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Net Zero Report 2023

WILTSHIRE +BATH AIR AMBULANCE

Foreword

Wiltshire and Bath Air Ambulance are a charity providing critical medical care by land and air, across Wiltshire, Bath and the surrounding areas.

We began operating in 1990 and the helicopter and crew have since saved countless lives. We shared a helicopter with Wiltshire Police for 24 years and began operating as a registered charity in 2015.

In 2022, we partnered with Positive Planet to measure our carbon footprint and begin our decarbonisation journey. Since then we have measured our emissions for two reporting periods, set carbon reduction targets and got started on some carbon reduction initiatives.

From measuring our scope 1, scope 2 and upstream scope 3 impacts, we have found that the procurement of goods and services (particularly aircraft maintenance and equipment) and our use of aviation fuel are our highest impact activities.

In addition to assessing the carbon impact of our activities, we have also committed to some Science Based Target Initiative (SBTi) aligned targets, including a commitment to reach Net Zero by 2050.

In this document, you can find our measurement results, methodology, near- and long-term reduction targets, and priorities for the year ahead.

In their most recent report, the Intergovernmental Panel on Climate Change (IPCC) concluded that human activities have increased global surface temperatures by 1.1˚C above 1850-1990 levels (IPCC, 2023).

This increase in temperature is already having adverse effects in regions across the globe, disproportionately affecting vulnerable communities that have historically contributed the least to global greenhouse gas emissions.

These adverse effects are responsible for the displacement of communities, water and food scarcity, negative human health impacts and damage to ecosystems.

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Why we're taking action

Why we're taking action

Our mission at Wiltshire and Bath Air Ambulance is simple: We Save Lives. This is why we need to acknowledge and help tackle the climate crisis to prevent catastrophic global impacts on our planet and its people.

We operate an essential service to people across Wiltshire, Bath and the surrounding counties, but we must also recognise that we fall within an emissions-intensive sector which is aviation. Aviation represents approximately 2.4% of global CO2 emissions; as such we will endeavour to explore any technological changes to assist us in reducing our impact on the environment.

All charities and businesses alike are scoping how they can reduce their carbon emissions. Like them, we are looking at every element of our organisation, whether this be the medical service, back-office functions, general infrastructure or running requirements, as each produces its own element of carbon. Our own sustainability strategy sets out a 68% reduction of carbon by 2030.

Efforts to decarbonise air travel face significant headwinds due to large technical barriers associated with removing or replacing jet fuel. However, there are promising signs of low-carbon innovation that we hope to benefit from over the next couple of decades. Not only do we aspire to reduce our emissions to Net Zero by 2050, but we also hope to inspire our partners, supporters, suppliers, and other stakeholders to take action.

Risks and opportunities

Embracing sustainable practices is not just a response to warnings of the worsening state of our climate, many actions that are required to reduce emissions are expected to have a positive impact on other areas of our operation.

Risks

- Supply chain disruption
- Human health impacts
- Rapidly changing regulations
- Increased insurance costs
- Increased heating and cooling costs
- Reputational risks

Opportunities

- Attract and retain talent
- Decrease insurance costs
- Increase efficiency
- Increase resilience to change

Our emissions

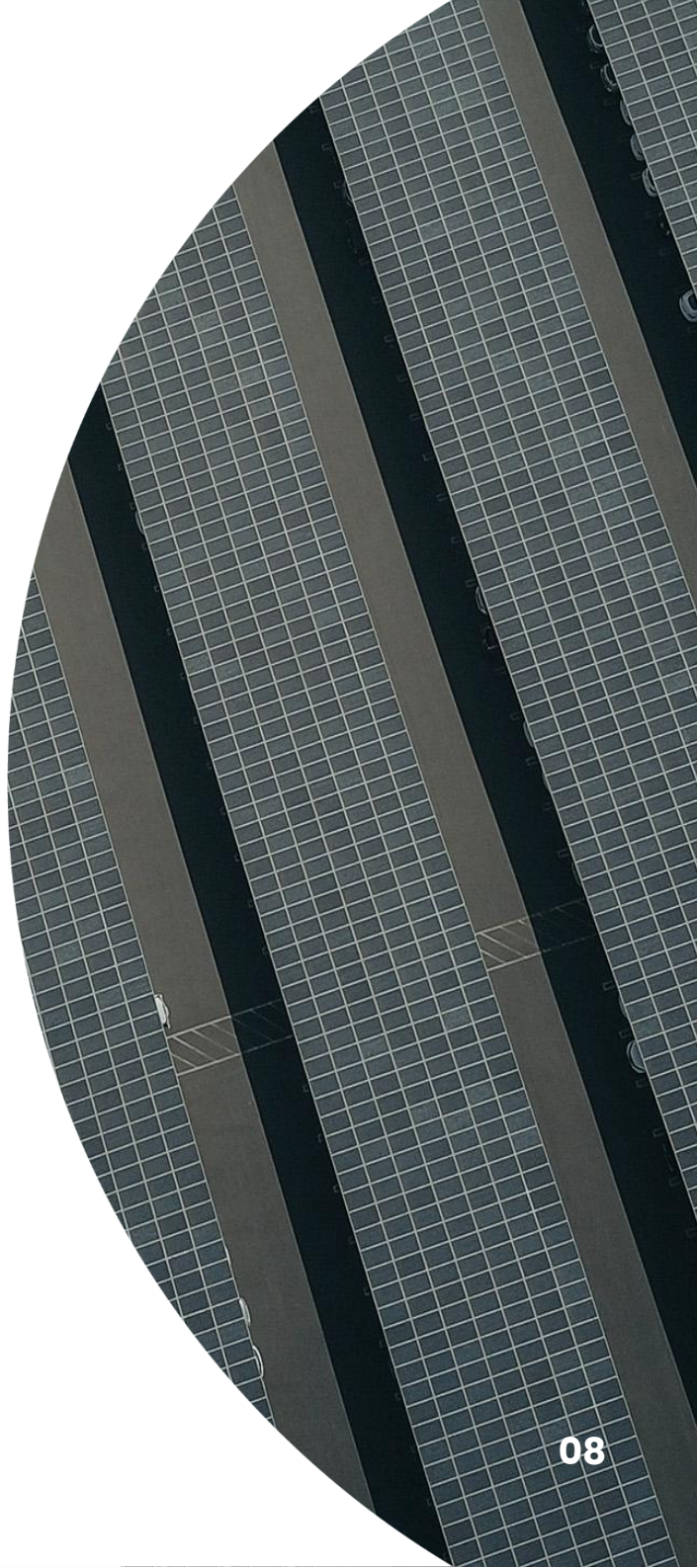
How we measure our footprint

Our carbon footprint has been measured using principles from The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard.

Six Greenhouse Gases are calculated as part of this emissions report, known as the six Kyoto Protocol GHGs. These gases occur the most often as a result of human activities, with the highest Global Warming Potential. For emissions reporting, these gases are simplified and measured in the unit tonnes of carbon dioxide equivalent (tCO_2e).

