

Tackling climate change and environmental challenges

Investing... in a cleaner tomorrow

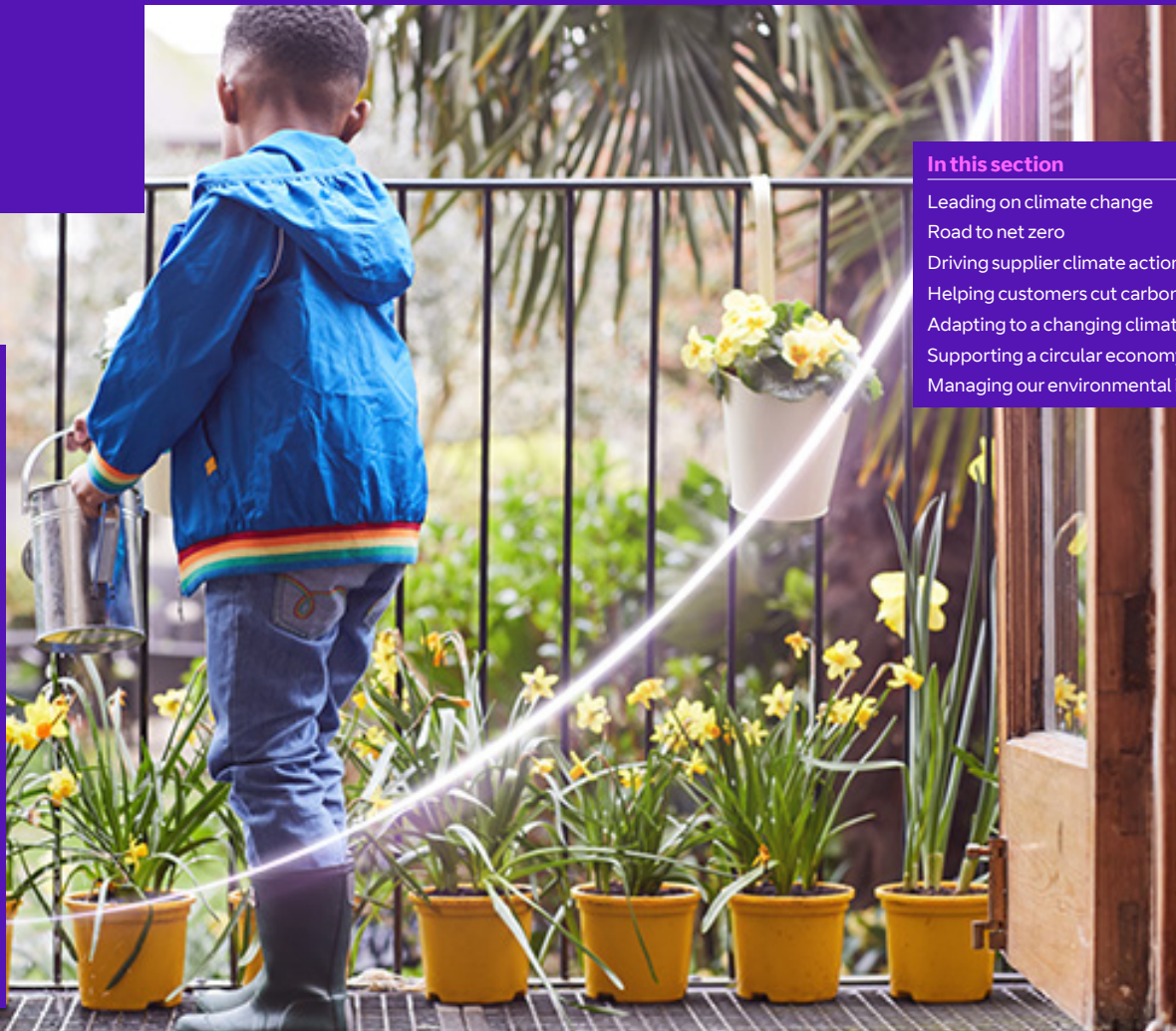
We've been leading on climate action for more than 25 years. Now we're going even further to help tackle the climate emergency – and other environmental challenges.

