

STW

Scott Tallon Walker
ARCHITECTS

Carbon Reduction Plan Report - 2024



February 2025

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Introduction

Scott Tallon Walker

Scott Tallon Walker Architects is an architectural firm dedicated to designing timeless, innovative, and meticulously crafted buildings that enhance the well-being of their occupants, enrich the public realm, and minimize their environmental impact.

The four studios have an outstanding track record of designing award-winning buildings and interiors across all construction sectors. Over the last year the number of employees increased from 78 to 86.



Dublin: 63 no. employees
Cork: 17 no. employees
London: 3 no. employees
Galway: 3 no. employees



CO₂ emissions were calculated using the company's energy consumption data from bills, information on business transport, purchases and employee commuting collected during 2024, as well as emission factors provided by DEFRA at <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024>.



Accounting for emissions involves considering all relevant greenhouse gases identified in the IPCC Assessment Report, including carbon dioxide (CO₂), methane (N₂O), hydrofluorocarbons (HFC), perfluorocarbons (PFC), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃).

Corporate Carbon Footprint

Corporate Carbon Footprint (CCF) is the sum of the CO₂ emissions released by the company within the defined system boundaries over a specific period.

In this report, Scott Tallon Walker's individual calculations for office branches in Cork, Dublin, Galway and London are grouped as Scott Tallon Walker Architects, for the 2024 calendar year.

Analyzing the carbon footprint helps identify areas where emissions can be reduced the most, establish specific goals, and devise appropriate reduction strategies. It also allows for monitoring progress toward those targets.

Each gas has varying abilities to contribute to atmospheric warming and remains in the atmosphere for different durations. To facilitate comparison of their impacts, they are converted to the common unit of CO₂e (carbon dioxide equivalent).

However, for simplicity, in this report, we refer to all CO₂e as just CO₂.

Calculation approach

This calculation followed the guidelines outlined in the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard (GHG Protocol).



GHG Protocol encompasses all greenhouse gas emissions within the specified system boundaries.

They are recorded objectively, and any assumptions, data gaps, extrapolations, or exclusions are transparently presented in this report.

Our goal is to ensure the report's accuracy, minimise uncertainties, and maintain consistency in methodology to facilitate comparison of the company's emissions over time.



Emissions related to electricity were calculated using market-based and location-based methods, as recommended by the GHG Protocol. The market-based method was employed for the Irish offices, utilising emission factors specified on the electricity bills. For the London office, the average national grid mix of the country was utilised from the DEFRA database.

Introduction

System boundaries

Following the GHG Protocol, the emission sources have been divided into three scopes.



Scope 1 emissions are generated by the offices directly. In 2023 it included Dublin and London office's gas consumption for heating.



Scope 2 emissions are generated by electricity purchased by all four offices.

Scope 3 emissions are the below listed sources, which are outside of direct corporate control:



employee commuting



business travel



purchased goods and services



upstream emissions from scopes 1 and 2 (fuel and energy)



home office

Scopes 1 and 2 emissions are calculated individually for each branch based on billed energy consumption.

Scope 3 emissions from employee commuting are calculated separately for each office, reflecting the local impact.

Data for other Scope 3 emissions, such as business travel and purchases is consolidated. This is because the majority of these transactions are managed through our Dublin office, making it a central point for emissions management.

Carbon Footprint 2024 Result tables

Below is a table showing the breakdown of all carbon emissions calculation for all Scott Tallon Walker Architects' business activities in 2024.

Scope 1	kg CO ₂	%
Direct emissions from company facilities (self-generated heat from gas)	1,216	19.86
Dublin office	30,674	19.51
London office	543	0.34
Scope 2		
Electricity purchased for own use	24,697	15.71
Dublin office	8,012	5.10
Cork office	14,242	9.06
London office	1,383	0.89
Galway office	1,059	0.67
Scope 3		
Employee commuting	38,634	24.58
Dublin office	31,253	19.88
Cork office	5,227	3.32
London office	836	0.35
Galway office	1,606	1.02
Business travel	30,871	19.64
Flights	22,534	14.33
Private vehicles (car mileage)	6,018	3.83
Taxi	220	0.14
Trains/ busses	971	0.62
Hotel nights	1,129	0.72
Purchased goods and services	17,024	10.83
Electronic devices	11,964	7.61
Office paper	1,514	0.96
Water	235	0.15
Waste	3,311	2.11
Upstream fuel and energy	8,658	5.51
Upstream fuel and energy related emissions for all 4no. offices	8,658	5.51
Home office	6,105	3.81
Home office for all offices	6,105	3.88
Total carbon emissions	157,205	100

2024 Carbon Footprint Analysis

Overall result for 2024

The overall result of the carbon emissions calculation for all Scott Tallon Walker Architects' business activities in 2024 is:

157,205 kgCO₂ = 157 tCO₂

Largest emission sources

The largest sources of emissions are identified to highlight the areas to be prioritised for emissions reduction.

The below graphs illustrate the breakdown of STW's emissions by scope.