We measured all scope 1, scope 2 and upstream scope 3 emissions to create our carbon footprint. Downstream emissions are yet to be quantified, these include emissions associated with the disposal of our sold merchandise at end-of-life or our investments.

We report our operational and aircraft-related emissions (fuel and maintenance) separately.



CO_2 CH_4 N_2O HFCs PFCs SF_6 NF_3

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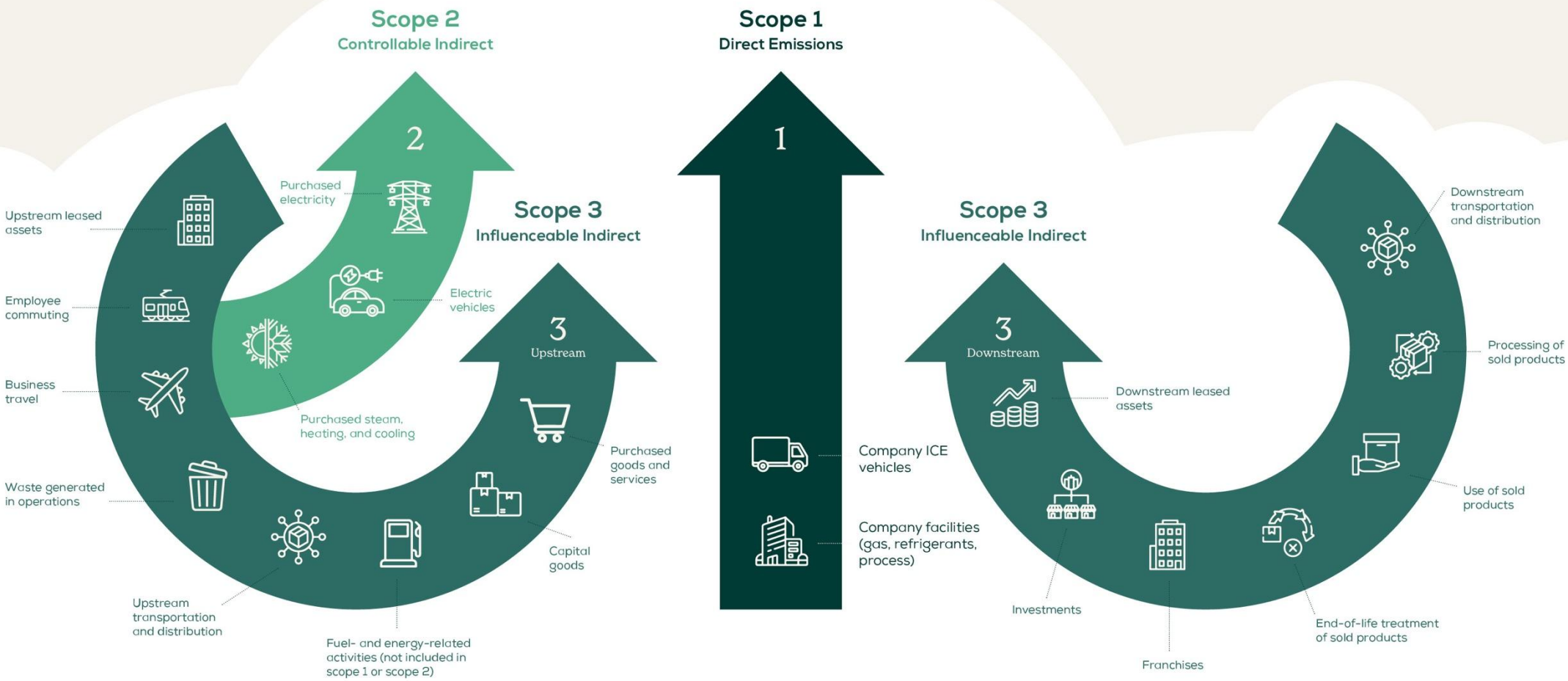
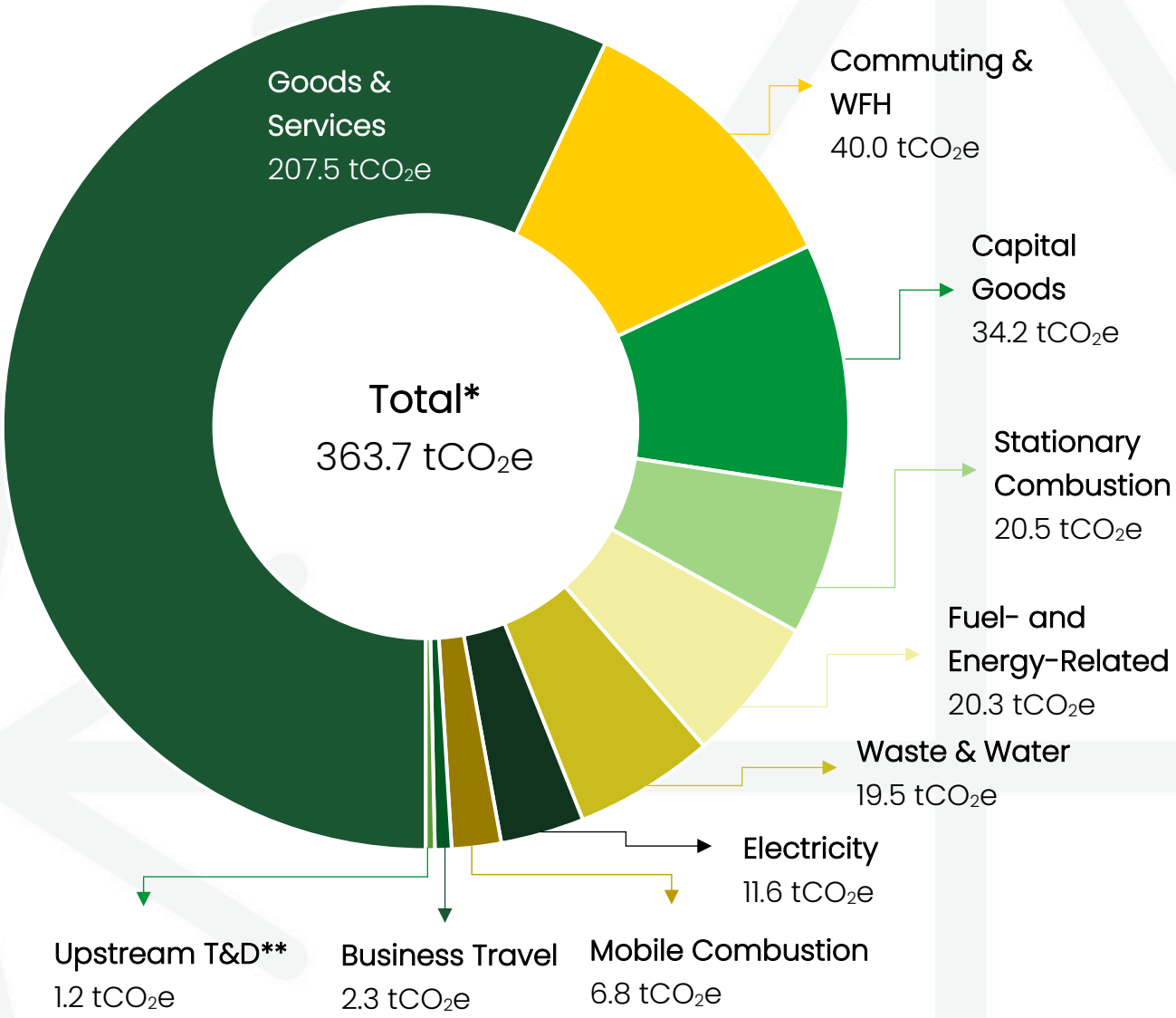


