# The journey to net zero

**Five steps to building a carbon reduction roadmap for your business**

And how O$_2$ plans to achieve net zero carbon emissions by 2025

O$_2$

# The net zero imperative

The impact of climate change is already being felt around the world. Scientists agree that if we want to protect the environment, we must keep the rate of global temperature rise to below 1.5℃.[1]

Impacts on natural and human systems from global warming have already been observed. Many land and ocean ecosystems and some of the services they provide have already changed due to global warming.[1]

In 2019, the UK was the first major economy[2] to commit to a legally binding target of net zero carbon emissions by 2050, in line with the United Nations Intergovernmental Panel on Climate Change (IPCC)[3] and the Committee on Climate Change (CCC).[4] It's an ambitious but necessary target that will require us all to make genuine and sustained behavioural changes in the way we live, work, travel and socialise.

## O₂ is on a journey to achieving net zero by 2025

Businesses have a responsibility and a critical role to play in meeting that target. At O2 we've been working to reduce our carbon footprint since 2008, and in March 2020 we announced our commitment to be a net zero carbon business by 2025.*

* For us, that means achieving net zero in our own operations, by 2025, while providing our products and services. See page 13 for more information on the scopes and activities that it includes.

We want to go further and faster, setting the bar in our industry to tackle climate change and build the greenest network for our customers. Every office, every store, every mast. We will get the changes done to be a net zero business by 2025.

**Mark Evans, CEO, O2**

## Helping the UK to reach net zero

Our net zero ambition doesn't just extend to our own operations. We have a responsibility to drive sustainability outside of our own business, too. That's why we've committed to reducing carbon emissions by at least 30% across our whole supply chain by 2025, and why we're encouraging all of our customers to take action to reduce their impact on the planet.

And as the UK's number one mobile network, we know that mobile and digital technology can play a key role in driving a greener future for everyone. The connectivity we provide is enabling existing and new technologies that will help people and businesses across the UK to build for a sustainable future.

1. Intergovernmental Panel on Climate Change, Global Warming of 1.5℃: Special Report, June 2019
2. GOV.UK, UK becomes first major economy to pass net zero emissions law, 27th June 2019
3. https://www.ipcc.ch/
4. https://www.theccc.org.uk/publication/net-zero-the-uks-contribution-to-stopping-global-warming/

# Join us on our net zero journey

We believe that if every business in the UK takes a net zero approach, it's possible for us to be not just the first major economy to set a net zero target, but also the first major economy to achieve it.

That's why we want to share our approach, to help other businesses to get there faster, too. In this guide we'll suggest some practical steps that your organisation can take to get on the journey to net zero, and share our own experiences and insights as we strive to:

- **Achieve net zero in our own operations by 2025**
- **Reduce $CO_2$ emissions in our supply chain by 30% by the same year**
- **Help UK businesses to get started on their net zero journey**

With COVID-19 prompting many businesses to re-evaluate their operations, it's a good time to start. Dive in, and if we can help you at any step of your journey, please do get in touch.

# Some key terms defined

There are a lot of terms associated with carbon reduction and removal targets and initiatives, and they can sometimes be confusing. Here's a short guide to what some of the key terms mean.

## Carbon neutral

The BSI PAS 2060 standard defines **carbon neutrality** as "a condition where during a specified period there has been no net increase in the global emission of greenhouse gases to the atmosphere as a result of the greenhouse gas emissions associated with the subject during the same period."[5]

A company could achieve carbon neutrality by developing and implementing a Carbon Management Plan to reduce emissions and introducing an offset programme to balance out residual emissions.

## Net zero

The Carbon Trust defines a **net zero company** as one that "will set and pursue an ambitious 1.5°C aligned science-based target for its full value-chain emissions. Any remaining hard-to-decarbonise emissions can be compensated using certified greenhouse gas removal."[6]

We've explained the term greenhouse gas removal below. This means that a company and its activities has no net impact on the climate through greenhouse gas emissions.

