

NOTTINGHAM TRENT STUDENTS' UNION **NET ZERO** **CARBON REPORT**

2022-2023

A group of eight students, four women and four men, are standing behind a long table in a modern office or meeting room. The table is covered with various documents, charts, and maps, likely related to the carbon emissions report. In the background, there is a large whiteboard with handwritten notes and diagrams. The entire image has a green tint.

CARBON EMISSIONS REPORT

**THIS IS NOTTINGHAM TRENT STUDENTS' UNION'S
(NTSU) ANNUAL CARBON EMISSIONS REPORT.**

**IT COVERS ALL ASPECTS OF NTSU'S CARBON
FOOTPRINT ACROSS SCOPES 1, 2 AND 3.**

SCOPE 1

NTSU fleet vehicles, refrigerants, fuel burned on site (e.g. natural gas and biomass)

01**02****SCOPE 2**

NTSU **does not** have a scope 2.

Unlike other organisations, NTSU does not have a scope 2. Our buildings are leased from our partner organisations, Nottingham Trent University (NTU) and United Partnerships Programme (UPP). So, although we use energy and heat on a daily basis, we don't have direct control over the emissions sources. As a result, these fall into our scope 3.

03**SCOPE 3**

Business travel and hotel stays, staff commuting, supply chain, upstream leased assets, waste and water management, working elsewhere, WTT & Distribution

Figure 1: NTSU's Carbon Emissions Breakdown

CARBON EMISSIONS BREAKDOWN

CARBON EMISSIONS CAN BE BROADLY SPLIT INTO THREE CATEGORIES OR 'SCOPES'

SCOPE 1

Direct emissions from an organisation's vehicle fleet and fuel burnt on site.

SCOPE 2

Indirect emissions of 'purchased' energy such as electricity and district heat.

SCOPE 3

Other indirect emissions from sources outside of an organisation's control that are associated with their activities.

OUR NET-ZERO TARGET

NTSU has a target of achieving net-zero carbon across all three scopes by 2040, as committed to in our sustainability strategy.

2022/23 is our second year of carbon reporting and builds on findings from our baseline year (2021/22). We have not implemented any reduction activities, so this footprint represents another “business as usual” year of operations.

We are currently in the process of setting interim reduction targets on our journey to net zero. We are conscious of supporting global targets, such as those specified in the Paris Agreement, during this process. We are also consulting with our stakeholders and interested parties to gauge what wider support is available for us. Any update on our reduction journey will be available to view within our 2023/24 Net-Zero Carbon Report.

Our carbon footprint is one way of expressing our negative environmental impacts. In addition to our reduction aims, we are also engaging staff in positive actions for environmental improvement. This ‘carbon avoided’ is calculated using activity data from the NTU Green Rewards App, filtered to NTSU staff actions.

In 2022/23, our staff logged **1190.38 kg CO₂e avoided**. This data is not reflected within our carbon footprint due to potential inaccuracies, but we still wanted to share positive steps taken on this journey.



OUR FOOTPRINT

OUR TOTAL EMISSIONS FOR THE 2022/23 ACADEMIC YEAR ARE
1259.55 TONNES CO₂ EQUIVALENT (tCO₂e).

THAT'S EQUIVALENT TO...



DRIVING AROUND THE
CIRCUMFERENCE OF THE GLOBE
189 TIMES
IN A DIESEL CAR
(THAT'S 7,557,300KM)

OR



OR

**741
RETURN
FLIGHTS**

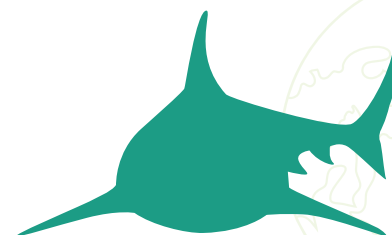
FROM LONDON TO NEW YORK
(AVERAGE EMISSIONS
FOR ONE PASSENGER)



**60,458
FULLY
TREES**

GROWING AND
ABSORBING
CARBON FOR A YEAR

OR



THE WEIGHT OF
**1260
GREAT
WHITE
SHARKS**

NTSU CARBON FOOTPRINT 2021/22 (tCO₂e)

