

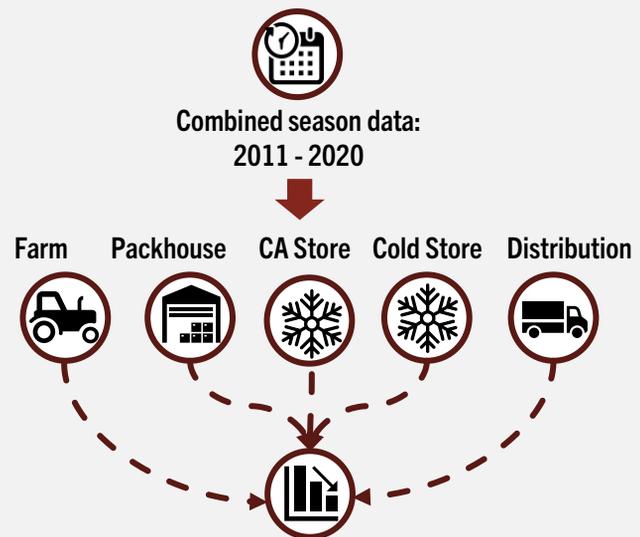


SOUTH AFRICAN POME FRUIT

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 pome fruit were used for the assessment and analysed based on the following business boundaries: farm, packhouse, cold store, CA store and distribution.



About the benchmark data

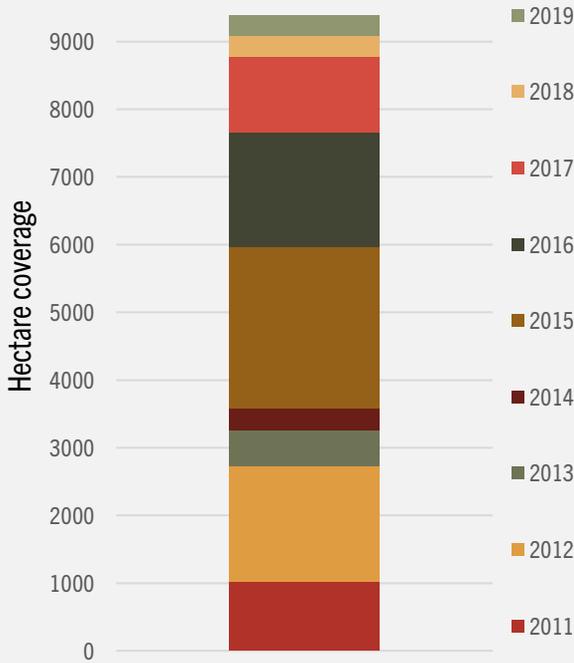
The CCC benchmark reports use combined season data from 2011 - 2020 to provide an industry-specific CO₂e benchmark. Users who calculate their carbon footprint using the CCC online carbon calculator have the option to submit their data for grading. This grading is undertaken by the CCC technical team 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 CO₂e/kg fruit)**. More detailed information can be requested from the Confronting Climate Change Initiative.



Farm CO₂e Benchmark

From 2011 to 2020 the CCC database (incl. graded + ungraded data) has grown to cover **9 387** unique hectares of pome fruit farms in South Africa. This represents **25%** of the pome fruit industry in the country.

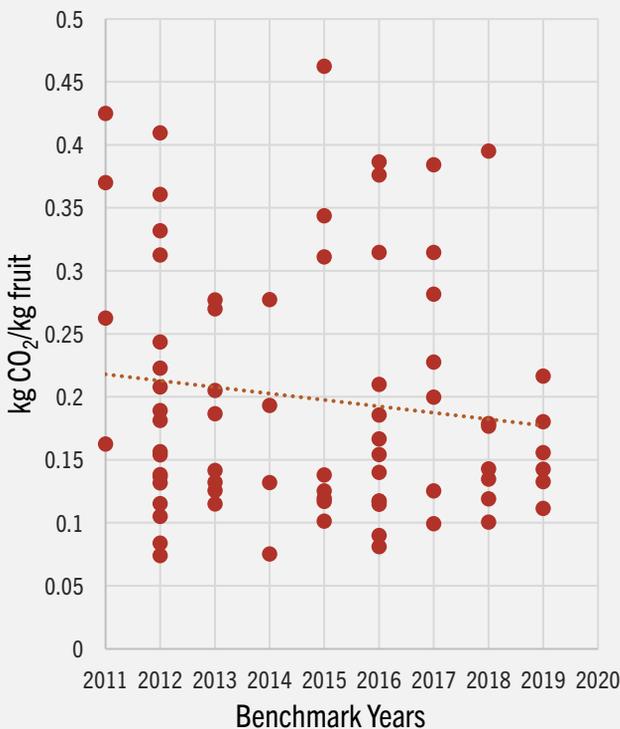


Which regions participate in the CCC Initiative?

