



2024 - 2025

GHG EMISSIONS INVENTORY REPORT

CONDUCTED BY AXOSOMATIC FOR
AJMAN UNIVERSITY

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PART 1: INTRODUCTION

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About The Report

- This Greenhouse Gas (GHG) Inventory Report is the result of the assessment phase of Axosomatic's Net-Zero Carbon Intelligence solutions framework at Ajman University (AU). It presents AU's annual Scope 1, 2, and GHG emissions for the period from September 2024 to August 2025 (2024–2025). For reference, the periods 2021–2022 and 2024–2025 are referred to as the baseline and performance years, respectively.
- The report's objectives are to:
 - Establish a precise and rigorous approach to carbon accounting and reporting in alignment with the GHG Protocol Standards.
 - Include all AU-related GHG emissions, including upstream emissions and those from employee commuting.
 - Compare GHG emissions of the performance year against the baseline year.
 - Provide AU with expert recommendations for reducing GHG emissions.
 - Validate AU's performance in managing GHG emissions.
 - Enhance AU's ranking.
- The GHG Protocol, widely recognized for its rigor, is adopted across private and public sectors for emissions accounting. The calculation of GHG emissions in this report is based on methodologies from the GHG Protocol, BEIS, BSI, CEDA, CDP, EPA, GRI, GWP, IPCC, ISO, SBT, SBTi, WBCSD, WRI, and local energy data

Executive Summary

- This report describes the GHG emissions related the activities of Ajman University (AU) during the performance year 2024 – 2025.
- Comparison is made with the baseline year (2021-2022) and the subsequent years.
- AU provided all data related to Scope 1, Scope 2.
- AU provided all data for Scope 3, except the following:
 - Partial Food Waste.
 - Employee and student commuting data was collected through a survey, but the responses were 235, which was sufficient to apply statistical extrapolation for the entire AU population.
- Ajman University achieved a milestone in its Scope 1 emissions during 2024 – 2025, with respect to the baseline.
- A reduction of 258.71 tons CO₂e is achieved, which, if continued further, would be equivalent to 260+ carbon credit certificates. This reduction is also below the SBTi expected target by 6.06%.
- Scope 1 and Scope 2 emissions in 2024 – 2025 are less than the baseline emissions by 0.24% with a reduction of 33.69 tons CO₂e.
- AU managed to reduce its Scope 1 emissions below the SBTi expected target reduction by 6.06%.
- Scope 2 emission is higher than the SBTi expected target reduction by 20.81%.

Executive Summary

• Smart Water Matching

- Ajman University strategically aligns water quality with end-use—potable for labs, desalinated for toilets, recycled for irrigation—eliminating waste and embodying circular economy principles in a water-scarce region.
- Enhanced Water Security: The diversified three-source portfolio, including 18,800 m³/year of on-site RO production, ensures operational resilience and independence from municipal supply disruptions, directly supporting the UAE Water Security Strategy 2036.
- Leadership in Sustainable Innovation: This hybrid system provides a scalable, QS Sustainability-based model for intelligent resource management, demonstrating how higher education institutions can drive progress toward UAE Net Zero 2050 through measurable, best-practice infrastructure.

Institutional Description

- Established in 1988 as the first private university in the GCC, Ajman University (AU) was also the first university in the UAE to admit expatriate students. AU continues to be a pioneer for inclusion, innovation, and social impact. In 2020, Ajman University became one of the first six higher education institutions in the world to receive global accreditation from the Quality Assurance Agency (QAA), UK's independent body and a global leader in quality assurance for higher education.
- Ajman University is proactive in maintaining a green campus and raising sustainability awareness among its students, faculty, and staff, details of which is available at this link: [Energy Conservation | CAMPUS \(ajman.ac.ae\)](https://www.ajman.ac.ae/campus/energy-conservation).
- To further support its mission, AU established a Sustainable Investment Policy to guide its investment and in line with United Nations Sustainable Development Goals (SDGs 11,12,13) and the Global 2050 CO₂ Net Zero. Details of the AU Sustainable Investment Policy is available at this link: [Sustainable Investment Policy | CAMPUS \(ajman.ac.ae\)](https://www.ajman.ac.ae/campus/sustainable-investment-policy). The Green House Inventory Report is a further to the AU mission to maintain an Organizational Sustainable Intelligence.



Institutional Boundary

Table 1. Institutional Boundary

Company name	Ajman University
Description of the company	Higher Education Institution
Chosen consolidation approach (equity share, operational control or financial control)	Operational Control
Description of the businesses and operations included in the company's organizational boundary	Providing undergraduate and graduate programs in Art, Humanities, Engineering, and Medical Sciences in one campus. Provides in-campus cafes and restaurants, transportation, and housing for students.
The reporting period covered	Sep 2024 – Aug 2025
A list of scope 3 activities included in the report	Upstream
A list of scope 1, scope 2 and scope 3 activities excluded from the report with justification for their exclusion	All scope 1 and scope 2 are included. Upstream Scope 3 activities are included, excluding Upstream leased assets. All Downstream are excluded. Reason for exclusion: activities are not applicable to Ajman University.
The year chosen as Baseline year and rationale for choosing the Baseline year	2021 - 2022
Carbon reduction plan and target by at least 2050.	Ajman University is in the process of implementing a solution framework to optimize its operations and reduce GHG emissions by 50%, by 2030.



Institutional Parameters

Table 2. Organizational Metrics

Item	Descriptions	2024 - 2025
1	Number of campuses owned	1
2	Number of campuses rented	0
3	Number of buildings owned	13
5	Total FT Faculty	258
6	Total PT Faculty	83
7	Total FT Staff	363
8	Total PT Staff	80
	Total Employees (TE)	784
	Employee FTE¹	675
9	Total FT Students	5,262
10	Total PT Students	2,521
	Total Students (TS)	7,783
	Student FTE¹	6,102
11	Total Students in dormitories	1389
12	Total campus area (m2)	215,000
13	Total area occupied by buildings	125,680
14	Total green area (m2)	8,600
15	Number of trees	4,237
16	Total grass area (m2)	6,500

1. FTE (Full-Time-Equivalent) is based on the CHEDS adopted formula.

Data Assumption & Estimation

- The following table provides information about the data submitted by AU for the 2024 – 2025 performance year, and methods used by Axosomatic to estimate the missing data:

Table 3. Data Assumption & Estimation

Scope 1	Provided Data	Comments/Recommendations
Stationary Combustion	AU does not consume diesel and/oil for generation of electricity. AU provided consumption data of LPG, and Refrigerant R22 and 410A,	The provided LPG data is the consumed quantity and not the leakage. Axosomatic assumed, with the agreement of AU engineer in charge, that the leakage is 10% of the provided data. The same leakage was used for the baseline year. AU agreed to measure the top-up as of March 2024.
Mobile Combustion	AU provided data on the models and manufacturing years of their fleet of cars, buses, and other vehicles, and on the petrol and diesel consumption for each vehicle.	The provided data was very helpful to determine the GHG emissions with applying approximation.
Scope 2	Provided Data	Comments/Recommendations
Purchased Electricity	There are 13 buildings at the AU campus. AU provided the electricity and water consumptions for all buildings.	The provided data was used to calculate scope emissions.



Data Assumption & Estimation

- The following table describes the Scope 3 data assumption and estimation.

