. Industry collaboration and standardised reporting will be crucial to driving down our Scope 3 emissions, and we will continue to work with partners and suppliers to increase the reliability of data.

Declaration and sign off

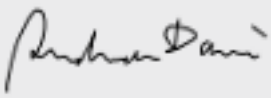
This Carbon Reduction Plan has been completed in accordance with PPN 06/21 and associated guidance and reporting standard for Carbon Reduction Plans.

Emissions have been reported and recorded in accordance with the published reporting standard for Carbon Reduction Plans and the GHG Reporting Protocol corporate standard[3] and uses the appropriate 2023 Government emission conversion factors or equivalents, depending on the data available for greenhouse gas company reporting[4].

Scope 1 and Scope 2 emissions have been reported in accordance with SECR requirements, and the required subset of Scope 3 emissions have been reported in accordance with the published reporting standard for Carbon Reduction Plans and the Corporate Value Chain (Scope 3) Standard[5].

This Carbon Reduction Plan has been reviewed and signed off by the board of directors (or equivalent management body).

Signed on behalf of Vodafone UK:



Andrea Dona, UK Networks Director & Development and Net Zero Sponsor
Date: 10th July 2024

1. Freitag, C. et al. (2021), The real climate and transformative impact of ICT: A critique of estimates, trends, and regulations.
2. In 2018 Vodafone Group carried out a materiality assessment to determine its most significant Scope 3 emissions. None of the five categories that the UK Government has mandated to be included in this Carbon Reduction Plan were deemed to be material for Vodafone. Vodafone's main Scope 3 emissions relate to goods and services we purchase, energy-related services, consumer use of sold products and investments. As a result, we did not record Scope 3 data for the categories that UK Government has requested in our baseline year.
3. https://ghgprotocol.org/corporate-standard
4. https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting
5. https://ghgprotocol.org/standards/scope-3-standard

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