## Carbon negative/ carbon positive

While there's no official definition of these terms, some companies are striving to go further than net zero. A **carbon negative/positive company** can be described as one that "goes beyond achieving net zero carbon emissions to actually create an environmental benefit by removing additional carbon dioxide from the atmosphere."[7]

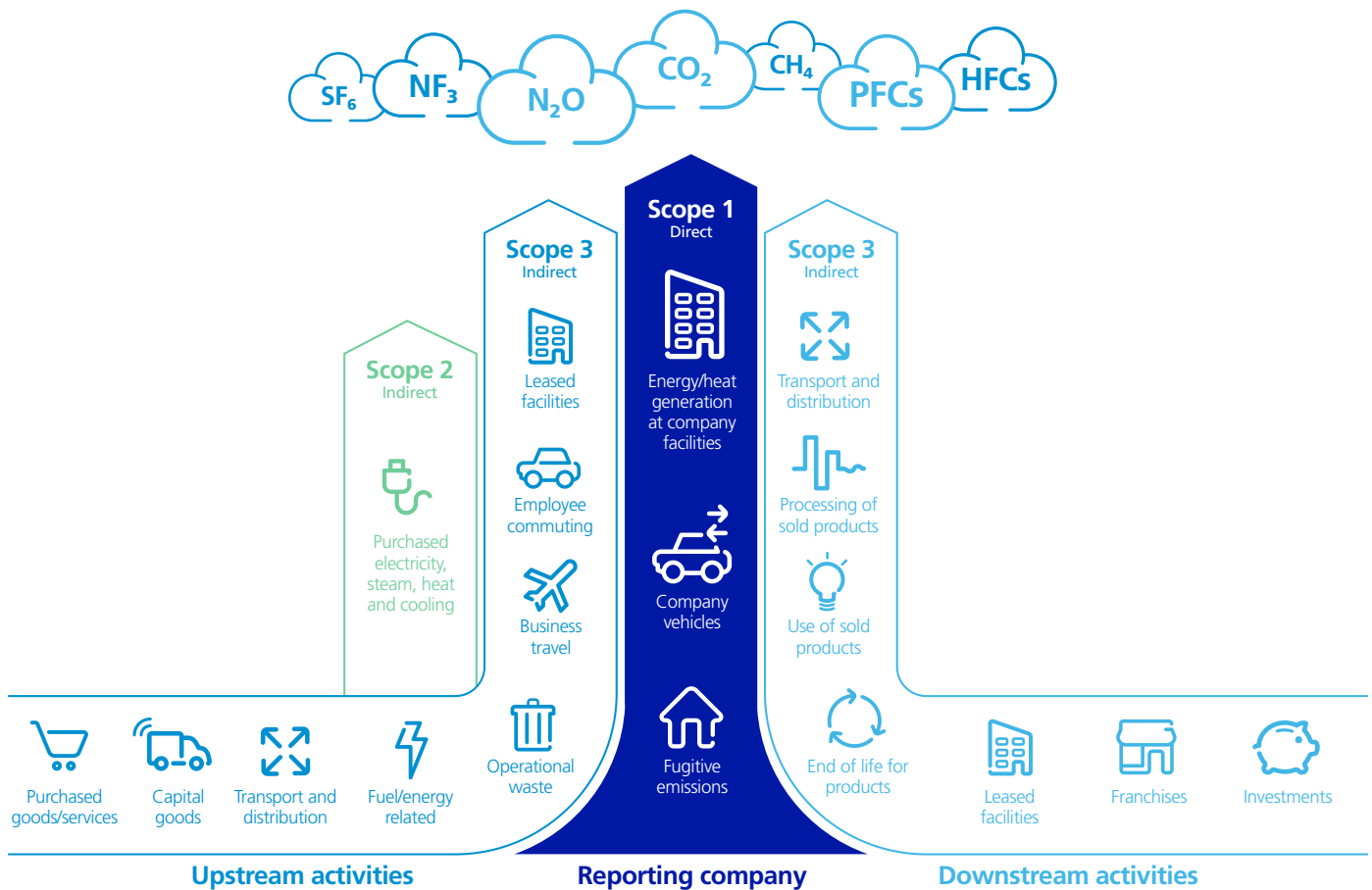5. British Standards Institution, PAS 2060 Carbon Neutrality
6. Carbon Trust, What we do: Net zero
7. Fast Company, Climate positive, carbon neutral, carbon negative – what do they mean?, 13th June 2018

# Scope 1, 2 and 3 emissions

A rigorous approach to decarbonisation involves analysing and reducing emissions in three areas of the business. The Greenhouse Gas Protocol defines these areas in terms of three scopes:[8]

**Scope 1:** All direct emissions from the activities of a business or under its control. This includes on-site fuel combustion such as gas boilers, fleet vehicles and air-conditioning leaks.

