



YUKON

# Sustainability REPORT



2023

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‘It’s what you do in the **present** that will redeem the past and thereby change the **future**.’

- Paulo Coelho  
*Brazilian lyricist and novelist*



# Foreword

**This Sustainability Report focusses on Yukon International. Yukon International is the leading South African producer and exporter of speciality produce. We source edible flowers, micro herbs and exotic fruit for our gastronomy-focused customers who share the same passion for beautiful, fresh and flavourful produce.**

This report highlights the efforts and impact that Yukon International, as well as Yukon Farms for Food Waste data, have had over the past year. Having similar sustainability pillars to our parent company, the Unlimited Group, we focus our sustainability efforts towards: (1) carbon footprint minimisation; (2) food waste reduction at Yukon Farms; (3) sustainable packaging solutions; and (4) biodiversity and soil health preservation and conservation across our operations.

Carbon data capturing has become a driving force in the way we operate as a business. The focus on soil health at Yukon Farms has led to a further composting project. The Lona Group have begun devising a decarbonisation strategy subsequent to having baselined the entire Group in 2022. This has been an exciting project however the figures in the data are sobering.

As a producer and exporter, we cannot overlook the implications that carbon taxation can have on our business operations. Recognising this urgency, the Unlimited Group has embarked on a comprehensive plan to mitigate the company's carbon footprint through strategic carbon offsetting projects. A plan for Yukon International will follow this. Among these endeavours is the large-scale rehabilitation of spekboom, an indigenous plant species renowned for its exceptional carbon

sequestration capabilities.

Furthermore, our commitment to energy diversification has propelled a significant shift towards harnessing the power of solar energy. Across the Group, we have meticulously scoped more than a dozen solar projects, collectively amassing an impressive 6.3 megawatts of capacity. Remarkably, half of these projects have already been operationalized, underscoring our steadfast dedication to sustainable practices. Yukon farms is a benefactor of this project, which has helped operations continue despite the frequent electricity shortages on the farm.

A major new focus this year was biodiversity, considering the important role it plays in ensuring long-term sustainability on our land and across our supply chains. Building upon the work the Unlimited Group does, Yukon International and Yukon Farms remains committed to aligning our sustainability efforts with several key United Nations (UN) Sustainable Development Goals (SDGs).

We piloted the GlobalG.A.P Biodiversity audit in South Africa on Yukon Farms, in Bothaville and were awarded a letter of recognition. We also analysed 37 producers within our supply base on the WWF Biodiversity Risk Filter to get an understanding of where the highest risks are.

Our biodiversity restoration efforts were recognised at the Berlin Fruit Logistica, where our participation in the GlobalG.A.P Biodiversity Pilot audits was celebrated.

Our progress on soil and food waste is coming together in a project at Yukon Farms. The focus on soil health at Yukon Farms has led to a further composting project. This is part of our commitment to finding solutions to everyday problems.

Guided by transparency, this report assesses our current sustainability position. We extend gratitude to all contributors – those meticulously documenting data across six pillars, and those refining the layout and design. Their dedication facilitated a comprehensive, visually-engaging report accessible to diverse audiences.

Sustainably yours,

Calle, Claire and Hans



Hans Christiaan Muylaert-Gelein  
*Managing Director*  
Unlimited Group



Claire Bolus  
*Sustainability Manager*  
Unlimited Group



Calle Badenhorst  
*General Manager*  
Yukon International

# Meet the Sustainability Unit and our Champions

## Sustainability Unit



**Claire Bolus**  
Sustainability Manager  
Unlimited Group



**Hannah Hopper**  
Sustainability Assistant  
Food Waste, Social Media  
and Sustainability Report



**Julia Delpert**  
Technical Manager, with a special  
focus on Sustainability Pillars  
Soil Health, Biodiversity,  
Sustainable Packaging and  
Yukon International Sustainable  
Packaging Champion



**Farah Pirouz**  
Consultant  
Carbon Data, Management  
and Procedures

## Sustainability Champions

The Champions collect, capture and share all the relevant data with the Sustainability Unit.



**Calle Badenhorst**  
Carbon Footprint  
Yukon International



**Sonja Coetzer**  
Food Waste  
Yukon Farms

# Our Sustainability Pillars

## Carbon Footprint



We meticulously track greenhouse gas emissions across all our operations, including production, processing, transportation and storage.

### Our Goal

Reduce carbon emissions by 25% by 2030 and reach net zero by 2050

### Reporting Standards

The GHG Protocol's Corporate Accounting and Reporting Standard and SANS 14064-1:2021 (2nd Edition)

### Related SDGs



### Targets

13.1

## Food Waste



We are committed to minimising food waste throughout our entire production and supply chains, with a focus on advancing up the food waste utilisation hierarchy.

Halve food waste and reduce food loss as much as possible along production and supply chains by 2030

Consumer Goods Council of South Africa Food Loss and Waste Accounting and Reporting Standard



12.3

## Sustainable Packaging



We continually evaluate our packaging choices by actively seeking and testing environmentally friendly alternatives while also striving to reduce overall packaging usage.

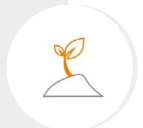
All packaging should be recyclable, reusable or compostable by 2030

International and local reporting and classification standards



12.5

## Soil Health\*



We assess case studies to understand how different soil management practices affect soil health. Our soil and biodiversity projects are closely intertwined.

Restore soil health and ecology to levels that enable quality produce to be grown with minimal use of harmful pesticides

Measuring Soil Organic Carbon as a reference point from selected producers to establish baseline information



15.3

## Biodiversity\*\*



We aim to protect and nurture our farming ecosystems and recommend SIZA Environmental audits, which include assessments of biodiversity, soil quality and water resources.