Upstream Activities | Reporting Company | Downstream Activities

Our 2023 operational footprint



**Transportation and Distribution

Reporting Period

1st January 2023 – 31st December 2023

Carbon Intensity Per FTE

13.0 tCO_2e / Employee

Carbon Intensity Per £1 Of Revenue

0.041 $kgCO_2e$ / £1 of Revenue

Scope 1 – 27.3
Scope 2 (Location-based) – 21.8
Scope 2 (Market-based) – 11.6
Scope 3 –324.7

High Impact Activities

- Purchase of medical supplies
- Purchase of capital goods
- Employee commuting

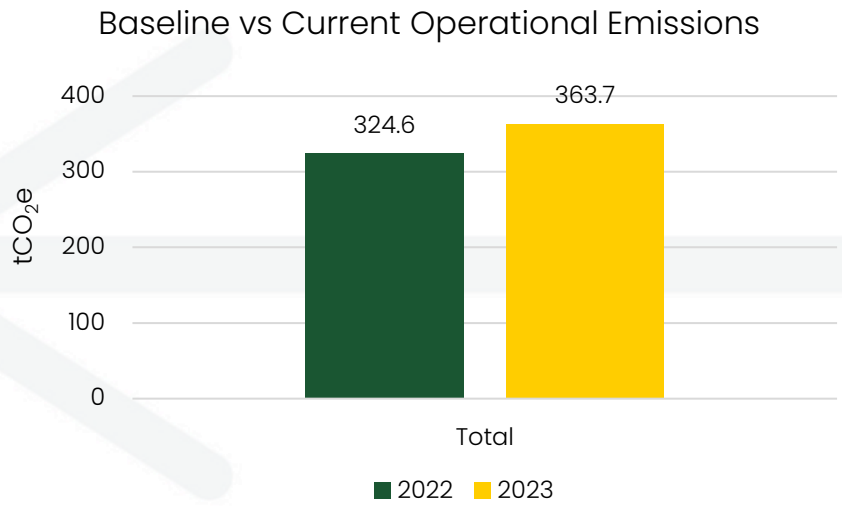
**We have not yet measured emissions associated with the disposal of our sold merchandise at end-of-life or our investments.*

Our baseline operational emissions

Baseline Reporting Period: 1st September 2021 – 31st August 2022

Since our baseline reporting period, scope 1 emissions have decreased by 9.0%, our location-based scope 2 emissions have increased by 15.1%, our market-based scope 2 emissions have decreased by 38.8% and our scope 3 emissions have increased by 17.8%.

Overall, emissions increased between the baseline year and the current year by 12.0%. This was alongside a growth in our workforce of 8% and a growth in revenue of 54%.



Scope	GHG Category	Baseline Emissions	Current Emissions	Change (%)
1	Stationary Combustion	20.6	20.5	-0.8%
1	Mobile Combustion	9.4	6.8	-27.1
2	Electricity (Location-based)	19.0	21.8	+15.1%
2	Electricity (Market-based)	19.0	11.6	-38.8%
3	Goods & Services	180.0	207.2	+15.1%
3	Capital Goods	11.2	34.2	+205.5%
3	Fuel- and Energy-Related	21.7	20.3	-6.6%
3	Upstream Transportation & Distribution	1.3	1.2	-3.3%
3	Waste & Water	18.7	19.5	+4.3%
3	Business Travel	5.0	2.3	-53.8%
3	Commuting	37.8	40.0	+5.9%
Total (Market-based)		**324.6**	**363.7**	**+12.0%**

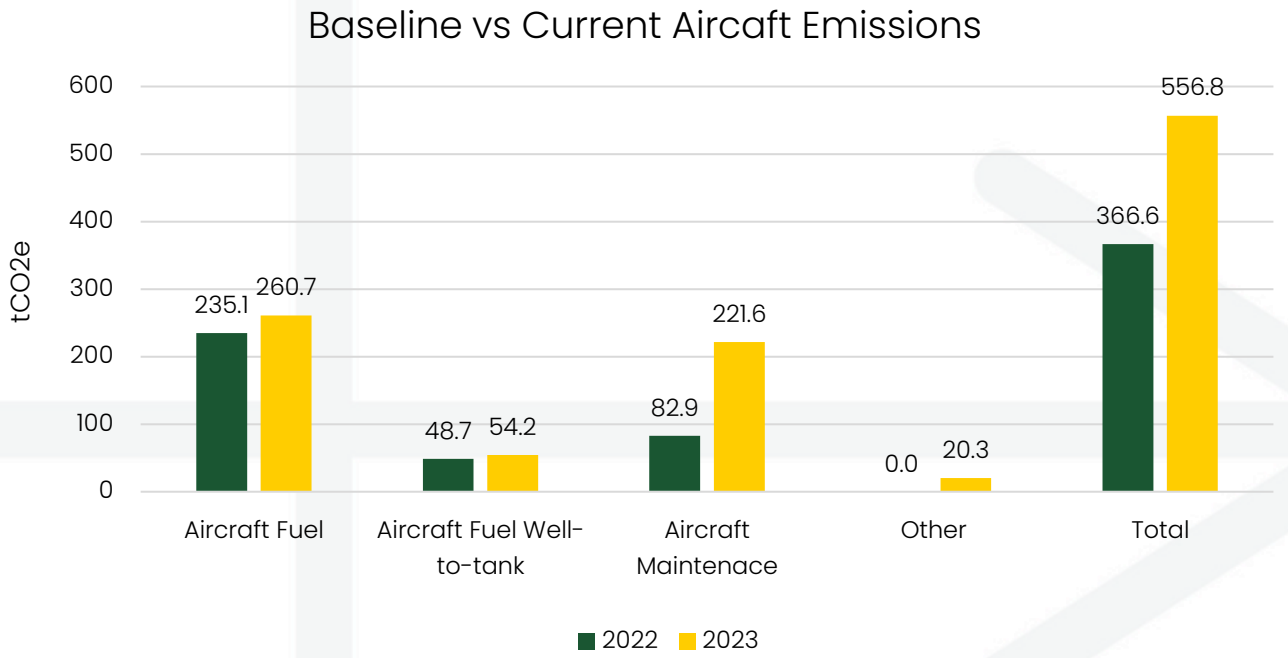
Our aircraft emissions

Our aircraft emissions include those that occur as a result of fuel combustion, the well-to-tank emissions of the fuel used, and emissions associated with maintenance and other helicopter-related capital and non-capital goods and services. Emissions increased from the baseline year to the current year by 52%, mainly as a result of an increase in required maintenance but also fuel use and other costs. As our aircraft ages, more maintenance will be required on an annual basis and as a charity providing vital critical care, we aim to complete as many missions as possible meaning fuel use is also likely to increase.

