CALCULATING & REPORTING SCOPE 3 SUPPLY CHAIN EMISSIONS

AIMS:

- DRIVERS FOR REPORTING

- CALCULATION & REPORTING METHODOLOGIES

- SWANSEA UNIVERSITY PROGRESS

DRIVERS

Strategic Vision & Purpose 2020

"Our work is enabled by…
Environmental Sustainability."

Swansea University Sustainability Strategy 2021-25

https://online.flippingbook.com/view/898157623/

SUSTAINABILITY THEMES

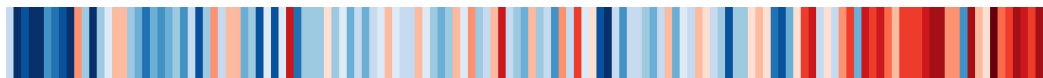THE CLIMATE EMERGENCY | OUR NATURAL ENVIRONMENT | OUR WORKING ENVIRONMENT | OUR TRAVEL

CE 3. **Scope 3**: Achieve (on average) a 2.5% year on year reduction in scope 3 emissions, 50% by 2035 (35% by 2030)

- Increased awareness of the links between procurement and sustainability

- Improved decision-making within procurement processes

- Drive Supply chain decarbonisation (Supply and Demand)

- Increased reputation for sustainability leadership

- Regulator and funding compliance obligations
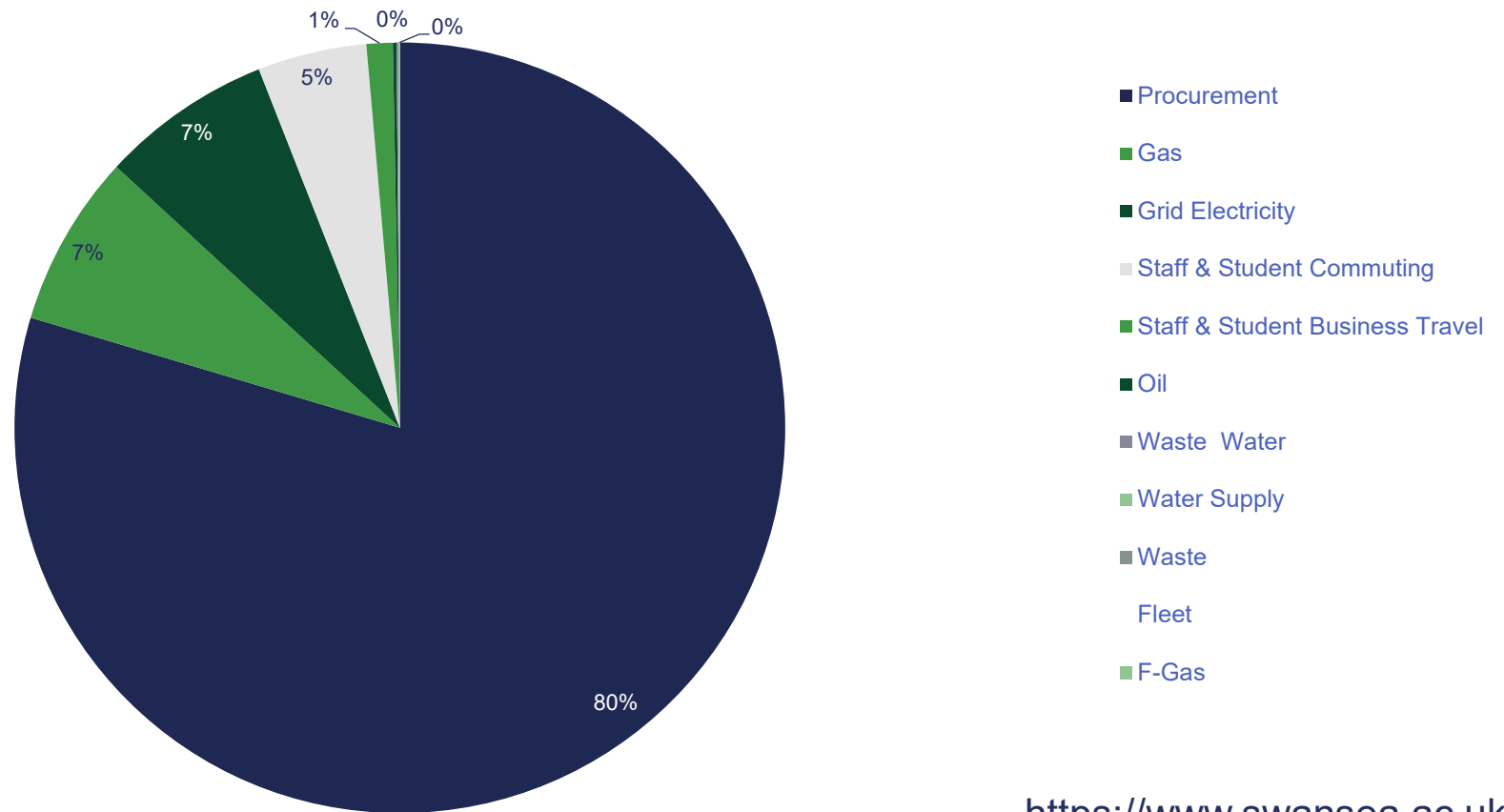
- Research and learning

