

Carbon Reduction Plan

Vodafone UK

We're cutting carbon emissions and electronic waste, and helping our customers do the same.

Version 3,
Issued 31 July 2023



Introduction

Commitments and data overview



Reducing our environmental impact

Vodafone recognises the urgent need to take action to address the global climate crisis. The information and communication sector ('ICT') is responsible for an estimated 1.8% to 2.8% of global greenhouse gas emissions¹. As we move towards an ever more digital society, with increasing volumes of internet use and mobile data traffic, we are committed to driving down our emissions in absolute terms as well as shifting our energy mix to renewable sources, in line with what is required by science to avoid catastrophic impacts of climate change.

Vodafone UK has been working to reduce its energy use for many years. In 2020, we set a SBTi approved 2030 **Science-Based Target**² in line with reductions required to keep warming to 1.5°C, becoming the first major telecoms operator to follow the emission reduction pathway developed by SBTi for the ICT sector (setting out specific emissions reduction trajectories for mobile, fixed and data centres).

Vodafone UK's emissions reduction targets

Vodafone UK aims to cut operational emissions (scope 1 and 2) to net zero by **2027** and halve emissions from our value chain (scope 3) by **2030**, before achieving net zero across our entire footprint by **2040**.

Note: 1. Freitag, C. et al. (2021), The real climate and transformative impact of ICT: A critique of estimates, trends, and regulations.

Note 2: In line with a science-based 1.5 degree pathway- for more information please see the [Vodafone Group PLC Annual Report 2023 pg. 35](#).

Note: 3. The financial year (FY) begins on April 1st and ends on March 31st. FY20 is 1 April 2019 to 31 March 2020.

Along with our own net zero ambition, we've also committed to helping our business customers reduce their carbon dioxide equivalent (CO₂e) emissions by **350 million tonnes globally** between **2020** and **2030**.

Vodafone UK have already reduced carbon emissions by **92%** since the baseline year. We are now focussed on further reducing our energy use, optimising our network and investing in new technology and renewable generation.



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 FY20³ and total operational emissions in this year were **93,514 tonnes of CO₂e**.

Emissions	Total (tonnes CO ₂ e)
Scope 1	9,275
Scope 2	84,239
Scope 3	N/A ⁴
Total Emissions	93,514 (Scope 1 and 2 only)

Note: 4. 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.

The detail

Our reductions and projections



Current emissions

Current emissions relate to the most recent carbon data against which our progress can be measured.

Vodafone UK's total operational emissions in FY23 were **7,154 tonnes of CO₂e**.

Emissions	Total (tonnes CO ₂ e)
Scope 1	7,154
Scope 2	0
Scope 3 (Included Sources)	28,502
	This figure is the sum of the following scope 3 emission sources, as selected for reporting by UK Government: <ul style="list-style-type: none"> • 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
Total Emissions	7,154 (scope 1 & 2 only) 35,656 (scope 1, 2 & 3 emissions from the included sources)

Carbon emission reduction

Vodafone UK has made significant progress against our net zero goal in the last three years. In FY23, we reduced our operational CO₂e emissions (scope 1 & 2) by **92%** compared to our baseline year. This equates to a reduction of **86,360 tonnes of CO₂e**. The main ways we've achieved this are energy efficiency measures, purchasing 100% renewable electricity, the transition to electric vehicles and the reduction of fluorinated gases. Improvements in our data and calculation methodology have resulted in a 71% annual increase in the five reported scope 3 categories.

Vodafone UK has reduced operational carbon emissions by 92% compared to the baseline year.

Chart 1: Total emissions by scope

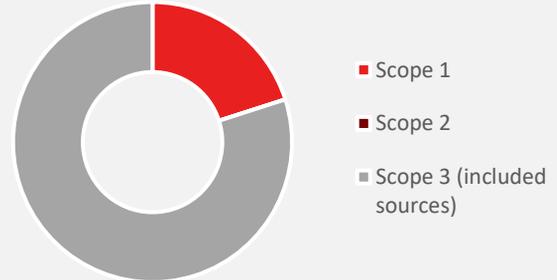
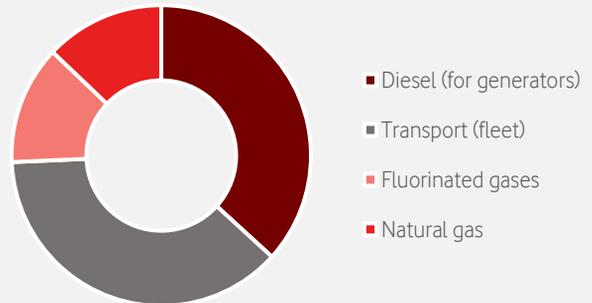


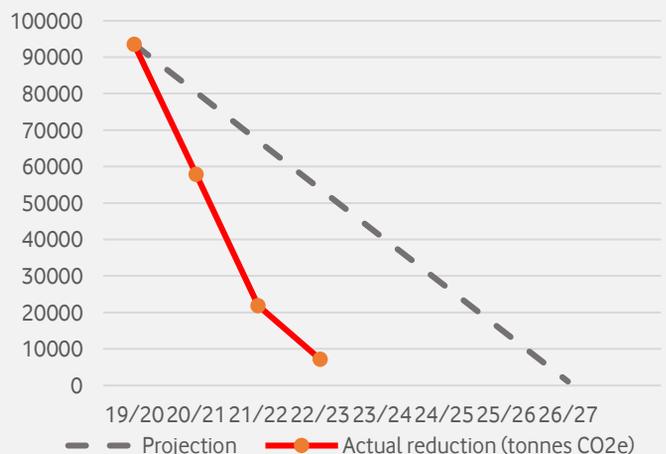
Chart 2: Scope 1 emissions by category



Carbon emission projections

We project that Vodafone UK's operational carbon emissions will decrease by 95% to less than 4,623 tonnes of CO₂e 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 5-10% to reach our net zero targets, in line with good practice & industry standards.

