

Scope 3 analysis and targets for data improvement

Executive Summary

City, University of London (City) is currently in the process of developing a Climate Adaptation Plan and is consequently looking to have an improved, more complete dataset around Scope 3 (i.e. value chain) emissions.

City currently monitors and reports on annual greenhouse gas (GHG) emissions covering Scope 1 & 2 as well as some Scope 3 categories including waste and business travel.

City is working with Carbon Intelligence to conduct a Scope 3 Gap Analysis to identify which Scope 3 categories are relevant, calculate a “first pass” Scope 3 footprint, and to set out next steps for improving Scope 3 emissions figures.

The top 3 Scope 3 Categories account for **96% of the total Scope 3 footprint** and were found to be:

1. Purchased Goods and Services, i.e. supply chain emissions (51%)
2. Capital Goods, i.e. supply chain emissions from purchased capital goods (40%)
3. Investments, i.e. emissions from the University's investment portfolio (4.5%)

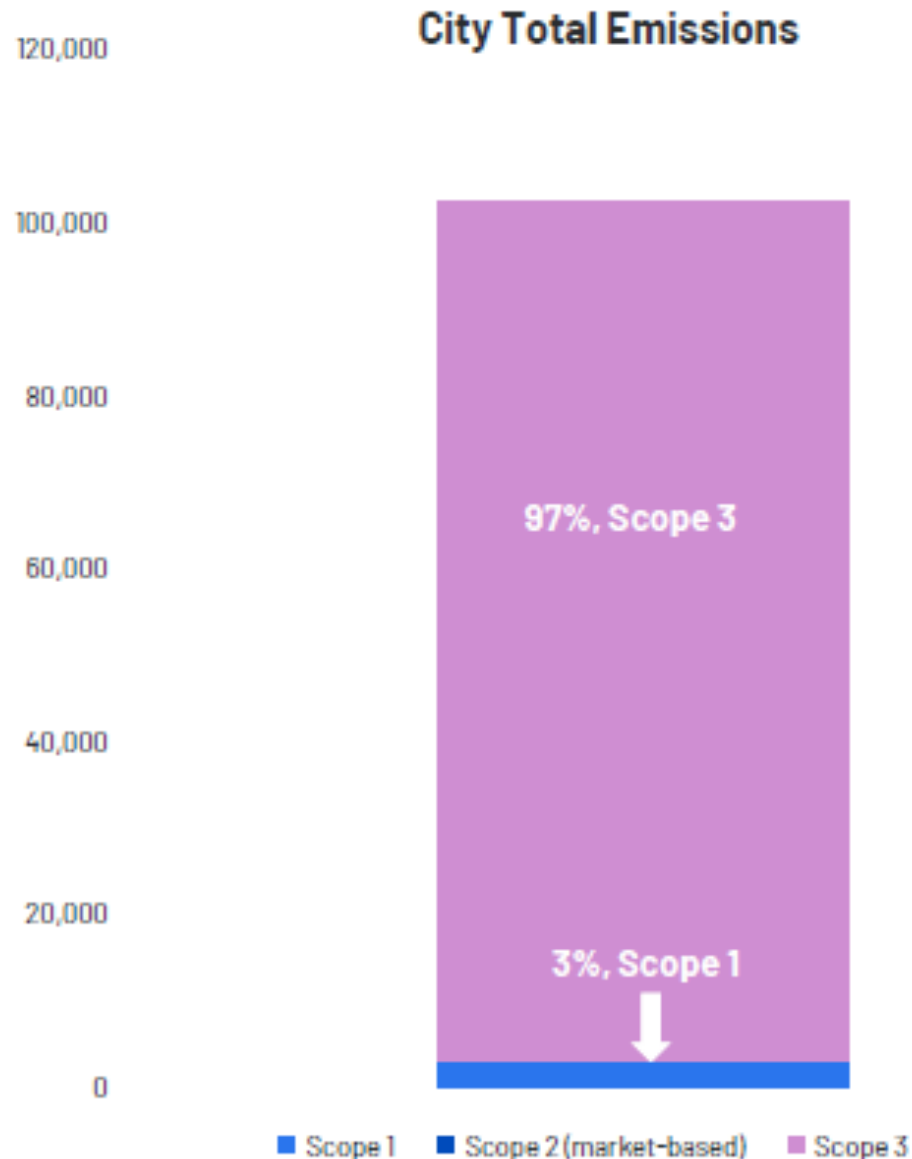
The results of the Scope 3 Gap Analysis are summarised in this report. This process is the first step in enabling City to understand its full value chain impact, which in turn will allow for confident communication with stakeholders and demonstrate the University's ambition in meeting sustainability best practice to current and future staff and students.