Preserve biodiversity on all sites we engage with by reducing impacts in the areas

WWF Biodiversity Risk Assessment Tool and GlobalG.A.P., and SIZA Environmental



15.5

## Equality\*\*



We aim to uphold our Level 1 or 2 on the BBBEE Scorecard for our South African-facing businesses: Fruition, FieldFresh Veg and FieldFresh Foods.

Maintain our Level 1 BBBEE across our South African businesses: Fruition, FieldFresh Veg and FieldFresh Foods, to ensure economic inclusion and empowerment across the Group

Broad-Based Black Economic Empowerment Strategy



10.1  
10.2  
10.3

\*These pillars are part of the Unlited Group's sustainability pillars, but they have been combined in this report for Yukon International.

\*\*This pillar is part of the Unlited Group's sustainability pillars, but it does not apply to Yukon International.



# Carbon Footprint

## Introduction



**Goal 1:**  
Reduce carbon emissions by 25% by 2030.



**Goal 2:**  
Develop a net zero plan for 2050.



- Objectives:**
- Include 95% or more of Yukon's emissions in our annual carbon footprint calculations for Yukon International's business activities.
  - Identify problem areas within monitoring process and business units and investigate alternatives.
  - Reduce carbon emissions by implementing suitable projects.
  - Develop a decarbonisation strategy for the Unlimited Group, including Yukon International and Yukon Farms.



Our goals are in accordance with the UN SDG 13- Climate Action. The baseline year for our data is 2022. Through extensive work done with IBIS Consulting to collect data and set out a decarbonisation strategy for the Lona Group, we have been able to improve data quality and management. IBIS helped us to identify problem areas and put forward alternative solutions to assist with an emissions reduction strategy. While we did not consult specifically for Yukon International during this process, we have gained valuable insight which we will adopt for our activities. More information can be found in the latest Unlimited Group Sustainability Report.



Each year, the Sustainability Unit collaborates with Carbon Champions at Yukon International to track all activities contributing to greenhouse gas emissions. This process challenges account managers and logistics professionals to consider their operations in a new light, akin to exploring a fourth dimension! We appreciate their openness to this perspective shift.

To determine our carbon footprint, direct and indirect emissions are accounted for (Scope 1, 2, and 3). To ensure accurate data, we continuously track and collect our carbon data for the calculation process. This is reviewed and updated annually to monitor the actual emissions and track the progress towards achieving the set goals.

There has been an observed an uptick in enquiries from customers and industry organisations, indicating the growing recognition of the importance of a business' carbon footprint measurement. The practice of recording so-called 'activity data' is now becoming ingrained in many of our operations, allowing us to continually enhance our calculations to better evaluate carbon reduction strategies.

The European Union (EU) is implementing the Carbon Border Adjustment Mechanism (CBAM) as part of their EU Emissions Trading System (ETS) which is part of the broader EU agenda on climate change. This has implications for Yukon International. We are predominantly an export business and a large part of our business happens in the EU and the United Kingdom. This will result in a levy paid on imports to equalise the carbon price, which is significantly higher in the EU than it is in South Africa.

The aim of CBAM is to prevent 'carbon leakage' that can occur when industries move production to countries with weaker environmental regulations and lower carbon prices. While the regulations are not yet applicable to the agriculture, forestry and other land use sectors yet, ensuring accurate and adequate measurements of carbon emissions is important.

Together with the Sustainability Hut (Pty) Ltd, we have completed the 2023 carbon audits for Yukon International. Key results are presented in this report.



# Findings

The Unlimited Group has now calculated its third carbon footprint for the following business units: Yukon International, Fruition, FieldFresh Foods, FieldFresh Veg, Icon Fruit as well as the Paarl head office. Calculations were made with updated emission factors and in accordance with the ISO 14064 (2006) and SANS 14064-1:2021 standards. For Yukon International, the reporting period was the financial year 1 January to 31 December 2023. Scope 1 and 2 refer to direct greenhouse gas emissions resulting from the business' own operations. Scope 3 emissions include activities from assets not owned or controlled by Yukon International, but indirectly impact its value chain.

The breakdown of Green House Gas (GHG) emissions across the different scopes remains very similar to last year for Yukon International and is shown in the table alongside.

- **Scope 1:** Combustion of petrol and diesel (mobile and stationary), Liquefied Petroleum Gas (LPG) and refrigerant gas
- **Scope 2:** Electricity consumption
- **Scope 3:** Purchased goods, capital goods, fuel and energy relative activities, upstream and downstream transportation and distribution, waste, business travel and employee commuting

For the reporting period, Yukon International's carbon footprint totalled 16,541 tCO<sub>2</sub>e. This figure is 7% up on than the total carbon emissions of 15,470 tCO<sub>2</sub>e in the 2022 assessment. However, considering variations in value and volume of sold product across the business units and improvements in details of data evaluated (e.g. airfreight routes), this cannot be interpreted as a trend.

Total Scope 3 emissions are 16,279 tCO<sub>2</sub>e and are driven by airfreight in the downstream distribution of fresh produce but the total does not include Scope 3 category 1 and category 12 emissions from raw material and end of life treatment of product. Sometimes a spend-based method using industry averages is used to estimate these emissions but as this approach relies on secondary data it would not offer actionable insights. It is more useful to use a supplier-specific method, and including cradle-to-gate information where available.

Yukon has started to produce and procure closer to market, as well as shipping more by sea freight, so the overall carbon intensity of its business will decrease and total emissions in tCO<sub>2</sub>e, as well. Another focus is on engaging with logistics providers on the availability of sustainable aviation fuel and alternative marine fuels, as current high costs and limited supply make the adoption of these opportunities expensive. The addition of Forest, Land and Agriculture (FLAG) emissions remains a priority for businesses based on selling agricultural products. Tracking FLAG emissions has several difficulties as Yukon sources products from different parts of the country, as well as different parts of the world, with varying practices and environmental regulations.

