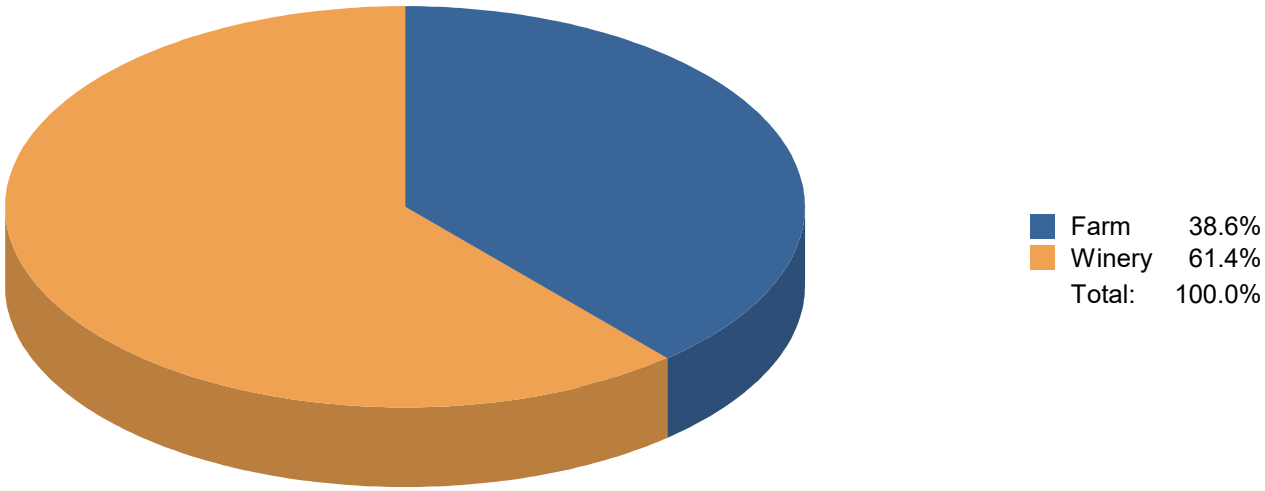
CONFRONTING CLIMATE CHANGE
A SOUTH AFRICAN FRUIT & WINE INITIATIVE

Carbon Calculator Results

Business Name:	De Wetshof Estate
Country Name:	South Africa
Creation Date:	3/17/2026 7:28:05AM
Data Collection Period:	Mar 2025 to Feb 2026
Report Grade:	B2 - This dataset has been checked by CCC and is not part of the benchmark.

Business Unit - Boundary View



Boundary	Tonne CO_2e	%
Farm	608.48	38.58
Winery	968.54	61.42
Total	**1,577.03**	**100.00**

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

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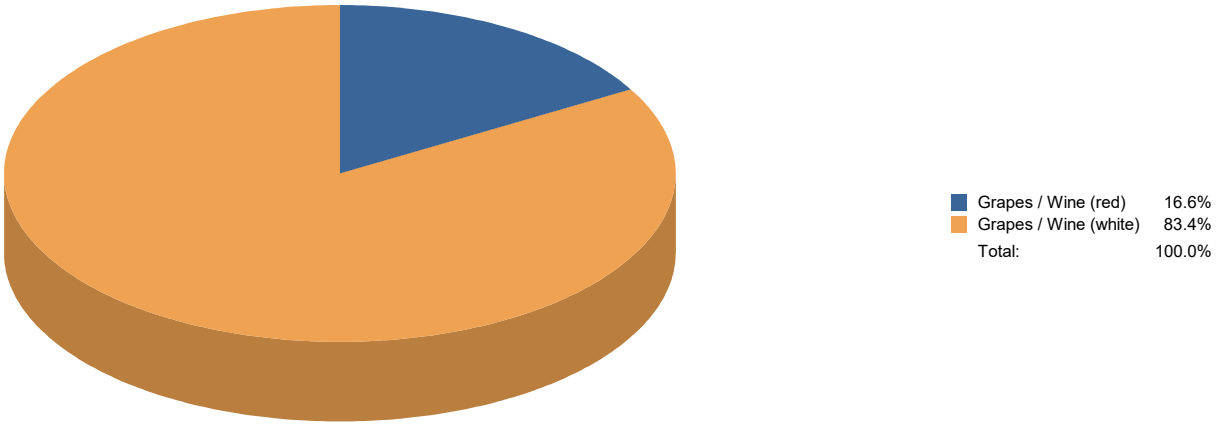
Business Unit - Commodity View



Commodity	Tonne CO_2e	%
Grapes / Wine (red)	262.01	16.61
Grapes / Wine (white)	1,315.02	83.39
Total	**1,577.03**	**100.00**

