Material Issue 4: **Climate Action**

In 2023, Kakuzi continued to make efforts to set up processes and practices that enabled the company to reduce negative environmental impacts and increase operational efficiency as part of its commitment to environmental management.

Regenerative Agricultural Practices and Use of Technology

In our orchards, we undertake regenerative agriculture practices, such as minimising soil disturbances, promoting organic matter through the use of compost, pruning, and planting a cover crop in new development areas. Our livestock department also facilitates depositing organic manure evenly as it employs the use of mobile night enclosures (bomas). These mobile bomas also help in making the cattle and goats trample on tough and less nutritious grass

We use cutting-edge technology to calculate irrigation needs in our avocado and macadamia orchards, using data on evapotranspiration, rainfall, and residual soil moisture. Once the exact amount of irrigation is calculated the water is then applied using state of the art micro jets which accurately place the water in the tree root zone.

Experiments are on-going with cloud-based technology to further improve the accuracy of these systems. We are also exploring the use of drones to distinguish between irrigated and correctly & incorrectly irrigated areas.

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Waste Management and Circular Economy

We have implemented measures to control and limit waste by developing and deploying appropriate environmental and waste management policies. Our waste storage, treatment and disposal practices minimise health or safety risks to our staff and ecosystem. The waste produced is segregated at source to facilitate re-use, recycling, and composting. Any hazardous waste is collected, documented and disposed of through the National Environment Management Authority's (NEMA) approved waste handlers.

We compost our macadamia husks and return them to the farm, enriching the soil with nutrients and reducing the need for other fertilisers. The macadamia shells are also used as fuel at the macadamia factory and in internal road repairs to manage excess dust.

We use biodigesters and constructed wetlands to manage liquid waste from processing facilities.

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Case study: Circular economy - Use of Macadamia shells in boilers

The use of cracked macadamia shells as fuel to run boilers has reduced Kakuzi's overall energy consumption.

The Kasioni plant was set up in 2016, and in the first few years, the company struggled to make sure that the boiler was operating as required. "We had a huge labour force, just to attend to the boiler, but when we automated it and started using macadamia shells to run the boilers, we noticed efficiency," said Susan Njenga,

The shells are collected and dried to reduce their moisture content, which facilitates efficient combustion. They are then burnt in a boiler to generate heat, which is used to produce hot water for drying the nuts. The nuts are transferred via a series of conveyors to a drying facility. The heat used for drying them comes from the burning of macadamia shells, which is a byproduct of the processing operation.

To maintain the quality of macadamia nuts, Susan explains that all drying steps are controlled by a computer system. This system allows for precise regulation of the temperature and humidity.

Since the shells are a byproduct of the processing operation, they represent an economically viable option for fueling boilers, potentially reducing operational expenses. Susan adds that by using the shells, Kakuzi effectively manages and utilizes a waste product from its primary operations. "This has helped us to reduce the environmental impact of waste disposal and contributes to a more circular economy by turning waste into a valuable resource," she says.

Additionally, the overall carbon footprint has been reduced, helping the company contribute to environmental sustainability efforts. Apart from the macadamia cracking facility, several staff members who have boilers in their houses are using the shells. Moreover, the shells are also used on pathways within Kakuzi. The excess shells are sold to local users with similar drying facilities.

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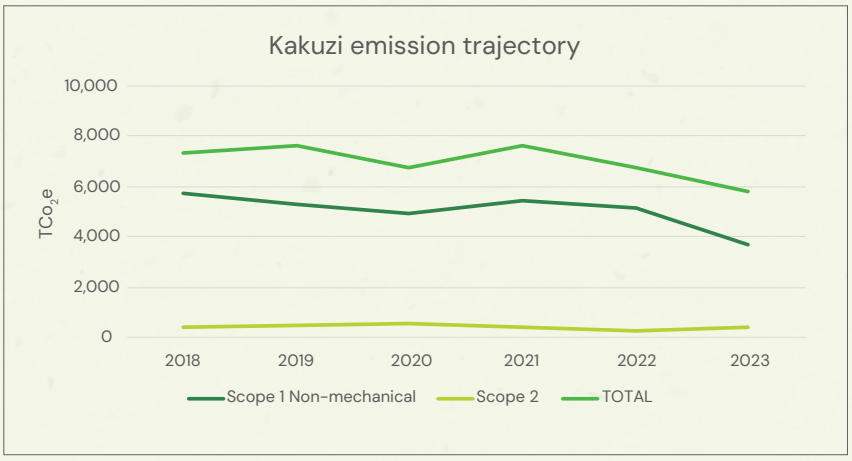
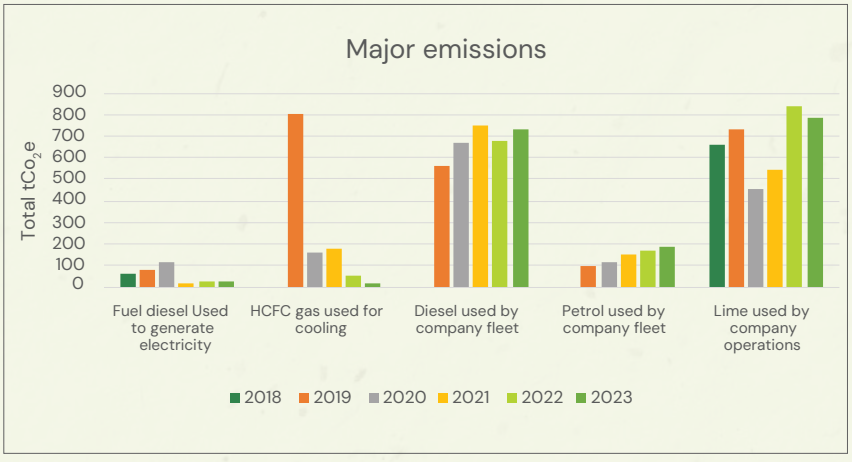
Kakuzi's Approach to Climate-related Risks