## Yukon International FY2023 Carbon Footprint

Sum of Emissions (tCO <sub>2</sub> e)	2023
<b>Scope 1</b>	<b>121</b>
<b>Scope 2</b>	<b>141</b>
<b>Scope 3</b>	<b>16,279</b>
1. Purchased Goods and Services	270
2. Capital Goods	
3. Fuel and Energy Related Activities	15
4. Upstream Transportation and Distribution	461
5. Waste Generated in Operations	0,4
6. Business Travel	34
7. Employee Commuting	30
9. Downstream Transportation and Distribution	15,469
12. End-of-life treatment of sold products*	tba
<b>Grand Total</b>	<b>16,541</b>

\* Currently not calculated for Yukon International.





## Findings (continued)

Although total GHG emissions have remained nearly unchanged, we have observed a decrease in emissions from electricity, as expected with an increased reliance on renewable energy from various solar systems.

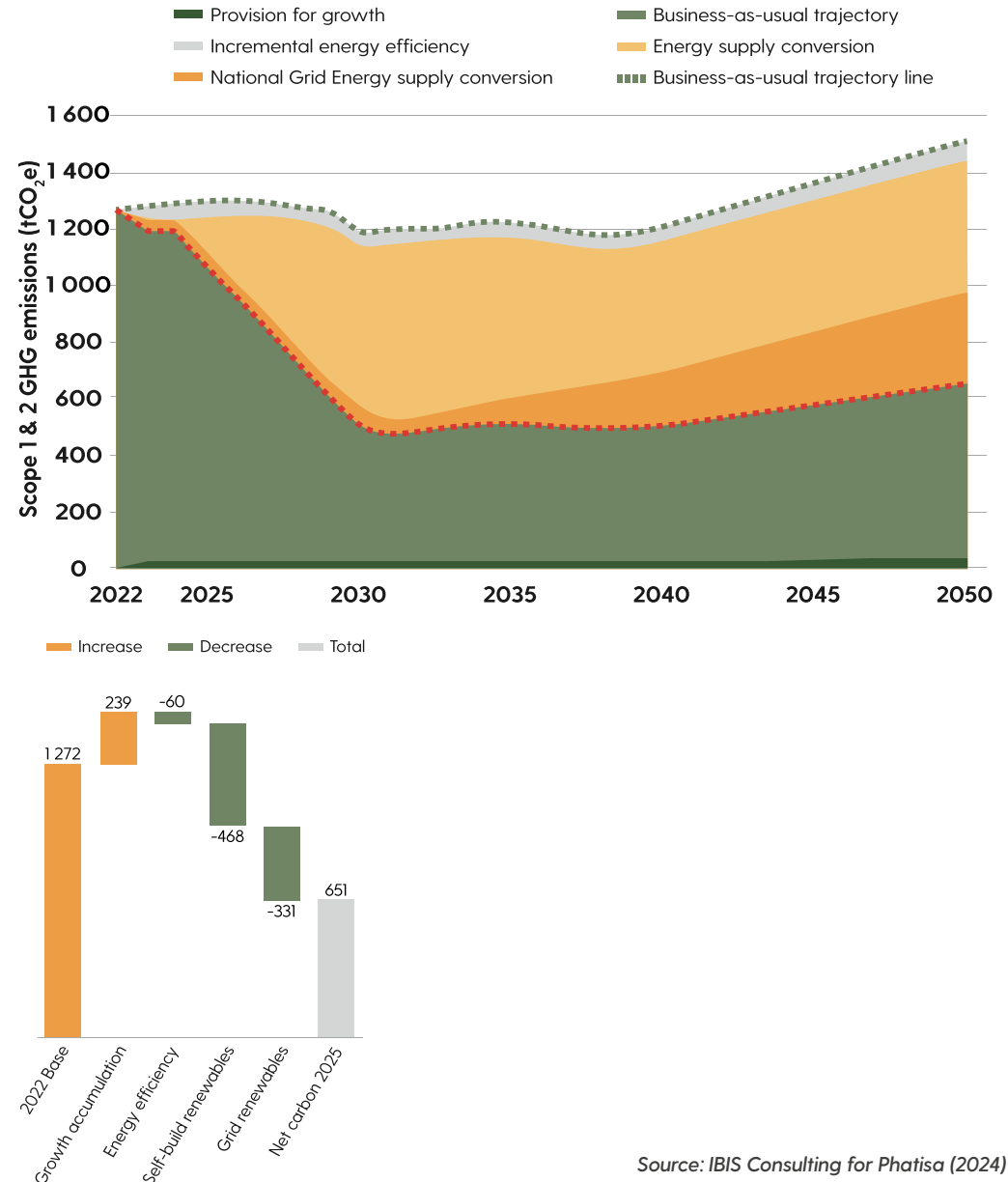
Regarding our established goals and objectives for the carbon pillar, we are continuously expanding the collection of activity data to enhance awareness within the business units. We have not considered Category 12 emissions for the end-of-life treatment of sold products but will include these in the 2024 assessment.

## Long-term outlook on mitigating carbon emissions

In the base case scenario for Scope 1 and 2, the IBIS study considers solar installations already operational across the group, as well as plans for a solar-powered irrigation system at Yukon Farms. It also assumes a 50% decarbonisation of the grid supplied electricity in South Africa by 2050. When including Scope 3 in the base case scenario, achieving our goal of 100% recyclable packaging or compostable packaging by 2030 will reduce forecasted emissions, but it will not significantly impact overall Scope 3 emissions due to the considerable contributions from road, sea and air freight.