Stribedi Cynhesu i Gymru 1884-2022 **Warming Stripes for Wales 1884-2022**
https://showyourstripes.info/

University Carbon Footprint Scope 1, 2 & 3

2021/22 % by source

Legend:
- Procurement
- Gas
- Grid Electricity
- Staff & Student Commuting
- Staff & Student Business Travel
- Oil
- Waste Water
- Water Supply
- Waste
- Fleet
- F-Gas

Pie values: 80%, 7%, 7%, 5%, 1%, 0%, 0%

https://www.swansea.ac.uk/sustainability/climate-emergency/

DRIVERS FOR REPORTING

W13-38HE-Carbon-Management-Policy.pdf (hefcw.ac.uk)
https://www.hefcw.ac.uk/wp-content/uploads/2020/12/W13-38HE-Carbon-Management-Policy.pdf

Emissions and waste
Academic years 2015/16 to 2021/22

Show: Scope 3 carbon emissions from supply chain

Search by HE provider

Country of HE provider: Choose a value...   Region of HE provider: Wales

Academic year: 2021/22

	Business services (tonnes CO2e) ↕	Paper products (tonnes CO2e) ↕	Other manufactured products (tonnes CO2e) ↕	Manufactured fuels, chemicals, and gases (tonnes CO2e) ↕	Food and catering (tonnes CO2e) ↕	Construction (tonnes CO2e) ↕	Information and communication technologies (tonnes CO2e) ↕	Waste and water (tonnes CO2e) ↕	Medical and precision instruments (tonnes CO2e) ↕	Other procurement (tonnes CO2e) ↕	Unclassified (tonnes CO2e) ↕
Aberystwyth University	5,174.000	104.000	1,285.000	53.000	313.000	2,431.000	7,942.000	287.770	9,959.000	384.000	0.000
Bangor University	9,380.712	108.262	1,574.731	139.747	216.737	220.040	4,606.640	37.898	6,271.487	989.454	14.588
Cardiff University											
Cardiff Metropolitan University	3,169.600	434.400	875.200	238.100	655.000	50.200	2,004.300	110.500	378.000	9,281.400	0.000
Glyndŵr University											
Swansea University	10,343.080	419.130	1,859.250	423.600	367.990	6,370.530	15,718.520		27,956.470	367.160	0.000
University of Wales Trinity Saint David											
University of South Wales	2,271.000	1,172.000	1,135.000	0.000	88.000	504.000	2,489.000	118.000	0.000	93.000	4,043.000

HE Provider Data: Estates Management | HESA   https://www.hesa.ac.uk/data-and-analysis/estates/environmental

REPORTING & METHODOLOGIES

11 Data and Methods: Supply Chain

Standard units for procurement = £ expenditure on different categories

Welsh Public Sector Net Zero Carbon Reporting Guide (gov.wales)
https://www.gov.wales/sites/default/files/publications/2023-03/welsh-public-sector-net-zero-reporting-guide-version-3.pdf