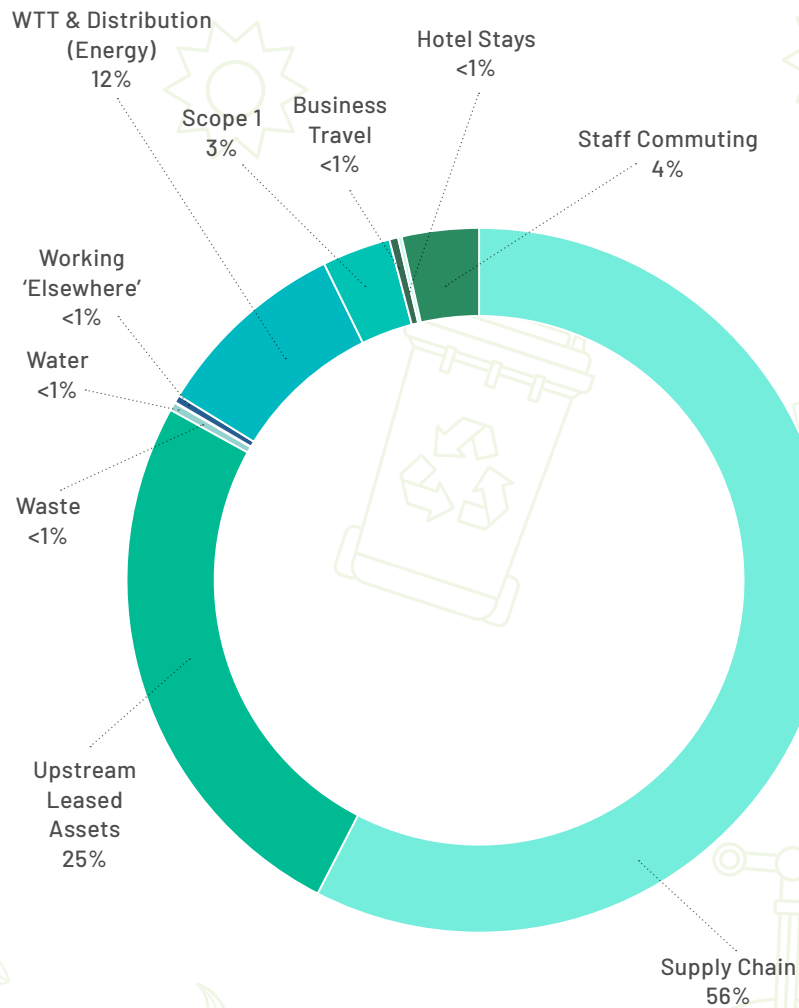


Figure 2: NTSU's Carbon Footprint (tCO₂e) Baseline Year 2021/22

NTSU CARBON FOOTPRINT 2022/23 (tCO₂e)

