National Carbon Offset Standard
Carbon Neutral Program
Public Disclosure Summary

An Australian Government Initiative

Ross Hill Wine Group

July 1 2014 – June 30 2015

Declaration

To the best of my knowledge, the information provided in this Public Disclosure Summary is true and correct and meets the requirements of the National Carbon Offset Standard Carbon Neutral Program.

	26 April 2016
James Hammond Robson	
Managing Director	

Type of carbon neutral certification: Product

Verification

Date of most recent external verification/audit: 22/04/16

Auditor: Benjamin Jenkins, GPP – RGEA 0129/2011

Australian Government
Department of the Environment

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1. Carbon neutral information

Introduction

The Ross Hill Wine Group roots were firmly planted in 1994 by Peter and Terri Robson. Joined by their son James and wife Chrissy in 2006 to continue the hard work, passion and dedication to produce exceptional quality and elegantly refined, cool climate Ross Hill Wines.

In 2008 wine making duo Phil and Rochelle Kerney joined the family. Phil brings with him 15 years of wine making experience both in Australia and Internationally. Rochelle has been by Phil's side through much of his winemaking journey and is herself working towards her own qualification as a winemaker. The Kerney's have brought with them an enormous amount of passion, care and knowledge of wine and the winemaking process, which fits perfectly into our family mould. In 2014 Phil & Rochelle were recognised by Gourmet Traveller Wine magazine as winemaker(s) of the year finalists.

The Ross Hill Vineyard is situated on the gentle north facing slopes of Griffin Rd, Orange at an elevation ranging from 750 to 850 metres. Such elevation presents its self in our wines that are so distinctively high altitude and cool climate produce.

Covering the hills with 12 hectares (ha) of established vine we are able to grow the majority of the grapes used in our wines. Ross Hill white wine varieties include Chardonnay & Sauvignon Blanc, and the iconic red styles of Merlot, Shiraz and Cabernet Franc, Cabernet Sauvignon and Cabernet Shiraz.

To complement the Ross Hill vineyard was the planting in 2008 of 5 more hectares of vine in the fertile volcanic basalt soils at Ross Hill. With an even higher altitude at 1018 metres above sea level, it is one of the highest and coldest vineyards in Australia. These vines are the Sauvignon Blanc, Pinot Gris and Pinot Noir and are the perfect conditions for these varieties.

All 17ha of vine are handled with the utmost care by being hand pruned to maintain the exceptional quality and flavour that carry through to our wines. We pride ourselves on our quality not the quantity.

Our environmental policy sees no use of insecticides and reduced irrigation impact by a program of mulching cover crops planted between the rows between autumn and winter.

In 2015 Ross Hill Wines became the first NCOS certified carbon neutral winery. Ross Hill Wines has now extended its NCOS certification, previously for operations to include its products.

Considering the large number of wine varieties offered by Ross Hill Wines, it was not practical or cost effective to carry out separate LCAs for each variety of wine. Our approach was therefore to define a generic bottled wine product to represent the entire product range, which includes both red and white wine varieties.

A hybrid LCA methodology is used. This uses a combination of direct LCA data (material consumption data) and data from an input-output analysis (based on $ value of expenditure). Input-output analysis provides a complete assessment of all inputs to the procurement and delivery of bottled wine to customers. To summarise the hybrid approach:

The depth of the input-output analysis approach covers the entire upstream supply chain. The input output analysis applies an infinite supply chain to all upstream emissions. This means that no boundary needs to be set of up. The breadth of this approach covers all supply chain inputs including materials and services required to operate Ross Hill's business operations and the production of wine sold to customers.

The scope 3 emissions of imported goods are also included in the analysis, calculated as if they were produced under Australian production conditions.

Input output analysis data (based on $ value of expenditure) is replaced by primary usage data for petrol, gas, electricity, waste, recycling. When primary consumption data is available, the input output emission factors were replaced by emission factors from other sources such as the NGER (Measurement) Technical Guidelines, NGA factors and other LCA databases.

Input output analysis data (based on $ value of expenditure) is replaced by primary consumption data for glass wine bottles. In this case, the emission factor for glass wine bottles from a cradle to grave LCA Analysis conducted by Ross Hill's supplier of glass wine bottles. For grapes used in the production of Ross Hill Wine varieties, an industry average emission factor for grape growing in the Input-Output Analysis model was used.

The hybrid LCA provides a bottom up analysis of life cycle impacts where primary usage data and appropriate emission factors are available and a top down analysis of supply chain impacts from input output analysis where Scope 3 emission factors are not readily available.