Table 4. Data Assumption & Estimation		
Scope 3	Provided Data	Comments/Recommendations
Purchased goods and services	AU does not operate restaurants on its campus, but there are cafeterias operated by external business. Data about Food & Beverages, Printing Papers, Toilet Papers, Tissue Papers, Water, online advertising, and Cloud Services were provided.	We suggest that AU improves its procurement procedures, the product and process Life Cycle Assessment to improve data acquisition and GHG emissions calculation accuracy. We also recommend that AU deals with suppliers that are GHG compliant.
Capital goods	IT Equipment, Office Furniture, Medical Equipment, and books were provided.	Sufficient data was provided to estimate the GHG emissions related to the IT equipment and furniture. Axosomatic used approximate data for the medical equipment at AU. Equipment depreciation was applied.
Fuel- and energy-related activities	Transmission and Distribution (T&D) losses of purchased electricity, and WTT	T&D losses of purchased electricity was based on the consumption of electricity provided by AU and the current UAE emissions factor.



Data Assumption & Estimation

- The following table describes the Scope 3 data assumption and estimation.

Table 5. Data Assumption & Estimation

Scope 3	Provided Data	Comments/Recommendations
Upstream T&D	T&D of Purchased Good and Capital Good	Data for T&D of purchased goods was provided for the in-campus cafeterias only. AU was unable to provide similar data for all the goods purchased, such as LPG, papers, etc. It should be noted that this data is hard to get since most suppliers in the UAE are not GHG compliant. AU is in the process to restructure its procurement processes in line with the GHG standard.
Waste generated in operations	Wastewater, General Waste, Medical Waste, Food Waste, Paper Waste.	AU provided complete data for all types of waste.
Business travel	Travel and accommodation of employees/contractors.	Complete business travel data, by land and air, was provided. Approximate business travel data was used for the baseline year,



Methodology

- The GHG accounting and reporting procedure adheres to the foundations outlined in 'The Greenhouse Gas Protocol.
- The accounting process was meticulously executed upon key principles encapsulated within the 'GHG Protocol, as outlined below:
 - **Relevance:** The inventory boundary accurately represents the organization's GHG emissions and meets the informational needs of its users, enabling informed decision-making.
 - **Completeness:** All emission sources within the inventory boundary are accounted for. Any excluded sources are explicitly identified and justified.
 - **Consistency:** GHG data is comparable across time periods, and any changes to methodology or data are systematically documented to maintain a clear historical record.
 - **Transparency:** Data is handled through a clear, systematic approach that addresses all pertinent issues with sufficient clarity.
 - **Accuracy:** Uncertainties are minimized, and systematic over- or understatement of emissions is actively prevented, ensuring confidence in reported figures.
- **Emission Factors**
 - Axosomatic used a database of 20k global emissions factors, and the UAE location-based emissions factor was used for scope 1 and scope 2, and some of scope 3.
- *It should be noted that, due to rounding, the figures may not add up exactly to the total tCO₂e for the same emission across different tables.*



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PART 2: EMISSIONS SUMMARY

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GHG Emissions Summary

- Total emissions rose 68.57% from baseline (2021–2022: 21,478.67 tCO₂e) to 2024–2025 (36,206.95 tCO₂e), driven primarily by Scope 3 growth.
- Scope 1 (direct) emissions decreased 20.86%, showing effective control over direct sources like fuel combustion or fleet operations.
- Scope 2 (indirect, energy-related) remained relatively stable, with only a 1.79% increase, suggesting consistent energy consumption patterns or offsetting efficiency gains.
- Scope 3 (value chain/other indirect) surged 124.78%, due to increase of purchase of IT and Medical equipment.
- This trend demonstrates strong momentum in direct emissions reduction, proving that operational controls are working effectively.
- While Scope 3 presents a significant growth area, it also represents the biggest opportunity for transformative impact, tackling these value-chain emissions will be the key to unlocking full alignment with the UAE Net Zero 2050 Strategic Initiative and accelerating progress toward UN SDGs 7 and 13.

Table 6. Year-on-Year GHG Emissions Comparison

Description	2021-2022	2022-2023	2023-2024	2024-2025	% Difference Baseline Year
Scope 1: Direct GHG Emission	1,240.36	966.60	1,090.20	981.65	-20.86%
Scope 2: Indirect GHG Emission	12,576.45	12,586.40	12,469.80	12,801.41	1.79%
Scope 3: Indirect GHG Emission	9,976.14	10,840.84	14,967.16	23,317.76	133.74%
Total GHG Emissions	23,792.95	24,393.84	28,527.16	37,100.82	55.93%



Scope 1 + Scope 2 GHG Emissions 2024 - 2025

- Baseline (2021–2022): 13,816.75 tCO₂e.
- 2022–2023: Slight reduction of 263.76 tCO₂e (–1.91%).
- 2023–2024: Emissions increased slightly by 7.02 tCO₂e, resulting in a modest cumulative reduction of 1.86%.
- 2024–2025: Emissions rose significantly by 223.0 tCO₂e, leaving only a 0.24% reduction compared to baseline.

Overall trend: Initial progress stalled after 2023, with emissions nearly returning to baseline levels by 2025

Year	Scope 1+ Scope 2	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2021 - 2022 (Baseline)	13,816.75	0	0	0
2022 - 2023	13,552.99	-263.76	-1.91%	-263.8
2023 - 2024	13,560.01	-256.74	-1.86%	7.02
2024 - 2025	13,783.06	-33.69	-0.24%	223.0

Table 7. Summary of Scope 1 and Scope 2.



Scope 1 + Scope 2 GHG Emissions 2024 - 2025

• Scope 1 Emissions (Direct Emissions)

- Baseline: 1,240.36 tCO₂e.
- 2022–2023: Sharp drop of 273.72 tCO₂e (–22.07%).
- 2023–2024: Partial rebound (+123.59 tCO₂e), reducing cumulative savings to 12.10%.
- 2024–2025: Further decline of 108.58 tCO₂e, bringing total reduction to 20.86% (258.71 tCO₂e) vs. baseline.

Overall trend: Strong, sustained reductions in direct emissions, indicating effective on-site mitigation measures.

• Scope 2 Emissions (Indirect - Purchased Energy)

- Baseline: 12,576.39 tCO₂e.
- 2022–2023: Slight increase (+9.96 tCO₂e; +0.08%).
- 2023–2024: Modest reduction (–116.57 tCO₂e; –0.85% cumulative).
- 2024–2025: Large increase of 331.63 tCO₂e, resulting in a +1.79% rise above baseline.

Overall trend: Volatile performance, with a slight increase in 2024 – 2025, likely due to increased grid electricity use or changes in energy mix.

Year	Scope 1	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2021 - 2022 (Baseline)	1,240.36	0	0	0
2022 - 2023	966.64	-273.72	-22.07%	-273.72
2023 - 2024	1,090.23	-150.13	-12.10%	123.59
2024 - 2025	981.65	-258.71	-20.86%	-108.58
Year	Scope 2	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2021 - 2022 (Baseline)	12,576.39	0	0	0
2022 - 2023	12,586.35	9.96	0.08%	9.96
2023 - 2024	12,469.78	-106.61	-0.85%	-116.57
2024 - 2025	12,801.41	225.02	1.79%	331.63

Table 8. Scope 1 and Scope 2.



Scope 1 GHG Emissions 2024 - 2025

- Ajman University achieved a milestone in its Scope 1 emissions during 2024 – 2025, with respect to the baseline.
- A reduction of 258.71 tons CO₂e is achieved, which, if continued further, would be equivalent to 260+ carbon credit certificates. This reduction is also below the SBTi expected target by 6.06%.
- AU managed to reduce its Scope 1 emissions below the SBTi expected target reduction by 6.06%.
- Scope 2 emission is higher than the SBTi expected target reduction by 20.81%.