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Our technology and networks have a huge role to play in enabling the innovative solutions and exponential change needed to achieve a zero carbon economy. We're already purchasing 100% renewable electricity in the UK, and plan to extend that globally in the year ahead. This, together with our plans to decarbonise our buildings and vehicle fleets, will help us to achieve our goal to become a net zero emissions business by 2045.



Howard Watson,
Chief technology and
information officer



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Tackling climate change and environmental challenges continued

Leading on climate change

Climate concerns hit new heights this year with widespread protests, school climate strikes and the latest warnings from the International Panel on Climate Change. Citizens and scientists are demanding urgent global action from governments and businesses.

BT has a long-standing track record on leading the way on corporate climate action. We achieved our first science-based target four years early – cutting the carbon intensity of our operations¹ by 80% in 2016. Now we're accelerating action to reduce our carbon intensity² by a further 87% by 2030, in line with the latest science to keep global warming to 1.5°C above pre-industrial levels. By 2045, we aim to be a net zero carbon emissions business.

Our focus on climate doesn't begin and end with our own operations. We're using our influence, technology and reach to inspire and enable wider action to tackle the climate emergency – by our customers, our suppliers, our industry and beyond.

We made £5.5bn of our revenue this year from products and services that helped customers avoid using c.13m tonnes of carbon emissions. We're partnering with suppliers to reduce their emissions and spur eco-innovation. And our stretching goals are helping to drive industry progress towards the UK Government's new 2050 zero emissions target for the economy.

Inspiring climate action

In June 2019, the UK became the first major economy to pass a net zero emissions target into law – setting a deadline of 2050.

The Government also plans to bring forward, from 2040 to 2035, the phase out of sales of new petrol, diesel and hybrid cars.

Our own 2045 net zero ambition will contribute to these goals and we welcome the role national policy can play in encouraging other big companies to join us. We held several events for peers and policymakers this year to help accelerate action to turn the UK's net zero vision into reality.

During London's first Climate Action Week in July 2019, we brought together tech, power, finance and infrastructure leaders to discuss how information communications technology (ICT) can support the economy's low carbon transition. In November, we invited MPs from four parties to lay out their climate plans at a Question Time style event in the run up to the UK general election. We ran both these events with our long-standing partner Aldersgate Group.

How innovation and technology are enabling businesses to win in the race to sustainability was also the main topic at the Nextipedia summit we hosted for business leaders at this year's BT Young Scientist and Technology Exhibition in Dublin.

On the global stage, we were an active business voice for progress during Climate Week NYC and at the COP25 climate summit, where more major companies followed our lead by announcing science-based carbon targets. BT was one of the first three companies in the world to set 1.5°C science-based targets, back in 2017. Now, over 200 companies have signed up to the [UN Global Compact 1.5°C pledge](#). We aim to play a leading role at the next COP, due to be held in Glasgow in 2021.

Case study:

Climate risks and opportunities for our business

A changing climate brings risks and opportunities for our business, and we're responding to both.

We're working to reduce our emissions across our value chain and implementing efficiency measures that save on energy and bills. We're taking steps to improve our operations' climate resilience in the face of more extreme weather that could otherwise prove costly. And we're driving revenue growth with products and services that help customers avoid carbon emissions.

We support the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). See our 'Task Force on Climate-related Financial Disclosures (TCFD)' section of the [appendix](#) in our download centre, for more information on our approach to climate-related financial risks and opportunities in line with the TCFD.

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BT is a uniquely active and progressive member of the Aldersgate Group. It has delivered on all its key environmental targets to date and has now taken on an industry leading target of net zero emissions by 2045. BT also invests significant time in helping strengthen the UK's climate policies, including contributions to numerous policy reports from the Aldersgate Group.



