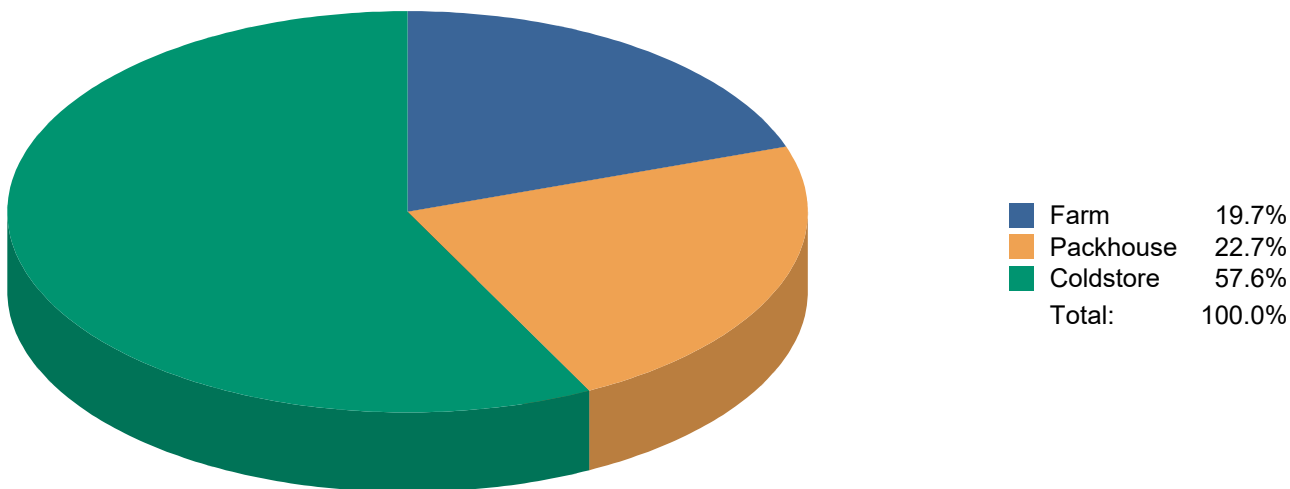


Carbon Calculator Results

Business Name: FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD &
Country Name: South Africa
Creation Date: 10/15/2025 12:00:06AM
Data Collection Period: Nov 2023 to Oct 2024
Report Grade: B1 - This dataset has been checked by CCC and is part of the benchmark.

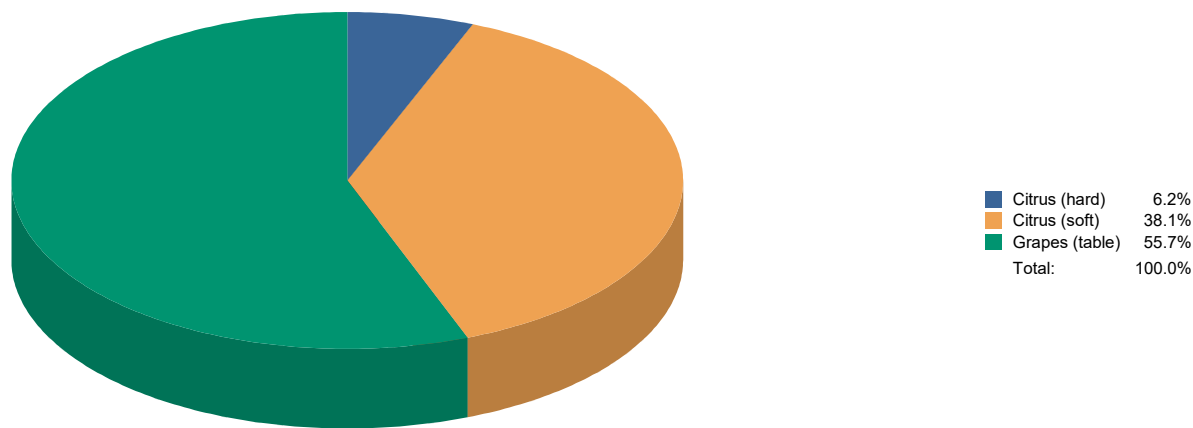
Business Unit - Boundary View



Boundary	Tonne CO ₂ e	%
Farm	617.98	19.70
Packhouse	712.22	22.70
Coldstore	1,807.33	57.60
Total	3,137.52	100.00

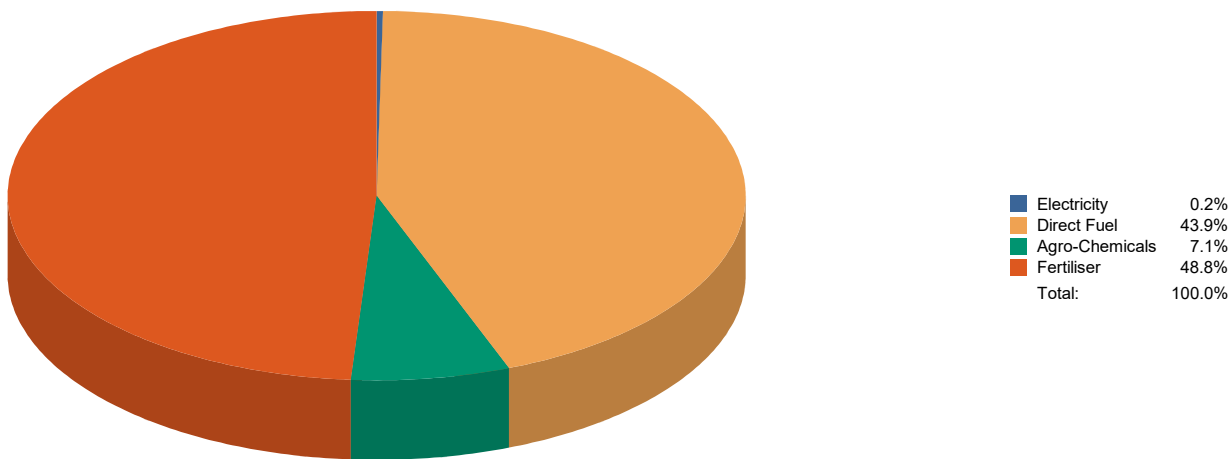
The Carbon Calculator must be completed on an annual basis. This allows users to monitor their carbon footprint trend and analyse improvements.