**Scope 2:** Indirect emissions from electricity purchased and used by the business. Emissions are created during the production of the energy that's eventually used by the business.

**Scope 3:** All other indirect emissions from activities of the business, from sources that they don't own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.



# Carbon offsetting

A carbon offset allows individuals or organisations to compensate for emissions they're unable to reduce or remove. Offsets generally refer to programmes that reduce carbon emissions to compensate for emissions produced elsewhere (e.g. avoiding deforestation, replacing kerosene cook-stoves with solar, renewable energy projects, energy efficiency projects). By funding an equivalent saving in carbon emissions elsewhere, residual emissions can be balanced.

# Greenhouse gas removals (GGRs)

This refers to methods for removing greenhouse gases from the atmosphere and permanently sequestering them. Nature-based GGRs include afforestation, wetland and peatland restoration, and soil carbon sequestration. Engineered GGRs include bio-energy with carbon capture and storage (BECCS) and direct air carbon capture and storage (DACCS). For more about GGRs, see the Greenhouse Gas Removal report by the Royal Society and Royal Academy of Engineering.

# Starting your net zero journey

Key factors make this an ideal moment to start – or recommit to – your net zero journey:

**Time is running out:** UN Sustainable Development Goal 13 says that to avoid the catastrophic impacts of climate change, we must keep the rate of global temperature rise to remain below 1.5C. Despite this warning, 2019 was the second warmest year on record.[9] In short, we all have a responsibility to act now.

**Stakeholders expect it:** Growing numbers of customers, employees, investors and other stakeholders are choosing to work only with firms that have a proven commitment to sustainability. In 2020, BlackRock[10], one of the world's largest investment funds, told clients it's putting sustainability at the centre of its investment approach. Noting that "climate risk is investment risk," the BlackRock team made it clear that they will "vote against management and board directors when companies are not making sufficient progress on sustainability-related disclosures and the business practices and plans underlying them."

**Carbon reduction frameworks are maturing:** Adopting a proven framework for your organisation is one of the best ways to ensure you stick to your carbon commitments. Organisations like the Carbon Trust and the Science Based Targets Initiative (SBTi) have worked hard to establish methodologies that help businesses to measure, analyse, reduce and report on their carbon emissions. For more details, see the 'Useful resources' section on page 16.

**New technologies make it easier:** From electric vehicles and energy-efficient routers to video meetings and smart metering, advances in technology are making it easier to operate in a more sustainable way. As 5G enables much more widespread use of connected devices, we'll see many more devices capable of monitoring and regulating emissions and energy use, allowing us to take appropriate action to reduce our footprint.

**Adaptability and resilience is key:** The COVID-19 pandemic is having a profound impact on the way many of us live and work. For many businesses, the shift to remote working during the crisis significantly reduced their environmental impact. Now, many are taking a step back to consider how a permanent shift to lower-carbon workstyles could help to keep emissions down for the long term.

> Setting greenhouse gas emission reduction targets in line with climate science is a great way to future-proof growth.[11]

9. United Nations, Sustainable Development Goal 13
10. https://www.finance-monthly.com/2020/01/blackrock-climate-risk-is-investment-risk
11. Science Based Targets Initiative, https://sciencebasedtargets.org

# The lockdown effect

Daily global $CO_2$ emissions decreased by **-17%** by early April 2020 compared with the mean 2019 levels[12]

**17**%
↓

At their peak, emissions in individual countries decreased by **-26%** on average[12]

**26**%
↓

12. Corinne Le Quéré et al, Temporary reduction in daily global CO₂ emissions during the COVID-19 forced confinement, Nature, May 2020

# Five steps to building your roadmap

If you're making a commitment to reducing $CO_2$ emissions in your business, it's useful to build a roadmap that helps you do that. Without one, it's easy to lose sight of where you're going, what you've achieved so far, and what still needs to be done.