There are a variety of methodologies for estimating Scope 3 emissions:

- Mainly via individual suppliers or categories of purchase

- Tier 2 Most specific is individual goods and services data directly from suppliers:

- Tier 1 Secondary methods are non-supplier specific and rely on industry average emissions per £ spend on different categories

11.2 Supply chain Higher Tier method (optional)

11.1 Supply chain Tier 1 spend based method

Swansea University | Sustainability
Prifysgol Abertawe | Cynaliadwyedd

REPORTING & METHODOLOGIES

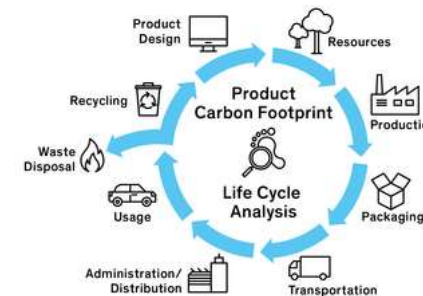**Tier 2: Individual goods and services data directly from suppliers:**

- Increased accuracy & accountability

- Low availability

- High on resources required

- Limit options compared to thousands of products and services

Options:

- Limit emissions reports to just this data?

- Hybrid methodology? Include this and £ spend?

- Requires processing to fulfil HESA and WG reports.

Product Carbon Footprint (PCF) | Dell UK (https://www.dell.com/en-uk/dt/corporate/social-impact/advancing-sustainability/climate-action/product-carbon-footprints.htm#tab0=0)

NETpositive (net-positive.org) Net Zero Supplier Tool?

- Developed in HE sector by Nottingham Trent University and NETpositive,
- Used by **32 universities**.
- Access tool to calculate their supply chain emissions and to understand how suppliers are responding to the shared challenge of climate change.
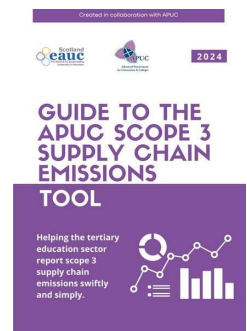
REPORTING & METHODOLOGIES

Tier 1: non-supplier specific, rely on industry average emissions per £ spend on different categories

- Lower accuracy & accountability

- Higher availability

- Low on resources required

- General analysis before looking into Tier 2: for specific emissions.

Supply Chain | Sustainability Exchange (https://www.sustainabilityexchange.ac.uk/hescet_tool)

Options:

- HEPA RP Group (HESCET Tool)

- APUC (APUC Scope 3 Emissions Reporting Tool).

Spend against each Proc HE code mapped to defined list of DEFRA categories for which conversion factors - calculating value to carbon - are allocated.

Updated annually with the latest conversion factors to reflect information changes throughout the supply chains.

- Both tools will provide you with the figures required to populate your HESA 11 categories response

- **Not directly for Welsh Government SIC based spend report/tool.**

CALCULATION METHODOLOGIES

Supply Chain | Sustainability Exchange – HESCET (https://www.sustainabilityexchange.ac.uk/hescet_tool)

Code	Description	Replacement Code	Spend (£)
	Proc-HE Input data		
A	A – Audio Visual & Multimedia Supplies and Services		£10,000,000.00
AA	AA - Audio Visual Equipment Purchase		£20,000,000.00
AB	AB - Display and Projection Equipment and Consumables	AA	£3,000,000.00
AC	AC - AV Learning and Training Packs		
AD	AD - Music Instruments, Scores, Purchase, Maintenance		
AE	AE - Photographic Equipment Supplies and Services		
AF	AF - Studio Hire and Running Costs		
AG	AG - Theatre Production Consumables (Scenery, Lighting, Props, Costumes)		
AH	AH - Video Equipment Purchase, Hire, Maintenance and Repair		
AJ	AJ - Audio Visual Consumables, Accessories		
AK	AK - Photographic Consumables, Accessories	AE	
AL	AL - Digital Imaging Equipment Purchase, Maintenance, Repair and Consumables		
AM	AM - Commercial and Graphic Art Equipment Purchase, Maintenance and Consumables	NE	
AN	AN - External Production Services (Performances, Tours)	RM	
AP	AP - Tape Machines, Video Interviewing Equipment	AA	
AQ	AQ - Website Design and Services SUSPENDED	KO	
AR	AR - Fine and Creative Arts, Equipment Purchase, Maintenance, Consumables	NF	
AT	AT - Audio Visual Equipment Hire		
AU	AU - Audio Visual Equipment Maintenance and Services		
AZ	AZ - Other and General Audio Visual Aids		
B	B - Library & Publications		
BA	BA - Book Binding Services		£5,933,211.00
BB	BB - Books Hardcopy		
BC	BC - Inter-Library Loans		
BD	BD - Journals Hardcopy		£6,556,456.00
BE	BE - Library Subscriptions		