Reporting Period
1st January 2023 – 31st December 2023

Carbon Intensity Per Air Ambulance Mission
0.34 tCO_2e / Mission

Scope 1 – 260.7
Scope 2 (Location-based) – None
Scope 2 (Market-based) – None
Scope 3 – 296.1



Emissions breakdown

Scope 1

Scope 1 emissions are those that occur as a result of the combustion of fuels onsite (stationary combustion) or in our vehicles (mobile combustion).

Our stationary combustion activities include the use of gas for heating, and our mobile combustion activities include fuel usage for our helicopter, tractor and company cars. Both operational and aircraft scope 1 emissions are included in the table below.

Activity	Unit	Baseline	Current
Gas Use	MWh	114.0	112.0
Helicopter Jet Fuel Use	Litres	92,362.0	102,547.0
Tractor Diesel Use	Litres	432.0	471.5
Other Vehicle Use	tCO_2e*	8.3	5.7

*tCO_2e has been reported instead of an activity unit as mileage data was given in 2022 but spend in 2023. Other vehicles include our Critical Car Car (CCC) and other company cars.

Scope 2

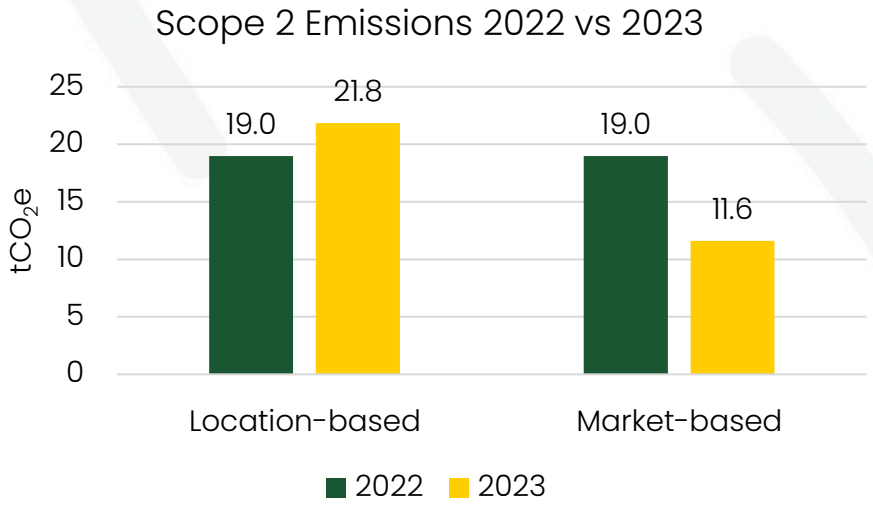
Scope 2 emissions occur offsite during the generation of electricity used by Wiltshire Air Ambulance.

Emissions are measured and reported using two methods:

1. The location-based method is an estimate of emissions before the introduction of any renewable energy purchasing instruments. This method uses the emissions intensity of the national grid from which the electricity was purchased.

2. The market-based method (used in final reporting) takes into account the specific electricity supplier and tariff chosen by us.

Our location-based emissions increased as we used more electricity in 2023 than in 2022, whilst our market-based electricity emissions decreased as we bought more renewable generation-backed electricity this year.



Site	2022		2023	
	MWh	% Renewable	MWh	% Renewable
Office*	80.6	Unknown	86.8	100%**
Shop	17.5	Unknown	18.6	50%

*Electricity usage that is recharged to employees has been deducted from the final usage figures.

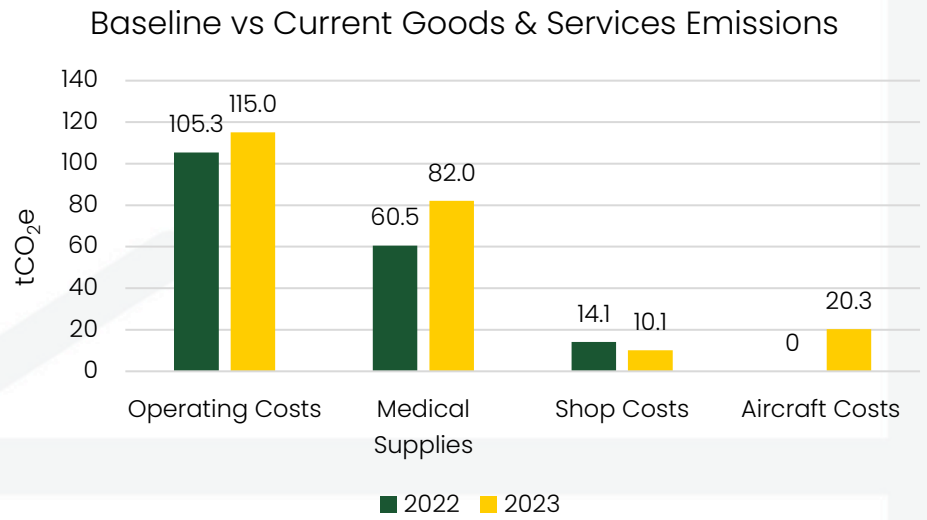
**We switched to a 100% renewable energy tariff in April so there were still some market-based emissions to report for the office up to this point.

Scope 3

Scope 3 emissions are those that occur throughout our value chain. So far we have measured all upstream scope 3 emissions; with emissions to report in all but one upstream scope 3 GHG category (category 8: upstream leased assets).

Category 1: Goods and Services

This category includes the cradle-to-gate emissions of all goods and services we purchased within the reporting year (excluding capital goods). We can further break this category down into operating costs, medical supplies, shop costs and aircraft costs (part of our aircraft footprint).



The above chart includes Goods & Services emissions for both our operational footprint (operating costs, medical supplies and shop costs) and for our aircraft footprint (aircraft costs).

As we are currently measuring emissions using spend, emissions outcomes closely relate to total spending, with some variation as a result of the types of goods and services purchased.