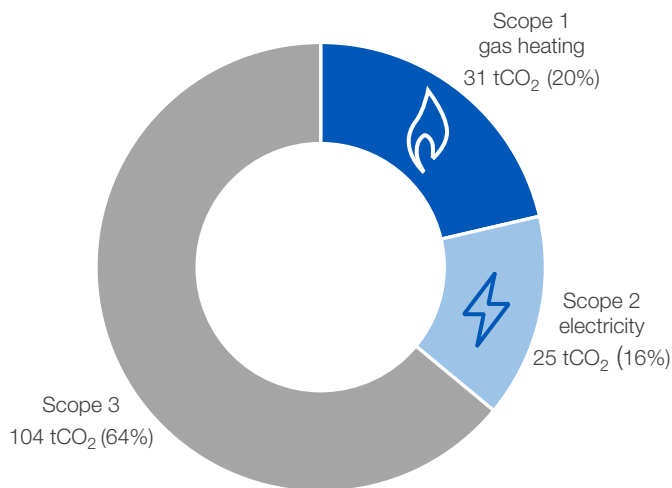


Figure 1 - Breakdown of total STW's emissions by scope.

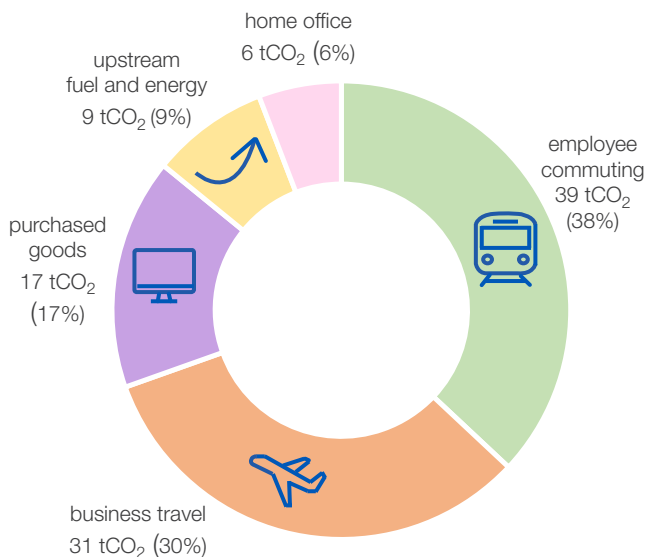


Figure 2 - Scope 3 emissions breakdown.

As depicted in Figure 1, Scope 3 is the largest source of STW's total emissions.

Figure 2 provides a detailed breakdown of Scope 3 emission sources. It shows that 38% of these emissions originate from employee commuting, with business travel being the second largest contributor (30%). The difference between those two is however smaller than in previous year, when it was 46% and 25% respectively.

Figure 3 compares all three scopes, including the Scope 3 subsections, showing that employee commuting accounts for the most significant portion of STW's emissions. It is followed by the emissions from the Dublin office heating, while the emissions relating to business travel are the third largest source.

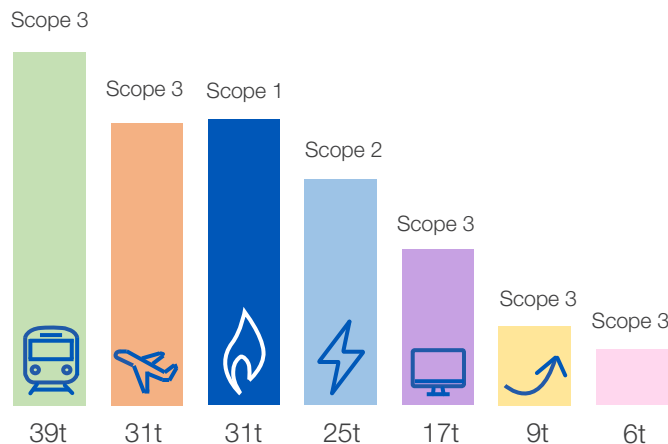
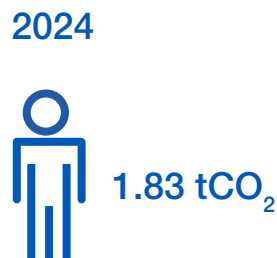


Figure 3 - Comparison of all emission sources.

Emissions per capita

The total emissions in 2024 per capita is 1.83 tCO₂.



Carbon emissions reduction progress so far

In 2024, STW's overall carbon emissions were 157,205 kgCO₂ (157 tCO₂), showing an increase of 7,599 kgCO₂ (5.08%) compared with a year before. During the last year, Scope 1 decreased by 3.95%, Scope 2 increased by 8.04%, and Scope 3 increased by 7.47%.

