



Sustainability
Cynaliadwyedd



PATH TO ZERO – DECARBONISATION REPORT 2022 - 2023



CONTENTS



INTRODUCTION

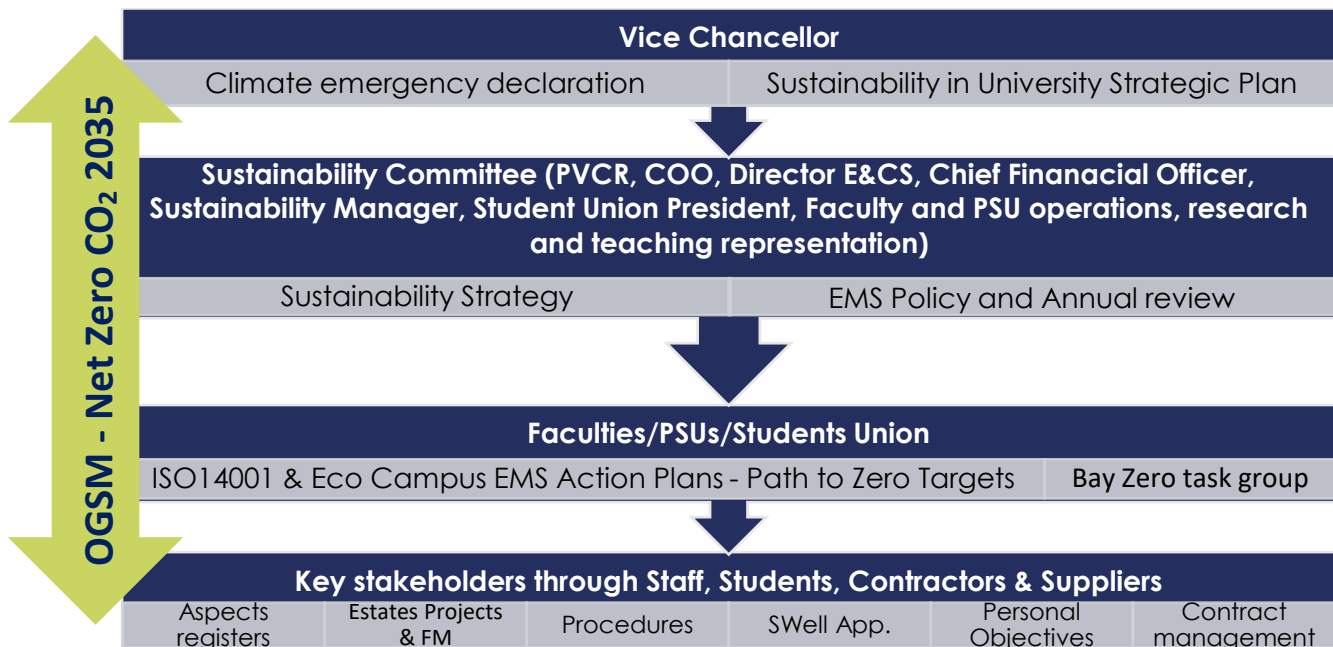
In October 2019, Swansea University declared a Climate Emergency and committed to being Zero Carbon by 2035.¹

Our [Sustainability and Climate Emergency Plan 2020 - 2025](#) clearly defines our climate emergency targets.

In June 2022 the university published a comprehensive science-based Decarbonisation Action Plan identifying interventions required on our path to zero by 2023. This report was produced in partnership with the Carbon Trust and Welsh Government Energy Service: [Decarb Action Plan Summary Report](#).

This Path to Zero annual report, provides an overview and update on our progress, outlining our emissions and performance against our decarbonisation targets and intervention plans.

GOVERNANCE



OGSM = OBJECTIVES, GOALS, STRATEGIES AND MEASURES

¹ Net Zero in scope 1 & 2 as per <https://www.sdgaccord.org/climateletter>

DRIVERS

NET ZERO CO₂

Key drivers for carbon management and change at Swansea University include:

International and National Regulation

- 2005 Kyoto Protocol, UK government set targets in CO₂ reduction, 34% by 2020 and 80% by 2050 (1990 baseline).
- 2016 UK and 195 countries deal to tackle climate change, the Paris Agreement commits international community to reduce GHG emissions to avoid the most severe impacts of climate change.
- 2019 IPCC (Intergovernmental Panel on Climate Change) issues report on impacts of a 1.5°C raise in temperatures highlighting need for urgent climate change mitigation.
- 2021 COP26 signing of the Glasgow Climate Pact and agreeing the Paris Rulebook – Movement towards measurable actions for lowering emissions, improve resilience and provide finance for rapid intervention for 1.5°C goal.
- 2022 CO27At COP27: Countries reaffirmed their commitment to limit global temperature rise to 1.5°C. Agreement to provide loss and damage funding for vulnerable countries. Accountability on commitments made by sectors, businesses and institutions. Pathway created to align finance flows towards low emissions and climate resilient development.

Relevant legislation

- Climate Change Act
- Environment (Wales) Act
- Energy Performance of Buildings Regulations
- The Climate Change (Carbon Budgets and Interim Emissions Targets) (Wales) Regulations

Reputation

- Climate Emergency Declaration and Zero Carbon Commitment, ISO14001, Green League, People and Planet, 2019 Campus protests and climate strikes.

Economic and Financial

- Revenue & Energy Resilience - Savings on bottom-line and risk from increasing and volatile energy costs
- Research and Innovation (Partners e.g. SPECIFIC)
- HEFCW – Requirements
- HESA – Estates Management Records (EMR)