The functional unit for the LCA is a single 750 ml bottle of wine sold to customers.

Emission sources within certification boundary

The scope of this Life Cycle Assessment (LCA) relates to all products sold by Ross Hill Wines and does not provide details for separate product lines. The complexity and cost of a full LCA on each wine variety ruled out a detailed analysis. All wine bottled by Ross Hill Wines in the period 2014 – 2015 will have emissions offset. This means that the entire product range (all vintages, red and white wines) will be carbon neutral.

The two largest inputs to wine making is glass wine bottles and grape growing. In this case an emission factor for glass bottles from the LCA carried out by Ross Hill's bottle manufacture was used. An industry average factor for grape growing based on Input-Output Analysis is was also used.

The system boundary of this analysis is from *Cradle to Grave* and includes all activities in grape growing, wine making, bottling and distribution to customers. The LCA also includes corporate emissions that arise from running Ross Hill's business (Scope 1, 2 and 3). The boundary includes recycling of wine bottles (this has been accounted for in the LCA conducted by the glass bottle manufacturer). However, emissions from consumption activities such as retain purchases, transport and refrigeration are too difficult to track and have been excluded.

Quantified sources

The following emission sources have been included:

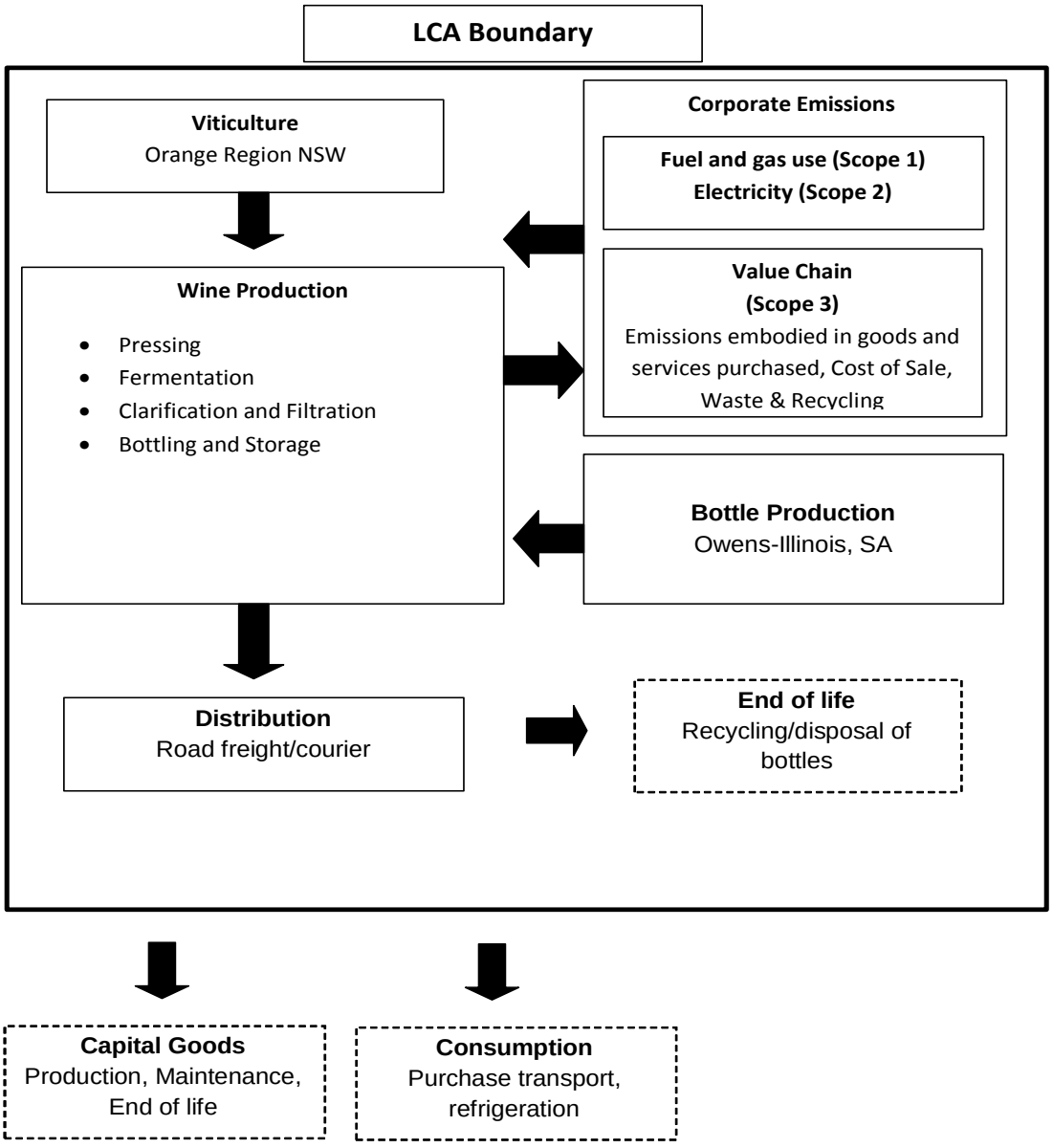
- Grapes purchased from growers and Ross Hill vineyards
- Electricity purchased from the grid
- Solar PV electricity
- Petrol used in company cars and sales and private vehicles
- LPG and diesel used
- Waste to landfill
- Recycling
- Employee Commuting
- Goods and services purchased by Ross Hill in operating the business and supplying customers
- End of life emissions – recycling of wine bottles