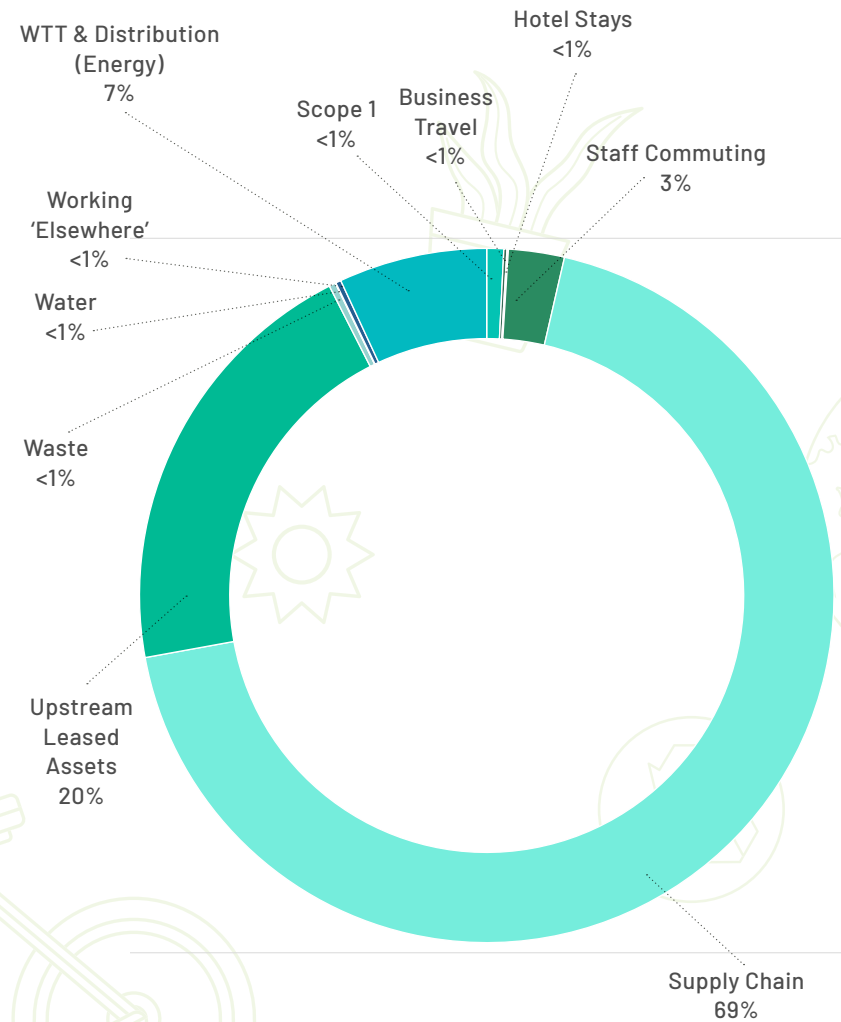


Figure 3: NTSU's Carbon Footprint (tCO₂e) 2022/23

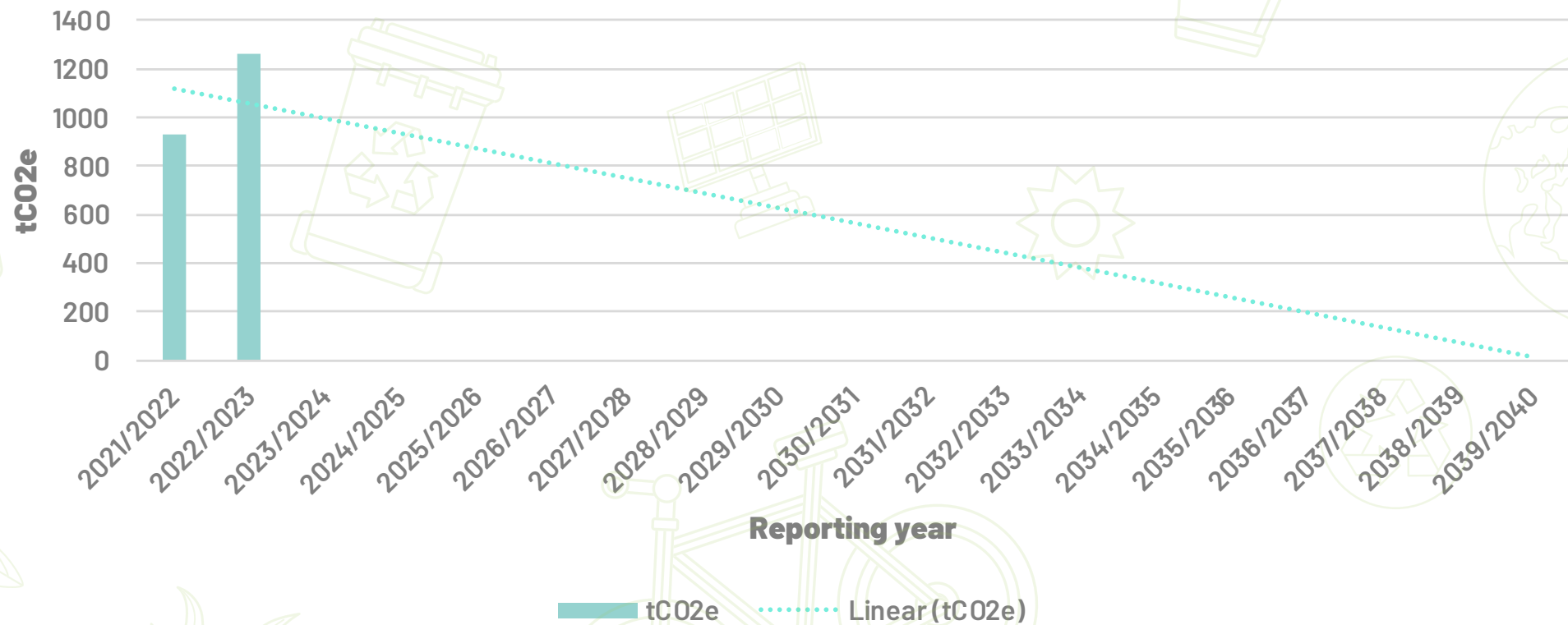


Figure 4: NTSUs pathway to net-zero, assuming a linear progression from our baseline in 2021/22 to net-zero by 2040

SCOPE 1

Our scope 1 emissions are formed of emissions from our fleet vehicles and refrigerants usage. Our absolute emissions for these were 9.93 tCO₂e, contributing 0.8% of our total carbon footprint.

Our scope 1 emissions have decreased by 65.44% compared to our baseline.

FLEET (FUEL)

NTSU's fleet vehicles are used by NTSU staff, societies, and NTU sports clubs for moving goods and transport to/from events. For our footprint calculations, we calculated NTU's percentage use of our fleet and deducted their usage from our total emissions.

Total fuel consumption (litres): 3760.07 (16.18 tCO₂e)
NTSU fuel consumption (litres): 1353.63 (3.40 tCO₂e)

VEHICLE	TOTAL NUMBER OF MILES	NTU MILEAGE	NTSU MILEAGE	PERCENTAGE NTSU USE
9-seater (1)	9,067	8,160.30	906.70	10%
9-seater (2)	9,352	8,416.80	935.20	10%
12-seater mini-bus	7,120	5,696	1,424	20%
Large van	8,151	4,890.60	3,260.40	40%
Small van	10,984	0	10,984	100%
Average NTSU use				36%

Fuel consumption has decreased by 68.44 litres, and NTSU usage of vehicles decreased by 2% compared to 2021/22. These factors have led to a 0.32 tCO₂e decrease in emissions.

REFRIGERANTS

NTSU uses refrigerants in our retail cooling units (fridges and freezers) and air conditioning units at City Campus (Byron building). Emissions are calculated according to the top-up amount.

In 2022/23, there were no recorded f-gas leaks from our retail cooling units which has significantly reduced.

REFRIGERANT LOCATION / TYPE	TOP-UP AMOUNT	TOTAL (tCO ₂ e)
Byron Air-con	10% assumed loss	6.54*

*We were unable to collect updated refrigerant data for our air conditioning units and the figure has therefore remained static. It is likely that this figure is an over-estimation of f-gas loss. We are working closely with NTU and UPP to address this issue and create a more accurate measurement of air-con refrigerants.

SCOPE 3

Our scope 3 emissions all come from sources outside of our direct control. They are wide-ranging and help to quantify the impact of our broader activities at NTSU.

UPSTREAM LEASED ASSETS

NTSU lease four buildings from NTU and UPP across three campuses. Utilities within these spaces are managed independently from NTSU.

NTSU does not have sole occupancy within these buildings. Therefore, our emissions are calculated according to percentage occupancy.

Emissions related to our upstream leased assets have increased by 12.17% since our baseline year. Within this, gas (kWh) usage has increase by 69%. Meanwhile, Electricity (kWh), district heat (kWh), and biomass (kWh) have all decreased in usage by -6%, -13% and -83% respectively.

This category contributes 256.70 tCO₂e and remains our second-largest contributor to our carbon footprint at 20.4%.

