Carbon Footprint: Methodology and Calculations

5.7.7 P04 Carbon footprint report – March 2024

Executive Summary

Since 2020 we have reported our carbon emissions annually in line with the Greenhouse Gas Protocol reporting guidelines.

In 2021, we updated our commitments to net zero carbon to align with the latest science under the UN Race to Zero through the SME Climate Hub. As such, we have incorporated our scope 3 emissions into our targets two years earlier than our previous commitment to do so by 2023, have set a short-term reduction target to half our emissions by 2030 (against a 2019 baseline) plus a long term target for a 90% reduction by 2040.

We estimated home working emissions in 2021, from 2022 the methodology has now moved within the UK Government Carbon Factors for Company Reporting and is informed by our annual staff survey.

The downstream impacts from our projects are currently excluded from this assessment, but we acknowledge that these are significant. Our Architects Declare Statement and B Corp Impact Reports outlines our actions and commitments to reduce these project related impacts in terms of embodied carbon, operational energy and wider environmental impacts.

Our 2023 emissions have flattened off following a post-covid bounce back and a period of growth for the company with headcounts increasing by over 30% throughout 2020 to 2023. Our gross emissions are reduced through purchase of good quality renewable energy (in accordance with UKGBC definitions). Our 2023 emissions are now only slightly lower (4%) than our base year.

It is positive that we have reigned in the growth in net emissions in 2023. However, we need to do more to be back on track. Planned switches of our final office electricity supply to good quality green tariffs and increased uptake of our electric car benefit scheme should result in 2024 emissions decreasing towards the required near term target.

We have chosen to purchase Gold Standard international carbon offsets to be Carbon Neutral in operation and also to invest in UK woodland creation and peatland restoration which has biodiversity, flood prevention and amenity benefits initially as well as longer term carbon benefits.

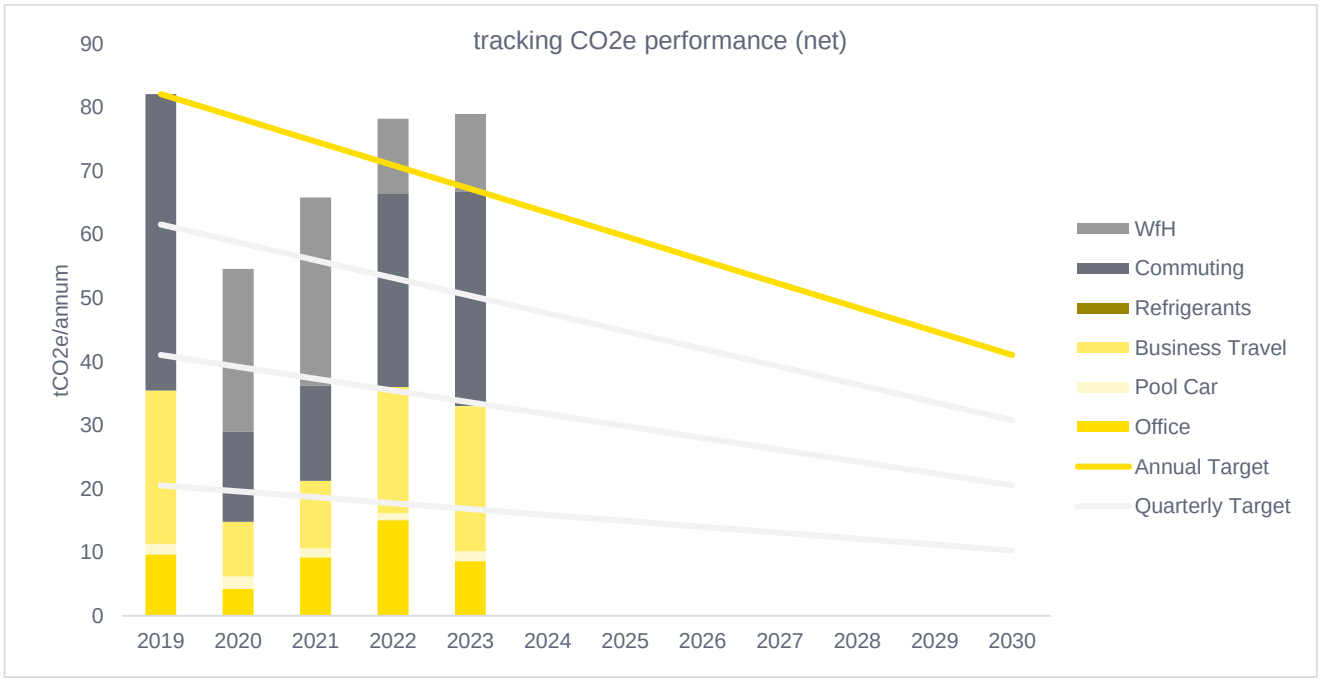

Figure 1: Reported emissions compared with near term target reduction pathway.

Introduction

In 2020, we committed to monitoring our carbon footprint, setting reduction targets and progressing on a journey to become net zero carbon as a business. We have chosen to record and report carbon data per calendar year (Jan – Dec). Our methodology is aligned to the Greenhouse Gas Protocol [GHGP] and identifies scope 1, scope 2 and scope 3 emissions.

In 2021, we updated our commitments to net zero carbon to align with the latest science under the UN Race to Zero through the SME Climate Hub. As such, we have incorporated our scope 3 emissions into our targets two years earlier than our previous commitment to do so by 2023, have set a short-term reduction target to half our emissions by 2030 (against a 2019 baseline) plus a long term target for a 90% reduction by 2040.

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The downstream impacts from our projects are currently excluded from this assessment, but we acknowledge that these are significant. Our Architects Declare Statement and B Corp Impact Reports outlines our actions and commitments to reduce these project related impacts in terms of embodied carbon, operational energy and wider environmental impacts.

Our Environmental Management System has been certified in accordance with ISO14001 and is integrated within a comprehensive practice management system to better capture environmental and social key performance indicators across our projects. This work shall lay the foundations to facilitate reporting of downstream project impacts in the future.

Emission sources: identification

Scope 1 (direct) and 2 (indirect) emissions

Reporting of scope 1 and 2 emissions is mandatory under the GHGP.

Scope 1: company facilities and company vehicles

Throughout 2023 we have been located in a single office location in leased office space, fitted out to our own specification. General heating and cooling are provided by the Landlord, however our demise' consumption for landlord core building services is sub metered, as such emissions relating to general heating and cooling are included within our calculation.

From July 2023 the landlord has moved onto a good quality renewable tariff.

