



100% MADE OF NEW ZEALAND

Good by nature 





A G & C S Donaldson (Te Awa)

# Contents

01

Introduction

02

2022 Emissions

03

Targets and Roadmap

04

2022 Spotlight

05

Action Plan

06

Appendix



# 01

Agriculture has a key role to play in New Zealand's transition to a net zero economy, and in making progress to meet our national and international climate targets.

As a large emitter, Silver Fern Farms prioritises transparency and rigour in the way we measure, report and reduce emissions across our value chain.

This document reports our greenhouse gas (GHG) inventory and reduction targets.

Emissions reported have been certified by Toitū Envirocare and independently audited by EY.

# Introduction



# Creating goodness from the farms the world needs

Our purpose is simple but powerful.

It is a shared vision to build a successful, resilient, and sustainable business, creating enduring value for all of our varied shareholders. Each and every one of us, from the farms, to our processing operations and into our markets, we all play a critical part in delivering on this promise.



02

# 2022 Emissions



## 2022 emissions

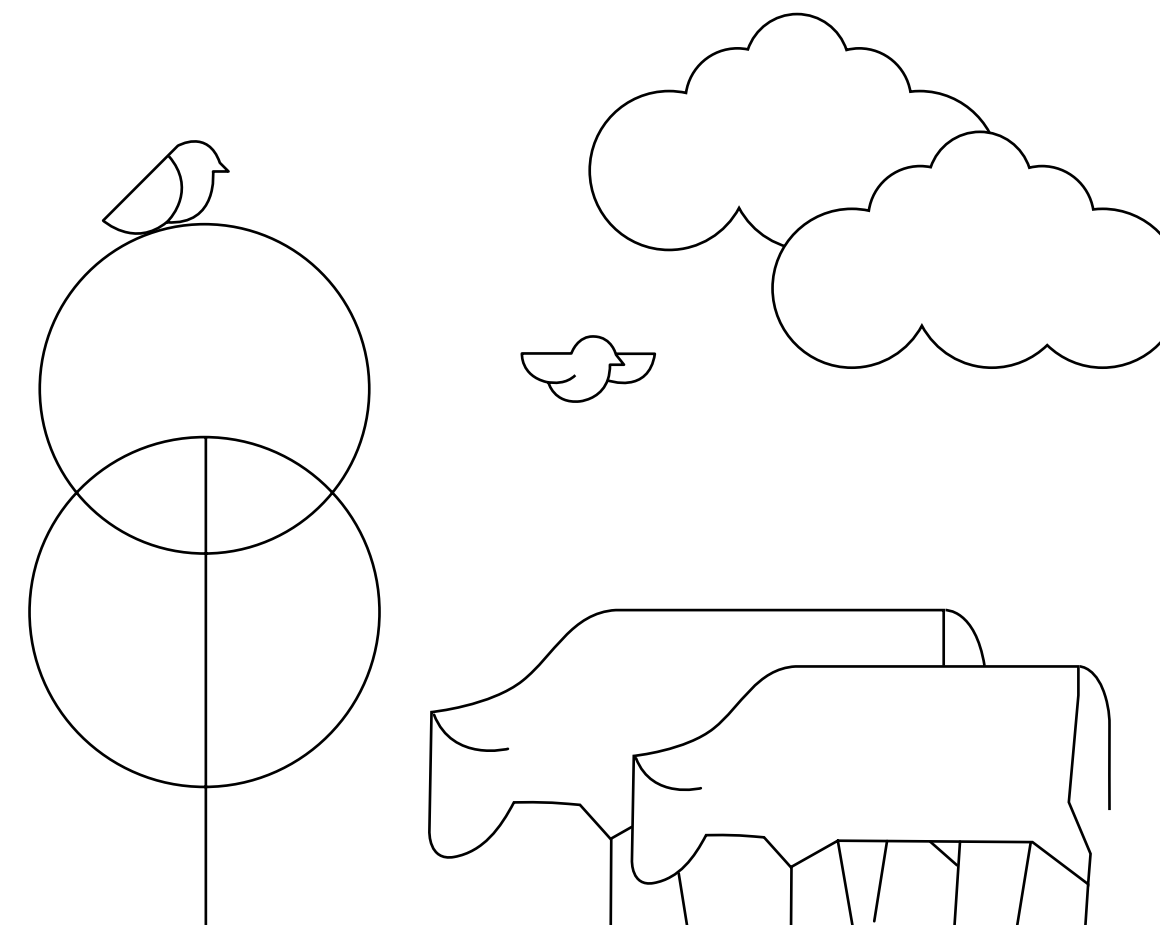
Silver Fern Farms' total **GHG emissions** for the FY22 reporting period are 2,939,697.56 tCO<sub>2</sub>-e. In 2020 we reported our emissions baseline as 103,018.40 tCO<sub>2</sub>-e.