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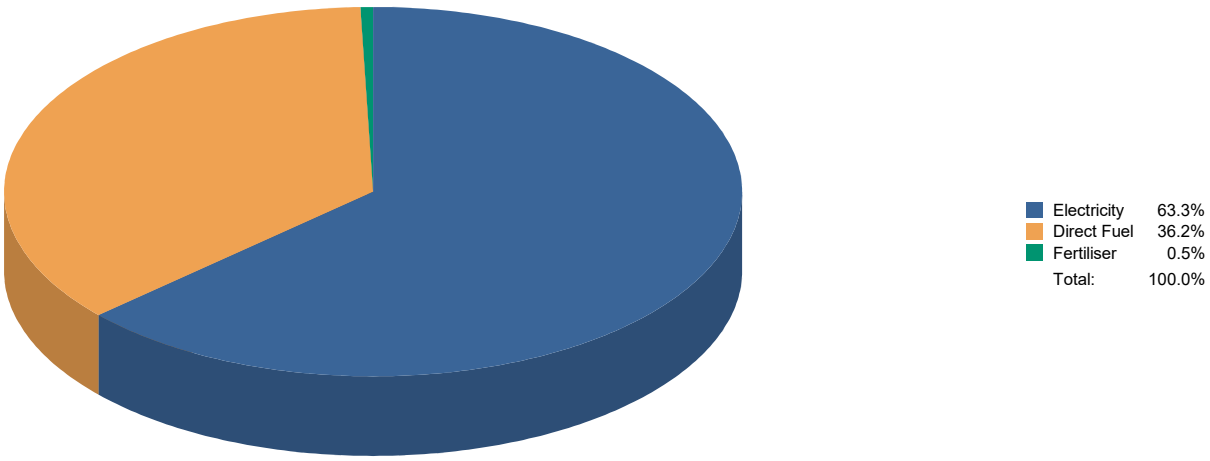
Farm - Emission Source View



Emission Source	Tonne CO_2e	%
Electricity	384.97	63.27
Direct Fuel	220.44	36.23
Fertiliser	3.07	0.50
Total	**608.48**	**100.00**

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Farm Commodity Benchmark

Commodity	Kg CO2e per Kg Fruit	Benchmark
Grapes / Wine (red)	0.77	The CCC regional average is 0.30 Kg CO2e per Kg Fruit and consist of 60 data points.
Grapes / Wine (white)	0.15	The CCC regional average is 0.27 Kg CO2e per Kg Fruit and consist of 66 data points.

Farm Hectare Breakdown

Commodity	Tonne CO_2e per Bearing Ha
Grapes / Wine (red)	3.88
Grapes / Wine (white)	3.09

Farm Scope Breakdown

	Tonne CO_2e	%
Scope 1	224.44	36.88
Scope 2	382.59	62.88
Scope 3	1.46	0.24
Total	**608.48**	**100.00**

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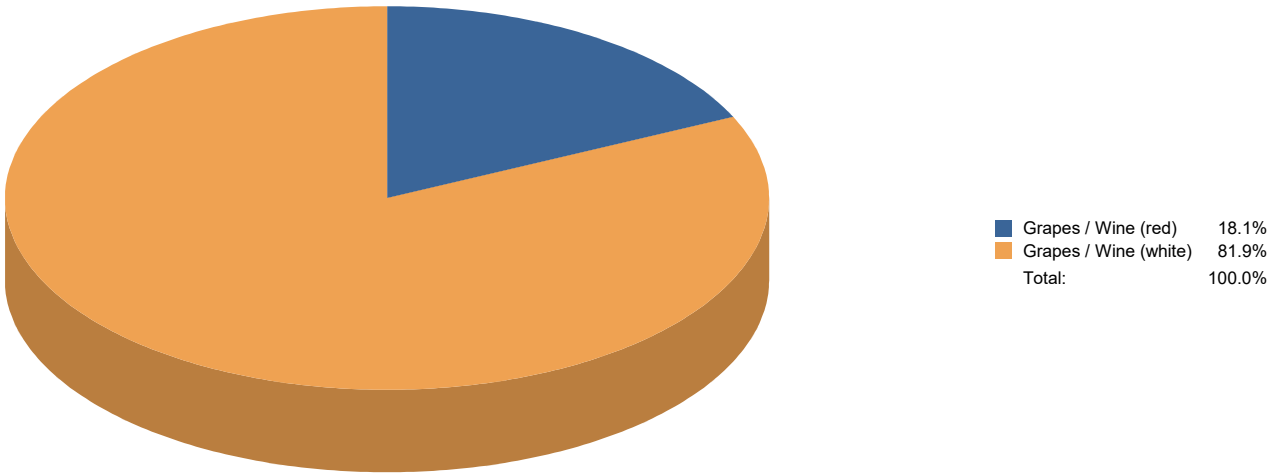
Farm - Commodity View



Commodity	Tonne CO_2e	%
Grapes / Wine (red)	110.43	18.15
Grapes / Wine (white)	498.05	81.85
Total	**608.48**	**100.00**