Our commitment to climate action is further demonstrated by the consistent measuring of our carbon footprint through our operations with a view to reducing emissions. We collect data from fuel consumption, electricity usage, tractor and machinery usage on a monthly basis. .

Kakuzi Plc has made significant strides in reducing its carbon footprint in 2023. Despite some challenges, the company has managed to decrease its carbon dioxide emissions, improve energy efficiency, and implement strategies that have led to a reduction in total tCO_2e. However, the company is still in the process of finalizing its Scope 3 emissions data.

Scope 1





Carbon Dioxide Emissions

Kakuzi PLC has successfully reduced its carbon emissions for Scope 1 and 2 over the past two years. This achievement, however, was slightly offset by an 11% increase in emissions from diesel used for electricity generation, a consequence of more frequent power interruptions.

We made a significant breakthrough by reducing CO_2 emissions by 74% through the adoption of new technology in the cold rooms. The Hydrochlorofluorocarbons (HCFC) normally used in traditional cooling systems is 1,810 times more potent than carbon dioxide emissions. Despite a 20% increase in avocado production in 2023, which necessitated increased usage of pest control interventions, diesel and petrol for transportation, the overall emissions trend is encouraging.

Lime application has increased as a result of the planting of an additional 112 hectares of macadamia trees and 60 hectares of avocado trees. This action was taken to amend the soil based on the findings from a soil analysis conducted prior to planting.