Key Findings

The key findings of the Scope 3 Gap Analysis project are as follows:

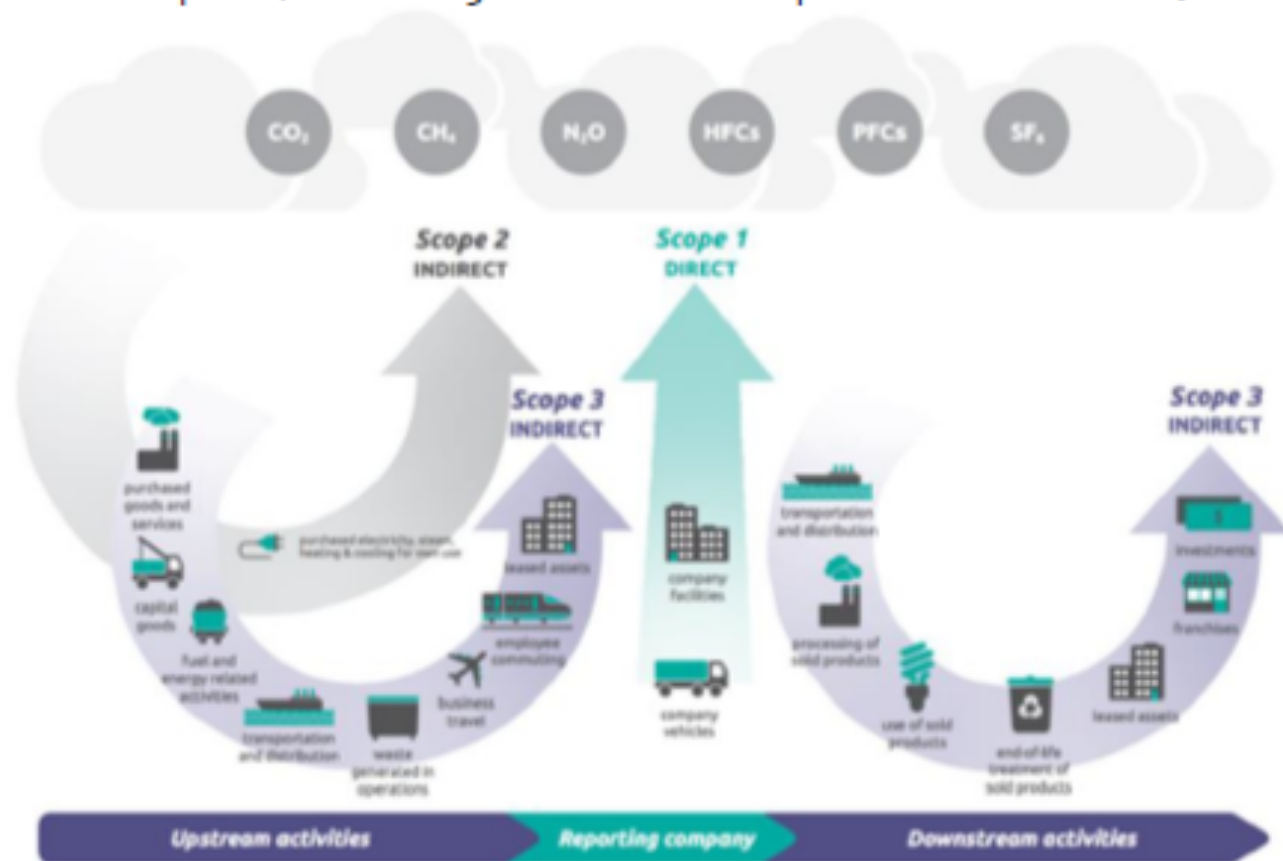
- Preliminary modelling shows that City's Scope 3 emissions make up **97%** of its total footprint*
- The quality of data used to calculate Scope 3 emissions varied between each Scope 3 category
- 3 main hotspots of emissions were identified which will require further, more in-depth modelling:
 1. Purchased Goods and Services (51%)
 2. Capital Goods (40%)
 3. Investments (4.5%)

*Scope 3 emissions are 97% of total emissions when market-based Scope 2 emissions are used to calculate the total. Market-based emissions account for City's purchased renewable electricity tariffs.



