The University of Manchester:

Scope 3 Results and Workshop

February 2024 |

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Introduction

GHG inventory calculation methodology and objectives

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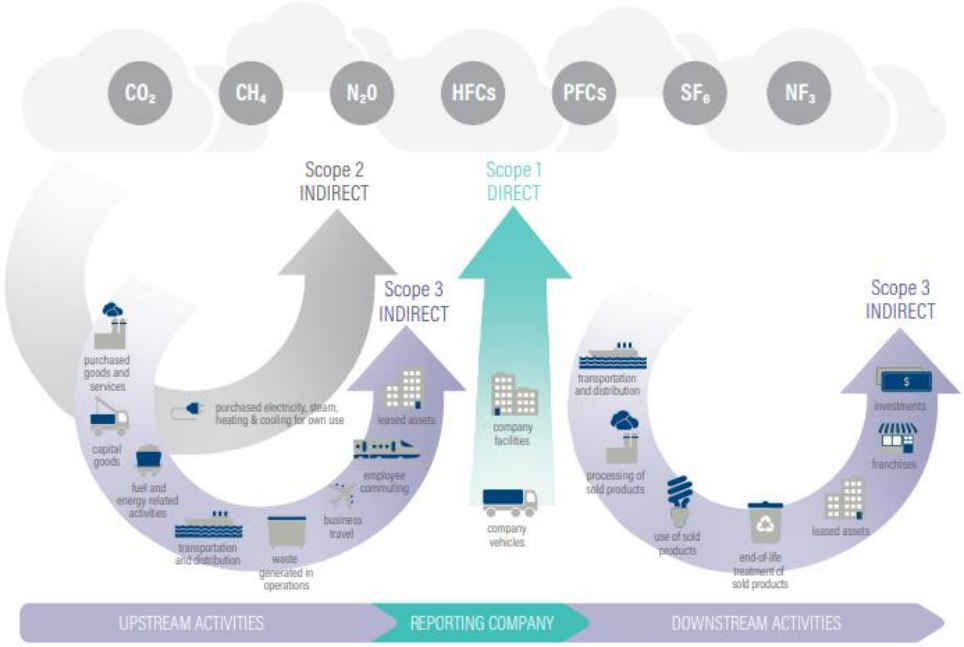
What is Scope 3?

The GHG Protocol is widely used by business, organizations, and governments worldwide. It was created by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD) in 2001.

- Provides a consistent approach for corporate carbon accounting and reporting
- Required by the Science-Based Target initiative (SBTi)

Categorization of Emissions

- **Scope 1** Direct emissions that are produced from sources that are owned or controlled by the company
- **Scope 2** Indirect GHG emissions from the generation of purchased electricity, heat, steam, and cooling consumed by the company
- **Scope 3** Indirect emissions produced as a consequence of the company's business activities, but occur from sources not owned or controlled by the company



Source: Greenhouse Gas Protocol, Corporate Value Chain (Scope 3) Accounting and Reporting Standard

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2022-2023 Achievements

We've limited our annual emissions from air travel to almost half of our 2018/19 level (pre the Covid-19 pandemic) in its first year of a new travel policy.

Our emissions for the 2022-23 academic year were just over 10,000 tonnes CO2e – that's 54% of those for 2018-19, which were 18,641 tonnes CO2e. Despite narrowly missing the target, we've still saved the same amount of carbon as driving over 32.5million miles in the average petrol car or more than 3,000 return flights between Manchester and New York. (more info)

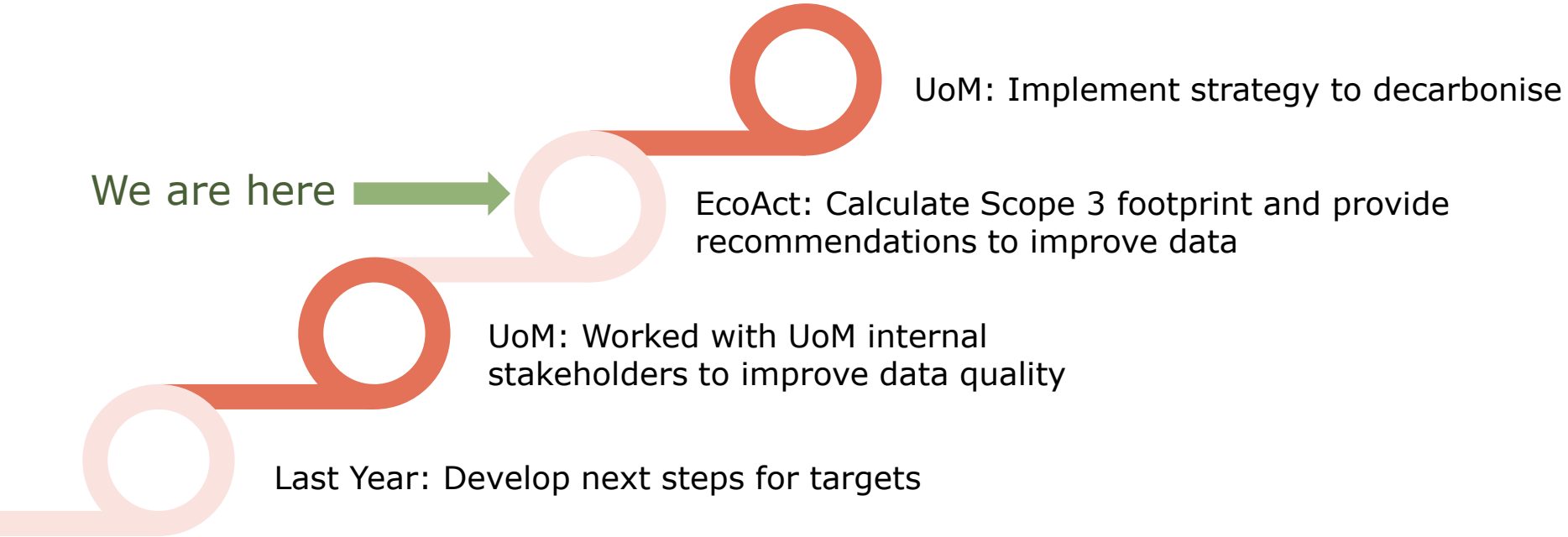
In July 2023 the University set a Scope 3 emissions (which are emitted as an indirect result of our activities) target of net zero by 2050.

We have collected extra Scope 3 data, including data from the John Rylands gift shop and more field trip data.

We have started to collect data from our suppliers using the NETpositive Zero Carbon Supplier Tool.

We've collected data from USS and GMPF pension funds for the first time.

Project Objectives



Project Process

Scope 3 Data Collection

- **Collect relevant data**.
- **Review suitability of data** received.
- **Address gaps**.
- **Identify proxy data** where primary data was not available (e.g. spend).

Calculation

- **Development of calculation tool** for relevant categories.
- **Application of relevant emission factors**.
- **Quality assurance** of calculations and data flows.

Reporting

- **Presentation and analysis of calculation results**, including methodology.
- **Recommendations** to improve data quality and impact.

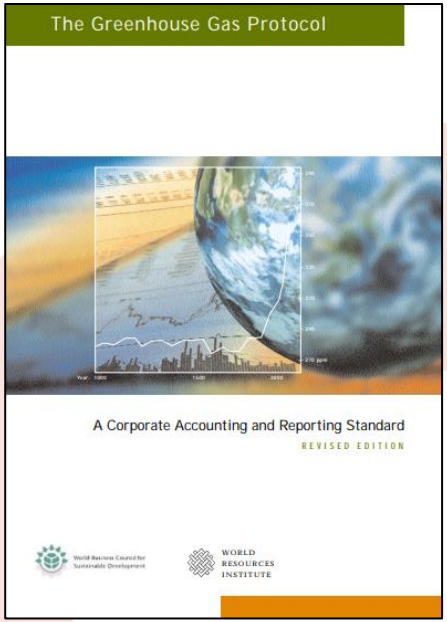
Focus of this report

Methodology – Aligning to the Greenhouse Gas Protocol

- To measure The University of Manchester's (UoM) carbon footprint, EcoAct has followed the **GHG Protocol Corporate Accounting and Reporting Standard**.
  - This standard provides guidance for companies to prepare a GHG emissions inventory and is complemented by the **Corporate Value Chain Standard**, the best-practice standard for calculating emissions resulting from value chain activities.

- The Corporate Value Chain Standard categorises Scope 3 emissions into 15 distinct categories. This provides companies with a systematic framework to understand and report Scope 3 activities, in addition to their Scope 1 and 2 emissions.

- The **operational control approach** is used in this footprint. Under this approach, we have accounted for 100% of the GHG emissions from operations over which the University has control



Scope 3 Results

High Level Review

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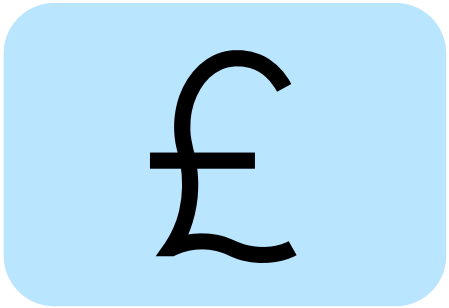
Objectives of Scope 3 Project

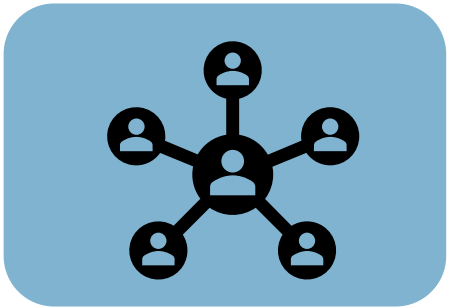
- Summarise the **results of Scope 3 calculations**.
- Understand the **most material elements** of The University's Scope 3 footprint and conduct analysis on key categories.
- **Review the identified data gaps** and outline suggested methods to address the missing information for future calculations.
- **Build on the opportunities** to improve data quality, **target 'hotspots'** for future and detail next steps.

Data Key

- Throughout the following slides, there is a key in the top right corner, explaining the activity data type for the category being analysed.



Spend Data

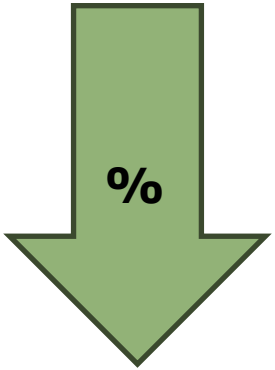


Average Data

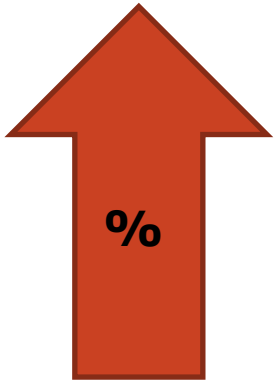
Actual Data

Changes in Emissions Key

- Throughout the following slides, there is a key in the top right corner, indicating the change in emissions from the 18/19 baseline year to the 22/23 academic year for the category being analysed.