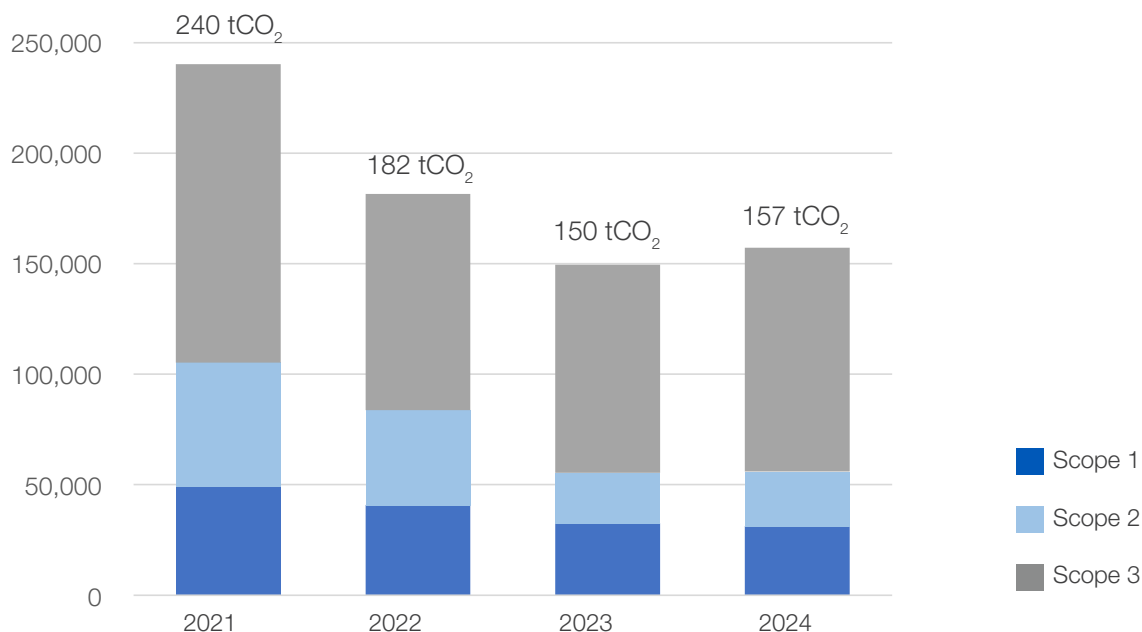


Figure 4 - Comparison of STW's carbon emissions by scope between 2021 and 2024

Scope 1 - comparison between 2023 and 2024



In 2023 and 2024, STW's Scope 1 carbon emissions were created by the self-generated heat produced from gas in the Dublin and London offices.

The below tables show a comparison between the 2023 and 2024 Scope 1 emission sources and associated emission factors.

The 3.95% reduction in Scope 1 carbon emissions between 2023 and 2024 is associated with a 6% reduction in energy use for the heating in the Dublin office, which impact was reduced by a small amount of gas being used in London office in 2024.

The emission factor for natural gas did not change over the last year.

2023 Scope 1 - Self generated heat (gas)			
	energy use	emissions factor	emissions
	kWh	gCO ₂ /kWh	kgCO ₂
Dublin Office	176,625	184	32,499
Cork Office	n/a		0.00
Galway Office	n/a		0.00
London Office	n/a		0.00
total	176,625		32,499

Table 1 - Scope 1 emission sources in 2023

2024 Scope 1 - Self generated heat (gas)			
	energy use	emissions factor	emissions
	kWh	gCO ₂ /kWh	kgCO ₂
Dublin Office	166,705	184	30,674
Cork Office	n/a		0
Galway Office	n/a		0
London Office	2,965	207	542
total	169,670		31,216

Table 2 - Scope 1 emission sources in 2024

Carbon emissions reduction progress so far

Scope 2 - comparison between 2023 and 2024



Scope 2 encompasses emissions associated with the purchase of electricity. The overall carbon emissions from scope 2 across all four offices have increased by 8%, from 22.9 tCO₂ in 2023 to 24.7 tCO₂ in 2024.

The increase in the Cork office energy use caused the STW's overall Scope 2 emissions increase, despite slight decreases for all the other three offices.

The Cork office energy use hike is likely caused by the flood event in October 2024, when the dehumidifiers needed to be run continuously for an extended amount of time to dry out the furniture and carpets.

Dublin office

Electrical energy use was reduced by 5%, and the emissions factor remained the same, resulting in a 5% overall emissions reduction.

Cork office

Electrical energy use increased by 46% comparing with the previous year, while the emission factor was reduced by 13%, resulting in a 27% hike in the overall emissions.

Galway office

The energy use was reduced by 39%, and the emissions factor remained the same, resulting in an overall emissions reduction of 39%.

London office

The energy use was reduced in 2024 by 5%, which, along with the emissions factor remaining the same, brought an overall emissions reduction of 5%.

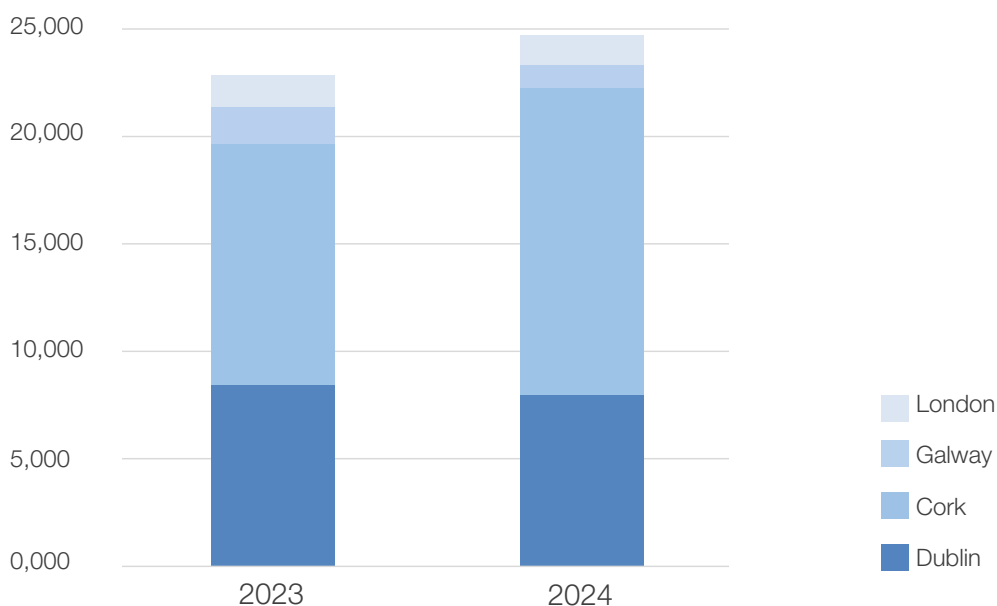


Figure 5 - Comparison of scope 2 emissions in all 4no. offices between 2023 and 2024