In a second scenario, termed the carbon reduction pathway, additional assumptions include an accelerated energy transition and the conversion of all vehicles to electric power. Furthermore, it is assumed that refrigerants will have no emissions by 2050. Only then will the group's overall carbon emissions significantly drop.

Base Case Scenario for the Unlimited Group (Scope 1 and 2 only)

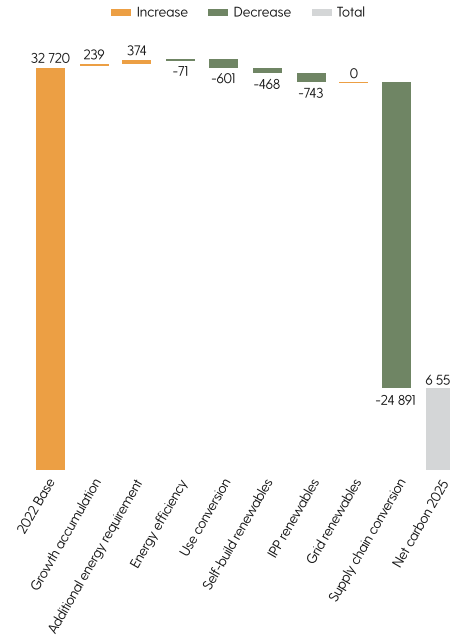


Source: IBIS Consulting for Phatisa (2024)

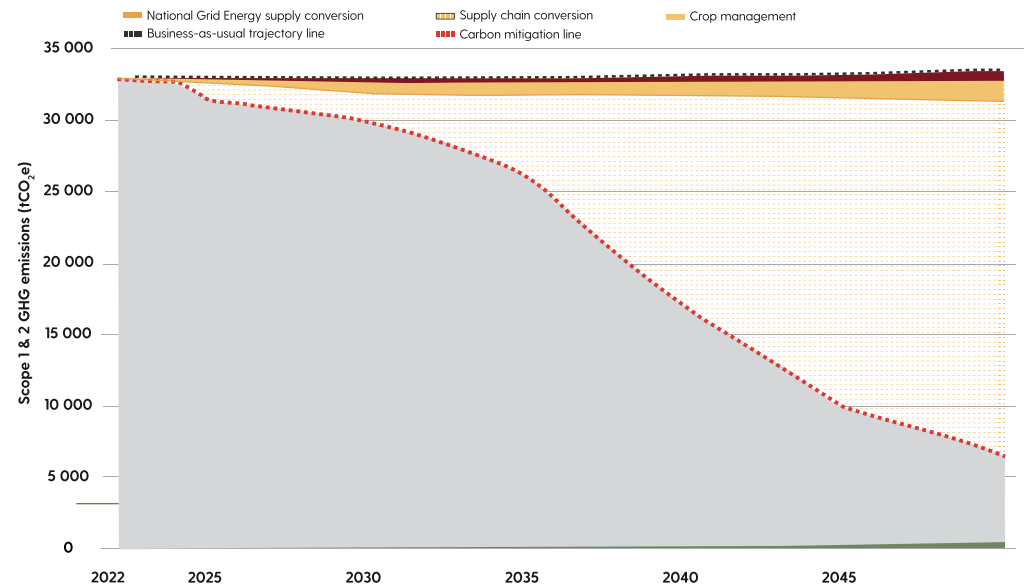


# Long-term outlook on mitigating carbon emissions (continued)

Given the current outlook on when emerging technologies for new energy sources for heat and power will become mature, changes in operations and equipment will only be feasible in the medium-term and will require additional capital expenditures. Alternative fuels (including sustainable aviation fuels and marine fuels) could be feasible in the short-term, but current high costs make the adoption of these expensive. Based on their assumptions, IBIS predicts that residual emissions for the Unlimited Group will remain around 6,500 tCO<sub>2</sub>e.



Carbon Reduction Pathway for the Unlimited Group (Scope 1 and 2 only)



Source: IBIS Consulting for Phatisa (2024)



## The Unlimited Group Supports Forging a Path to Climate Justice: Fairmiles' Quest for an Equitable Net Zero Future

At Yukon International, we are committed to sustainable practices in our exotic fruit and baby vegetable export business. As part of this commitment, the Unlimited Group's Sustainability Unit, on behalf of Yukon International, actively engage with Fairmiles, an organisation championing a just and equitable approach to climate change while safeguarding market access for developing world producers.

Since November 2023, Yukon International has supported the Sustainability Unit's participation in Fairmiles' roundtables, surveys, online seminars and advocacy efforts. This involvement aligns with our mission to balance environmental responsibility with sustainable development, particularly in our air freight operations.

**We acknowledge that air freight contributes significantly to CO<sub>2</sub> emissions in the food supply chain. However, recent research by Fairmiles, in collaboration with the University of Exeter and Northampton, has revealed crucial insights:**

- Air freight supports approximately 18 million African livelihoods due to European fresh produce demand (Fairmiles, 2024).
- It enables inclusive economic development, investment attraction and technology transfer.

- Africa is a net food importer, with most air freight capacity driven by commercial passenger flights.

Yukon International's operations underscore these findings. Annually, we export about 1,800 tonnes of produce through partnerships with 20-30 South African farms. These agricultural operations provide direct employment to approximately 1,200 individuals, while indirectly supporting many more livelihoods.

While we strive to reduce emissions by producing closer to markets and increasing sea freight usage, air transport remains essential for some of our shipments. Our partnership with Fairmiles helps us navigate this complex landscape, ensuring we contribute to climate justice net zero guidelines whilst maintaining crucial trade links with developing countries.