GHG accountancy splits emissions into three buckets called "Scopes"

Scope 3 emissions are indirect emissions from activities of an organisation, occurring from sources that they do not own or control, other than electricity. These are often the greatest share of the carbon footprint, covering value chain impacts listed below.



1. Purchased goods and services
2. Capital goods
3. Fuel- and energy-related activities (not included in scope 1 or scope 2)
4. Upstream transportation and distribution
5. Waste generated in operations
6. Business travel
7. Employee commuting
8. Upstream leased assets
9. Downstream transportation and distribution
10. Processing of sold products
11. Use of sold products
12. End-of-life treatment of sold products
13. Downstream leased assets
14. Franchises
15. Investments



What are the Scope 3 categories? – Upstream

Category		Explanation
1	Purchased goods and services	Emissions arising from the processes required to make the products and services that City purchases across the supply chain.
2	Capital goods	Emissions arising from the processes required to make the products and services that City capital goods spend across the supply chain.
3	Fuel-and-energy-related activities (not inc. in Scope 1 or 2)	Emissions arising from the processes required to extract purchased fuels and purchased electricity and to account for transmission losses of purchased electricity.
4	Upstream transportation and distribution	Transportation and distribution of 3 rd party courier services purchased by City.
5	Waste generated in operations	Disposal and treatment of waste generated in the City's operations (in facilities not owned or controlled by the reporting company).
6	Business travel	Transportation for business-related activities (e.g., conferences).
7	Employee commuting	Transportation of staff to and from the university and home, and students between their term-time addresses or homes and campus.
8	Upstream leased assets	Operation of assets leased by the reporting company (lessee) in the reporting year and not included in Scope 1 and Scope 2 – reported by lessee. Not relevant to City.

What are the Scope 3 categories? – Downstream

Category		Explanation
9	Downstream transportation and distribution	Transportation and distribution of products sold by the reporting entity between the reporting company's operations and the end consumer (if not paid for by the reporting company), including retail and storage (in vehicles and facilities not owned or controlled by the reporting company). Not relevant to City.
10	Processing of sold products	Processing of intermediate products sold in the reporting year by downstream companies (e.g., manufacturers). Not relevant to City.
11	Use of sold products	End use of goods and services sold by the reporting company in the reporting year. Not relevant to City.
12	End of life treatment of sold products	Waste disposal and treatment of products sold by the reporting company (in the reporting year) at the end of their life. Not relevant to City.
13	Downstream leased assets	Operation of City's leased assets in the reporting year, not included in Scope 1 and Scope 2.
14	Franchises	Operation of the reporting companies' franchises in the reporting year, not included in Scope 1 and Scope 2. Not relevant to City.
15	Investments	Operation of investments (including equity and debt investments and project finance), not included in Scope 1 or Scope 2.

Literature Review

The Environmental Association for Universities & Colleges (EAUC) outline Scope 3 reporting calculation guidance for universities based on guidance created by the former Higher Education Funding Council for England (HEFCE). This guidance recommends that universities report against **all Scope 3 sources**.

The HEFCE published guidance for calculating several Scope 3 categories relevant to the Higher Education Sector. These include the types and hierarchy of data sources that should be used to calculate emissions due to water, waste, travel and procurement, based on the GHG Protocol guidance and guidance issued by various UK Government Departments.

This work is also supported by the Southern Universities Purchasing Consortium (SUPC). The SUPC works to embed broader sustainability principles into the procurement processes of universities and provides a range of guidance on their website to aid this.

Student Commuting

Travel from student homes to term-time address has not been included in this exercise.

However, research has been conducted into the potential significance of this type of student travel which would include flight, car and train journeys. This category has been omitted from this exercise; however, [Davies and Dunk \(2016\)](#) argue that this falls into Scope 3 emissions category 11, 'Use of Sold Products', and as a significant emissions source, should be included in a University's Scope 3 emissions footprint.

According to GHG protocol guidance, this is an optional reporting requirement as it is classed as 'indirect use phase emissions' (i.e. emissions generated to be able to use City's product – education – rather than emissions generated in the process of using City's product). However, it has been included in other university footprints (e.g. Manchester Metropolitan University).

Following GHG protocol guidance, and as a category over which City has minimal influence, it is recommended that City does not report against this.