In addition to the Landlord systems, we have 5 wall mounted air conditioning units with associated power inverter heat pump to control the temperature of our server and meeting rooms. The 5 wall mounted meeting room systems have been added to the existing landlord Mitsubishi VRF which has R32 refrigerant charge.

The server room system has two outdoor units and two indoor units each with a 4kg R32 refrigerant charge, so a total of 8kg, the system shall be serviced annually with any additional refrigerant charge required recorded.

We directly 'own' (leasehold) one pool car, available to all for business travel. Milage is recorded for all journeys. The current pool car has been a Toyota Corolla 1.8 petrol hybrid. Details of earlier vehicles remain available via historic lease details.

Scope 2: purchased electricity

We hold two electrical connections with both meters directly supplying the office and billed directly to us from our supplier.

We have no systems that use gas or steam.

From July 2022 one of our metered supplies is provided with good quality renewable tariff electricity, allowing us to report our emissions gross and net (excluding good quality renewable energy consumed).

Scope 3 (indirect, upstream, and downstream) emissions

Reporting of scope 3 emissions is optional under the GHGP.

Transmission and distribution of purchased electricity will be included in our scope 3 emissions.

We have chosen to calculate scope 3 emissions relating to business travel as the greatest non mandatory material factor in our overall carbon footprint as an SME consulting business.

Since July 2022 the EMS captures data regarding our business travel in a manner that now allows accurate carbon equivalent calculation.

Following changes towards a fully hybrid office environment from September 2021 we have chosen to expand our scope 3 emissions reporting to include an estimate for commuting and also for any increases in staff home energy consumptions that may occur due to home working.

Our 2021 sustainability survey was used to capture a snapshot of employees typical commuting transport modes and distances, alongside details of their living arrangements to help to inform estimates of any increases in energy use due to home working. Our calculations of home working impacts follow the Homeworking Emissions Whitepaper 2020 (By EcoAct in partnership with Lloyds Banking Group and NatWest Group) now incorporated within UK Government Carbon Factors for Company Reporting.

scheme.

Results

Scope 1 emissions, $kgCO_2e$

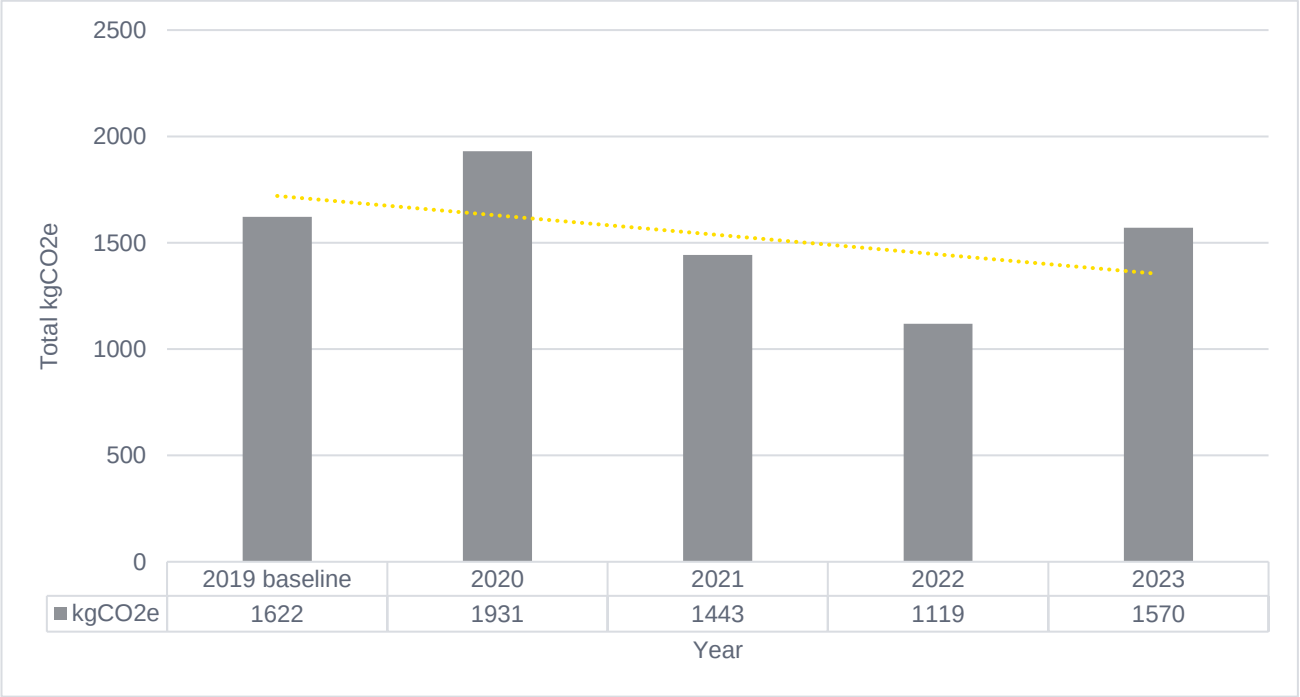

Figure 2: Reported scope 1 emissions since baseline.