Nick Molho,
Executive director,
Aldersgate Group

¹ From 1996 levels, scopes 1, 2 and operational scope 3 emissions per unit of gross value added (calculated as EBITDA adjusted (before specific items) plus employee costs).

² Scopes 1 and 2 emissions per unit of gross value added (calculated as EBITDA adjusted (before specific items) plus employee costs).

Road to net zero

We're focusing on three areas to become a net zero carbon emissions business by 2045. Complete the switch to renewable electricity. Decarbonise our buildings. And transition to a low carbon fleet.

Switching on to renewables

BT consumes nearly 1% of the UK's entire grid electricity supply and have long been a pioneer in the use of renewable supplies. We're part of the [RE100](#) campaign and we're using our purchasing power – and our relationships with colleagues, customers and suppliers – to drive the market for renewable power.

100% of the electricity we directly purchase in the UK from energy suppliers is renewably sourced, of which 16% is from our Power Purchase Agreements. Worldwide, 92% of our total electricity consumed is renewably sourced, an increase from 86% last year. This is despite extending the scope of our reporting to include all countries where we use electricity, not just where we purchase it directly, in line with the new UK Streamlined Energy and Carbon Reporting regulation. By the end of 2020, we aim to source 100% renewable electricity worldwide, where markets allow.

Decarbonising our buildings

Shrinking carbon emissions from the 6,000 buildings in our UK operations can make a sizeable difference to our footprint. This year, we invested £45.3m in energy management projects in the UK, which cut operating costs and contributed to a global energy reduction of 65GWh (2.3%) in our energy consumption. Overall these investments have saved us £343m since 2009/10.

Tackling climate change and environmental challenges continued

Transparency helps drive climate action and we encourage our suppliers to report to CDP, which runs an environmental disclosure system used by over 500 investors with almost US\$100 trillion in assets. In 2019, 304 suppliers provided CDP with climate-related data (up from 292 last year). Together, they make up 52% of our total spend. Of these, 74% have targets to cut emissions and 55% report that their scope 1 and 2 emissions have gone down this year. CDP disclosures also showed that 60% of those reporting buy renewable electricity (up from 54% last year) and 69% work with their own suppliers on climate change.

Our performance

Our goal is to reduce scope 3 emissions from our supply chain by 29% from 2016/17 levels by 2030. So far, we've worked with suppliers to achieve an 8% reduction to 3m tonnes, mainly by encouraging suppliers to report to CDP, benchmark their performance and drive emissions reductions.

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We are pleased to support BT with practical steps to reduce carbon emissions throughout the supply chain. Working in unison both with customers such as BT and jointly with our supply chain has the potential to deliver far greater impact on carbon emissions than some standalone initiatives. Combining best practice energy efficiency measures from two experienced companies delivers not just carbon reductions and a more sustainable supply chain, but also a highly competitive supply chain which benefits everyone, creating real shared value.

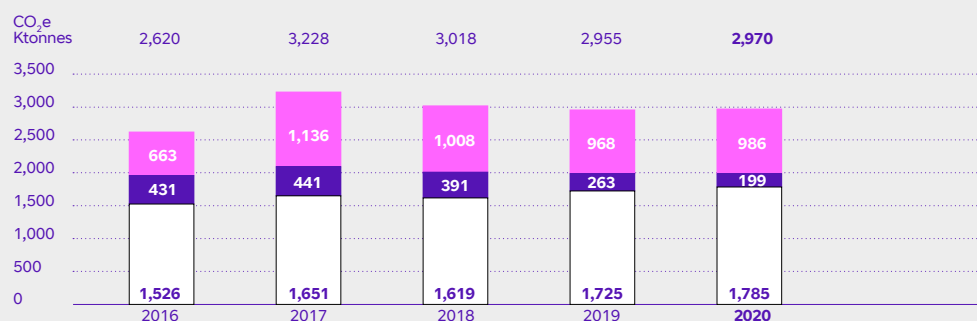


Cormac Whelan,
CEO UK & Ireland, Nokia

Supply chain emissions (breakdown of scope 3 emissions)

Year ended 31 March

- Embodied emissions of network, IT and retail electrical equipment.
- Interconnect (termination of calls on other Telco's networks).
- Other supply chain emissions (materials, cable, fuels and services).