Through Fairmiles, we challenge the notion that environmental protection and economic progress are mutually exclusive. We believe in creating a more sustainable future that benefits all stakeholders, from our partner farms in South Africa to our customers worldwide.

As we move forward, Yukon International remains committed to reducing our carbon

footprint while supporting the livelihoods dependent on our trade. We will continue to work with Fairmiles and other stakeholders to develop innovative solutions that balance environmental concerns with the economic realities of global trade in fresh produce.

*'The fruit and vegetable export industry creates jobs for thousands of people. Often, a whole family's livelihood depends on this farming industry. Simply removing air freight from a short-shelf-life and delicate fresh produce supply chain will have a devastating socio-economic impact on these people. We believe that focusing our sustainability investments and carbon capture efforts on the farms will have a more balanced and far-reaching positive impact locally and globally.'*

– Calle Badenhorst, General Manager, Yukon International





## Thinking Ahead With Our Carbon Footprint Data: The EU Carbon Border Adjustment Mechanism and Carbon Taxes in South Africa

As Yukon International, we recognise that sustainable business practices are crucial for protecting jobs and livelihoods. We are adapting to shifts in demand, standards and technology, whilst closely monitoring international carbon tax developments, especially in the EU, our primary export market.

The potential inclusion of agricultural products in the European Trading Scheme and the implementation of the Carbon Border Adjustment Mechanism (CBAM) may increase our costs, affecting our competitiveness. We are preparing for these changes with our local supplier, Yukon Farms. Yukon Farms has recently had a 96-kWp solar system installed.

We have assessed the potential CBAM impact, modelling liability scenarios for our emissions. The modelling was done for

the larger Unlimited Group, however Yukon International was taken into consideration individually as well. The research results were presented to the Yukon International managers and the Unlimited Group's Board. This analysis guides our long-term investment decisions and underscores the importance of accurate sustainability reporting.

We are also mindful of South Africa's increasing carbon taxation, which could significantly impact our production costs. In February 2024, the Treasury raised the carbon tax rate to R190 per tonne of CO<sub>2</sub> equivalent. While we navigate these challenges, we remain committed to sustainable practices, ensuring the continued success of our baby vegetable and exotic fruit exports while adapting to a rapidly changing regulatory landscape.

### Timeline of the EU's CBAM Developments





# Food Waste

## Introduction



**Goal:**  
Halve food waste and reduce food loss as much as possible along production and supply chains by 2030. Aligns with the UN SDG 12.3.



- Objectives:**
- Generate baseline data.
  - Redistribute edible food loss to local registered charities and secondary markets.
  - Divert inedible food loss to farms for animal feed and composting.



Food waste is a global issue with a triple negative impact: it harms the economy, worsens food insecurity, and contributes to climate change.



In South Africa, approximately 12.6 million tonnes of food are wasted annually (DFFE, 2023). This represents about one-third of all available food. Reducing food waste is essential in a country where 21% of the population experiences inadequate or severely inadequate access to food (Statistics South Africa, 2021).



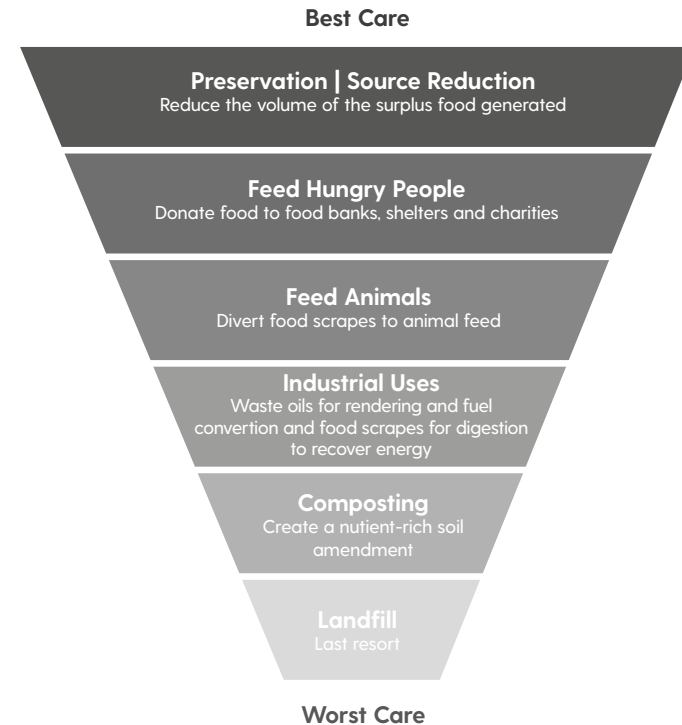
Wasted food also means wasted resources such as water, land and energy. A 2021 study by the Council for Scientific and Industrial Research (CSIR) found that in sub-Saharan Africa, 19% of fruits and vegetables are wasted before processing begins, while 66% are lost along the supply chain. This underscores the need for improved protocols and processes.



Improper disposal of food waste releases greenhouse gases during decomposition. If food waste were a country, it would be the third-largest contributor to greenhouse gas emissions (Waste and Resources Action Programme, n.d.).

Although Yukon International has marginal food loss and waste, Yukon Farms produces a significant amount. Yukon Farms is our partner and main supplier. Yukon Farms is committed to reporting on food loss and waste. Our Group goal is to halve waste throughout our production and supply chains by 2030. We collaborate with stakeholders to implement best-practice approaches and solutions to tackle this problem head-on. The inverted pyramid diagram illustrates our approach, which aims to prevent viable produce from going to landfill.