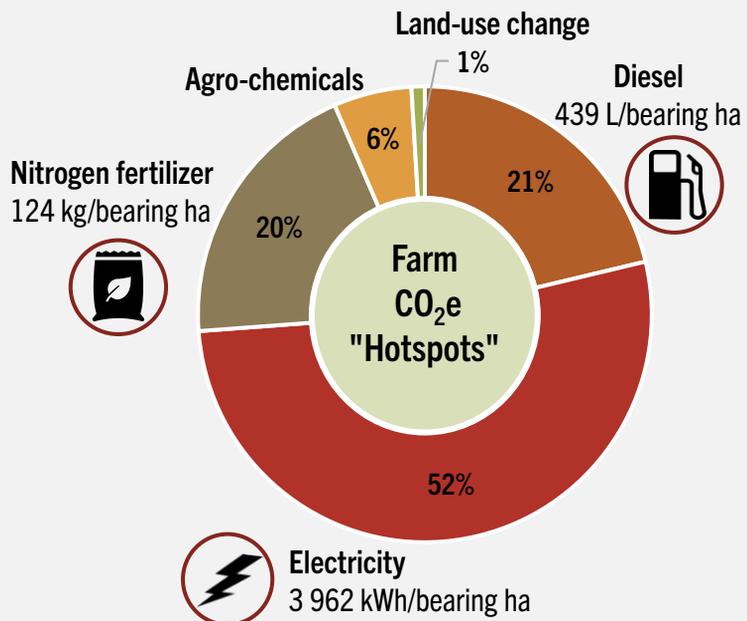
Region	Industry Ha	CCC Ha	%
Stellenbosch / Somerset West	378	357	94%
Mpumalanga	204	78	38%
Ceres / PA Hamlet	12 225	3 727	30%
Villiersdorp / Vyeboom	5 386	1 460	27%
Elgin / Groenland / Grabouw	8 810	2 135	24%
Berg Rivier (incl Paarl)	124	28	23%
Wolseley / Tulbagh	1 460	281	19%
Free State	534	93	17%
Piketberg	509	81	16%
Langkloof	6 457	1 023	16%
Klein Karoo	1 241	123	10%



0.20 kg CO₂e/kg fruit



Electricity is the highest contributor to farm CO₂ emissions, followed by **Diesel** and **Nitrogen fertilizer**