Scope 2 emissions, $kgCO_2e$

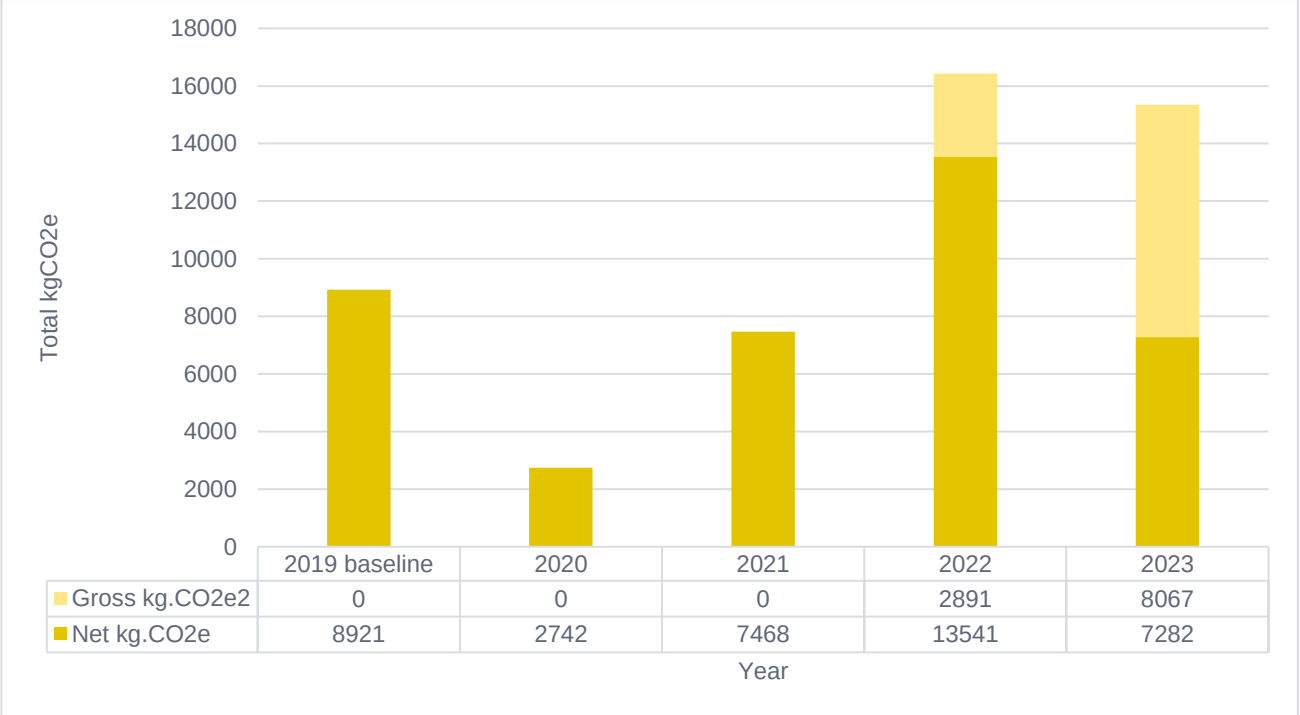

Figure 3: Reported scope 2 emissions since baseline.

Scope 3 emissions, $kgCO_2e$ – electricity transmission & distribution, business travel, commuting & working from home