### Food Loss and Waste Utilisation Hierarchy





# Findings

	2023
	Tonnes
Sold	516
Animal feed	838
Human consumption	122
Landfill	0
<b>Total Tonnes</b>	<b>1476</b>



Zero food waste sent to landfill



Surplus food sent to charities



Inedible parts used for animal feed

\*All numbers rounded to the nearest whole number

This year marks the first time Yukon Farms is reporting food loss and waste data. Reporting at farm level is more challenging than at a packhouse or depot level due to the numerous points where food waste is generated and the less controlled environment.

The Sustainability Unit has collaborated closely with the farm to implement a robust reporting system.

Despite the challenges, we are pleased with the farm's enthusiasm for this initiative.





# Sustainable Packaging

## Introduction

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



17 PARTNERSHIPS FOR THE GOALS



**Goal:**

Ensure that all packaging used by Unlimited Group is 100% recyclable, reusable or compostable by 2030, while reducing plastic packaging where possible.

**Objectives:**

- Generate packaging baseline data for Yukon International.
- Strive to make all packaging recyclable, eliminating 'red-rated' plastic.
- Reduce plastic use and packaging weight where appropriate and possible.
- Increase recycled content in plastic packaging.
- Ensure all paper and cardboard packaging is FSC-certified.

Packaging is crucial in the transition towards sustainable practices along the supply chain. When selecting packaging, factors such as quality, preservation and customer expectations must be considered. Sustainable packaging should aim to reduce food loss and waste, have minimal environmental impact and ensure produce remains fresh and maintains its shelf life.

At Yukon International, we align our sustainable packaging goals with the UN SDG 12.5, which advocates for a substantial reduction in waste generation through prevention, reduction, recycling and reuse by 2030. Our aim is to ensure that all packaging contains renewable, recycled and reused materials that can be recycled, reused or composted.

Yukon International supplies speciality vegetables and exotic fruit to retailers worldwide. Deciding on suitable packaging can be challenging, as countries and customers have varied guidelines, requirements and preferences. For instance, France is banning single-use plastic for fresh produce, while the Netherlands encourages recyclable plastic.

To ensure consistency and measurability, we use the Tesco Preferred Materials guidelines

as a reference. This helps us select the most suitable packaging for different countries.

At Yukon International, we stay up to date with developments in the packaging sector. Our strategy is informed by regular collaboration with colleagues, various suppliers and NGO partners. Staying at the forefront of both local and global developments is crucial to meeting our customers' expectations.





# Findings

Yukon International finally dropped the last of their PVC in exchange for Superthene.

Yukon International	Tonnes of Packaging					
Packaging Sustainability rank	2023	%	2022	%	2021	%
Green	244	98%	1259	98%	190	94%
Amber	0	0%	0	0%	0	0%
Red	4	2%	6	2%	12	6%
<b>Total Tonnes</b>	<b>248</b>		<b>265</b>		<b>201</b>	



**100%**  
Paper FSC Certified



**98%**  
Green-rated packaging used



**17**  
Tonnes less packaging used

## Discussion on Packaging Changes in 2023: Last of Polystyrene punnets and PVC phased out, new gourmet punnet introduced.

Since the latest draft EU directive was only published at the end of 2023, the Unlimited Group had focused on the circular economy, based on the Red, Amber, Green (RAG) guidance tables aligned to widely recognised customer standards. The latest packaging audit guidance document is provided here.

The approach to packaging has been evolving over the years, which has led to our guidance document being updated. The most notable change involves BOPP, a polypropylene-based flexible film, which is now classified as Green instead of Amber. Consequently, all calculations have been updated to reflect BOPP as Green, including adjustments to past calculations for consistency.

Over the past year, Yukon International had an overall reduction in packaging used, as many retail lines went from punnet and wrap to bag only. Yukon also replaced the last of the polystyrene punnets used, being the gourmet 400g punnet with a cardboard version. PVC was also finally phased out, replacing it with Superthene polyethylene-based stretch film.

The remaining polystyrene within the packaging system are those used for the edible flowers and microgreens - these are being re-used.

Yukon International did not use cellulose packaging in 2023 due to challenges such as poor presentation, a wet feel from moisture absorption, extreme moisture loss and shortened shelf life. Trials with perforated cellulose reduced water absorption issues but accelerated dehydration.

Efforts will be needed to resume packing in compostable packaging as proposed EU legislation aims to phase out plastic for packs under 1.5 kg worldwide, however we await clear mandates in this regard, as compostable packaging is directly opposing to recyclable packaging.

Yukon continues to stay updated on packaging guidelines and developers to introduce more recyclable plastics and support the circular economy.





## The Packaging Journey: Changes in the EU

As citizens of the world, we must rethink, reduce and design for recycling to preserve resources and minimise waste. The circular economy demands packaging be recyclable into suitable grades for continuous use. However, greenwashing and conflicting messages create inefficiencies. To combat this, packaging must be made from mono-materials and must be easily identifiable and clearly labelled.

Single-use packaging that is poorly collected and recycled has devastating environmental impacts. While plastic is the cheapest material for effective packaging that protects products, prolongs shelf life and aids marketing, composite materials disrupt recycling streams. Designers must choose simple, pure formats that are easily and actively recycled.

***Different plastics have varying properties that affect their suitability and certain additives that don't hinder recyclability can make a difference. Trialing is essential to optimise packaging. Despite the benefits of preserving food and ensuring transportability, plastic's poor recycling rates cause significant environmental pollution.***

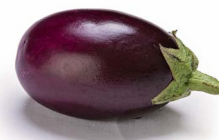
Countries such as France and Mauritius have attempted to ban plastic for fresh produce under 1.5 kg. However, there has been some confusion as they did this without addressing supply chain issues.