Conducting a Scope 3 relevance assessment

In accordance with ISO 14064-1 and the GHG Protocol Scope 3 Accounting and Reporting Standard, City should consider the relevance of GHG emissions from each applicable Scope 3 category when deciding whether to include these within its quantification and reporting.

A Scope 3 relevance assessment is a high-level evaluation to understand the value chain emissions categories that are relevant to the organisation and to indicate which emissions are likely to be most significant. This will also inform the boundary-setting process.

There are two main steps:

- Assess the relevance of each category, based on information around the specific organisation, as well as industry guidance.
- Estimate the size of each category (use industry-average data, proxy data, estimates, etc.)



Influence



Size



Stakeholders



Risk



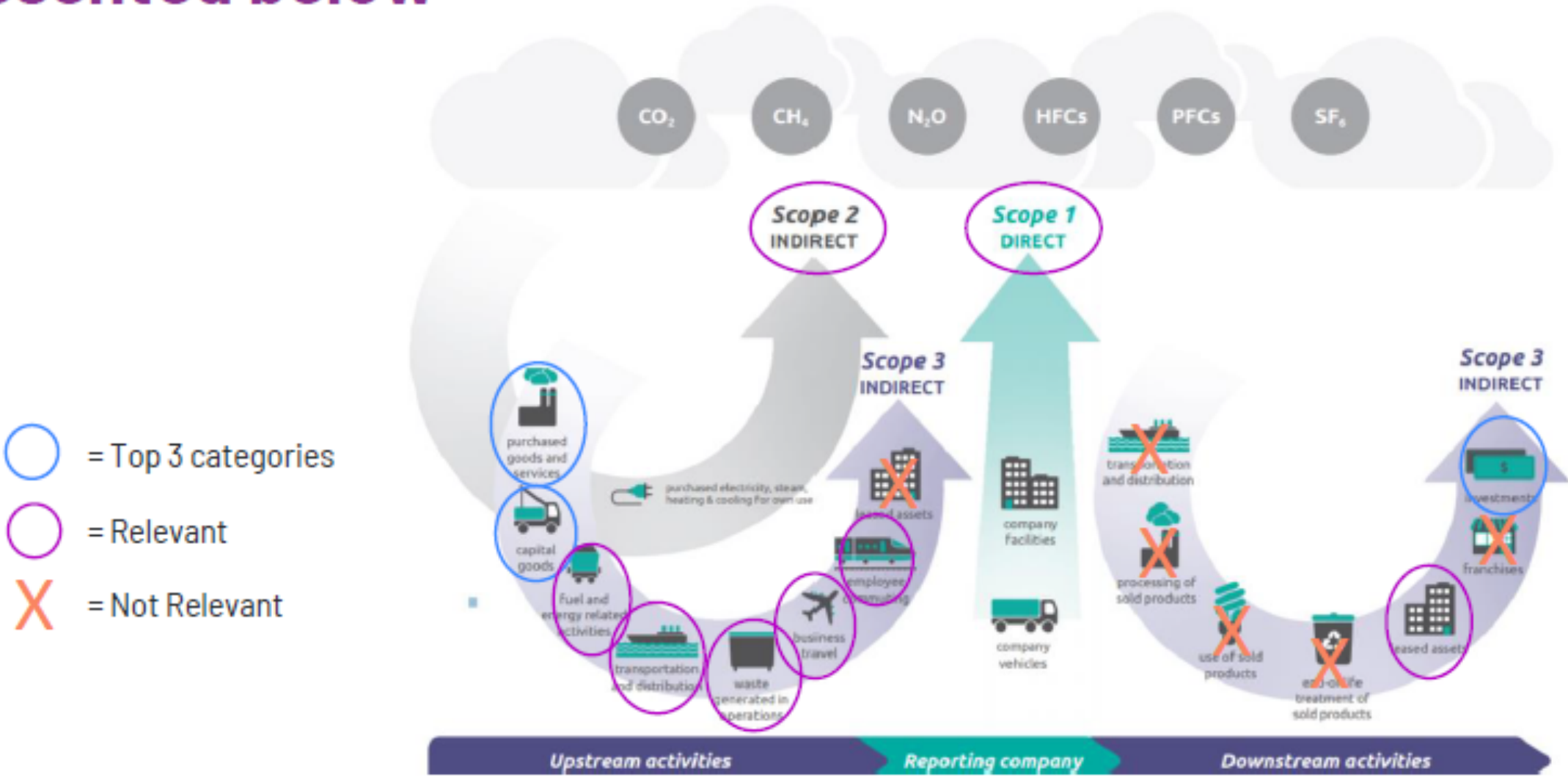
Sector Guidance

Results of the Scope 3 relevance assessment

- Each Scope 3 emission category has been analysed for relevance as per the GHG Protocol Scope 3 Guidance.
- Each of the criteria has been rated on a scale of 1-7, 1 being low and 7 being high in order to determine relevance.

