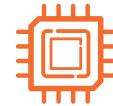




UNIVERSITY  
of  
JOHANNESBURG

The Future  
Reimagined



# 2021 Stakeholder Report

## 10. ENVIRONMENTAL SUSTAINABILITY



UJ has committed itself to improving on its sustainable practices in all of its University activities. The development of the UJ Strategic Plan 2025, anchored in the overarching goal of global excellence and stature, has placed a requirement on the institution to improve upon its sustainability footprint. Strategic Objective Six, fitness for global excellence and stature, states that *"We will also minimise harmful impact on our environment through managing our carbon footprint, reducing energy and water wastage, encouraging paperless communication, and overall fostering of a culture of responsible stewardship"*.

UJ has seen a growing commitment towards the goal of being a sustainable institution that strives to implement improvements and actions across all spheres of its campus activities. UJ firmly believes that sustainable development is a long-term commitment and aims to positively contribute to sustainability by reducing its environmental footprint, while enhancing its contributions to the social and economic development of South Africa.

### CARBON FOOTPRINT

UJ's total carbon footprint for 2021, based on actual energy consumption from various sources, was approximately 37 692 tons of CO<sub>2</sub> compared to the 41 403 tons reported during 2020. This indicates a decrease of approximately 8,96%. This can be attributed almost entirely to the continued effect of the various COVID-19 lockdown levels that were applied at various times during 2021 with the consequent reduction in foot traffic on all UJ campuses and off-campus facilities. However, this is the first time that reporting on power generation has led to a measurable decrease in the carbon generated by UJ – though the decrease of carbon generated must also be seen against the 6,5% electricity generated by the solar PV plants.

### ENERGY SAVINGS

From January to December 2021, the University of Johannesburg achieved an electrical energy savings of 37,69% for all properties, compared to the 2015 baseline (which is the initial value against which reporting is required going forward), based on an absolute measurement methodology. The various energy savings initiatives implemented have started showing positive results. In 2021, Facilities Management started the third phase of the solar PV projects for a total of 1.0 Mwe to be installed at Media Park, SWC fourth residence, and DFC Campus for completion in 2022. By then, more than 20% of UJ's total electrical energy consumption will be generated from renewable resources with further reductions in energy usage – resulting from new high-efficiency equipment and LED lighting.

### NATURAL GAS AND FUEL USAGE

Natural gas usage, petrol and diesel, as well as travel-related usage also contributes with small percentages to UJ's carbon footprint. It must be noted that increasing occurrence of Eskom load shedding has already produced an increase in diesel usage, and this may result in further substantial CO<sub>2</sub> generation in future, since liquid fuels have a higher CO<sub>2</sub> generation per GJ of energy consumed. An investigation has been concluded into the use of electric buses for the extensive student bus service operating between campuses and UJ is ready to procure two electric buses and bus charging stations as a trial.

### WATER MANAGEMENT

Using water sparingly has become a necessity at UJ. A small water savings was achieved for 2021, and compared to 2015, there has been an overall decrease of only 1,88% against the very low values of 2020. Water consumption in 2021, specifically on APK Campus, showed only a 2,95% decrease from the 2019 and 2020 data, even after a major pipe leak had been identified and repaired.

As far as possible, borehole water is now used on all campuses, and the four new boreholes for supply subvention from 2019 are now in operation.

### THE WAY FORWARD

The expanding nature of the campuses, increasing student numbers as well as cost containment pressures will create a challenging environment for the institution to meet its sustainability goals. However, a good foundation has been established to measure and manage sustainability goals into the future.

The focus areas for 2022 will be to expedite further sustainability projects, such as the third phase of solar photovoltaic installations on the APK, DFC, and SWC Campuses, as well as the replacement of geysers with more efficient reverse heat pump solutions in the larger residences. An electric bus initiative will be launched in 2022 and this will positively affect some of the performance figures. Specific additional areas of focus will also include stakeholder engagement, especially with students, the diversification of energy sources with emphasis on renewables, including solar and natural gas, and further technology advancements within sustainability in terms of the new building programmes.



As regards waste management, in 2021, UJ recycled a substantially larger percentage of its total waste generated. In 2021, **51,16%** of waste generated was recycled – as compared to **47,82%** in 2020, **28,24%** in 2016, and only **3,9%** in 2011.