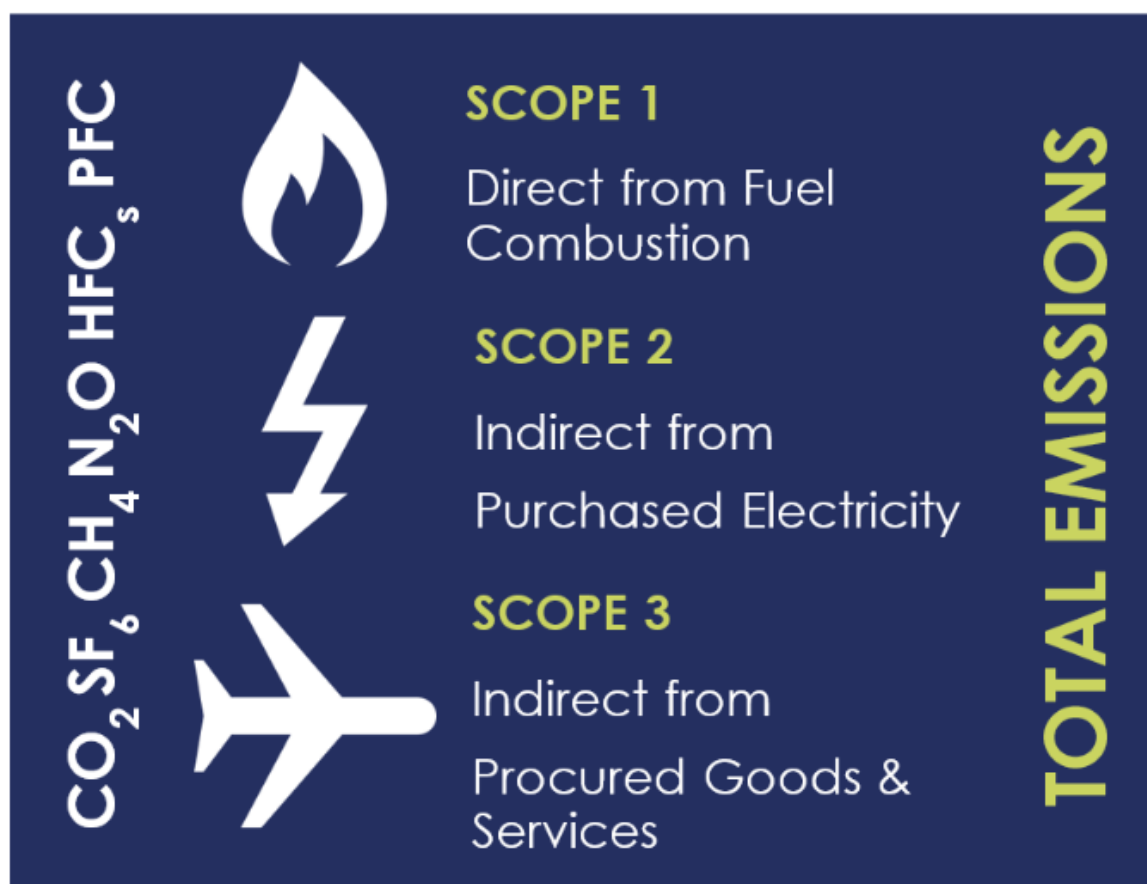
PERFORMANCE

The **boundaries of data** capture for the calculation of Scope 1 and 2 emissions encompass facilities where the University is sole utility procurer. The university follows GHG Protocol, HE/FE sector guidance and Welsh Government Net Zero Public Sector guidance for scoping and reporting all emissions including scope 3.

This includes: **Singleton Park Campus buildings, student residences, Singleton Lodge, Hendrefoilan Students residences village, Bay Campus buildings excluding residences, Sketty Sports Centre and Pavilion.**

In 2015 the University, previously a single campus based at Singleton Park, undertook a substantial, 65 acre expansion project opening the Bay Campus, becoming a dual campus University. The Bay campus on the East approach to Swansea City Centre, is a mixture of eight academic and research buildings which increased the total floor area by 51,574m² to current area of 255,212m² GIA and total student & staff population to 21,462 FTE in 2022.

Due to this substantial change in University facilities and population it was agreed by Higher Education Funding Council Wales (HEFCW) and Swansea University, that **2015 – 2016 be established as the relevant representative carbon management baseline year** ([HEFCW carbon management policy](#)).



TOTAL EMISSIONS TARGETS AND PERFORMANCE

Scope 1 and 2 target: Zero carbon for direct emissions (scope 1 and 2) by 2035, with at least a 70% reduction by 2030².

Scope 3 target: Achieve (on average) a 2.5% year on year reduction in scope 3 emissions, 50% by 2035 (35% by **2030**)².

Annual decarbonisation budget: £3m, Estates and Campus Services, Net Zero budget reviewed and set annually.

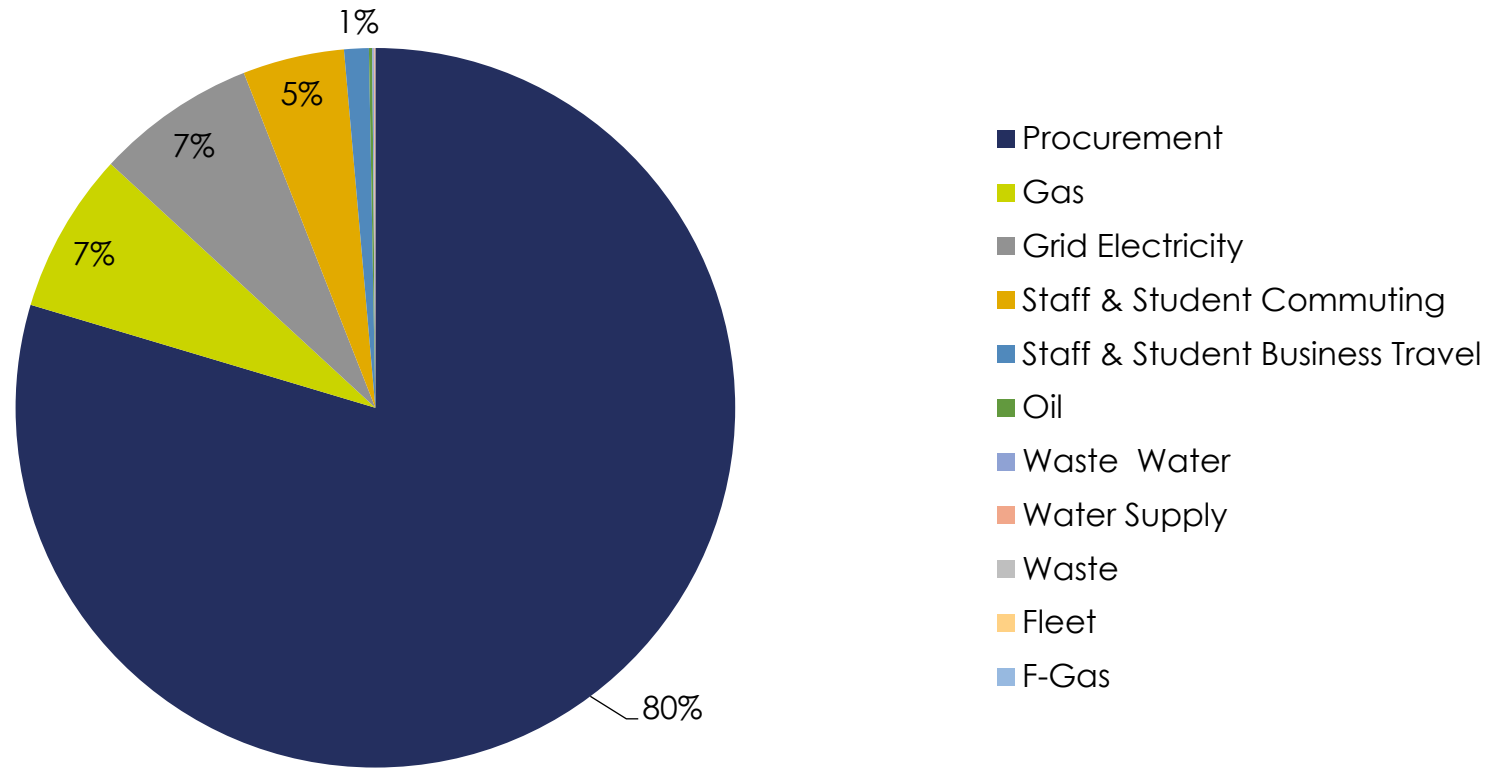
Summary of Path to Zero performance below:

Emissions (tonnes of CO ₂ e)	Scope 1 & 2: Total	Target Reductio	Path to zero Performance	Total Scope 3	Reduction target %	Actual Reduction		
15/16 Baseline	17,603		ON COURSE	54,956		OFF COURSE		
16/17 Actual	18,270	-5%		42,211	-2.5%			
17/18 Actual	16,152	-10%		39,830	-5.0%			
18/19 Actual	15,170	-15%		33,552	-7.5%		25%	
19/20 Actual	12,866	-20%		31,137	-10.0%			
20/21 Actual	13,247	-25%		28,163	-12.5%			
21/22 Actual	11,685	-30%			68,790		-15.0%	
21/22 Target	12,322			-66%	46,713			-75%
22/23 Target	11,442	-35%			45,339		-17.5%	
23/24 Target	10,562	-40%			43,965		-20.0%	
24/25 Target	9,681	-45%			42,591		-22.5%	
25/26 Target	8,801	-50%			41,217		-25.0%	
26/27 Target	7,921	-55%			39,843		-27.5%	
27/28 Target	7,041	-60%			38,469		-30.0%	
28/29 Target	6,161	-65%			37,096		-32.5%	
29/30 Target	5,281	-70%			35,722		-35.0%	
30/31 Target	4,401	-75%			34,348		-37.5%	
31/32 Target	3,521	-80%			32,974		-40.0%	
32/33 Target	2,640	-85%			31,600		-42.5%	
33/34 Target	1,760	-90%			30,226		-45.0%	
34/35 Target	880	-95%			28,852		-47.5%	
35/36 Target	0	-100%		27,478	-50.0%			
20/21 A vs T	-637			22,077	Scope 3			
Since previous yr	-1,562			40,627				
Since 2015:	-5,917			13,834				

N.B. Significant Scope 3 emission increase in 2021/22 as a result of switching to new Higher Education supply chain emissions tool (HESCET), for calculating supply chain emissions from university spend which also increase in 2021/22.

² Emissions are tracked against targets from [our HEFCW agreed 2015/16 baseline year](#).

2021/22 Scope all emissions % by source



N.B. Business travel emissions affected by tail end of covid pandemic restrictions

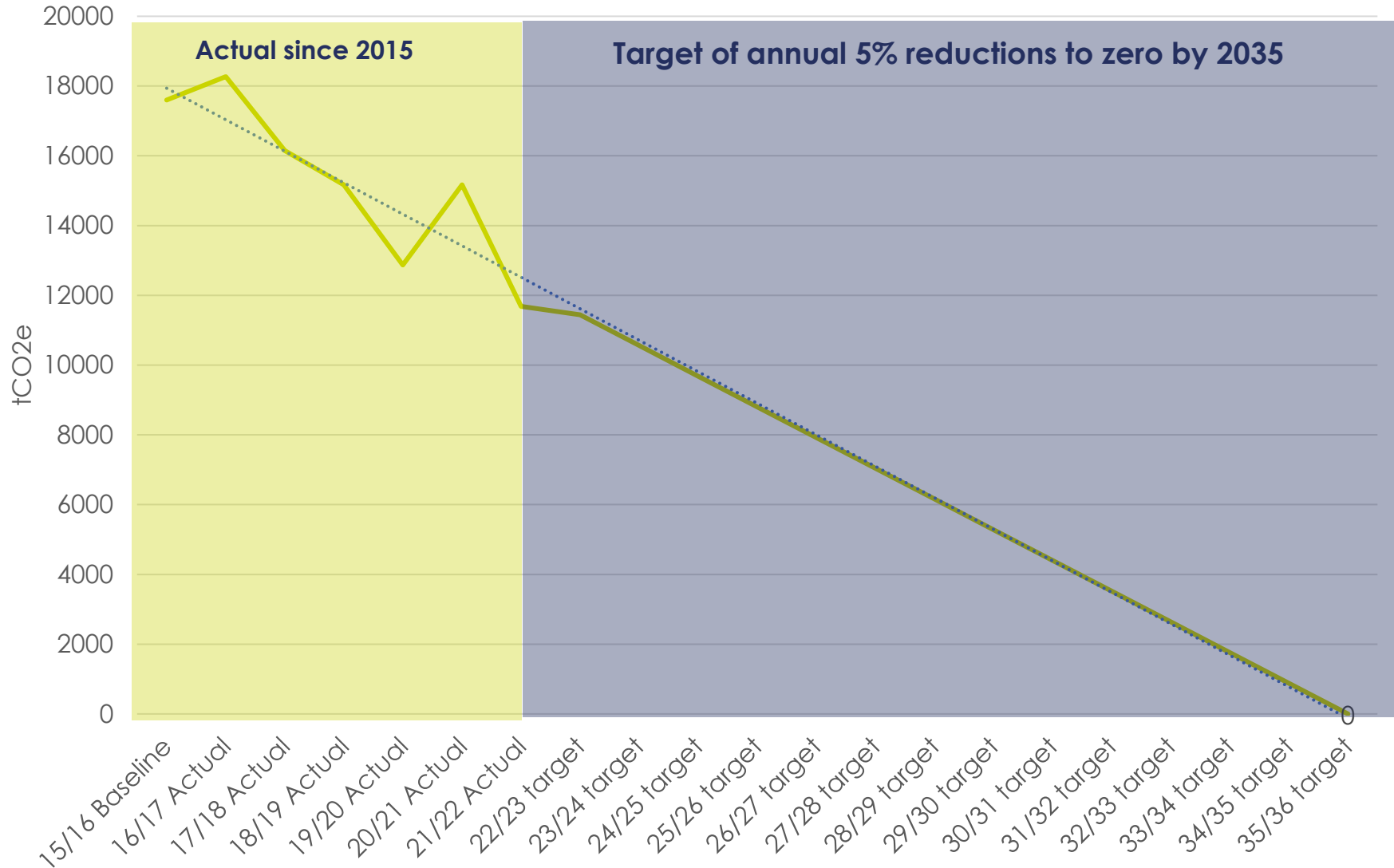
SCOPE 1 & 2

2021/22 emissions see us currently on course in our Path to Zero, with a 34% reduction in Scope 1 & 2 against a SMART target of 30%. This is due to decarbonisation interventions and reduction in use of gas heating and power systems.

Summary of 2021-2022 & Scope 1 & 2 Path to Zero performance below:

Emissions (tonnes of CO2e)	Scope 1: Gas	Scope 1: Fleet	Scope 1: Oil	Scope 2: Grid Electricity	CO2 Avoided: Renewables	Scope 1 & 2: Total	Target Reduction	Path to zero Performance		
15/16 Baseline	7,649	18	162	9,774	163	17,603		-34%	ON COURSE	
16/17 Actual	10,617	10	139	7,505	235	18,270	-5%			
17/18 Actual	7,654	9	153	8,335	230	16,152	-10%			
18/19 Actual	6,871	4	175	8,120	203	15,170	-15%			
19/20 Actual	5,944	2	151	6,770	194	12,866	-20%			
20/21 Actual	7,424	5	115	5,703	880	13,247	-25%			
21/22 Actual	5,796	6	117	5,766	877	11,685	-30%			
21/22 Target	5,354	12	113	6,842	877	12,322				-66%
22/23 Target	4,972	12	105	6,353	920	11,442	-35%			
23/24 Target	4,589	11	97	5,864		10,562	-40%			
24/25 Target	4,207	10	89	5,375		9,681	-45%			
25/26 Target	3,824	9	81	4,887		8,801	-50%			
26/27 Target	3,442	8	73	4,398		7,921	-55%			
27/28 Target	3,060	7	65	3,909		7,041	-60%			
28/29 Target	2,677	6	57	3,421		6,161	-65%			
29/30 Target	2,295	5	49	2,932		5,281	-70%			
30/31 Target	1,912	4	41	2,443		4,401	-75%			
31/32 Target	1,530	4	32	1,955		3,521	-80%			
32/33 Target	1,147	3	24	1,466		2,640	-85%			
33/34 Target	765	2	16	977		1,760	-90%			
34/35 Target	382	1	8	489		880	-95%			
35/36 Target	0	0	0	0		0	-100%			
20/21 A vs T	441	-6	4	-1,075	0	-637				
Since previous yr	-1,628	1	2	63	-4	-1,562				
Since 2015:	-1,853	-12	-45	-4,007	714	-5,917				