Many vegetables, particularly baby vegetables, deteriorate rapidly when unpackaged. Transporting fresh produce without effective moisture barriers, such as plastic, leads to significant food waste.

The changing directives cause a great need for renewed focus on non-plastic alternatives, such as compostable packaging. However, although this offers benefits, it also has drawbacks, including rapid dehydration. This means it is less effective in prolonging shelf life and also risks contaminating recycling streams.

Significant improvements in alternative technologies are needed to avoid wastage: for example improving compostability, material properties and recyclability of packaging. Labels will have to comply with new streamlined systems.

In December 2023, the EU proposed legislative measures to harmonise national packaging waste measures, including restricting single-use plastic packaging for unprocessed fruits and vegetables under 1.5 kg, with exemptions for demonstrated needs. New labelling laws will guide a system across member states.





# Biodiversity and Soil Health

## Introduction



**Goal:**

Safeguard biodiversity across all sites we engage with by minimising our environmental impact and enhancing soil health and ecology to levels that facilitate the cultivation of high-quality produce with minimal reliance on harmful pesticides. We aim to maintain, enhance or restore the integrity, connectivity and resilience of all ecosystems, mitigating impacts on all Yukon International producer sites to the greatest extent possible. This includes ongoing monitoring of natural areas and biodiversity on affected sites.

**Objectives:**

- Identify an appropriate compliance point to be able to recommend and roll out to producers.
- Identify different approaches to restoring soil health depending on the growing area.
- Engage in site-specific projects to improve biodiversity.

The influence of agricultural systems on the environment and natural resources is receiving heightened scrutiny, especially concerning land utilisation, water usage and the well-being of pollinators. These elements are crucial to the long-term viability of our food production, with the reduction of biodiversity emerging as a primary concern.

Biodiversity, vital for the planet's life-sustaining processes, encompasses the rich tapestry of living organisms across diverse ecosystems. The United Nations' Sustainable Development Goals (UN SDGs) tackle biodiversity issues, with SDG 15 being particularly pertinent. By integrating biodiversity considerations into our core strategy, we strive to understand and address potential risks in tandem with our suppliers. A comprehensive evaluation of our supply networks, operational processes and commercial activities enables us to execute precise measures to confront these challenges.

Our collaboration with WWF has been instrumental in broadening our expertise and harmonising our initiatives with global benchmarks. Employing the WWF Biodiversity Risk Filter, we have mapped out our supplier landscape to pinpoint areas requiring conservation endeavours. Yukon International's dedication to biodiversity initiatives is fundamental to our environmental strategy. We engage in projects that investigate the complex relationships between nature, climate change, deforestation and water resources. In partnership with producers and suppliers, we uphold adherence to environmental standards such as SIZA and LEAF Marque, prioritising approaches that simultaneously address climate change and ecological degradation.

Soil health plays a pivotal role in fostering sustainable practices within the agricultural sector and is intricately linked to biodiversity. Robust soil health signifies the soil's enduring capacity to operate as a crucial living ecosystem that sustains flora, fauna and human life. It bridges the gap between agriculture, soil science, policies, stakeholder requirements and sustainable supply chain governance.

The UN SDGs are intricately connected, with each objective directly or indirectly impacting soil health and, by extension, biodiversity. Soil health serves as a unifying thread across all UN SDGs, with goal 15.3 specifically targeting the restoration of degraded land and soil. The UN aspires to achieve 75% healthy soils by 2030, promising substantial advantages

for agricultural productivity and biodiversity preservation.

To ensure the maintenance of high soil health standards, stakeholders need to be educated. Through the adoption of sustainable soil management techniques, producers can yield higher quality crops while nurturing biodiversity. We are gaining insights from our growers who are at the forefront of trialling various methods to enhance soil health. The adaptability of these approaches allows producers to implement practices tailored to their specific farming contexts, considering both crop requirements and environmental conditions.

We encourage our producers to restore soil ecological balance through strategies such as minimising soil disruption, fostering robust root systems, promoting biodiversity, building resilience, implementing crop rotation to mitigate pathogens and embracing biological principles. We have joined forces with select producers to gather soil health data in South Africa, aiming to explore avenues for improving crop yields and soil organic carbon content.

By reimagining conventional practices and embracing environmentally friendly methodologies, we are paving the way for a more sustainable future that champions both biodiversity and soil health. These endeavours not only shape our business strategies and guide our investments but also bolster our resilience and contribute to a more sustainable outlook for agriculture and the environment.



## Different Approaches to Sustainable Soil Health: Lessons from Crop Rotations at Yukon Farms

Boschendal's regenerative agriculture inspires us, but we recognise that for agriculture to be sustainable, it must align with economic realities and business plans – livestock farming is a capital-intensive venture. Farming strategies vary based on the product and intended market.

At Yukon Farms in Bothaville, Free State, we are inspired by regenerative agriculture but recognise the need to balance sustainability with economic viability. Our speciality in exporting premium baby carrots, including those with tops and rainbow varieties, comes with unique challenges.

Our primary pest issue has been Nutsedge, a resilient weed requiring herbicide control. However, with the impending ban on Linuron and other CMR pesticides in South Africa from 1 June 2024, we have had to innovate our farming practices.

To address these challenges, we have implemented a refined crop rotation plan. We now alternate carrots annually with wheat and oats. Oats, adaptable to various conditions, suppress weeds and enhance soil productivity. Wheat helps build healthy soil structure and maintains soil ecology balance.

We have also introduced nitrogen-fixing legumes - soya and sugar beans - which pair well with grass crops and effectively suppress weeds. These crops respond well to registered herbicides for Nutsedge control when needed.

While effective, we are considering extending to a three- to four-year rotation plan to reduce pathogen accumulation risks. We are investigating potential issues with common fungal pathogens that could affect our crops.