This change in our emissions profile reflects that we have now included additional transport and animal related Scope 3 emissions (high materiality) within our reporting boundary. This is significant as on-farm emissions from livestock make up 94% of our total emissions. Previously we had reported some Scope 3 mandatory emissions, but our expanded reporting boundary now includes emissions from livestock on farm, transport of livestock to processing sites, and transport of goods by sea and air freight to global markets.

We think this transparency is vital for our leadership position and to enable us to report our progress as we seek to make reductions against a full set of Scope 1, 2, and 3 targets.

On-farm emissions are reported by using the head arrived at the processing sites with emissions factors for dairy cattle, beef cattle, sheep, and deer.

We have currently excluded emissions associated with the application of nitrogen fertiliser applied to our supplier's farms and the emissions associated with urine from animal grazing. We will include these in our Scope 3 reporting for the 2023 year.



Scope: Defines the operational boundaries in relation to indirect and direct GHG emissions.

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### Scope 1

An organisation's direct GHG emissions.

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### Scope 2

An organisation's emissions associated with the generation of electricity, heating/cooling, or steam purchased for own consumption.

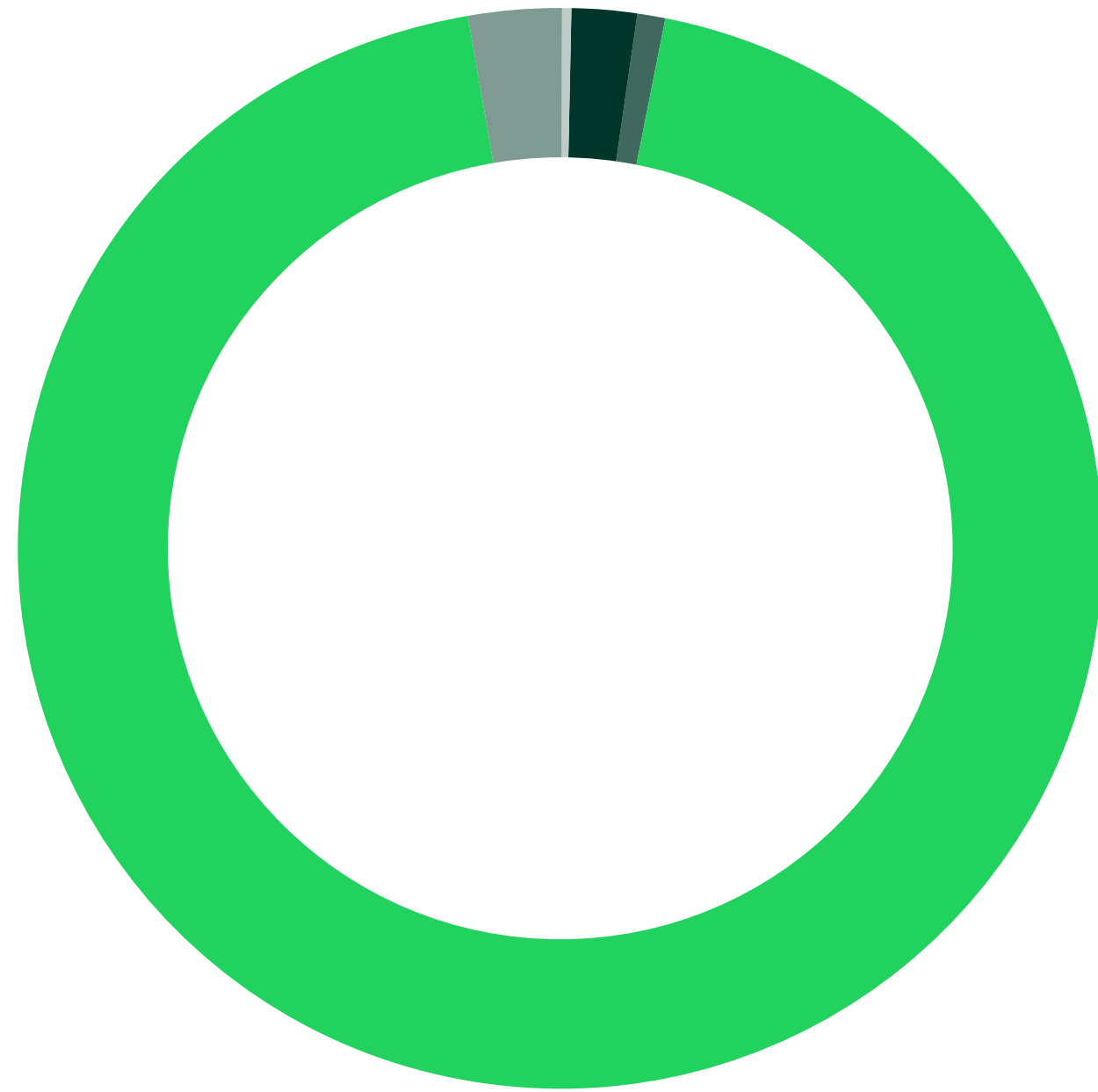
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### Scope 3

An organisation's indirect emissions other than those covered in Scope 2.