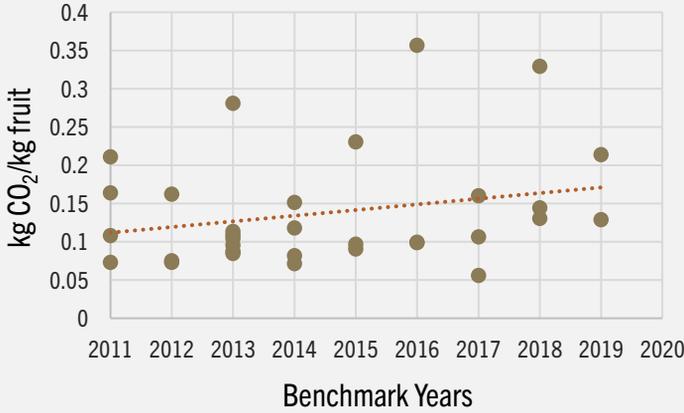




Packhouse CO₂e Benchmark

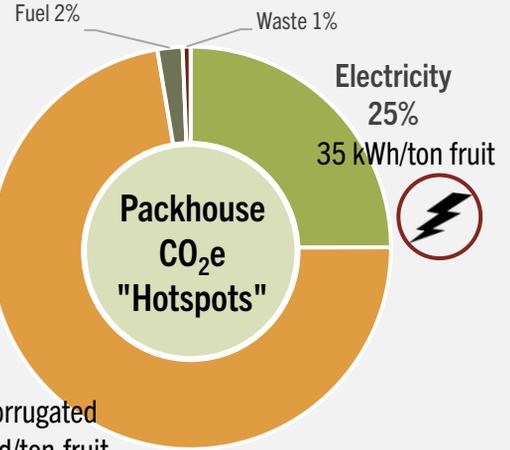


0.14 kg CO₂e/kg fruit

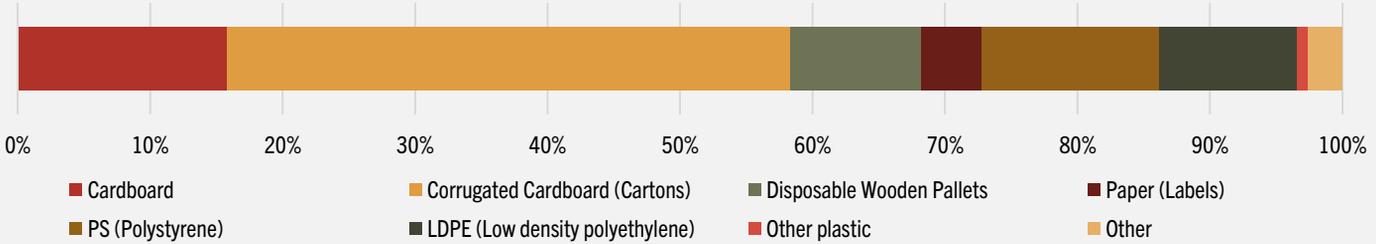


Packaging
72%

46 kg corrugated cardboard/ton fruit



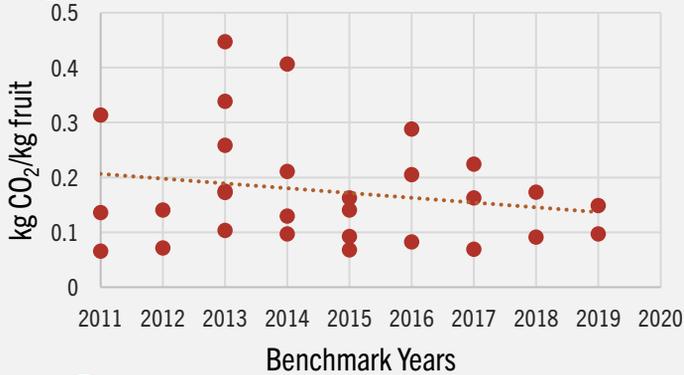
Where are the CO₂ emissions from packaging coming from?



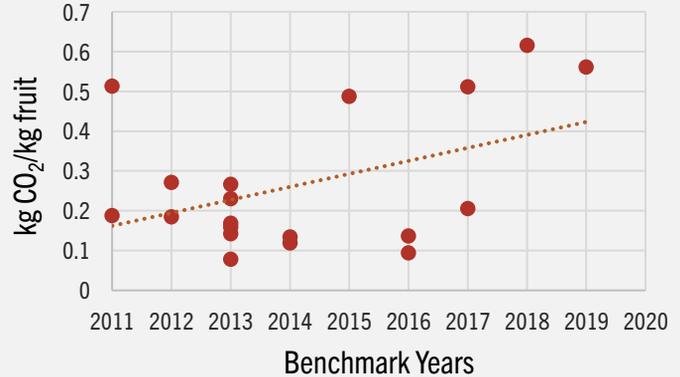
Cold Store & CA Store CO₂e Benchmark



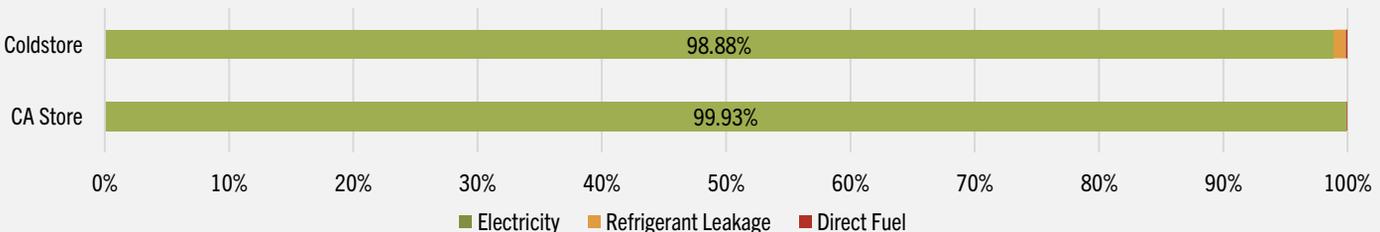
Cold Store: 0.17 kg CO₂e/kg fruit



CA Store: 0.27 kg CO₂e/kg fruit



Where are the CO₂e "hotspots"?





CCC Users Feedback

We asked a couple of pome and stone fruit 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 think the tool is really user friendly.
User 2: It's a very simple tool to use.

How do you find the support that is given?

User 1: I think it's very good. I can't complain. It's fast and efficient. Overall, the interaction with CCC is always very positive.
User 2: The support is fantastic. I really can't complain. They help you immediately. They also explain very well. I think if you have never worked with carbon footprinting and you contact support, you will immediately understand what to do.

What aspects of the carbon calculator have brought the most value to your business?

User 1: Now that we have a few years of data, we are really beginning to see the value of the tool. 3 or 4 years of data are very valuable. One shouldn't have a gap in your data, then you lose the comparison aspect of it.
User 2: The report, especially that we can see how much carbon we produce per kg fruit. It's very useful. Also that we can benchmark ourselves against other producers in the industry. We also compare our own production units to see if they run equally or if there are large discrepancies between them. So there is definitely value for us in using the CCC tool.



Project Partners



Disclaimer: The results shown in this report represent the approved data points of the CCC pome fruit 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 pome fruit 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 Blignaut. For more information please contact the CCC Project Leader, Anel Blignaut, at anel@bluenorth.co.za.