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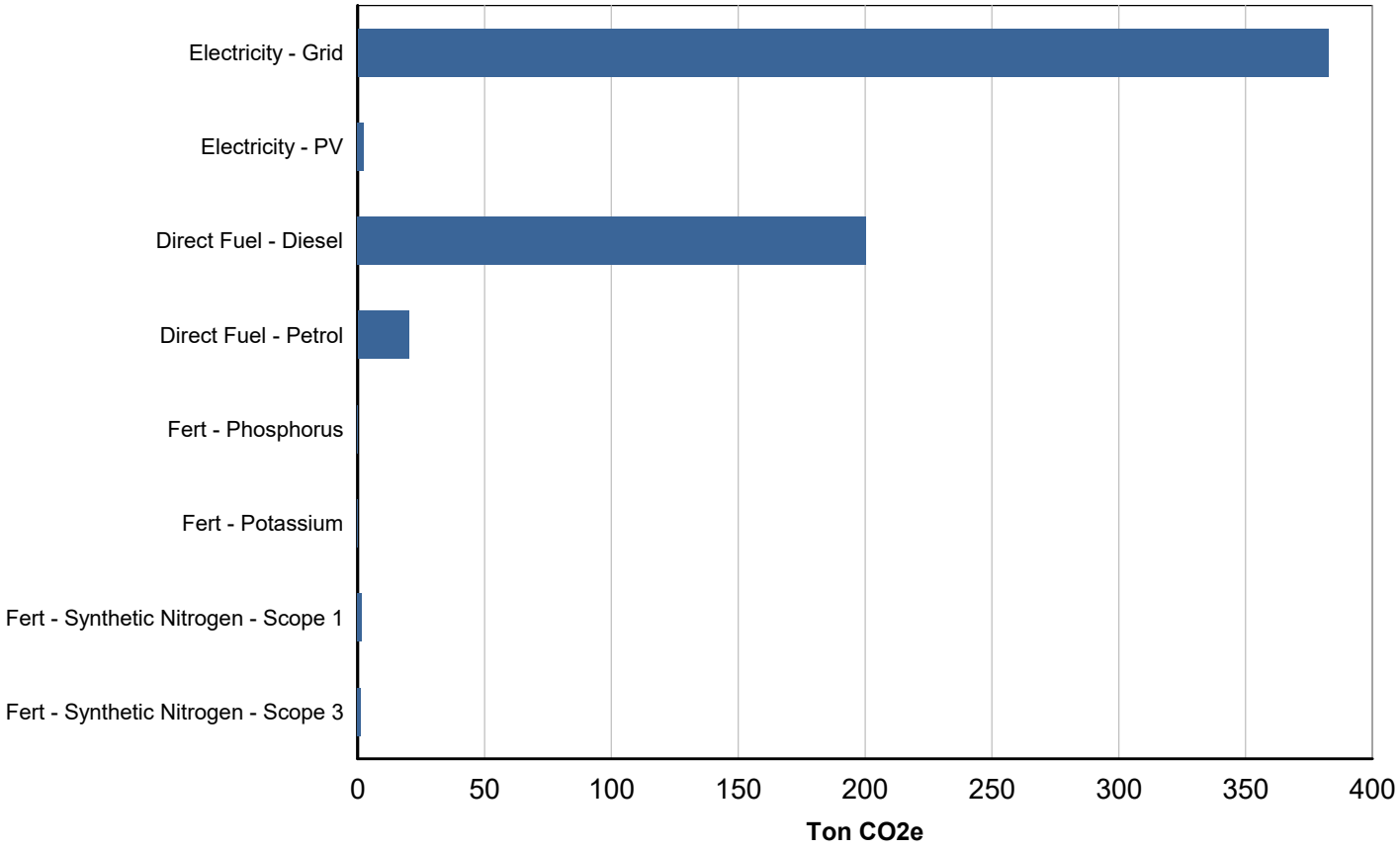
Farm - Emission Source Breakdown



Emission Source	Tonne CO_2e	%
Electricity - Grid	382.59	62.88
Electricity - PV	2.39	0.39
Direct Fuel - Diesel	200.28	32.92
Direct Fuel - Petrol	20.16	3.31
Fert - Phosphorus	0.15	0.02
Fert - Potassium	0.11	0.02
Fert - Synthetic Nitrogen - Scope 1	1.61	0.26
Fert - Synthetic Nitrogen - Scope 3	1.21	0.20
Total	**608.48**	**100.00**