Business Unit - Commodity View



Commodity	Tonne CO ₂ e	%
Citrus (hard)	195.02	6.22
Citrus (soft)	1,194.89	38.08
Grapes (table)	1,747.61	55.70
Total	3,137.52	100.00

Farm - Emission Source View



Emission Source	Tonne CO ₂ e	%
Electricity	1.15	0.19
Direct Fuel	271.04	43.86
Agro-Chemicals	43.92	7.11
Fertiliser	301.87	48.85
Total	617.98	100.00

Business Name:

Dataset:

Data Collection Period:

FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak

10/15/2025 12:00:06AM

Nov 2023 to Oct 2024

Farm Commodity Benchmark

Commodity	Kg CO2e per Kg Fruit	Benchmark
Citrus (hard)	0.39	The CCC regional average is 0.30 Kg CO2e per Kg Fruit and consist of 11 data points.
Citrus (soft)	0.14	The CCC regional average is 0.22 Kg CO2e per Kg Fruit and consist of 12 data points.
Grapes (table)	0.18	The CCC regional average is 0.45 Kg CO2e per Kg Fruit and consist of 39 data points.

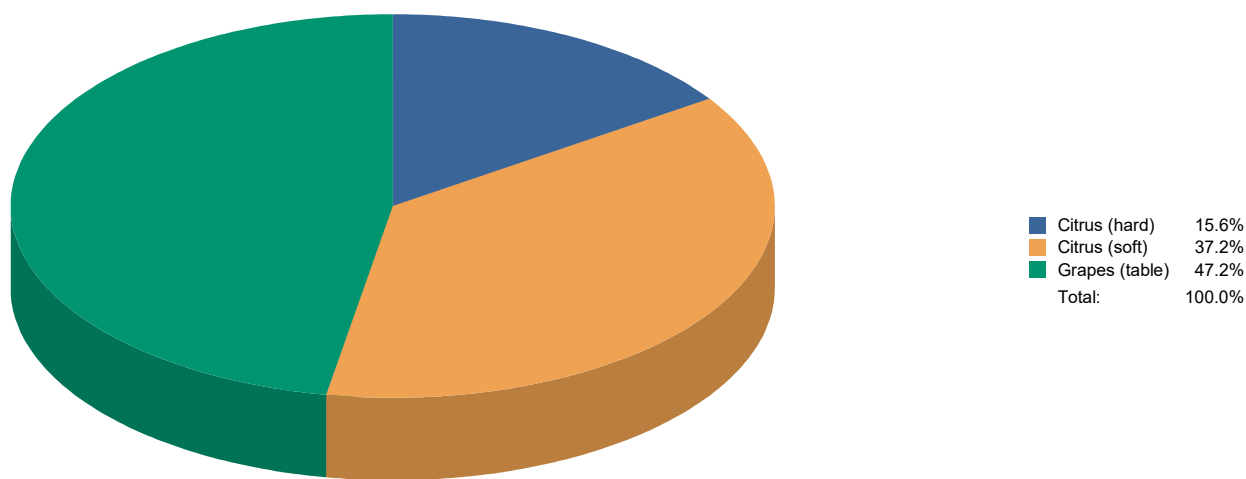
Farm Hectare Breakdown

Commodity	Tonne CO ₂ e per Bearing Ha
Citrus (hard)	5.10
Citrus (soft)	11.93
Grapes (table)	4.42

Farm Scope Breakdown

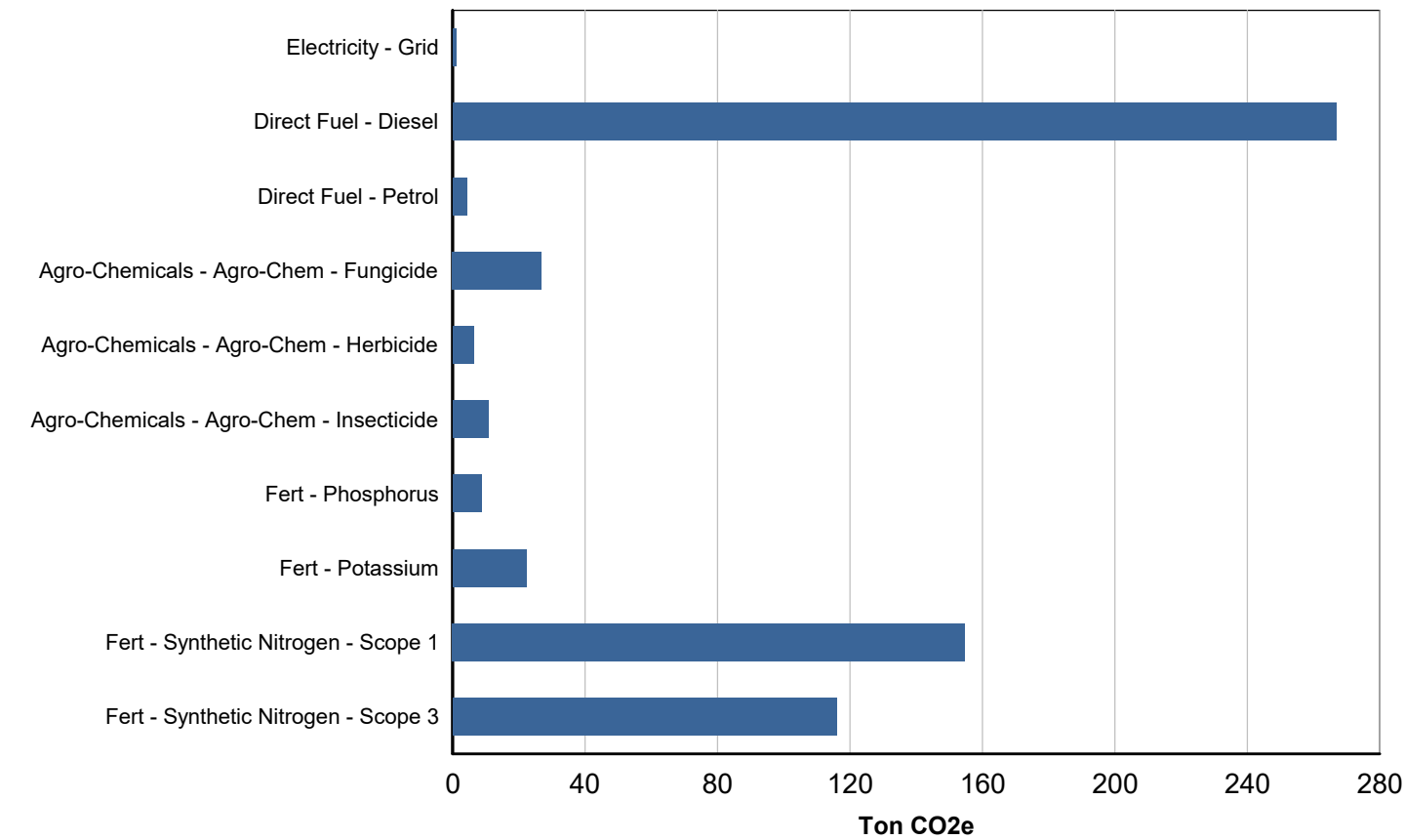
	Tonne CO ₂ e	%
Scope 1	425.81	68.90
Scope 2	1.15	0.19
Scope 3	191.02	30.91
Total	617.98	100.00