Creating your own roadmap can be daunting and there's a lot you need to measure to understand what your emissions look like today and where you can start making reductions. If you don't feel you have the knowledge or resource internally, you could work with an expert partner.

Our operations at O2 are fairly complex. So after setting our target, we chose to work with the Carbon Trust to understand where we are today and create a roadmap that will allow us to stay focused and keep track of our progress over time.

Here's a good five-step process you could use as a starting point to implement a framework in your business:

## 1 Engage your senior executive team

It's essential to engage your senior leadership team in understanding and committing to reduce your business's environmental impact.

Strong leadership is a key success factor for any environmental initiative – especially if it's likely to entail big changes in the way your business operates. When the senior team are visibly leading change, it instils a sense of purpose and direction that inspires others to get on the journey.

To secure buy in, it's useful to build a compelling business case, which sets out how the business and your customers will benefit. For example, you might demonstrate how a carbon reduction initiative can lead to more efficient and resilient ways of operating, or how it could attract environmentally conscious customers and investors.

## 2 Measure your current emissions

Understanding your current emissions profile across your core business and wider value chain allows you to create a baseline against which you can measure your progress. It will also allow you to identify emissions in your direct control and those that require engagement and influence – for example, in your supply chain.

Every organisation looks different. The Greenhouse Gas Protocol (see page 5) provides a helpful outline of the emissions across Scopes 1, 2 and 3 and areas you'll need to assess and measure. Getting the measurements involves a process of data-gathering from different sources, to form a picture of your Scope 1, Scope 2 and Scope 3 emissions. Sources could be:

- Gas and refrigerant bills and annual statements
- Electricity bills and annual statements – including % from renewable sources
- Travel by air, train, bus and car
- Fuel/mileage expense claims
- Company car telemetry
- Quantity and type of products purchased in reporting year

- Upstream and downstream transportation, including:
  – Transport method
  – Distance travelled
  – Volume/weight of goods per journey
  – Number of journeys
- Quantities of waste by type
- Number of products sold in the reporting year divided by category

## 3  Set an overall target and annual targets

Understanding your current emissions will allow you to set realistic targets for carbon reduction.

The data will enable you to define which target to aim for and by what year. For example, measuring our emissions at O2 enabled us to set an ambitious but realistic target of net zero by 2025 while providing our products and services. Once you have that end goal, you can set annual targets and review your progress regularly. These targets can be certified by an external body (e.g. The Carbon Trust) if required for your reporting.

We all have a responsibility to tackle the climate crisis, and to go further, faster. While your targets may be realistic and achievable, we'd encourage you to be as ambitious as you can within those parameters.

## 4  Decide on your initiatives

Once you've decided on your yearly emissions targets, you can identify the areas where you can make reductions, and begin devising initiatives that will enable you to achieve them. While every business is different, here are a few ideas that almost any business could consider:

- **Switch to 100% renewable energy sources:** We made this our aim in 2008, and today we use 100% renewable energy at sites where O2 directly controls the bill. Now, as part of our 2025 net zero journey, we're planning to collaborate with our third-party landlords to support their transition to renewable energy too.

- **Review your flexible working policies:** As well as driving down emissions, reducing office-based working can cut workspace costs and make people happier. We know now that many people work just as productively at home – and there may be other options to explore, too, like co-working hubs near people's homes. Our Flexible Working Calculator can help you identify areas where you could cut your carbon footprint with flexible working.

- **Update your travel policies:** Implementing a virtual-first policy for meetings could see your travel-related emissions stay permanently low. As a bonus, your travel costs will reduce and your people will get more time back. If travel is necessary, you could explore replacing petrol vehicles with electric vehicles (EVs), or compensating for emissions through a carbon offsetting or certified Greenhouse Gas Removals (GGR) scheme.