Swansea University Scope 1 & 2 emissions tCO2e



SCOPE 3 Summary of 2021-2022 & Scope 3 performance

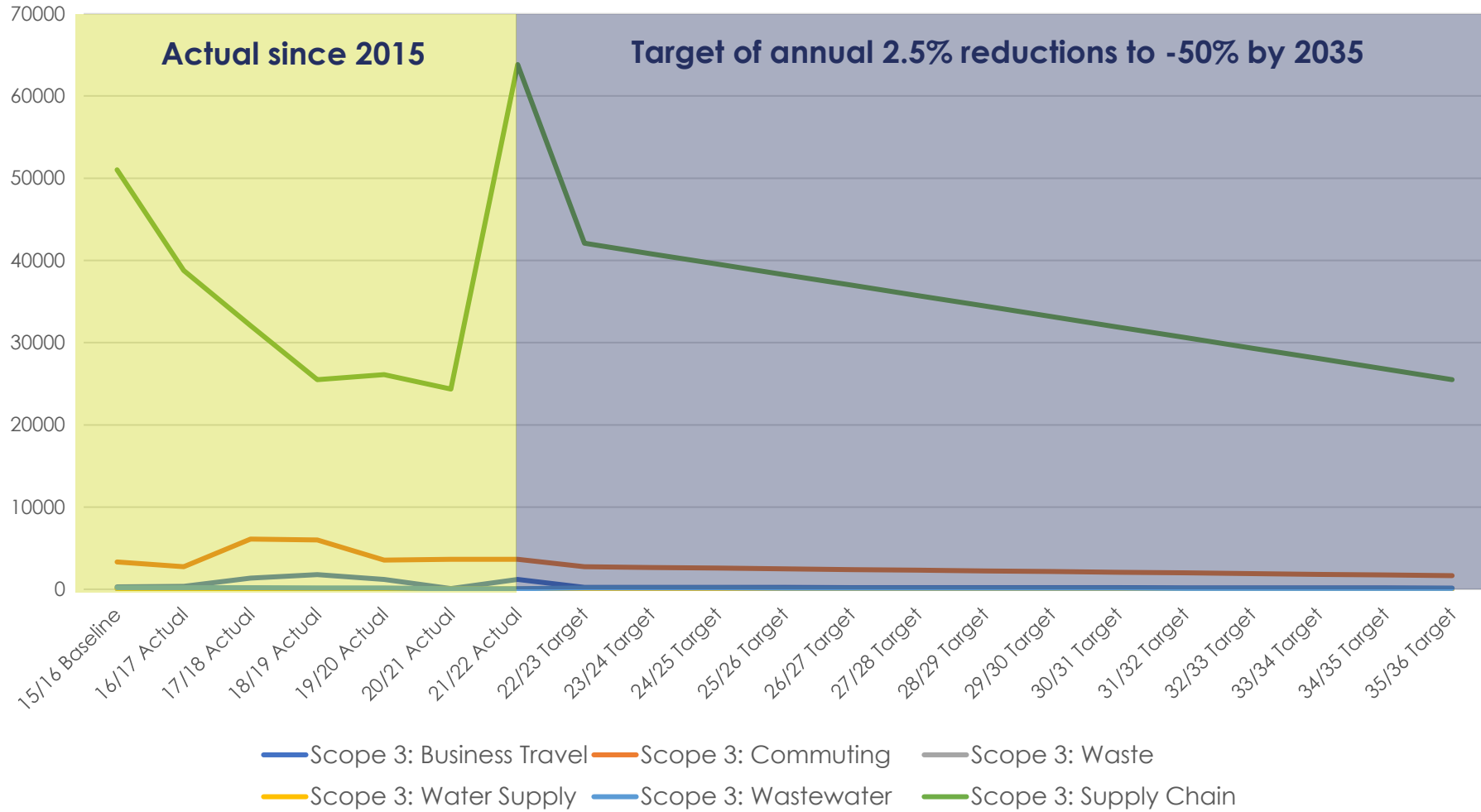
Emissions (tonnes of CO2e)	Scope 3: Waste	Scope 3: Water Supply	Scope 3: Wastewater	Scope 3: Supply Chain	Scope 3: Business Travel	Scope 3: Commuting	Scope 3	Reduction target %	Actual Reduction	Scope 3: Student non term time travel	Reduction target %	Scope 3: 3rd Party Student Accommodation	Total Scope 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%	25%	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%		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%		33,478	-3.0%	1,825	115,779	
21/22 Target	35	82	163	43,370	247	2,815	46,713	-15.0%	-75%	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%	OFF COURSE	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%			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							

Scope 3 emissions increased in 2021/22 against out SMART targets for 50% reduction by 2035 from 2015 baseline. Increase is a result of switching to [new Higher Education supply chain emissions tool \(HESCET\)](#)¹, for calculating **supply chain emissions** from university spend which also increased in 2021/22.

Since baselining in 2015 there has been a 25% increase in scope 3 emissions beyond the planned 15% reduction target for 2021 - 2022. **Business travel** emissions reduced from pre-pandemic levels. Staff and student **commuting** marginally increased due to headcount growth. **Waste, water** and **wastewater** emissions continue to be ahead of targeted reductions.

N. B: Student non termtime travel and **3rd party accommodation** added to Scope 3 emissions in 2022 with preliminary target of 7% reduction by 2023 and 10% reduction by 2035. Method for calculating this is under review and targets may be subject to change pending further analysis and plans in this area.