2023 Scope 2 - Electricity			
	energy use	emissions factor	emissions
	kWh	gCO ₂ /kWh	kgCO ₂
Dublin Office	81,024	104	8,426
Cork Office	30,986	363	11,248
Galway Office	16,587	104	1,725
London Office	7,052	207	1,460
total	135,649		22,860

Table 3 - Scope 2 emission sources in 2023

2024 Scope 2 - Electricity			
	energy use	emissions factor	emissions
	kWh	gCO ₂ /kWh	kgCO ₂
Dublin Office	77,040	104	8,012
Cork Office	45,214	315	14,242
Galway Office	10,185	104	1,059
London Office	6,680	207	1,383
total	139,119		24,697

Table 4 - Scope 2 emission sources in 2024

Carbon emissions reduction progress so far

Scope 3 - commuting, comparison between 2023 and 2024



Between 2023 and 2024, the overall emissions associated with employee commuting decreased by 5%.

This is due to more employees using the less carbon-intensive travel modes (cycling, walking, or public transport) over the more carbon-intensive ones (like driving).

Another contributing factor was a slight reduction of emissions factors for most transport modes.

The two tables below compare the overall emissions per each office location as well average emissions per person per year for all our four offices.

They demonstrate that all the offices achieved a carbon emissions reduction, despite the increase in number of employees from 78no. to 86no.

The more appropriate comparison per capita shows a 14% improvement in 2024, which underscores the positive outcome of our collective efforts.

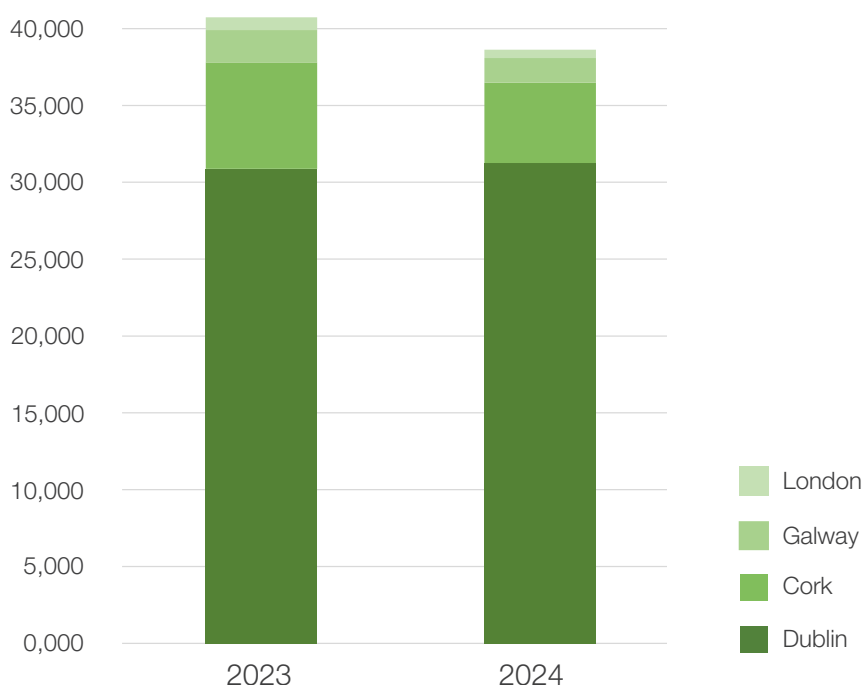


Figure 5 - Comparison of employee commuting emissions in all 4no. offices between 2023 and 2024

2023 Scope 3 - Employee commuting			
	emissions/ year	no. of employees	emissions/ person/year
	kgCO ₂		kgCO ₂
Dublin Office	30,878	55	561.41
Cork Office	6,927	16	432.91
Galway Office	2,100	2	1,050.21
London Office	836	5	167.22
total	40,741	78	522.32

Table 5 - Scope 3 - employee commuting in 2023

2024 Scope 3 - Employee commuting			
	emissions/ year	no. of employees	emissions/ person/year
	kgCO ₂		kgCO ₂
Dublin Office	31,253	63	496.08
Cork Office	5,227	17	307.46
Galway Office	1,606	3	535.42
London Office	548	3	182.53
total	38,634	86	449.23

Table 6 - Scope 3 - employee commuting in 2024

Carbon emissions reduction progress so far

Scope 3 - business travel comparison between 2023 and 2024



STW's overall emissions associated with the business travel have continued to rise in 2024.

The increased quantity of business trips can be linked to the enlarged number of employees - a factor indicating an raising number of projects undertaken last year., comparing with the year before.

The biggest contributor in this section is air travel, which increased by 32% in 2024. While the number of trips rose by only 11%, the cumulative length of trips grew by 39%. This indicates that the main impact came from traveling to more distant destinations.

In 2024 there was also a 16% reduction in carbon emissions associated with car mileage and a slight increase in the other areas.