hepa

Microsoft Excel Worksheet

SUPPLY CHAIN REPORTS

[Welsh Public Sector Net Zero Carbon Reporting Guide (gov.wales)](https://www.gov.wales/sites/default/files/publications/2023-03/welsh-public-sector-net-zero-reporting-guide-version-3.pdf)
(https://www.gov.wales/sites/default/files/publications/2023-03/welsh-public-sector-net-zero-reporting-guide-version-3.pdf)

Welsh Public Sector Net Zero Carbon Reporting Guide
Version 3

Microsoft Excel Worksheet

Cell colour codes: Information cell c / Activity data. Numeric data entry
Information entry / Calculated data

Indirect emissions from the supply chain

Guidance for users

This sheet contains two tables: Tier 1 supply chain spend based estimates and Tier 2 supply chain more accurate estimates **based on reported carbon.**
Please see Section 11 of the Welsh Net Zero Public Sector Reporting Guide for further guidance.

The Tier 1 table is based on the Defra source 'Conversion factors by SIC code 2019, updating Table 13', rounded to 3 d.p.
www.gov.uk/government/statistics/uks-carbon-footprint
This table only covers indirect emissions from the supply chain and is an estimate of the indirect GHG emissions resulting from expenditure on procuring goods and services. The emission factors were calculated by the University of Leeds as an update to the dataset used previously which were factors for 2011.
This table also includes a number of activities that are likely to be covered in your operational emissions, such as fuel use and transmission and distribution, travel and water. If you have captured that activity in the Operational emissions tab, you should remove the related expenditure from this table as otherwise you will be double counting your emissions. However, the information in this table may still be useful for a rough initial calculation of the relative importance of these activities in the first instance.

Instructions for users:
• Input information into the orange and blue cells. Grey cells should not be edited. Fill in the notes column describing the data source used and any data exclusions.
• Identify the amount spent on different product and service groups (in actual prices in £s, including VAT).
• In Tier 1, the amount of spend is automatically multiplied by the conversion factor to get total emissions in kilograms of carbon dioxide equivalent (kg CO_2e).
• If you wish to use a higher tier (Tier 2) method for part of your supply chain emissions, you can record these in the second table below. Please include notes about your method and the amount of spend that these emissions account for. Please **DO NOT** subtract this spend from the data reported in the Tier 1 table (i.e any emissions reported in the Tier 2 table should also be included in the total spend for that category in the Tier 1 table). Any emissions calculated by Tier 2 methods are included in column J of the Tier 1 table to provide an overall total without double counting.