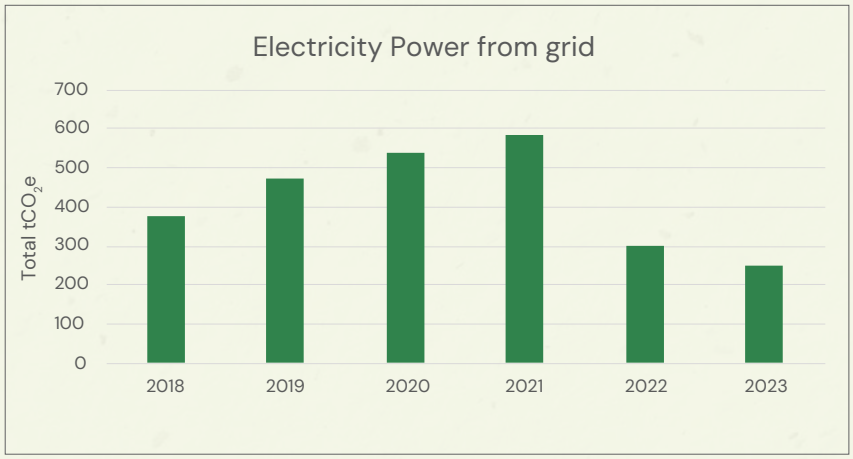
CO_2

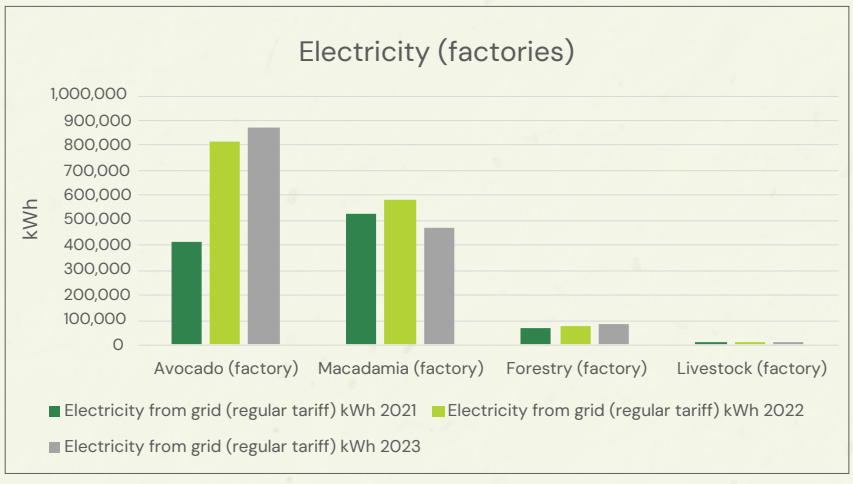
74%

We made a significant breakthrough by reducing CO_2 emissions by 74% through the adoption of new technology in their cold rooms.

