



## SOUTH AFRICAN WINE GRAPES

### Introduction

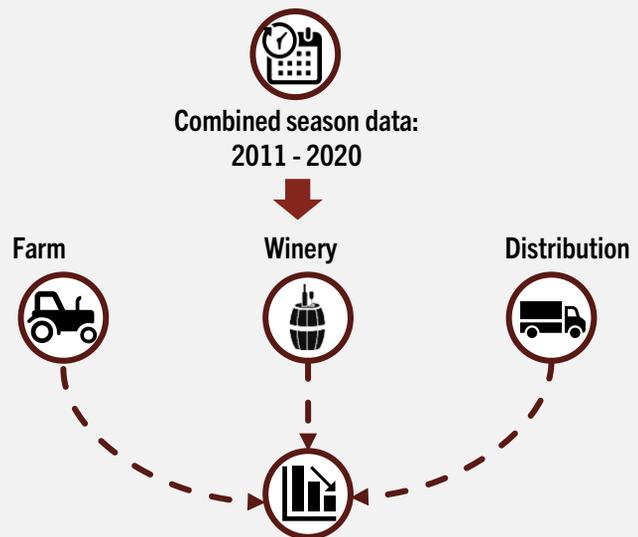
The 2021 Confronting Climate Change (CCC) industry benchmark process builds on 2019 - 2020 datasets and provides a meaningful platform for the South African fruit and wine industries to improve their understanding of the use of fossil fuel-based resources and to reduce emissions over time.

The nine years combined season data (2011 – 2020) for wine grapes were used for the assessment and analysed based on the following business boundaries: farm, winery and distribution.

### About the benchmark data

The CCC benchmark reports use combined season data from 2011 - 2020 to provide an industry-specific CO<sub>2</sub>e benchmark. Users who calculate their carbon footprint using the CCC online carbon calculator have the option to submit their data for grading. This grading is undertaken by the CCC technical team who work with the user to ensure that all data is correctly entered and accurately reflects the entity's operations. In order to ensure the quality and accuracy of the benchmark results, only graded datasets are included in the benchmark calculation.

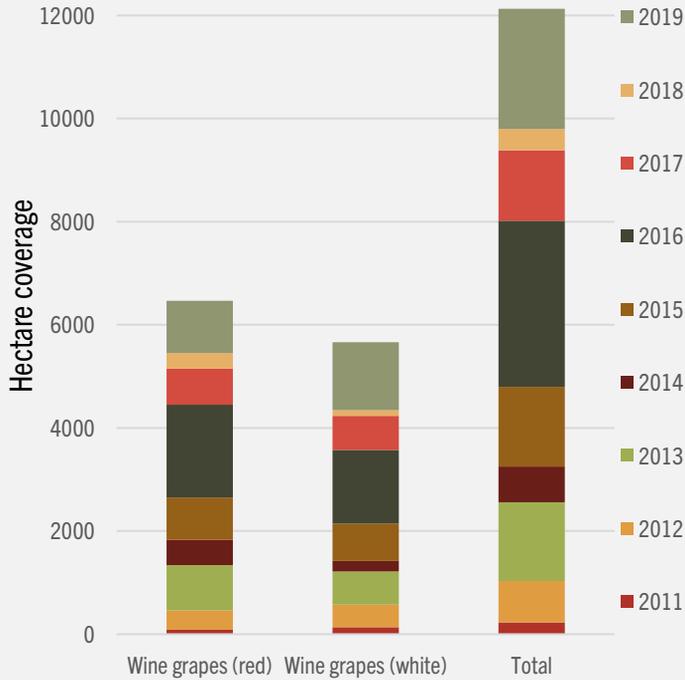
The benchmark values are determined using the mean value of graded datasets in the CCC database. To further ensure the accuracy of the benchmark, values falling beyond 1.5 times the standard deviation of the mean of the normally distributed dataset are considered outliers and are excluded from the benchmark calculation. All results are shown in the internationally accepted form of **kilograms of carbon dioxide equivalent per unit (kg CO<sub>2</sub>e/kg fruit)**. More detailed information can be requested from the Confronting Climate Change Initiative.