Decrease in emissions



Increase in emissions

- *Where the change in emissions from the 18/19 baseline to the 22/23 year is **not** in line with changes in activity data, this is indicated by* ***

Results

Upstream categories

Using DEFRA SIC Code Emission Factors to calculate emissions from Spend-Based activity.

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Executive Summary: Headline Results

EcoAct has worked with The University of Manchester to calculate the Scope 3 emissions for August 2022 to July 2023.

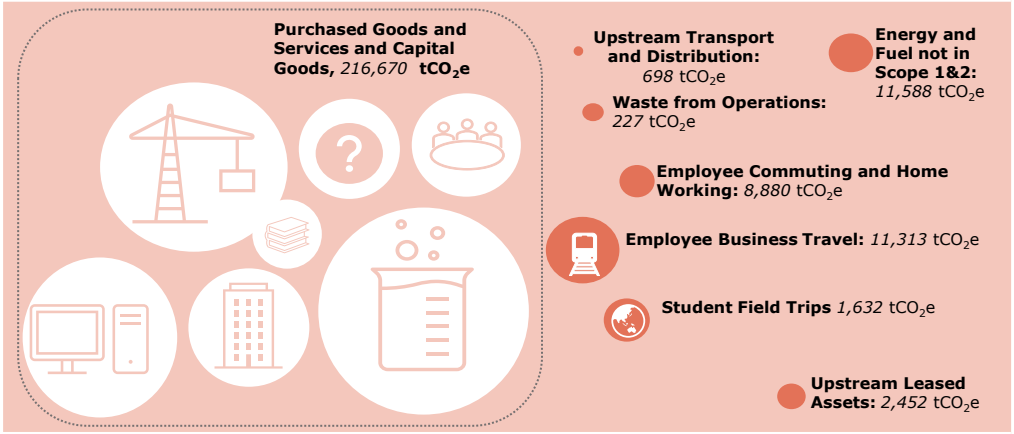
- The Scope 3 results for 2022/2023 are **459,142 tCO_2e**. Against the 2018/19 baseline, the changes are:
  - **-7%** decrease in emissions comes from a decrease in University activity such as reduction in capital good spend, construction waste, and business travel flights.
  - **24%** increase in emissions is mainly driven by higher intensity DEFRA emission factors, of which travel emission factors are the main contributors to this increase.
  - **1%** increase comes from the inclusion of further emission sources vs the baseline such as staff working from home.
- Overall, these changes have resulted in an **18%** increase in total emissions against the 2018/19 baseline year.
- The most material elements of the University's Scope 3 footprint are Category 1: Purchased Goods and Services (44%) and Category 9: Student Travel (37%).
- International student numbers have only risen by 10% since 18/19, the reason emissions is due to the increase in the tCO2e/km DEFRA emission factors for air travel. This is likely to decrease over the next few years due to the 2022 emission factor being based on 2020 (COVID) load levels of aircrafts.
- Category 1 emissions have increased due to a combination of an increase in tCO2e/£ emission factors (12%) and an increase in spend (7%) since 18/19.
- The **material data gaps** identified are **Category 1** using spend based averages rather than supplier specific emissions factors, and **Category 9** where we have a 1% response rate to the travel survey.
- Working with **NetPositive** to **enhance the supplier data collection** is a good opportunity to improve the Category 1 data quality and understanding touch points with international students to ask for travel mode and distance will improve the Category 9 methodology.

2018/19 vs 2022/23

Emissions Data					
Sources of Emissions	2018/19 emissions	% of footprint	2022/23 emissions	% of footprint	Change
Cat 1 - Purchased Goods and Services	171,213	43.8%	203,036	44.2%	19%
Cat 2 - Capital Goods	40,654	10.4%	13,634	3.0%	-66%
Cat 3 - Energy and Fuel	10,215	2.6%	11,588	2.5%	13%
Cat 4 - Transportation & Distribution	652	0.2%	698	0.2%	7%
Cat 5 - Waste	831	0.2%	227	0.0%	-73%
Cat 6 - Business Travel	16,892	4.3%	11,313	2.5%	-33%
Cat 6 - Field Trips	2,539	0.6%	1,632	0.4%	-36%
Cat 7 - Staff Commuting & Home Working	3,639	0.9%	8,880	1.9%	144%
Cat 8 - Upstream Leased Assets (Location Based)	4,160	1.1%	2,452	0.5%	-41%
Cat 8 - Upstream Leased Assets (Market Based)	523	0%	2,395		358%
Cat 9 - Student Travel	97,461	24.9%	169,722	37.0%	74%
Cat 10 - Processing of Sold Goods	-	-	-	-	-
Cat 11 - Use of Sold Goods	-	-	-	-	-
Cat 12 - End of Life Treatment	5.95	0.0%	2	0.0%	-71%
Cat 13 - Downstream Leased Assets	1,163	0.3%	2,588	0.6%	123%
Cat 14 - Franchises	-	-	-	-	-
Cat 15 - Investments: Mercer Report (Equity)	5,415	1.4%	5,144	1.1%	-5%
Cat 15 - Investments: Pensions	35,832	9.2%	28,227	6.1%	-21%
TOTAL (Location Based) tCO2e	**390,672**		**459,142**		17.53%
TOTAL (Market Based) tCO2e	**387,035**		**459,086**		18.62%

August 2022 - July 2023 Total Emissions

Total Footprint: 459,142 tCO_2e (Location-Based)



Excluded categories/activity due to relevance to University and/or footprint boundary:

- *Processing of Sold Goods*
- *Use of Sold Goods*
- *Franchises*
- *Equity Investments: Relevant, not included due to lack of data visibility*
- *Visitor travel to/from campus university events*

Changes in method

- **Category 3:** Emissions calculated using actual split of fleet fuel consumption
- **Category 7:** Included staff WFH emissions this year
- **Category 8:** Used more recent CIBSE benchmark to estimate energy use per building type.
- **Category 9:** Actual data used for international student travel
- **Category 12:** Inclusion of wider scope of sold products (not just clothing), involving wider material mapping
- **Category 15:** Moved from WACI to financed intensity tCO2e/$m due to greater accuracy

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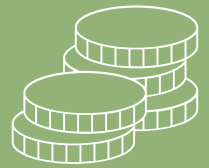
Category 1 & 2:

Purchased Goods & Services, Capital Goods



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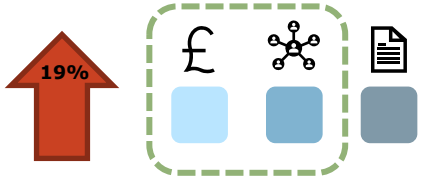
Category 1:
Purchased Goods & Services



Category 1 **emissions are responsible for 44.2%** of The University of Manchester's carbon footprint, totalling at **203,036 tCO_2e.**

Water supply is calculated separately and equates to **141 tCO_2e.**

All calculations other than food/catering supplies (calculated by Klimato) have been based on spend data.

Progress needs to be made to collect raw data from suppliers to enhance this data over time.

Category 1	Unit	Value 22/23	tCO2e	% of Total
Computer Supplies & Services	£	52,651,886	58,872	29%
Miscellaneous/Unclassified	£	93,108,133	34,392	17%
Laboratory/Animal House Supplies & Services	£	68,560,832	41,576	20%
Professional & Bought-in Services	£	74,774,314	29,326	14%
Estates & Buildings	£	31,329,339	7,576	4%
Medical, Surgical, Nursing Supplies & Services	£	4,618,850	8,998	4%
Catering Supplies & Services	£	2,518,776	2,070	1%
The Arts, Audio-Visual & Multimedia Supplies and Services	£	4,026,205	2,308	1%
Stationery & Office Supplies	£	1,142,267	1,221	1%
Library & Publications	£	15,590,468	2,952	1%
Safety & Security	£	4,138,367	2,924	1%
Janitorial & Domestic Supplies & Services	£	1,327,036	682	0%
Workshop & Maintenance Supplies (Lab & Estates)	£	5,497,119	2,516	1%
Furniture, Furnishings & textiles	£	4,307,366	1,256	1%
Travel & Transport (incl. Vehicle hire & Subsistence)	£	8,532,855	3,721	2%
Printing	£	2,229,811	374	0%
Telecommunications, Postal & Mail Room Services	£	1,805,048	1,227	1%
Agricultural/Fisheries/Forestry/Horticultural/Oceanographic Supplies & Services	£	315,576	98	0%
Food and Drink (Catering) Calculated by Klimato	£	3,609,646	745	0%
Water Supply	m3	-	-	0%
Vehicles (Purchase, Lease, Contract Hire)	£	106,906	49	0%
Utilities	£	37,029	10	0%

Category 2:
Capital Goods

Category 2 emissions are responsible for 4.8% of The University of Manchester's carbon footprint, totalling at 13,634 tCO_2e. A **decrease of 66%** from 2018/19. This reduction is primarily driven by a 78% reduction in spend.

As with Category 1, progress needs to be made to collect raw data from suppliers to enhance this data over time, focusing on the embodied carbon* of construction projects across the campus

Spend category	Emissions (tCO2e)
Plant Purchase, Hire & Maintenance, inc. Lifts, Air-conditioning, Boilers, Generators etc	1,375
Temporary & Mobile Buildings, Hire & Purchase	332
Capital Projects	11,927.87
Total	**13,634**

**Embodied carbon consists of all the GHG emissions associated with building construction, including those that arise from extracting, transporting, manufacturing, and installing building materials on site, as well as the operational and end-of-life emissions associated with those materials.*

Category 1 & 2:

Purchased Goods & Services and Capital Goods

Summary of emissions by data source: top 85% of emissions

The University of Manchester Spend Category	Emissions (tCO2e)	% of Cat. 1 & 2 total
Computer Supplies & Services	58,872	27%
Laboratory/Animal House Supplies & Services	41,576	19%
Miscellaneous/Unclassified	34,392	16%
Professional & Bought-in Services	29,326	14%
Capital Projects	11,927	6%
Medical, Surgical, Nursing Supplies & Services	8,998	4%

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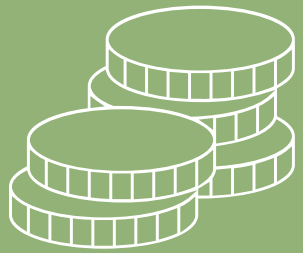
Category 1 & 2:
Purchased Goods & Services and Capital Goods

Recommendations & Filling the data gaps



- It is recommended for Capital Projects, **collect embodied carbon data**: raw materials used in capital projects broken down by project, weight and material type.