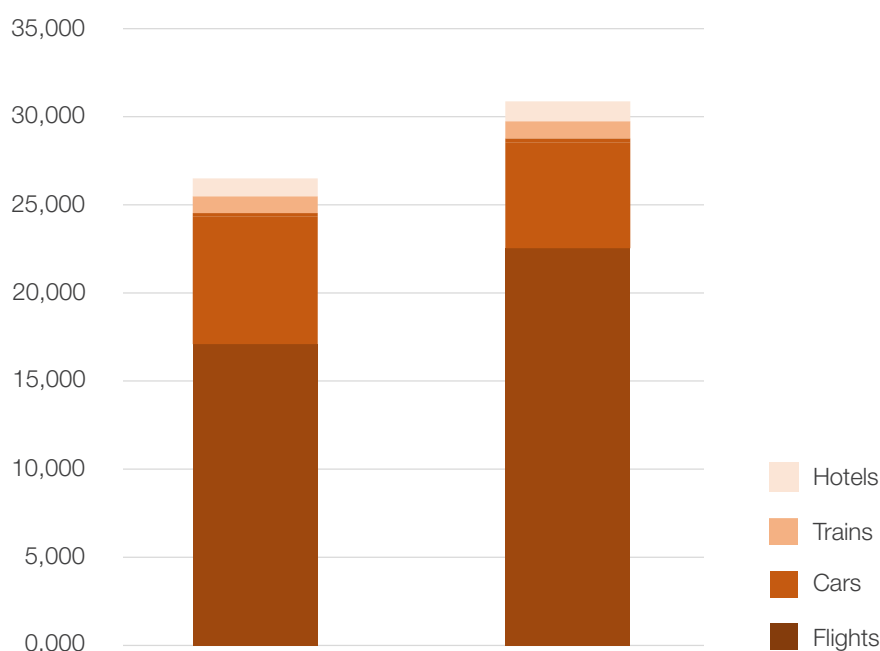


Figure 6 - Comparison of business travel emissions broken down by category between 2023 and 2024

2023 Scope 3 - Business Travel			
	kilometers/ number of nights	avg emission factor	emissions/ year
	units	kgCO ₂ / unit	kgCO ₂
Flights [km]	75,109	0.228	17,091
Car mileage [km]	26,549	0.272	7,228
Taxis [km]	781	0.272	213
Trains [km]	27,069	0.036	960
Hotel [nights]	86	11.731	1,009
total			26,500

Table 7 - Scope 3 - business travel in 2023

2024 Scope 3 - Business Travel			
	kilometers/ number of nights	avg emission factor	emissions/ year
	units	kgCO ₂ / unit	kgCO ₂
Flights [km]	104,606	0.215	22,534
Car mileage [km]	22,383	0.269	6,018
Taxis [km]	1,057	0.208	220
Trains [km]	27,392	0.035	971
Hotel [nights]	97	11.636	1,129
total			30,871

Table 8 - Scope 3 - business travel in 2024

Carbon emissions reduction progress so far

Scope 3 - purchasing of goods comparison between 2023 and 2024



STW's overall emissions associated with purchased goods increased by 35% in 2024 compared to 2023.

More electronic devices with a larger average carbon footprint were purchased in 2024.

The same amount of paper was bought, however its emission factor (as per the UK Government GHG Conversion Factors 2024 for Company Reporting) increased, leading to an overall increase.

Similarly, the water use (calculated based on the office area) remained the same, but emissions associated with it increased.

Finally, while the amount of waste (calculated based on the number of employees) increased due to the larger number of employees in 2024, the overall emissions caused by waste decreased due to their emissions factor reduction.

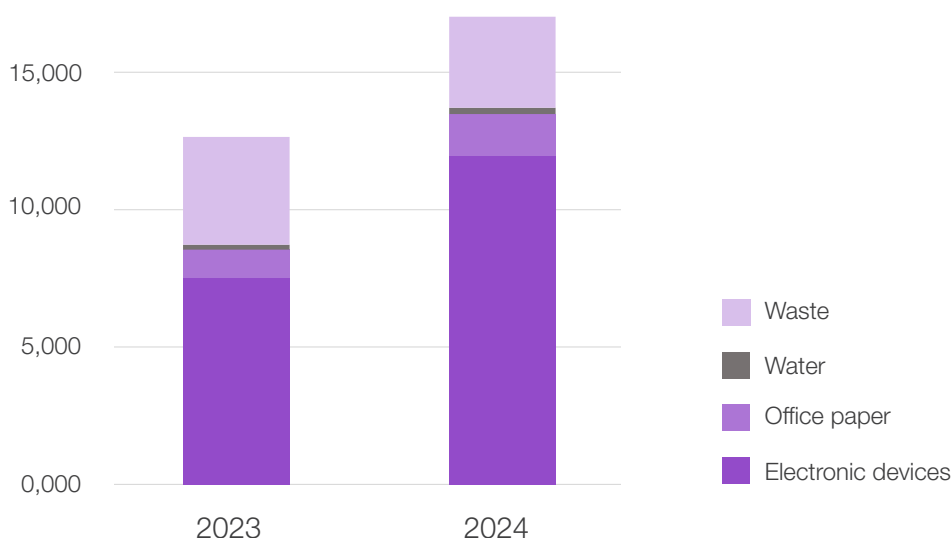


Figure 6 - Comparison of business travel emissions broken down by category between 2023 and 2024

2023 Scope 3 - Purchased goods			
	no. of units	avg emission factor	emissions/ year
		kgCO ₂ / unit	kgCO ₂
Electronic devices [pieces]	29	259.18	7,516
Office paper [tonnes]	1.13	910.48	1,029
Water [m ³]	1,533	0.12	180
Waste [kg]	5,772	0.68	3,925
total			12,649.73

Table 9 - Scope 3 - purchased goods in 2023

2024 Scope 3 - Purchased goods			
	no. of units	avg emission factor	emissions/ year
		kgCO ₂ / unit	kgCO ₂
Electronic devices [pieces]	39	306.76	11,964
Office paper [tonnes]	1.13	1,339.32	1,514
Water [m ³]	1,533	0.15	235
Waste [kg]	6,364	0.52	3,311
total			17,024.28

Table 10 - Scope 3 - purchased goods in 2024

Upstream fuel and energy

The Scope 3 upstream fuel and energy result is directly related to the Scope 1 and 2 energy use. In 2024, these carbon emissions marginally reduced by 0.76%.