Supply chain - tier 1 methodology

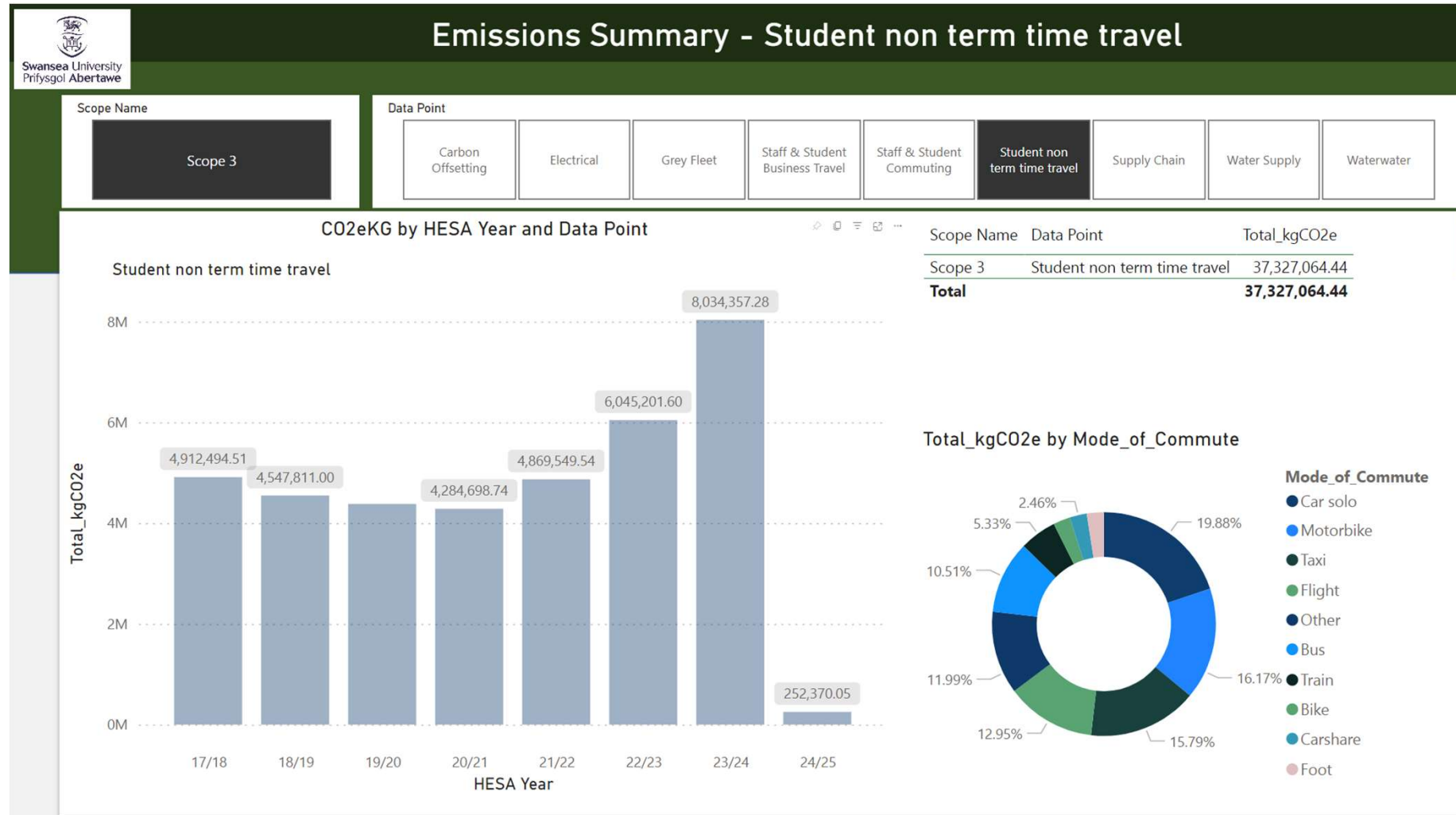| Supply chain group	SIC code (SIC 2007)	Product category	Amount spent by product category (£)	Emission factor (kgCO₂e per £ spent)	Total kg CO₂e	RSD	Notes on data source and exclusions	Tier 1 & 2 combined emissio	High	Low
AGRICULTURE, FORESTRY AND FISHING	01	Products of agriculture, hunting and related services	£1,778.00	2.189	3,892.0	25%		3892.0	4865.1	2919.0
AGRICULTURE, FORESTRY AND FISHING	02	Products of forestry, logging and related services		0.282		25%		496.6	495.8	497.5
AGRICULTURE, FORESTRY AND FISHING	03	Fish and other fishing products; aquaculture products; support services to fishing		0.659		25%		0.0	0.0	0.0
MINING AND QUARRYING	05	Coal and lignite		1.883		25%		0.0	0.0	0.0
MINING AND QUARRYING	06	Crude petroleum and natural gas		0.868		25%		0.0	0.0	0.0
MINING AND QUARRYING	08	Other mining and quarrying products		0.692		25%		0.0	0.0	0.0
MINING AND QUARRYING	09	Mining support services		0.409		25%		0.0	0.0	0.0
MANUFACTURING	10.1	Preserved meat and meat products		0.766		25%		0.0	0.0	0.0
MANUFACTURING	10.2-3	Processed and preserved fish, crustaceans, molluscs, fruit and vegetables		0.680		25%		0.0	0.0	0.0
MANUFACTURING	10.4	Vegetable and animal oils and fats		0.983		25%		0.0	0.0	0.0
MANUFACTURING	10.5	Dairy products		0.874		25%		0.0	0.0	0.0
MANUFACTURING	10.6	Grain mill products, starches and starch products		0.824		25%		0.0	0.0	0.0
MANUFACTURING	10.7	Bakery and farinaceous products		0.582		25%		0.0	0.0	0.0
MANUFACTURING	10.8	Other food products		0.696		25%		0.0	0.0	0.0