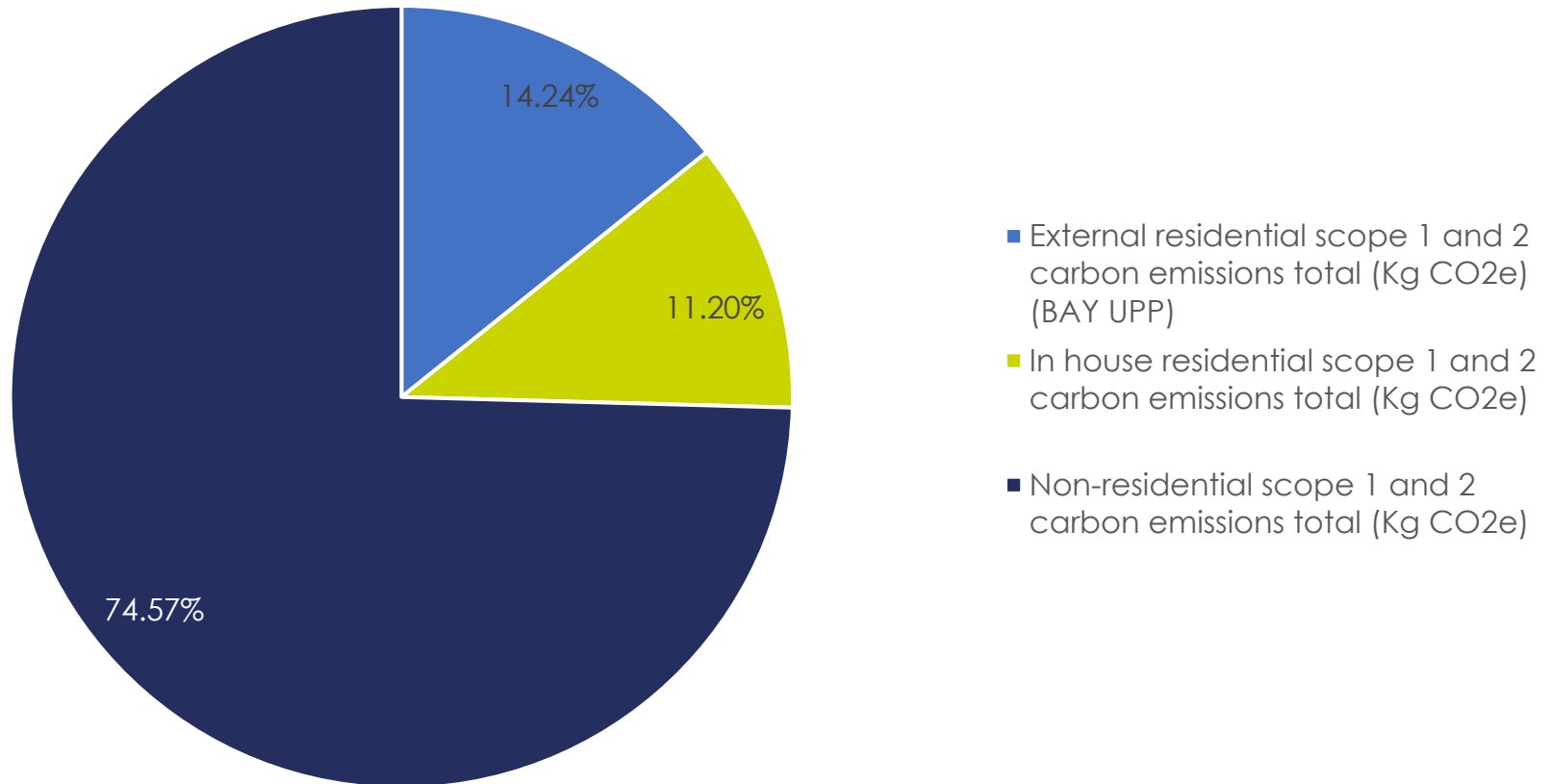
Scope 3 emissions by Source 2015 - 2022 Actual and 2022 - 2035 Targets



SCOPE 1 & 2 KPIs

KPI	2015/16 Baseline	16/17 Actual	17/18 Actual	18/19 Actual	19/20 Actual	20/21 Actual	21/22 Target	21/22 Actual	Annual difference A Vs T	25/26 Target	35/36 Target
							30%			50%	100%
Total scope 1 and 2 carbon emissions (Kg CO2e)	17,602,509	18,270,185	16,151,848	15,170,098	12,866,412	13,246,912	12,309,314	11,685,140	-5.1%	8,792,367	0
Non-residential scope 1 and 2 carbon emissions total (Kg CO2e)	14,422,778	15,691,156	13,921,694	13,070,335	11,106,847	11,469,219	10,095,944	10,154,488	0.6%	7,211,389	0
In house residential scope 1 and 2 carbon emissions total (Kg CO2e)	3,161,957	2,569,119	2,220,813	2,096,069	1,757,467	1,772,758	2,213,370	1,524,669	-31.1%	1,580,979	0
External residential scope 1 and 2 carbon emissions total (Kg CO2e) (BAY UPP)						1,938,879		1,938,879			
Gross Internal area Total HEI (m2)	250,355	247,122	251,679	266,799	264,267	256,014		255,212			
Total income (£)	296,292,000	278,153,000	308,265,000	352,333,000	317,505,000	360,753,000		360,753,000			
FTE Staff + Students	17,445	19,078	20,137	20,633	20,541	21,627		21,463			
FTE Students	14,925	16,324	17,048	17,274	17,158	18,339		18,118			
Residential bed spaces	2,244	2,000	2,347	1,998	1,993	2,439		1,906			
Total scope 1 and 2 carbon emissions (kgCo2e) /m2	70.31	73.93	70.45	56.86	48.69	51.74	49.22	45.79	-7.0%	35.16	0.00
Total non-Residential scope 1 and 2 carbon emissions (kgCo2e) /FTE student	966.35	961.20	816.64	756.64	647.32	625.41	676.44	560.45	-17.1%	483.17	0.00
Total scope 1 and 2 carbon emissions (kgCO2e) /£1m	0.059	0.066	0.052	0.043	0.041	0.037	0.04	0.032	-22.1%	0.030	0.000
Total scope 1 and 2 carbon emissions (kgCo2e) /FTE Staff + Students	1,009.01	957.64	802.10	735.22	626.36	612.52	706.31	544.44	-22.9%	504.50	0.00
Total residential scope 1 and 2 carbon emissions (kgCO2e) /bed spaces	1,409.07	1,284.56	946.23	1,049.08	881.82	726.84	986.35	799.93	-18.9%	704.54	0.00

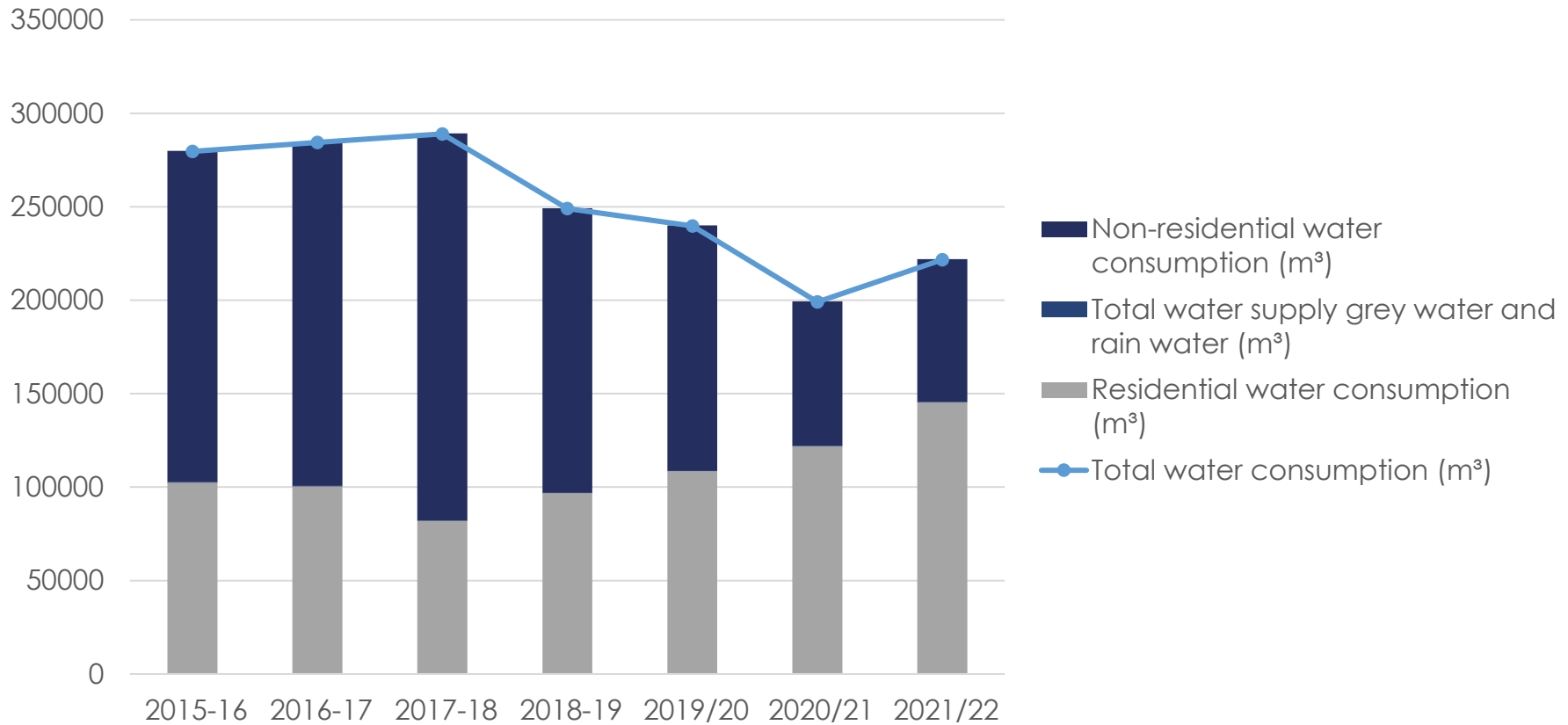
Percentage of total Scope 1 & 2 carbon emissions attributed to residential accommodation (in house and external)