Our largest sources of operational goods and services emissions were medical supplies, and the following operating costs:

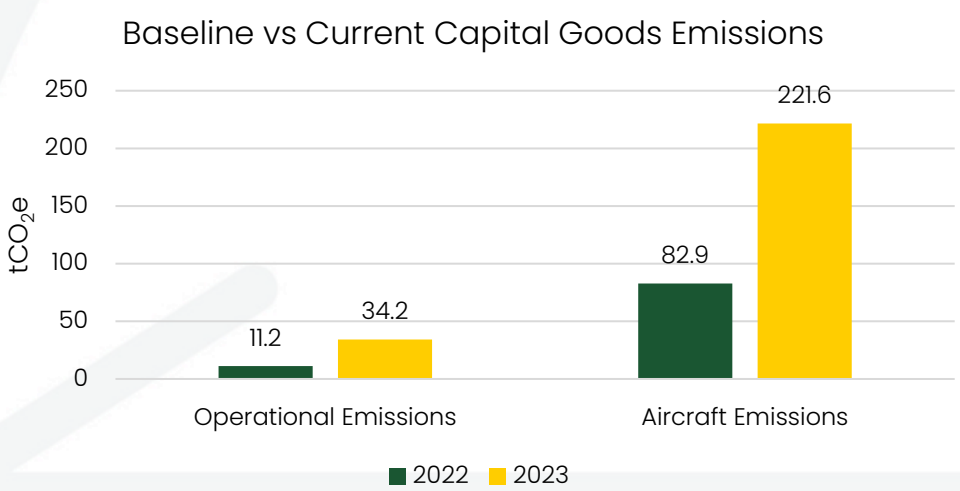
- Cleaning products – 14.4 tCO_2e
- Banking and financial services – 13.0 tCO_2e
- Digital and Audio Production – 11.8 tCO_2e

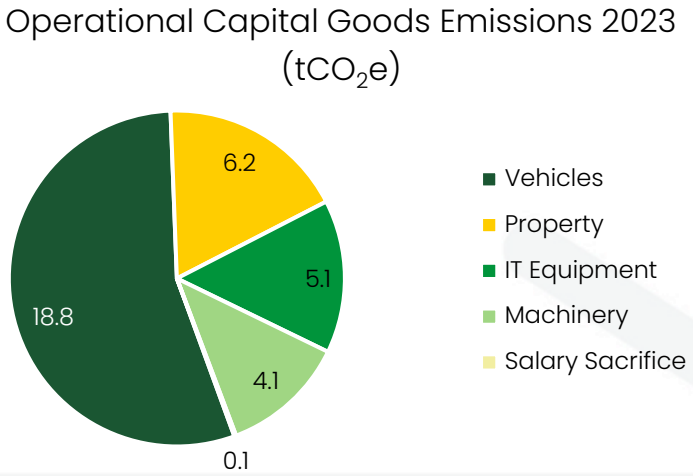
	2022	2023	Change
Operational	180.0	207.2	+15.1%
Aircraft	None	20.3	New

Scope 3

Category 2: Capital Goods

Capital goods are assets that organisations use to deliver their services, they usually involve large irregular payments. As with non-capital goods and services emissions, we are measuring the majority of our capital goods emissions using spend which means emissions are largely tied to spending rather than actual changes to the sustainability of the supply chain. We spent 3.4 times and 1.9 times more on operational and aircraft-related capital goods and services in 2023 as we did in 2022, causing a similar increase in estimated emissions.



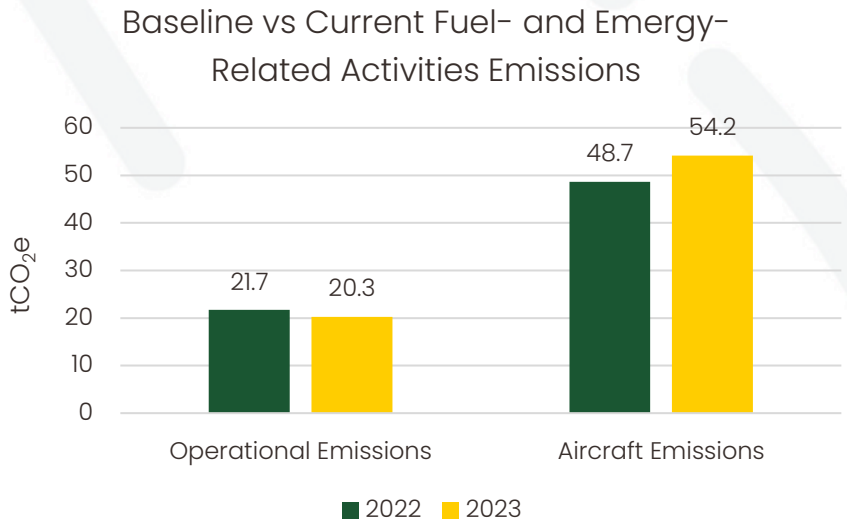


We will be aiming to improve our capital goods calculations by using product carbon footprint (PCF) data from manufacturers where they exist. In our most recent year, we were able to use PCF data for 2% of our spend.

Scope 3

Category 3: Fuel- and Energy-Related Emissions

This category includes all of the emissions that occur before fuel reaches the tank e.g. from mining, processing and transportation (known as well-to-tank emissions), and emissions associated with the generation of electricity that is lost in the transmission and distribution system (known as T&D losses). In this measurement, we have included the upstream energy emissions for all scope 1, scope 2, and upstream scope 3 activities (distribution, business travel and commuting). These emissions cannot be targeted with any standalone action but will be reduced as energy consumption across all activities is reduced.



We reduced our total operational energy emissions between 2022 and 2023 by 0.4% and saw a decrease in the fuel- and energy-related emissions category alongside this. As we used 11% more aviation fuel in 2023 than in 2022, fuel- and energy-related emissions increased.

Category 4: Upstream Transportation and Distribution

This category is for emissions that occur as a result of goods transportation. Currently, it includes emissions resulting from postal and courier services purchased by us and IT delivery emissions where Product Carbon Footprint data has been used to estimate emissions associated with IT purchases. Where we buy physical goods and the cost of delivery is included, these emissions are covered by the spend-based calculation. As we are increasingly able to use supplier or product-specific data, we will have more emissions to report in this category and better insight into incoming good transportation emissions. Emissions in this category increased by 3.3%. We didn't report any emissions in this category in our aircraft footprint.

Scope 3

Category 5: Waste Generated in Operations

This category includes emissions associated with waste disposal and water use, these emissions are found only in our operational footprint. Waste emissions increased by 4.3% whilst water emissions decreased by 3.9%, this resulted in an increase of 4.3% overall as water only makes up 0.9% of the emissions in this category. Waste emissions were measured using weight data in 2022 and spend data in 2023 making it difficult to make reliable comparisons between the years.