Helping customers cut carbon

ICT could reduce the UK's carbon emissions by an estimated 24% a year in 2030. Such solutions to help tackle the climate emergency include established BT products and services like broadband, teleconferencing and cloud networking – and newer innovations such as the Internet of Things (IoT) technologies.

These carbon-saving products and services help our customers cut energy, fuel and emissions. They're also helping us grow our business, these products generated over £5.5bn in revenue this year.

Case study:

Streamlining CCTV saves Sussex Police time, money and carbon

Until recently, Sussex Police used nine different CCTV systems and control rooms, each with its own video management system. When officers needed to see video on different systems, they had to drive around the county – clocking up around 180,000 miles a year. This was putting a strain on police time and budgets for fuel and vehicle maintenance.

We helped them fix this by consolidating the system into a single control room in Lewes and plugging 500 public space CCTV cameras into this new network. Thanks to our technology, officers can now access any camera from any Sussex Police location, saving time, fuel and emissions.

How we help reduce CO₂e emissions

Impact

Reduces need for travel

Reduces energy use

Reduces amount of materials and manufacturing

Savings (CO₂e)

10.6m tonnes

1.3m tonnes

0.9m tonnes

Types of products and services

- Broadband
- Conferencing
- Teleconferencing
- Field Force Automation
- BT Apps (remote collaboration)
- Machine to Machine (M2M) connectivity, such as smart meters and vehicle telematics
- Auto Mate

- Broadband
- Ethernet
- IP communications (cloud-based VoIP phone systems)
- BT Mobility (BT One Phone)
- BT Apps (remote collaboration)
- BT Connect
- Cisco SD-WAN

- Broadband
- Ethernet
- IP communications (cloud-based VoIP phone systems)
- BT Mobility (BT One Phone)

Tackling climate change and environmental challenges continued

Expanding technology frontiers

IoT is one of the next generation technologies we're harnessing. It works by enabling machines and objects, such as sensors, to send and receive data that customers can then use to make their operations more efficient.

Engineers at our dedicated IoT centre of excellence develop solutions for businesses in sectors like retail, logistics and transport. Our own operations can provide a useful testing ground for trialling services that could benefit our business and others. This year, several customers have deployed Auto Mate from EE, a system originally trialled in our own fleet.

Auto Mate collects fuel economy and carbon footprint data to guide customers on how to save emissions, fuel and costs from running their fleets.

We've also tested new smart site management solutions that require fewer visits by facility managers. For example, we're trialling sensor technology to enable a social housing provider to monitor energy supplies, heating, water leaks and safety equipment remotely to help cut costs and carbon, and improve living conditions for tenants. In cities, councils are using data from our IoT solutions to explore how to better manage operations like street lighting. And we're working with Northumbrian Water to explore how sensors can help pinpoint water leaks.

Our performance

We've now helped our customers save three times as much carbon as our own end-to-end carbon emissions – achieving our 3:1 carbon abatement target one year early.

This year, our carbon-saving products and services helped customers save c.13m tonnes of CO₂e.

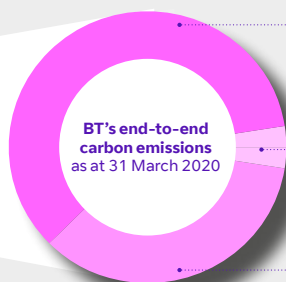
That means for every tonne of CO₂e emitted – in our operations, supply chain and from product use – we've helped customers save over three tonnes of greenhouse gases.

We have achieved our 3:1 goal one year early

Our 3:1 ambition

We will help customers reduce carbon by three times...