Our ecosystem approach has highlighted the need for additional soil remediation. We are exploring a composting project to recycle crop residues, aiming to return balanced compost and beneficial microorganisms to the soil, further improving its health.

This evolving strategy demonstrates our commitment to sustainable farming practices while maintaining our position as a premium carrot exporter.





## WWF Biodiversity Risk Assessment: Sustaining Biodiversity Through Responsible Farming

In 2023, we decided we wanted to better understand biodiversity and the impact it has on our producers and amongst our operational activities and supplier base. The WWF Biodiversity Risk Filter (BRF) is a tool designed to help companies better understand the risks they face and to facilitate appropriate responses to these risks across their operations, supply chain and investments. Through corporate and portfolio-level screening, the BRF tool aims to prioritise action where it is necessary.

The WWF BRF tool aligns with major global initiatives and reporting standards and is used by large, international companies. By evaluating risks related to biodiversity, companies and investors can gain valuable insight into the threats of operational systems and supply chains, while understanding how investments affect the interaction of ecosystems.

In the WWF BRF study, some of our producers were 'red flagged' for different elements. The study made it clear that biodiversity risks are location specific, showing us where these risks run higher by using a country-specific profile for biodiversity risk.

Top risks experienced by South African producers including those for Yukon International are:

- Media scrutiny
- Protected and conserved areas
- Water scarcity

Having identified the top risks that our producer's face, we are able to implement actions to mitigate biodiversity loss. At the Unlimited Group, we use a variety of different assessments to ensure compliance with international standards and expectations. Our producers are encouraged to complete different assessments that focus on various elements of biodiversity health. Assessments that we encourage our producers and farms to partake in include the GLOBALG.A.P SPRING audit – an assessment that looks at responsible water management at a farm level. This assessment provides insight into how water risks are mitigated through appropriate water management strategies.

Additionally, retailers expect compliance with audits including SIZA Social and SIZA Environmental as well as LEAF Marque. SIZA audits look at the areas of the respective auditing processes while LEAF Marque is a more holistic assessment of producer

management practices. The Unlimited Group is set to have all our producers compliant with GLOBALG.A.P and SIZA Social by the end of 2024. In the next report we will provide an update on this status. Producers for Icon Fruit will be compliant with SIZA Environmental by 2024.

Our use of the WWF's Biodiversity Risk Filter tool has allowed us to identify the top risks that producers for Icon Fruit and Yukon International experience. Having this

information on hand allows us to take the next step in the process – finding ways to rebuild biodiversity on these sites.

The WWF is developing a module that aims to support users in finding proper responses to the identified risks, primarily focusing on nature-based solutions to biodiversity issues. We will continue to work with our producers to ensure appropriate assessments and actions are taken.



# Next Steps

## Carbon Footprint

- Evaluate alternatives to our current refrigerent gases.
- Continue to engage with suppliers and logistics service providers around strategies to reduce carbon in our supply chain.
- Strive to baseline all businesses across our supply chain.
- Encourage and assist all our producers to complete environmental audits, improve record keeping and measure all activities related to carbon.
- Support the Sustainability Unit in exploring the possibility of planting 1,000 hectares of spekboom for carbon offsetting, estimated to commence in the fourth quarter of 2024.

## Food Waste

- Work in collaboration with Phatisa to establish a composting system at Yukon Farms.
- Aim to improve the monitoring and evaluation of food waste data on Yukon Farms.

## Sustainable Packaging

- Aim to meet the post-consumer content requirements by 2030 for recyclable plastics.
- Refine the roll out of compostable packaging for all produce exported to France.
- Ensure that on-pack recycling stays up-to-date with legislation.

## Soil Health and Biodiversity

- Encourage growers to obtain 3rd party audits that showcase the work the farms are doing on Environmental Sustainability - such as SIZA Environmental or SPRING audits.
- Continue our research into the benefits of mulching and composting for improved soil health.

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- Unlimited Group Management
- Yukon International's managers and employees
- Sustainability Unit team
- Sustainability Champions
- Finance Departments

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# Appendix

## Red, Amber and Green (RAG) Guidance Tables for Packaging

For export markets, as aligned to Tesco UK:

RED	AMBER	GREEN
Materials we need to remove	Materials we will either investigate alternatives for or use only where required	Materials we will continue to use and use as replacements for the red list
Compostable/PLA and biodegradable plastics	NIR black HDPE (non-food grade)	Sustainably sourced paper and cardboard (FSC/PEFC)
Oxy/Oxo degradable plastics and water-soluble plastics	Non-PE flexible films (including complex laminates)	<b>Rigid PET – Polyethylene terephthalate (Clear only)</b>
<b>Polystyrene</b>	Foiled paper	Glass
<b>PVC and PVdC</b>	Wood and cork	<b>Steel and aluminium</b>
MDF	New material innovations	<b>Rigid PP – Polypropylene (films, caps, etc.)</b>
Waxed and siliconised paper	Bio-based polymers	<b>Mono PE or PP flexible film</b>
Expanded/Foamed/Density modified plastics	Shrink sleeves (perforated, including messaging to remove, maximum ink coverage of 60%)	<b>Paper/board with plastic; single side lamination &lt;10% by weight</b>
Rigid black plastic	Spouted pouches of mixed material	Mono PET lidding film on PET tray
Waxed paper and complex laminated using aluminium layers for decoration	Expanded PP (EPP)	Mono material spouted pouch
Complex laminated using aluminium layers for decoration		
Composite drums		

Adopted from Tesco UK Packaging Preferred Material Guidelines Version PM Date: 080323

\*Bold materials are currently used by the Unlimited Group