WATER

University water consumption targets are aligned with the scope 3 emissions targets of a 50% reduction by 2035 from a 2015 baseline year. The university is currently ahead of target with -21% reduction against a target of -15% by 2021/22.

Water Consumption m3



PLAN

PLEASE SEE LINK BELOW:



DECARBONISATION ACTION PLAN – 2022/23 UPDATE

MEASURE	PERIOD	OWNER	SCOPE	TARGET REDUCTION	FUNDING/ COSTS	COST £
SYSTEMS - ENABLERS						
EMS & Eco Campus	Ongoing	Sustainability and SU teams	1, 2 & 3	All	Sustainability	£1,000
*Carbon Trust – Path to Zero action plan (CE 15. Transition Plan)	Complete 2021/22	Carbon and Energy Manager & Sustainability	1 & 2	Oil, Gas, F-Gas, Diesel, Electricity	Sustainability	£48,000
Net Zero Vision	2022/23	Sustainability & ISS	1, 2 & 3	All	HEFCW (Sustainability)	£150,000
E-Carbon Literacy Training Development	2022/23	Sustainability & Climate Change Network	1, 2 & 3	All	HEFCW (Sustainability)	£50,000
RENEWABLES						
Existing on campus renewables	Ongoing	E&CS	1, 2 & 3	Grid Electricity, gas and water	Various	
Solar PV (Elec) Project (1800 roof mounted panels)	Complete 2022/23	Carbon and Energy Manager, E&CS	2	Grid Electricity	SALIX	£1,750,000
Y Twyni - Solar PV (Elec), Battery and EV chargers (x5) Project	Complete 2022/24	FSE & E&CS	2	Grid Electricity	Research	£500,000
CISM - 3 x Horizontal wind turbines & solar PV	Complete 2022/25	FSE & E&CS	2	Grid Electricity	Research	£1,500,000
Sport Centre - Solar PV array upgrade	2023 - 2024	E&CS Energy and Carbon Manager	2	Grid Electricity	E&CS	£100,000
Explore CPPA opportunities	2023 – 2024	E&CS Energy and Carbon Manager	1 & 2	Grid Electricity & Gas	E&CS	
Consider opportunities to Increase On campus direct wire renewables (Bay and Singleton Campus)	2022 - 2024	E&CS Energy and Carbon Manager	1 & 2	Grid Electricity & Gas	E&CS	
SUBTOTAL						£4,099,000

PATH TO ZERO REPORT 2022 - 2023



MEASURE	PERIOD	OWNER	SCOPE	TARGET REDUCTION	FUNDING/ COSTS	COST £
EFFICIENCIES						
Pilot Net Zero Ready Building – Haldane refurbishment (Air Source Heat Pump & Efficient glazing and smart LED lighting)	2022 - 2023	E&CS Project Officer	1 & 2	Gas & Grid Electricity	E&CS	
Pilot Net Zero Ready Building – Fulton refurbishment (BRE or RICS)	2023 - 2025	E&CS Project Officer	1, 2 & 3	All	E&CS	
Pilot Heating system replacement/decarbonisation - Faraday lecture block	2024 - 2025	E&CS Project Officer	1	Gas	E&CS	
General Lighting Upgrades /Controls (T12 & T8 fluorescent to LED) Faraday, Glyndwr, Wallace.	Complete 2022/23	E&CS Energy and Carbon Manager	2	Grid Electricity	E&CS	£328,000
Heat decarbonisation study Singleton campus	2023 - 2024	E&CS Energy and Carbon Manager	1, 2 & 3	Gas	E&CS	£114,000
Wales National Pool decarbonisation study and action plan (heat, equipment efficiencies, pool covers, building fabric improvements)	2022 - 2023	E&CS Energy and Carbon Manager	1, 2 & 3	Grid Electricity, gas and water	WGES	Subject to report
LED Lighting Singleton & Bay (Elec) project	Complete 2022/23	E&CS Energy and Carbon Manager	2	Grid Electricity	Salix	£1,750,000
LED Lighting Singleton & Bay (Elec) project	Complete 2022/23	E&CS Energy and Carbon Manager	2	Grid Electricity	E&CS	£117,000
Residences BMS Controls improvement project	Complete 2022/23	E&CS BMS Manager	1	Grid Electricity, gas and water	Salix	£157,000
Capital heating system efficiencies and upgrades	Ongoing	E&CS Energy and Carbon Manager	1 & 2	Grid Electricity and gas	E&CS	
General BMS upgrades	Ongoing	E&CS BMS Manager	1 & 2	Grid Electricity, gas and water	E&CS	£50,000
General sub meter upgrades	Ongoing	E&CS BMS Manager	1 & 2	Grid Electricity, gas and water	E&CS	£20,000
Projects building refurbishments with energy efficiency (BRE Fit-Out/ RICS SKA)	2023 - 2025	E&CS Project Officer	1 & 2	Grid Electricity, gas and water	Capital	Fulton Pilot
General fleet improvements	Ongoing	E&CS Sustainable Travel Officer	1	Diesel & Petrol	Devolved	
EV Fleet charging hub Singleton campus	2023 - 2024	E&CS Project Officer	1	Diesel & Petrol	E&CS	
EV Public charging hub Singleton campus	2023 - 2024	E&CS Sustainable Travel Officer	1	Diesel & Petrol	E&CS	
General building rationalisation	Ongoing	Director E&CS	1 & 2	Grid Electricity, gas and water	Capital	
SUBTOTAL						£2,536,000

PATH TO ZERO REPORT 2022 - 2023



MEASURE	PERIOD	OWNER	SCOPE	TARGET REDUCTION	FUNDING/ COSTS	COST £
TRAVEL						
<u>Our Travel Strategy commitments</u>	2021 - 2025	Sustainable Travel Officer, Sustainability, E&CS	1 & 3	Diesel & Petrol Wellbeing	Sustainability	
Santander Bike Scheme	Annual	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability contribution	£25,000
Bike to Work & EV Car Salary Sacrifice Schemes	Ongoing	Sustainability & HR	3	Diesel & Petrol Wellbeing	NA	
SWell Travel Buddy app.	Annual	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability	£3,000
British Cycling Ride Leaders training and led rides	Annual	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	British cycling	£3,000
British Cycling in house Ride Leader Training for staff & On road cycle training and activities to support access to active travel for disabled students	Annual	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability	£2,000
Tusker Car scheme (including ULEVs)	Ongoing	Sustainability & HR	3	Diesel & Petrol Wellbeing	NA	
Student Union and Student Travel Training	Ongoing	Sustainability & SU	3	Diesel & Petrol Wellbeing	Sustainability	
Discounted staff and student annual and term time bus passes	Ongoing	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability	
Free bus travel for HSV students (645)	Ongoing	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability	£199,000
Bike Maintenance workshops	Ongoing	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	External partners	
Dr bike and bike roadshow	Ongoing	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	External partners	
Bike, Safety Switch on event (lights, locks, Hi-Viz.)	Annual	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Sustainability	£3,500
Discounted bike purchase	Ongoing	E&CS Sustainable Travel Officer	3	Diesel & Petrol Wellbeing	Local providers	
SUBTOTAL						£235,500