- The NetPositive dashboard is a good centralised platform, but in order to make use of the data EcoAct would suggest the following improvements:
  - Need to specify if scope 2 location or market based, ideally need both calculations
  - Need to specify which scope 3 cats are calculated rather than just a total
  - Need to specify if it's the companies total emissions or the proportion assigned to the supplier
  - The platform calculated emissions need a level of verification. Also need to state whether submitted emissions are verified
  - Specify the turnover currency (dollars or pounds)
  - What's being excluded and included

Category 3:

Fuel- and Energy-related Activities

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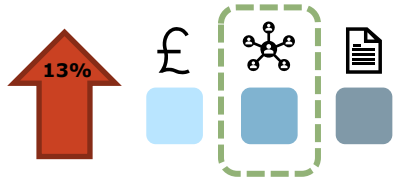
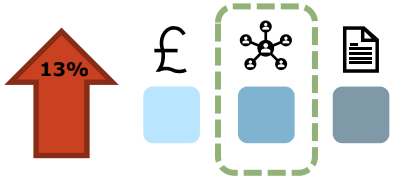
Category 3
Fuel- & Energy-Related Activities



Fuel-and energy-related emissions are based on all consumption data of fuels and purchased energy used by The University of Manchester, as reported in Scope 1 & 2. Category 3 accounts for emissions such as transportation and distribution of fuel and transmission and distribution of electricity. Category 3 totals to **11,588 tCO_2e**, which is equivalent to **3.1% of total emissions**.

Energy and Fuel Related Activities	Fuel Type	Total tCO_2e
WTT - Electricity Generation:	Electricity	4,117.56
WTT - Electricity Gen T&D	Electricity	356.14
Transmission and Distribution	Electricity	1,607.11
Well to Tank	Natural Gas	5,433.83
Well to Tank	Gas Oil	44.40
Well to Tank	Petrol	7.85
Well to Tank	Diesel	20.86
Total		**11,587.57**

Category 3
Fuel- & Energy-Related Activities



Recommendations & Filling the data gaps

- Whilst Category 3 is not a material source of emissions for the organisation, the link these emissions have to Scope 1 and 2 figures converts it into a category where **quick wins** can take place.
- Emissions in this category have increased since the last reporting year.
- Data improvements this year included the fuel split within fleet, which enabled emissions to be calculated more accurately.

By reducing Scope 1 & 2 emissions, the emissions in this Scope 3 category will reduce at a similar rate.

Category 4:

Upstream Transportation and Distribution

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Category 4
Upstream Transportation and Distribution

Category 4 accounts for **698 tCO2e**, which is equivalent to **0.1%** of total emissions. This is a **7% increase in emissions** from the 18/19 academic year, due to an increase in the relevant emission factor.

The University of Manchester's upstream T&D emissions includes all transportation to The University of Manchester's facilities which aren't already included in Category 1.

Activity	Spend (£) 22/23	tCO2e
Mail Services	184,313.65	93
Courier Services	862,013.74	435
Freight, Carriage & Haulage Services	339,176.05	170
	1,385,503.44	698

Category 4
Transportation and Distribution

Recommendations & Filling the data gaps

Collect primary data from suppliers in order to understand mileage and transportation methods. This could initially be collected via questionnaires or provided directly by construction/logistics partner(s).

Although this is a small amount of emissions, this work to collect primary data can be done in conjunction with Category 1 and 2

Category 5:

Waste Generated in Operations

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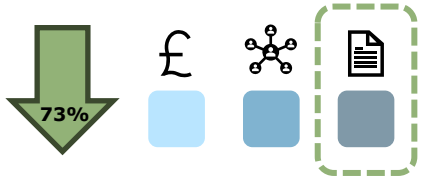
Category 5
Waste Generated in Operations

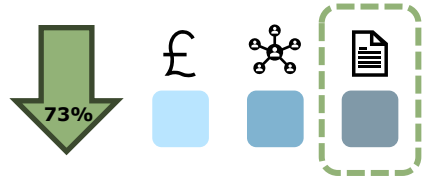


Waste generated by The University of Manchester accounts for only 0.1% of the organisation's overall emissions, producing **227 tCO_2e annually.** This is a **73% reduction in emissions**, compared to the last reporting year, driven by a reduction in waste disposal of 83%.

The University of Manchester's operations involve **various waste disposal methods**, including recycling, incineration and landfill. Emissions include water treatment and were calculated using the **waste-type-specific method.**

Waste Category	Activity Data	Units	tCO_2e
Waste	2,907	Metric tonnes	66
Water Treatment	798,373	m^3	161
Total			**227**

Category 5:
Waste Generated in Operations



Recommendations & Filling the data gaps

- The volume of waste disposal has decreased by 83% this year compared to last year, which is driving the emissions reduction in this category across the years.
- Ensure all raw data from the entire university estate is uploaded onto Greenstone. Include the DEFRA waste categories to Greenstone to improve the efficiency of the calculations.
- Improve to a supplier-specific method (currently a waste-type-specific method), which involves collecting waste-specific scope 1 and scope 2 emissions data directly from waste treatment companies (e.g., for incineration, recovery for recycling).

Category 6:

Business Travel and Field Trips

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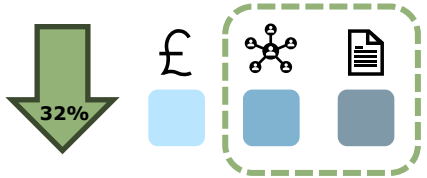
Category 6
Business Travel and Field Trips

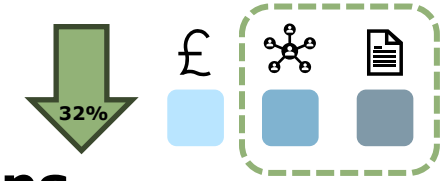


Category 6 is responsible for **12,945 tCO_2e** of total Scope 3 emissions, this category represents **3.5%** of total emissions. This is an overall **emissions reduction of 32%** compared to the 18/19 reporting year.

The **business travel flight distance** travelled this year has **reduced by 38%** in this category compared to the 18/19 reporting year which is driving the emissions reductions seen.

	Activity type	Transport type	Total	Unit	tCO_2e
Staff Business Travel	Business	Rail	2,948,465.0	Km	128.8
		Plane	48,660,770.0	Km	10,510.0
		Road	737,911.0	Km	222.9
		Ferry	6,168.0	Km	0.9
	Hotels	N/A	24,988	Nights Stay	450.1
Student Travel	Field Trips	Plane	7,280,223	Km	1,616.6
		Coach, Rail, Ferry	466,283.7	Km	15.8
	Total				**12,945**

Category 6:
Business Travel and Field Trips



Recommendations & Filling the data gaps

- Improve the accuracy of flight data by providing the home and destination airports and cities for both business travel and fieldtrips.

- It is recommended that the University ensures hotel data has correct data inputs for number of night stayed. 32% of the hotels data has incorrect or no time stamp associated to the hotel stay and therefore has been estimated by the mode number of nights.

Category 7:

Employee Commuting & Home Working

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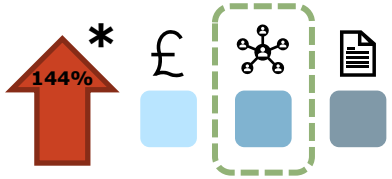
Category 7
Employee Commuting & Home Working



Responsible for **8,880 tCO_2e** or **2.4%** of total Scope 3 emissions.

This category is calculated using:

- The University of Manchester's 2022 Travel Survey where 8% of staff responded.
- Home working data provided by the University for employees in professional services (55% of total Staff FTEs). The inclusion of this data has increased the emissions in this category by 3,035 tCO2e.

	Staff Numbers	Staff Commuting tCO2e	Staff Working from Home tCO2e	Total tCO_2e
2022/2023 Academic year	10,787	5,845	3,035	8,880

Category 7:
Employee Commuting

Recommendations & Filling the data gaps

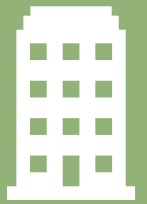
- It is recommended to improve the travel survey response to 20% of staff; currently it stands at 8% of staff. Greater detail could be given on the type of cars that are used so that more specific emissions factors can be used in the calculations.
- An updated survey would also more accurately reflect weekly commuting of staff and therefore associated emissions.

Category 7:
Home Working

Recommendations & Filling the data gaps

- This year we were able to calculate staff working from home emissions, which resulted in an additional 3,035 tCO2e in this category.
- It is recommended to extend this dataset to academic staff as well as professional services staff, as the ratio of time spent working at home vs onsite is expected to differ, and this breakdown would enable more accurate emissions calculations.
- Data on time spent WFH vs onsite per FTE would ideally be collected in a survey to avoid assumptions based on department of work.

Category 8:
Upstream Leased Assets



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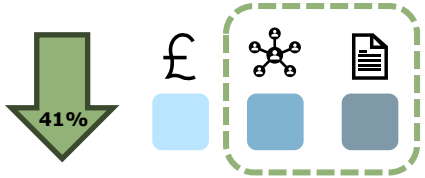
Category 8
Upstream Leased Assets



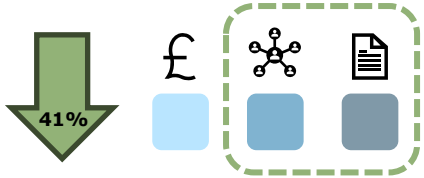
Due to the data centre having renewable energy, we have calculated the emissions on a location-based and market-based basis.

Category 8 is responsible for **2,452 tCO_2e** of total Scope 3 location based emissions, this category represents **0.7 %** of total emissions. If we account for the 100% renewable energy used for the data centre, Category 8 is responsible for **2,395 tCO_2e** of total Scope 3 market-based emissions.

Last year data centers made up 93% of the energy consumption and had renewable energy assigned for it, this year data centers only make up 5% of energy consumption. This is mostly due to Reynolds House being moved to cat 13.

Building Type	tCO_2e (Location Based)	tCO_2e (Market Based Based)
Cent Admin	13.03	13.03
Data Centre	120.77	64.28
Mixed	328.79	328.79
Offices	-	-
Research	1,921.32	1,921.32
Storage	30.85	30.85
Telescope	37.15	37.15
Total	**2,452**	**2,395**

Category 8:
Upstream Leased Assets



Recommendations & Filling the data gaps

It is recommended that the university maintains a central log of energy consumption per leased asset with consistent naming conventions.

Sites missing energy (gas and/or electricity) data from 22/23 are listed on the right. Energy CIBSE TM46 have been used to fill these gaps.

Category 8 emissions could be reduced in future through consideration of a renewable electricity tariff and/or switching heating services to be electrically powered – reducing the emphasis on gas.

Bright Building Suite 2
Bright Building Suite 3
Reynolds House 2nd Floor
Altrincham Street Arches 16-32
Charles Street Arches 33 - 43
Darnhall Telescope
Defford Telescope
Knockin Telescope and Transceiver
Paterson Building - Principal Lease

Results

Downstream categories

4

Category 9:

Student Travel: Term Time Commuting

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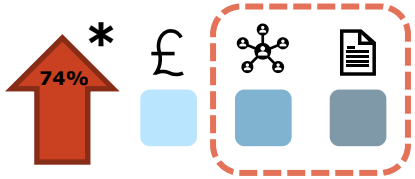
Category 9
Student Travel: Term Time Commuting



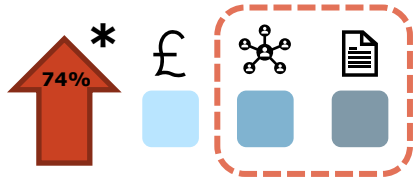
Responsible for **169,722 tCO_2e**, or **46%** of total Scope 3 emissions.