Category	Applicable?	Explanation	Size	Influence	Risk	Stakeholders	Outsourcing	Sector Guidance	Relevance Rating
1 Purchased goods and services	Yes	Purchase of products for on-campus use and services-	7	4	5	4	1	6	5
2 Capital goods	Yes	Capital goods such as lab and lecture equipment, computers and appliances are purchased regularly as part of annual operations at the University-	6	4	5	4	1	6	4
3 Fuel-and-energy-related activities (not included in Scope 1 or 2)	Yes	The emissions associated with the extraction, production and distribution of purchased fuels and electricity-	3	5	2	2	3	1	3
4 Upstream transportation and distribution	Yes	Carriage and freight is paid for the delivery of goods and services purchased-	2	5	2	2	6	1	3
5 Waste generated in operations	Yes	Waste is generated by staff and students on all university sites-	1	3	3	4	2	6	3
6 Business travel	Yes	Flights, land travel and hotel stays-	4	4	5	4	4	3	4
7 Employee commuting	Yes	Staff are required to commute to be on the premises for teaching and research-	3	3	3	3	1	3	3
8 Upstream leased assets	No	This category is not relevant to City University because it does not lease assets not already captured in Scope 1 and 2-	-	-	-	-	-	-	Not applicable
9 Downstream transportation and distribution	No	City University does not sell products that are transported-	-	-	-	-	-	-	Not applicable
10 Processing of sold products	No	City University does not sell products to be made into other products-	-	-	-	-	-	-	Not applicable
11 Use of sold products	No	City University does not sell products that have an associated energy use outside of its own operations-	-	-	-	-	-	-	Not applicable
12 End of life treatment of sold products	No	City University does not develop and sell products that require disposal-	-	-	-	-	-	-	Not applicable
13 Downstream leased assets	Yes	City University leases building space to Santander bank, as well as 4 residential flats to tenants-	1	4	2	2	2	1	2
14 Franchises	No	City University has no franchises-	-	-	-	-	-	-	Not applicable
15 Investments	Yes	The University currently has a portfolio of investments-	5	4	6	4	1	3	4

