

Benchmark Report 2019



South African Pome Fruit

Introduction

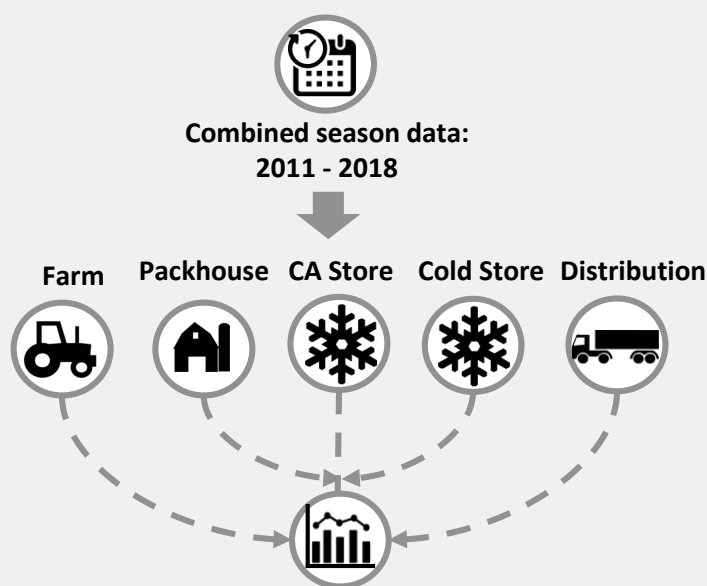
The 2019 Confronting Climate Change (CCC) industry benchmark process builds on 2017 - 2018 datasets and provides a meaningful platform for the South African fruit and wine industries to improve their understanding of the use of fossil fuel-based resources and to reduce emissions over time.

The seven years combined season data (2011 – 2018) for pome fruit was used for the assessment and was analyzed 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 – 2018 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.

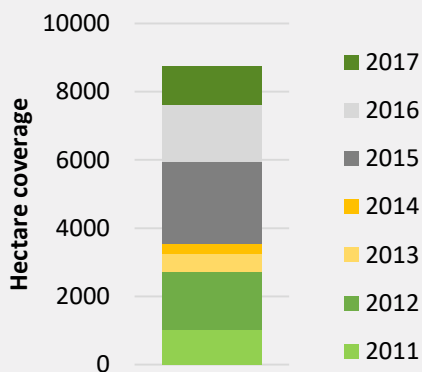
The benchmark values are determined using the mean value of graded datasets in the CCC database. To further ensure the accuracy of the benchmark, values falling beyond 1.5 times the standard deviation of the mean of the normally distributed dataset are considered outliers and are excluded from the benchmark 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 2018 the CCC database (incl. graded + ungraded data) has grown to cover **8772** unique hectares of pome farms in South Africa. This represents **24%** of the pome industry in the country.