Scope 2

Energy Efficiency

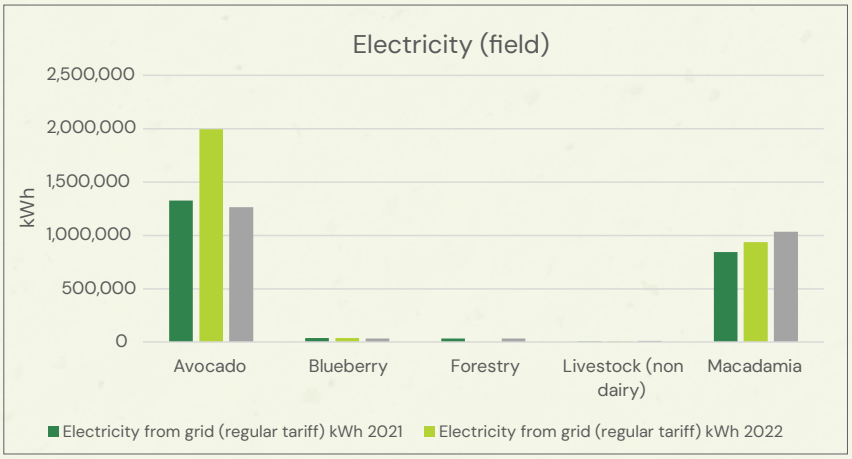


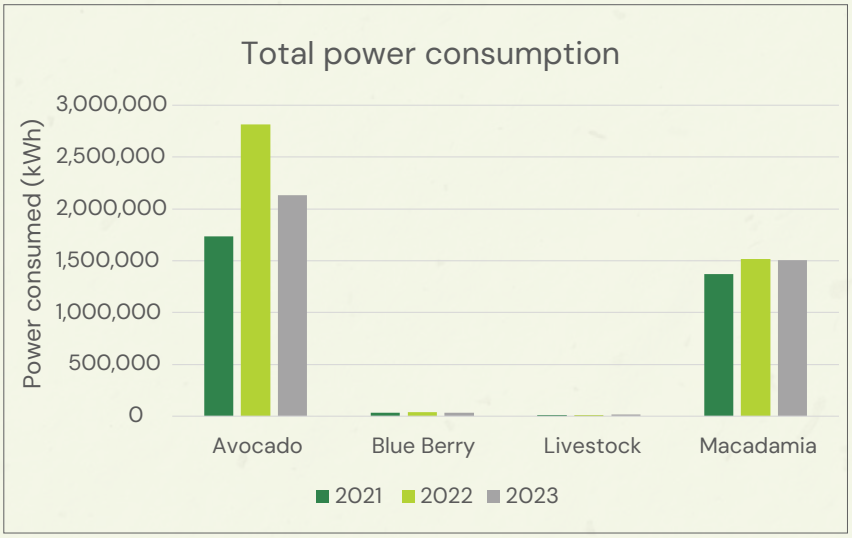


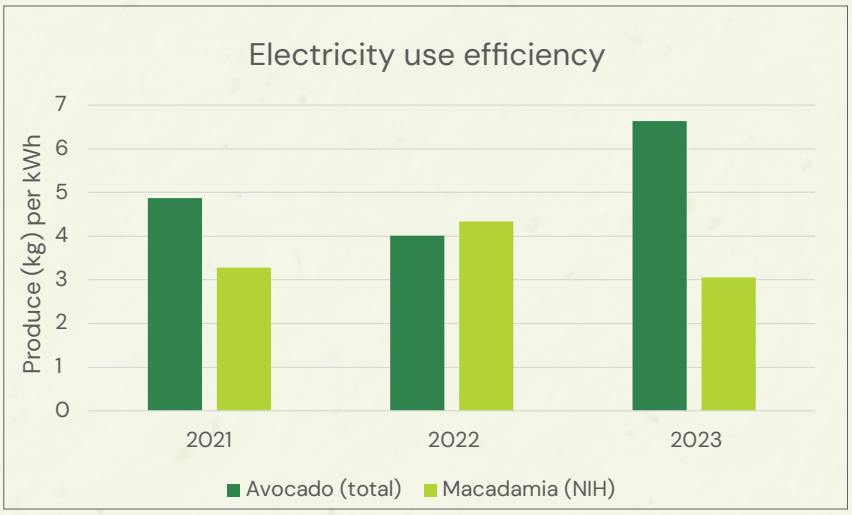
During the reporting period, the main office, avocado field, macadamia factory, blueberry field, and engineering department demonstrated significant achievements in energy conservation, achieving reductions of 39%, 37%, 19%, 16% and 18%, respectively compared to 2022.

In 2023, numerous sensitization forums highlighted the significance of energy conservation and the responsibilities of individuals in this effort. Participants were encouraged to adopt practices such as turning off lights and computers when not in use and replacing traditional lighting with LED alternatives.

This cultural shift towards energy saving appears to have yielded positive results, as evidenced by an overall reduction in power consumption of 763,477 kWh, which translates to a 16% decrease from 2022 to 2023. Additionally, a similar reduction in emissions has been observed. Since 2022, emission factors have been adjusted downward due to Kenya's energy mix, which is predominantly renewable, relying heavily on hydroelectric and geothermal generation.







763,477 kWh

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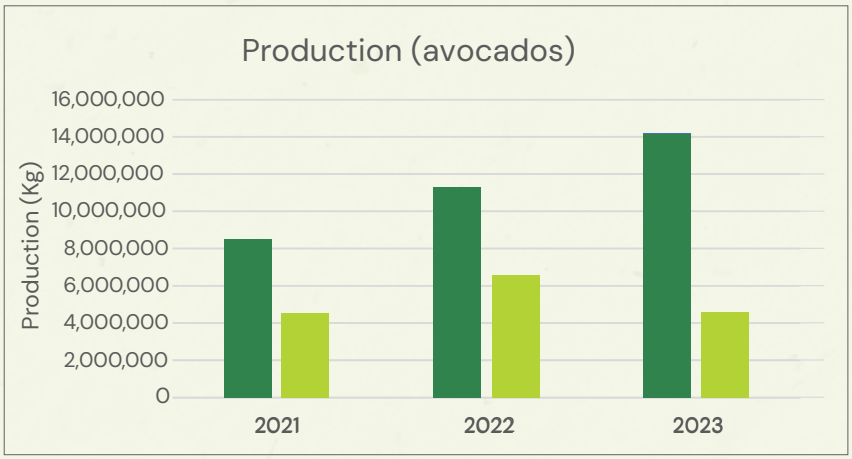
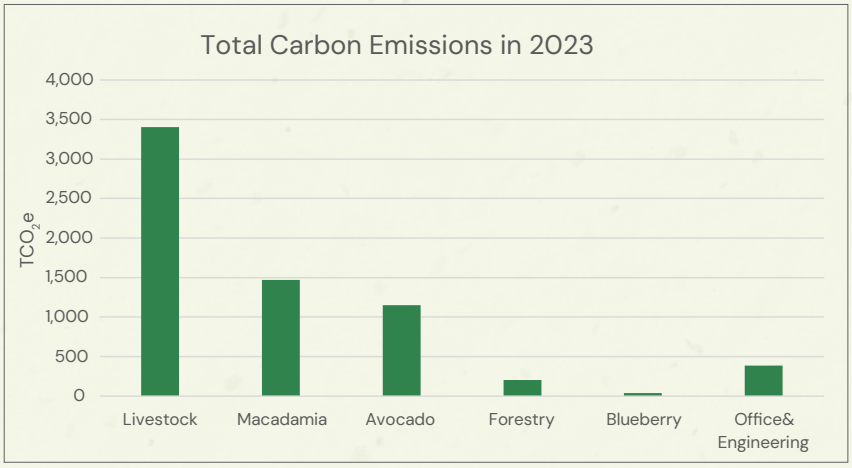
- In the packhouse, we have made significant strides in energy efficiency by commissioning new cold rooms that utilize thermal storage technology. This innovative system allows for ice to be produced during periods of low power demand, which can then be used later, thereby optimizing energy usage. In 2023, we constructed an additional two cold rooms, recording an impressive 50% reduction in energy consumption for our cold storage needs.