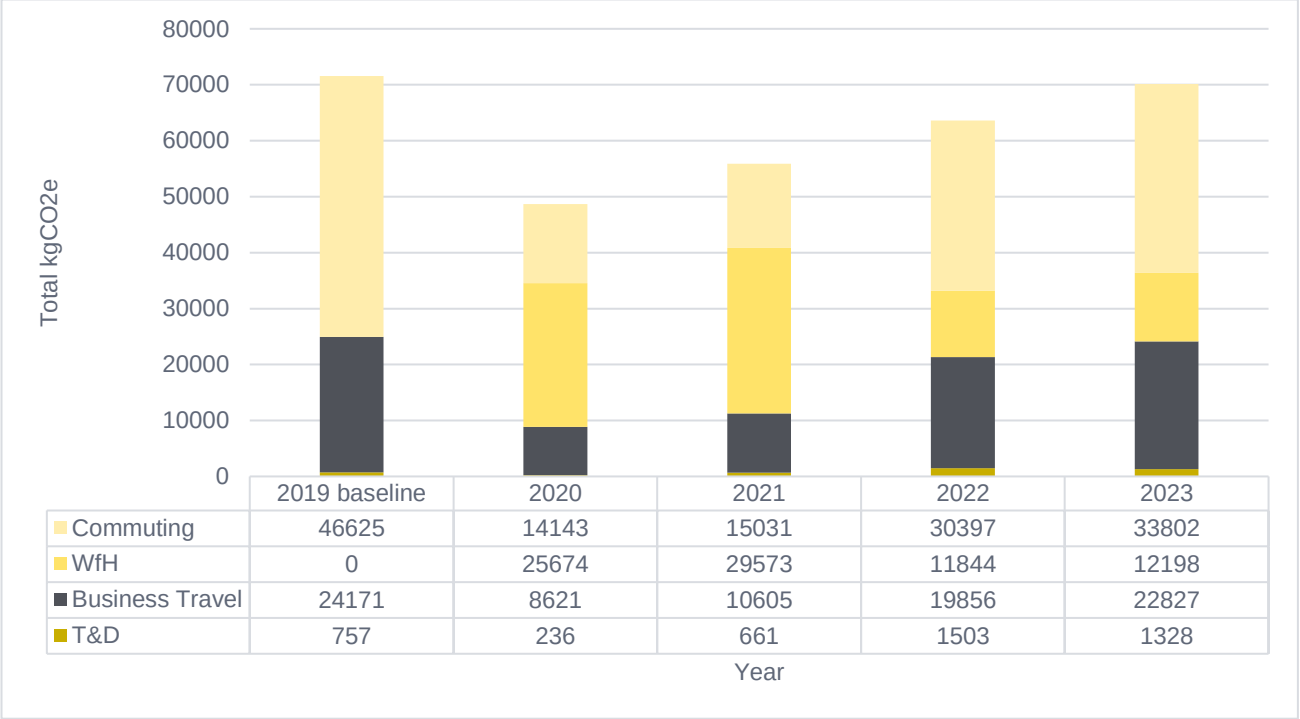

Figure 4: Reported scope 3 emissions since baseline

Total emissions, $kgCO_2e$ – scope 1, 2 (net) and 3 combined

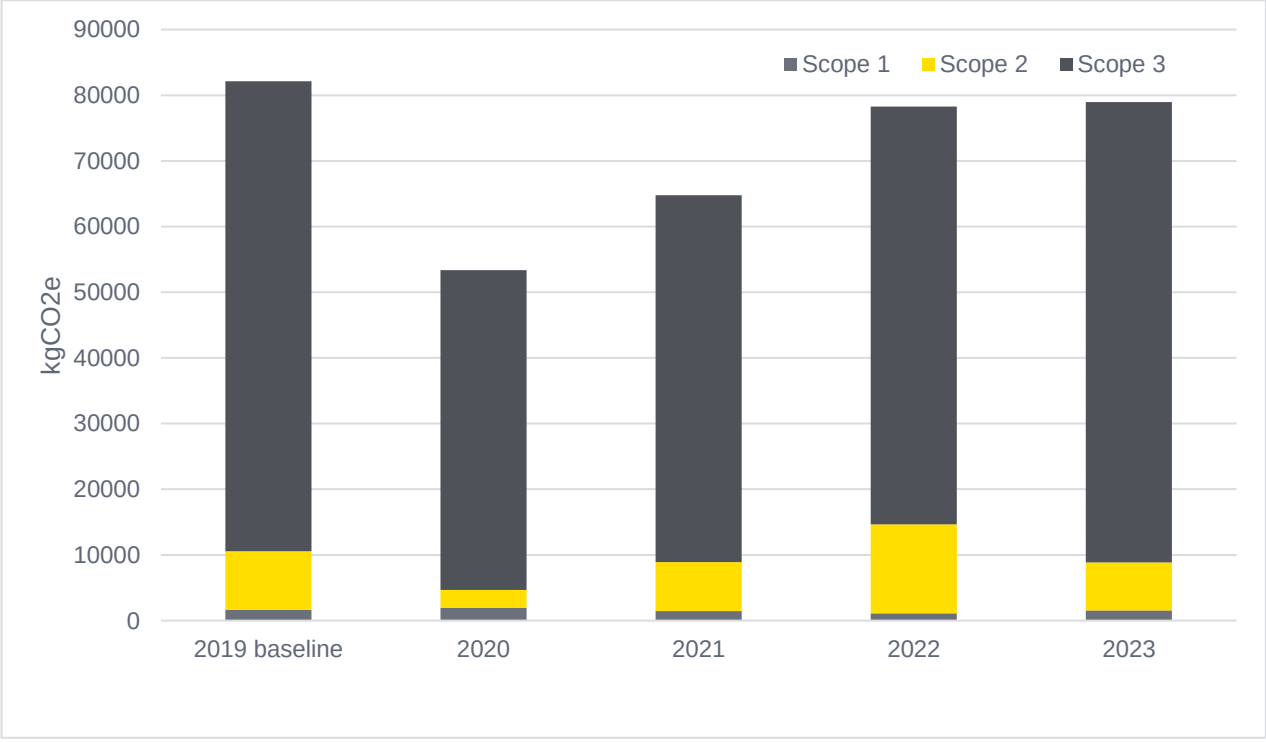

Figure 5: Reported scope 1 – 3 total (net) emissions since baseline

	Scope 1 kgCO_2e	Scope 2 (net) kgCO_2e	Scope 3 kgCO_2e	Total kgCO_2e	% change year on year	% change cumulative
2019 Baseline	1622	8921	71554	82067	0	0
2020	**1931**	2742	48673	53346	-35%	-35%
2021	1443	7468	55871	64782	+21%	-21%
2022	1119	13541	63601	78261	+21%	-5%
2023	**1569**	**7282**	**70115**	**78966**	**+1%**	**-4%**

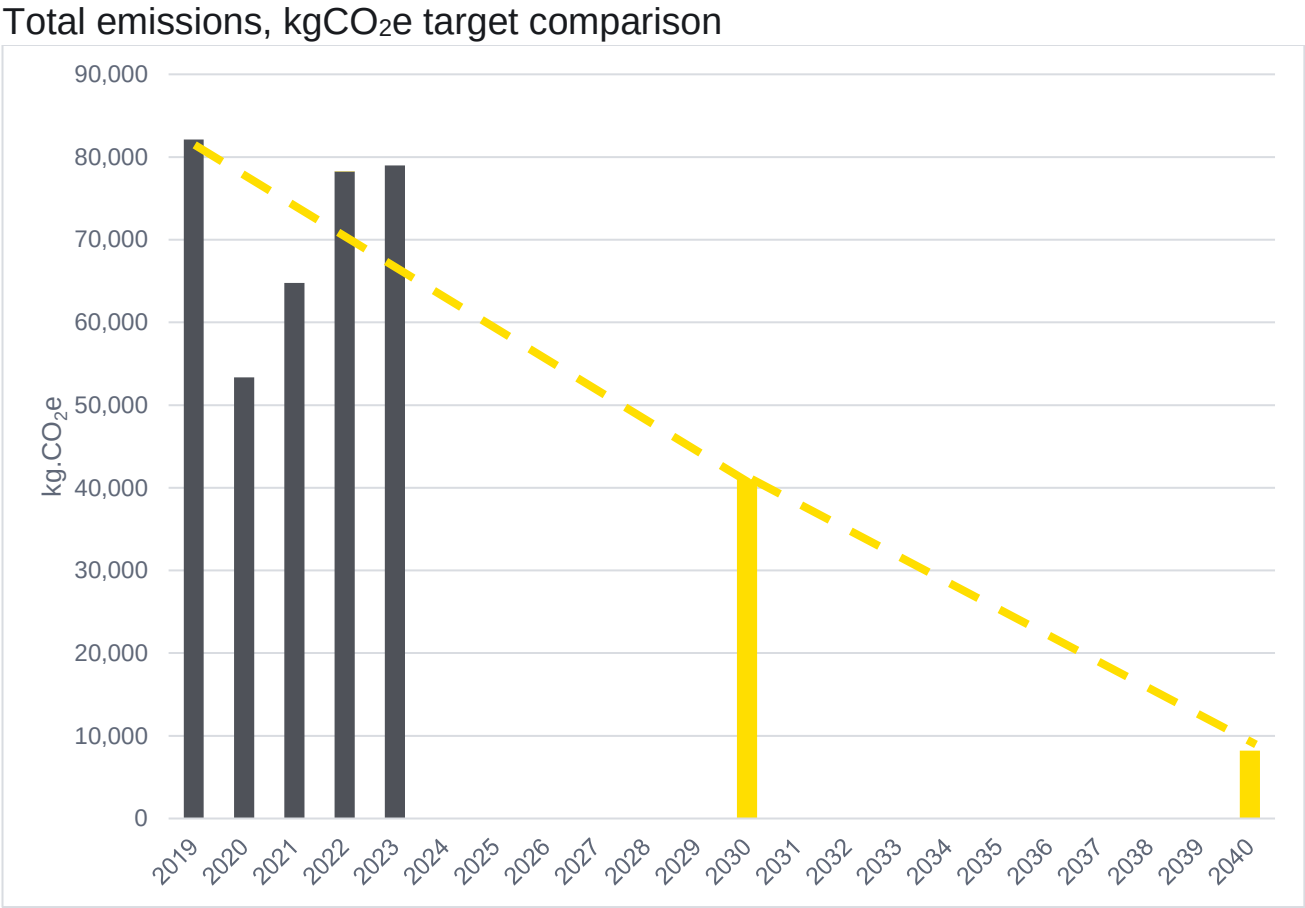

Figure 6: Reported total (net) emissions since baseline compared to near and long term targets.

Offsetting

Carbon offsetting presents an opportunity, beyond emission reductions, to develop a broader value proposition that is aligned to long-term business strategies and supports the UK and global transition to net zero.

Whilst the emphasis remains firmly on reducing emissions as a priority step, initiatives such as WorldGBC's Net Zero Carbon Buildings Commitment and Science Based Targets recognise that carbon offsets can play a critical role in the transition towards a state of net zero emissions.

UKGBC Renewable Energy Procurement and Carbon Offsetting March 2021

Carbon offsets must meet the following principles to safeguard quality and environmental integrity:

1. Real
2. Avoid leakage
3. Measurable
4. Permanence
5. Additional
6. Independently Verified
7. Unique
8. Avoid social & environmental harm

We have chosen a dual approach to carbon offsets, both of which have been made based on our total 2023 carbon emissions.

