
UNIVERSITY
OF
JOHANNESBURG
2021
ANNUAL
REPORT
The Future
Reimagined

Statement on Environmental Sustainability

OVERVIEW

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 (GES), has placed a requirement on the institution to improve on its sustainability footprint.

Strategic Objective Six

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 contribute to sustainability by reducing its environmental footprint, while enhancing its contributions to the social and economic development of South Africa.

This report highlights some of the specific focus areas, as well as improvements achieved during 2021.

ENERGY MANAGEMENT

Carbon footprint

UJ's carbon footprint analysis was based on its actual 2021 energy consumption. The total carbon footprint for 2021, based on energy consumption from various sources, is approximately 37 692 tons of CO_2 compared to the 41 403 tons reported during 2020 (refer to Tables 17 and 18, respectively). 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.

In considering this figure, the following should be noted:

- UJ has increased its built area footprint by 10,65% as from 2013.
- The Auckland Park Kingsway Campus continued to contribute significantly to the overall carbon footprint with 22 865 tons of CO_2 compared to the overall University footprint of 37 692.
- Infrastructure on the campuses is included in the consumption figures.
- The methodology of measuring the carbon footprint is based on absolute consumption on main campus areas, excluding UJ owned properties that are not designated as part of the campuses.
- It is the first time that reporting on power generation has led to a measurable decrease in the carbon generated by UJ – the decrease of carbon generated must also be seen against the 6,501% electricity generated by the solar PV plants. This must also be seen against the fact that at times the solar PV plant was not operating optimally because of the lighter foot traffic on the campuses – this will certainly not be the case in 2022.

Catbot fuel

Catbot fuel is used for the purposes of generating hot water for the central air conditioning plant on APK during the five winter months. Catbot fuel is used to run two hot water generators for the generation of hot water, which is distributed and circulated through the air conditioning system on APK. At present, the catbot fuelled boilers are being repaired and no catbot fuel was used in 2021 at all.

WATER MANAGEMENT

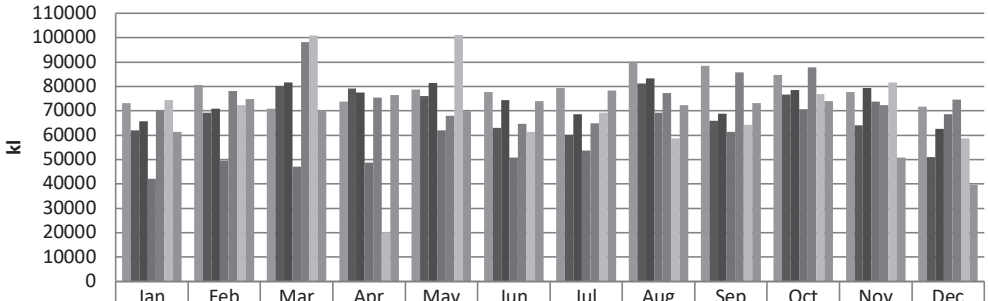
Using water sparingly has become a necessity at UJ. A small water savings was achieved for 2021, and compared to 2015 there has been an overall decrease of only 1,88% against the very low values of 2020. The APK water consumption in 2021 showed only a 2,95% decrease from the 2019 and 2020 data, even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

A number of initiatives implemented in 2021 contributed to some water savings. The key focus areas in the reduction of water consumption for 2019 were as follows:

- Harvesting rainwater for the purpose of irrigation.
- Achieving 95% installation of water restricting showerheads in residences and installing 100% of new residences with low flow showerheads.

The key focus areas in the reduction of water consumption for 2022 are as follows:

- Ensuring that all new student residences make use of push-taps at kitchen hand basins and bathrooms, and trialling push-taps in shower cubicles to reduce water loss due to inadvertent open tap losses after water supply cuts.
- Completing the drilling programmes for an additional new borehole on each of the campuses, for the purpose of using the water for irrigation.
- Benchmarking water usage against other universities and using this as an incentive to increase savings at UJ.
- Conducting further awareness campaigns on campuses and in residences to achieve water savings.
- Continuing with the ongoing installation of water restricting showerheads and extending the retro-fitting of push-taps in residences and ablution facilities as funds and technological factors permit.
- Considering the use of waterless urinals to reduce water consumption and investigating a waste concentration system on the APK Campus to reduce sewage costs and allow for substantial water recovery for irrigation purposes.
- Another grey water trial is expected to be developed in 2022, which, if more successful than in the past, will be extended to other residences and high-traffic ablution facilities.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2015	73158	80544	70927	73669	78822	77771	79440	90022	88473	84743	77708	71791
2016	61918	69125	80266	79138	75987	62988	60147	81248	65956	76664	64064	51098
2017	65786	70927	81654	77476	81403	74447	68537	83248	68746	78597	79358	62587
2018	42141	49537	47030	48802	61999	50861	53777	69197	61327	70617	73860	68653
2019	70094	78093	98118	75430	68003	64769	64862	77256	85798	87729	72424	74550
2020	74413	72395	100929	20310	101147	61281	69309	58591	64269	76802	81562	58781
2021	61316	74745	70154	76470	69898	73921	78271	72378	73155	74038	50912	39746

Figure 3: UJ total water consumption comparison from 2015 to 2021