SUPPLY CHAIN REPORTS

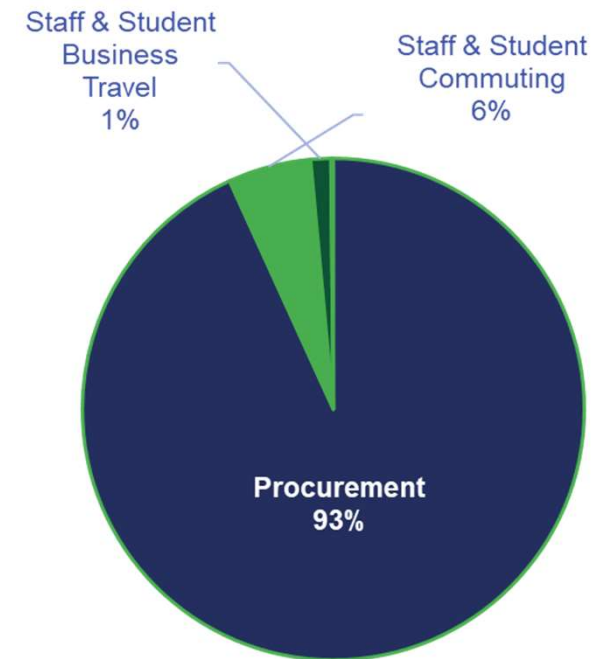Swansea University – Supply Chain Procurement Emissions - Power BI