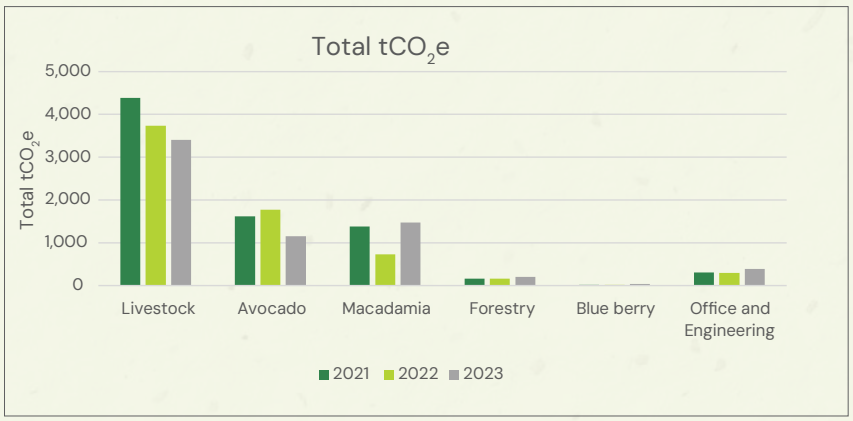
- Meanwhile, in the avocado fields, we have upgraded the water transfer canals between dams, which has led to a notable decrease in energy expenditure. The implementation of gravity transfer systems eliminates the need for power, further contributing to our energy savings. We are also in the process of installing new, more efficient pumps and upgrading existing ones with soft starters. This ongoing initiative has successfully lowered power consumption from 4,458,884kW to 3,810,437kW and factories, aligning with our commitment to sustainable agricultural practices.

Meanwhile, in the avocado fields, we have upgraded the water transfer canals between dams, which has led to a notable decrease in both time and energy expenditure.



The effective area under avocado production for 2023 was 928.87 hectares, resulting in a total avocado production of 14,153,026 kg. This represents an increase of 58.16 hectares in production compared to 2022. The average yield for the year was 15.2 tons per hectare, combining both Hass and Pinkerton varieties.





Energy conservation strategies and new cooling technologies resulted in a 35% emission reduction in avocado operations.