This category is calculated using:

- The University of Manchester's Travel Survey where 1% of students responded. The 2021/22 travel survey responses have been extrapolated to the 2022/23 student numbers.
- 2022/23 International Student Travel data.

August 2022 - July 2023	Student Numbers 2022/23	Student Numbers 2021/22	Travel Survey Response Numbers	Number of Student Respondents	2022/23 Total Well to Wheel tCO_{2e}
Domestic Travel to and from Base Home	27,326	22,835	236	1%	11,195
Student Weekly Commuting	46,108	41,810	1130	3%	4,419
International Travel	18,782	18,975	18,975	100%	154,108
Total					**169,722**

Category 9:
Student Travel: Term Time Commuting



Recommendations & Filling the data gaps

- It is recommended to improve the travel survey response to 20% of students, currently it stands at 1% of 2021/22 students.
- The data quality is detailed, however, specific cities and seat class of flights could be added to the overseas student data to increase the accuracy of emissions calculations.
- This calculation doesn't account for emissions associated with student working from home (studying), due to a lack of data. It is recommended to collect data on the time spent WFH vs onsite for students each year to enable these emissions to be accounted for in this category.

Category 12:

End of Life Treatment of Sold Products

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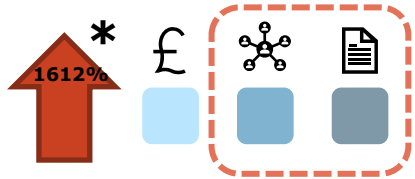
Category 12
End of Life Treatment of Sold Products

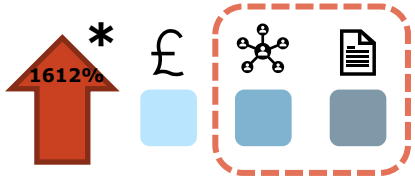


Emissions from the disposal of products sold in the gift shop and John Rylands Library shop account for **0.0005%** of all Scope 3 emissions, or **1.71 tCO_2e.**

- These emissions have increased by 1612% from the 18/19 reporting year due to increased data collection.
- National averages for waste disposal can be found here.

Category	Total expected waste weight (kg)	tCO_{2e}
Clothing & Accessories	3,852.76	0.09
Prints/Cards & Paper products	3,825.99	1.37
Stationery	53.38	0.01
Metal products (magnets, badges)	280.40	0.01
Ceramics (mugs, coasters)	447.20	0.06
Decorations (baubles)	3.19	0.00006
Water bottles & Travel cups	274.76	0.005
Soft Toys	460.46	0.01
Mixed Materials (umbrella, jewellery, decorations)	2,255.32	0.17
Unlisted	53.67	0.001
Total	**11,507**	**2**

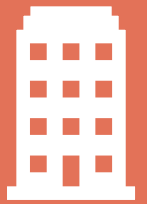
Category 12
End of Life Treatment of Sold Products



Recommendations & Filling the data gaps

- It is recommended to continue to collect information on sold products across University-owned shops using the template provided by EcoAct.
- In order to calculate emissions associated with the end-of-life treatment of food/drink products sold onsite, more granular data is required.
- Despite low materiality, it is a significant category to drive sustainability to customers, staff and students as it is consumer facing.

Category 13:
Downstream Leased Assets



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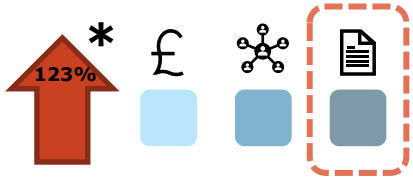
Category 13
Downstream Leased Assets

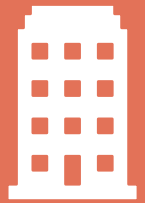


Category 13 includes any emissions from the operation of assets leased that are not already included in Scope 1 or Scope 2.

Responsible for **2,588.34 tCO_2e** of total Scope 3 emissions, this category represents **0.7 %** of total emissions.

Building Type	tCO_2e (market based)
Offices	411.30
Research	612.61
Mixed	1,564.43
Total	**2,589**

Category 13:
Downstream Leased Assets



Recommendations & Filling the data gaps

It is recommended that the university maintains a central log of energy consumption per leased asset with consistent naming conventions.

Sites missing energy (gas and/or electricity) data from 22/23 are listed on the right. Energy CIBSE TM46 benchmarks have been used to fill these gaps.

Category 13 emissions could be reduced in future through consideration of a renewable electricity tariff and/or switching heating services to be electrically powered – reducing the emphasis on gas.

CTF Ground Floor G31 & G32
CTF Ground Floor G08 - G11 and G16
CTF First Floor (part)
Students Union - Steve Biko Building
Academy Building
Jodrell Power House
Pariser Building
Renold Building
Sackville Street 76

Category 15:

Investments

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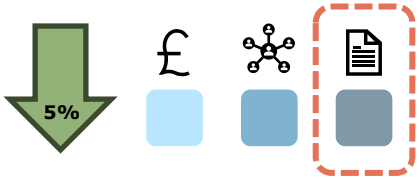
Category 15

Investments: Equity and Fixed Income



Investments are responsible for **5,144 tCO_2e** of total Scope 3 emissions, this category represents **1.4%** of total emissions.

Asset Class	£(m) Invested Academic Year 2022	tCO_2e
Ninety One - Global Equity	50,744,006	1,413
Mercer - Passive Sustainable Equity	50,445,650	488
Ruffer - Multi Asset	43,561,520	1,729
Mercer - Absolute Return Fixed Income	18,687,663	1,038
Mercer - Short Duration Bond Fund	19,239,284	476
BlackRock Property Fund	27,222,373	Not calculated
Total	**183**	**5,144**

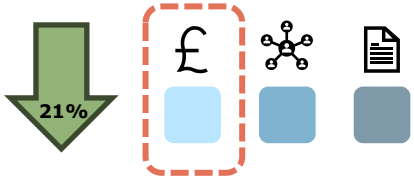
Category 15:
Investments: Equity and Fixed Income

Recommendations & Filling the data gaps

Without visibility of the Mercer methodology, we are unable to provide recommendations on data quality. Understanding the portfolio-specific WACI figures will help the university to continue to decarbonise and we would encourage the university to continue to measure these emissions at a portfolio-level basis.

Category 15

Investments: Pensions



The UMSS trust follows the University's procurement policies, and it is included in the University's financial report, therefore we would deem that the University has operational control/influence over the trust, despite it being a separate entity. As we are calculating the footprint under the operational control method, this would be deemed appropriate to include.

Pensions are responsible for **28,227 tCO_2e** of total Scope 3 emissions, this category represents **7.7%** of total emissions.

Pension Asset Class	£(m) Invested Dec 2022	tCO_2e
Equity	64.9	3,276.38
Growth Fixed Income Assets	127.8	8,821.86
Matching Assets	256.9	16,128.90
Total		**28,227**

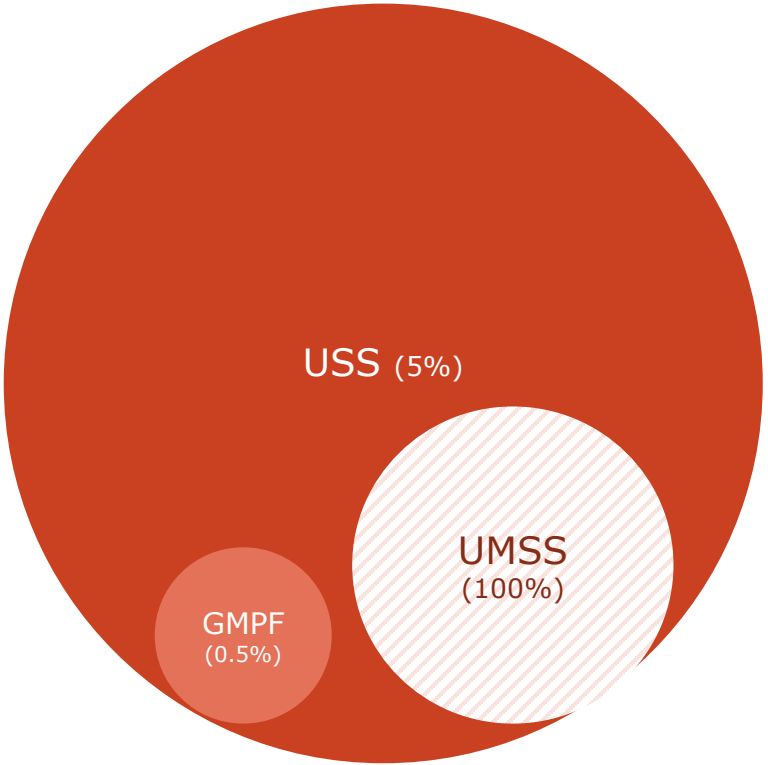
Category 15:
Investments: Pensions

Recommendations & Filling the data gaps

Pensions: It is recommended that the University obtains more detail on the fund composition that their assets are held in to increase to accuracy of the emissions mapping.

There is limited guidance to calculating carbon emissions associated to pensions but as years go on, this will become more refined.

Out of Scope: Pension Providers



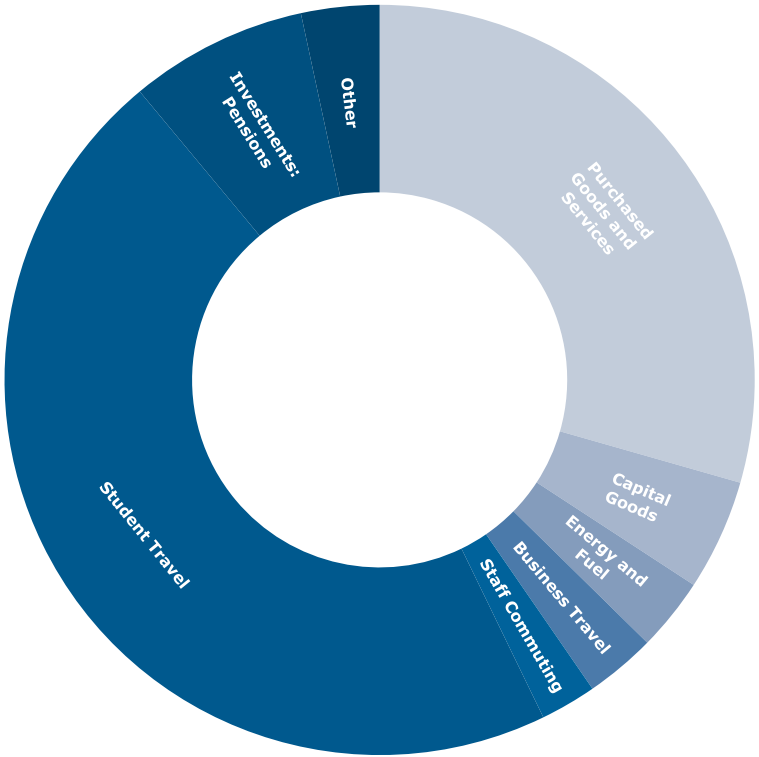
Other pensions such as USS, Pension Saver, NHS Scheme, GMPF and Nest Pensions have been excluded from the Scope 3 footprint, due to the lack of operational control and influence.