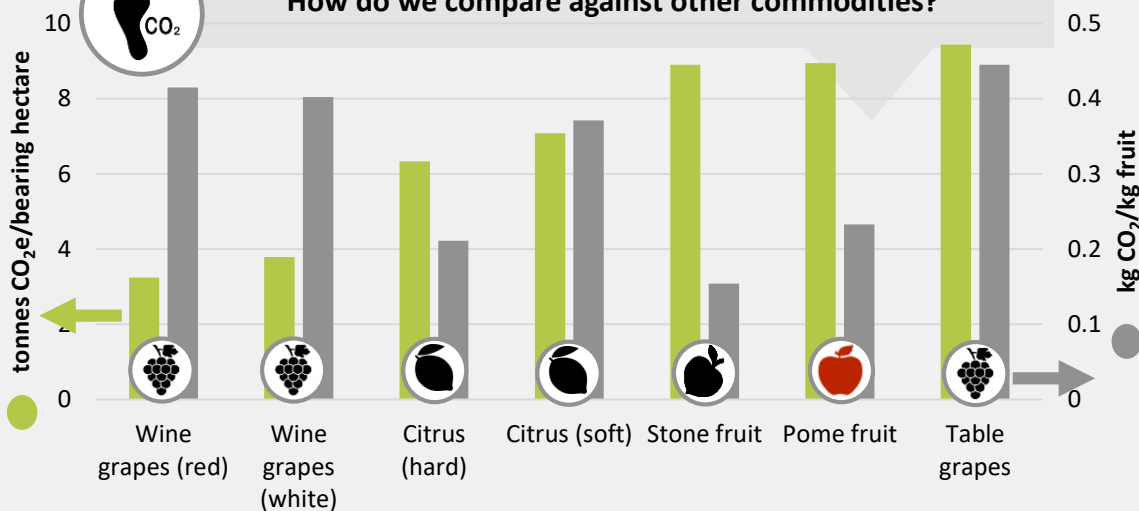


Which regions participate in the CCC Initiative?

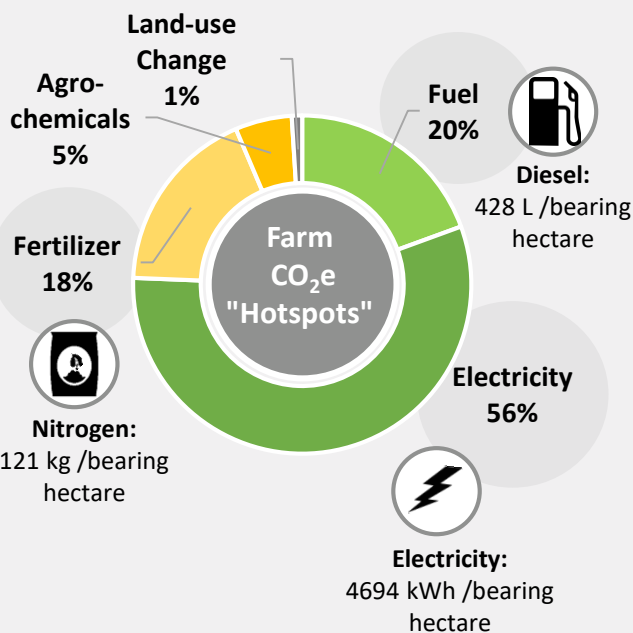
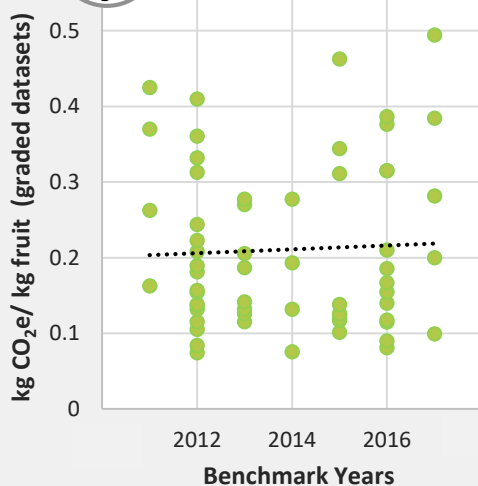
	Industry Ha	CCC Ha	%
Somerset West	355	307	86%
Stellenbosch	99	50.5	51%
Mpumalanga	187	78.0	42%
Villiersdorp/Vyeboom	4934	1460	30%
Ceres/PA Hamlet	12003	3214	27%
Elgin/Groenland/Grabouw	7902	2102	27%
Paarl	108	28.4	26%
Freestate	472	93.0	20%
Langkloof	6261	1021	16%
Piketberg	535	81.4	15%
Wolseley/Tulbagh	1527	214	14%