The results of the Scope 3 relevance assessment are presented below



Six Scope 3 categories were identified as not applicable

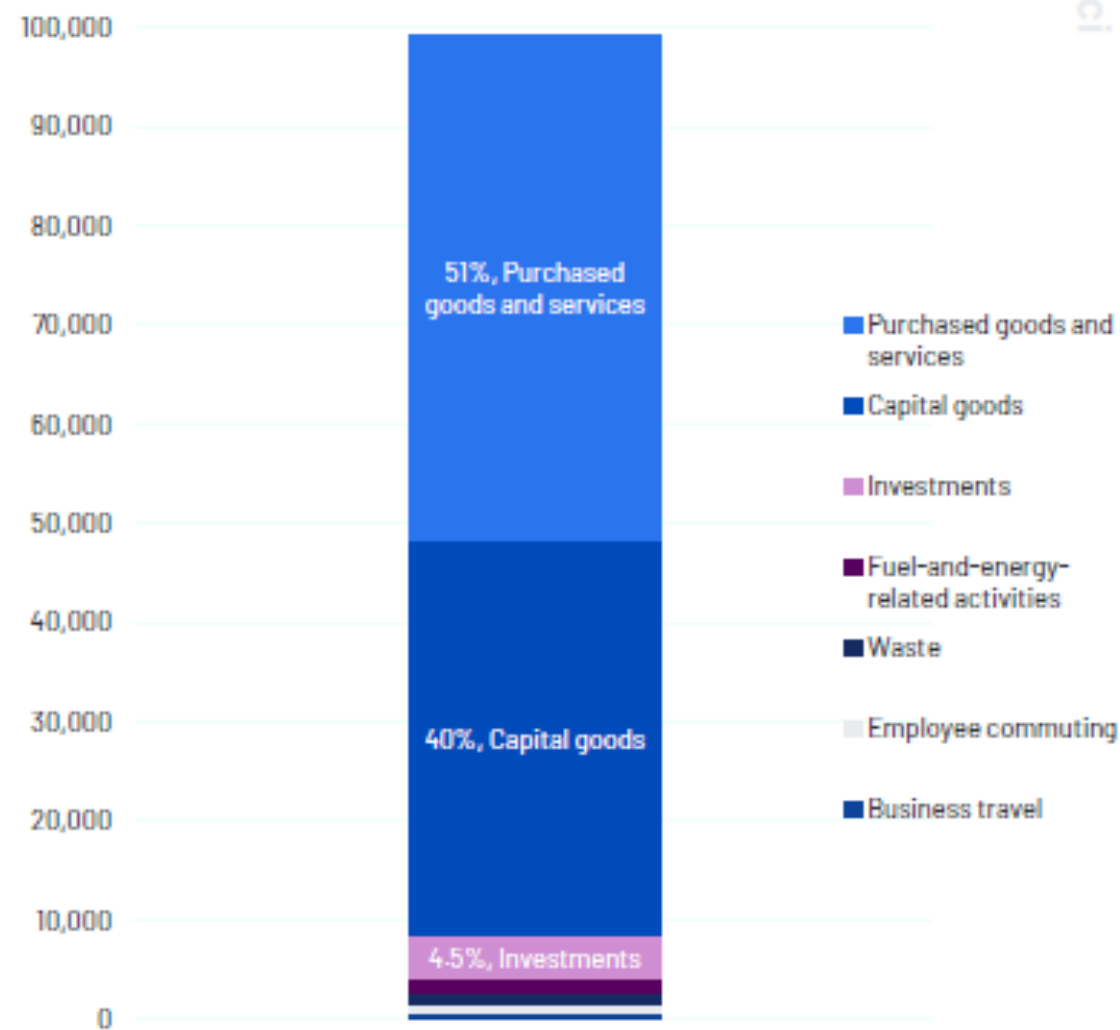
Carbon Intelligence examined each of the 15 Scope 3 categories to determine if they were applicable to City's operations. Those emission categories which we have determined to not be applicable are shown in the table below, and an explanation has been provided to support this decision.

Category of Scope 3 Emissions	Applicable	Explanation
8. Upstream Leased Assets	No	City does not lease assets from other parties not already included in Scope 1 and 2.
9. Downstream Transportation and Distribution	No	City does not sell products that are transported.
10. Processing of Sold Products	No	City does not sell products to be made into other products.
11. Use of Sold Products	No	City does not sell products that have an associated energy use outside of its' own operations.
12. End of Life Treatment of Sold Products	No	City's sold product (education) is a service and does not have any associated waste disposal outside of its' operations.
14. Franchises	No	City has no franchises.

- 4. 'Upstream Transportation and Distribution' has been deemed relevant to City but has not been included in this exercise. This is due to a lack of data availability. However, from initial estimates (using peers) this activity is expected to be insignificant in size compare to the university's wider footprint.
- 13. 'Downstream Leased Assets' has been deemed relevant to City but has not been included in this exercise. This is in order to avoid double counting, as City already includes the emissions from this activity in it's Scope 1 and 2 footprint. It is recommended that going forward, City includes this activity in it's Scope 3 footprint.

The results of the Scope 3 breakdown for City is presented below

Categories	Associated Business Activities	% of Scope 3
Purchased Goods and Services	Purchase of goods and services for on-campus use and services e.g., equipment, materials, professional services etc.	51%
Capital Goods	Purchase of capital goods (those essential to City's operations) e.g., furnishings, building upgrades, stationery, computer equipment and software etc.	40%
Investments	City's portfolio of investments.	4.5%
Fuel and energy related activities	Well-to-tank and transmission & distribution losses from purchased fuels and purchased electricity.	1.3%
Waste	Waste generated by staff and students on-site.	1.1%
Employee Commuting	Daily commuting of staff between campus and their homes.	0.9%
Business Travel	Flights, land travel and hotel stays.	0.7%



City University Scope 3 Category 15 Investments

It should be noted that as part of this initial gap analysis phase, emissions from investments is still uncertain and further modelling for more accurate emissions calculations should be conducted.*

To calculate the emissions from this category, we followed the average-data method as outlined by the GHG protocol.

Average-data method:

- We applied Morgan Stanley Capital International (MSCI) proxies to the investment sector categories.
- This calculation method totalled 4,470 tCO₂e.