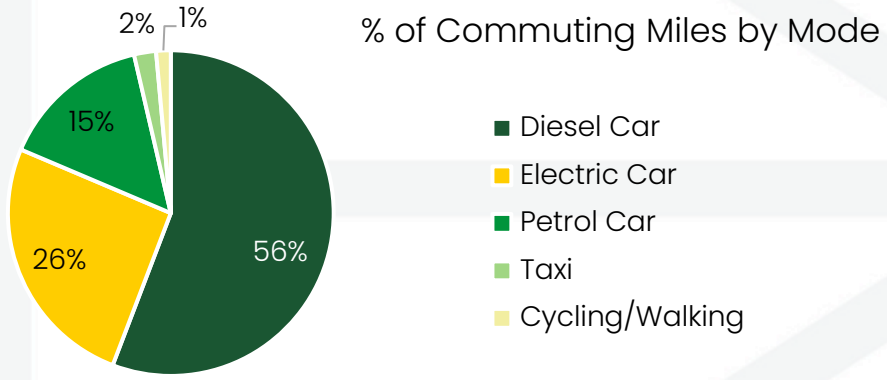
Category 6: Business Travel

Business travel emissions are those that occur as a result of travel or hotel stays that are paid for by Wiltshire and Bath Air Ambulance. Emissions decreased between 2022 and 2023 by 53.8%, mainly as a result of an absence of air travel in 2023.

Mode/Activity	2022 Emissions	2023 Emissions
Road	0.7	1.8
Rail	0.004	0.4
Air	4.1	None
Hotel Stays	0.2	0.1

Category 7: Commuting & WFH

Here we measure emissions associated with our employees, clinicians and consultants travelling to and from site (where not reimbursed) and their energy use when working from home. The same data was used to measure both 2022 and 2023 emissions and so the only difference in results between the two years is the size of the workforce. The majority of the commuting mileage takes place in diesel cars.



Our reduction targets

What does Net Zero mean?

To achieve Net Zero, we will be aiming to reduce emissions in line with guidance from the Science Based Target Initiative (SBTi).

SBTs are greenhouse gas reduction goals set by organisations. They are defined as "science-based" when they align with the scale of reductions required to keep global temperature increases well below 2°C, and ideally below the 1.5°C agreed in the Paris Agreement, compared to pre-industrial temperatures. SBTs provide organisations with pathways to sustainable transformational change to accelerate the transition to a low-carbon economy.

The SBTi's Aviation Pathway is still in development and not entirely useable for us yet (only suitable for commercial airlines at present), and we may therefore need to adjust our targets in the future when guidance is updated. All targets set other than our scope 1 (aviation fuel) target, align with the SBTi's cross-sector guidance.

What's the difference?

Net Zero
When an organisation has reduced its scope 1, 2 and 3 emissions by as much as possible, leaving only 'residual' emissions, which cannot be removed. Current guidance from the SBTi states that for most businesses, this means a total reduction in emissions across all scopes by ~90%. Carbon removals should then be used to neutralise the residual emissions.

Carbon Neutral
A carbon-neutral organisation has committed to reducing emissions, and in the meantime balances its remaining emissions through carbon removal/offsetting schemes.

Zero Emissions
When no carbon is produced directly from a particular activity, product, or service (such as the running of an electric van or an electric cooker on electricity produced through solar power).

Our operational targets

Wiltshire and Bath Air Ambulance is committed to reaching Net Zero by 2050. We have also set the following near-term targets:

1

Reduce our scope 1 emissions by 42% by 2030

2

Reduce our location-based scope 2 emissions by 42% by 2030

3

Procure 100% renewable electricity by 2030

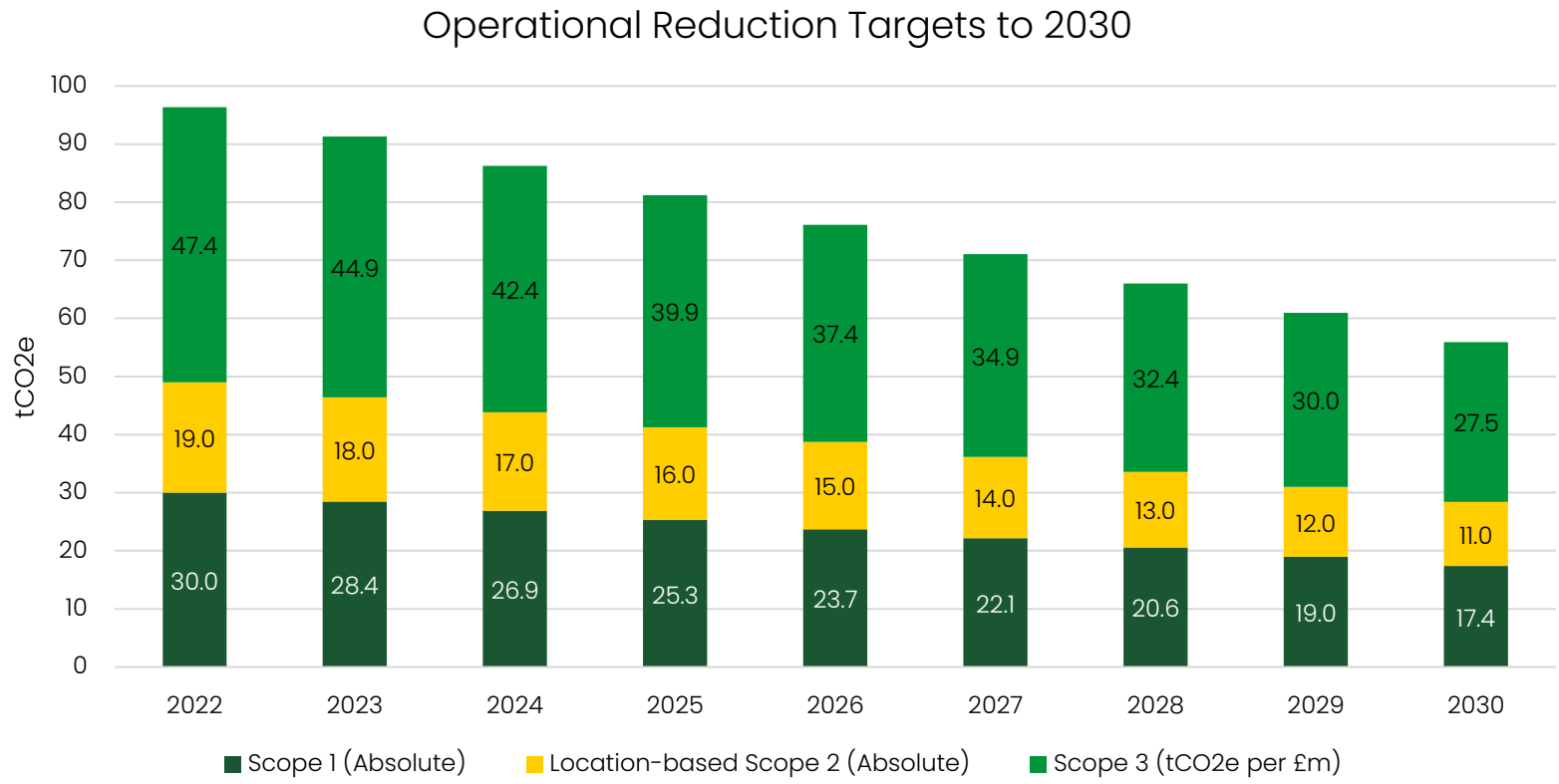
4

Reduce scope 3 emissions per £m of income by 42% by 2030

NB. We will review our targets following any significant changes to our operations, with the release of any new guidance from the SBTi and as standard every five years.