Home office

Carbon emissions created by home office work increased by 8.4% in 2024, along with the increase in the number of employees.

Further carbon emissions reduction strategy

In 2021 Scott Tallon Walker commenced the annual Corporate Carbon Footprint reporting, which tracks the carbon emissions related to the office's energy use and transportation. The total carbon emissions released by the company in 2021 was 240 tCO₂.

Figure 5 below shows our progress in reducing carbon emissions in Scopes 1, 2 and 3. It also highlights the scale of further reductions needed in the coming years.

The dashed line below represents a 50% reduction on the baseline 2021 emissions, ie. the target of 120 tCO₂. The Irish Climate Action Plan calls on this level of reduction to be achieved by 2030 and STW will strive to reach this goal despite the small increase observed in 2024. This means a requirement of 37 tCO₂ reduction over the next five years.

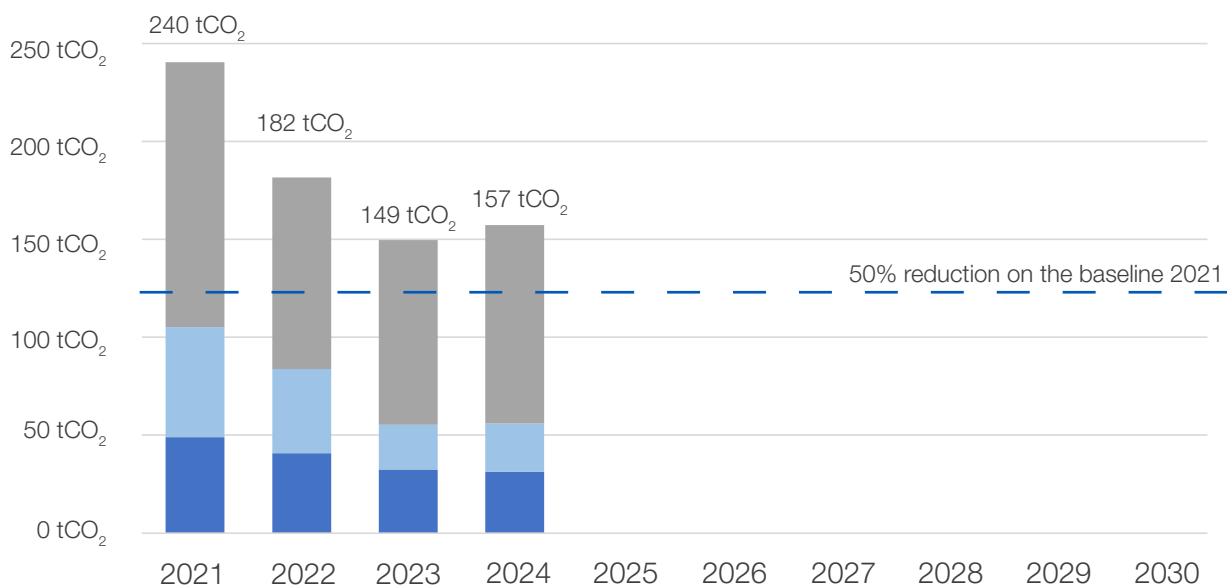


Figure 7 - STW's carbon emission reductions so far and further reductions needed

Scopes 1 and 2

STW will continue to implement the measures already undertaken, to reduce the offices' energy consumption and associated carbon emissions:

- better management of the office computers (switching off the PCs when not in use),
- continue to upgrade to more efficient lighting and equipment (when replacement is required),
- identify areas where waste can be further reduced by using digital documents instead of paper, recycling waste materials, and composting food waste,
- implement heating and air quality controls and monitoring
- consider procuring energy from an energy provider with a higher percentage of renewable energy in their mix (especially in the Cork office)

In the longer perspective, STW is dedicated to undertaking energy efficiency assessments of their office buildings, to identify energy improvement measures that could be implemented, especially those enabling moving away from the fossil fuel heating system. However, the protected status of the STW's Georgian headquarters will mean a limited array of possibilities.

The carbon emissions increase at the Cork office (likely due to the flood event) resulted in an additional 3 tCO₂ in 2024.

Changing the electricity provider to the supplier currently delivering power to Dublin and Galway offices (whose carbon emission factor is 104gCO₂/kWh as opposed to the 305 gCO₂/kWh of the current Cork office provider) would result in a 9,5 tCO₂ overall reduction.

Further carbon emissions reduction strategy

Scope 3

Employee commuting (38%) and business travel (30%) are the primary contributors to Scope 3 emissions. Therefore, STW should focus on reducing emissions in these two areas.



Employee Commuting

Active transport modes, like walking and cycling, with a zero carbon factor, are the most beneficial options to limit emissions from employee commuting. The second best choice is public transport, of which trains and trams are preferable over buses. The most carbon-intensive mode is a single-occupancy car transport.

Breakdown in 2024

In 2024, carbon emissions from STW's employee commuting amounted to 38,634 kgCO₂, and the average carbon footprint of employee commute was 449 kgCO₂/y. The breakdown of travel modes and associated emissions is as follows:

- 33% of employees were predominantly walking or cycling to the office, causing zero emissions,
- 38% of employees using public transport contributed to 36% of emissions at 14 tCO₂ (425 kgCO₂ per employee in this group on average)
- 29% of employees using car or motorcycle contributed to 64% of emissions at 25 tCO₂ (984 kgCO₂ per employee in this group on average, but with a wide range from 165 kgCO₂ up to 4,042 kgCO₂)

The most effective strategy for reducing carbon emissions in this area is to decrease the use of single-occupancy cars.