Farm - Commodity View



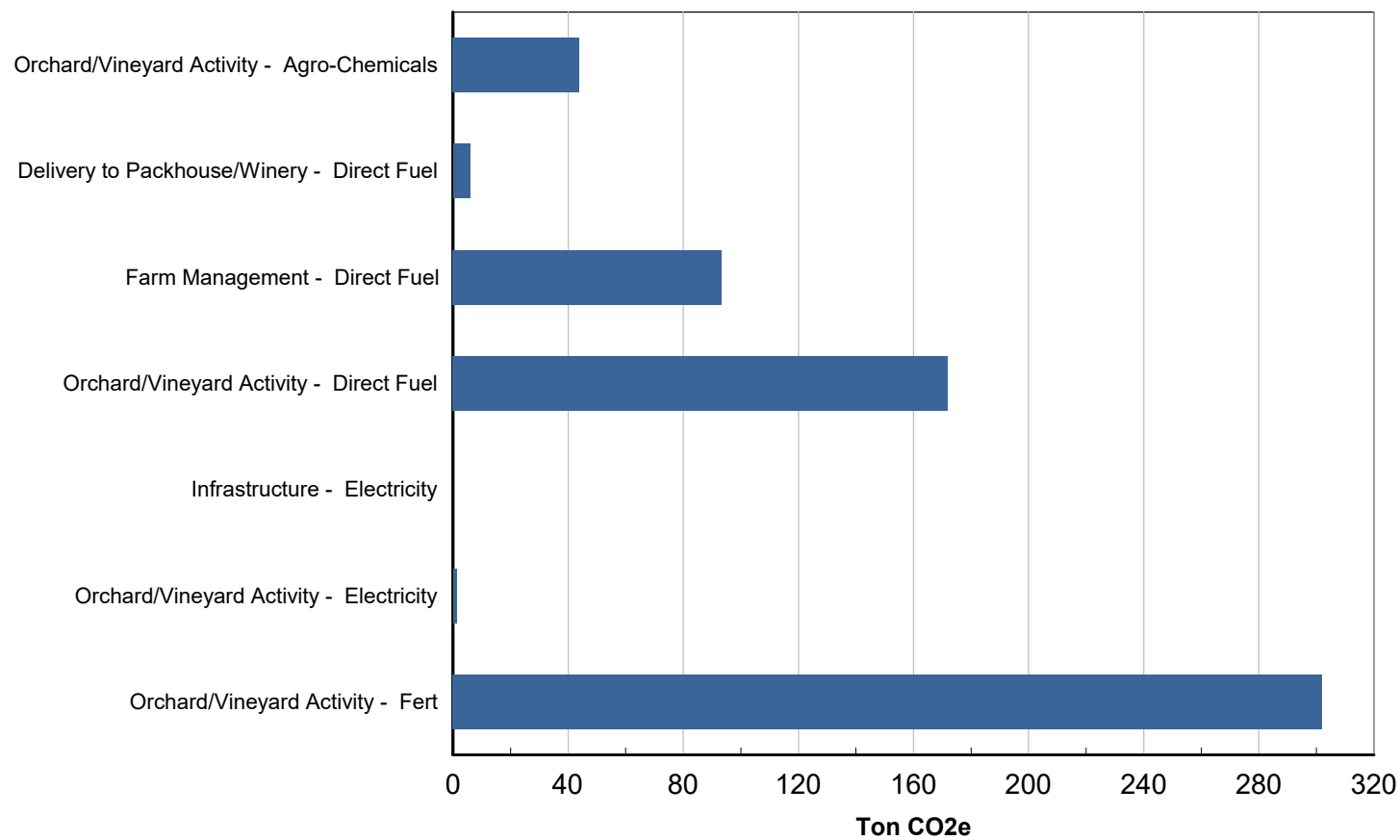
Commodity	Tonne CO ₂ e	%
Citrus (hard)	96.43	15.60
Citrus (soft)	230.14	37.24
Grapes (table)	291.41	47.16
Total	617.98	100.00

Farm - Emission Source Breakdown



Emission Source	Tonne CO ₂ e	%
Electricity - Grid	1.15	0.19
Direct Fuel - Diesel	266.83	43.18
Direct Fuel - Petrol	4.21	0.68
Agro-Chemicals - Agro-Chem - Fungicide	26.87	4.35
Agro-Chemicals - Agro-Chem - Herbicide	6.30	1.02
Agro-Chemicals - Agro-Chem - Insecticide	10.75	1.74
Fert - Phosphorus	8.68	1.40
Fert - Potassium	22.34	3.61
Fert - Synthetic Nitrogen - Scope 1	154.77	25.04
Fert - Synthetic Nitrogen - Scope 3	116.08	18.78
Total	617.98	100.00

Farm - Activity Breakdown



Activity Breakdown	Tonne CO ₂ e	%
Orchard/Vineyard Activity - Agro-Chemicals	43.92	7.11
Delivery to Packhouse/Winery - Direct Fuel	5.89	0.95
Farm Management - Direct Fuel	93.35	15.11
Orchard/Vineyard Activity - Direct Fuel	171.80	27.80
Infrastructure - Electricity	0.01	0.00
Orchard/Vineyard Activity - Electricity	1.13	0.18
Orchard/Vineyard Activity - Fert	301.87	48.85
Total	617.98	100.00