# 2022 emissions



- 2.1%** **Scope 1**  
Organisations direct GHG emissions

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- 0.6%** **Scope 2** Emissions associated with the generation of electricity, heating/cooling or steam purchased for own consumption

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- 94.2%** **Scope 3**  
Emissions from livestock (purchased goods and services)

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- 2.8%** **Scope 3**  
Emissions from freight

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- 0.2%** **Scope 3**  
Other Scope 3 indirect emissions

**Scope 1**  
62,693.72 tCO<sub>2</sub>-e,  
2.1% of total emissions

Scope 1 emissions arise directly from our operations and include coal, and natural gas used for heating water at our processing sites.

Coal is the major component of our controllable Scope 1 emissions and is a focus of Silver Fern Farms’ direct emissions reductions projects contained within our Sustainability Action Plan and Carbon Roadmap. We have completed a coal out project at Te Aroha and are in the final stages of completing projects at our three biggest South Island sites, aiming to halve coal emissions by 2026 (from a 2020 baseline), and have zero coal use by 2030 (if not before).

**Scope 2**  
17,794.81 tCO<sub>2</sub>-e,  
0.6% of total emissions

Our Scope 2 GHG emissions are entirely made up of electricity used across our operations and corporate hubs.

As we move away from coal to electric heat pumps to heat water for processing, our electricity use will rise significantly and emissions within this scope may increase.