We are investing in international nature-based offsets supporting native forest regeneration. We receive verified carbon credits for these offsets.

We are also supporting a range of UK based nature protection, creation and restoration schemes. For the UK schemes we receive pending issuance credits based upon a carbon saving that shall be realised once the scheme have achieved a verified carbon saving.

All carbon offsets are verified to an international or national standard to ensure that they meet the UKGBC principles to safeguard quality and environmental integrity.

International verified carbon credits			
Project	**% 2023 CO_2 offset**	**Verification scheme**	**Verified project ID**
Cochabamba 'ArBolivia' - Sustainable timber with smallholders and cooperatives Using only native tree species	24	Verified Carbon Standard (VCS)	1360
Forestal el Arriero - Forestry Stewardship Council certified sustainable timber	38	Verified Carbon Standard (VCS)	961
Conservation Coast - Protection of the Mesoamerican Biological Corridor	38	Verified Carbon Standard (VCS)	1622

UK nature-based protection, creation and restoration schemes (Pending Issuance Units)			
Project	**% 2023 CO_2 offset**	**Verification scheme**	**Verified project ID**
Lowther 3 – Re creating pasture woodland with low density native broadleaf planting	38	UK Woodland Carbon Code	104000000026630
Hawkshaw – New native broadleaf woodland in the Scottish borders	38	UK Woodland Carbon Code	104000000026341
Duich Moss – Peatland restoration on Islay	24	UK Peatland Code	104000000026992

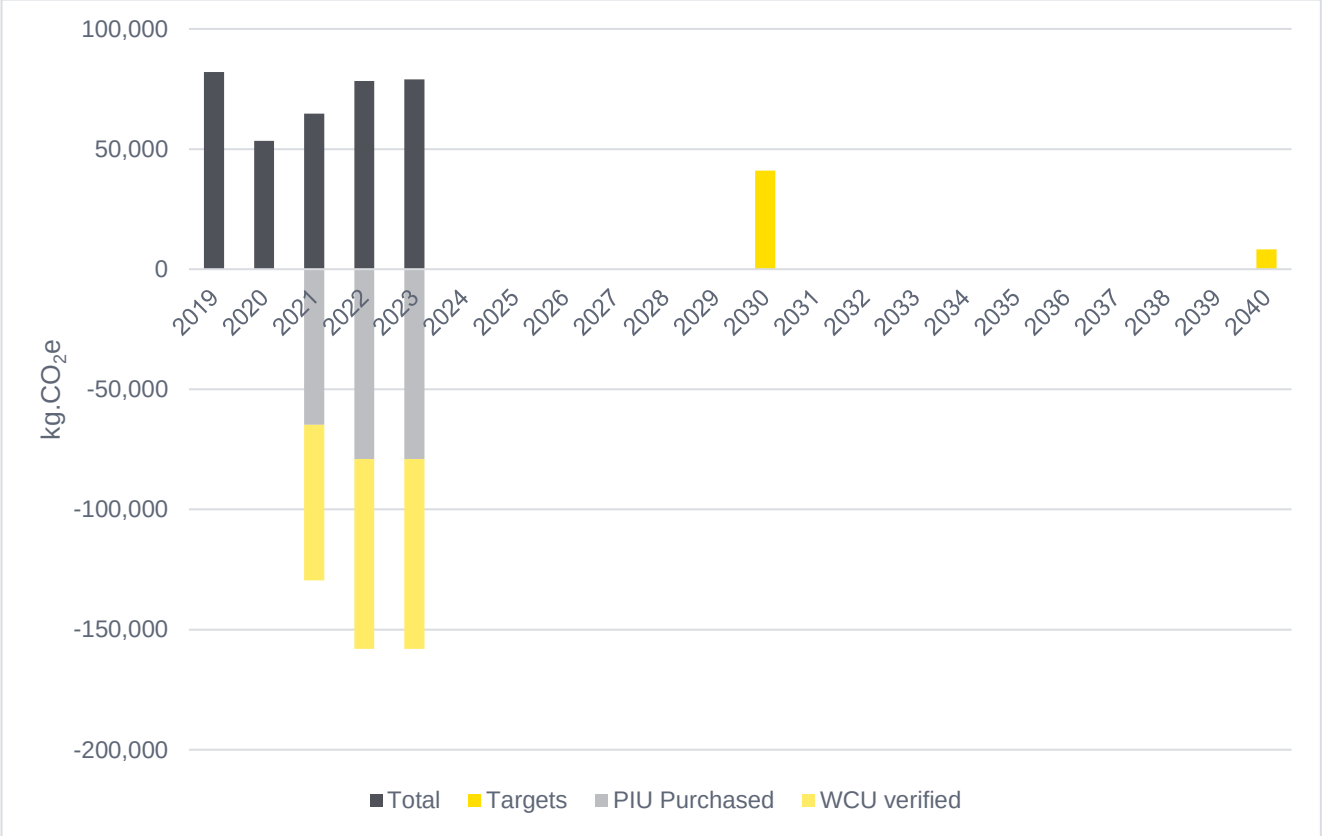

Figure 7: Carbon emissions and offsets compared to near and long term targets.

Reduction actions

Short term (coming 12 months).

Office energy

- Switch tariff so all supplies are on good quality renewable energy tariffs.

Transport

- Publicise and encourage take-up of electric cars on salary sacrifice, following Re-loved option launch bringing lower cost electric car leases.

Medium term (coming 5 years)

- Consider plug in electric or plug in hybrid for pool car replacement.