Detailed Carbon Emissions Breakdown

Detailed Activities	Tonne CO ₂ e	%
Electricity - Grid - Orchard/Vineyard Activity - BO	1.06	0.17
Electricity - Grid - Orchard/Vineyard Activity - NBO	0.08	0.01
Electricity - Grid - Infrastructure	0.01	0.00
Direct Fuel - Diesel - Orchard/Vineyard Activity - BO	167.27	27.07
Direct Fuel - Diesel - Orchard/Vineyard Activity - NBO	3.92	0.63
Direct Fuel - Diesel - Delivery to Packhouse/Winery	5.89	0.95
Direct Fuel - Diesel - Farm Management	89.75	14.52
Direct Fuel - Petrol - Orchard/Vineyard Activity	0.61	0.10
Direct Fuel - Petrol - Farm Management	3.60	0.58
Fert - - Synthetic Nitrogen - Orchard/Vineyard Activity - BO	270.85	43.83
Fert - - Phosphorus - Orchard/Vineyard Activity - BO	8.68	1.40
Fert - - Potassium - Orchard/Vineyard Activity - BO	22.34	3.61
Agro-Chemicals - Agro-Chem - Fungicide - Orchard/Vineyard Activity - BO	26.87	4.35
Agro-Chemicals - Agro-Chem - Insecticide - Orchard/Vineyard Activity - BO	10.75	1.74
Agro-Chemicals - Agro-Chem - Herbicide - Orchard/Vineyard Activity - BO	6.30	1.02
Total	617.98	100.00

Farm Consumption Benchmarks

Commodity	Consumption Measure	Result	Benchmark
Citrus (hard)	kL Water per Ton Fruit	10.25	The CCC regional average is 185.08 kL Water per Ton Fruit and consist of 8 data points.
Citrus (hard)	kL Water per Bearing Ha	135.44	The CCC regional average is 6279.70 kL Water per Bearing Ha and consist of 8 data points.
Citrus (hard)	kWh Orchard / Vineyard Electricity per Ton Fruit	1.51	The CCC regional average is 195.10 kWh Orchard / Vineyard Electricity per Ton Fruit and consist of 8 data points.
Citrus (hard)	kWh Orchard / Vineyard Electricity per Bearing Ha	19.99	The CCC regional average is 6476.25 kWh Orchard / Vineyard Electricity per Bearing Ha and consist of 8 data points.
Citrus (hard)	Liters Orchard / Vineyard Diesel per Ton Fruit	39.95	The CCC regional average is 10.73 Liters Orchard / Vineyard Diesel per Ton Fruit and consist of 8 data points.
Citrus (hard)	Liters Orchard / Vineyard Diesel per Bearing Ha	527.90	The CCC regional average is 353.37 Liters Orchard / Vineyard Diesel per Bearing Ha and consist of 8 data points.
Citrus (hard)	Kg Pure N per Ton Fruit	14.71	The CCC regional average is 3.76 Kg Pure N per Ton Fruit and consist of 8 data points.
Citrus (hard)	Kg Pure N per Bearing Ha	194.34	The CCC regional average is 128.84 Kg Pure N per Bearing Ha and consist of 8 data points.

Commodity	Consumption Measure	Result	Benchmark
Citrus (soft)	kL Water per Ton Fruit	5.39	The CCC regional average is 137.22 kL Water per Ton Fruit and consist of 10 data points.
Citrus (soft)	kL Water per Bearing Ha	467.00	The CCC regional average is 4578.42 kL Water per Bearing Ha and consist of 10 data points.
Citrus (soft)	kWh Orchard / Vineyard Electricity per Ton Fruit	0.22	The CCC regional average is 104.49 kWh Orchard / Vineyard Electricity per Ton Fruit and consist of 10 data points.
Citrus (soft)	kWh Orchard / Vineyard Electricity per Bearing Ha	19.33	The CCC regional average is 3567.92 kWh Orchard / Vineyard Electricity per Bearing Ha and consist of 10 data points.
Citrus (soft)	Liters Orchard / Vineyard Diesel per Ton Fruit	13.45	The CCC regional average is 8.35 Liters Orchard / Vineyard Diesel per Ton Fruit and consist of 10 data points.
Citrus (soft)	Liters Orchard / Vineyard Diesel per Bearing Ha	1,165.69	The CCC regional average is 298.26 Liters Orchard / Vineyard Diesel per Bearing Ha and consist of 10 data points.
Citrus (soft)	Kg Pure N per Ton Fruit	4.46	The CCC regional average is 3.48 Kg Pure N per Ton Fruit and consist of 10 data points.
Citrus (soft)	Kg Pure N per Bearing Ha	386.52	The CCC regional average is 117.40 Kg Pure N per Bearing Ha and consist of 10 data points.

Commodity	Consumption Measure	Result	Benchmark

Business Name:

FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak

Dataset:

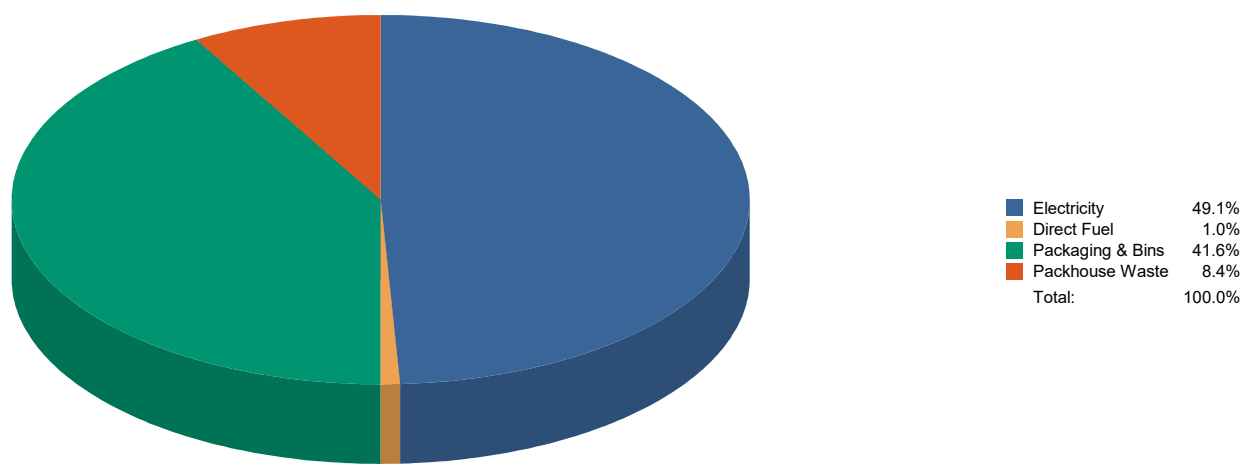
10/15/2025 12:00:06AM

Data Collection Period:

Nov 2023 to Oct 2024

Commodity	Consumption Measure	Result	Benchmark
Grapes (table)	kL Water per Ton Fruit	9.18	The CCC regional average is 304.51 kL Water per Ton Fruit and consist of 35 data points.
Grapes (table)	kL Water per Bearing Ha	219.38	The CCC regional average is 6082.93 kL Water per Bearing Ha and consist of 35 data points.
Grapes (table)	kWh Orchard / Vineyard Electricity per Ton Fruit	0.19	The CCC regional average is 267.48 kWh Orchard / Vineyard Electricity per Ton Fruit and consist of 35 data points.
Grapes (table)	kWh Orchard / Vineyard Electricity per Bearing Ha	4.54	The CCC regional average is 5916.00 kWh Orchard / Vineyard Electricity per Bearing Ha and consist of 35 data points.
Grapes (table)	Liters Orchard / Vineyard Diesel per Ton Fruit	22.52	The CCC regional average is 28.15 Liters Orchard / Vineyard Diesel per Ton Fruit and consist of 35 data points.
Grapes (table)	Liters Orchard / Vineyard Diesel per Bearing Ha	538.26	The CCC regional average is 607.66 Liters Orchard / Vineyard Diesel per Bearing Ha and consist of 35 data points.
Grapes (table)	Kg Pure N per Ton Fruit	4.71	The CCC regional average is 4.04 Kg Pure N per Ton Fruit and consist of 35 data points.
Grapes (table)	Kg Pure N per Bearing Ha	112.55	The CCC regional average is 87.76 Kg Pure N per Bearing Ha and consist of 35 data points.

Packhouse - Emission Source View



Emission Source	Tonne CO ₂ e	%
Electricity	349.48	49.07
Direct Fuel	7.01	0.98
Packaging & Bins	296.25	41.60
Packhouse Waste	59.47	8.35
Total	712.22	100.00

Business Name:

Dataset:

Data Collection Period:

FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak

10/15/2025 12:00:06AM

Nov 2023 to Oct 2024

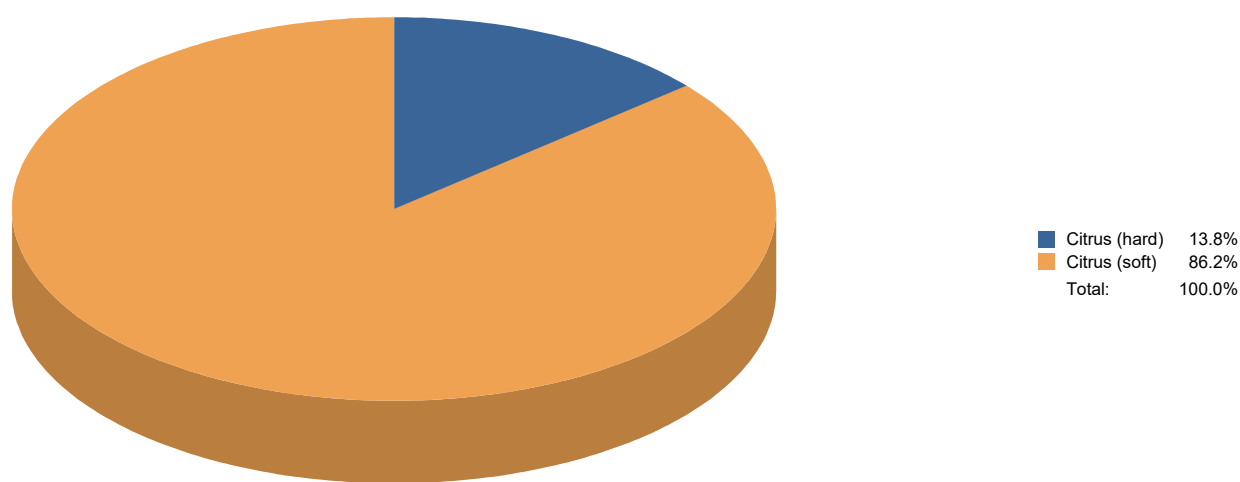
Packhouse Commodity Benchmark

Commodity	Kg CO2e per Kg Fruit	Benchmark
Citrus (hard)	0.03	The CCC regional average is 0.00 Kg CO2e per Kg Fruit and consist of 1 data points.
Citrus (soft)	0.04	The CCC regional average is 0.00 Kg CO2e per Kg Fruit and consist of 1 data points.