PATH TO ZERO REPORT 2022 - 2023



Swansea University
Prifysgol Abertawe

Sustainability
Cynaliadwyedd

MEASURE	PERIOD	OWNER	SCOPE	TARGET REDUCTION	FUNDING/ COSTS	COST £
WASTE						
<u>Our Working Environment Strategy - Waste and Recycling commitments</u>	2021 - 2025	Waste and Recycling Officer, Sustainability, E&CS	3	All	Sustainability	
WARP-IT	Ongoing		3	All	Sustainability	
Zero Waste to Landfill Carbon Trust Accreditation	Complete 2022/23					
WATER						
Sports village independent water supply and efficiency improvements	2024 - 2026	E&CS Energy and Carbon Manager	3	Water	TBC	
PROCUREMENT						
LEAF	Ongoing	Sustainability and Faculties (Environment Officers)	1, 2 & 3	All	Sustainability	
Tender and Contract requirements	Ongoing	Procurement and Sustainability Officers	1, 2 & 3	All	Various	
Net Positive Futures Supplier Engagement Tool	Ongoing	Procurement and Sustainability Officers	3	All	HEFCW - HEPCW	
ENGAGEMENT						
SOS SWITCH OFF – Residences engagement	Ongoing	E&CS Sustainability Officer	1, 2 & 3	Grid Electricity, gas and water	Sustainability	£5,850
SWell – Staff and Student engagement support	Ongoing		1, 2 & 3	All	HEFCW - Wellbeing	£30,000
OFFSETING						
<u>Offsetting trial - FSE Biosciences</u>	2023 - 2024	FSE Prof. & E&CS Sustainability Manager	All	All	Sustainability	
<u>Our Natural Environment strategy - Biodiversity Commitments</u>	Ongoing	E&CS Biodiversity Officer Sustainability			Sustainability	
SUBTOTAL						£35,850
GRANDTOTAL						£6,906,353

PATH TO ZERO REPORT 2022 - 2023



Glyndwr solar array, part of 1800 panel install



Y Twyni 5 x EV chargers



Haldane Building, air source heat pump



CISM Building 3x Crossflow wind turbines

SUSTAINABILITY STRATEGY 2021 – 2025

OUR CLIMATE EMERGENCY SUCCESSES AND COMMITMENTS

OUR KEY SUCCESSES (2016-2020)



STRATEGIC

We declared a Climate Emergency in 2019 and signed the **Global Universities and Colleges Climate Letter**

Responding to the Climate Emergency – in our operations, teaching, research and Civic Mission - is now a core commitment of the University's **Strategic Vision and Purpose**

Divestment of our endowments from all fossil fuel holdings and associated activities in 2019

CARBON MANAGEMENT

Negotiations (with regulators) to adopt an **emissions baseline of 2015/16** compared to most institutions' use of 2005 or 2010 – meaning our targets are more ambitious

A publicly available **Carbon Management Plan** for scope 1, 2 and 3 emissions has been published since 2016

Achieved a 100% score for Carbon Management in the 2019 Guardian-published **People and Planet University League**

Developed the **"Path to Zero"** concept and approach for stakeholder engagement around the Climate Emergency

Developed new **corporate procedures** as part of the EMS around key climate impacts including F-gases, waste, business travel and printing

Reduced total University carbon emissions by **9,276 tonnes of carbon dioxide equivalent (CO₂e)** since baselining (scope 1, 2 and 3), against a backdrop of a growing university (FTE staff and student headcount and teaching space)

Reduced building, utility and fleet, scope 1 and 2 carbon emissions by **2,432 tonnes of CO₂e** since baselining, against a backdrop of a growing teaching space

INFRASTRUCTURE

16% drop in CO₂e from electricity consumption since 2015/16 on target for zero carbon by 2035

All three new buildings in 18/19 achieved BREEAM

Excellent – **The College, Computational Foundry and Engineering North**

CHP electricity power output increased from 1.3MWh to 1.7MWh and heat output increased from 0.5MW to 1.5MW

£1M investment in small and medium scale energy efficiency projects, including LED lighting, heating controls and utility metering

All individual buildings sub-metered for recording utility use and **consumption dashboards** developed within the Building Management System

Building Energy Performance Rating (DEC Score) improved from **85 in 2016** to **78 in 2020**

Solar PV installed capacity increased from 50KW to 490KW with **2,670,052 kWh of renewable energy generated since 2015/16**, avoiding 376 tonnes CO₂e and saving £330,000 of imported grid electricity

ENGAGEMENT

First university in Wales to actively engage students in **The Student Energy Project (TSEP)** at our Singleton halls, which challenged and educated student residents to reduce energy, carbon emissions and costs. TSEP recorded an annual 4% reduction in electricity consumption, equating to **60,000 kWh and £6k of savings**

Switch off campaign run every year with up to 7.5% energy reduction. Since 2015/16 we have engaged over 200 staff and student volunteers in an energy waste hunt, returning to buildings after dark to check and challenge staff and student energy conservation efforts

Visualised management of energy through **Energy Dashboards** to provide staff with information on utility use within buildings

Through the bespoke, award-winning **SWell engagement app**, we engaged over 50% of staff and have nudged behaviours towards lowering our individual and collective carbon footprints, with over 400,000 positive actions completed including: using energy hungry appliances efficiently, reporting equipment faults and leaks, choosing sustainable and active travel methods, avoiding waste and purchasing less

Through the annual **Energy Week** campaign, we have collaborated with the Students' Union to raise awareness on practical ways to save money and reduce carbon footprints, facilitating student-led campus workshops, pop-up games and stalls

Through the **HEAR recognised Sustainability Award**, Week of Work, Go Wales and SPIN placements, we have provided employability skills for over 900 students. This has supported extracurricular engagements in reducing climate impacts through a range of projects including tree planting, water conservation, recycling, avoiding single use plastics, energy conservation and renewable energy generation

OUR KEY COMMITMENTS (2021-2025)



CARBON MANAGEMENT

- CE 1. **Scope 1 and 2:** Be **zero carbon** for direct emissions (scope 1 and 2) by 2035, with at least a 70% reduction by 2030 (from 2015/16)
- CE 2. Implement the **Path to Zero** local engagement programme of work to achieve (on average) a 5% year on year reduction in scope 1 and 2 emissions including allocating and setting out clearly how Faculties, PSUs and stakeholders can contribute to emissions reduction
- CE 3. **Scope 3:** Achieve (on average) a 2.5% year on year reduction in scope 3 emissions, 50% by 2035 (35% by 2030)
- CE 4. Develop a programme of work for defining and achieving **scope 3 sub-targets and monitoring programmes** including: business travel, staff and student commuting, waste, water, food and drink, and procurement
- CE 5. Shift **cultural working norms** to increase sharing of offices, hot desking, home and remote working, where practicable and in line with business needs, and adoption of digital platforms to allow optimum use of available space

