

Sustainability is a
long-haul trip—
**better pack some
foresight.**



CASE STUDY

UCT

CASE STUDY



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD



Overview

As Africa's top research-led institution, the University of Cape Town (UCT) is prioritising sustainability. We conduct an annual detailed carbon footprint assessment to support UCT's commitment to environmental responsibility.

This analysis is crucial to tracking their progress in reducing their environmental impact and aligning with global sustainability standards. UCT's adoption of initiatives like the Green Campus Policy Framework and the Minimum Green Building Construction Standard demonstrates their leadership in campus sustainability.

Our FY2023 assessment provided valuable insights into their energy use and carbon emissions, helping to identify areas for further improvement.

The assessment not only offers a clear picture of UCT's environmental impact but also reinforces their long-term strategy of responsible resource management and environmental stewardship.



Size

UCT's gross area is approximately 665,325 square meters with a total headcount enrolment of 29,033 students in 2023 and employs 4,768 individuals.



Sector

The University of Cape Town operates in the higher education sector, offering undergraduate, postgraduate, and doctoral programs.



Assets

UCT's total assets were valued at R15.44 billion

Challenges

UCT was seeking to produce a Carbon Footprint to provide detailed analysis of their emissions.

These challenges included:

- #1 Visibility - Need a comprehensive view of Scope 1, 2, and 3 emissions.
- #2 Recommendations - To reduce emissions

Findings

In response to UCT's challenges, we at GCX worked in collaboration with the organisation to produce a carbon footprint assessment with some of the following key findings:



Decrease in Total Emissions

UCT's total carbon emissions decreased by 20% in 2023 compared to their 2019 baseline, in Scope 1, 2 and other direct emissions.



Scope 1 Emissions Increase

Scope 1 emissions doubled, increasing from 3% to 6% of UCT's total emissions due to a 252% rise in diesel generator use as a response to higher load shedding hours.



Reduction in Scope 2 Emissions

Scope 2 emissions saw an 8% reduction due to lower electricity consumption, as well as the use of a lower emission factor for grid electricity. UCT generated 93,370 kWh of renewable energy from solar installations, reducing Scope 2 emissions by 92 tCO₂e.



Scope 3 Emissions Fluctuations

Scope 3 emissions decreased by 12%, with a 61% reduction in construction emissions and a 36% increase in air travel emissions.

Recommendations

Based on the findings of the assessment, we made the following recommendations:



Carbon Management – Focus on Main Campus Electricity

UCT should prioritize reducing electricity consumption at the Main Campus, which remains the largest source of emissions.



Further Solar PV Expansion

Additional solar PV installations should be implemented to further displace Scope 2 emissions, contributing to UCT's carbon reduction targets.



Electric Vehicle Fleet Transition

UCT should continue exploring the feasibility of transitioning its shuttle and vehicle fleets to electric vehicles, supported by solar energy infrastructure.



Phase Out High-GWP Refrigerants

UCT should aim to eliminate high global warming potential refrigerants like R22 and adopt climate-friendly alternatives such as hydrocarbons and carbon dioxide.



Construction Data

UCT to submit material quantities when possible to enable more accurate emission calculations, which could also capture green building practices.



Commuter Travel

UCT to conduct an updated commute survey of all students and staff - UCT is working on this along with other universities to establish a consistent best practice methodology.



MANFRED BRAUNE
Director Environmental
Sustainability | UCT



I really appreciate the approach that GCX takes to undertaking a carbon footprint assessment.

They are professional, accurate but pragmatic, not expecting unrealistic data that is impossible for the client to collect. The service we have been getting from GCX has been excellent.