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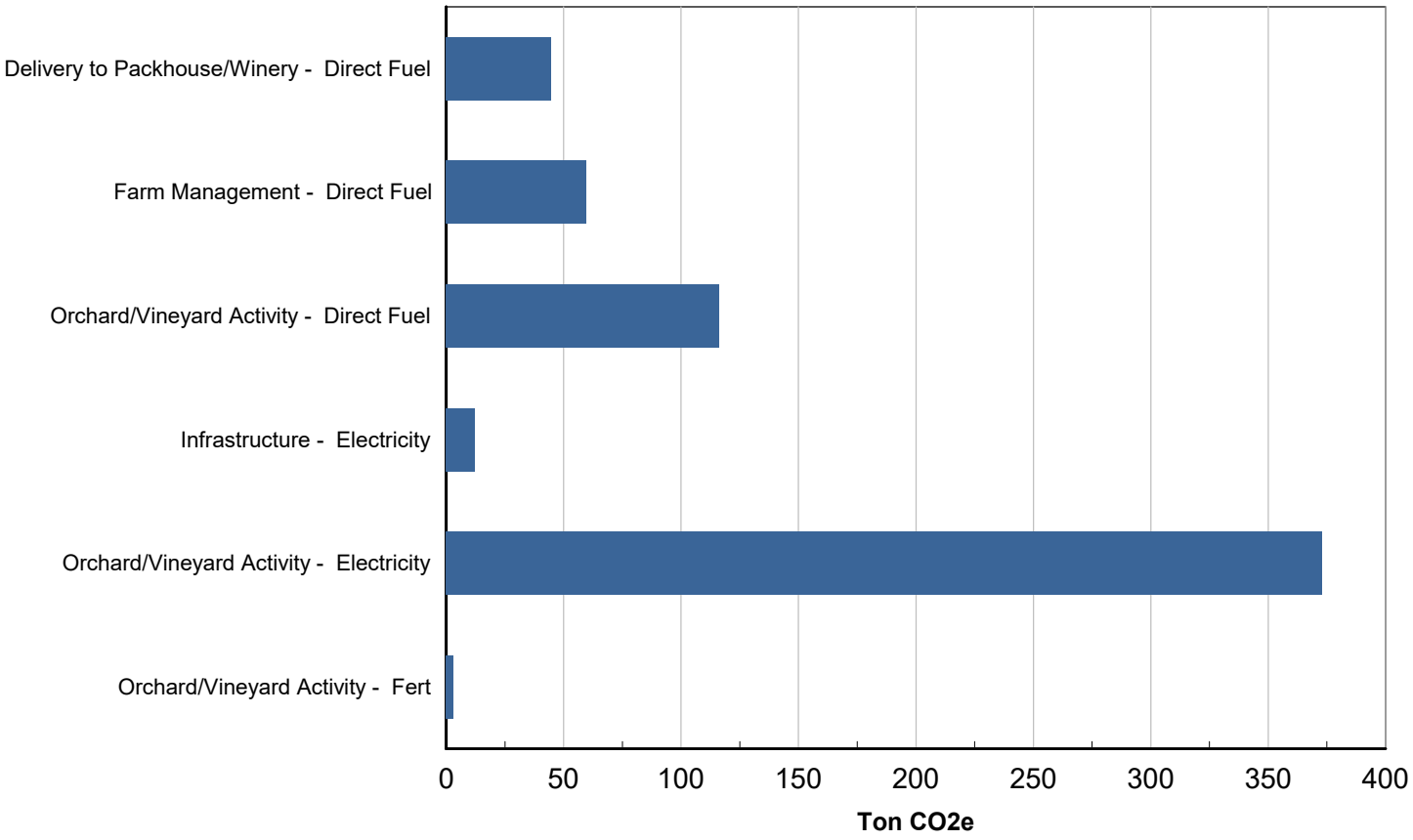
Farm - Activity Breakdown



Activity Breakdown	Tonne CO_2e	%
Delivery to Packhouse/Winery - Direct Fuel	44.63	7.34
Farm Management - Direct Fuel	59.51	9.78
Orchard/Vineyard Activity - Direct Fuel	116.30	19.11
Infrastructure - Electricity	12.16	2.00
Orchard/Vineyard Activity - Electricity	372.82	61.27
Orchard/Vineyard Activity - Fert	3.07	0.50
Total	**608.48**	**100.00**

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Detailed Carbon Emissions Breakdown

Detailed Activities	Tonne CO_2e	%
Electricity - Grid - Orchard/Vineyard Activity - BO	370.43	60.88
Electricity - Grid - Infrastructure	12.16	2.00
Electricity - PV - Orchard/Vineyard Activity - BO	2.39	0.39
Direct Fuel - Diesel - Orchard/Vineyard Activity - BO	96.14	15.80
Direct Fuel - Diesel - Delivery to Packhouse/Winery	44.63	7.34
Direct Fuel - Diesel - Farm Management	59.51	9.78
Direct Fuel - Petrol - Orchard/Vineyard Activity	20.16	3.31
Fert - - Synthetic Nitrogen - Orchard/Vineyard Activity - BO	2.82	0.46
Fert - - Phosphorus - Orchard/Vineyard Activity - BO	0.15	0.02
Fert - - Potassium - Orchard/Vineyard Activity - BO	0.11	0.02
Total	**608.48**	**100.00**

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Farm Consumption Benchmarks

Commodity	Consumption Measure	Result	Benchmark
Grapes / Wine (red)	kL Water per Ton Fruit	942.11	The CCC regional average is 383.97 kL Water per Ton Fruit and consist of 56 data points.
Grapes / Wine (red)	kL Water per Bearing Ha	4,726.44	The CCC regional average is 4881.92 kL Water per Bearing Ha and consist of 56 data points.
Grapes / Wine (red)	kWh Orchard / Vineyard Electricity per Ton Fruit	605.31	The CCC regional average is 197.29 kWh Orchard / Vineyard Electricity per Ton Fruit and consist of 56 data points.
Grapes / Wine (red)	kWh Orchard / Vineyard Electricity per Bearing Ha	3,036.74	The CCC regional average is 2484.32 kWh Orchard / Vineyard Electricity per Bearing Ha and consist of 56 data points.
Grapes / Wine (red)	Liters Orchard / Vineyard Diesel per Ton Fruit	54.33	The CCC regional average is 19.51 Liters Orchard / Vineyard Diesel per Ton Fruit and consist of 56 data points.
Grapes / Wine (red)	Liters Orchard / Vineyard Diesel per Bearing Ha	272.57	The CCC regional average is 241.71 Liters Orchard / Vineyard Diesel per Bearing Ha and consist of 56 data points.
Grapes / Wine (red)	Kg Pure N per Ton Fruit	0.27	The CCC regional average is 4.27 Kg Pure N per Ton Fruit and consist of 56 data points.
Grapes / Wine (red)	Kg Pure N per Bearing Ha	1.35	The CCC regional average is 75.03 Kg Pure N per Bearing Ha and consist of 56 data points.