...BT's end-to-end carbon emissions



69%

upstream supply chain

7%

our own operations

24%

customers using our products

Our progress

Measured in tonnes of CO₂e

2019/20 result

12.8m 4.2m 3.1:1

2018/19

12.4m 4.3m 2.9:1

2017/18

11.5m 4.6m 2.5:1

2016/17

10.1m 5.1m 2:1

2015/16

7.8m 4.4m 1.8:1

Tackling climate change and environmental challenges continued

Adapting to a changing climate

We're already seeing the impact of climate change in the UK with longer heatwaves, more intense storms and heavier rainfall. These pose a growing risk to our business, customers and country (see our [Annual Report](#) for more on our reporting in line with the Taskforce on Climate-related Financial Disclosures).

BT provides essential communications services as part of critical national infrastructure across the UK. We must be ready and able to respond to more unpredictable and extreme weather to keep our networks up and running – and help people and businesses stay connected.

Monitoring weather extremes

Our weather resilience programme enables us to monitor and mitigate climate-related risks. This year, we launched a strategic programme to inform future-proofing of our estate, including improvements to fixed and mobile networks and our data centres.

We've also improved our daily risk reports that share weather intelligence across the business on possible threats to our UK assets. During near record temperatures in July, we issued a red level alert pinpointing 4,069 key BT buildings at risk from excessive heat and 2,106 at risk from lightning and related rainfall. These warnings enabled colleagues at vulnerable sites to safeguard equipment and vehicles, proactively deploy cooling and prepare operational and contact centre staff to respond to possible outages.

Monitoring, early warning systems and planning for severe weather also helped us minimise impacts on our operations and contact centres during the UK's wettest February on record with three major storms.

Preparing for flooding

To enhance resilience to climate-related risks, we've mapped our UK sites at highest risk of flooding and set up fully equipped flood hubs around the country with resources at the ready to protect them. We've invested in more high capacity pumps, flood barriers, tools and other emergency-related equipment this year. And we've trialled the use of drones to check for debris that could block rooftop gutters.

We run our operations from over 6,000 buildings, 19,000 base stations and 200,000 street cabinets around the UK so we prioritise exchanges that individually serve more than 10,000 customers. We've also strengthened our process for protecting street cabinets from water entry during floods.

Rapid emergency response

Extreme weather events are on the rise, and with them threats to people, property, infrastructure and services. Our emergency response teams and resources are always at the ready to deploy emergency communications services anywhere in the UK.

This year, we mobilised these teams to protect sites from flooding, including our telephone exchange in Shrewsbury that serves thousands of people and our Madley satellite station in Herefordshire that supports communications and media broadcasting services. The teams also provided emergency communications to support the police, local authorities and communities during several high-profile incidents – including the dam collapse at Whaley Bridge in Derbyshire (see box).

Case study:

Connecting emergency services to help avert a catastrophic flood

When Toddbrook Reservoir partially collapsed during heavy rain in August 2019, over 1,500 residents of nearby Whaley Bridge faced losing their homes under 1.3m cubic metres of water. Evacuated to nearby schools and sports centres, they waited while the emergency services raced to shore up the dam.

We stepped in to set up extra telephone lines and a superfast broadband circuit to support the emergency workers and civil authorities. Experts from our emergency response, major incident and civil resilience teams worked round the clock to help secure the site within 29 hours and enable emergency services to carry out their jobs effectively.



To help protect flood-prone communities, we're partnering with Stobart using IoT technology to monitor key equipment around England and enable swift delivery of flood defence kit for the Environment Agency. We're also discussing with the water industry how we can further protect our assets from flooding related to mains water leaks. The volume and pressure of a mains leak can overwhelm our three-line defence system of seals, flood alarm sensors and sump pumps that protect our infrastructure under normal circumstances.

By working with the water industry, we're aiming to ensure that repairs to any mains leaks that impact on our critical infrastructure are repaired quickly to prevent service disruption.

Tackling climate change and environmental challenges continued

Supporting a circular economy

Waste is bad for the environment and bad for business. We want to contribute to an economy that drives down waste and uses resources again and again.