**Scope 3**  
2,859,209.03 tCO<sub>2</sub>-e,  
97.2% of total emissions

Scope 3 GHG emissions include those associated with purchased goods and services, capital goods and construction, and other supply chain activities including travel, waste to landfill, and wastewater treatment. Like most red meat producers, Silver Fern Farms’ Scope 3 emissions profile is dominated by indirect on-farm CH<sub>4</sub> (methane) emissions derived from enteric fermentation (the methane that is produced when animals eat grass and turn it into digestible energy) occurring in ruminant livestock (sheep, cattle, and deer). As noted above, this is the first year we have included emissions from livestock in our GHG inventory, as a result our reported Scope 3 emissions have increased 180-fold.

Under Scope 3, indirect emissions from the use of products from the organisation, and indirect emissions from other sources, have been excluded in 2022. These were excluded because they have only a small impact on our total emissions profile and the methodology for calculating these in a transparent and meaningful way is still being developed.



☑ Key Target:

New Zealand's  
first red meat  
company  
to measure  
and disclose  
our carbon  
footprint









# Silver Fern Farms' emissions reduction targets

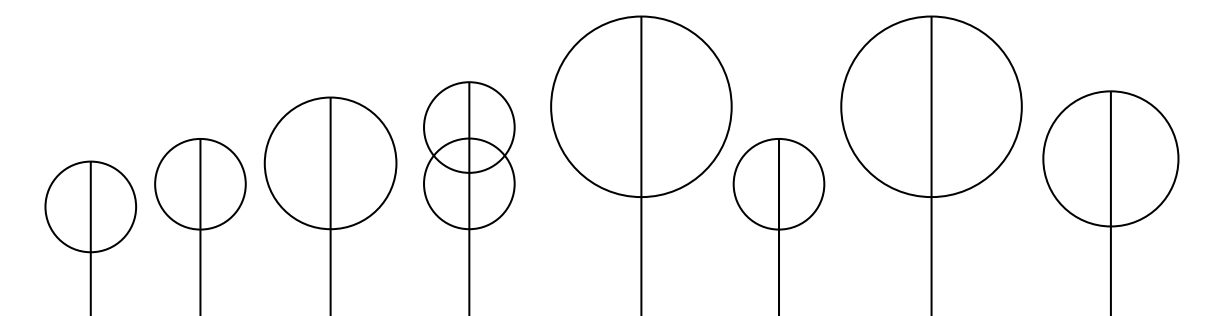
In 2020, we committed to an ambitious target of a 42% absolute reduction in Scope 1 and 2 emissions by 2030 from a 2020 baseline. This target is science-aligned and is currently submitted for validation with the Science Based Targets Initiative (SBTi).

This target is broken-down into near term year-on-year Key Performance Indicators. In 2024, a further set of near-term annual targets will be adopted that continue to demonstrate progress towards our goal in 2030.

Year	Target	Actual
2022	5% reduction from 2020 baseline	1% reduction achieved  It was disappointing not to achieve our emissions target for 2022. Our progress was impacted significantly by COVID-19 and supply-chain disruption for key projects. An extended kill season also impacted delivery and increased overall emissions.
2023	16% reduction from 2020 baseline	
2024	26% reduction from 2020 baseline	
2030	42% reduction from 2020 baseline	

Silver Fern Farms has committed to setting a full science-based Scope 3 target by the end of 2023.

Given the characteristics of our supply chain, there is considerable complexity involved in this, and we are currently in discussions with the SBTi and others on guidance to set a target that aligns to both domestic and international best practice for the agricultural sector.





# Carbon Roadmap

Silver Fern Farms has a range of initiatives underway and planned to continue to reduce our emissions, build towards trusted nature positive production, and support farmers to continue to succeed in a rapidly changing global market.

## 2017–19

Became a founding member of New Zealand group of companies committed to fighting climate change – Climate Leaders Coalition – requires commitment to science aligned targets and public reporting of emissions.

Established Scope 1 & 2 emissions baseline.

Undertook a carbon pilot with farmer suppliers to understand how we could integrate low carbon or zero carbon supply into our product range, this became the basis for our world leading Net Carbon Zero product range.