Our operational targets – reduction forecast

The graph below shows our operational reduction targets to 2030 based on our baseline emissions. To achieve a linear reduction, we would need to reduce absolute scope 1 emissions by 1.6 tCO_2e, our absolute location-based scope 2 emissions by 1.0 tCO_2e, and our scope 3 emissions per million in income (adjusted for inflation) by 2.5 tCO_2e each year.



We are also committed to switching to a 100% renewable energy tariff as soon as current contracts expire (not shown on graph).

Our operational targets - progress

Scope 1

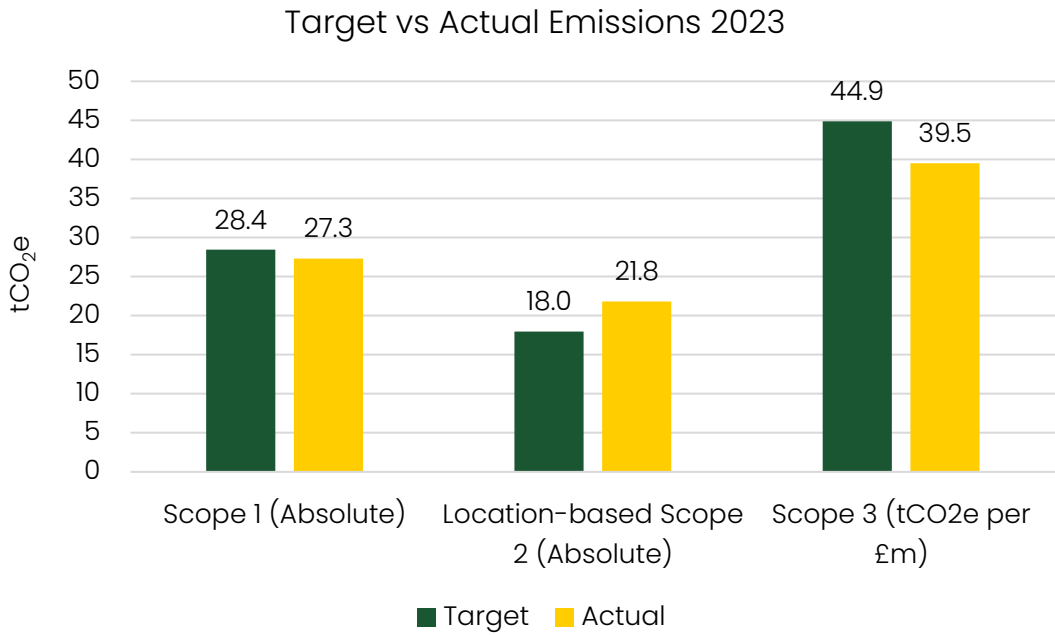
Our scope 1 emissions decreased between the baseline and the current year by 9.0%. We were aiming for emissions of 28.4 tCO_2e or less this year, actual emissions were measured to be 27.3 tCO_2e, meaning we have exceeded our target.

Location-based Scope 2

Our location-based emissions increased by 15.1% between the baseline year and the current year. We were aiming for location-based scope 2 emissions of 18.0 tCO_2e or less, but emissions were measured to be 21.8 tCO_2e.

Market-based Scope 2

Our market-based scope 2 emissions decreased by 38.8% between the baseline and the current year. We are now purchasing electricity via a 100% renewable energy tariff for our office and our shop so next year our market-based electricity emissions are expected to be zero.



Scope 3

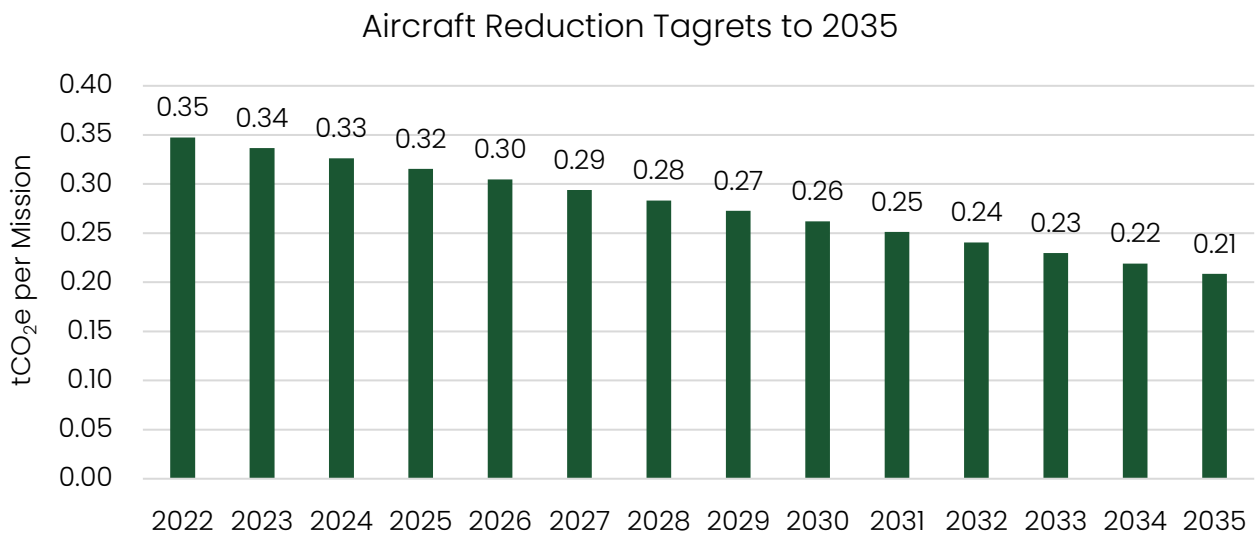
Our scope 3 emissions per £m in income decreased by 16.6% between the baseline and the current year. We were aiming for emissions of 44.9 tCO_2e/£m or less, actual emissions were measured to be 39.5 tCO_2e/£m, meaning we have exceeded our target.

Our aircraft targets

We are committed to reaching Net Zero by 2050.

To align with the Paris Agreement, the aviation sector is required to reduce average carbon intensity by 40% by 2035 and 65% by 2050.

We will therefore be aiming to reduce our total aircraft emissions per mission by 40% by 2035 and 65% by 2050.



The graph above shows our target emissions per mission to 2035 based on baseline emissions.

We were aiming 0.34 tCO_2e per mission by 2023 meaning we are on track with our target.

We are aware of our commitment to reduce carbon intensity around our aircraft, however, we are also aware we are limited by the nature of the industry and its advancements in technology and also if this is a viable option for our chosen aircraft type.