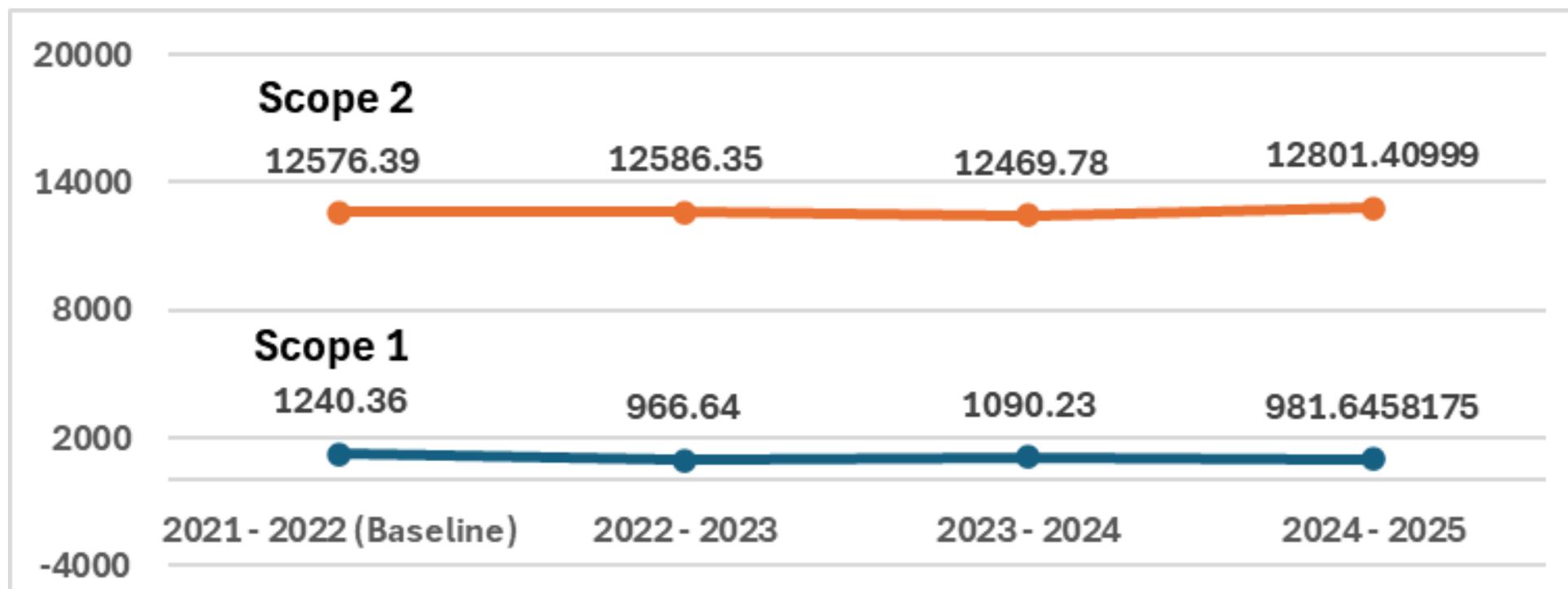


Figure 1. Year-on-Year Scope 1 and Scope 2.



SBTi Reduction Targets (Scope 1 + Scope 2) 2021 - 2025

1. SBTi recommends that organizations follow established universal reduction targets to ensure the achievement of Net-Zero (table 2).
2. AU's combined Scope 1 + Scope 2 emissions have consistently exceeded SBTi-aligned targets since the baseline year, with the gap widening each year, from 3.53% in 2022–2023 to 18.40% in 2024–2025.
3. The growing divergence highlights a decarbonization gap, particularly in Scope 2, where rising electricity-related emissions have offset strong Scope 1 reductions.
4. By 2024–2025, AU emitted 2,142 tCO₂e above the SBTi pathway limit.

Year	Scope 1 + Scope 2 (SBTi)	Scope 1 + Scope 2 (AU)	% Difference vs. SBTi
2021 - 2022 (Baseline)	13,816	13,816.75	0
2022 - 2023	13,091	13,552.99	3.53%
2023 - 2024	12,366	13,560.01	9.66%
2024 - 2025	11,641	13,783.06	18.40%

Table 9. SBTi vs. AU's Scope 1 and Scope 2.



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PART 3: SCOPE 1 EMISSIONS

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Scope 1 Consumption 2024 - 2025

- Stationary combustion sources decreased: Propane/LPG consumption fell by 41.5% and refrigerant leakage dropped by 48.7% from 2021-2022 to 2024-2025, reflecting improved efficiency or reduced reliance on these sources.
- Mobile combustion emissions rose sharply: Petrol and diesel consumption for vehicles increased by 80% and 143% respectively over the same period, indicating growing transportation-related emissions.
- Overall, Scope 1 trend shows mixed progress: While facility-based emissions (stationary) declined, the substantial growth in fleet fuel use suggests mobile sources are now the dominant driver of AU's direct carbon footprint.

Table 10. Summary of Scope 1 Data Provided by AU

Source	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	% Difference
Stationary Combustion					
Diesel	Not Applicable	Not Applicable		-----	-----
Heating Oil	Not Applicable	Not Applicable		-----	-----
Propane/LPG (m³)	504	342	324.48	294.84	-41.50%
Nitrous Oxide (kg)	NA	NA	NA	37.50	
Refrigerant Leakage (Kg)	167	167	174.5	85.68	-48.69%
Mobile Combustion					
Petrol (liters)	22,339.20	17,920.99	33,491.52	40,210.28	80.00%
Diesel (litters)	41,203.20	38,400.96	74,172.48	100,151.92	143.07%



Scope 1 GHG Emissions 2024 - 2025

- Ajman University has achieved impressive reductions in LPG and refrigerant-related emissions, demonstrating strong climate leadership in managing controllable, high-impact sources.
- However, rapid growth in diesel and petrol emissions is eroding these gains.

Table 11. Scope 1.

Year	LPG (tCO ₂ e)	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2023 (Baseline)	778.88	0.00	0.00%	0
2024	528.13	-250.75	-32.19%	-250.75
2025	505.25	-273.63	-35.13%	-22.88
2026	459	-319.78	-41.06%	-46.15

Year	Nitrous Oxide (tCO ₂ e)	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2023 (Baseline)	0	0	0	0
2022 - 2023	0	0	0	0
2023 - 2024	0	0	0	0
2024 - 2025	9.94	9.94	0.00%	9.938

Year	Refrigerant Leakage (tCO ₂ e)	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2023 (Baseline)	294.25	0	0	0
2022 - 2023	294.25	0.00	0.00%	0
2023 - 2024	308.97	14.72	5.00%	14.72
2024 - 2025	151.71	-142.54	-48.44%	-157.26

Year	Diesel (tCO ₂ e)	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2023 (Baseline)	114.957	0	0	0
2022 - 2023	102.15	-12.81	-11.14%	-12.81
2023 - 2024	197.3	82.34	71.63%	95.15
2024 - 2025	266.41	151.45	131.74%	69.11

Year	Petrol (tCO ₂ e)	Absolute Reduction vs. 2022	% Reduction vs. 2022	Year-on-Year Difference
2023 (Baseline)	52.27	0	0	0
2022 - 2023	42.11	-10.16	-19.44%	-10.164
2023 - 2024	78.71	26.44	50.57%	36.60
2024 - 2025	94.50	42.23	80.78%	15.79



Scope 1 GHG Emissions 2024 - 2025

- Stationary combustion emissions (primarily from LPG and refrigerant leakage) decreased significantly, with a 42.16% reduction in sub-total emissions from 2021–2022 to 2024–2025, driven largely by a 48.44% drop in refrigerant leakage and a 41.06% decline in LPG use.
- Mobile combustion emissions rose sharply, increasing by 115.81% over the period due to higher fuel consumption.
- Nitrous oxide is used only in (2024–2025) with 9.9 tCO₂e, indicating a newly reported or introduced emission source not previously accounted for.
- Total Scope 1 emissions declined by 20.86% overall, falling from 1,240.36 tCO₂e in 2021–2022 to 981.65 tCO₂e in 2024–2025, reflecting net progress despite rising mobile emissions.