2022/23 carbon reduction actual versus projected scope 1 and 2 emissions (tonnes CO₂e)



Completed carbon reduction initiatives

Scope 1 & 2 carbon reduction achievements



What Vodafone UK has delivered:

Scope 1 & 2

Driving energy efficiency

We are committed to continually improving the energy efficiency of our mobile access network, fixed access networks and technology centres, which together account for **93%** of our total global energy consumption. We are rolling out new generation network software solutions to optimise energy use and rationalising our property portfolio. Reducing the number of energy-hungry, legacy systems has reduced our carbon emissions by **15,000 tonnes** and our energy usage by **167 million kilowatt-hours (kWh)** in the last five 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.

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. We are significantly ahead of our target to power 100% of global operations with renewable electricity by 2025 – a major milestone towards our net zero goal.

We have installed **720 solar panels** at our Mobile Telephone Exchange in Gloucester, which will produce around **240,000 kWh** of renewable electricity a year, supplying around **12%** of the sites annual energy requirement and reducing our

emissions and our reliance on the national grid.

This year, we secured power from five new solar farms, generating a total of **216 gigawatt hours** of electricity every year, saving more than **53,000 tonnes of CO₂e**. This gives Vodafone UK access to clean, high-quality and affordable renewable electricity for the next **10 years**, offering price certainty and improved energy security.

In June 2022, Vodafone UK switched on the UK's first live 'self-powering' mobile phone mast creating valuable insights for future technology. The specially designed mast could provide connectivity to 'not-spots' in remote and inaccessible locations. In March 2023, we found that wind speeds of **just 8-to-10 metres per second** were enough to power the site for an entire week, as excess energy is collected and stored in batteries that can be used when there's little wind or sunshine.



Electrification of our car and van fleet

We continued to increase the proportion of electric vehicles (EVs) in our company fleet this year, with **86%** of our car fleet now fully electric or hybrid.

Additional investment has been made in EV charging points across the Vodafone estate to support the increased adoption of electric vehicle use in the company. We changed our policy so that we **now only offer electric vehicles** as a car choice. In 2021, we removed all internal combustion engine cars from our fleet lists and in 2022 we removed all hybrid cars.

Completed carbon reduction projects

Scope 3 carbon reduction achievements and our partnerships



Scope 3

Reliable and standardised data from across an entire value chain is fundamental to driving down our scope 3 emissions. Today, however, most companies are relying heavily on estimates and assumptions for their scope 3 emissions. This year we have invested in enhanced ESG reporting capabilities to improve the quality of our data.

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 RFQ** processes. Having robust environmental policies, addressing carbon emissions and plastic, and using renewable energy are all key considerations for selecting and working with our suppliers.

We introduced a new **CO₂ 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 improving consumer awareness of the climate impact of smartphones, through the marketing of **Eco Rating scores**. These provide consistent and accurate information on the environmental impact of handsets.



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 **2022**, Vodafone achieved an **"A"** rating for its submission.

Future carbon reduction projects

Scope 1 & 2 carbon reduction initiatives



Continuing progress towards net zero:

Scope 1 & 2

Improving energy efficiency

We are continuing to invest in **rationalisation efforts** to eliminate legacy networks while innovating infrastructure as part of our telco cloud journey. Additionally, we are transitioning to highly energy-efficient servers within our technology centres, alongside natural air cooling systems replacing traditional mechanical methods.

Vodafone is deploying **smart metering** technologies and harnessing the power of Big Data analytics, incorporating Artificial Intelligence and machine learning algorithms to help identify energy consumption hotspots and take targeted action to enhance the energy efficiency of our network infrastructure. We are conducting trials of radio antennas with enhanced energy-saving features. These antennas intelligently enter a low-power sleep mode during periods of reduced demand, resulting in an improvement in efficiency during peak usage periods.

We're **switching off our 3G network** and moving to 4G and 5G. Sending a terabyte of data across the 5G network uses **7%** of the energy used to send the same amount of data across the 3G network.

Renewable electricity supply

We are investing in installing and deploying additional on-site renewable electricity generation to expand our sustainable energy sources. We are also strategically pursuing additional long-term **Power Purchase Agreements (PPAs)**. This will secure a high-quality, long-term supply of

energy offering price certainty from new, UK-based renewable sources.

Vodafone UK also plans to install rooftop **solar PV** across a number of additional sites across the UK over the next few years.

Gas for heating

We are assessing options to **phase-out the use of natural gas** in our water and space heating system, transitioning to more sustainable alternatives.

Diesel generators

We are taking measures to minimize the usage of diesel fuel for our generators, exploring alternative power sources.

Fluorinated gases

We are focussing on minimising the loss of fluorinated gases (F Gases) used in fire suppression and cooling systems by investigating the feasibility of alternative gases with a lower global warming potential and improving maintenance systems to minimise releases. We started the **phase out of FM200** at our technical sites in FY23 and we will continue the replacement of fire suppression gas with inert gas in the coming years.

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.



Future carbon reduction projects

Scope 3 carbon reduction initiatives and sign-off



Scope 3 emissions

Vodafone will continue to develop and implement an annual program of supplier engagement to update suppliers on climate action plans and set expectations for supplier climate action and data sharing.

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 standard¹ and uses the appropriate 2022 Government emission conversion factors or equivalents, depending on the data available for greenhouse gas company reporting².

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) Standard³.

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: 27 July 2023

1 <https://ghgprotocol.org/corporate-standard>

2. <https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting>

3. <https://ghgprotocol.org/standards/scope-3-standard>