Packhouse Scope Breakdown

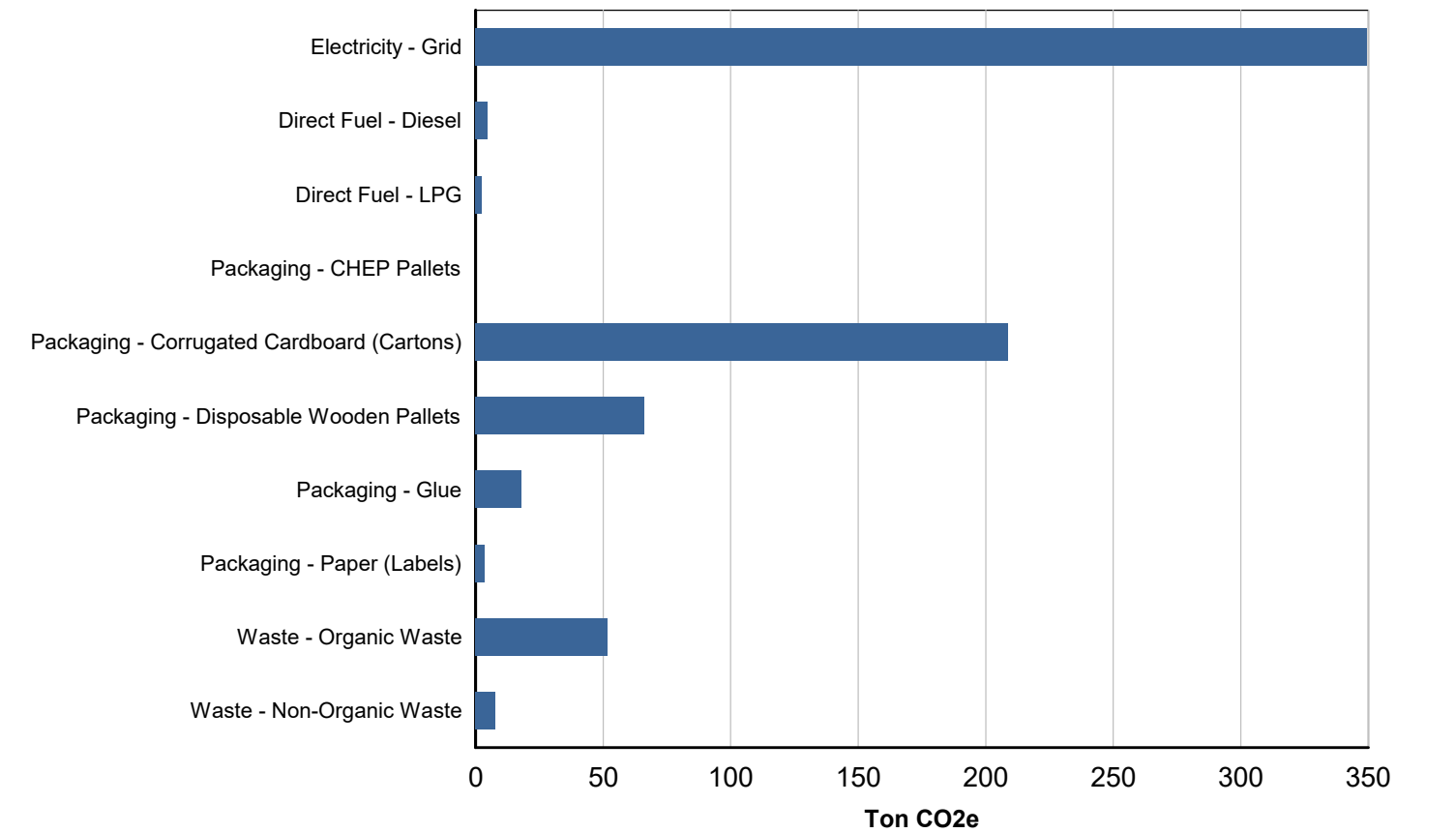
	Tonne CO ₂ e	%
Scope 1	7.01	0.98
Scope 2	349.48	49.07
Scope 3	355.73	49.95
Total	712.22	100.00

Packhouse - Commodity View



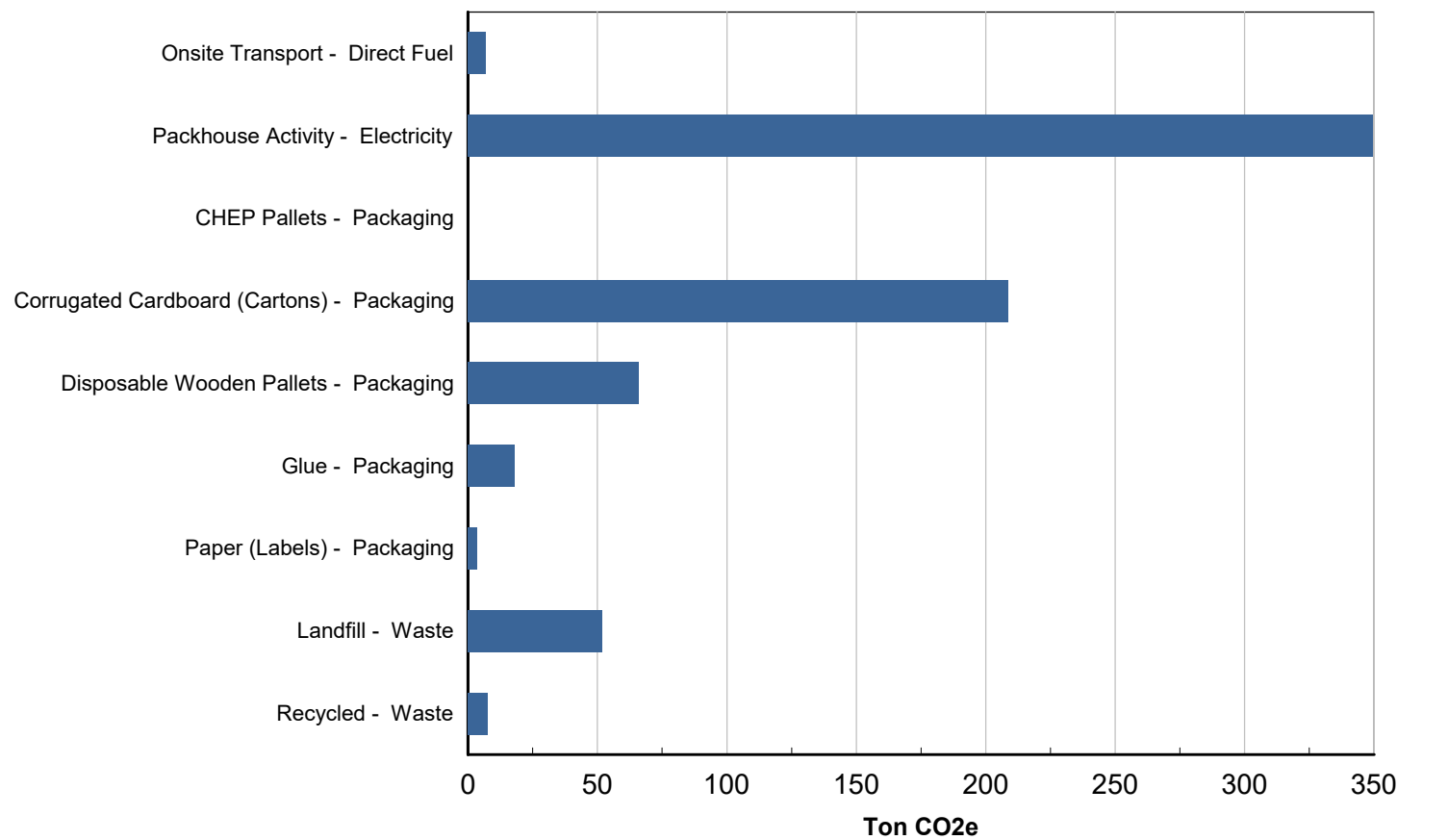
Commodity	Tonne CO ₂ e	%
Citrus (hard)	98.60	13.84
Citrus (soft)	613.62	86.16
Total	712.22	100.00