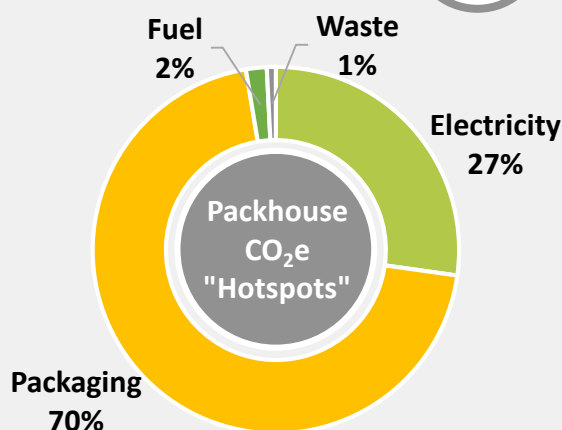
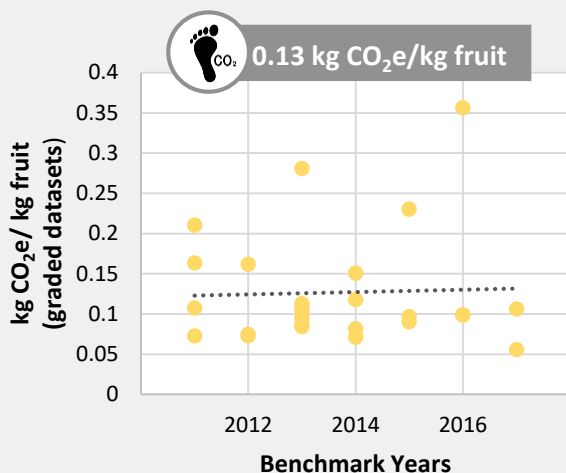
How do we compare against other commodities?



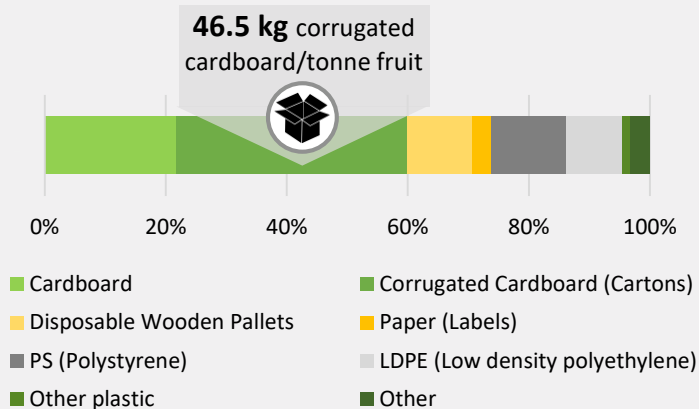
0.21 kg CO₂e/kg fruit



PACKHOUSE CO₂e BENCHMARK



Where are the CO₂e emissions from packaging coming from?

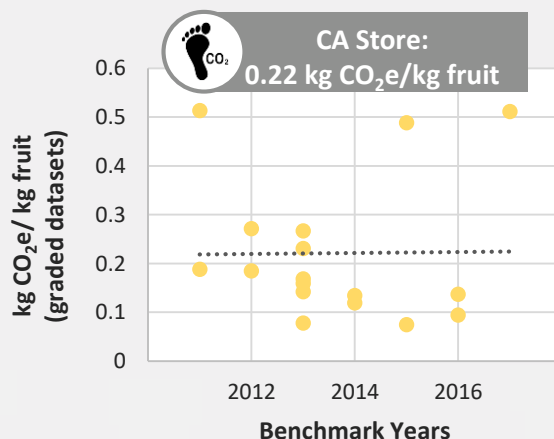
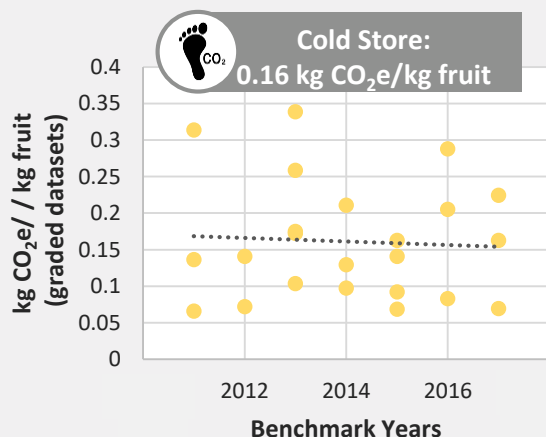


Electricity is the second highest contributor to packhouse CO₂ emissions after packaging.