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Hewlett Packard Enterprise (HPE) and BT have a long-standing partnership working to improve the sustainability of the technology industry. Over the course of 2019, BT purchased hundreds of HPE certified pre-owned IT assets to repair legacy systems and reduce the environmental impacts of their IT infrastructure. Together, we are contributing to a more circular economy by refurbishing and recycling used IT equipment, saving BT more than nine tonnes of emissions, 2,400kg of waste and 28MWh of energy.



Christopher Wellise,
Chief sustainability officer,
Hewlett Packard
Enterprise

Getting drastic on plastics

In total, half of all plastic produced is designed to be used only once – and then thrown away. Plastic waste is choking our waterways and oceans, and has become a global threat to biodiversity that no responsible business can ignore.

That's why we launched a new [plastics policy](#) this year. In it, we've set a goal to ensure that by 2025, 100% of the plastic packaging we procure and send to customers can be reused, recycled or composted.

We've already taken steps to meet this pledge. We cut plastic wrapping used to deliver bulk shipments of phonebooks across the UK from 67.8 tonnes in 2018 to 25.7 tonnes in 2019. Last year we shrunk the plastic surrounds for the SIM cards we send to BT customers and we'll do the same for EE customers later in 2020.

This goal is about the plastic we buy, so we need suppliers to play their part. This year, we added single-use plastic usage into the [environmental questionnaire](#) that informs our procurement decisions. Over the next year, we also plan to encourage relevant suppliers to adopt a plastics clause in our contracts similar to our climate clause (see [page 22](#)).

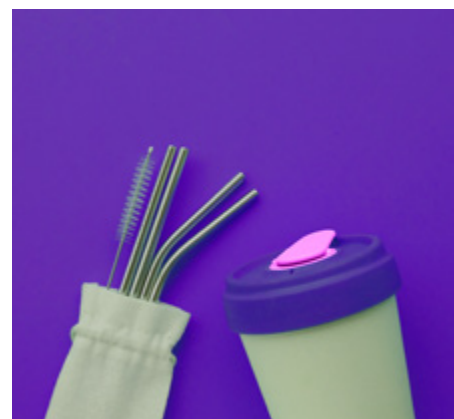
Openreach brought together engineers, suppliers and procurement teams to map out 600 opportunities to reduce plastic and other packaging, as well as single-use plastics, through their 'Waste Warriors' project this year. They've already worked with suppliers to eliminate plastic packaging for some of the gear most frequently used by Openreach engineers. For example, one supplier has stopped using plastic bags to package the 30,000 safety helmets it provides to us.

Our plastics policy also commits us to recycle more of the plastic we use in our own operations. We are working with our catering suppliers to engage with our colleagues to reduce single-use plastic in our restaurants – for example, last year we stopped using plastic straws, stirrers and cutlery. And our 'getting drastic on plastic' colleague engagement campaign won Ethical Corporation's 2019 award for purpose driven communications.

Case study:

Plastics hackathon

Colleagues and suppliers turned out in force for a hackathon to come up with plastics-free proposals. We're now exploring how to take the most promising ideas forward.



Giving old equipment new life

In order to reduce waste from our products, we firstly look to minimise the amount of materials used to make and package them. We build this principle into our product design and procurement approach.

Secondly, we aim to keep materials in circulation, even after a product is no longer needed. We encourage customers to return products for recycling or refurbishment through, for example, EE's [Recycle & Reward](#) programme which provides a free postal pack to trade in or return used phones.

This year, we introduced a clause in new BT customer contracts to incentivise return of products and reduce electronic waste. Customers are informed that they will incur a fee if they don't return home hubs and TV set-top boxes at the end of their contract. By refurbishing and recycling used equipment, we will reduce the amount of e-waste going to landfill sites.