# Farm CO<sub>2</sub>e Benchmark

From 2011 to 2020 the CCC database (incl. graded + ungraded data) has grown to cover **12 127** unique hectares of wine farms in South Africa. This represents **13%** of the wine grape industry in the country.

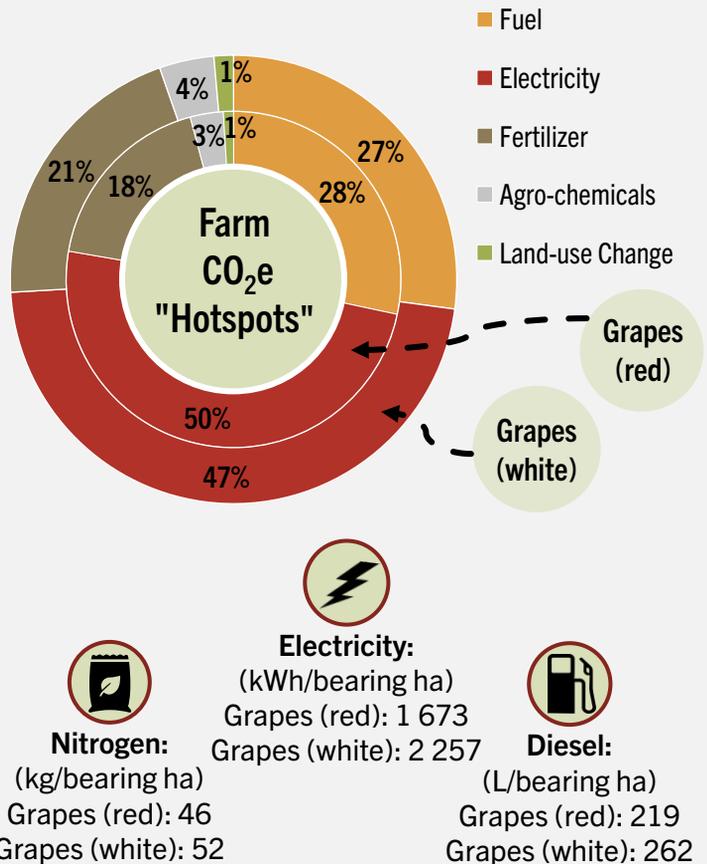
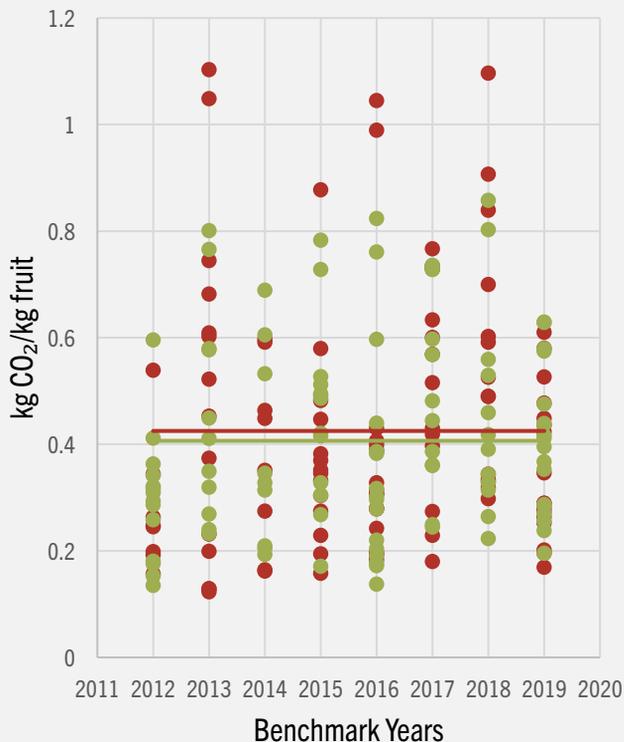