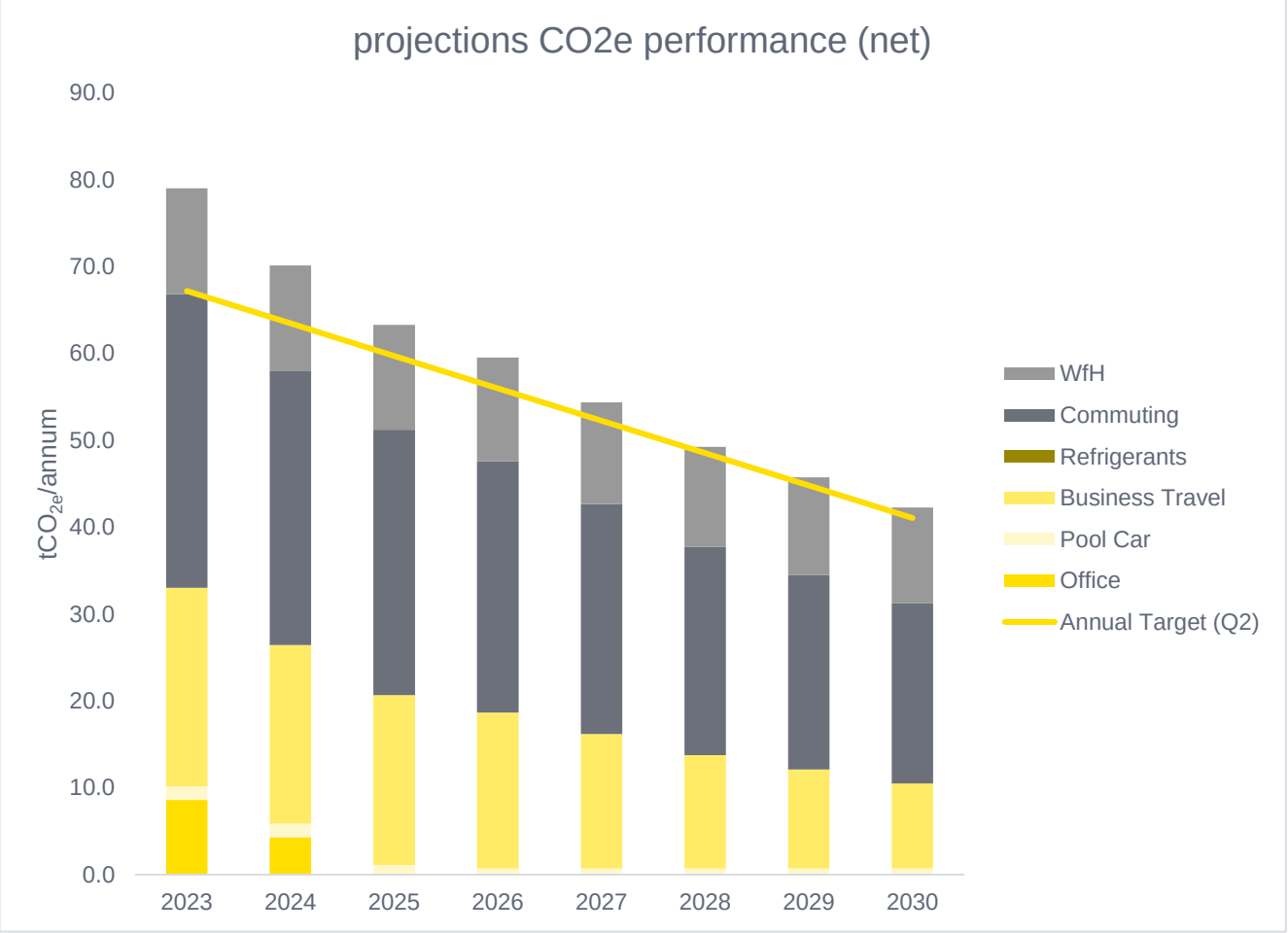

Figure 8: Projected emissions towards near term target with change to green tariff on all office electricity and transition towards electric and plug-in hybrid vehicles.

Appendix A
Calculation methodology

Carbon equivalent conversion factors are taken from UK government data:
https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting
Relevant conversion factors have been used for each reported year as noted.

Accuracy of data is critical for truthful reporting. We will continue to refine our data capture and reporting to ensure the highest levels of accuracy.

Scope	Source	Measure	Notes	Data accuracy
1	Server heat pump / cooling system	Mass (kg) of gas top up required at annual service	Service reports available for 2015 onwards. No reported top up gas; 2 possible answers: 1. No leakage 2. Small leakage below levels deemed reportable Office manager to request that ANY top up is noted in future	Med
1	Pool car	Distance travelled (m / km)	Full diary of use available broken down per journey, job number and date. Vehicle type known	High
2	Electricity	Energy consumption (kwh)	Sub metered for office space	High
3	Electricity transmission and distribution	Energy consumption (kwh)	Sub metered for office space	High
3	Business travel – car	Distance travelled (km)	*Pre-July 2022* Milage recorded but no data regarding vehicle type, size or fuel source per journey *Post-July 2022* Milage and vehicle fuel type reported.	Med
3	Business travel – train	Distance travelled (km)	*Pre-July 2022* No record of milage or type of train system. Cost recorded only *Post-July 2022* Journey milage recorded.	Med
3	Business travel - air	Distance travelled (km)	*Pre-July 2022* No record of milage or type of airline / class. Cost recorded only *Post-July 2022* Journey milage & type recorded.	Med

3	Business travel - taxi	Distance travelled (km)	*Pre-July 2022* No record of milage or vehicle type, size or fuel source per journey. Cost recorded only. *Post-July 2022* Journey milage & type recorded.	Med
3	Business travel - tram	Distance travelled (km)	*Pre-July 2022* No record of milage. Cost recorded only *Post-July 2022* Journey milage recorded.	Med
3	Business travel – London underground	Distance travelled (km)	*Pre-July 2022* No record of milage. Cost / travel card top up cost recorded only *Post-July 2022* Journey milage recorded.	Med
3	Commuting	Distance travelled (km)	Survey collected employee typical commuting distances and mode of transport.	Med
3	Home Office	None	Although survey carried out to enhance accuracy of calculations for correction factor it is not based on measured data.	Low

All $kgCO_2e$ figures rounded to the nearest whole number when reporting.

Appendix B
Calculation summary

Calculation summary provided from revised baseline year 2019 onwards. Please see 2020 Carbon Report for calculations summary of preceding years.

Scope 1 emissions

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2019	Pool car (m)	6,559	0.24736	1622	Small car, petrol (1.0 focus)
	Server cooling (kg)	0	2088	0	R410A refrigerant gas
			Total	**1622**	
2020	Pool car (m)	8,087	0.23877	1931	Small car, petrol (1.0 focus)
	Server cooling (kg)	0	2088	0	R410A refrigerant gas
			Total	**1931**	
2021	Pool car (m)	5,237	0.24052	1260	Small car, petrol (1.0 focus)
		1,084	0.16889	183	Small car, HYBRID - Lease from June 21
	Server cooling (kg)	0	2088	0	R410A refrigerant gas
			Total	**1443**	
2022	Pool car (m)	6,732	0.16628	1119	Small car, HYBRID
	Refrigerant emissions (kg)	0	675	0	R32 refrigerant gas
			Total	**1119**	
2023	Pool car (m)	9,434	0.16634	1569	Small car, HYBRID
	Refrigerant emissions (kg)	0	675	0	R32 refrigerant gas
			Total	**1569**	