Resulting from conversation in the last Scope 3 workshop, EcoAct have conducted a magnitude analysis based on the % holding in the GMPF and USS Pension Funds.

As there is no framework/ methodology to calculate this, the data quality provided by the pension providers was inconsistent* and we had to make some very high-level assumptions. These results should be taken as a magnitude indicator rather than absolute tCO2e figures.

*GMPF is calculating using Scope 1,2& Upstream Scope 3 and USS only Scopes 1&2 so we cannot compare the intensities between the two due to different metrics being measured

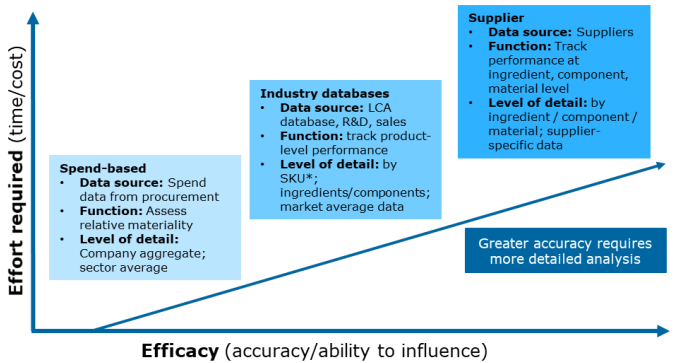
Academic Year 2022/23 Scope 3 Emissions



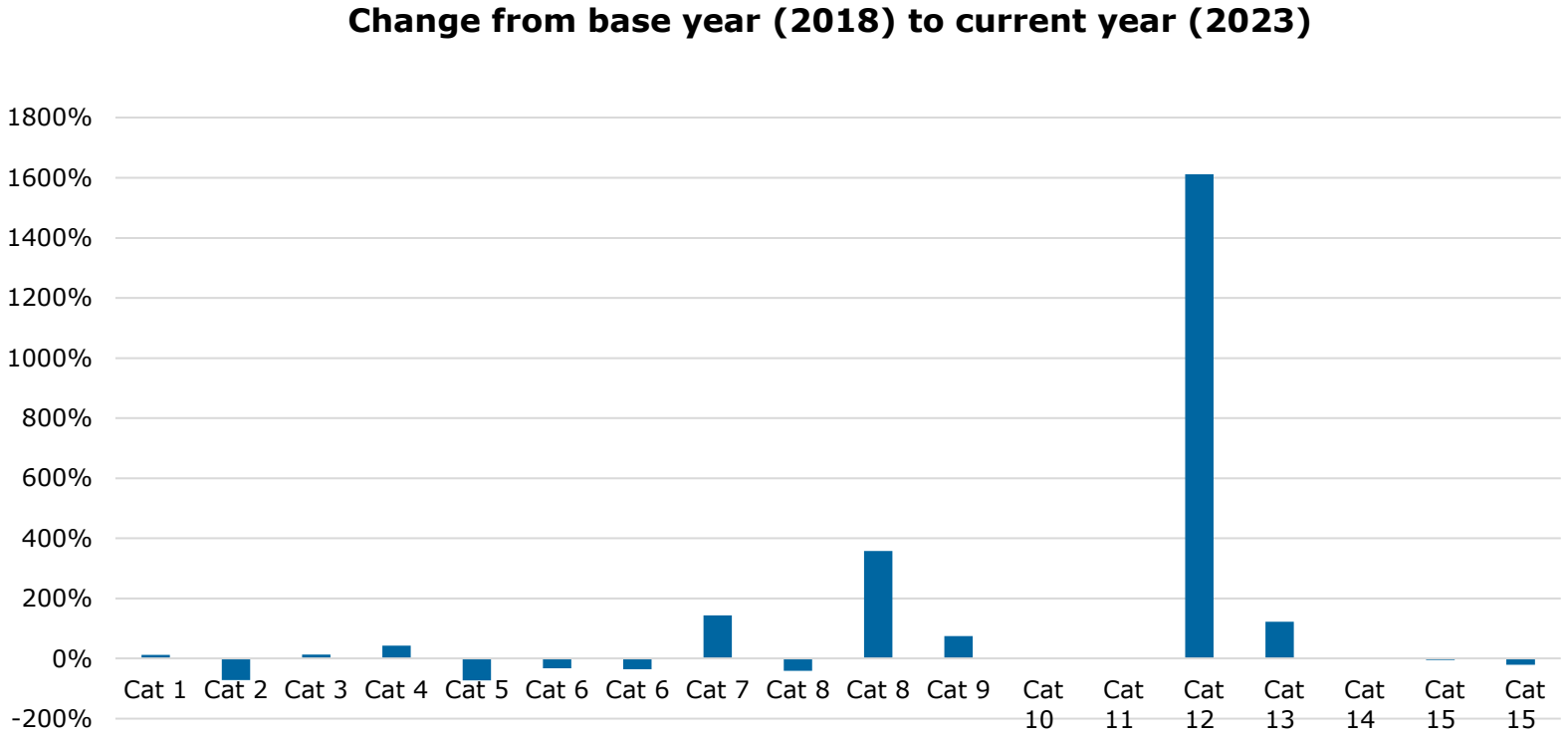
Where possible, **primary data** (electricity consumption, mass, energy etc.) has been collected directly from internal business units within The University of Manchester.

Where **secondary data** has been used(spend/average data), there is an increase in uncertainty of emissions and the chance of driving action throughout your value chain decreases.

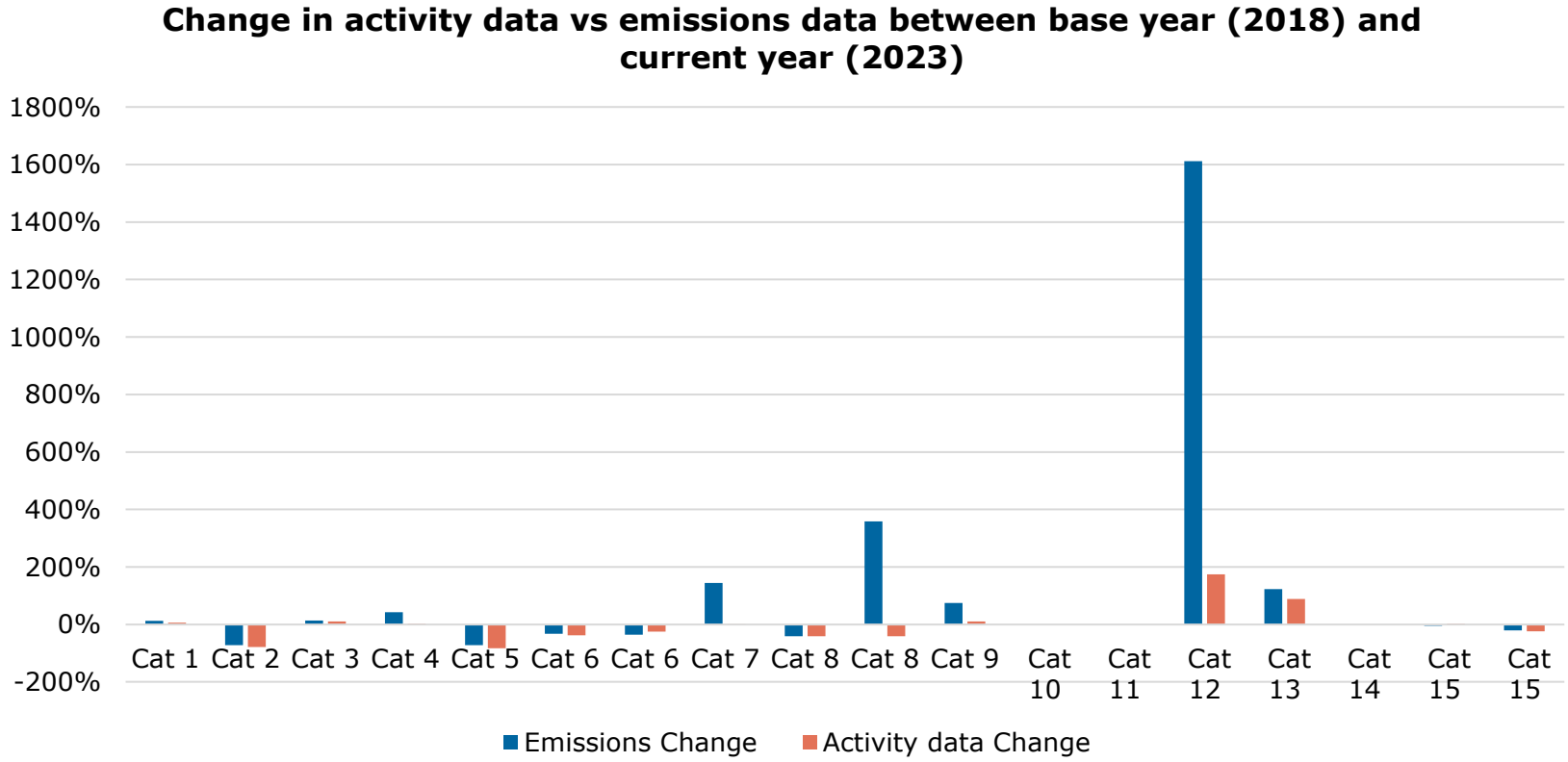
A greater proportion of primary data will need to be obtained in future to reduce carbon through engagement, strategy and governance based on detailed product data provided by suppliers.