- **Review your equipment:** Older technologies tend to have higher energy consumption rates. Review your ICT, mobile and networking equipment. Could they be replaced with energy-efficient alternatives – and are there any you don't actually need?

- **Get your employees on board:** Many people in your organisation will welcome the opportunity to make a positive impact on the environment. Ask for suggestions, encourage them to form working groups, and offer prizes for the best ideas or most successful initiatives. You may also consider introducing initiatives to help remote workers to reduce their footprint at home, for example by helping them to switch to renewable energy.

- **Audit your suppliers:** Scope 3 emissions are the hardest to influence, but collaboration can have a big impact. Invite your suppliers to join you on your emissions reduction journey, and hold regular forums to review together where the best results can be achieved. When selecting new suppliers, favour suppliers that are willing to commit to carbon reduction goals.

### Green Savings Calculator
**Estimate the sustainability savings your digital workplace could make**

See how flexible working initiatives and technologies could help your business save not just carbon, but also time and costs.

Our calculator will help you quantify the carbon, cost and time savings of working flexibly so you can work out the best solution for your business.

Our team can go through the calculator with you, giving your business a big head start on your carbon reduction journey. Get in touch

## 5 Measure and report on your progress

Measuring your progress regularly is essential, as you'll need to know if you're on track to meet your target. If you're not, regular reviews are an opportunity to rethink your initiatives or add new ones. We plan to review our progress once a year, and adapt our initiatives accordingly.

You'll want to give some thought to reporting, too – whether that's internally to employees and stakeholders, or externally to customers, investors, government and the general public. At O2 we want to be held publicly accountable for achieving our net zero ambition, and being transparent about what we're doing and what we've achieved is a big part of that.

And with more customers and investors favouring environmentally sound companies, your reports could be a source of competitive advantage as well as inspiring other organisations to follow your lead.

Reporting doesn't always need to be formal, either – think about sharing your initiatives and achievements with other organisations in forums, events and on social media. The more we can share with and inspire each other, the more we can collectively achieve.

# Reduce your $CO_2$ footprint with $O_2$ technologies

By using digital workplace technologies for smart and remote working within our own business it has enabled us to save more than 20,000 tonnes of carbon since 2012.[13]

Here's some ways we can help your business to reduce carbon emissions too.

## Minimise travel with digital workplace technologies

Our tailored digital workplace solutions enable businesses of all sizes to improve efficiency, productivity and cost savings – all while reducing their impact on the environment.

Find out more →

## Reduce energy consumption with energy-efficient hardware

Moving to the latest energy-efficient devices across your business can significantly reduce your carbon emissions – and your energy costs. Our O2 Capital solution can help you finance a hardware refresh, whether it's mobile handsets, laptops, tablets or network equipment.

Find out more →

## Connect to the UK's No.1 Network

When you connect to the O2 network, you're connecting to a mobile network where calls, texts and data are powered by cleaner, greener energy. O2 is also the connectivity provider for the UK Government's Smart Metering programme, which is central to Britain's efforts to reduce its $CO_2$ emissions and reliance on unsustainable fuel sources.

Find out more →

## Use data and insights to understand and reduce your emissions further

If you can measure it, you can manage it. Our IoT and M2M solutions generate insights that can encourage behaviours that improve energy efficiency. O2 Motion, meanwhile, can deliver fine-grained insights into your fleet movements, allowing you to optimise routes and journeys to minimise emissions.

Find out more →

13. https://news.o2.co.uk/press-release/o2-set-to-become-uks-first-net-zero-mobile-network/

# Here's some ways we're helping our customers

## How 5G will have a role to play reducing carbon impact

Find out more about the role that mobile technology and innovative 5G solutions can play in reducing the carbon impact across four of the economy's largest sectors where there's a clear opportunity for connectivity to drive significant reduction in carbon. We look at transport, utilities and home energy, manufacturing and healthcare to understand how the smart cities homes, and industries of the future can be even greener.