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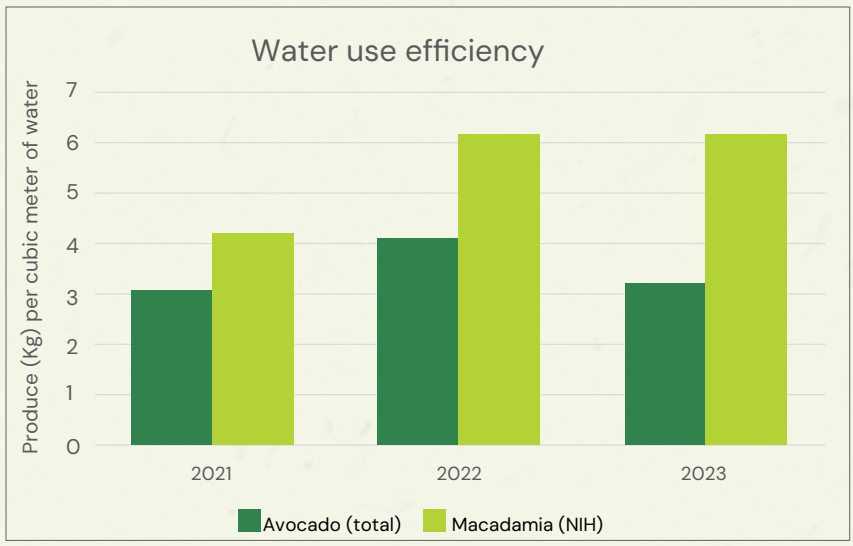
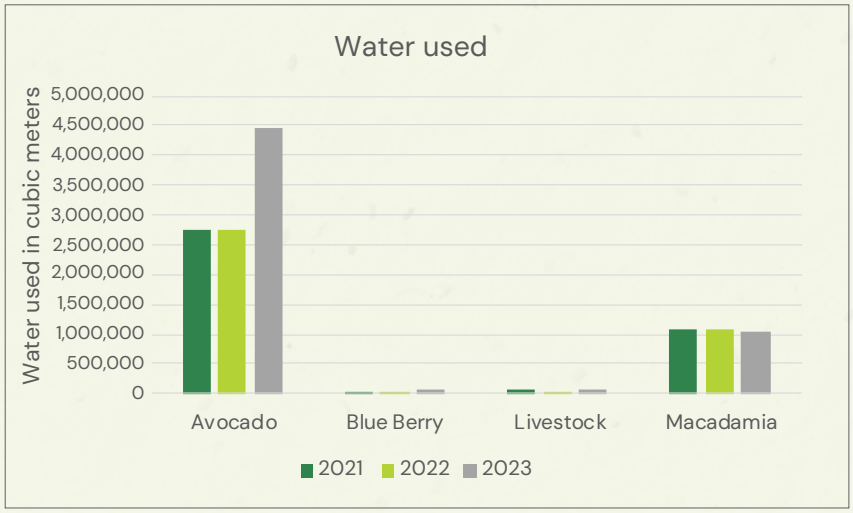
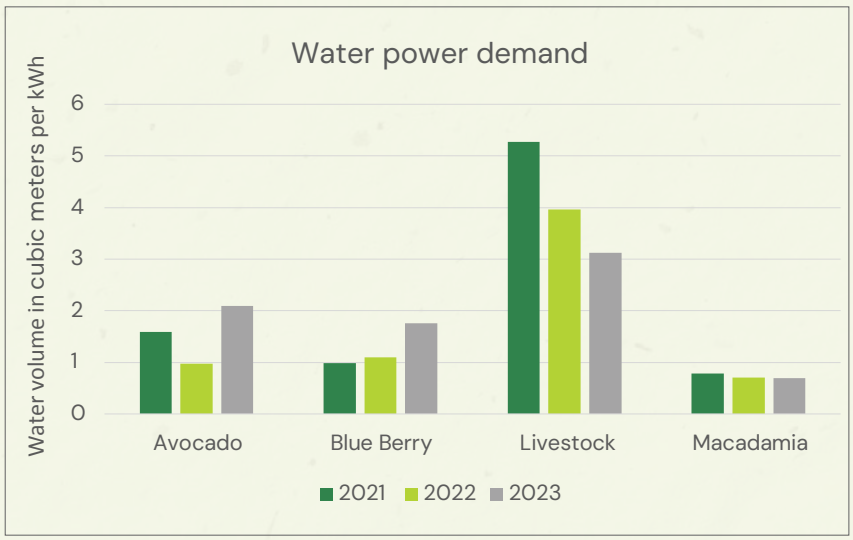
The macadamia operations experienced a notable increase in emissions, primarily attributed to the expansion into new development areas covering 112 hectares. These remote locations require regular irrigation for maintenance, necessitating additional power for water transfer. In contrast, emissions from the forestry, blueberry, engineering, and main office operations remained largely stable during this period.

Water Use







It is important to note that there has been a general increase in water consumption across all operations, largely due to erratic rainfall patterns that have been concentrated within just a few days each year.

It is important to note that there has been a general increase in water consumption across all operations, largely due to erratic rainfall patterns that have been concentrated within the year. This uneven distribution of rainfall has necessitated additional irrigation efforts to meet the water requirements for our crops.

When comparing total water consumption over the past three years, we see a significant rise: in 2021, where we consumed 4,093,648 m^3; in 2022, consumption slightly decreased to 4,060,949 m^3; however, in 2023, total water consumption surged to 5,752,933 m^3. This trend underscores the increasing need for irrigation to compensate for the inconsistent rainfall and contribute to the sustainability of our agricultural practices.

Scope 3

We are in the process of finalizing our Scope 3 emissions data, which includes 15 categories of emissions. These categories cover a wide range of activities, from the production and transportation of assets to waste treatment and business travel.

Kakuzis' Approach to Climate Risks - Climate-related in accordance with recommendations by the task force (TCFD)

Our Response to TCFD Disclosures- Climate Risk Management

Introduction

Kakuzi's primary activity is agriculture and thus, climate change is pertinent to Kakuzi Plc. The Company is experiencing the impacts of climate change, to varying degrees, and is aware that without local and global intervention, this will only increase. As such, we are cognisant that financial flows should be directed towards climate adaptation, aligning with the Paris Agreement's objective to limit the global temperature increase to within 2°C above pre-industrial levels. As science progresses, our understanding of the impact of climate change will evolve and influence how the Company mitigates and adapts to these risks. The transition may, in due course, present opportunities and the Company continues in its efforts to work collaboratively and dynamically at a local and global level.

Governance

The Kakuzi Board is responsible for establishing the corporate governance pillars, setting strategic direction, reviewing business performance and supervising the management of its operations. The Board has also oversight of Environmental, Social, and Governance matters that are central to our sustainability strategy; it sets the strategy for the management of climate-related risks and opportunities; the Board, also, monitors the implementation of this strategy. Climate-related risks are identified, assessed and managed in the same way as other material risks that could impact the Company's operations. The responsibility for implementing the strategy and developing detailed individual initiatives and targets is devolved to Management.