Commodity	Consumption Measure	Result	Benchmark
Grapes / Wine (white)	kL Water per Ton Fruit	168.59	The CCC regional average is 271.98 kL Water per Ton Fruit and consist of 62 data points.
Grapes / Wine (white)	kL Water per Bearing Ha	3,335.41	The CCC regional average is 4186.54 kL Water per Bearing Ha and consist of 62 data points.
Grapes / Wine (white)	kWh Orchard / Vineyard Electricity per Ton Fruit	108.32	The CCC regional average is 162.44 kWh Orchard / Vineyard Electricity per Ton Fruit and consist of 62 data points.
Grapes / Wine (white)	kWh Orchard / Vineyard Electricity per Bearing Ha	2,143.00	The CCC regional average is 2315.55 kWh Orchard / Vineyard Electricity per Bearing Ha and consist of 62 data points.
Grapes / Wine (white)	Liters Orchard / Vineyard Diesel per Ton Fruit	9.72	The CCC regional average is 15.01 Liters Orchard / Vineyard Diesel per Ton Fruit and consist of 62 data points.
Grapes / Wine (white)	Liters Orchard / Vineyard Diesel per Bearing Ha	192.35	The CCC regional average is 224.55 Liters Orchard / Vineyard Diesel per Bearing Ha and consist of 62 data points.
Grapes / Wine (white)	Kg Pure N per Ton Fruit	0.05	The CCC regional average is 3.35 Kg Pure N per Ton Fruit and consist of 62 data points.
Grapes / Wine (white)	Kg Pure N per Bearing Ha	0.95	The CCC regional average is 62.80 Kg Pure N per Bearing Ha and consist of 62 data points.

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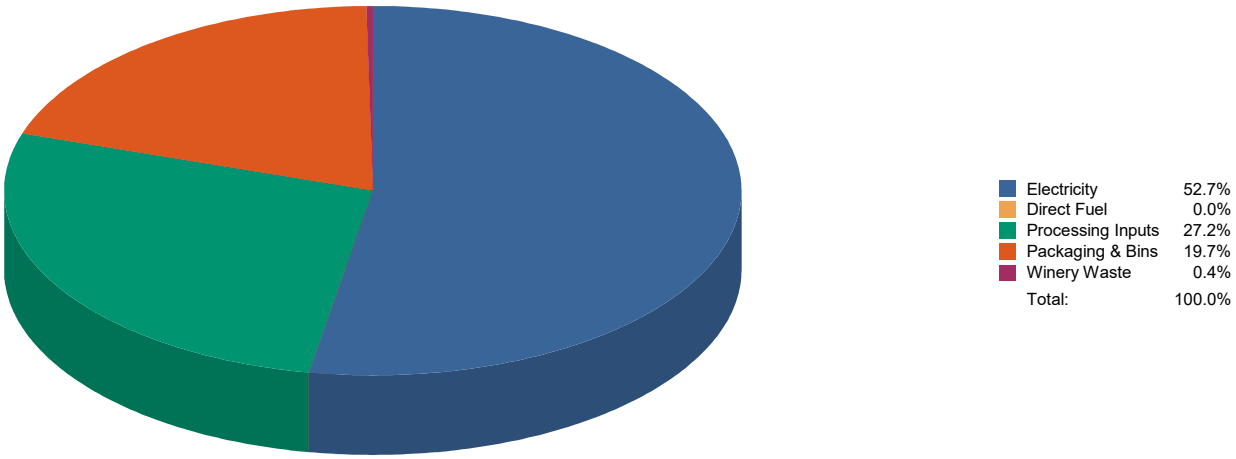
Winery - Emission Source View



Emission Source	Tonne CO_2e	%
Electricity	510.38	52.70
Direct Fuel	0.17	0.02
Processing Inputs	263.48	27.20
Packaging & Bins	190.76	19.70
Winery Waste	3.75	0.39
Total	**968.54**	**100.00**

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Winery Commodity Benchmark

Commodity	Kg CO2e per L Wine	Benchmark
Grapes / Wine (red) - Bottling	0.85	The CCC regional average is 0.57 Kg CO2e per L Wine and consist of 36 data points.
Grapes / Wine (red) - Processing	1.03	The CCC regional average is 0.15 Kg CO2e per L Wine and consist of 82 data points.
Grapes / Wine (white) - Bottling	0.31	The CCC regional average is 0.71 Kg CO2e per L Wine and consist of 38 data points.
Grapes / Wine (white) - Processing	0.27	The CCC regional average is 0.14 Kg CO2e per L Wine and consist of 82 data points.