Table 12. Summary of Scope 1 GHG Emissions (tCO₂e) by Source

Source	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	% Difference
GHG Emissions - Stationary Consumption					
Diesel	NA	NA		---	---
Heating Oil	NA	NA		---	---
Propane (LPG)	778.88	528.13	505.25	459	-41.06%
Nitrous Oxide	NA	NA	NA	9.9	---
Refrigerant Leakage	294.25	294.25	308.97	151.71	-48.44%
Sub-Total	1,073.13	822.38	814.23	620.74	-42.16%
GHG Emissions - Mobile Consumption					
Petrol	52.274	42.11	78.71	94.50	80.78%
Diesel	114.957	102.15	197.3	266.41	131.74%
Sub-Total	167.231	144.26	276	360.91	115.81%
Total Scope 1 Emissions	1,240.36	966.64	1,090.23	981.65	-20.86%



Scope 1 GHG Emissions 2024 - 2025

- Petrol-powered vehicles contributed 94.50 tCO₂e in total, with buses being the largest source (54.90 tCO₂e), followed by cars (30.52 tCO₂e) and pickups (9.08 tCO₂e).
- Diesel-powered vehicles and equipment emitted 266.41 tCO₂e, dominated by diesel buses (258.49 tCO₂e), with smaller contributions from trucks, pickups, and a dental clinic generator.
- Buses are the single largest emission source overall, accounting for 313.39 tCO₂e combined (petrol + diesel), representing nearly 87% of total mobile combustion emissions.
- Total mobile combustion GHG emissions amounted to 360.91 tCO₂e, with diesel sources contributing ~74% and petrol sources ~26%, highlighting diesel's dominant role in the fleet's carbon footprint.

Table 13. GHG Emission: Mobile Combustion (Petrol).

Source	Units	tCO ₂ e
Cars	6	30.52
Buses	9	54.90
Pickup	2	9.08
Sub-total		94.50

GHG Emissions: Mobile Combustion (Diesel)

Source	Units	tCO ₂ e
Truck	1	2.64
Buses	25	258.49
Pickup	2	2.89
Dental Clinic	1	2.39
Sub-total		266.41
Total GHG Emissions		360.91



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PART 4: SCOPE 2 EMISSIONS

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Scope 2 GHG Emissions 2024 - 2025

- **Electricity consumption increased slightly** over the period, rising from 21,754.69 MWh in 2021 - 2022 to 22,143.94 MWh in 2024 – 2025, a modest 1.76% growth, suggesting stable or marginally expanding operational demand.
- **Associated GHG emissions from electricity use mirrored this trend**, increasing by 1.76% from 12,576.39 tCO₂e to 12,801.41 tCO₂e, indicating no significant change in grid carbon intensity or offsetting measures during this time.
- **Emissions remained relatively flat year-over-year**, with only minor fluctuations between 12,469.78 and 12,801.41 tCO₂e, reflecting consistent energy usage patterns and no major efficiency gains or decarbonization interventions in Scope 2.
- **The proportional alignment between MWh consumed and tCO₂e emitted** (both up 1.76%) suggests that the emissions factor per MWh remained stable, meaning any emission increases were directly tied to higher energy use, not changes in energy source mix.

Table 14. Scope 2 emissions.

	2021 – 2022	2022 – 2023	2023 – 2024	2024 – 2024	% Difference
Electricity (MWh)	21,754.69	21,771.93	21,570.28	22,143.94	1.76%
GHG Emissions (tCO₂e)	12,576.39	12,586.35	12,469.78	12,801.41	1.76%



Scope 2 GHG Emissions by Building 2024 - 2025

- Total Scope 2 emissions across all buildings rose 1.76% from 12,576.39 tCO₂e in 2021 - 2022 to 12,801.41 tCO₂e in 2024 - 2025, reflecting a modest increase in indirect emissions tied to electricity consumption over the period.
- Major reductions occurred in several buildings, including 4083 J2 (-33.86%), 4089 J2 (-23.61%), and 4088 J2 (-17.58%), suggesting improved efficiency, reduced occupancy, or changes in operational scope that lowered their carbon footprint.
- Significant increases were seen in SZC (+3.98%), J1+LABOR CAMP (+4.86%), S. COMPLEX (+15.07%), and especially 5614 S. HUB (+25.38%), indicating expansion, higher activity levels, or new energy-intensive operations driving up emissions at these sites.
- Emission trends varied widely across the campus, underscoring the importance of building-specific strategies, while some facilities achieved meaningful decarbonization, others saw growth, requiring targeted interventions to meet overall emissions reduction goals.

Building	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025	% Difference
1. SZC	1,303.14	1,323.65	1,097.66	1,357.21	3.98%
2. 4088 J2	692.08	711.92	613.66	588.59	-17.58%
3. 4089 J2	811.35	790.88	701.4	656.37	-23.61%
4. 4083 J2	1,718.77	1,465.18	1,359.86	1,284.05	-33.86%
5. J2+S.FIELD	1,336.08	1,316.17	1,348.74	1,381.15	3.26%
6. J1+LABOR CAMP	778.7	788.57	783.39	818.51	4.86%
7. 4085 J1	1,140.45	1,136.53	1,173.44	1,066.22	-6.96%
8. 4086 J1	1,020.01	1,109.74	1,198.23	1,246.26	18.15%
9. S. COMPLEX	348.86	469.35	480.51	410.74	15.07%
10. 4092 F. HOSTEL	1,570.65	1,527.38	1,627.63	1,646.64	4.61%
11. 0508 F. HOSTEL	---	---	---	---	---
12. 4091 F. HOSTEL	472.38	466.77	475.14	491.01	3.79%
13. 5614 S. HUB	1,383.92	1,480.21	1,610.12	1,854.65	25.38%
Total AU	12,576.39	12,586.35	12,469.78	12,801.41	1.76%

Table 15. Scope 2 emissions by building.



2024 - 2025

GHG EMISSIONS INVENTORY REPORT

PART 5: SCOPE 3 EMISSIONS

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Scope 3 GHG Emissions Summary 2024 - 2025

- Capital goods dominate Scope 3 emissions at 57.7% (13,447 tCO₂e), reflecting major IT and medical equipment procurement cycles now normalized post-pandemic.
- Employee commuting (15.4%) and fuel/energy activities (14.4%) form the next largest shares, highlighting key leverage areas for targeted reduction strategies aligned with UAE Net Zero goals.

Table 16. Scope 3 GHG Emissions: Performance Year (2024 – 2025)

Category	Descriptions	tCO ₂ e	% of Total Scope 3
1. Purchased goods and services	Food & Beverages, Printing Papers, Toilet Papers, Tissue Papers. Water supply, Bottled Water, Cloud Services.	2,355.59	10.10%
1. Capital goods	IT Equipment, Office Furniture, and Medical Equipment	13,447.14	57.65%
1. Fuel- and energy-related activities	Transmission and Distribution Loss, WTT,	3,360.12	14.40%
1. Upstream T&D	T&D of Purchased Good and Capital Good	6.62	0.03%
1. Waste generated in operations	Wastewater, General Waste, Medical Waste, Food Waste, Paper Waste.	14.62	0.06%
1. Business Travel	Faculty and staff travel paid by AU	540.86	2.32%
1. Employee commuting	Employee and Student commuting from and to AU.	3,602.31	15.44%
Total Scope 3 GHG Emissions		23,327.25	100.00%



Scope 3 GHG Emissions Summary 2024 - 225

- **Baseline Year Context:** The 2021-22 baseline coincided with partial COVID-19 lockdown measures at Ajman University, resulting in temporarily suppressed activity levels across travel, commuting, and procurement categories.
- **Recovery, Not Regression:** Subsequent increases in Scope 3 emissions primarily reflect a return to pre-pandemic operational norms and institutional growth, rather than a deterioration in sustainability performance.
- **Enhanced Data Coverage:** Year-on-year growth also captures improved data completeness, including expanded supplier reporting, updated UAE-specific emission factors, and refined activity boundaries, strengthening inventory accuracy.