To support the implementation and adoption of the Company's climate-related financial disclosures (CFD) programme, a focus group has been established. The focus group is a cross-functional team which considers key CFD matters. The focus group discusses a variety of topical environmental matters including practical initiatives to support the Company's climate resilience activities. The focus group reports to the Board Audit & Risk Committee through the Company's risk maps. This provides oversight at an operational level and helps to identify, quantify and prioritise risks and opportunities.

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Strategy

So as to capture the risks and opportunities, the Company has considered the potential risks and opportunities that climate change may present. The Company has categorised the risks and opportunities by potential impact and likelihood, based on management's assessment, and on whether the risks were physical or transitional. The risks and opportunities were then analysed over three set timeframes, as set out below.

Short Term	0 – 3 years
Medium Term	3 – 10 years
Long Term	10+ years

These timeframes are broadly aligned with the Company's forecasting and planning cycles, including longer term planning cycles which is an essential part of bearer crop agricultural investment.

The risks and opportunities identified by the Company are summarised in the table below.

Risk	Impact	Mitigation
Changes in weather patterns *Physical Risk (Chronic)* Time Horizon: Medium to Long term	• Uneconomic yields and returns • Changes in pests and diseases, including more widespread occurrence • Shifting of growing seasons and impact on market supply and pricing • Increased capital expenditure and operating costs • Negative impact on natural ecosystems (loss of biodiversity) • Drought and flood risks • Crop and soil health, including increased agrochemical requirements • Changing working environment for labour force • Damage to property, plant and equipment and resulting disruption to operations	• Continue to diversify crops and varieties including advice, support and training to smallholder farmers • Enhance biodiversity through interplanting and rewilding • Continue to enhance farming practices, including relating to soil health and integrated pest management • Invest in and expand sustainable energy supplies • Invest in technologies to increase energy efficiency and reduce resource consumption, as well as those to monitor and forecast changing weather patterns
Increased frequency and intensity of extreme weather events *Physical Risk* *(Acute)* Time Horizon: Short to Long Term	• Increase in price volatility • Damage to property, plant and equipment, including crops, resulting in disruption to operations and increased maintenance costs • Soil erosion • Damage to local and community infrastructure • Disruption to supply chains and the resultant impact on operations	• Expansion of reservoirs to capture rainwater, providing resilience against drought • Crop and business insurance, where available • Diversifying supply chains and trading routes • Planting erosion-prevention crops
Community and workforce disruption *Transitional Risk (Policy and legal)* Time Horizon: Short to Long Term	• Physiological impact of climate change on labour productivity • Psychological stresses due to loss of livelihoods, including displacement of communities • Increased employee health and safety regulations and associated costs of providing clinics • Increased threat of community conflict	• Employee welfare support • Monitor working practices • Community partnership projects and climate change awareness forums to increase their climate resilience • More engagement with local enterprises to support local economies

Green technologies *Transitional Risk (Technology)* Time Horizon: Medium to Long Term	• Investment in sub-optimal technologies • Operational adapt challenges • Resistance to new technologies and mechanisation from workforce and communities, leading to increased costs of implementation • Obsolescence of existing assets and infrastructure • Threat of theft • Potential higher operating costs • Investment in climate change adaption and resilience by suppliers could lead to higher operating costs	• Investigate potential decarbonization solutions and cost reduction, including appropriate security measures • Increase efficiencies in the use of water, energy and agrochemicals, as well as reduced waste • Reduce reliance on unstable external energy supplies
Regulatory changes *Transitional Risk (Policy and legal)* Time Horizon: Short to Long Term	• Restrictions on use of business-critical inputs, including land, energy, water and agrochemicals • Investment in climate change adaption and resilience by suppliers could lead to higher costs • Inflationary impact of carbon taxes and tariffs across the supply chains • Increased compliance costs • Potential barriers to market due to lack of solutions • Disparity in regulations between markets could create barriers to trade • Obsolescence of existing assets and infrastructure • Misalignment of regulations and the business' commercial and operational ability to adapt	• Disparity in regulations between markets could create market opportunities • Consideration and adoption of climate-friendly inputs • Investigating potential decarbonization solutions • Encourage restoration of local ecosystems and biodiversity
Access to inputs from suppliers *Transitional Risk (Market)* Time Horizon: Short to Long Term	• Supply/demand imbalance for inputs, such as water, fertilizers and energy, impacting availability and cost • Disruption of supply from smallholder farmers	• Promote regenerative agriculture practices to improve soil health and reduce the use of agrochemicals and composting • Enhance procurement policies and collaboration with key suppliers • Invest in green energy to reduce reliance on the grid and fossil fuels
Changing customers supply chain policies *Transitional Risk (Market)* Time Horizon: Short to Long Term	• Risk to reputation, if sustainability policies and certifications are not met • Loss of access to markets and customers • Increased operational and compliance costs • Obsolescence of existing assets	• Invest in people and systems to ensure compliance with evolving policies • Collaborate with suppliers and customers to foster sustainable policies throughout the supply chain • Explore lower-carbon options to reduce Scope 3 emissions