INFRASTRUCTURE

- CE 6. 1 MW of **renewable wind** electricity capacity installed at Bay Campus subject to planning, funding and other considerations
- CE 7. A further 300KW of **renewable Solar PV** electricity capacity installed at Bay Campus
- CE 8. A further 1MW of **renewable Solar PV** electricity capacity installed at Singleton Campus
- CE 9. 2MW of low carbon **Power & Heat** capacity installed at Singleton Campus

CE 10. Work with **Welsh Government Energy Service (WGES)** in developing our infrastructure planning to reduce carbon emissions

CE 11. Adopt a minimum requirement for achievement of **BREEAM Refurbishment and Fit Out (RFO)** standard or **RICS SKA rating** associated with university projects

ADAPTATION

CE 12. A scheme will be developed to enable offsetting of our **unavoidable scope 3** emissions, considering potential verification standards (including but not limited to Gold Standard (GS), ISO 14064 and GHGP)

CROSS-CUTTING ACTIVITIES – COMMITMENTS

GOVERNANCE, MANAGEMENT, DECISION-MAKING



- CE 13. We will develop a simple but comprehensive corporate **Sustainability and Climate Emergency Impact Assessment** by which the University is able to consider whole life costs and the “**climate proofing**” of strategies and policies, investments, grant applications, new projects and initiatives
- CE 14. We will facilitate a **Climate Emergency Working Group** (staff and students) to discuss and plan the introduction and delivery of low carbon operations on our campuses
- CE 15. Develop a **budget profile and programme** for scope 1 and 2 zero carbon from 2035 by the end of 2021 (our detailed transition plan)
- CE 16. **Explore funding** with university partners to enable a sequence of investments that decarbonise the energy we use (both small and large scale interventions) and enhance how we run the campus as a smart, integrated, local energy system to enable us to meet our targets
- CE 17. Develop Faculty and PSU based scope 1, 2 and 3 targets as part of their **Sustainability Action Plans (SAPs)** that are reviewed quarterly and reported through an annual management review
- CE 18. Continually improve carbon data reporting and agree **SMART targets** for reducing specific

scope 3 carbon emissions with relevant supply chain contractors and service providers

- CE 19. We will become **explicit and transparent** about areas of our operations and work that have a high carbon impact and ensure these areas make a net contribution towards meeting carbon targets and the UN SDGs

LEARNING, CAPACITY, SKILLS



- CE 20. Develop a **carbon literacy toolkit**, to enable staff and students to reduce impact from their activities, research and the spaces they use on campus
- CE 21. Support and **develop opportunities to educate, upskill and train** members of the staff and student population and the wider community in relation to carbon management and reducing our individual and collective carbon footprint
- CE 22. Explore opportunities available to develop climate emergency **training packages** as an online resource
- CE 23. Integrate climate emergency and carbon management commitments and aspirations into the **Student Sustainability Award**
- CE 24. Develop a series of learning modules as part of a university-wide **climate emergency outreach programme**, aimed at local feeder primary and secondary schools, colleges and community groups, supported by Discovery and other partners

COMMUNICATION, ENGAGEMENT, INVOLVEMENT



- CE 25. Draw on **teaching and research** to help find solutions and inspire behavioural change for our university, wider community and beyond
- CE 26. Continue to be an active steering group member of **Low Carbon Swansea Bay**, working in partnership to help deliver a climate emergency response for the Swansea Bay area

- CE 27. Deliver a student and staff engagement programme for carbon reduction and wellbeing that will achieve a **10% reduction in carbon emissions** and be aligned with the University Wellbeing Strategy
- CE 28. Support **Students' Union** societies' extracurricular efforts in this area (e.g. Environment and Ethics, Conservation and Ecology, Tree and People and Planet)
- CE 29. Integrate requirements for climate emergency and carbon management responsibilities and reporting requirements into **job descriptions** for relevant roles across the University
- CE 30. Pursue the inclusion of a **sustainability and climate emergency induction** as a key requirement for all new and returning students

OUR CONTRIBUTION TO OTHER GOALS

WELLBEING AND HUMAN HEALTH



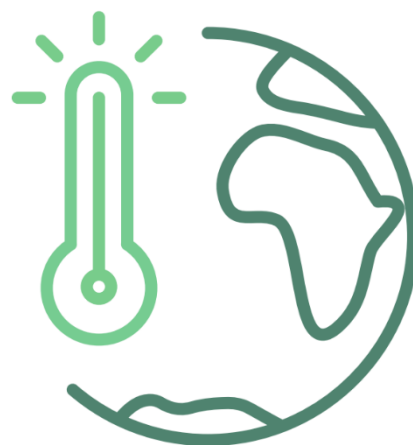
- CE 31. Maximise the co-benefits of reducing carbon emissions, climate change adaptation and improving human wellbeing in our work to achieve the Public Health Wales **Corporate Health Standard Gold and Platinum** award and to support the University Wellbeing Strategy

WELLBEING OF FUTURE GENERATIONS



- NI 4. Levels of nitrogen dioxide (NO₂) pollution in the air
- NI 11. Percentage of businesses which are innovation-active
- NI 12. Capacity (in MW) of renewable energy equipment installed
- NI 13. Concentration of carbon and organic matter in soil
- NI 14. The Ecological Footprint of Wales

- NI 15. Amount of waste generated that is not recycled, per person
- NI 29. Mean mental wellbeing score for people
- NI 32. Number of properties (homes and businesses) at medium or high risk of flooding from rivers and the sea
- NI 41. Emissions of greenhouse gases within Wales
- NI 42. Emissions of greenhouse gases attributed to the consumption of global goods and services in Wales
- NI 46. The Social Return On Investment (SROI) of Welsh partnerships within Wales and outside of the UK that are working towards the United Nations Sustainable Development Goals



UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



<p>3 GOOD HEALTH AND WELL-BEING</p> 	<p>7 AFFORDABLE AND CLEAN ENERGY</p> 	<p>8 DECENT WORK AND ECONOMIC GROWTH</p> 
<p>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</p> 	<p>11 SUSTAINABLE CITIES AND COMMUNITIES</p> 	<p>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</p> 
<p>13 CLIMATE ACTION</p> 	<p>17 PARTNERSHIPS FOR THE GOALS</p> 	

**FULL ANNUAL CARBON EMISSIONS DATA REPORTED
ON HESA EMR: [HTTPS://WWW.HESA.AC.UK/DATA-
AND-ANALYSIS/ESTATES](https://www.hesa.ac.uk/data-and-analysis/estates)**

GET INVOLVED:

**[HTTPS://WWW.SWANSEA.AC.UK/SUSTAINABILITY/GET-
-INVOLVED/](https://www.swansea.ac.uk/sustainability/get-involved/)**

CONTACT THE SUSTAINABILITY TEAM:

**[HTTPS://WWW.SWANSEA.AC.UK/SUSTAINABILITY/CO
NTACT-US/](https://www.swansea.ac.uk/sustainability/contact-us/)**

SWANSEA UNIVERSITY SUSTAINABILITY STRATEGY:

**[HTTPS://ONLINE.FLIPPINGBOOK.COM/VIEW/8981576
23/](https://online.flippingbook.com/view/898157623/)**

FOR FURTHER INFORMATION ON THIS REPORT:

**TEIFION MADDOCKS, SUSTAINABILITY MANAGER
T.H.MADDOCKS@SWANSEA.AC.UK**