## Which regions participate in the CCC Initiative?

Region	Industry Ha	CCC Ha	%
Stellenbosch	15 066	4 854	32%
Klein Karoo	2 224	560	25%
Swartland	12 432	1 777	14%
Breedekloof	12 593	1 512	12%
Robertson	12 731	1 251	10%
Paarl	14 607	1 408	10%
Worcester	6 606	522	8%
Northern Cape	3 701	117	3%
Cape South Coast	2 656	53	2%
Olifants River	9 450	74	1%



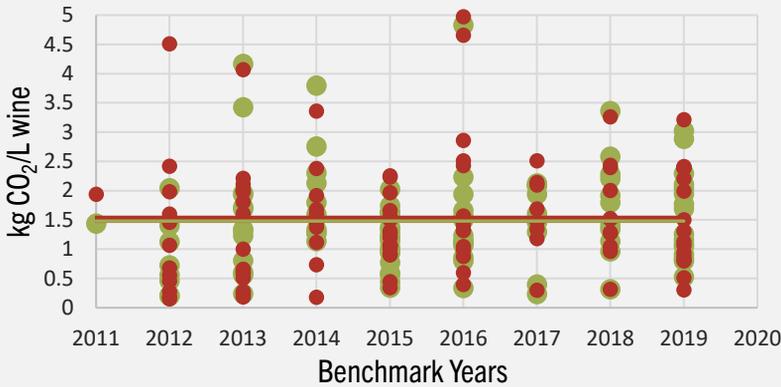
Wine grapes (white): 0.41 kg CO<sub>2</sub>e/kg fruit  
 Wine grapes (red): 0.42 kg CO<sub>2</sub>e/kg fruit





# Winery CO<sub>2</sub>e Benchmark

From 2011 to 2020 the CCC database (incl. graded + ungraded data) has grown to cover **200** wineries. This represents **40%** of the wine cellars in the country.



Red wine: 1.54 kg CO<sub>2</sub>e/L wine

Processing: 0.69 kg CO<sub>2</sub>e/L wine  
Bottling: 0.92 kg CO<sub>2</sub>e/L wine



White wine: 1.59 kg CO<sub>2</sub>e/L wine

Processing: 0.70 kg CO<sub>2</sub>e/L wine  
Bottling: 0.86 kg CO<sub>2</sub>e/L wine



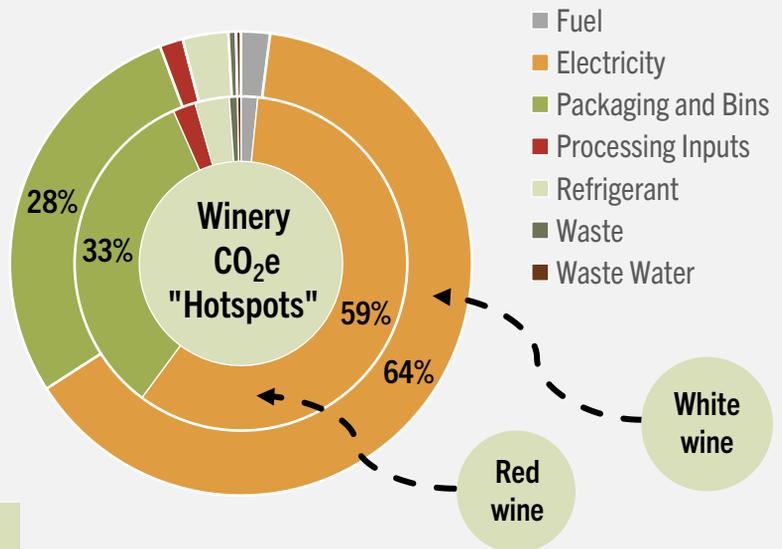
**Electricity** is the highest contributor to winery CO<sub>2</sub>e emissions, followed by **Packaging and Bins**.