To reduce the overall annual emissions associated with employee commuting by 10% next year, STW would need to reduce the emissions by ca. 3,800 kgCO₂, comparing to 2024. This could be achieved by:

- encouraging car-driving employees to carpool,
- encourage employees to increase cycling or walking (for shorter distances) and increase public transport use or a combination of active and public transport modes (for longer distances),

Switching from car to public transport

The chart below compares the carbon emissions of a 10-km daily commute using different transport modes over a five-day workweek, highlighting their varying environmental impacts. Single occupancy drive in a petrol car produces more than nine times the carbon emissions of traveling by tram.

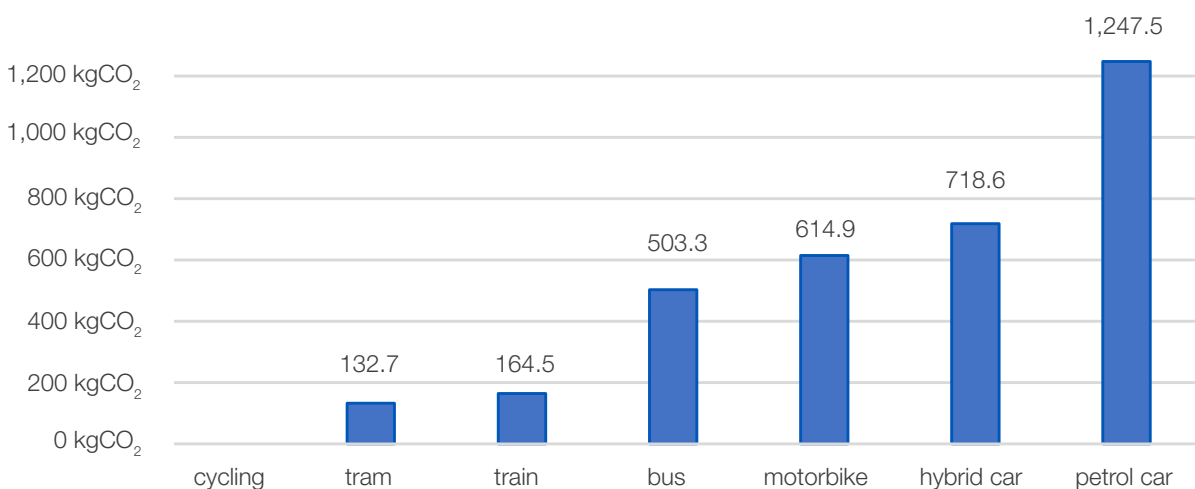


Table 11 - Comparison of different transport modes options

Further reduction strategy



Business Travel

In 2023, carbon emissions from STW's business travel amounted to 33,978kgCO₂ (395kgCO₂ / employee).

Flights

In 2024 carbon emissions for business travel by plane amounted to 22.5 tCO₂ for 104,606 km travelled - a 5.5

Examples below show CO₂ emissions per return trip from Dublin to the following cities:

Abuja, Nigeria:	2,651.5 kgCO ₂
Helsinki	755.0 kgCO ₂
Stockholm:	606.0 kgCO ₂
Amsterdam:	280.0 kgCO ₂
London:	167.0 kgCO ₂
Newcastle:	129.0 kgCO ₂
Manchester:	99.0 kgCO ₂
Edinburgh/ Liverpool:	87.0 kgCO ₂