Winery Scope Breakdown

	Tonne CO_2e	%
Scope 1	270.43	27.92
Scope 2	505.49	52.19
Scope 3	192.63	19.89
Total	**968.54**	**100.00**

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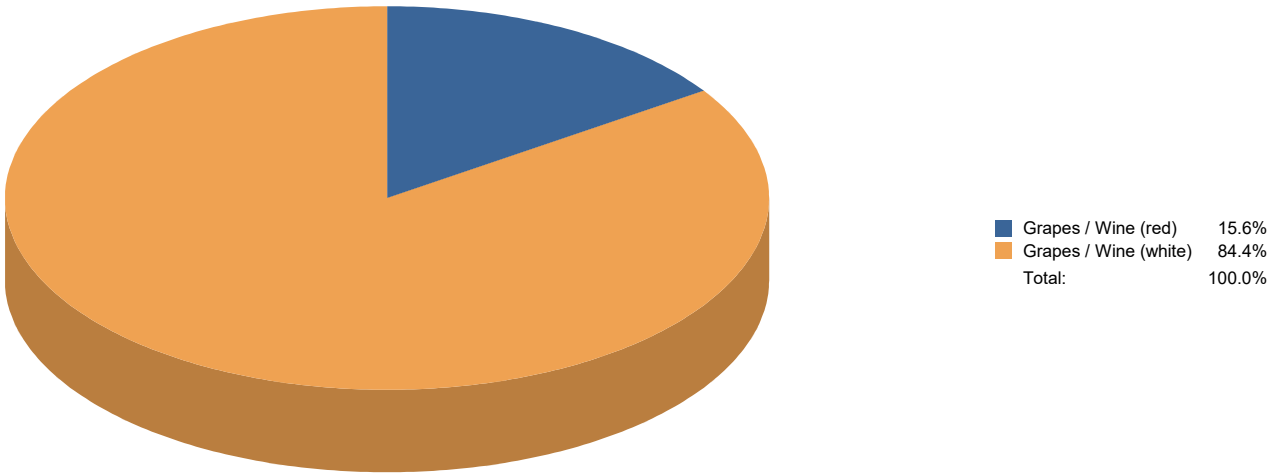
Winery - Commodity View



Commodity	Tonne CO_2e	%
Grapes / Wine (red)	151.57	15.65
Grapes / Wine (white)	816.97	84.35
Total	**968.54**	**100.00**

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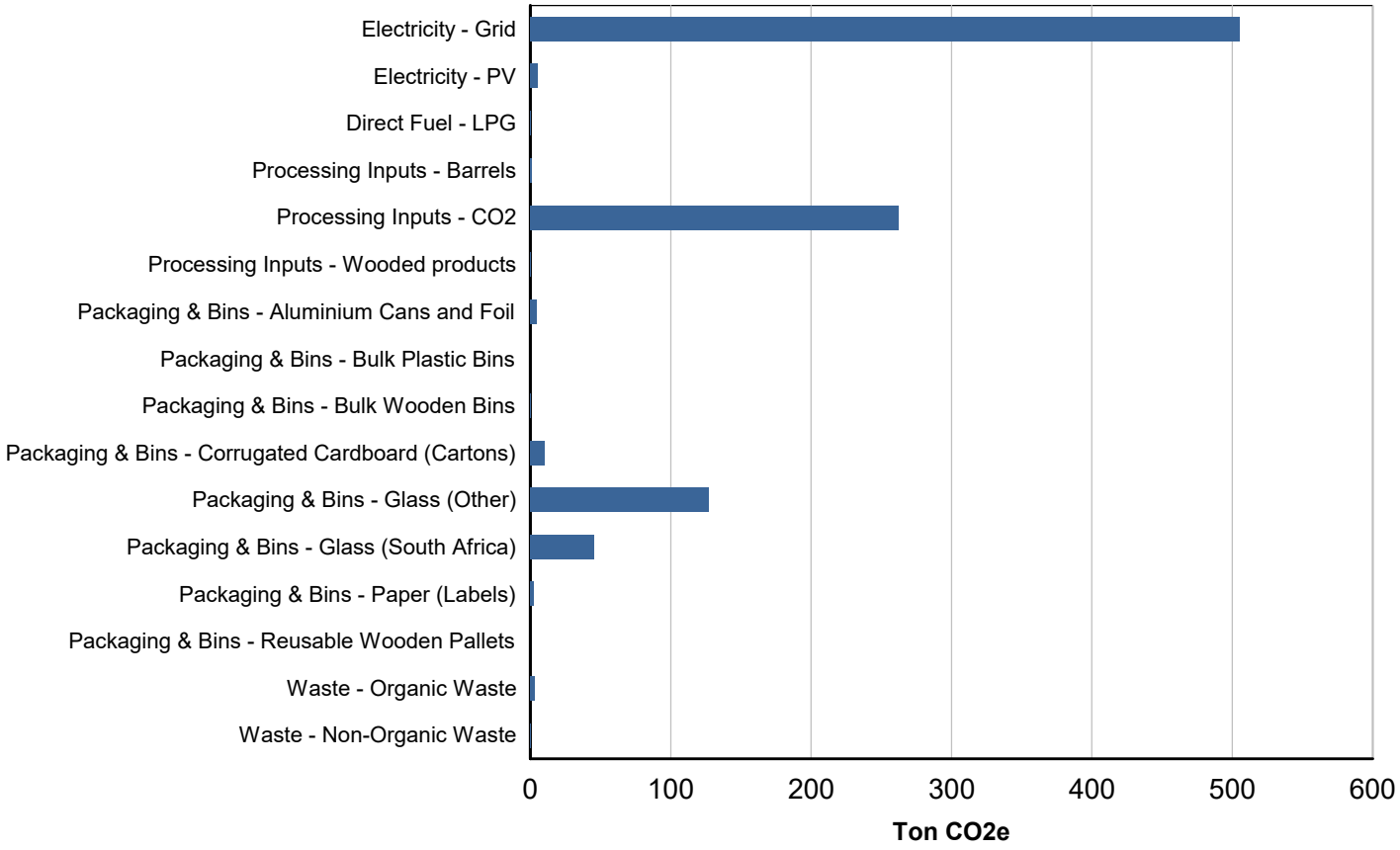
Winery - Emission Source Breakdown