Table 17. Year-on-Year Emissions Comparison

Category	Descriptions	2021 - 2022	2022 - 2023	2023 - 2024	2024 - 2025
1. Purchased goods and services	Food & Beverages, Printing Papers, Toilet Papers, and Tissue Papers. Water, Cloud Services.	118.783	692.44	2,477.45	2,355.59
2. Capital goods	IT Equipment, Office Furniture, and Medical Equipment	6,740.85	6,026.99	6,054.61	13,447.14
3. Fuel- and energy- related activities	Transmission and Distribution Loss, WTT.	159.171	155.81	3,268.60	3,359.82
4. Upstream T&D	T&D of Purchased Good and Capital Good	1.532	6.78	6.97	6.93
5. Waste generated in operations	Wastewater, General Waste, Medical Waste, Food Waste, Paper Waste.	11.17	11.11	14.2	14.62
6. Business Travel	Faculty and staff travel paid by AU	604.847	806.46	140.83	540.86
7. Employee commuting	Employee and Student commuting from and to AU.	2,339.79	3,150.74	3,014.00	3,602.31
Total Scope 3 Emissions		9,976.14	10,850.33	14,976.66	23,327.27



Scope 3 GHG Emissions Summary 2024 - 225

- Total Scope 3 emissions rose 134% vs. baseline and 56% YoY, primarily reflecting a return to post-pandemic operations and enhanced data coverage, not a decline in sustainability performance.
- High-volatility categories (Business Travel +284% YoY; Capital Goods +122% YoY) signal the resumption of normal procurement and travel cycles following the suppressed 2021-22 lockdown baseline.

Table 17a. Year-on-Year Emissions Comparison

Category	Descriptions	2021 – 2022 Baseline	2023 - 2024	2024 - 2025	% Baseline	YoY %
1. Purchased goods and services	Food & Beverages, Printing Papers, Toilet Papers, and Tissue Papers. Water, Cloud Services.	118.783	2,477.45	2,355.59	1883.10%	-4.92%
2. Capital goods	IT Equipment, Office Furniture, and Medical Equipment	6,740.85	6,054.61	13,447.14	99.49%	122.10%
3. Fuel- and energy- related activities	Transmission and Distribution Loss, WTT.	159.171	3,268.60	3,359.82	2010.82%	2.79%
4. Upstream T&D	T&D of Purchased Good and Capital Good	1.532	6.97	6.93	352.35%	-0.57%
5. Waste generated in operations	Wastewater, General Waste, Medical Waste, Food Waste, Paper Waste.	11.17	14.2	14.62	30.89%	2.96%
6. Business Travel	Faculty and staff travel paid by AU	604.847	140.83	540.86	-10.58%	284.05%
7. Employee commuting	Employee and Student commuting from and to AU.	2,339.79	3,014.00	3,602.31	53.96%	19.52%
	Total Scope 3 Emissions	9,976.14	14,976.66	23,327.27	133.83%	55.76%



Scope 3: Category 1 GHG Emissions 2024 - 2025

- Scope 3 Category 1 emissions totaled 2,355 tCO₂e in 2024–2025, dominated by Cloud Services (79.65%), reflecting Ajman University's digital transformation and investment in scalable, low-physical-infrastructure solutions.
- While water-related procurement (municipal, recycled, and on-site RO chemicals) accounted for less than 1.13% combined, demonstrating highly efficient resource sourcing and a strategic emissions profile aligned with a knowledge-based, technology-enabled institutional model.

Table 18. Scope 3: Category 1 Emissions Breakdown 2024 - 2025

	Unit	Consumption	tCO ₂ e	% Total
Food & Beverages (catering)	USD	175,655.34	69.79	2.96%
Food & Beverages (cafeteria)	ton	60.64	224.45	9.53%
Printing Papers	ton	4.10	3.77	0.16%
Toilet Papers	ton	1.16	1.07	0.05%
Tissue Papers	ton	21.37	19.64	0.83%
Water (Drinking Water)	m ³	5.01	0.002	0.00%
Municipal Treated Water	m ³	110.53	0.09	0.00%
On-Site RO (Chemicals)	kg	275.00	9.40	0.40%
Water Supply	m ³	21,358.25	17.09	0.73%
Cloud Services	Euros	2,046,025.17	1876.12	79.65%
Online Advertising	AED	1,297,186.66	134.18	5.70%
	Total		2,355.59	100.00%



Scope 3: Category 1 GHG Emissions 2024 - 2025

- Category 1 emissions rose 1,883% vs. baseline, but declined 4.9% YoY, reflecting both pandemic recovery effects and maturing data coverage for purchased goods and services.
- Cloud Services decreased 5% YoY, suggesting initial digital expansion has stabilized.
- Targeted reductions emerging: Printing Papers (-56.6% YoY) and Toilet Papers (-74.2% YoY) show measurable progress, while Food & Beverages remains elevated but flat (-2.3% YoY), indicating early success in paper-use optimization.

Table 18a. Scope 3: Category 1 Emissions – % Baseline and YoY%

	2021 – 2022	2022 – 2023	2023 – 2024	2024 – 2025	% Baseline	YoY %
Food & Beverages	40.212	106.49	301.289	294.24	632%	-2.3%
Printing Papers	7.631	6.9	8.69	3.77	-51%	-56.6%
Toilet Papers	1.011	13.33	4.138	1.07	6%	-74.2%
Tissue Paper	6.896	3.45	18.229	19.64	185%	7.8%
Water (Drinking Water)	0	0	0.001	0.002	0%	89.8%
Municipal Treated Water	0.00	0.09	0.09	0.09	0%	0.0%
On-Site RO (Chemicals)	0.00	9.4	9.4	9.40	0%	0.0%
Water	19.863	18.76	19.51	17.09	-14%	-12.4%
Cloud Services	43.17	534.02	1974.86	1,876.12	4246%	-5.0%
Online Advertising	----	----	141.24	134.18	----	-5.0%
Total	118.783	692.44	2477.447	2,355.59	1883%	-4.9%



Scope 3: Category 2 GHG Emissions 2024 - 2025

- Scope 3 Category 2 (Capital Goods) totaled 13,447 tCO₂e in 2024–2025, driven by strategic investments in IT infrastructure (62%) and medical equipment (24%) that underpin Ajman University's digital transformation and health sciences excellence; demonstrating a forward-looking capital portfolio aligned with educational quality, research capacity, and sustainable institutional growth.