Scope 2 emissions

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$
2019	Electricity	34,901 kWh	0.2556	**8,921**
2020	Electricity	11,762 kWh	0.23314	**2,742**
2021	Electricity	35,172 kWh	0.21233	**7,468**
2022	Electricity (Gross)	84,974 kWh	0.19338	**16,432**
	Electricity (Net)	70,020 kWh	0.19338	**13,541**
2023	Electricity (Gross)	74,120 kWh	0.20707	**16,677**
	Electricity (Net)	35,165 kWh	0.20707	**8,610**

Scope 3 emissions – electricity transmission and distribution

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$
2019	Electricity	34,901 kWh	0.0217	**757**
2020	Electricity	11,762 kWh	0.02005	**236**
2021	Electricity	35,172 kWh	0.01879	**661**
2022	Electricity	84,974 kWh	0.01769	**1,503**
2023	Electricity	74,120 kWh	0.01792	**1,328**

Scope 3 emissions – business travel

Period	source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2019	Car (m)	55,094	0.27459	15,128	Assumed all milage in medium sized diesel car. Cost data equates to 45p / mile
	Taxi (passenger.km)	3290	0.15018	494	Regular taxi. Cost data assumed to equate to £1.49 / km (see prior years)
	Air (passenger.km)	20,406	0.25493	5,202	Assumed all short haul flights (domestic to / from UK) with RF. Cost data assumed to equate to £0.42 / km (see prior years)
	Train (passenger.km)	78,963	0.04115	3,249	Assumed 'national rail' from 2019 data. Cost data assumed to equate to £0.341 / km based on 100% peak travel, advanced tickets and Manc to London: 260 km (thetrainline.com) and cost of £88.60 (receipts)
	Tram (passenger.km)	1,786	0.03508	63	Light rail and tram from 2019 data. Cost data assumed to equate to £0.33 / km (see prior years)
	London underground (passenger.km)	581	0.03084	18	London underground from 2019 data. Cost data assumed to equate to £0.35 / km (see prior years)
	Bus (passenger.km)	92	0.10471	10	Average local bus conversion factor due to whole UK use of public transport. Cost data assumed to equate to £0.30 / km based on other modes of public transport. Insignificant travel method to Aew
	Unallocated pseudo train (passenger.km)	181	0.04115	7	Unallocated travel expenses total £61.56 for the period, less than 0.15% of all travel expenses. 100% associated to train –reduced mode from 2018
			Total	**24,171**	

Period	source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2020	Car (m)	26,971	0.26775	7,221	Assumed all milage in medium sized diesel car. Cost data equates to 45p / mile
	Taxi (passenger.km)	636	0.14549	93	Regular taxi. Cost data assumed to equate to £1.49 / km (see prior years)
	Air (passenger.km)	2,396	0.2443	585	Assumed all short haul flights (domestic to / from UK) with RF. Cost data assumed to equate to £0.42 / km (see prior years)
	Train (passenger.km)	18,981	0.03694	701	Assumed 'national rail' from 2019 data. Cost data assumed to equate to £0.353 / km based on 100% peak travel, advanced tickets and Manc to London: 260 km (thetrainline.com) and cost of £91.75 (receipts)
	Tram (passenger.km)	445	0.02991	13	Cost data assumed to equate to £0.33 / km (see prior years)
	London underground (passenger.km)	87	0.0275	2	Cost data assumed to equate to £0.35 / km (see prior years)
	Bus (passenger.km)	44	0.10312	5	Average local bus conversion factor due to whole UK use of public transport. Cost data assumed to equate to £0.30 / km based on other modes of public transport. Insignificant travel method to Aew
	Unallocated pseudo car miles	n/a	n/a	0	No unallocated travel expenses over the year
			Total	**8,621**	

Period	source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2021	Car (m)	37,227	0.26549	9,883	Assumed all milage in medium sized diesel car. Cost data equates to 45p / mile
	Taxi (passenger.km)	495	0.14876	74	Regular taxi. Cost data assumed to equate to £1.49 / km (see prior years)
	Air (passenger.km)	0	0.24587	0	Assumed all short haul flights (domestic to / from UK) with RF. Cost data assumed to equate to £0.42 / km (see prior years)
	Train (passenger.km)	17,485	0.03549	621	Assumed 'national rail' from 2021 data. Cost data assumed to equate to £0.353 / km based on 100% peak travel, advanced tickets and Manc to London: 260 km (thetrainline.com) and cost of £91.75 (receipts)
	Tram (passenger.km)	524	0.02813	15	Cost data assumed to equate to £0.33 / km (see prior years)
	London underground (passenger.km)	93	0.02781	3	Cost data assumed to equate to £0.35 / km (see prior years)
	Bus (passenger.km)	103	0.10227	11	Average local bus conversion factor due to whole UK use of public transport. Cost data assumed to equate to £0.30 / km based on other modes of public transport. Insignificant travel method to Aew
	Unallocated pseudo car miles	n/a	n/a	0	No unallocated travel expenses over the year
			Total	**10,605**	

Period	source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2022	Car (m)	31,879	0.27039	8,620	Assumed all milage in medium sized diesel car. Cost data equates to 45p / mile. (Pre June 2022)
	Car (m)	12,174	0.27492	3,347	Average diesel car (Post June 2022)
	Car (m)	12,756	0.27436	3,500	Average petrol car (Post June 2022)
	Car (m)	2,497	0.19318	482	Average hybrid car (Post June 2022)
	Car (m)	1,400	0.08272	116	Average electric car (Post June 2022)
	Taxi (passenger.km)	1737	0.14876	258	Regular taxi. Cost data assumed to equate to £1.49 / km (see prior years) (Pre June 2022) Reported distance (Post June 2022)
	Air (passenger.km)	11,019	0.19309	2,128	Assumed all short haul EU flights. Cost data assumed to equate to £0.42 / km (see prior years) (Pre June 2022) Reported distance (Post June 2022)
	Air (passenger.km)	583	0.24587	143	Domestic flight (UK) reported distance (Post June 2022)
	Train (passenger.km)	34,311	0.03549	1,218	Assumed 'national rail' from 2021 data. Cost data assumed to equate to £0.353 / km based on 100% peak travel, advanced tickets and Manc to London: 260 km (thetrainline.com) and cost of £91.75 (receipts) (Pre June 2022) Reported distance (Post June 2022)
	Tram / Underground (passenger.km)	917	0.02861	26	Cost data assumed to equate to £0.33 / km (see prior years) (Pre June 2022) Reported distance (Post June 2022)
	Bus (passenger.km)	188	0.0965	18	Average local bus conversion factor due to whole UK use of public transport. Cost data assumed to equate to £0.30 / km based on other modes of public transport. Insignificant travel method to Aew (Pre June 2022) Reported distance (Post June 2022)