BUILDING NAME	TOTAL BUILDING AREA (m ²)	SU OCCUPANCY (m ²)	SU OCCUPANCY (%)
Byron (City)	6095.50	3050.99	50
Benenson (Clifton)	1841.90	1397.45	76
DH Lawrence (Clifton)	951.70	323.94	34
Main Hall (Brack)	2028.72	359.18	18

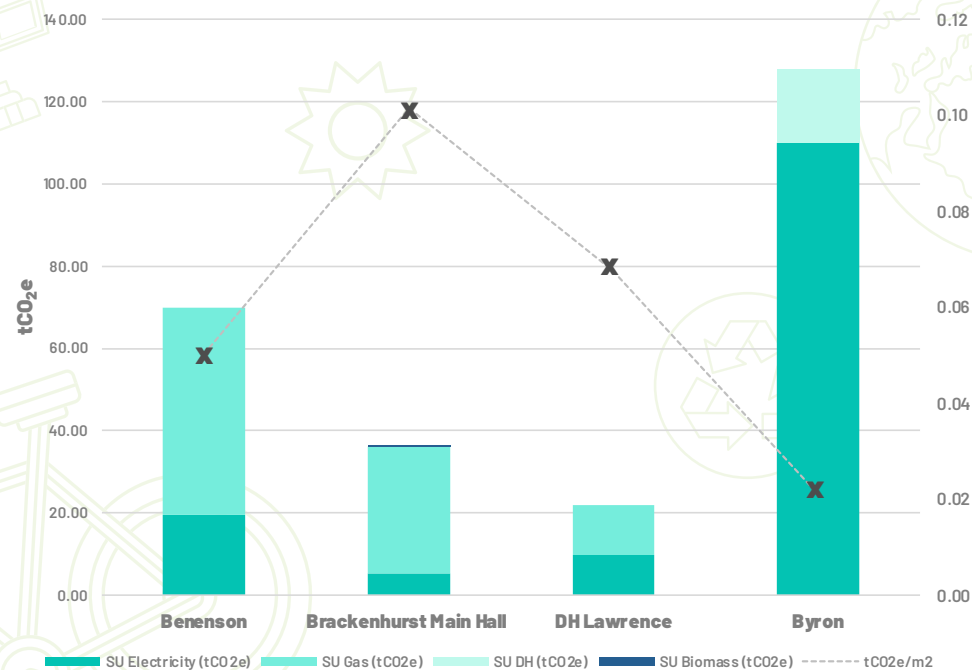


Figure 5: NTSU's Upstream Leased (tCO₂e and tCO₂e/m²) for NTSU buildings across City, Clifton, and Brackenhurst campus

BUSINESS TRAVEL

Our business travel includes all journeys made by staff for work-related reasons (i.e. cross-campus travel, travel to/from an event, and late-night taxi reimbursements (covering the cost of safe travel home when public transport is not running)).

Our business travel also covers any contracted coach bookings, i.e., those used during Freshers to transport students to events.

Our business travel has decreased by 49.49% relative to our baseline. This is largely attributed to a reduction in contracted coaches. Our commercial team made a conscious effort to reduce the amount of journeys made during Freshers' period which reduced the number of coaches booked.

Our business travel emitted 1.82 tCO₂e which was a 0.1% contribution to our total carbon footprint.