Table 19. Scope 3: Category 2 Emissions Breakdown 2024 - 2025				
	Unit	Consumption	tCO ₂ e	% Total
IT	AED	3,205,941	8,338.53	11.22%
Furniture	Euros	179,405.05	1,821.87	40.12%
Medical Equipment	Euros	647,778.45	3,269.63	48.28%
Books	AED	182,980.77	17.10	0.38%
Total			13,447.14	100.00%



Scope 3: Category 2 GHG Emissions 2024 - 2025

- Category 2 emissions nearly doubled vs. baseline (+99.5%) and surged 122% YoY, driven primarily by a major IT equipment refresh cycle now normalized post-pandemic.
- IT equipment is the dominant contributor (+968% vs. baseline; +1,127% YoY), reflecting deferred procurement during lockdowns and accelerated digital infrastructure investment in 2024-25.
- Furniture emissions declined (-27.8% vs. baseline; -25% YoY), demonstrating early progress in sustainable procurement, while Medical Equipment remained relatively stable (-4.9% vs. baseline).

Table 19a. Scope 3: Category 2 Emissions – % Baseline and YoY%

	2021 – 2022	2022 – 2023	2023 – 2024	2024 - 2025	%Baseline	YoY %
IT	780.65	675.47	679.54	8,338.53	968.14%	1127%
Furniture	2,521.86	2,428.94	2,429.16	1,821.87	-27.76%	-25%
Medical Equipment	3,438.33	2,922.58	2,923.11	3,269.63	-4.91%	12%
Books	----	----	22.8	17.10	----	-25%
Total	6,740.85	6,026.99	6,054.61	13,447.14	99.49%	122%



Scope 3: Category 3&4 GHG Emissions 2024 - 2025

- Scope 3 Categories 3 & 4 (Fuel/Energy-Related Activities & Upstream T&D) totaled just 6.93 tCO₂e in 2024–2025, with 95.9% attributed to upstream transportation of purchased goods; reflecting Ajman University's lean, localized procurement strategy and highly efficient grid infrastructure, where electricity transmission losses account for only 4.1% of this already minimal footprint, demonstrating effective supply chain optimization and low indirect energy liability.
- Upstream T&D emissions rose 278% vs. the pandemic-affected baseline but remained essentially flat YoY (-0.05%), confirming the initial spike reflects recovery to normal reporting rather than ongoing growth.
- Purchased Goods T&D drives the category (+332% vs. baseline), while electricity T&D losses stayed stable (+1.6%), indicating consistent grid performance and improved allocation of upstream transport emissions.

Table 20. Scope 3: Category 3 & 4 Emissions Breakdown 2024 - 2025

	Unit	Consumption	tCO ₂ e	% Total
T&D Loss - Purchased Electricity	MWh	22,143.94	0.305	4.10%
T&D - Purchased Good	KM	33,619.55	6.622	95.90%
		Total	6.926	100%

Table 20a. Scope 3: category 3 & 4 %Baseline and YoY %

Source	2021 – 2022	2022 – 2023	2023 – 2024	2024 – 2025	% Baseline	YoY %
T&D Loss - Purchased Electricity	0.300	0.300	0.297	0.305	1.63%	0.03
T&D - Purchased Goods	1.532	6.782	6.967	6.622	332.21%	-0.05
Total	1.832	7.082	7.265	6.926	278.08%	-0.05



Scope 3: Category 5 GHG Emissions 2024-2025

- 2024–2025 waste emissions totaled 14.62 tCO₂e, primarily from RO desalination (57.88%), while minimal food (1.01%) and plastic waste (0.58%) highlight effective circular management.
- Although emissions rose 30.85% from baseline due to improved tracking, plastic waste decreased 49.58% and RO wastewater stabilized (8.46 tCO₂e), signaling targeted reductions and maturing operational controls.

Table 21. Scope 3: Category 5 Emissions Breakdown 2024 - 2025

	Unit	2024 - 2025		% Total
		Consumption	tCO ₂ e	
Wastewater (supply)	m ³	2,558	0.696	4.76%
Wastewater (On-SiteRO)	m ³	18,800	8.460	57.88%
General Waste	ton	220.00	4.683	32.04%
Plastic Waste	ton	4.00	0.085	0.58%
Medical Waste	ton	25.58	0.545	3.73%
Food Waste	ton	6.921	0.147	1.01%
Total			14.616	100.00%

Table 22. Scope 3: Category 5 Emissions – Baseline Year vs Performance Year

	2021 – 2022	2022 – 2023	2023 – 2024	2024 – 2025	% Baseline	YoY %
Wastewater	0.661	0.694	0.680	0.696	5.26%	2.30%
Wastewater (On-Site RO)	8.460	8.460	8.460	8.460	0.00%	0.00%
General Waste	0.9664	4.351	4.501	4.683	384.58%	4.04%
Plastic Waste	0.1682	0.25	0.106	0.085	-49.58%	-20.00%
Medical Waste	0.8749	0.26	0.243	0.545	-37.69%	124.32%
Food Waste	0.04	0.18	0.152	0.147	268.60%	-3.00%
Total	11.171	14.195	14.142	14.616	30.85%	3.35%



Scope 3: Category 6 GHG Emissions 2024-2025

- Business Travel totaled 540.86 tCO₂e in 2024–2025, with air travel (98%) reflecting global academic engagement, while economy-class policies and localized UAE travel minimize per-trip carbon intensity.
- Emissions remain 10.6% below baseline despite post-pandemic recovery, demonstrating successful virtual collaboration adoption and a strategic, value-driven return to essential academic travel
- .

Table 23. Business Travel - Land				
	passenger.km	kgCO ₂ e - Hotel Stay	kgCO ₂ – Drive	Total tCO ₂ e
Abu Dhabi	14,196.00	2,331.00	3,123.12	5.45
Dubai	4590	2,331.00	1,009.80	3.34
Al Ain	624.00	105.00	137.28	0.24
Fujairah	708	147.00	155.76	0.30
Ras Al Khaimah	164	63.00	36.08	0.10
Sharjah	52	63.00	11.44	0.07
Total	20,334.00	5,040.00	4,473.48	9.51
Business Travel – Air				
	passenger.km	tCO ₂ e - Hotel Stay	tCO ₂ e - Flight	Total tCO ₂ e
Economy Class	1,087,230	9.471	521.872	531.343

Table 24. Category 6 Year-on-Year GHG Emissions

	2021 - 2022	2022 - 2023	2023 – 2024	2024 – 2025	% Baseline	YoY %
Business Travel - Air	601.19	801.58	137.6	531.343	-11.62%	286.15%
Business Travel - Land	3.66	4.88	3.22	9.51	159.93%	195.45%
	604.85	806.46	140.83	540.85648	-10.58%	284.05%



Scope 3: Category 6 GHG Emissions 2024-2025

- Scope 3 Category 7 (Commuting) totaled 3,602 tCO₂e in 2024–2025, with student commuting representing 82.69% of the footprint; providing Ajman University with a clear, data-driven opportunity to deploy high-impact interventions such as shuttle optimization, carpool incentives, and hybrid learning models, while the granular separation of employee and student travel demonstrates advanced inventory maturity that enables targeted, equitable decarbonization strategies aligned with UAE sustainable mobility goals.
- Year-on-Year comparison, the GHG emissions attributed to employee and student commuting demonstrate a 19.52% increase (3,150.74 to 3,602.31 tCO₂e), driven by a 100.22% rise in employee commuting (366.43 to 623.70 tCO₂e) and a 28.07% rise in student commuting (2,390.47 to 2,978.61 tCO₂e), reflecting increased campus utilization rates and providing a quantified baseline for Scope 3 Category 7 decarbonization interventions aligned with institutional mobility strategies.