	Unallocated pseudo car miles	n/a	n/a	0	No unallocated travel expenses over the year
			Total	**19,856**	

Period	**source**	**Annual quantum**	**Conversion factor**	**kgCO_2e**	**Notes**
2023	Car (m)	19,667	0.27332	5,375	Average diesel car
	Car (m)	25,018	0.26388	6,602	Average petrol car
	Car (m)	1,718	0.19147	329	Average hybrid car
	Car (m)	45	0.15113	7	Average plug in hybrid car
	Car (m)	1,198	0.08819	116	Average electric car
	Taxi (m)	1,121	0.23927	268	Reported distance
	Air (m)	5,712	0.29933	1,710	Reported distance short haul
	Air (m)	7,702	0.26128	3,220	Reported distance long haul
	Air (m)	5,814	0.43885	2,552	Domestic flight (UK) reported distance
	Train (m)	45,710	0.05710	1,218	Reported distance
	Tram / Underground (m)	863	0.04605	40	Reported distance
	Bus (m)	11	0.16446	2	Reported distance
	Unallocated pseudo car miles	n/a	n/a	0	No unallocated travel expenses over the year
			Total	**22,827**	

Scope 3 emissions – commuting

Period	Source	Annual quantum	Conversion factor	kgCO_2e	Notes
2019	Car (m)	99,249	0.27459	27,253	Annual quantum calculated by: 100% in office x 228 workdays x 65 no. staff x daily commute distance by mode (2021 survey data)
	Train (passenger.km)	273,047	0.04115	11,236	
	Tram (passenger.km)	60,358	0.03508	2,117	
	Bus (passenger.km)	57,484	0.10471	6,019	
			Total	**46,625**	

Period	Source	Annual quantum	Conversion factor	kgCO_2e	Notes
2020	Car (m)	31,620	0.26775	8,466	Annual quantum calculated by: 30% in office x 228 workdays x 70 no. staff x daily commute distance by mode (2021 survey data)
	Train (passenger.km)	86,990	0.03694	3,213	
	Tram (passenger.km)	19,229	0.02991	575	
	Bus (passenger.km)	18,314	0.10312	1,889	
			Total	**14,143**	

Period	Source	Annual quantum	Conversion factor	kgCO_2e	Notes
2021	Car (m)	34,203	0.26549	9,080	Annual quantum calculated by: 28% in office x 228 workdays x 85 no. staff x daily commute distance by mode (2021 survey data)
	Train (passenger.km)	94,096	0.03549	3,339	
	Tram (passenger.km)	20,800	0.02813	585	
	Bus (passenger.km)	19,810	0.10227	2,026	
			Total	**15,031**	

Period	Source	Annual quantum	Conversion factor	kgCO_2e	Notes
2022	Car (m)	88,968	0.27665	24,613	Annual quantum calculated by: Surveyed transport modes, distance and no. days office/week of 74 survey respondents converted to CO2/person/year average x 83 no. staff
	Motorbike (m)	6,572	0.18274	1,201	
	Train (passenger.km)	76,743	0.03549	2,724	
	Tram (passenger.km)	34,288	0.02861	981	
	Bus (passenger.km)	8,142	0.10778	878	
			Total	**30,397**	

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2023	Car - Petrol or Diesel (m)	91,620	0.2845	26,066	Carbon emission factors averaged based on survey split of vehicle fuel types. Annual quantum calculated by: Surveyed transport modes, distance and no. days office/week of 93 survey respondents
	Car – low emissions (m)	11,104	0.0657	730	
	Motorbike (m)	3,466	0.18294	634	
	Train (m)	115,277	0.03546	4088	
	Tram (m)	50,488	0.02860	1444	
	Bus (m)	15,586	0.10215	1592	
			Total	33802	

Scope 3 emissions – home office (working from home)

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2019	Workstation Power (kWh)	0	0.2773	0	Annual quantum calculated by: 0% WFH x 1710 work hours x 65 no. staff x 0.140 kW per workstation
	Lighting Power (kWh)	0	0.2773	0	Annual quantum calculated by: 0% WFH x 1710 work hours x 65 no. staff x 0.010 kW per workstation
	Space Heating (kWh)	0	0.1839	0	Annual quantum calculated by: 0% WFH x 1710 work hours x 0.5 (heating season) x 65 no. staff x 5 kWh x 0.58 (additional usage metric based on 2021 surveyed data of staff who would result in additional heating by wfh)
			Total	**0**	

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2020	Workstation Power (kWh)	11,800	0.2532	2,988	Annual quantum calculated by: 70% WFH x 1710 work hours x 70 no. staff x 0.140 kW per workstation
	Lighting Power (kWh)	843	0.2532	213	Annual quantum calculated by: 70% WFH x 1710 work hours x 70 no. staff x 0.010 kW per workstation
	Space Heating (kWh)	122,219	0..1839	22,472	Annual quantum calculated by: 70% WFH x 1710 work hours x 0.5 (heating season) x 70 no. staff x 5 kWh x 0.58 (additional usage metric based on 2021 surveyed data of staff who would result in additional heating by wfh)
			Total	**25,674**	

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2021	Workstation Power (kWh)	13,789	0.2311	3,187	Annual quantum calculated by: 70% WFH x 1710 work hours x 70 no. staff x 0.140 kW per workstation
	Lighting Power (kWh)	985	0.2311	228	Annual quantum calculated by: 70% WFH x 1710 work hours x 70 no. staff x 0.010 kW per workstation
	Space Heating (kWh)	142,819	0.1832	26,159	Annual quantum calculated by: 70% WFH x 1710 work hours x 0.5 (heating season) x 70 no. staff x 5 kWh x 0.58 (additional usage metric based on 2021 surveyed data of staff who would result in additional heating by wfh)
			Total	**29,573**	

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2022	Homeworking Power (kWh)	61,375	0.03168	1,944	Annual FTE hours quantum calculated by: Surveyed % WFH x 1710 work hours x 83 no. staff
	Space Heating (kWh)	32,030	0.30907	9,900	Annual FTE hours quantum calculated by: Surveyed % WFH x 1710 work hours x 83 no. staff
			Total	**11,844**	

Period	Source	Annual quantum	Conversion factor	$kgCO_2e$	Notes
2023	Homeworking Power (kWh)	65,664	0.0314	2,064	Annual FTE hours quantum calculated by: Surveyed % WFH x 1710 work hours x 94 no. staff
	Space Heating (kWh)	33,516	0.3023	10,133	Annual FTE hours quantum calculated by: Surveyed % WFH x 1710 work hours x 94 no. staff
			Total	**12,198**	

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