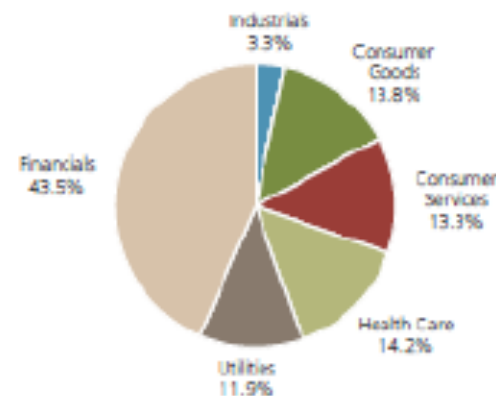
Investments are the third largest emissions contributor in Scope 3 for City, however only account for 4.5% of total Scope 3 emissions. Whilst this should be included in Scope 3, this is not a value chain hotspot therefore reduction strategies are unlikely to be focused on investments.

*It should also be noted that we used the UK Equity sector % allocation as a proxy for the global portfolio as this was all that was available.

UK Equity Analysis

DIRECT UK EQUITY

SECTOR ALLOCATION



Below is a table of data availability & opportunities for improvement for City

Emissions Source	Description of current data sources	Data Quality Level	Opportunities to improve data quality
Purchased Goods & Services	<ul style="list-style-type: none"> Spend data for procurement 	Low	<p>Supplier Engagement and Data Granularity</p> <p>It is very difficult to gain accurate data for a complex and large supply chain and so spend data is often used to hotspot key emission sources.</p> <p>To improve data quality, we recommend:</p> <ul style="list-style-type: none"> Focusing on enhancing the data granularity from the most material good and services. Engaging with key suppliers to understand supplier level carbon data available (e.g., through establishing a supplier engagement programme). Developing a strategy with suppliers to collaboratively gather carbon data (e.g., through a joint carbon LCA study).
Capital Goods	<ul style="list-style-type: none"> Spend data 	Low	<p>Supplier Engagement and Data Granularity</p> <ul style="list-style-type: none"> Focusing on enhancing the data granularity from the most material goods and services. Engage with suppliers to understand embodied carbon of purchased capital goods.
Fuel and Energy Related Activities (not included in scope 1 or 2)	<ul style="list-style-type: none"> Electricity and fuel consumption records 	High	N/A
Upstream Transportation & Distribution	<ul style="list-style-type: none"> Not available 	Low	<p>Supplier Engagement</p> <ul style="list-style-type: none"> Engage with distribution companies to track fuel consumption and mileage covered for journeys.

Below is a table of data availability & opportunities for improvement for City

Emissions Source	Description of current data sources	Data Quality Level	Opportunities to improve data quality
Waste	<ul style="list-style-type: none"> Waste types, disposal routes and weights 	Medium	Supplier Engagement <ul style="list-style-type: none"> Engaging with waste treatment providers to understand Scope 1 and 2 emissions specific to their operations.
Business Travel	<ul style="list-style-type: none"> Spend data Key Travel data 	Medium	Staff Engagement and Data Granularity Encourage staff to book all travel through Key Travel. Where this is not possible, please record the following: <ul style="list-style-type: none"> Start and end destinations of journeys (i.e. distance travelled). Fuel consumption where possible. Vehicle details (type of vehicle, fuel type). For flights and rail, travel class. Record hotel stays – number of nights and location (country) of hotel.
Employee Commuting	<ul style="list-style-type: none"> Estimated from commuting survey Staff headcounts 	Medium	Data Granularity <ul style="list-style-type: none"> Engage with staff to encourage a higher response rate. Maintain up to date monthly staff headcount figures so travel survey results can be extrapolated amongst the whole staff population.
Downstream Leased Assets	<ul style="list-style-type: none"> Included in Scope 1 & 2 	N/A	Data Granularity <ul style="list-style-type: none"> Ensure to remove this activity from your Scope 1 and 2 footprint in future reporting and include in Scope 3. We suggest using floor area to proportion out emissions to leased assets.
Investments	<ul style="list-style-type: none"> Estimated from UK portfolio breakdown 	Low	Supplier Engagement and Data Granularity <ul style="list-style-type: none"> Obtain a global portfolio sector breakdown for a more accurate representation of these emissions. Research the Scope 1 and 2 emissions of each of your investments to get a more accurate representation.