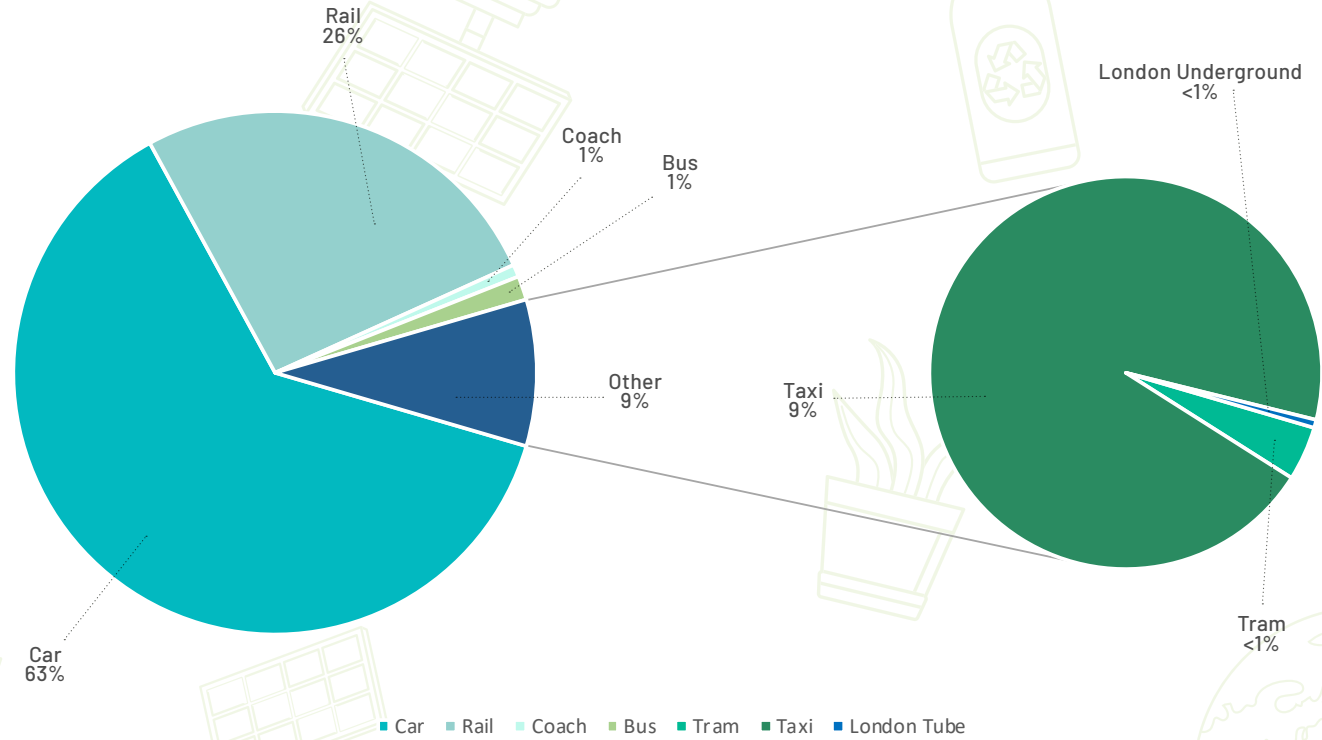


Figure 6: Business Travel

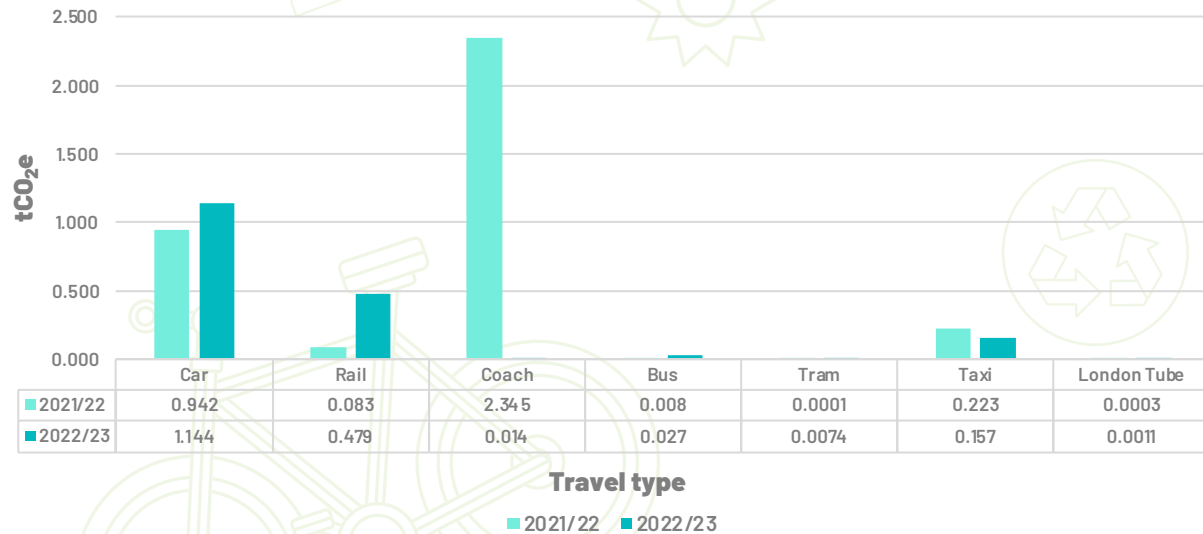


Figure 7: Business Travel in 2022/23 compared to our baseline

STAFF COMMUTING

NTSU is a multi-campus organisation and staff are encouraged to work across all sites. A recent staff travel survey (May 2023) showed that staff travel to City campus more than any other site (95% travel to City, 64% to Clifton and 26% to Brackenhurst). Overall, car travel is the primary method of commute used by full-time staff.

Recent survey data has been calculated based on the recent staff travel survey results. It has been assumed that 79% staff travel to work 5-days a week. The remaining 21%, on average, work from home 2 days a week. This information has been taken into account when calculating the staff commuting carbon footprint data.

The same survey data has been used for these calculations as was used for our baseline, only adjusting the number of staff employed from 61 to 63. Staff travel emissions have therefore changed minimally since our baseline and have increased by only 3.42%.

Staff travel to/from home for work contributes 32.78 tCO₂e, 2% of our total emissions.

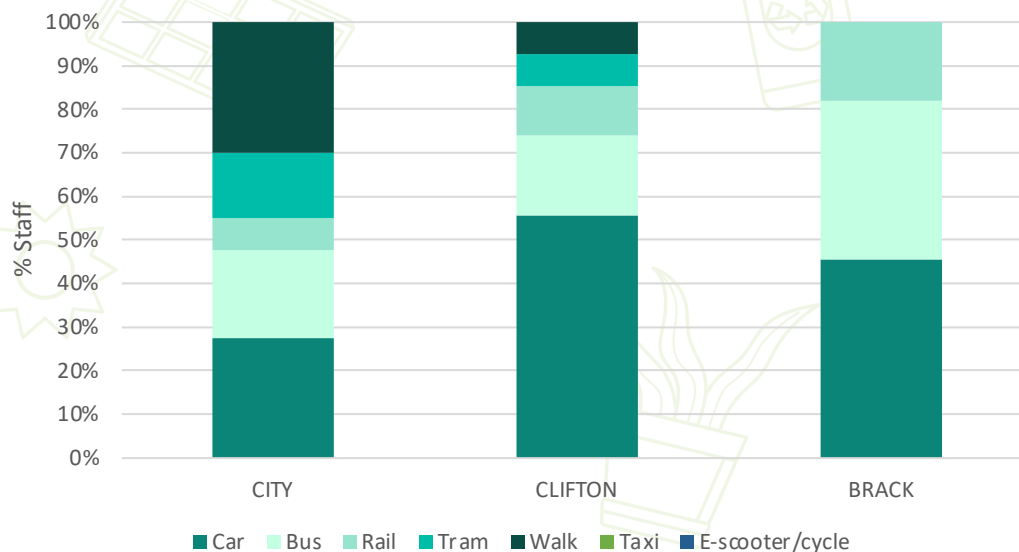


Figure 8: Mode of staff commuting, by campus (%)