Reducing our emissions

Site Energy Use

Site energy use (our electricity and gas emissions), currently makes up 82% of our operational scope 1 and 2 emissions. Whilst the contribution to the overall footprint is small (3%), site energy use is an area where many opportunities exist to reduce emissions and will therefore be instrumental in us keeping on track with our scope 1 and 2 targets. Reducing emissions in this area will involve many actions, aimed at improving energy efficiency and energy use behaviours, and utilising renewable technologies and tariffs.

We have already installed solar arrays onsite and are currently working on getting these up and running. Once in use, the **panels are expected to generate 41 MWh of electricity per year** (around 50% of our current consumption). We have also reduced our thermostat temperature to 21 degrees and have installed temperature gauges around the site to ensure that we are not heating the building more than we need to. We have also switched to a 100% renewable energy tariff for both our office and our shop.

We will continue to closely monitor our energy usage, do regular site audits to identify any opportunities for improvement, and we will purchase the most energy-efficient appliances and equipment where options exist. Once our current boiler reaches its end-of-life (likely around 2028), we will seek an alternative to natural gas heating.

Helicopter & Fleet

To reduce emissions from both our helicopter and non-air fleet we will need to explore opportunities for electrification, fuel efficiency and alternative fuels.

Our fleet consists of a helicopter, a tractor, 3 CCCs and 2 other company vehicles. For all vehicles, we will work to improve fuel efficiency where possible, this will involve establishing a regular vehicle maintenance routine that checks for things like unnecessary additional vehicle weight, required maintenance and potential upgrades to vehicle components. We will need to continuously monitor opportunities for the electrification of our fleet and explore alternative fuels, such as HVO or SAF, particularly in instances where electrification is unlikely to be feasible for the foreseeable future.

We have already installed EV charging facilities on site, and we will ensure that if required, we purchase an e-fuel card for 100% renewable charging networks to keep down scope 2 emissions related to any offsite vehicle charging. We have recently purchased a new CCC that is a self-charging hybrid.

Business Travel, Commuting & Homeworking

Business Travel

Our business travel emissions make up a very small part of our footprint, we typically only have emissions relating to employee mileage, rail travel and hotel stays. Many of the reduction opportunities here are related to data. We have an EV salary sacrifice scheme that some employees are utilising, but currently, employee mileage data is submitted as a whole and not split by vehicle type which means we won't necessarily see the effect of this scheme on our business travel emissions. We also submit spend data for rail travel instead of activity data (distance), and due to high the cost of trains in the UK, this often inflates emissions. We will work to improve the data available when it comes to transport, and once possible, we will also begin to specifically choose more sustainable hotels.

Commuting

Our EV salary sacrifice scheme will enable us to reduce emissions from commuting emissions as well as business travel emissions. We imagine that there will be increasing uptake in the scheme as EVs become more affordable in the future. We will also promote car sharing amongst staff, and consider offering subsidised bus tickets.

Homeworking

As homeworking emissions result from an employee's use of energy in their own home, reduction opportunities here are centred around education and potential incentives for sustainable behaviours such as switching to a renewable energy tariff and installing renewable energy technologies (which will also impact business travel and commuting emissions where employees are charging an EV at home). We will have a look into setting up a salary sacrifice scheme for home renewable energy technologies if there is an appetite amongst staff.

Suppliers

The purchase of goods and services, particularly, aircraft maintenance and related equipment, is our most carbon-intensive activity, making up 53% of total measured emissions in our baseline year. As our purchased goods and services emissions are made up of our suppliers' emissions, our suppliers will need to work towards similar carbon reduction goals to us if we are to meet our targets.

The first step towards alignment across our supplier chain will be to implement an effective system for the collection of data from suppliers* so that we are able to:

1. To assess and compare the sustainability credentials of new and current suppliers
2. To improve the accuracy of our footprint calculation

Information will need to be collected before procurement decisions are made and properly considered alongside other criteria (e.g. price, speed, quality), and then on an annual basis going forward for use in the footprint. We will first need to consider the different methods available to us for the collection of environmental data from our suppliers and contractors and then work to implement a system that is capable of executing data collection for these two functions.

The second step will be to set targets for our suppliers and procurement teams based on several metrics (emissions reporting, target setting, carbon reduction) and build this into our Procurement Policy. We will ensure open communication with our suppliers and provide them with resources and support. We can also offer sustainable suppliers preferential terms and pricing or introduce terms surrounding emissions measurement and reduction into some of our contracts.

We have already started work on this by requiring sustainability credential information from all suppliers tendering for contracts worth £10,000 or above, we will soon extend this to contracts of lower value to capture a greater percentage of our supply chain. As we are fairly limited when it comes to the choice of suppliers in some areas (mainly surrounding aircraft maintenance) we will need to focus on collaboration with current suppliers to reduce shared emissions.

Company culture

All organisations have a culture made up of both surface elements (e.g. policies, branding, organisational structure) and deeper, often undocumented, elements (e.g. leadership attitudes, perceived values and beliefs, employee satisfaction). Sustainability strategies will not be successful if they do not run through all elements of the company culture and if it is not recognised as a priority across the organisation.

We have already begun work here by delivering Carbon Literacy training to a large portion of our workforce. We have also recently added a sustainability section to our annual report, and we have created a green team to lead initiatives.

To further this work, we will also look to do the following:

- Aligning all of our company policies with our carbon reduction plans
- Including sustainability-related responsibilities in job descriptions
- Discussing sustainability and reviewing action plan progress during company and team meetings
- Addition of questions surrounding sustainability to 1-2-1 templates
- Presence in the industry, involvement in sustainability-related events and forums

Every member of our organisation will need to be working towards Net Zero if we are to meet our targets, but as an organisation, we also have a responsibility to support staff in doing so.

Our 2030 roadmap

Our 2030 roadmap

The below roadmap sets out some key milestones we would like to achieve by each year's end.

Pre-2024

- Created a Green Team.
- Switched to 100% renewable energy tariff
- Installed EV chargers.
- Launched an EV salary sacrifice scheme
- Partnered with SMARTech Energy
- Installed solar panels
- Added requirement for tenders >£10,000
- Deliveried Carbon Literacy to 71% of the workforce

2025

- Increase coverage of sustainability tender requirements
- Engage with most important suppliers
- Improve business travel data quality
- Look into setting up a home renewable energy scheme
- Establish a fleet audit routine
- Offer additional incentives/schemes relating to commuting or homeworking

2026

- 100% of employees Carbon Literate certified. Embed training in new employee onboarding.
- Measurement of downstream emissions (investments)

2027

- Create a system for annual supplier data collection

2028

- Review alternatives to gas boiler
- Create supplier assessment criteria

2029

- Research the feasibility of using Sustainable Aviation Fuel (SAF) to power helicopters

2030

- All fleet cars electric
- Assessment of progress to date & production of 2040 roadmap

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Summary

As we embark on our journey to Net Zero, we look forward to collaborating with our teams, suppliers and customers to reduce our shared impact.

We are committed to measuring our emissions each year and continuously working to reduce them with the ultimate goal of reaching Net Zero by 2050.

WILTSHIRE +BATH AIR AMBULANCE