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OF  
JOHANNESBURG

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ANNUAL  
REPORT:  
SDG REPORT

13 CLIMATE  
ACTION



SDG 13: CLIMATE ACTION

Our Future  
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# UJ SDG REPORT 2023

## SDG 13: CLIMATE ACTION

# 13 CLIMATE ACTION



# Report on the University of Johannesburg's Contribution to Sustainable Development Goal 13

## SDG 13: Climate Action

### OVERVIEW: EXECUTIVE SUMMARY

This report outlines the University of Johannesburg's (UJ) contributions to the United Nations' Sustainable Development Goal 13 (SDG 13) on Climate Action during the 2023 academic year. UJ has taken a proactive role in addressing the climate crisis, making significant strides towards achieving SDG 13. In 2023, UJ's climate action strategy focused on both mitigating climate change and enhancing climate resilience through innovative practices and the implementation of sustainable infrastructure. The university made measurable progress by adopting renewable energy solutions, enhancing its energy efficiency, and promoting sustainable transportation options across its campuses.

A central initiative was the expansion of solar power generation capacity across UJ's campuses, contributing to the university's goal of carbon neutrality by 2050. UJ also integrated green transportation solutions, including the introduction of more electric vehicles (EVs) to replace traditional buses, and improved its waste management practices to reduce waste sent to landfills. Additionally, UJ continued to engage with students, faculty, and the

surrounding communities through educational programmes, research on climate resilience, and practical community outreach initiatives focused on sustainability.

This report outlines UJ's contributions to SDG 13, focusing on specific activities, initiatives, and outcomes achieved in 2023. The university's work in renewable energy, sustainable infrastructure, research, and community engagement will be discussed in detail to highlight the significant role UJ is playing in the global effort to combat climate change.

## **INTRODUCTION**

The global climate crisis is one of the most urgent challenges facing humanity today. Rising temperatures, extreme weather events, and changing weather patterns are all indications of the profound effects of climate change, with the poorest and most vulnerable communities being the most affected. SDG 13 calls for urgent action to combat climate change and its impacts. This includes efforts to mitigate climate change, increase climate resilience, and reduce greenhouse gas emissions.

The University of Johannesburg (UJ) has embraced this challenge and positioned itself as a leader in climate action within South Africa and beyond. As an educational institution, UJ has recognised its responsibility not only to reduce its carbon footprint but also to educate and empower future leaders to tackle the climate crisis. Through innovative practices in energy use, waste management, sustainable transportation, and climate resilience research, UJ has integrated sustainability into its core activities.

In 2023, UJ's contributions to SDG 13 were guided by the university's long-term sustainability strategy. This strategy focused on achieving a carbon-neutral campus, enhancing the resilience of local communities, and fostering an academic environment that prioritises climate change research and sustainability education. This report explores the initiatives UJ implemented in 2023 to align with SDG 13 and highlights the university's ongoing commitment to climate action.

## **KEY ACTIVITIES AND INITIATIVES**

UJ's activities in 2023 in support of SDG 13 spanned a wide range of initiatives, with a central focus on reducing carbon emissions, improving energy efficiency, enhancing climate resilience, and raising awareness about climate change. Below are the key areas where UJ made significant contributions.

These policies serve as the foundation of UJ's broader gender equity strategy and align with the university's goal of achieving a more equitable and inclusive institution. UJ's Transformation Unit, tasked with overseeing institutional transformation initiatives, has been central to the implementation of these policies. In 2023, the Transformation Unit collaborated with key stakeholders across the university to assess existing gender imbalances and propose solutions to enhance women's representation, particularly in leadership positions.



## ***1. Energy Management and Solar Power Generation***

A key aspect of UJ's climate action strategy has been reducing its carbon footprint through the expansion of solar power generation capacity. In 2023, UJ achieved a major milestone by increasing its total solar photovoltaic (PV) capacity to 2 MWp across several campuses. These solar installations play a crucial role in powering UJ's facilities with renewable energy, thereby reducing the university's dependence on the national grid and lowering its carbon emissions.

The expansion of solar energy was part of UJ's broader goal of achieving carbon neutrality by 2050. In addition to solar power, UJ implemented a range of energy-saving technologies, including LED lighting systems, motion-sensor lights, and smart thermostats in buildings across campus. These upgrades were aimed at improving the overall energy efficiency of the university's infrastructure. The combination of solar energy production and energy-efficient technologies led to a 29.4% reduction in electrical energy consumption compared to the university's 2015 baseline, despite increased demand due to a return to in-person campus activities in 2023.

In addition to renewable energy, UJ has been actively exploring energy storage technologies to improve the efficiency of solar power usage. By storing excess energy generated during the day, UJ can use solar energy at night or during peak consumption periods, reducing reliance on the grid and further lowering its carbon footprint.