Emission Source	Tonne CO_2e	%
Electricity - Grid	505.49	52.19
Electricity - PV	4.90	0.51
Direct Fuel - LPG	0.17	0.02
Processing Inputs - Barrels	1.21	0.13
Processing Inputs - CO2	262.00	27.05
Processing Inputs - Wooded products	0.27	0.03
Packaging & Bins - Aluminium Cans and Foil	4.68	0.48
Packaging & Bins - Bulk Plastic Bins	0.07	0.01
Packaging & Bins - Bulk Wooden Bins	0.19	0.02
Packaging & Bins - Corrugated Cardboard (Cartons)	10.19	1.05
Packaging & Bins - Glass (Other)	127.20	13.13
Packaging & Bins - Glass (South Africa)	45.63	4.71

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Packaging & Bins - Paper (Labels)	2.78	0.29
Packaging & Bins - Reusable Wooden Pallets	0.03	0.00
Waste - Organic Waste	3.37	0.35
Waste - Non-Organic Waste	0.38	0.04
Total	**968.54**	**100.00**

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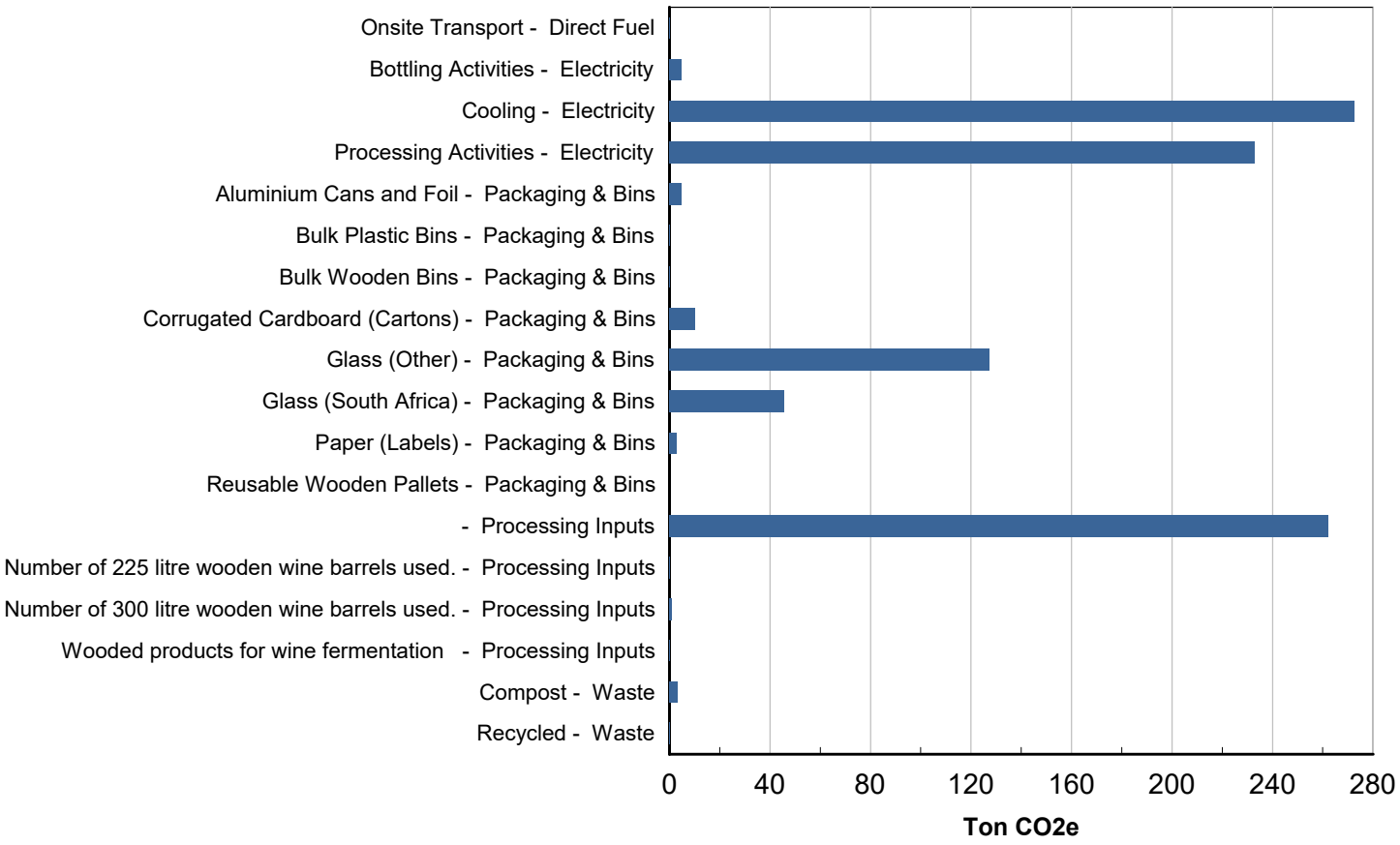
Winery - Activity Breakdown