In our own operations, we partner with recyclers and suppliers to recover and purchase used equipment like servers. We're partnering with Hewlett Packard Enterprises to buy and reuse pre-owned spare parts (see quote) and we're working with N2S, a technology lifecycle management company, to prevent old equipment from exchanges going to landfill. This year 319 tonnes of used BT equipment were processed by N2S, 315 tonnes were recycled and over 4 tonnes reused, saving over 952 tonnes of CO₂e emissions.

Tackling climate change and environmental challenges continued

Managing our environmental impacts

Tackling climate change and supporting a circular economy are the ways we can make the biggest difference to the environment as a business. But we're also careful to manage our other environmental impacts – from reducing waste and water use to tackling air pollution, nurturing biodiversity and preventing fuel leaks.

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It's important for us to understand the levels of air pollution in the city as it can have a huge impact on the health and wellbeing of people who live and work here. We are exploring use of the new BT sensors alongside a number of initiatives already in place to measure air pollution and improve air quality.



Professor William Bloss, University of Birmingham, who leads the West Midlands Air Quality Improvement programme

To drive progress, we have a Group-wide environmental policy and Environmental Management System (EMS) – certificated to ISO 14001:2015 in ten countries (see the [appendix](#)). And we encourage colleagues worldwide to help us manage impacts by changing their behaviour, from recycling more to choosing our audio, video and web conferencing services over business travel.

Managing our waste

In the UK, where most of our operations are, we recycle or recover almost all our waste. We produced around 40.5 Ktonnes of waste this year worldwide (27% more than last year). 96% (99.5% in the UK) of this was recovered or recycled. The waste generated by our business increased for the second year in succession as a result of our network investments, disposal of legacy equipment and buildings rationalisation. Specialist contractors deal with the hazardous waste we produce, in line with regulations, and we're developing an app to track this waste. The app will provide clear guidance to our engineers on what types of waste are hazardous and simplify reporting to environmental regulators.

Taking charge of our water supply

We're increasingly using water in our adiabatic systems to cool equipment at our facilities as we work to reduce our climate impact by replacing older systems that run on greenhouse gases. The downside is that our water use is going up. It increased 5% last year and rose by a further 14% this year to 2.2m m³.

We're taking control of our water supply to help address this challenge. In 2018/19, we gained a licence as a water self-supplier in England. This means we now buy direct from a single water wholesaler, instead of multiple retailers.

Not only does this protect us against future price increases by buying wholesale, it also gives us better data and insight into how much water we're using where. This will help us to better manage our water use, and spot and fix leaks.

Tackling air pollution

Air quality can make a big difference to the health of our colleagues and communities. We're working to transition to electric vehicles so our fleet generates fewer carbon emissions (see [page 22](#)) and this will also reduce local air pollutants from diesel engines.

We're also using IoT solutions to help customers identify and address air pollution hotspots. For example, we're working with local councils in Bradford and Birmingham, where we've added air quality sensors to InLink street kiosks. The sensors take measurements every minute that are shared with the councils in real time to support effective action to improve air quality. Similarly, we support Swansea Council by using air quality sensors at CCTV sites to generate data.

Nurturing biodiversity

We recognise the growing global importance of biodiverse ecosystems. We're committed to minimising any negative impact from our business and we continue to monitor wildlife-related incidents or risks in our grounds. The natural environment aspect of our EMS helps us manage these impacts, and we're developing a new policy on waste and natural resources.

We're also exploring how we can support biodiversity at our sites around the UK, for example, by creating habitats on the roof of our new headquarters in London. Three peregrine falcon chicks hatched this year in the box we installed at our Adastral Park site with the Hawk and Owl Trust.

Managing fuel storage

When there's a power cut, and in some remote locations, we keep our customers connected by using generators to run our telephone exchanges, data centres and mobile base stations. These generators use diesel and BT has more than 6,500 oil storage tanks across the UK, largely to fuel this essential equipment, and we carefully manage the risks of oil spills or leaks from these tanks (see the [appendix](#) for more).

More on our environmental management and performance

See the [appendix](#) and supporting data for more on how we manage environment impacts, our performance, compliance and how we track risks.