Changes in Scope 3 Emissions – 22/23 vs 18/19



Emissions vs Activity Data – 18/19 vs 22/23

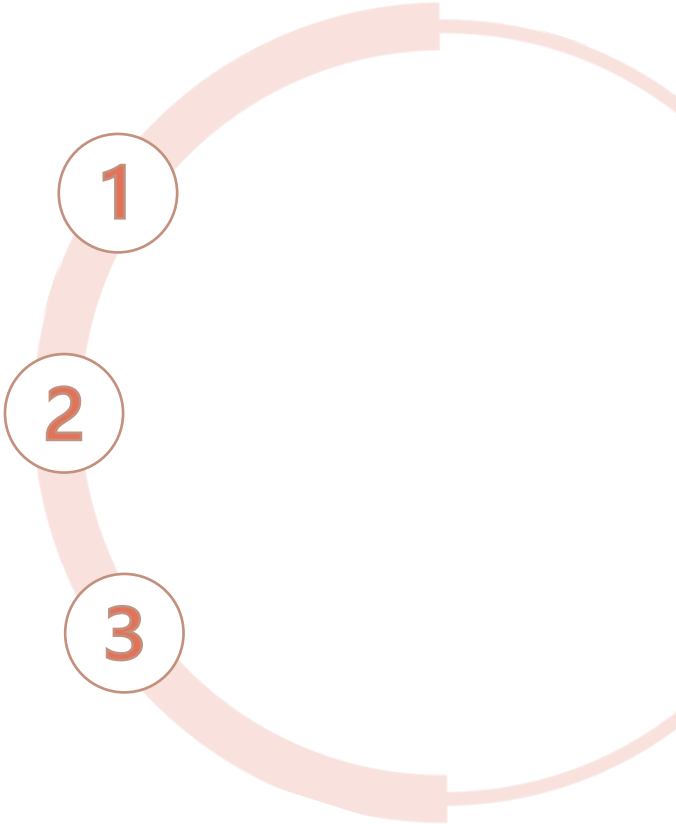


Top recommendations for improving data quality

1. Enhance the supplier specific data collection to capture if the data is verified, whether its location or market-based and a breakdown per scope 3 category

2. Improve the response rate for the travel survey to at least 20% of staff and 20% of students, and capture more granular detail on all legs of travel

3. Obtain more detail on fund composition for the specific invested funds



Workshop

Break – Please sit in these groups:

Group 1:
- Lucy Millard
- Julia Durkan
- Leilah Radler
- Carly McLachlan
- Jennifer O'brien
- Maggy Fostier

Group 2:
- Laura Blandy
- Emma Stansfield
- Sarah Choi
- Nox Fu
- Alison Shedlock
- Charlie Allen
- Laura Gaskell

Group 3:
- Daniele Atkinson
- Roz Webster
- Anke Bernau
- Kathryn Downey
- Thomas Mcdonald
- Eemaan Memon

Group 4:
- Ian Jarvey
- Maria Pappa
- Matthew Hearn
- John Vass-De-Zomba
- Hawys Williams
- Steve Jordan
- Suzie Hardy

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Current Targets:

Scope 3

Waste

- Recycle 45% of the waste we produce through campus operations by 2025
- Divert 100% of waste from landfill via new waste contracts from 2023

Travel

- Limit annual emissions from air travel to 50% of our 2018/19 level

Investments (not including pensions)

- Net zero on investment portfolio by 2038
- Reduce weighted average carbon intensity of public equity holdings by at least 50% against 2019 baseline by 2027.
- Reduce carbon intensity within the investment grade credit allocation by 40% by 2027.
- Reduce energy consumption within the investment property portfolio by 10% by 2027.

Headline targets:

- Zero Carbon (Scope 1 & 2) by 2038
- Signed up to Race for Zero

Benchmarking

4 December 2023

University of Manchester wins top prize at Green Gown Awards

Russell Group Universities

- Oxford University: Net Zero by 2035 using a sustainability fund of **$200million** to aid sustainability initiatives – big driver on offsetting
- Nottingham University: Scope 1&2 Only - 63% reduction by 2030 (science-based), Carbon Neutral by 2040 with offsetting), **Zero Carbon by 2050**
- The University of Bristol – **No Scope 3** target set
- UCL – Net Zero by **2030**
- The University of Edinburgh – only including **operational Scope 3** (business travel, waste and water) in their Carbon Neutral target (2040)

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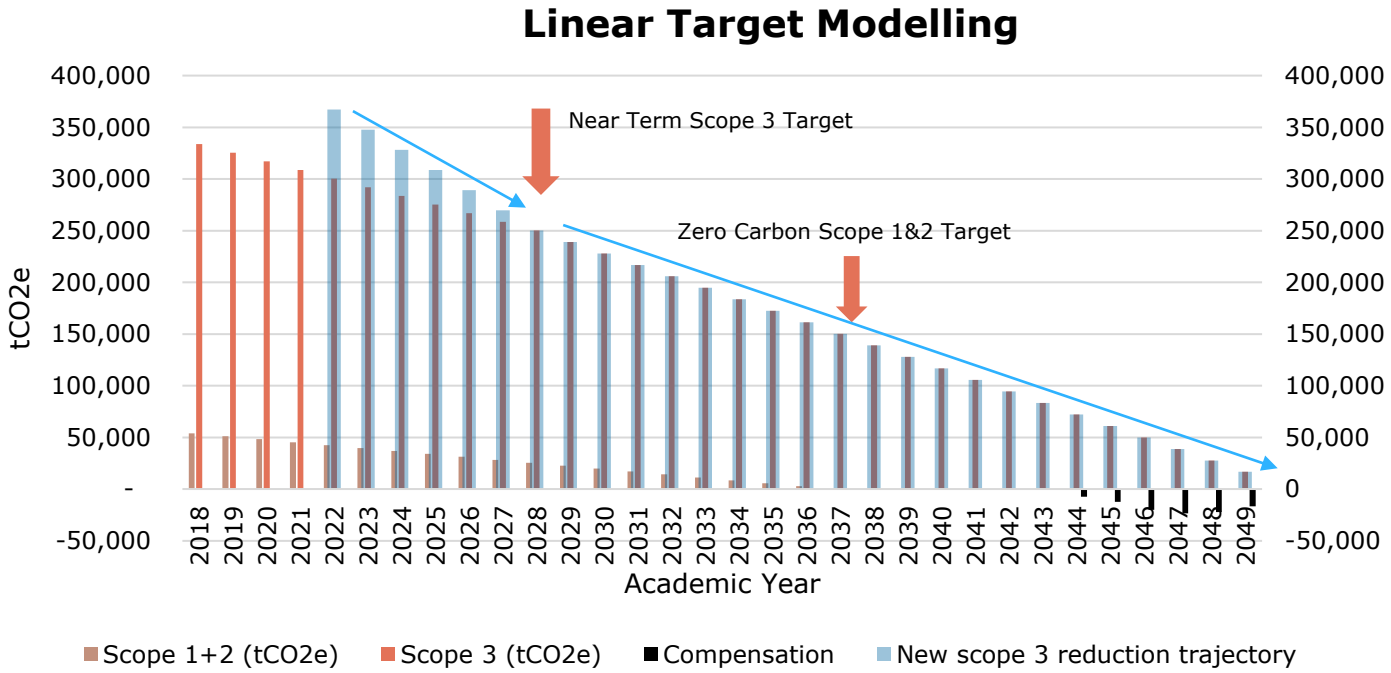
Modelling to Net Zero by 2050



**Near-term science-based targets must cover at least 95% of company-wide scope 1 and 2 emissions. For companies with scope 3 emissions that are at least 40% of total emissions (scope 1, 2, and 3 emissions), at least 67% of scope 3 emissions must also be covered (SBTI Net Zero Standard, Page 22)*

***Long-term SBTs must cover at least 95% of company-wide scope 1 and 2 emissions and 90% of scope 3 emissions. (SBTI Net Zero Standard, Page 23)*

Objectives for the workshop:

Setting student travel and supply chain emissions targets

Roles and Responsibilities

Understand roles and responsibilities for setting student travel emissions targets and supply chain emissions targets

Stakeholders

Identify key stakeholders to engage to set targets for travel and supply chain emissions.

Interim Targets

Draft interim targets and a plan on how to achieve these targets. The Carbon Team will work with the key stakeholders to develop these targets going forward

Process

Identify data owners and develop a process to track the target, feeding into the Carbon Team.

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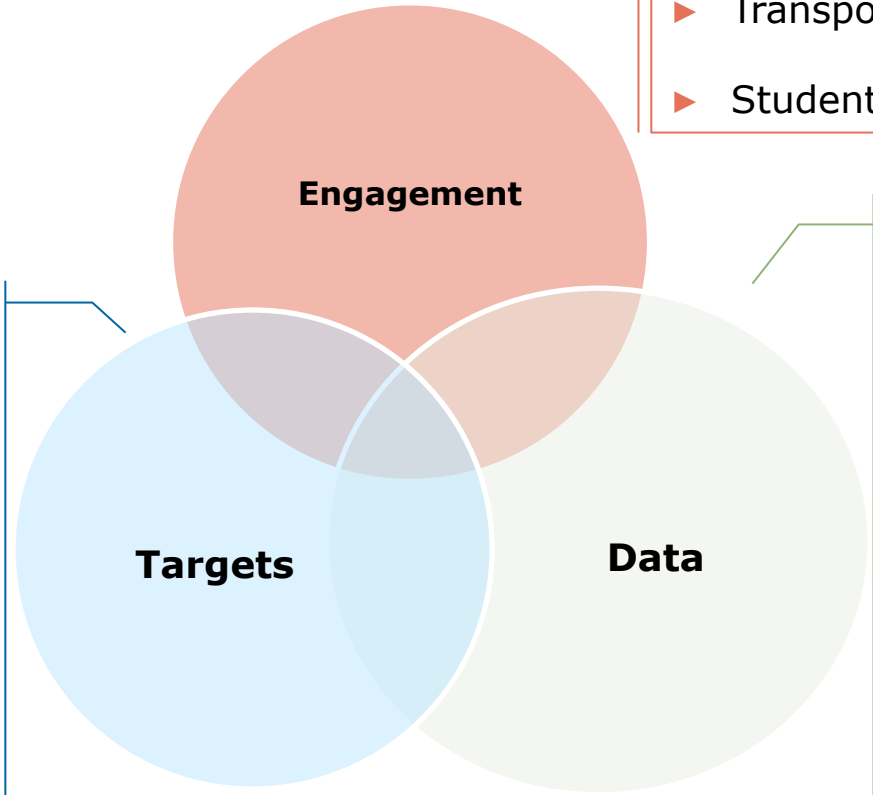
Strategic Thinking

- Suppliers
- Transportation providers
- Student behaviors

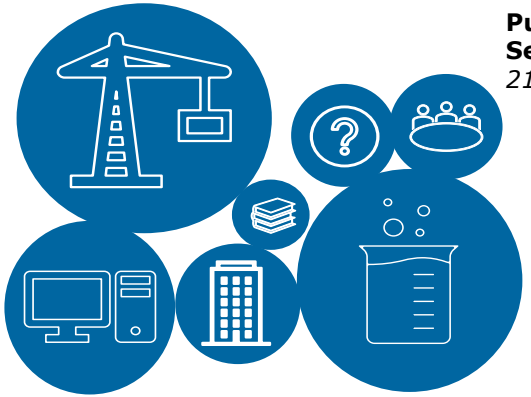


- Department targets
- Food targets
- Supply chain targets
- Interim target
- Metrics for measuring

- Is better or more data available
- How to get grater engagement in surveys
- Supplier emissions
- Food is a good example of data improvement process

Workshop Group Prompts

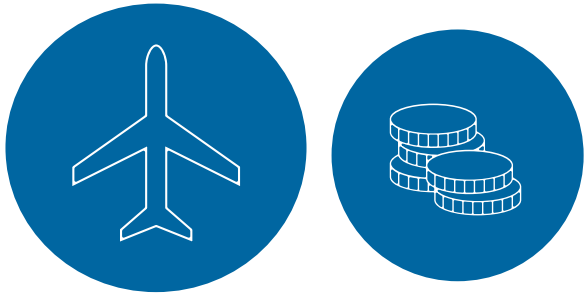
Impact Categories: *Supplier engagement*



Purchased Goods and Services and Capital Goods, *216,670* **tCO_2e**

These categories make up ~80% of the University's footprint and it is recommended that these inform the majority of a carbon reduction plan

Student Travel: *169,722* tCO_2e



Investments: Pensions
28,227 tCO_2e

Supplier Engagement

- The University's emissions associated to Purchased Goods and Services and Capital Goods are based on Spend.