Many of the possible risk mitigation measures noted above could also present potential opportunities to the Company's business. The main potential opportunities identified are:

- New revenue streams and enhanced profitability through diversification of crops and markets.
- Improved yield and more resilient harvests following a review of agronomic practices, including enhanced biodiversity through interplanting, mulching and rewilding, replanting with more climate-resilient varieties and enhanced farming practices.
- Reduced costs and less reliance on unstable external energy and water supplies by investing in sustainable energy and water supplies and technologies.
- Commercialization of infertile land e.g. installing solar fields on redundant land; and establishment of poly tunnels for intensive hydroponic based crop production systemsLower carbon emissions and costs via cooperation across the value chain.

Detailed quantitative modelling of climate impacts on the Company's operations is required to deepen our understanding of the potential materiality, scope and financial impact of the identified risks and opportunities. This assessment may also reveal additional risks and opportunities. The Company intends to do this analysis in due course.
The impact of the risks and opportunities identified will vary depending on which of the climate scenarios outlined within the UN's Intergovernmental Panel on Climate Change (IPPC) Representative Concentration Pathways (RCP's) transpire. The risks and opportunities that the Company identified have not yet been modelled in line with the RCP's.

The Company anticipates that the following may affect different RCP's:

- Rainfall patterns, including when rainfall occurs and changes in the amounts and severity. This may impact seasonal crop growth patterns, crop yields and levels of pests and diseases.
- Heat levels, such as prolonged heat and higher temperatures can also have a significant impact on crop yields and levels of pests and diseases as well as employees' health and ability to work.
- Prolonged periods of drought similarly impact yield and levels of pests and diseases and ultimately the survival of the crop
- The occurrence of more extreme weather events will impact crops and yields and may adversely impact critical infrastructure at the Company and within our supply chains.

Climate-related risks and opportunities have a significant impact on the Company's business strategy and sustainability. Climate change considerations are monitored and are integral to the Company's strategic decision-making process. The short-term risks and opportunities identified are relevant to the operational forecasting cycle, with medium and longer-term risks and opportunities pertinent to the Company's strategic planning.

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Risk Management

Climate-related risks are identified, assessed and managed in the same way as other material risks that could impact the Company's operations. The categories of risks considered and detailed in the table above are based on guidance issued by the Task force on Climate related financial disclosures (TCFD). The materiality and relative significance of climate-related risks is determined by considering a risk's likely impact on business sustainability and resilience, financial resources and social impact in the short, medium and long term. Management of risks may include mitigation, transfer, acceptance or control.

Existing and emerging regulatory requirements related to climate change (e.g. limits on emissions, carbon tax, regulatory energy saving requirements) have been considered by the management in the compilation of the CFD disclosures. External experts and consultants are engaged to advise where relevant, for example, site level water risk assessments, soil sequestration studies and carbon emissions reporting. Analysis and any recommendations, where relevant, are considered by management.

Metrics and Targets

The Company's management captures and monitors site-level climate data, such as rainfall and temperature, generating trends and highlighting potential changes in the climate. The Company reports the energy savings initiatives that it has installed and further energy savings initiatives that it is investigating for implementation in the next five years. This reduces the Company's reliance on GHG emitting fuels. Since 2015, the Company has measured its Scope 1 and 2 emissions, along with water use and waste. In 2023, the Company undertook its first Scope 3 footprint, measuring emissions throughout the value chain. Refer to section on Material Issue 4: Climate Action above.

Once the Company conducts its quantitative modelling of the climate-related risks and opportunities identified, further Key Performance Indicators (KPIs) may be established and reported. The Company's existing site-level climate data will help inform quantitative modelling. The Company will then endeavour to generate plans and targets to improve the KPIs, to mitigate the impact of the identified risks and harness the opportunities. Carbon sequestration is expected to form an integral part of the carbon balance calculations. The Board and Management are still evaluating metrics and targets against the risks and opportunities identified. We, however, strive to be transparent as we gather more data and set KPIs against the various variables.

5 Years

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