**Find out more** →

## Using new tech to enable immersive and enhanced customer experiences

At Northumbrian Water Group, the ability to quickly install, fix and maintain complex infrastructure is a priority. That's why they're currently exploring the use of 5G-enabled AR headsets that allow real-time support, with instructions overlaid in field engineer's vision. As well as three other trials to see how a 5G network could enable their business.

**Find out more** →

## Reducing traffic congestion in our towns and cities

Like many towns Newark had a traffic congestion problem, which wasn't only affecting people's journeys but was also having an impact on local businesses. The Newark and Sherwood District Council needed a solution and the first step was to get the evidence needed to make a case to the County Council and the Highways Agency.

**Find out more** →

## Reducing fuel expenditure by optimising routes and improving driver behaviour

We're working with food logistics specialist Bidfresh to update their existing vehicle tracking system. The aim is to improve mobility and strategic business decisions and take advantage of new developments in advanced telematics to reduce fuel consumption.

**Find out more** →

# Our net zero initiatives – and what we've learned

We're committed to sharing our insights and challenges as we embark on our own journey to net zero. Below, we'll share some of our initiatives, achievements, challenges and learnings from the past 12 years – and our plans for the next five.

We've been working to reduce our carbon footprint since 2008, and a lot of our initiatives are now mature and making significant carbon savings. Here's an overview of key environmental initiatives that have helped to pave the way for our ambitious net zero goal:

## Sustainability initiatives 2008-2020[14]

### Renewable energy
The biggest source of emissions for O2 is the electricity used for running our network. We started our renewable energy procurement in 2008 Today 100% of energy supply to sites where we control the bill is from renewable sources. That relates to 70% of the network and we have a programme in place to convert the remaining.

**Result:** £400 million invested in renewable energy

### Energy-efficient network equipment
We procure and deploy the most energy-efficient equipment in our mobile communications network, and use free cooling methods where possible.

**Result:** Emissions reduced by 80% relative to data traffic growth since 2015

### Recycling
We've been running our device recycling programme since 2009, longer than any other UK network. We also recycle old retail uniforms, turning them into processed fibre to make new products.

**Result:** Over 3 million devices recycled, saving 450 tonnes of waste from landfill

### Smart energy consumption
Supported by smart metering, we've applied advanced automation to energy consumption, introducing a 'smart turn-off' function on our network that drops capacity when demand is low.

**Result:** Over 6,000 megawatt hours of energy saved, equivalent to making 360 million cups of tea

### Flexible working and digital workplace
Introducing flexible working policies and digital workplace technology for our employees has significantly reduced travel and energy consumption.