SUPPLY CHAIN REPORTS

Swansea University – Supply Chain Procurement Emissions - Power BI

Emissions (tonnes of CO2e)	Scope 3: Waste	Scope 3: Water Supply	Scope 3: Wastewater	Scope 3: Supply Chain	Scope 3: Business Travel	Scope 3: Commuting	Scope 3	Reduction target %	Actual Reduction		Scope 3: Student non term time travel	Reduction target %	Scope 3: 3rd Party Student Accommodation	Total Scope 1, 2 & 3
15/16 Baseline	41	96	192	51,024	291	3,312	54,956				33,478			106,037
16/17 Actual	27	98	191	38,770	372	2,753	42,211	-2.5%			33,478	-0.5%		93,959
17/18 Actual	27	99	195	32,063	1,342	6,104	39,830	-5.0%			33,478	-1.0%		89,459
18/19 Actual	24	86	168	25,500	1,780	5,994	33,552	-7.5%	25%		33,478	-1.5%		82,200
19/20 Actual	21	82	161	26,120	1,200	3,552	31,137	-10.0%			33,478	-2.0%		77,482
20/21 Actual	12	30	52	24,352	82	3,635	28,163	-12.5%			33,478	-2.5%	1,825	76,713
21/22 Actual	17	33	57	63,826	1,199	3,658	68,790	-15.0%	-75%		33,478	-3.0%	1,825	115,779
21/22 Target	35	82	163	43,370	247	2,815	46,713				32,474			94,338
22/23 Target	34	79	159	42,094	240	2,733	45,339	-17.5%			32,306	-3.5%		89,254
23/24 Target	33	77	154	40,819	233	2,650	43,965	-20.0%			32,139	-4.0%		86,833
24/25 Target	32	75	149	39,543	226	2,567	42,591	-22.5%			31,971	-4.5%		84,411
25/26 Target	31	72	144	38,268	218	2,484	41,217	-25.0%			31,804	-5.0%		81,990
26/27 Target	30	70	139	36,992	211	2,401	39,843	-27.5%			31,637	-5.5%		79,569
27/28 Target	29	67	135	35,716	204	2,319	38,469	-30.0%	OFF COURSE		31,469	-6.0%		77,147
28/29 Target	28	65	130	34,441	196	2,236	37,096	-32.5%			31,302	-6.5%		74,726
29/30 Target	27	63	125	33,165	189	2,153	35,722	-35.0%			31,135	-7.0%		72,304
30/31 Target	26	60	120	31,890	182	2,070	34,348	-37.5%			30,967	-7.5%		69,883
31/32 Target	25	58	115	30,614	175	1,987	32,974	-40.0%			30,800	-8.0%		67,461
32/33 Target	24	55	111	29,339	167	1,905	31,600	-42.5%			30,632	-8.5%		65,040
33/34 Target	23	53	106	28,063	160	1,822	30,226	-45.0%			30,465	-9.0%		62,619
34/35 Target	22	50	101	26,787	153	1,739	28,852	-47.5%			30,298	-9.5%		60,197
35/36 Target	21	48	96	25,512	146	1,656	27,478	-50.0%			30,130	-10.0%		57,776
20/21 A vs T	-18	-49	-106	20,456	952	842	22,077							51,571
Vs previous yr	5	3	6	39,473	1,117	23	40,627							
Since 2015:	-24	-63	-135	12,802	908	346	13,834							

https://www.swansea.ac.uk/sustainability/climate-emergency/

University Carbon Footprint Scope 3

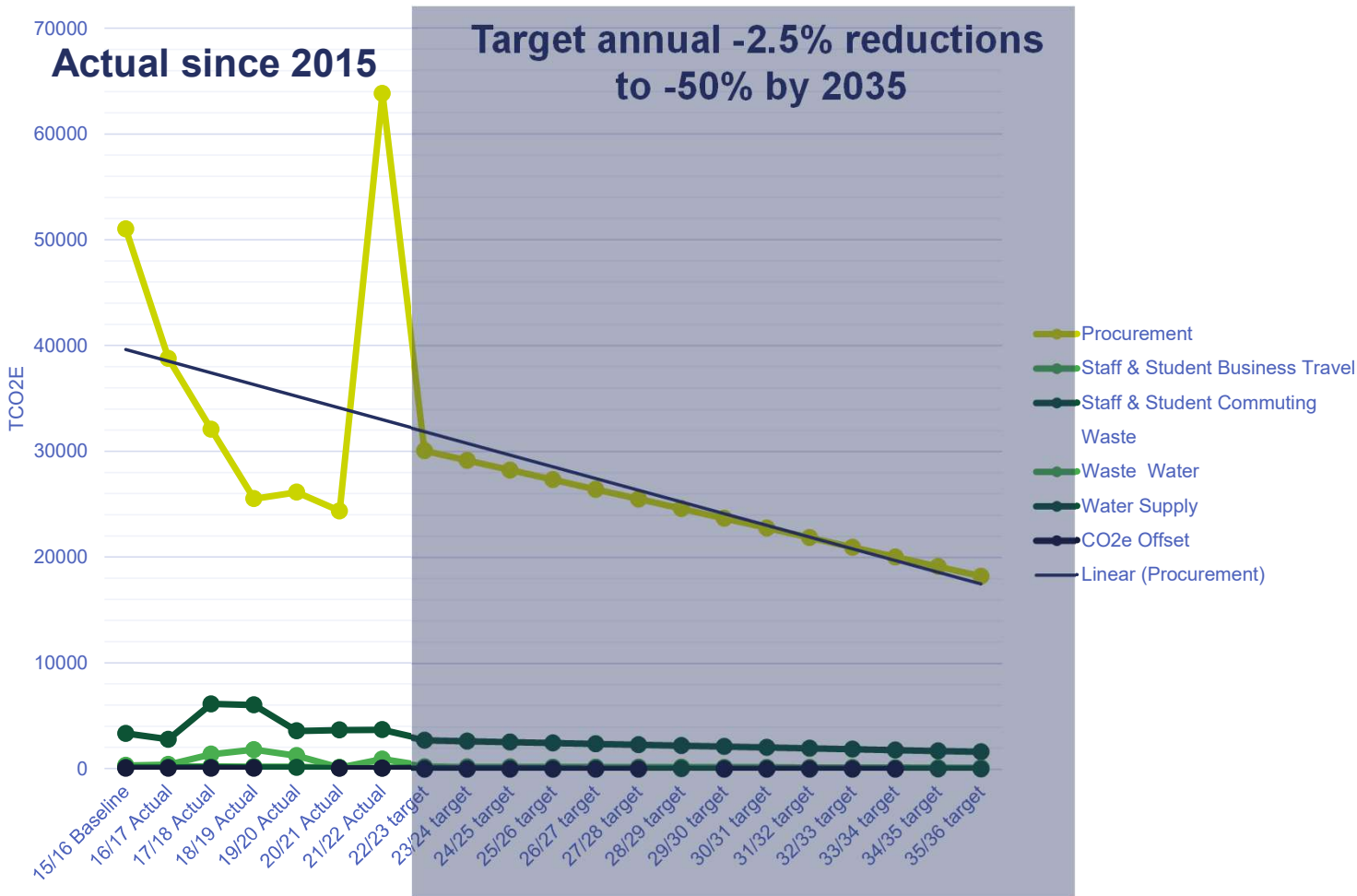Pie chart: Procurement 93%, Staff & Student Commuting 6%, Staff & Student Business Travel 1%