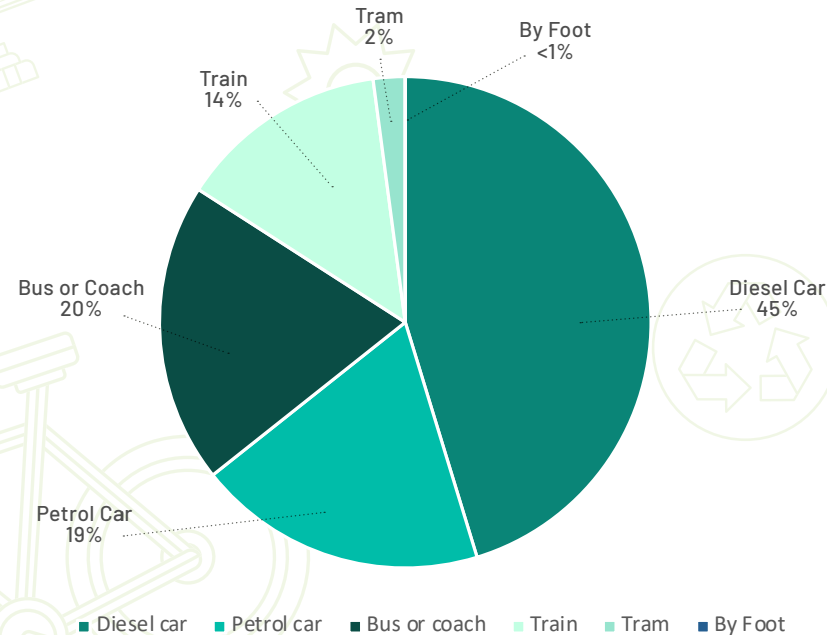


Figure 9: Staff commuting (tCO₂e)



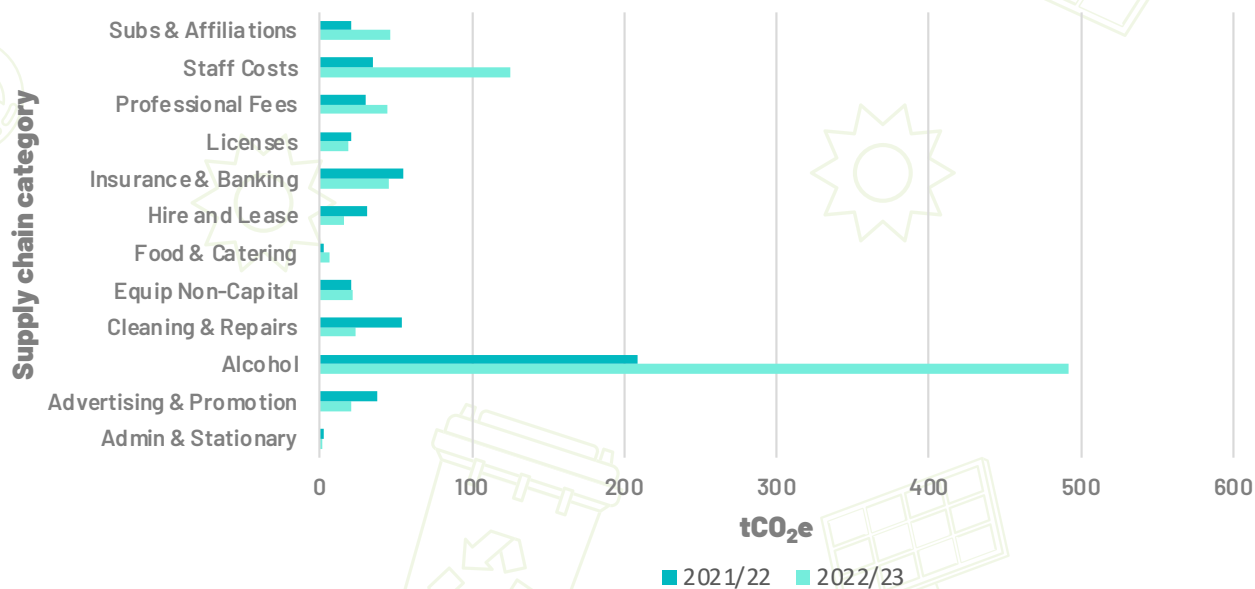


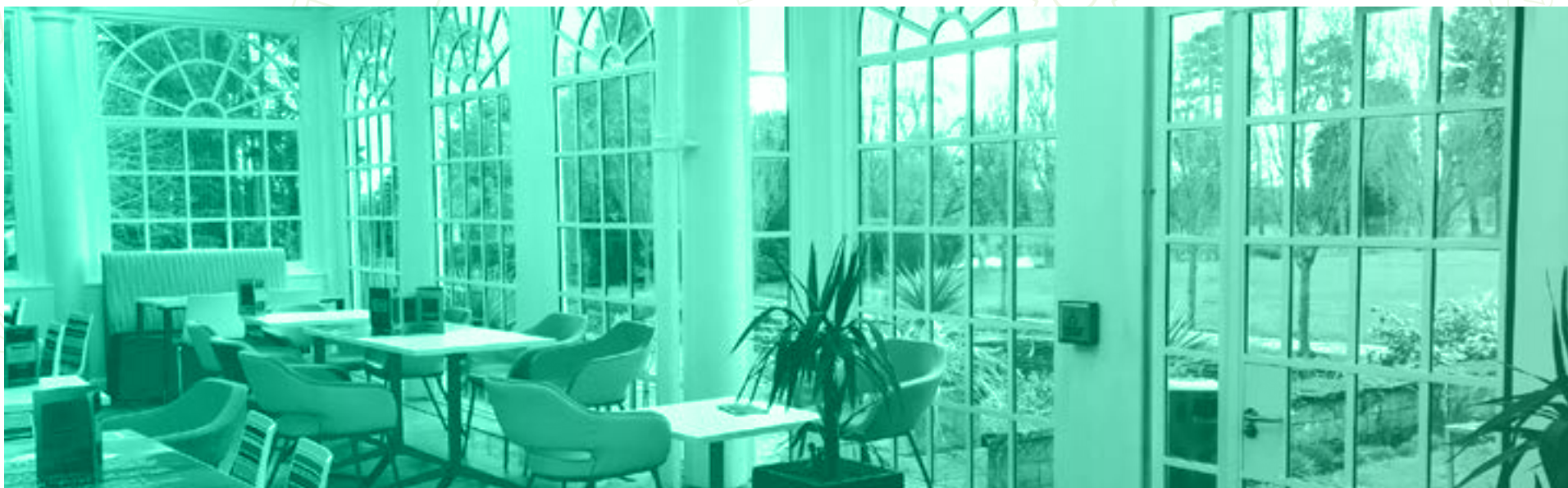
Figure 10: Supply chain (tCO₂e) comparing current year vs baseline