**Result:** 20,000 tonnes of carbon saved since 2012
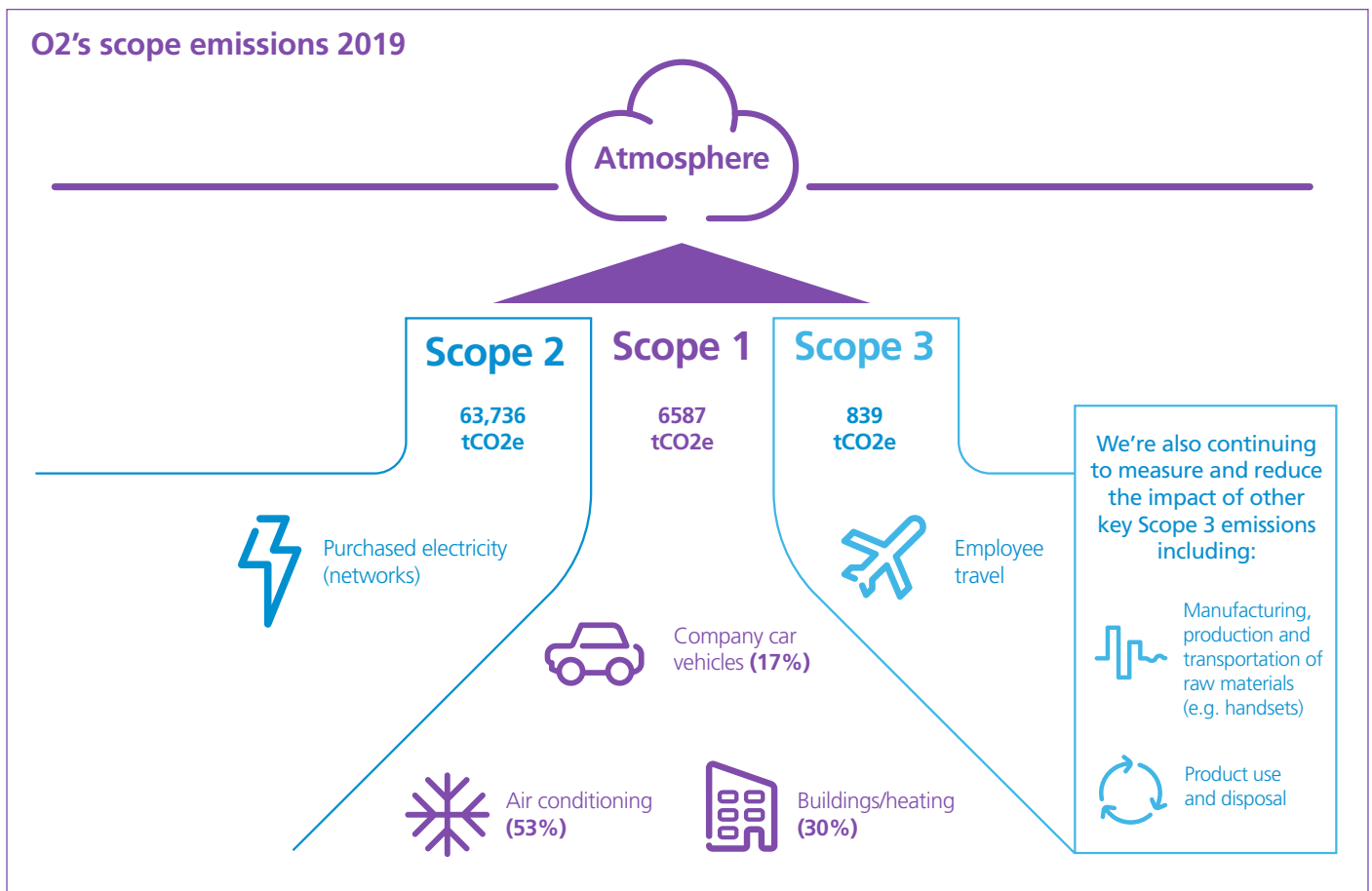
### Supply chain[15]
Throughout this period, we worked with our suppliers to agree efficiency roadmaps, and actively engaged with suppliers responsible for the major sources of emissions to ensure carbon reduction commitments were agreed and delivered.

**Result:** In 2016, we became the first organisation in the world to receive the highest level Carbon Trust Standard (level 3) certification for supply chain. In 2019, we were recertified to level 3 for supply chain, one of only three companies globally to achieve this highest level of certification.

14. https://news.o2.co.uk/press-release/o2-set-to-become-uks-first-net-zero-mobile-network
15. https://news.o2.co.uk/press-release/o2-telefonica-uk-recognised-with-highest-carbon-trust-standard-for-reducing-supply-chain-emissions/

# New net zero initiatives 2020-2025

## O2's scope emissions 2019

**Atmosphere**

**Scope 2**
**63,736 tCO2e**

**Scope 1**
**6587 tCO2e**

**Scope 3**
**839 tCO2e**

Purchased electricity (networks)

Company car vehicles **(17%)**

Air conditioning **(53%)**

Buildings/heating **(30%)**

Employee travel

We're also continuing to measure and reduce the impact of other key Scope 3 emissions including:

Manufacturing, production and transportation of raw materials (e.g. handsets)

Product use and disposal

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Now we're taking further steps to get us to net zero by 2025. New initiatives we announced in 2020 include[16]

### Renewable energy

We plan to work with third-party landlords that support the O2 network to support their transition to renewable energy, while creating technical and energy transition solutions across our whole business where needed.