## ***2. Sustainable Transportation and Green Mobility***

Transportation is a major contributor to global carbon emissions, and UJ has worked diligently to integrate sustainable mobility solutions into its campus operations. In 2023, UJ continued to expand its fleet of electric buses that provide transport between campuses. The introduction of electric vehicles (EVs) into the university's transportation network is a central element of UJ's strategy to promote green mobility and reduce the environmental impact of commuting.

By the end of 2023, UJ had successfully integrated an additional electric bus into its fleet, bringing the total number to three. The buses are powered entirely by renewable energy from UJ's solar power systems, further aligning the university's transport infrastructure with its sustainability goals. UJ plans to increase the number of electric buses on campus in the coming years, eventually transitioning to a fully electric fleet. This initiative not only contributes to reducing UJ's carbon emissions but also serves as a model for other institutions and cities seeking to transition to sustainable public transport.

Additionally, UJ has introduced a bicycle-sharing programme and expanded its bike lanes to encourage cycling as a sustainable mode of transport on campus. By making it easier for students, staff, and visitors to use bicycles for short-distance travel, UJ has reduced its reliance on cars and minimised the environmental impact of daily

commuting. UJ is also working to increase the number of electric vehicle (EV) charging stations on campus, providing the infrastructure needed to support the growing use of electric cars by students and staff.

### ***3. Waste Management and Circular Economy***

Waste management is another crucial area where UJ has made significant strides in 2023. UJ has long recognised the importance of reducing waste and promoting a circular economy, where products and materials are reused, recycled, and repurposed. In 2023, UJ continued to implement effective waste diversion strategies that prioritise recycling, composting, and reducing single-use plastics.

One notable initiative was the expansion of UJ's recycling programme, which has successfully diverted 39.3% of its waste from landfills. This effort was supported by the establishment of waste sorting stations across campus, making it easier for students and staff to separate recyclables, organic waste, and general waste. In addition to traditional recycling, UJ has expanded its composting initiatives, converting organic waste into nutrient-rich compost for use in campus gardens. This initiative has helped reduce the amount of waste sent to landfills while supporting UJ's commitment to sustainable campus landscaping.

Another key project was the university's e-waste recycling programme, which addresses the environmental impact of electronic waste by ensuring that discarded electronics are properly disposed of and recycled. UJ has partnered with local recycling companies to handle e-waste responsibly, preventing harmful materials from contaminating the environment.

Furthermore, UJ's ongoing efforts to reduce paper consumption through its paperless initiatives have been successful in lowering the university's paper waste. The move towards digital communication, e-books, and online resources has played an important role in this reduction. UJ's emphasis on using digital platforms for communication, assignments, and research has significantly decreased the need for printed materials across campus.

### ***4. Community Engagement and Climate Action Outreach***

UJ has consistently worked to raise awareness about climate change and promote sustainable practices in the wider community. In 2023, UJ's Community Engagement (CE) unit organised several initiatives focused on environmental sustainability and climate action. For example, during Nelson Mandela International Day, UJ staff and students participated in community clean-up campaigns and tree planting activities aimed at improving local environmental conditions.

Additionally, UJ collaborated with local schools and community organisations to provide education on climate resilience and sustainable practices. These outreach efforts help to increase public awareness of the importance of climate action and encourage communities to adopt more sustainable lifestyles.

## ***5. Climate Change Research and Education***

Research and education are central to UJ's approach to addressing climate change. As part of its commitment to advancing climate action research, UJ has focused on the development of green technologies, sustainable urban planning, and climate resilience. In 2023, UJ's Centre for Climate Resilience continued to lead interdisciplinary research aimed at developing solutions to climate-related challenges faced by urban and rural communities.

The university also expanded its academic offerings related to sustainability and climate change. New programmes and courses were introduced in the Faculty of Engineering and Faculty of Health Sciences, focusing on sustainable design, climate change mitigation, and environmental policy. UJ's commitment to integrating climate action into its curriculum ensures that students are equipped with the knowledge and skills needed to address the climate crisis in their professional careers.

In addition to academic programmes, UJ's involvement in climate-related projects has extended to local communities. In 2023, UJ collaborated with several non-governmental organisations (NGOs) and local government bodies on climate adaptation projects aimed at building resilience in vulnerable communities. These projects focus on improving local infrastructure, enhancing water management systems, and increasing public awareness of climate change.



## **CONCLUSION**

The University of Johannesburg has made significant progress in contributing to SDG 13: Climate Action in 2023. Through its renewable energy initiatives, sustainable transportation projects, waste management programmes, and climate change education, UJ has demonstrated a strong commitment to reducing its environmental impact and promoting sustainability across its operations and beyond.

Looking ahead, UJ is committed to further advancing its climate action efforts, with plans to increase the university's solar power capacity, expand the electric bus fleet, and deepen its engagement with climate resilience research. The university's dedication to climate change mitigation and adaptation strategies will continue to guide its efforts in the coming years, positioning UJ as a leader in climate action in South Africa and on the global stage.

Through its continued commitment to sustainability, research, and education, UJ is helping to shape a more resilient, sustainable future for both its campus community and the broader society.

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