Scope 3 Performance and Achievements since 2015

Scope 3 - 50% reduction carbon transition graph with normalised reductions

Actual since 2015

Target annual -2.5% reductions to -50% by 2035

Legend:
- Procurement
- Staff & Student Business Travel
- Staff & Student Commuting
- Waste
- Waste Water
- Water Supply
- CO2e Offset
- Linear (Procurement)

N.b. spike in procurement emissions 21/22 due to HESCET calculation factor increases

Highlights	Initiatives 2023/24
• Sus. in contracts e.g. Travel & Construction	• Sustainability in all procurement practices e.g. tender selection and CO2 KPIs
• Scope 3 supply chain emissions accuracy improved	• Target high CO2 contracts - Lab supplies, IT
• Zero waste to landfill accreditation	• Increase in LEAF labs accredited
• WFH policy	• Active travel
• Piloted hydrogen powered student bus	• EV public charging hub Singleton, feasibility study Bay campus.
• £100k grant awarded for Net Zero Vision (Project in Digital strategy).	• Paperless policy
• Cycle Friendly accreditation	• Single use plastic reduction projects e.g. Coffee cup deposit return scheme.
	• Green Grants Toolkit

KEY PROGRAMMES OF WORK

Buy less & reuse more
Repair, reuse furniture, choose remanufactured, digital over paper and reuse over single use items like lab plastics and coffee cups

Choose & optimise sustainable products and services
Set minimum carbon related standards & apply to **key high impact** contracts, selection and performance requirements e.g:
1. Tenders/purchases - prioritise contractors/suppliers/products with carbon reduction measures and targets (e.g. zero building standards - embodied carbon)
2. Contracts – relate performance to delivery of emission reductions &/or standards

Reduce off contract spend to ensuring delivery of the above
Consider offsetting as a last resort

Faculty & PSU ownership and management of scope 3
1. Improve understanding, visibility & ownership of scope 3 targets
   - **SMART monitoring & reporting dashboards** (digital)
   - **Set annual CO_2 budgets**
2. Use Environmental Management System (EMS) **aspects registers** and **action plans** to drive improvements

QUESTIONS?