### Supply chain

We plan to reduce supply chain emissions by 30% by 2025. We'll be working with the wider Telefónica Group to implement more ambitious carbon reduction targets to encourage suppliers to accelerate their efforts to reduce emissions. That includes making the agreement of a carbon reduction plan with all major purchase awards and removing single-use plastics from the O2 supply chain. Carbon reduction initiatives include the adoption of green energy, electric vehicles and maximising the eco-efficiency of products and services.

### Smart energy consumption

We're continuing to apply new automated network functions to further reduce energy consumption. For example, the application of new self-optimising network technologies.

### Smart metering

By providing connectivity for the UK's smart metering programme, we're helping to reduce household energy consumption.

# What we've learned

The journey to net zero is a necessary one, as we all have a responsibility to reduce our environmental impact as far as possible. As we've progressed on our journey, here are some key things we've learned along the way:

**Executive sponsorship is a huge advantage:** Our CEO Mark Evans is driving our net zero vision and passionate about the role that digital connectivity can play in creating a greener, connected future. With the leadership and support of Mark and our entire Executive team, we're committed to going further, faster – reaching net zero by 2025 while providing our products and services and helping our customers and suppliers on their journeys too.

**Employees actively want to be involved:** Many O2 employees see our net zero ambition as a win-win: with flexible working to fit around their schedules, the latest low-consumption devices, a clear purpose to work towards, and an opportunity to make a positive impact on society. We've set up an employee network, the Greener Network, as a space for employees who are passionate about the environment to discuss, question, challenge and take action to make O2 a greener business.

**There's a lot of scope for big, quick wins:** Switching our electricity supply to 100% renewable sources has made a significant contribution to reducing our emissions. With a lot of eco-friendly suppliers to choose from, this is a switch that's easy to make and has long-lasting positive impact.

**The last mile is the hardest:** We're working hard to eliminate as much $CO_2$ as possible from our own business and supply chain. However, we recognise that we'll need to compensate for some of our hardest-to-decarbonise emissions through offsetting and certified GGR schemes.

**Scope 3 emissions are a challenge – but collaboration is the key:** It helps to remember that your Scope 3 emissions are another business's Scope 1 and 2. By working with suppliers, customers and employees, we can all get to net zero faster. We're doing this by working with our supply chain, providing networks that help everyone work more efficiently, and sharing our initiatives and learnings as we go.

# Take the first steps to net zero today

In this paper we've looked at why we all have a responsibility to reduce our carbon emissions, and why now is the right time to start or recommit to your low-carbon journey.

We've also looked at a framework for starting and maintaining your carbon reduction initiatives, and some of the ways that O2 is aiming to achieve net zero by 2025.

Now it's over to you. We've included some useful resources below that you can draw on right now to get your own net zero journey underway – or to support the journey you're already on.

And if there's anything you'd like to discuss with us, or any of your own initiatives and learnings you'd like to share, please get in touch. We're all on this journey together, and we'd love to hear from you.

# Useful resources

**The Carbon Trust:** An expert partner for businesses, governments and organisations around the world – supporting them in realising ambitious plans for a sustainable, low-carbon future: www.carbontrust.com

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**Science Based Targets Initiative:** A collaboration between CDP, the United Nations Global Compact (UNGC), World Resources Institute (WRI), and the World Wide Fund for Nature (WWF), the SBTi has many resources to help your business reduce emissions in line with the 1.5°C ambition: www.sciencebasedtargets.org

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**Greenhouse Gas Protocol:** An organisation that establishes comprehensive global standardised frameworks to measure and manage greenhouse gas (GHG) emissions from private and public sector operations, value chains and mitigation actions: www.ghgprotocol.org

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**Intergovernmental Panel on Climate Change:** The United Nations body for assessing the science related to climate change: https://www.ipcc.ch

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**O2 Blueprint:** Our blueprint for helping the whole of the UK to tackle climate change and work towards a greener future: Read more

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**O2 solutions:** Our solutions to help you work smarter: Find out more

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**Future of Flexible Working:** Research report: Read now

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**Greener Connected Futures:** Report, in partnership with IC&CO and Cenex: Read now

## Get in touch
Call us on **0800 955 5590** or visit our website

*Telefónica*