Achieved Toitū carbonreduce certification for the first time – Silver Fern Farms was New Zealand's first red meat company to measure and disclose our carbon footprint.

## 2020

Reduced processing emissions by 20% since 2018.

Coal-Out projects at Silver Fern Farms' Belfast and Finegand sites received co-investment via Govt Investment in Decarbonising Industry (GDI) Fund.

## 2021

Committed to a regenerative farming future, and adopted eight principles to underpin this on-farm including reducing carbon footprint and optimising biodiversity.

Achieved Toitū Enviromark diamond certification, the highest New Zealand-based environmental certification.

Another major Coal-Out project at Silver Fern Farms' Pareora site received co-investment via GIDI.

Joined the International Science Based Targets initiative (SBTi).

Committed to a 1.5-degree science aligned target to reduce our combined Scope 1 and Scope 2 emissions (Target: 42% reduction by 2030 from a 2020 baseline).

Carbon roadmap developed to support the delivery of Scope 1 and 2 science-based targets, with capital allocated to support the delivery of key projects.

## 2022

Supported more than 2000 farmers to 'know your number' and develop emissions management plans.

40 farms participated in customised programme to support enhanced biodiversity.

World-leading Net Carbon Zero Beef launched in the US.

Silver Fern Farms a founding partner in the AgriZero NZ methane reduction joint venture with the New Zealand Government and industry partners.

Published first baseline climate related disclosure report based upon international TCFD framework and baseline Climate Adaptation Plan.

Supplier Responsibility Standards adopted.

## 2023–26

Halved emissions from coal.

He Waka Eke Noa Agricultural Emissions Pricing comes into force.

Set validated Scope 3 (on-farm emissions) science-based target.

Develop and scale full range of Net Carbon Zero products - lamb, venison, leather, trim, and petfood.

Scale Net Carbon Zero product range to multiple markets.

Carbon budgets set as part of Operating Plan.

Nature positive premium paid to farmers achieving highest environmental standards.

Launch nature positive product range.

## 2030

42% reduction in Silver Fern Farms' operational (Scope 1 and 2) emissions from 2020 baseline.

Zero coal in operations.

Full range of nature positive products in multiple markets.

Silver Fern Farms suppliers farming systems 100% aligned to nature positive practice.



Key Target:

26%  
reduction  
in Scope 1 and 2  
emissions by the  
end of 2024



04

# 2022 Spotlight



## Whāngārā Farms

On the East Coast of the North Island of Aotearoa New Zealand, lies Whāngārā, a small community north of Gisborne. A place where rolling green hills look across the ocean, where the sun first rises, and looking after the land is a top priority.

Kaitiakitanga is a Māori value centered around guardianship and protection — at Whāngārā Farms, it is central to all they do.

Whāngārā Farms is the focus of ‘Guardians’, a film included in the Food for Thought series presented by FoodDrinkEurope and produced by BBC StoryWorks Commercial Productions.

‘Guardians’ celebrates the work Whāngārā Farms does, as environmental stewards of their land, supplying Silver Fern Farms Net Carbon Zero programme.

Not only are Whāngārā Farms kaitiaki of the land which they farm, they are actively working to support and celebrate the future kaitiaki of the land, they are a gold standard example of the farmers the world needs, and Silver Fern Farms is proud to celebrate their success on the global stage.



Key Target:

Zero  
Coal by  
2030





05

# Action Plan





# Silver Fern Farms' Climate Action and Transition Targets and Pathways 2023—2030

<p><b>Our Leadership</b></p>	<p><b>Good by Nature:</b> transformative Sustainability Action Plan in place</p>	<p>Founding member of the Climate Leaders Coalition Leading partner of The Aotearoa Circle</p>	<p><b>World's first fully certified Net Carbon Zero Beef product</b></p>	<p>Founding signatory to the Kai Commitment on food waste</p> 	<p>New Zealand's first red meat company to measure and disclose our carbon footprint</p> 	<p>Launched new purpose – creating goodness from the farms the world needs</p>	<p><b>Nature Positive Roadmap in place</b></p>	<p>Founding partner in the AgriZero NZ methane reduction joint venture with the New Zealand Government and industry partners</p>
<p><b>On Farm</b></p>	<p>Supported more than 2000 farmers to 'know your number' and develop emissions management plans</p>	<p><b>600 farms signed up to industry leading environmental assurance programme (NZFAP+) by 2024</b></p>	<p>Incentivising expansion and protection of on-farm vegetation through payments to farmers for sequestration services</p>	<p>Co-investing in nature-based solutions alongside farmers via Good for Nature Fund</p>	<p><b>Nature Positive premium paid to farms achieving highest environmental standards</b></p>	<p>Developed industry-leading technology to measure and map on-farm vegetation</p>	<p>Offered recovery support to farmers and communities following extreme weather events</p>	
<p><b>Our Operations</b></p>	<p><b>Reduce Scope 1 and 2 emissions by 42% by 2030</b></p>	<p><b>90% reduction in organic waste to landfill by 2024</b> <b>10% reduction in inorganic waste to landfill by 2024</b></p>	<p>12% reduction in water use intensity (Million m<sup>3</sup>) by 2024</p> 	<p>4% reduction in total energy use by 2024</p> 	<p>900T CO<sub>2</sub>-e emissions reduced by 2025 through energy savings</p>	<p>2% reduction in emissions through improved refrigeration efficiency by 2028</p>	<p>Reduce emissions from wastewater gas capture and flare by 15% by end of 2025</p>	<p><b>Zero Coal by 2030</b></p>
<p><b>Our Value Chain</b></p>	<p>Verified and disclosed full Scope 3 emissions including all on-farm methane emissions</p>	<p><b>Set validated Scope 3 science-based target in 2023</b></p>	<p>Set food waste reduction target by 2024</p> 	<p>Published full GHG Inventory in 2023</p> 	<p>Supplier code of conduct adopted</p> 	<p><b>Full Climate Change Risk and Opportunities Disclosure (utilising TCFD framework) published</b></p>	<p>Materiality for Nature assessment underway</p> 	<p><b>Set science-based targets for nature, and publish TNFD by 2025</b></p>
<p><b>Our Brands and Products</b></p>	<p>World-leading <b>Net Carbon Zero Beef</b> product to market in the US</p>	<p>Launch Net Carbon Zero Beef and Lamb in New Zealand <b>NET CARBON ZERO BY NATURE</b></p>	<p><b>First NZ food company to display carbon labelling on pack</b></p>	<p>Develop and scale full range of Net Carbon Zero products – beef, lamb, venison, leather, trim, and petfood in multiple markets by 2026</p>	<p>Develop full range of Nature Positive products to be launched in multiple markets</p>			



Key target:

90%  
reduction in  
organic waste  
to landfill  
by 2024



06

Appendix



Scope	2020 CO <sub>2</sub> -e	2022 CO <sub>2</sub> -e	Comment
<b>Scope 1: Organisation's Direct GHG Emissions</b>	64530.88	62693.72	
Stationary combustion	48135.06	47524.64	
CO <sub>2</sub>	315.00	383.56	
Coal lignite industry	16178.43	15692.38	
Coal sub-bituminous industry	20358.69	17059.94	
Natural gas distributed industry	11031.81	13588.79	
Wood industry	136.91	643.43	
Wood pellets	114.21	156.54	
Treatment of wastewater	9570.49	9740.09	
Mobile combustion (incl. company owned or leased vehicles)	2996.26	2884.40	
Diesel	1239.57	1954.66	
Diesel stationary combustion	1506.80	584.86	
LPG	49.67	58.37	
Petrol premium	43.28	46.05	
Petrol regular	156.95	240.46	
Leakage of refrigerants (Toitū, GHG fugitive emissions)	1621.05	2486.62	
Emissions – Industrial processes (use of carbon dioxide)	73.47	57.97	
Business travel – Transport (non-company owned vehicles)	38.53		Accounted in Scope 3 in 2022
Purchased goods and services (livestock)	2096.02		Accounted for in Scope 3 livestock emissions in 2022
<b>Scope 2: Emissions Associated With The Generation Of Electricity, Heating/Cooling Or Steam Purchased For Own Consumption</b>	19727.98	17794.81	
Imported electricity	17897.56	17794.81	
Imported gas	1830.42		2020 Hāwera imported gas represents hot water imported from Hāwera By-Products prior to ownership