Table 25. Scope 3: Category 7 Emissions Breakdown 2024 – 2025

	Unit	Consumption	tCO ₂ e	% Total
Employee Commuting	million km	3.71	623.70	17.31%
Student Commuting	million km	21.13	2,978.61	82.69%
		24.84	3,602.31	100.00%

Table 26. Scope 3: Category 7 Emissions – Baseline Year vs Performance Year

	2021 - 2022	2022 - 2023	2023 – 2024	2024 – 2025	% Baseline	YoY %
Employee Commuting	303.81	366.43	311.50	623.70	105.29%	100.22%
Student Commuting	2,035.98	2,390.47	2,325.75	2,978.61	46.30%	28.07%
Total	2,339.79	3,150.74	3,014.00	3,602.31	53.96%	19.52%



Scope 3: Category 7 GHG Emissions 2024-2025

- WTT emissions totaled 3,360 tCO₂e in 2024–2025, driven by electricity grid losses (95%); reflecting Ajman University's advanced lifecycle accounting that captures full energy supply chain impacts, while stable Scope 1 fuel emissions (~151 tCO₂e) demonstrate effective operational control and enable targeted decarbonization through renewable energy procurement aligned with UAE Net Zero 2050.

Table 27. WTT Related Emissions

	2021 - 2022	2022 - 2023	2023 - 2024	2024-2025
Scope 1	tCO₂e			
LPG	92.65	92.65	59.649	54.200
Nitrous Oxide				
Refrigerant Leakage	22.355	22.355	19.364	9.508
Petrol	13.467	10.803	20.19	24.240
Diesel	25.906	24.144	46.635	62.970
Total Scope 1	154.378	149.952	145.838	150.918
Scope 3	tCO₂e			
FTSE				
Own Vehicle - KM	2.029	2.042	1.776	4.67
Own Vehicle - Passenger.Km	1.119	1.126	0.98	0.74
Public Transportation	0.157	0.158	0.137	0.33
University Transportation	0.414	0.417	0.363	0.71
Taxi	0	0	0	0.00
Total FTSE	3.719	3.742	3.256	6.45
FTEE				
Own Vehicle - KM	0.474	0.478	0.407	0.835
Own Vehicle - Passenger.Km	0.075	0.073	0.062	0.0239
Public Transportation	0	0	0	0.013
University Transportation	0	0	0	0.019
Taxi	0.037	0.039	0.033	0.010
Total FTEE	0.586	0.59	0.502	0.902
T&D F&B	0.3	1.229	1.263	1.200
Purchased Electricity	-----	-----	3,117.45	3,200.35
Total WTT Emissions	158.982	155.514	3,268.30	3,359.82



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GHG EMISSIONS INVENTORY REPORT

PART 6: SBTi RECOMMENDATIONS

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Science-Based Target Initiatives (SBTi)

- The first two tables shows the SBTi Recommendation Reduction Target and the current AU GHG Emissions from 2021-2022 (baseline) to 2024-2025 (performance year).
- The third table shows the AU GHG emissions in the performance year with respect to the SBTi recommended target on 2025.

Table 28. SBTi Recommended Reduction Targets

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Scope 1	1240	1175.24	1110.12	1045.00	979.88	914.77	849.65	784.53	719.41
Scope 2	12,576	11,916.19	11,255.92	10,595.66	9,935.40	9,275.13	8,614.87	7,954.60	7,294.34
Scope 3	9,976.14	10,166.62	10,357.10	10,547.59	10,738.07	10,928.55	11,119.03	11,309.52	11,500.00

Table 29. Year-on-Year GHG Emissions Comparison

Description	2021-2022	2022-2023	2023-2024	2024-2025
Scope 1	1,240.36	966.60	1,090.20	981.65
Scope 2	12,576.45	12,586.40	12,469.80	12,801.41
Scope 3	9,976.14	10,840.84	14,967.16	23,317.76
Total GHG Emissions	23,792.95	24,393.84	28,527.16	37,100.82

Table 30. Status of AU GHG Emissions vs SBTi

Scope	SBTi Target	AU Actual	% Variance	Status
Scope 1	1,045.00	981.65	-6.06%	Exceeds Target
Scope 2	10,595.66	12,801.41	+20.81%	Above Target
Scope 3	10,547.59	23,317.76	+121.07%	Significant Gap
Total	22,188.25	37,100.82	+67.21%	Above Target



Science-Based Target Initiatives (SBTi)

- Executive Dashboard for SBTi Action: Prioritize resources on ● Critical items (Scope 2, Combined Gap) and leverage ✓ Data Quality metrics to strengthen QS Sustainability Indicator 3.2 submissions.
- Accountability Framework: Assign named Owners to priority actions with quarterly check-ins, ensuring complex GHG data translates into clear, tracked institutional progress

Table 31. Quick Reference Dashboard

Metric	Status	Priority	Owner
Scope 1 vs. SBTi	✓ Exceeds target	Maintain	Facilities Management
Scope 2 vs. SBTi	✗ +20.81% gap	● Critical	Sustainability Office + Finance
Scope 3 vs. SBTi	✗ +121.07% gap (boundary-adjusted)	● High (Recalibration Needed)	Procurement + Sustainability Office
Combined S1+S2 Gap	✗ +18.40%	● Critical	Executive Leadership
Data Quality	✓ Enhanced granularity	● Foundational	Sustainability Office

Table 32. Visual Indicator Key

Symbol	Meaning	Action Implication
✓	Target met or exceeded	Sustain current practices; document success factors
✗	Target not met	Investigate root cause; implement corrective action
●	Critical priority	Allocate resources immediately; escalate to leadership
●	High priority (strategic)	Plan intervention; may require boundary clarification or policy change
●	Foundational/enabling	Protect and enhance; enables progress in other categories



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GHG EMISSIONS INVENTORY REPORT

PART 7: AXOSOMATIC REDUCTION STRATEGY

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Axosomatic Reduction Strategy

- Following an in-depth benchmarking analysis and by drawing upon the industry-leading practices of renowned institutions, Axosomatic proposes a comprehensive emission reduction strategy, with target objectives, actionable steps, and key performance indicators (KPIs) to significantly reduce the carbon emissions of scope 1, 2, and 3, attributed to AU activities, in the coming 5 years to achieve the Net-Zero target by 2050.
- This strategy is underpinned by a robust dataset, encompassing AU's emissions over the past three years, and is strengthened through the integration of our advanced, artificial intelligence-driven Net-Zero Carbon Intelligence framework, positioning this plan at the forefront of emissions reduction efforts.
- This strategy is part of our sustainability solution to AU, and we can work with the team to implement and monitor it to achieve the required reduction.



Axosomatic Reduction Strategy

Achieve Reduction in Scope 1 Emissions

Goal 1: Enhance Energy Efficiency and Reduce LPG Usage

- Objective: implement measures to optimize LPG usage and reduce emissions intensity.
- **Actions**
 - Conduct a comprehensive assessment of current LPG related emissions sources and identify areas for improvement.
 - Upgrade equipment to minimize LPG usage and enhance energy efficiency.
- **KPIs**
 - Percentage reduction in LPG emissions compared to baseline year.
 - Reduction in LPG consumption per unit of production or activity.



Axosomatic Reduction Strategy

Goal 2: Minimize Refrigerant Leakage and Emissions

1. Objectives

- a. Implement leak detection and prevention measures to minimize refrigerant leakage.
- b. Capture and mitigate refrigerant emissions to reduce environmental impact.

2. Actions

- a. Conduct regular inspections and maintenance of cooling systems to detect and repair leaks promptly.
- b. Upgrade to low-leakage or leak-proof refrigeration equipment where feasible.
- c. Train staff on proper handling and maintenance procedures to minimize accidental releases.
- d. Implement refrigerant management best practices, including proper storage and disposal.
- e. Monitor refrigerant usage and emissions through continuous monitoring systems.