Activity Breakdown	Tonne CO_2e	%
Onsite Transport - Direct Fuel	0.17	0.02
Bottling Activities - Electricity	4.90	0.51
Cooling - Electricity	272.50	28.13
Processing Activities - Electricity	232.99	24.06
Aluminium Cans and Foil - Packaging & Bins	4.68	0.48
Bulk Plastic Bins - Packaging & Bins	0.07	0.01
Bulk Wooden Bins - Packaging & Bins	0.19	0.02
Corrugated Cardboard (Cartons) - Packaging & Bins	10.19	1.05
Glass (Other) - Packaging & Bins	127.20	13.13
Glass (South Africa) - Packaging & Bins	45.63	4.71
Paper (Labels) - Packaging & Bins	2.78	0.29
Reusable Wooden Pallets - Packaging & Bins	0.03	0.00
- Processing Inputs	262.00	27.05
Number of 225 litre wooden wine barrels used. - Processing Inputs	0.34	0.04

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Number of 300 litre wooden wine barrels used. - Processing Inputs	0.87	0.09
Wooded products for wine fermentation - Processing Inputs	0.27	0.03
Compost - Waste	3.37	0.35
Recycled - Waste	0.38	0.04
Total	**968.54**	**100.00**

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Detailed Carbon Emissions Breakdown

Detailed Activities	Tonne CO_2e	%
Electricity - Grid - Processing Activities	232.99	24.06
Electricity - Grid - Cooling	272.50	28.13
Electricity - PV - Bottling Activities	4.90	0.51
Direct Fuel - LPG - Onsite Transport	0.17	0.02
Processing Inputs - CO2 -	262.00	27.05
Processing Inputs - Barrels - Number of 225 litre wooden wine barrels used.	0.34	0.04
Processing Inputs - Barrels - Number of 300 litre wooden wine barrels used.	0.87	0.09
Processing Inputs - Wooded products - Wooded products for wine fermentation	0.27	0.03
Waste - Organic Waste - Compost	3.37	0.35
Waste - Non-Organic Waste - Recycled	0.38	0.04
Packaging & Bins - Glass (South Africa) - Glass (South Africa)	45.63	4.71
Packaging & Bins - Glass (Other) - Glass (Other)	127.20	13.13
Packaging & Bins - Corrugated Cardboard (Cartons) - Corrugated Cardboard (Cartons)	10.19	1.05
Packaging & Bins - Paper (Labels) - Paper (Labels)	2.78	0.29
Packaging & Bins - Bulk Wooden Bins - Bulk Wooden Bins	0.19	0.02
Packaging & Bins - Bulk Plastic Bins - Bulk Plastic Bins	0.07	0.01
Packaging & Bins - Reusable Wooden Pallets - Reusable Wooden Pallets	0.03	0.00
Packaging & Bins - Aluminium Cans and Foil - Aluminium Cans and Foil	4.68	0.48
Total	**968.54**	**100.00**

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Winery Consumption Benchmarks

Grapes / Wine (red)	Processing kWh per Ton Grapes Processed	322.29	The CCC regional average is 82.94 Processing kWh per Ton Grapes Processed and consist of 72 data points.
Grapes / Wine (red)	Cooling kWh per Ton Grapes Processed	376.94	The CCC regional average is 96.30 Cooling kWh per Ton Grapes Processed and consist of 72 data points.
Grapes / Wine (red)	Kg Glass per Liter Wine	1.07	The CCC regional average is 0.66 Kg Glass per Liter Wine and consist of 31 data points.

Grapes / Wine (white)	Processing kWh per Ton Grapes Processed	57.67	The CCC regional average is 78.02 Processing kWh per Ton Grapes Processed and consist of 73 data points.
Grapes / Wine (white)	Cooling kWh per Ton Grapes Processed	67.45	The CCC regional average is 79.00 Cooling kWh per Ton Grapes Processed and consist of 73 data points.
Grapes / Wine (white)	Kg Glass per Liter Wine	0.38	The CCC regional average is 0.63 Kg Glass per Liter Wine and consist of 33 data points.

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