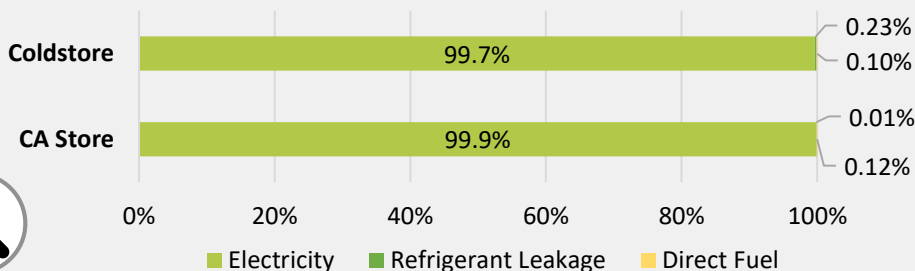
Average consumption is **29.5 kWh/tonne fruit stored**.

Currently, **100%** of the electricity used by participating packhouses is **grid electricity**.

COLD STORE & CA STORE CO₂e BENCHMARK



Where are the CO₂e "hotspots"?

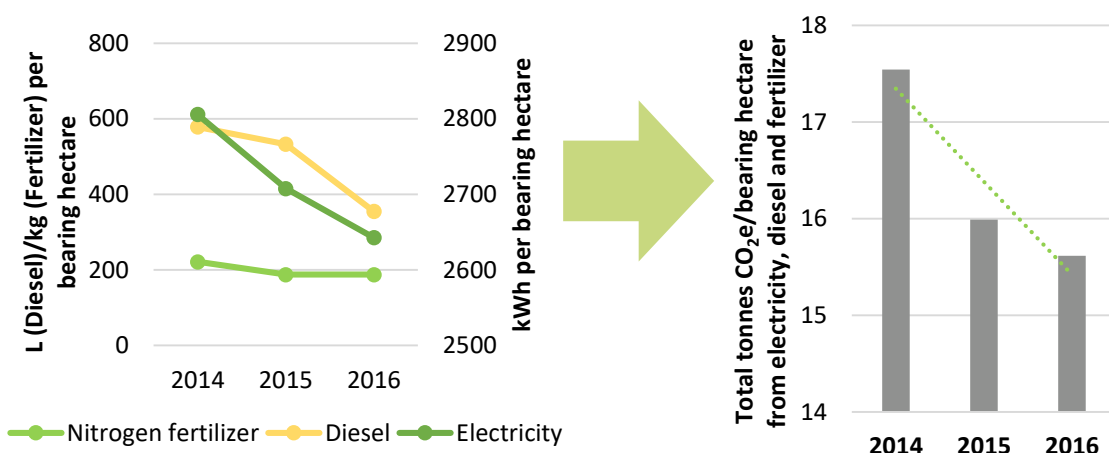


HOW CAN I MANAGE MY CO₂ EMISSIONS?



Reducing your CO₂ emissions at farm level does not necessarily require capital intensive investments into renewable energy or highly efficient farm equipment. The way that you manage your farm also has the potential to bring your CO₂ emissions down.

Trends in data submitted to the CCC initiative show how improvements in electricity, fertilizer and diesel efficiencies can result in a significant reduction in carbon emissions. As shown below, on an individual farm basis, improvements in input efficiency can result in carbon savings of 1.93 tonnes CO₂e per bearing hectare.



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 seven year seasonal period of 2011-2018. 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 is authored by Anel Blignaut and Clare Rodseth of Blue North Sustainability (Pty) Ltd. For more information please contact the CCC Project Leader Anel Blignaut at anel@bluenorth.co.za.