3. KPIs

- a. Percentage reduction in Refrigerant Leakage emissions compared to the baseline year
- b. Number of refrigerant leaks detected and repaired within a specified timeframe.
- c. Reduction in refrigerant emissions intensity per unit of production or activity.
- d. Compliance with regulatory requirements and industry standards for refrigerant management.
- e. Adoption rate of low-leakage or leak-proof refrigeration equipment.
- f. Environmental impact assessment of refrigerant management practices

Axosomatic Reduction Strategy

Goal 3: Transition to Sustainable Transportation

1. Objectives

- a. Reduce GHG emissions from petrol and diesel consumption in the vehicle fleet.
- b. Transition to alternative fuels or electric vehicles to lower emissions intensity.

2. Actions

- a. Assess the feasibility of transitioning to alternative fuels such as compressed natural gas (CNG) or biofuels.
- b. Invest in electric vehicle infrastructure, including charging stations and fleet electrification.
- c. Optimize vehicle routes and schedules to minimize fuel consumption and emissions.
- d. Implement eco-driving training programs to promote fuel-efficient driving behaviors among AU drivers.

3. KPIs

- a. Percentage reduction in transportation emissions compared to the baseline year.
- b. Percentage reduction in petrol and diesel consumption compared to the baseline year.
- c. Adoption rate of alternative fuels or electric vehicles in the fleet.
- d. Percentage reduction in emissions intensity per vehicle or per kilometer traveled.
- e. Fuel efficiency improvements achieved through eco-driving initiatives.
- f. Cost savings realized through fuel consumption reductions and fleet electrification.
- g. Number of electric or hybrid vehicles in the fleet.

Axosomatic Reduction Strategy

Achieve Reduction in Scope 2 Emissions

Goal 1: Minimize Scope 2 Emissions Through Renewable Energy Adoption

1. Objectives

- a. Source electricity from renewable sources to reduce Scope 2 emissions.
- b. Increase energy efficiency to further mitigate Scope 2 emissions.

2. Actions

- a. Purchase renewable energy certificates (RECs) or enter into power purchase agreements (PPAs) with renewable energy providers.
- b. Install on-site renewable energy systems such as solar panels.
- c. Implement energy management systems to optimize electricity use and reduce waste.
- d. Upgrade energy-efficient appliances, lighting, and HVAC systems to lower electricity consumption.
- e. Conduct employee awareness campaigns and training programs to promote energy conservation practices.

3. KPIs

- a. Percentage reduction in Scope 2 emissions compared to the baseline year.
- b. Percentage of electricity sourced from renewable sources.
- c. Renewable energy capacity installed on-site.
- d. Energy intensity improvements in facilities and operations.
- e. Total energy consumption reduction achieved through efficiency measures.
- f. Employee engagement levels in energy conservation initiatives.
- g. Cost savings achieved through renewable energy adoption and efficiency improvements.



Axosomatic Reduction Strategy

Achieve Reduction in Scope 3 Emissions

Goal 1: Decarbonize Supply Chain and Capital Goods

1. Objective

- Implement sustainable procurement practices to reduce emissions across purchased goods and capital assets.

2. Action

- Establish criteria for selecting suppliers and equipment based on sustainability metrics and lifecycle emissions.

3. KPIs

- Percentage reduction in category 1 emissions compared to baseline year.
- Reduction in GHG emissions per unit of purchased goods and services.
- Reduction in GHG emissions per unit of capital goods procured.



Axosomatic Reduction Strategy

Achieve Reduction in Scope 3 Emissions

Goal 2: Optimize Logistics and Waste Management

1. Objective

- Reduce GHG emissions from upstream transportation, waste disposal, and operational energy activities.

2. Action

- Collaborate with logistics partners to implement sustainable transportation practices and invest in waste-to-energy technologies.

• KPIs

- Percentage reduction in GHG emissions from upstream transportation and distribution activities.
- Increase in waste diversion and recycling rates.
- Reduction in GHG emissions from waste management activities.



Axosomatic Reduction Strategy

Achieve Reduction in Scope 3 Emissions

Goal 3: Minimize Workforce Travel and Commuting Footprint

1. Objective

- Reduce GHG emissions associated with employee business travel and daily commuting.

• Action

- Utilize virtual collaboration tools as alternatives to travel and provide incentives for sustainable commuting options.

• KPIs

- Percentage reduction in GHG emissions from employee business travel.
- Percentage reduction in GHG emissions from employee commuting.
- Increase in remote collaboration and virtual meeting participation.



2024 - 2025

GHG EMISSIONS INVENTORY REPORT

PART 8: KEY OBSERVATIONS & RECOMMENDATIONS

PREPARED BY AXOSOMATIC FOR
AJMAN UNIVERSITY

**THE PATH TO NET
ZERO EMISSIONS**



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Key Observations

2024 - 2025

Overall Emissions Performance

- Over the past four years, Ajman University has maintained broadly stable combined Scope 1 and Scope 2 GHG emissions.
- This stability reflects a significant 20.86% reduction in Scope 1 emissions, driven by steep declines in LPG use and refrigerant leakage, offset partially by a modest 1.76% increase in Scope 2 emissions due to higher electricity consumption across select buildings.
- In 2024–2025, total combined Scope 1 and Scope 2 emissions stood **0.24% below the baseline** (a reduction of 33.69 tCO₂e), demonstrating measurable progress toward institutional decarbonization goals.
- While Scope 3 presents a significant growth area, it also represents the biggest opportunity for transformative impact, tackling these value-chain emissions will be the key to unlocking full alignment with the UAE Net Zero 2050 Strategic Initiative and accelerating progress toward UN SDGs 7 and 13.

Key Observations

2024 - 2025

Performance Against Science-Based Targets (SBTi)

- AU has outperformed its SBTi-aligned target for Scope 1 in 2024 - 2025, achieving a reduction **6.06% greater** than required.
- However, Scope 2 emissions are currently **20.81% above** the SBTi-expected reduction pathway, primarily due to rising electricity demand in key facilities such as the S. HUB and S. COMPLEX.

Alignment with Net Zero Pathway

- The university's consistent tracking, transparent reporting, and targeted reductions in high-impact sources reflect a disciplined approach to emissions management.
- While challenges remain, particularly in decarbonizing grid-supplied electricity, AU's actions demonstrate a clear, data-driven progression toward a comprehensive Net Zero strategy grounded in operational efficiency, infrastructure optimization, and strategic planning.



Axosomatic Recommendations 2024 - 2025

- **Sustain and expand Scope 1 reductions** by institutionalizing successful practices from LPG and refrigerant management, while addressing new sources like nitrous oxide and curbing surging diesel use through fleet electrification or optimization
- Axosomatic recommends considering the replacement of vehicles with hybrid and/or electric vehicles (EVs).
- **Carbon emissions from refrigerant leakage are based on an estimated leakage rate.**
 - Axosomatic recommends measuring refrigerant top-up amounts to record actual leakage.
- **Decarbonize Scope 2 emissions** by accelerating renewable energy adoption and implementing targeted energy efficiency upgrades in high-emitting buildings like S. HUB and S. COMPLEX.
- **Scope 3 Action Plan**
 - Scope 3 represents the biggest opportunity for transformative impact, as highlighted in the following table:

Table 34. Scope 3 Action Plan

Category	Key Action	Owner
Capital Goods	Embed carbon criteria in procurement	Procurement + Sustainability Office
Commuting	Launch Sustainable Mobility Taskforce	Facilities + Student Affairs
Energy-Related	Evaluate renewable energy procurement options	Finance + Sustainability Office
Purchased Goods	Negotiate carbon-aware cloud SLAs	IT + Procurement
Business Travel	Formalize Travel Carbon Policy	HR + Academic Affairs
Waste	Scale plastic reduction learnings	Operations + Sustainability