- The University should consider a Supplier Engagement programme which encourages **suppliers to set Net Zero targets** (thus decarbonising your supply chain) but also collect Scope 1&2 emissions from suppliers to achieve a **more accurate carbon footprint.** This could be implemented to expand on the 'Net Positive' procurement tool already in place at the University.

EcoAct's bespoke supplier engagement programme allows customers to:

- Understand supplier maturity and supplier emissions
- Engage through webinars
- Formalise sustainable procurement practices into policy, procurement charters and tenders.

Supply Chain Decarbonisation Targets:
High Level Plan

Roles and Responsibilities

Understand roles and responsibilities for setting student travel emissions targets and supply chain emissions targets

Who is responsible for:

- Supplier Engagement
- Supply Chain Calculations
- Supply Chain emissions reporting

Stakeholders

Identify key stakeholders to engage to set targets for travel and supply chain emissions.

Who are your key suppliers to engage with?

Will you group them into categories and delegate engagement? i.e lab vs operational

Interim Targets

Draft interim targets and a plan on how to achieve these targets. The Carbon Team will work with the key stakeholders to develop these targets going forward

What's an example of a supplier engagement target?

Supplier data target?
Supplier decarbonisation target?
Internal process target?

How would you achieve them?

Process

Identify data owners and develop a process to track the target, feeding into the Carbon Team.

How do you currently engage with suppliers?

Is there a code of conduct/tender process re environmental risk that carbon can be added to?

Net Positive platform?

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Supply Chain

Roles & Responsibilities

- **The program manager:** Brings together the implementation team, leads the program's management and develops accountability and monitoring frameworks
- **The program sponsor and other leadership stakeholders:** Senior oversight of monitoring program progress and helps secure resources and budget
- **Sourcing and Procurement category leads and/or managers:** Primary point of contact for suppliers, likely to manage communications to suppliers and fielding their questions
- **SBT/GHG technical expert:** Typically, someone from the sustainability/ESG team who understands technical SBT requirements and can support internal teams and suppliers on these topics
- **Communications support:** Leads development of supplier-facing communications and potentially supports external reporting of the program's progress
- **Data management/analytics support:** Leads or supports supplier data collection, creates and implements data collection solution, analyzes supplier data to determine performance and progress
- **Legal:** Supports any component of the program involving contracts, codes of conduct, or other agreements

Data required from suppliers

- Scope 1
- Scope 2 (location & market based)
- Scope 3
- Verification Certificates
- Methodologies
- Revenue
- FTE
- Emission Reduction Targets
- LCA/Product Carbon Footprints

Examples of targets/plans/policies

"BioNTech commits that 72% of its suppliers by emissions covering purchased goods and services, capital goods and upstream transportation and distribution, will have science based targets by 2027."

"Hyatt commits that 41% of its suppliers by emissions covering purchased goods and services will have science-based targets by 2025."

"Elekta AB commits that 27.5% of its suppliers by emissions covering purchased goods and services, capital goods, and upstream transportation and distribution will have science-based targets by FY2026. "

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Examples of Supplier Engagement Targets

https://sciencebasedtargets.org/resources/files/Supplier-Engagement-Guidance.pdf

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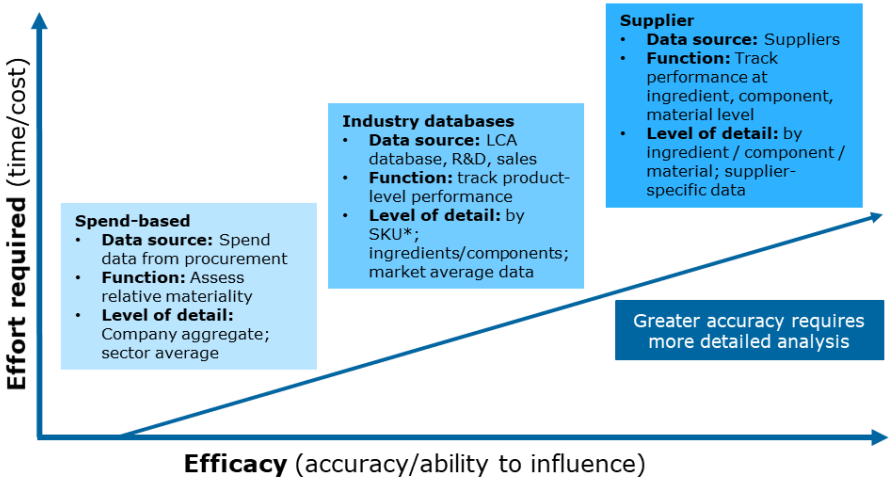
Scope 3 Reduction: *Data ownership*

Example: What is the maturity of the data?



Objectives:

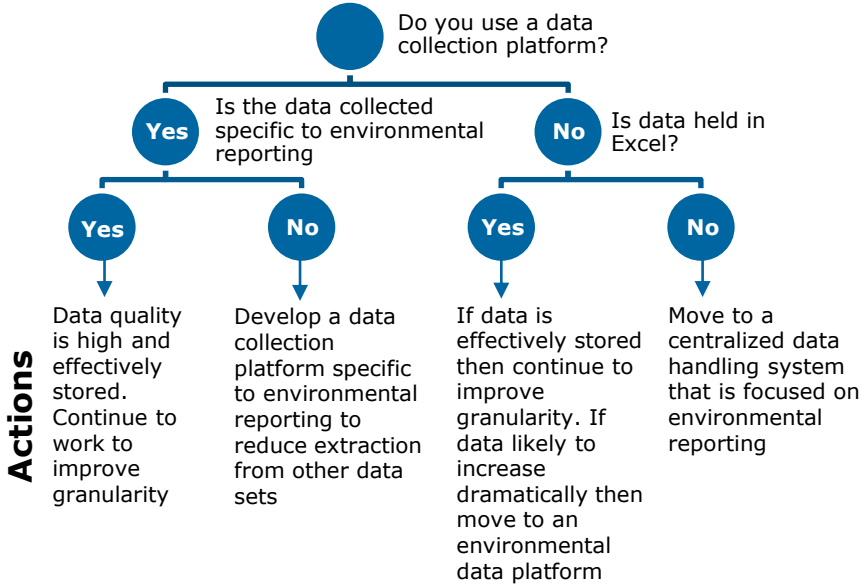
Enhance data quality through good data governance, collection and storage. It is key that data owners are aware of their role in the effective use of sustainability data to drive reductions.

Identify the following:

- Who has sign off on data?
- Who collects data in your department?
- How is the data stored?
- What is the maturity of the data?

Scope 3 Reduction: *Data ownership*

Example: How is the data stored?



Objectives:

Enhance data quality through good data governance, collection and storage. It is key that data owners are aware of their role in the effective use of sustainability data to drive reductions.

Identify the following:

- Who has sign off on data?
- Who collects data in your department?
- How is the data stored?
- What is the maturity of the data?

Example Data Collection Templates

Category 6: Business Travel & Field Trips

Business Travel:

	Origin of Trip	City of Origin	Destination	Destination City	Date of Trip Start	Date of Trip Return	Mode of Travel	Seat Class	Number of Nights Stay	Hotel City	Hotel Country	Number of Staff
example	Manchester Airport	Manchester, UK	JFK Airport	New York, USA	04/02/2023	09/02/2023	Flight	Economy	5	New York	USA	1

Field Trips:

	Category	Origin of Trip	City of Origin	Destination	Destination City	Date of Trip Start	Date of Trip Return	Mode of Travel	Seat Class	Number of Students
example	SEED Fieldtrip	Heathrow Airport	London, UK	CDG Airport	Paris, France	22/01/2023	27/01/2023	Flight	Economy	40
example	Biological Sciences Field Trip	Manchester University	Manchester, UK	Natural History Museum	London	10/12/2022	10/12/2022	Coach	NA	32

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Example Data Collection Templates

Category 12: End of Life Treatment of Sold Products

	Item sold	Category	Number of items sold within academic year	Main material of product	Weight per item (g)
example	T-shirt	Clothing	5389	Cotton	200
example	Water bottle	Sport equip	245	Plastic	200
example	Water bottle	Sport equip	121	Metal	500

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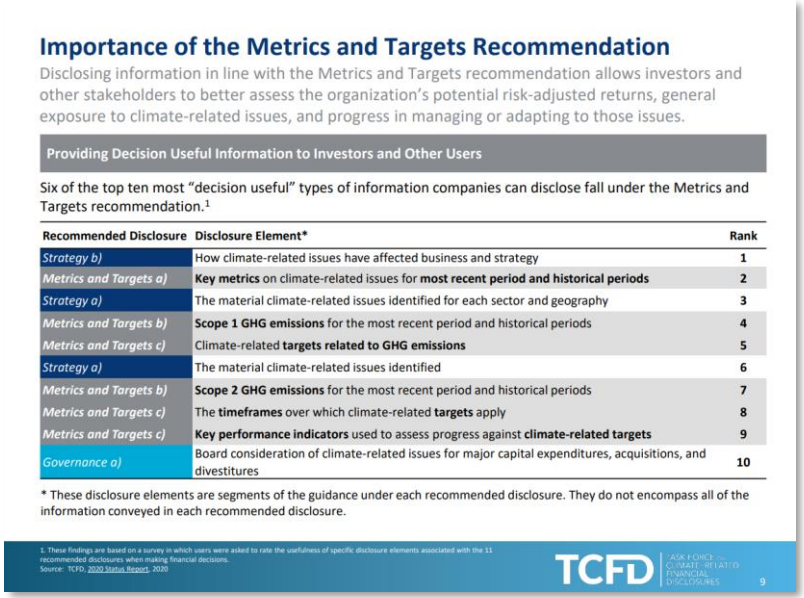
Student Travel: *Developing metrics and targets*



Importance of the Metrics and Targets Recommendation

Disclosing information in line with the Metrics and Targets recommendation allows investors and other stakeholders to better assess the organization's potential risk-adjusted returns, general exposure to climate-related issues, and progress in managing or adapting to those issues.