SUPPLY CHAIN

NTSU's supply chain is the biggest contributor of our emissions throughout our footprint, at 68.5%. In 2022/23, NTSU spent approximately £1.45 million on goods and services – over £100,000 more than in our baseline year.

The increase in purchasing has led to an increased carbon footprint across multiple categories, including in 'Subscriptions and Affiliations', 'Staff Costs' and 'Equipment (non-capital)'. Meanwhile, missions and expenditure have decreased in 'Hire & Lease' and 'Advertising & Promotion'. Alcohol remains the greatest contributor at 57% despite consistent expenditure between years.

The total emissions from our procurement activities is 863.25 tCO₂e. This is a 66.8% increase compared to our baseline.



WASTE

In 2022/23, NTSU produced 108.29 tonnes of waste through our activities, accounting to 3.83 tCO₂e, 0.3% of our total emissions. Our overall amount of waste produced has remained static, but emissions have increased by 9.97% due to an increase in waste sent to landfill.

Our waste contractor successfully diverted up to 97% of waste from landfill through on-site and off-site recycling processes.

This is 1% less than in our baseline year (and Envas national average) and 2% less than NTUs successful diversion rate.

	CITY	CLIFTON	BRACKENHURST
LANDFILL	4%	3%	3%
RECYCLED	96%	97%	97%

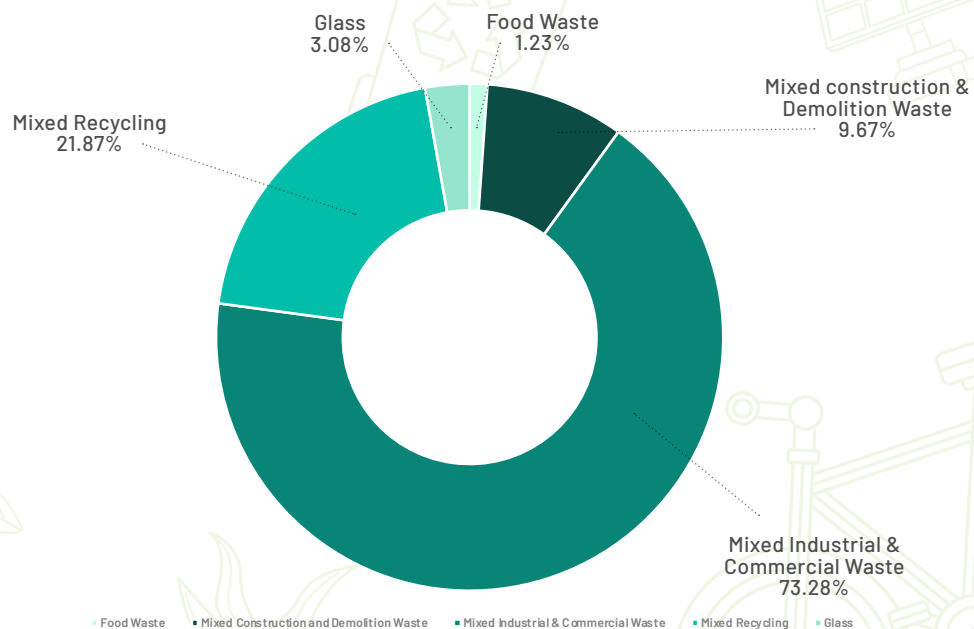


Figure 11: Waste (tCO₂e)



WATER

In 2022/23, NTSU used 4251 m³ of water in our buildings, which is equal to 0.34 tCO₂e. **This contributes 0.03% of our total carbon emissions.**

Our water usage has decreased by nearly 1000 m³ compared to our baseline, but emissions have remained the same due to changing conversion factors.

BUILDING	WATER SUPPLY (tCO ₂ e)
Byron SU (City)	0.307
Benenson (Clifton)	0.016
DH Lawrence (Clifton)	0.001
Main Hall (Brackenhurst)	0.02

WORKING ELSEWHERE

NTSU is a multi-campus organisation and staff are encouraged to work across all sites. Some non-student facing staff members in the organisation have options to work from home where appropriate. According to a recent survey, 21% of full-time staff work from home an average of 2 days a week.

The same survey data has been used for these calculations as was used for our baseline, only adjusting the number of staff employed from 61 to 63. Staff working from home emissions have therefore changed minimally since our baseline and have increased by only 1.2%.

The electricity and heating associated with working from home for NTSU staff contributes 3.11 tCO₂e - 0.2% of our total emissions.

ANNUAL ELECTRICITY (tCO ₂ e) FOR ALL STAFF	ANNUAL HEATING (tCO ₂ e) FOR ALL STAFF	TOTAL (tCO ₂ e)
0.27	2.83	3.11

HOTEL STAYS

Hotel stay emissions are calculated by multiplying number of rooms x number of nights x conversion factor. Conversion factors vary by country. In the UK, all locations except London have the same conversion factor.

Hotel stays for business purposes contribute 0.81 tCO₂e; 0.1% of our total emissions.