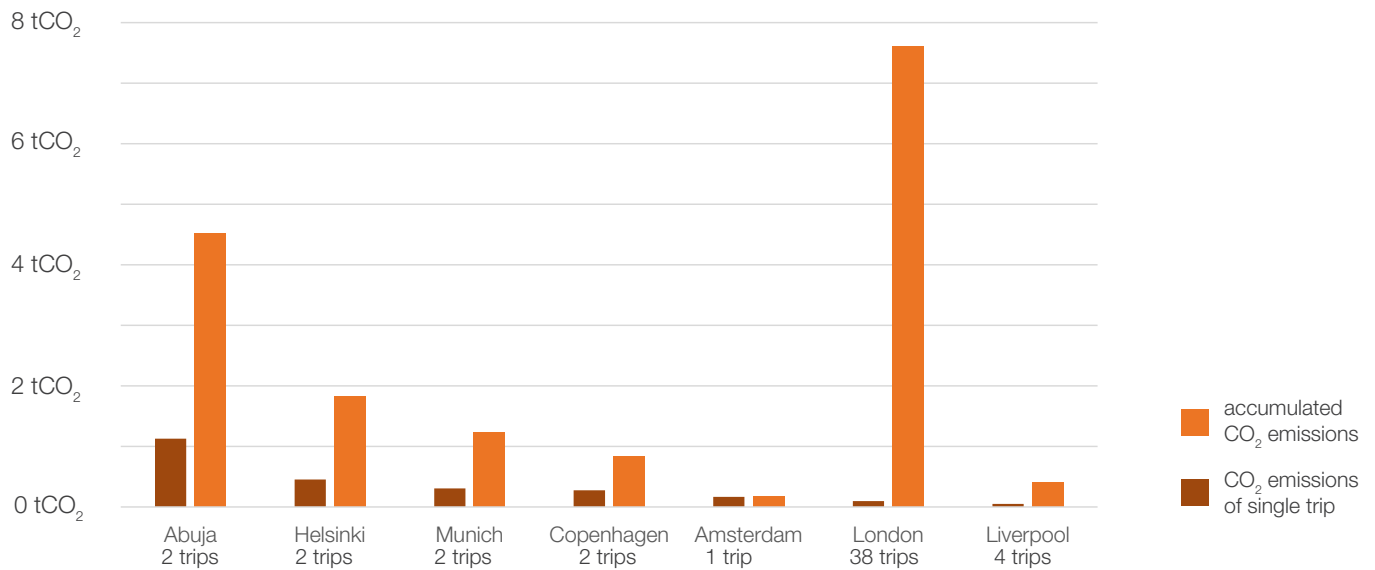


Figure 8 - breakdown of plane travel in 2023

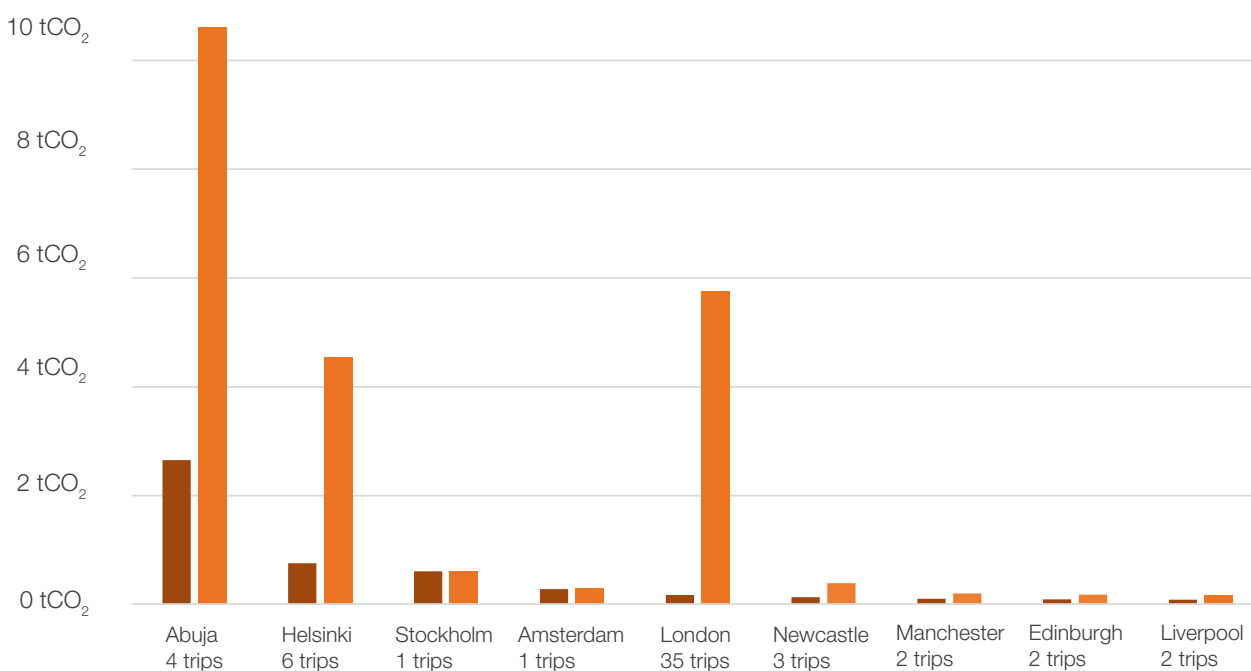


Figure 9 - breakdown of plane travel in 2024

Further reduction strategy

Car trips

In 2024, the carbon emissions for business travel by car amounted to 6 tCO₂ for 22,383 km travelled, a 1.2 tCO₂ reduction compared to 2023.

Train trips

The carbon emissions for business travel by train in 2024 amounted to 971 kgCO₂ for 27,392km travelled, a very similar result to the one from 2023.

This included trips to the following cities (CO₂ emissions per a return trip):

Dublin-Cork:	18.9 kgCO ₂
Dublin-Galway/ Limerick:	14.7 kgCO ₂
Dublin-Belfast:	12.8 kgCO ₂
Dublin-Waterford:	11.8 kgCO ₂

Train travel is by far the most efficient means of business travel. In comparison, a 100km train journey incurs 3.5 kgCO₂, while the same distance travelled by car causes 27.2 kgCO₂ (nearly eight times more).

Options to reduce carbon emissions associated with business travel include limiting the number of flights in lieu of online meetings and limiting the use of single-occupancy cars and replacing it with public transport.

Further Initiatives for Scope 3 carbon reduction

STW Architects is in the process of developing and adopting a Sustainable Travel Policy, to provide employees with better insight into the carbon footprint related to commuting and business travel.



Scott Tallon Walker Architects

www.stwarchitects.com

Dublin
19 Merrion Square, Dublin 2,
D02 VR80, Ireland
Tel: +353 (1) 669 3000
Email: mail@stwarchitects.com

London
Belle House, 1 Hudson's Place,
Victoria, London SW1V 1JT, UK
Tel: +44 (207) 589 4949
Email: london@stwarchitects.com

Cork
72 South Mall, Cork,
T12 VX9A, Ireland
Tel: +353 (21) 432 0744
Email: cork@stwarchitects.com

Galway
Odeon House, 7 Eyre Square,
Galway, H91 PX9K, Ireland
Tel: +353 (91) 56 4881
Email: galway@stwarchitects.com