## Electricity – Processing

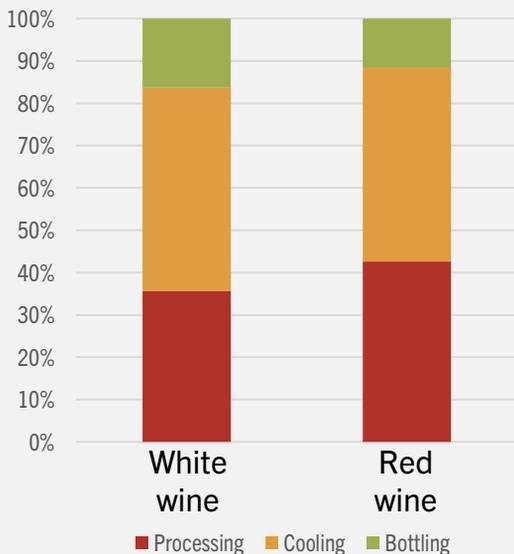
Red wine: 188 kWh/ton grapes processed  
White wine: 195 kWh/ton grapes processed

## Electricity – Cooling

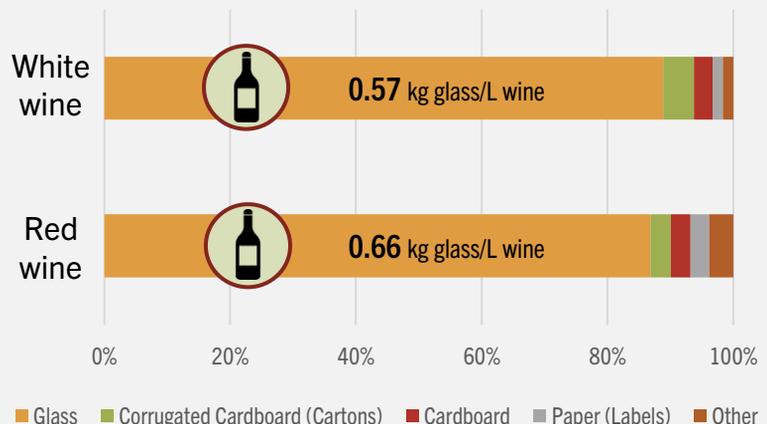
Red wine: 278 kWh/ton grapes processed  
White wine: 298 kWh/ton grapes processed



Where do the Electricity CO<sub>2</sub>e emissions come from?



Where do the Packaging CO<sub>2</sub>e emissions come from?





# CCC Users Feedback

We asked a couple of wine grape producers to share some of their experiences with the CCC carbon calculator ...

How have you found the use of the online tool, easy or challenging?

**User 1:** I am quite happy with the CCC tool. Once you've attended a workshop to work through the tool it is very user friendly.

**User 2:** The tool is mostly straight forward. Doing the allocations can be challenging. The report is easily understandable.

How do you find the support that is given?

**User 1:** Any technical queries that I've had I take up with support and they have always been able to advise me.

**User 2:** Excellent. The support is of great help.

How is CCC aligning with and supporting your carbon reduction strategy?

**User 1:** We are committed to reducing energy and water consumption and our impact on the environment, so the CCC report is a complementary addition to our data.

**User 2:** As this is only the second year that we're using the tool, we only have two sets of data to compare. But I can already see that electricity, packing and N<sub>2</sub> are the main contributors. What we're doing now is installing more solar panels. I think the next step would be to look at our packing. We will also not use fertilizer if it's not necessary. We will definitely look more closely at our CCC report in future as for some of our entities it boils down to a huge amount of money per annum.



## Project Partners



**Disclaimer:** The results shown in this report represent the approved data points of the CCC wine grape sample group representing combined data from the nine-year seasonal period of 2011-2020. In line with the leading international carbon footprinting protocol of PAS 2050-1:2012, a three-year period is required to reflect seasonal and production variances. The data range now covers the required three-year period, and therefore accounts for seasonal and production variances. However, the data range of the sample is not yet representative of the industry at large. Due to this consideration, the results should NOT be distributed on behalf of or representing the South African wine grape industry. It is aimed to be used as an internal evaluation exercise for those South African producers and exporters wanting to compare their carbon footprint results with the CCC regional sample group averages. This report has been compiled by Blue North Sustainability (Pty) Ltd. Author: Dianca Yssel. Design: Carina Wessels. Reviewed: Eddie Vienings & Anel Blygnaut. For more information please contact the CCC Project Leader, Anel Blygnaut, at [anel@bluenorth.co.za](mailto:anel@bluenorth.co.za).



Photo: P. Goussard