This is a 47.3% decrease compared to our baseline, attributed to the fact that the number of hotel stays have more than halved, in addition to an improvement in data accuracy removing the requirement to use HESCET for some hotel stays.

WELL-TO-TANK AND TRANSMISSION & DISTRIBUTION

Well-to-Tank (WTT) and Transmission & Distribution (T&D) emissions account for the emissions related to the production of fuels and energy purchased and consumed by the Students' Union that are not included in our scope 1 and upstream leased assets.

EAUC Reporting guidelines changed this academic year to include WTT emissions for transport. Our footprint has been adjusted accordingly to calculate WTT for our business travel and staff commuting. These changes have also been back-dated to our baseline year.

In 2022/23, this category was responsible for 86.98 tCO₂e, which contributes 6.9% of our total emissions. There has been a 24.1% decrease in WTT emissions compared to our baseline.

		TOTAL (tCO ₂ e)
WTT (SCOPE 1) and U.L.A emissions tCO ₂ e	WTT (scope 1)	16.92
	WTT and T&D	60.83
Transport emissions	Business Travel	0.97
	Staff Commuting	8.26



NEXT STEPS

**NTSU ARE COMMITTED TO REPORTING
OUR CARBON FOOTPRINT ANNUALLY.**

WHAT WE HOPE TO ACHIEVE



THIS CARBON REPORT IS A KEY STEP IN OUR LONG TERM COMMITMENT TO ENVIRONMENTAL SUSTAINABILITY.

Through it we will integrate sustainability into everything we do right across our organisation from our day to day operations through to our organisational strategy.

Ultimately it will help the Students' Union achieve its net zero carbon target and wider goals by 2040.

The data and detail included enables us to understand our environmental impact, set firm targets in specific areas for reduction and create innovative solutions to play our part in tackling the climate crisis.

This report provides a clear and transparent record of our impact and shows how vital our wider partnerships, influence and leadership are in achieving our aims.

I thank colleagues across NTSU for their hard work in producing this document and Nottingham Trent University for their support and guidance.

For more information on how we are going to achieve our ambitions please see the [NTSU Sustainability Strategy](#).

PHIL KYNASTON
NTSU CEO

WHAT WE HOPE TO ACHIEVE



“

The 2022/23 academic year represented another ‘business as usual’ year in terms of carbon, and reporting on this data is key to NTSU to quantify our environmental impact.

This carbon report is part of our continued transparency with our members and stakeholders about our environmental impact.

We have continued to make every effort to report to the highest level of accuracy that we can, but we know there is still room for improvement. We are already looking at how we can streamline our reporting process, ensure continued data accuracy, and exploring the potential to bring society activities into our scope. We are also excited to start exploring carbon reduction opportunities. Our hope is that our next annual report will represent the efforts being made across the organisation.

We hope you’re as invested in this carbon reduction journey as we are.

”

HETTIE BAWDEN
SUSTAINABILITY OFFICER

DATA SOURCES & CALCULATIONS

EMISSIONS CATEGORY	SOURCES OF DATA
Scope 1 (Fuel and Refrigerants)	<ul style="list-style-type: none"> Fuel Consumption (litres) downloaded from AllStar Businesses account 2023 BEIS conversion factors applied
Business Travel	<ul style="list-style-type: none"> Calculated using data from NTSU Financial reports (milage claims) and contracted coach and taxi accounts. 2023 BEIS conversion factors used for each mode of transport.
Hotel Stays	<ul style="list-style-type: none"> Calculated using data from NTSU Financial reports (accommodation claims). 2023 BEIS conversion factors applied based on hotel location.
Staff Commuting	<ul style="list-style-type: none"> Modal split for travel from the May 2023 staff travel survey adjusted to take into account staff numbers in 2022/23. 2023 BEIS conversion factors used for each mode of transport.
Supply Chain	<ul style="list-style-type: none"> NUS Services Ltd. Purchasing Body. Emissions (tCO₂e) are calculated using HESCET tool, associated with institutional procurement spend.
Upstream Leased Assets (Energy Use)	<ul style="list-style-type: none"> Electricity, gas and district heat consumption retrieved by NTUs Energy Team. 2023 BEIS conversion factors applied
Waste	<ul style="list-style-type: none"> Waste composition and disposal methods from ENVA – NTSUs waste contractor. 2023 BEIS carbon conversion factors applied for each waste type.
Water	<ul style="list-style-type: none"> Water consumption in m³ provided by NTU Energy Team. 2023 BEIS conversion factors applied
Well-to-Tank, Transmission & Distribution	<ul style="list-style-type: none"> Electricity, gas, district heating, fuel & biomass consumption for managed estate retrieved. Travel emissions for business travel and staff commuting. 2023 BEIS carbon conversion factors applied.
Working Elsewhere	<ul style="list-style-type: none"> Staff working from home calculated based on May 2023 Staff Travel Survey and adjusted to the number of full-time staff employed for the 2022/23 academic year. Staff working from home estimated at 60% over 47 weeks, with 19 weeks considered to be 'heating weeks'. 2023 BEIS carbon conversion factors applied.

FOR MORE INFORMATION ON HOW OUR EMISSIONS ARE CALCULATED, PLEASE SEE [NTSU'S CARBON REPORTING PROCESS DOCUMENT](#).

**IF YOU HAVE ANY QUESTIONS ABOUT OUR
WORK ON SUSTAINABILITY, PLEASE DON'T
HESITATE TO GET IN TOUCH**

[SUSTAINABILITY@SU.NTU.AC.UK](mailto:sustainability@su.ntu.ac.uk)

NTSU
NOTTINGHAM TRENT STUDENTS' UNION