Scope	2020 CO <sub>2</sub> -e	2022 CO <sub>2</sub> -e	Comment
<b>Scope 3: Indirect Emissions Other Than Those Covered In Scope 2</b>	18759.54	2859209.04	
Livestock (Purchased goods and services)		2768720.23	
Enteric Fermentation Dairy Cattle		537213.24	
Enteric Fermentation Deer		67782.78	
Enteric Fermentation Non-dairy Cattle		843541.16	
Enteric Fermentation Sheep		1320183.04	
Downstream freight – Paid by the customer/others		58363.15	
Downstream freight – Paid by the organisation	10156.50	10437.94	
Upstream freight – Paid by suppliers/others		14829.10	
Business travel – Transport (non-company owned vehicles)	747.03	2960.41	
Transmission of energy (T&D losses)	2298.91	2441.82	
Electricity distributed T&D losses	655.93	1633.55	
Natural Gas distributed T&D losses	1642.98	808.28	
Disposal of solid waste – Landfilled	5467.14	774.45	
Employee commuting		522.95	Partially accounted for – reported where material
Business travel – Accommodation	51.64	104.38	
Emissions from the use of services not included elsewhere	38.32	35.84	
Water supply	38.32	35.84	
Purchased goods and services		18.77	Partially accounted for – <i>de minimis</i> included is CO <sub>2</sub> in airfreight
Dry ice		18.77	
<b>TOTAL EMISSIONS</b>	<b>103018.40</b>	<b>2939697.56</b>	



## Regarding Scope 3 emissions

Silver Fern Farms uses Life Cycle Analysis to screen for the materiality of Scope 3 emissions, cradle-to-grave Product Carbon Footprint reports have been completed and verified for beef, sheep and deer.

Within Scope 3, emissions from purchased goods and services have been calculated for the most material emissions (enteric fermentation of livestock). Indirect emissions associated with capital goods have not been calculated. Employee commuting has been calculated where the dollar spend is >5% of the travel spend for the period and the commute is subsidised by Silver Fern Farms. Emissions from upstream leased assets are nil. Emissions from processing of sold products, use and end of life treatment of sold products are not within the operational boundary of the organisational carbon footprint (these are also considered low materiality in the Life Cycle Analysis). Emissions from investments are considered de minimis. No fossil fuels are distributed by Silver Fern Farms Ltd. There are no franchises operated by Silver Fern Farms Ltd.



\*Note that the boundaries of the emissions reported here from 2022 are for the organisation (from farm to departure port). The boundaries of emissions for our Net Carbon Zero product range extend to consumer use across the entire lifecycle of the product. For more information please visit:

[🔗 \*\*Net Carbon Zero Science | Silver Fern Farms\*\*](#)

### A note on electricity usage

Actual electricity use in 2020 was 149,039,148 kWh, in 2022 it was 148,183,537 kWh. In 2022 the emissions factor for electricity increased, this resulted in higher reported emissions in 2022 per kWh of electricity consumed, despite a slight reduction in overall electricity use in our total operations. Emissions factors for electricity are published by the Ministry for the Environment and can vary year by year.

The emissions factors and data used in the above inventory are independently audited and verified by Toitū Envirocare.



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Ngā Mihi

Good by nature 