Packhouse - Emission Source Breakdown



Emission Source	Tonne CO ₂ e	%
Electricity - Grid	349.48	49.07
Direct Fuel - Diesel	4.57	0.64
Direct Fuel - LPG	2.44	0.34
Packaging - CHEP Pallets	0.01	0.00
Packaging - Corrugated Cardboard (Cartons)	208.68	29.30
Packaging - Disposable Wooden Pallets	66.14	9.29
Packaging - Glue	17.90	2.51
Packaging - Paper (Labels)	3.53	0.50
Waste - Organic Waste	51.73	7.26
Waste - Non-Organic Waste	7.74	1.09
Total	712.22	100.00

Packhouse - Activity Breakdown



Activity Breakdown	Tonne CO ₂ e	%
Onsite Transport - Direct Fuel	7.01	0.98
Packhouse Activity - Electricity	349.48	49.07
CHEP Pallets - Packaging	0.01	0.00
Corrugated Cardboard (Cartons) - Packaging	208.68	29.30
Disposable Wooden Pallets - Packaging	66.14	9.29
Glue - Packaging	17.90	2.51
Paper (Labels) - Packaging	3.53	0.50
Landfill - Waste	51.73	7.26
Recycled - Waste	7.74	1.09
Total	712.22	100.00

Business Name:

Dataset:

Data Collection Period:

FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak

10/15/2025 12:00:06AM

Nov 2023 to Oct 2024

Detailed Carbon Emissions Breakdown

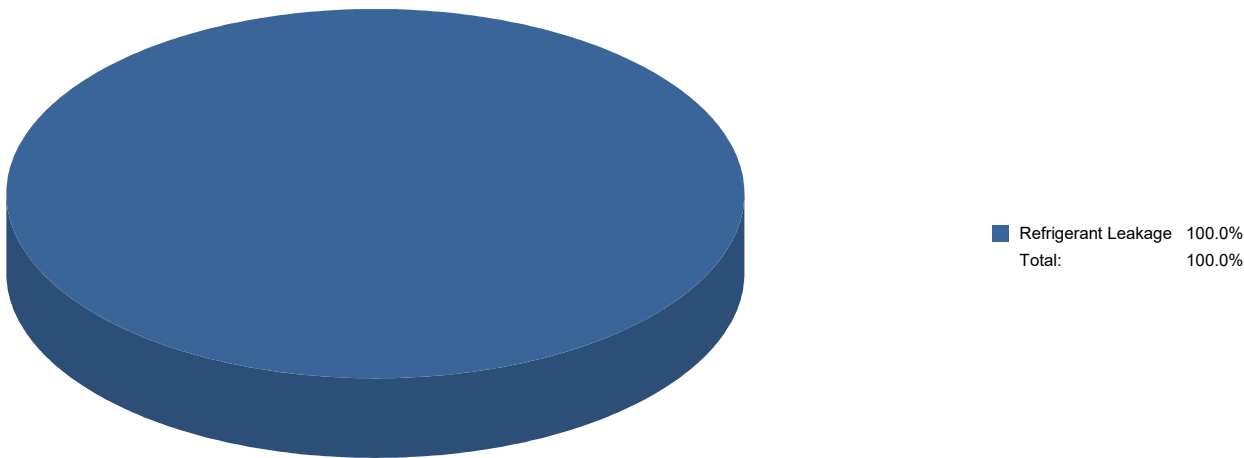
Detailed Activities	Tonne CO ₂ e	%
Electricity - Grid - Packhouse Activity	349.48	49.07
Direct Fuel - Diesel - Onsite Transport	4.57	0.64
Direct Fuel - LPG - Onsite Transport	2.44	0.34
Packaging - Corrugated Cardboard (Cartons) - Corrugated Cardboard (Cartons)	208.68	29.30
Packaging - Paper (Labels) - Paper (Labels)	3.53	0.50
Packaging - Glue - Glue	17.90	2.51
Packaging - Disposable Wooden Pallets - Disposable Wooden Pallets	66.14	9.29
Packaging - CHEP Pallets - CHEP Pallets	0.01	0.00
Waste - Organic Waste - Landfill	51.73	7.26
Waste - Non-Organic Waste - Recycled	7.74	1.09
Total	712.22	100.00

Packhouse Consumption Benchmarks

Citrus (hard)	Liters Water per Ton Fruit	178.79	There are no approved CCC data points for this Commodity / region combination
Citrus (hard)	kWh Packhouse Activity Electricity per Ton Fruit	19.37	There are no approved CCC data points for this Commodity / region combination
Citrus (hard)	Kg Corrugated Cardboard per Ton of Fruit packed	0.44	There are no approved CCC data points for this Commodity / region combination

Citrus (soft)	Liters Water per Ton Fruit	3,366.74	There are no approved CCC data points for this Commodity / region combination
Citrus (soft)	kWh Packhouse Activity Electricity per Ton Fruit	19.12	There are no approved CCC data points for this Commodity / region combination
Citrus (soft)	Kg Corrugated Cardboard per Ton of Fruit packed	11.39	There are no approved CCC data points for this Commodity / region combination

Coldstore - Emission Source View



Emission Source	Tonne CO ₂ e	%
Refrigerant Leakage	1,807.33	100.00
Total	1,807.33	100.00

Business Name:

Dataset:

Data Collection Period:

FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak

10/15/2025 12:00:06AM

Nov 2023 to Oct 2024

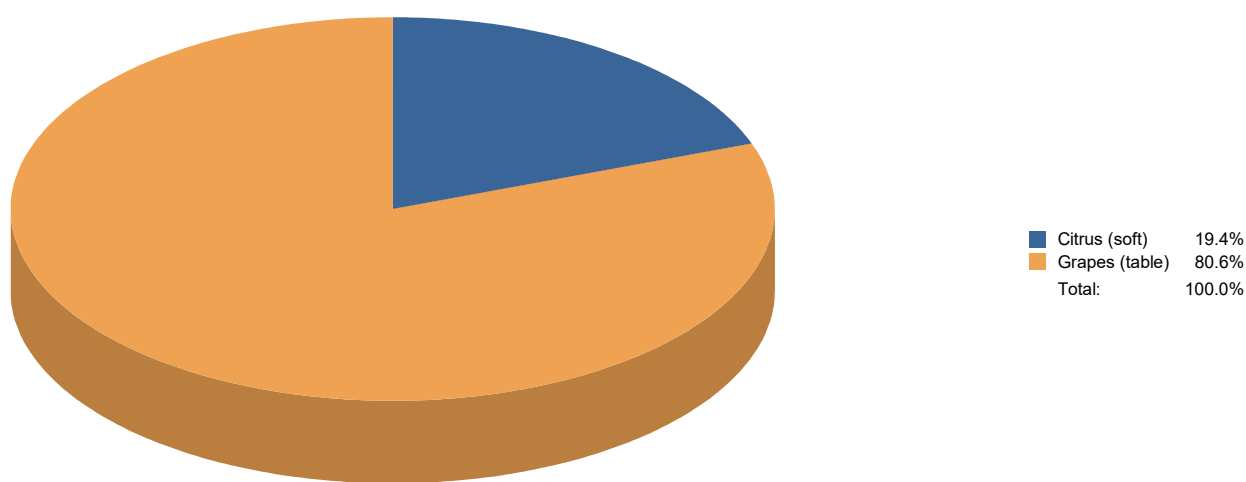
Coldstore Commodity Benchmark

Commodity	Kg CO2e per Kg Fruit	Benchmark
Citrus (soft)	1.86	The CCC regional average is 0.03 Kg CO2e per Kg Fruit and consist of 1 data points.
Grapes (table)	2.79	The CCC regional average is 0.07 Kg CO2e per Kg Fruit and consist of 6 data points.

Coldstore Scope Breakdown

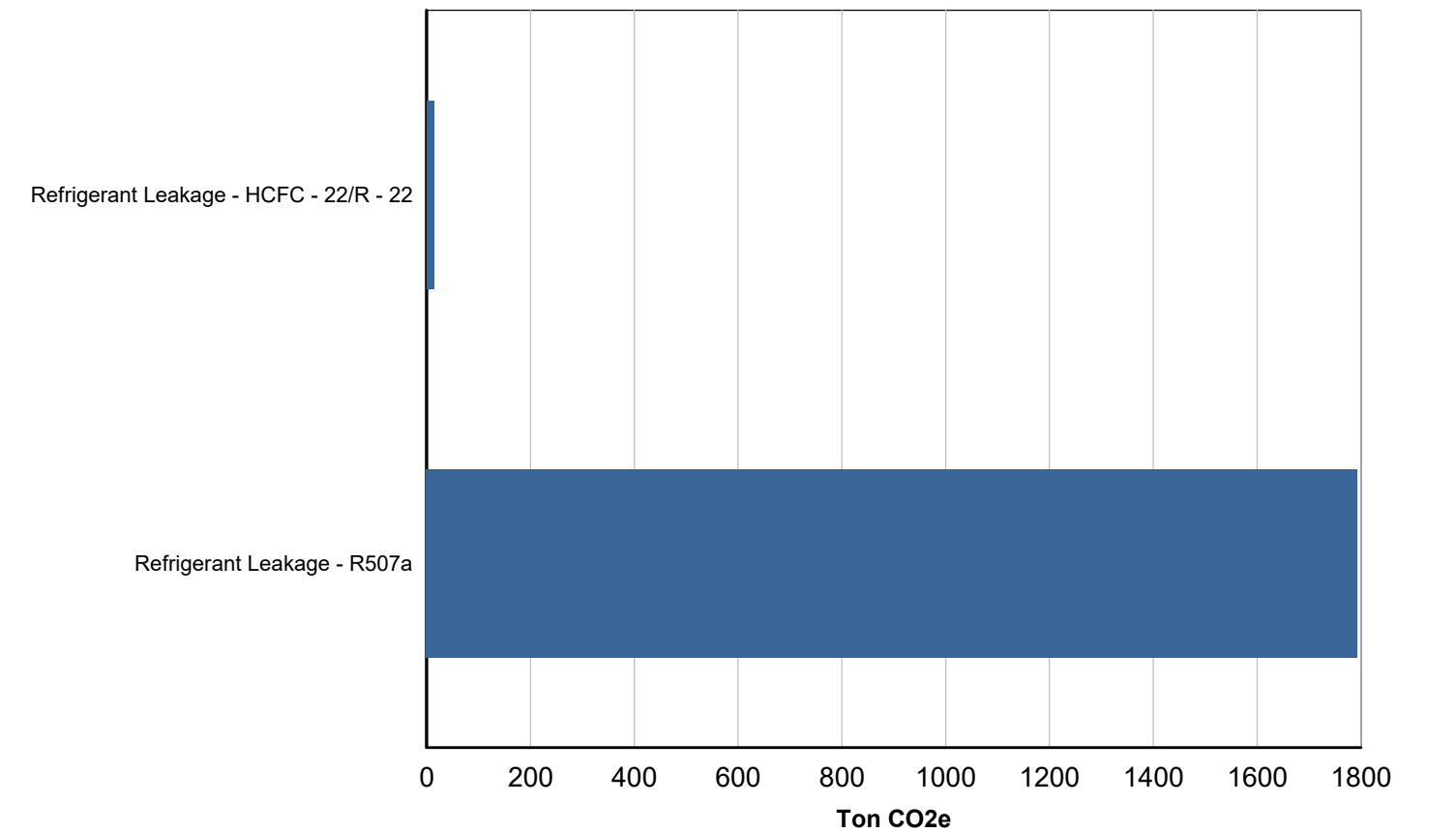
	Tonne CO ₂ e	%
Scope 1	1,807.33	100.00
Total	1,807.33	100.00

Coldstore - Commodity View



Commodity	Tonne CO ₂ e	%
Citrus (soft)	351.13	19.43
Grapes (table)	1,456.20	80.57
Total	1,807.33	100.00

Coldstore - Emission Source Breakdown



Emission Source	Tonne CO ₂ e	%
Refrigerant Leakage - HCFC - 22/R - 22	14.08	0.78
Refrigerant Leakage - R507a	1,793.25	99.22
Total	1,807.33	100.00

Business Name: FERLAND BOERDERY SUIDERLAND PLASE (PTY) LTD & Suiderland Plase (Pty) Ltd t/a Bergpak
Dataset: 10/15/2025 12:00:06AM
Data Collection Period: Nov 2023 to Oct 2024