Providing Decision Useful Information to Investors and Other Users

Six of the top ten most "decision useful" types of information companies can disclose fall under the Metrics and Targets recommendation.[1]

Recommended Disclosure	Disclosure Element*	Rank
Strategy b)	How climate-related issues have affected business and strategy	1
Metrics and Targets a)	**Key metrics** on climate-related issues for **most recent period and historical periods**	2
Strategy a)	The material climate-related issues identified for each sector and geography	3
Metrics and Targets b)	**Scope 1 GHG emissions** for the most recent period and historical periods	4
Metrics and Targets c)	Climate-related **targets related to GHG emissions**	5
Strategy a)	The material climate-related issues identified	6
Metrics and Targets b)	**Scope 2 GHG emissions** for the most recent period and historical periods	7
Metrics and Targets c)	The **timeframes** over which climate-related **targets** apply	8
Metrics and Targets c)	**Key performance indicators** used to assess progress against **climate-related targets**	9
Governance a)	Board consideration of climate-related issues for major capital expenditures, acquisitions, and divestitures	10

* These disclosure elements are segments of the guidance under each recommended disclosure. They do not encompass all of the information conveyed in each recommended disclosure.

1. These findings are based on a survey in which users were asked to rate the usefulness of specific disclosure elements associated with the 11 recommended disclosures when making financial decisions.
Source: TCFD, 2020 Status Report, 2020

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES 9

Hierarchy

- What is the University target?
- What contribution does your data make to the target?
- What is a meaningful contribution to the overall target?
- What KPIs are available to monitor department progress toward the target?
- What departmental targets can be set?

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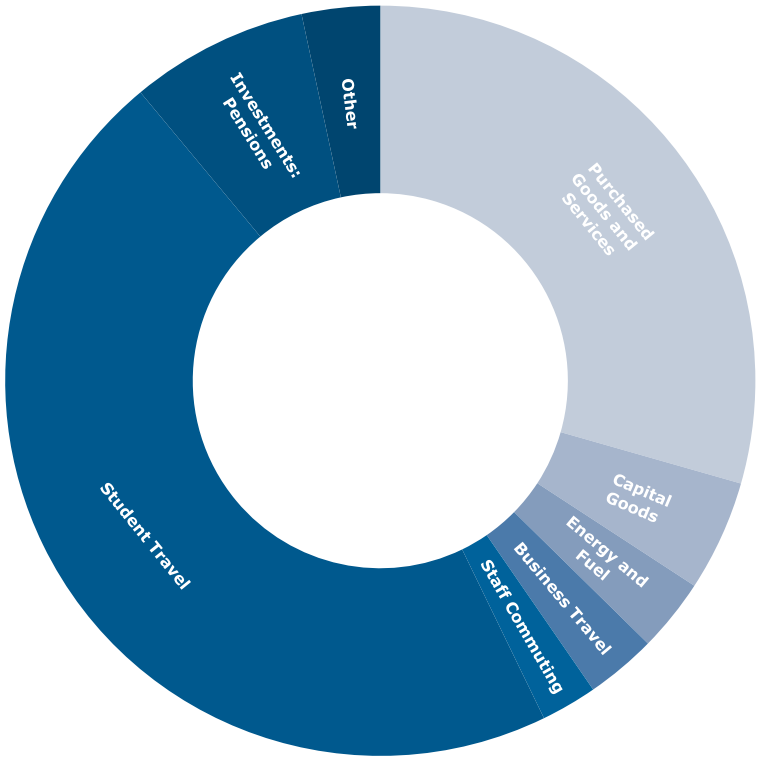
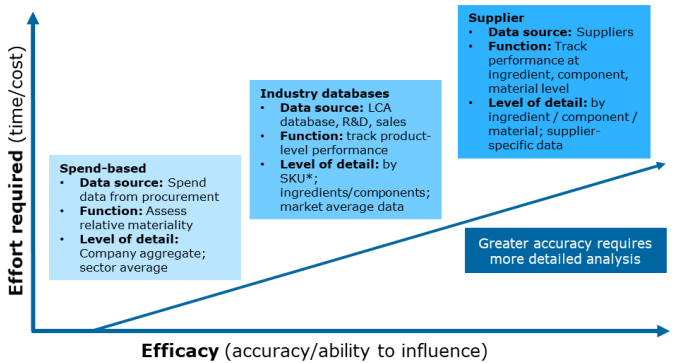
Academic Year 2022/23 Scope 3 Emissions



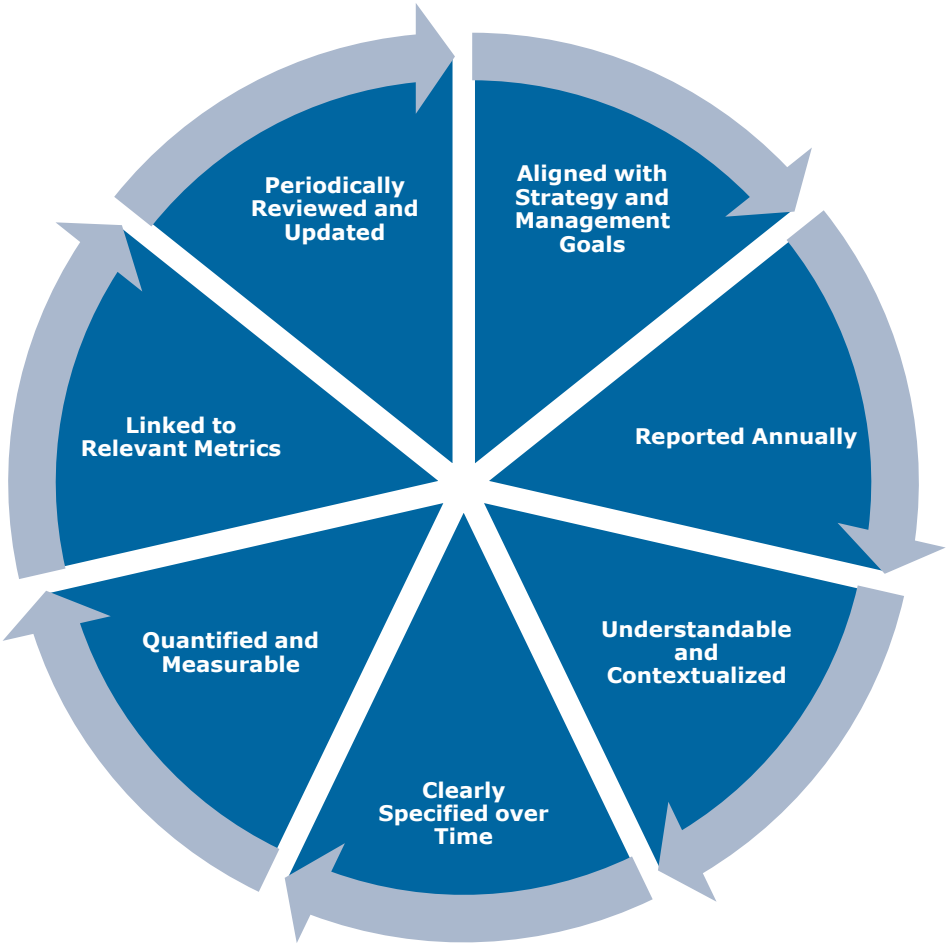
Where possible, **primary data** (electricity consumption, mass, energy etc.) has been collected directly from internal business units within The University of Manchester.

Where **secondary data** has been used(spend/average data), there is an increase in uncertainty of emissions and the chance of driving action throughout your value chain decreases.

A greater proportion of primary data will need to be obtained in future to reduce carbon through engagement, strategy and governance based on detailed product data provided by suppliers.



Targets



Metrics

Decision-Useful

- Relevant to the UoMs existing targets
- Applicable to decisions made in the university or department

Clear and Understandable

- Climate-related metrics are most effective when metrics are presented in a manner that aids understanding

Reliable, Verifiable, and Objective

- Support effective internal controls for the purposes of data verification and assurance

Consistent over Time

- Current, Historical, Forward looking

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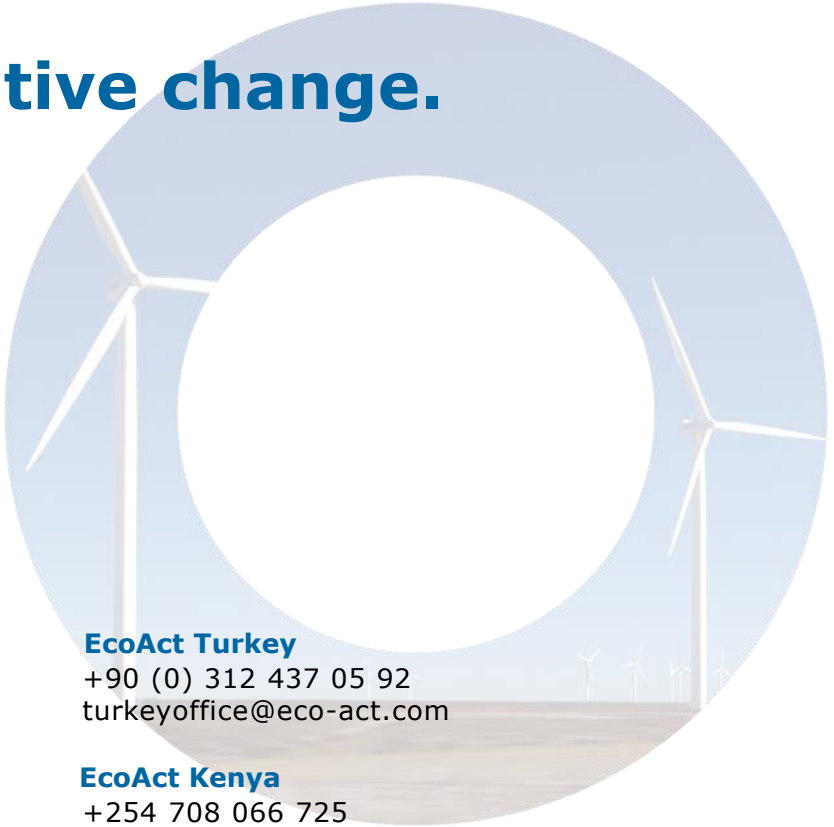
Questions

Your climate experts.
Your partners for positive change.



EcoAct, an Atos company, is an international climate consultancy and project developer that supports companies to set robust science-aligned net-zero strategies and achieve their climate targets. Founded in France in 2006, the company now spans three continents with offices in Paris, London, Barcelona, New York, Montreal, Munich, Milan and Kenya.

With a team of more than 260 international climate experts, EcoAct's core purpose is to lead the way in delivering sustainable business solutions that deliver true value for both climate and client. EcoAct is a CDP Gold Partner, a founding member of ICROA, a strategic partner in the implementation of the Gold Standard for the Global Goals and reports to the UN Global Compact.

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