Non-quantified sources

The following emission sources have been excluded:

- Capital goods (machinery) – none purchased in the reporting period
- Use phase emissions in the retail supply chain such as transport and refrigeration
- Capital expenditure

Diagram of certification boundary



2. Emissions reduction measures

Part A. Emissions over time

Emissions overall have increased by approximately 195% from the base year. This reflects the inclusion of product emissions for the first time. Base year emissions are from Ross Hill's business operations only. In 2014 – 2015 both operational emissions and product emissions were included in the LCA.

	Base Year (tCO_2-e)	Current year (tCO_2-e)
Scope 1	17.8	12.5
Scope 2	68.3	92.5
Scope 3	99.7	442.5
Total	185.7	547.5

Part B. Emissions reduction strategy

We have taken a number of initiatives to reduce our carbon footprint

Firstly, we measured our electricity and gas costs in the period July 2010 to June 2011 which was $40,000.

In 2013 we had a NSW state government sponsored energy audit completed and various actions were recommended. These recommendations were all implemented.

We have installed 34 kW of solar panels.

We have also reduced energy use by changing our cold stabilisation procedures. We decided to introduce cold stabilisation by physical means which requires the wine (Total ~ 100kl/year) to be chilled to minus 1 degrees for about a month then treated with tartrate crystals. CMC Cold stabilisation requires a simple addition of 100ppm cellulose solution. The results are less permanent but adequate for our purposes.

After introducing this form of cold stabilisation, as well as a major maintenance job to our ammonia chiller and applying the recommendations from the energy audit, our electricity & gas expenses for period July 2011 to June 2012 were $18,000, a reduction of $22,000 from the previous year.

With introduction of solar panels on the roof at the winery in September 2013, our electricity and gas expenses for period July 2013 to June 2014 were further reduced from $18,000 to $9,200.

For on-going reductions in carbon emissions we are currently reviewing the following:

- Recycling of waste (especially bottles and cardboard used for wine).
- - With some wholesale customers who order our wines each week, we are looking to use a logistics centre in Sydney to dispatch from, which will cut down considerably on smaller shipments of freight.

Part C. Emissions reduction actions

Emission source	Reduction Measure	Scope	Status	Reduction t CO_2-e
Waste	Increase diversion from landfill	3	On-going	0.5-1
Freight	Utilise logistics centre for dispatch	3	On-going	5-10
Total emission reductions implemented in this reporting period				0
Total expected emission reductions in future reporting periods				5.5-11

3. Emissions summary

Emissions Summary		
Scope	Emission source	tCO_2-e
1	Transport Fuel: Gasoline (Post 2004)	2.5
1	Stationary Fuel: Diesel Oil	3.6
1	Stationary Fuel: Cylindrical Gas	6.5
2	Electricity	68.2
2	Electricity (Solar PV)	24.3
3	Transport Fuel: Gasoline (Post 2004)	0.1
3	Transport Fuel: (Private Vehicles) Gasoline (Post 2004)	4.4
3	Stationary Fuel: Diesel Oil	0.2
3	Stationary Fuel: Cylindrical Gas	0.4
3	Electricity	9.7
3	Employee Commute	3.6
3	Business Flights	6.3
3	Waste-landfill	15.8

Emissions Summary		
Scope	Emission source	tCO_2-e
3	Recycling	2.1
3	Wooden pallets & wine barrels	48.9
3	Wine carbboard packaging	46.5
3	Wine bottle caps	45.5
3	Road freight	40.6
3	Grapes for wine	39.4
3	Printing and stationery (includes wine labels)	25.2
3	Chemicals & fertilisers	21.6
3	Catering	9.9
3	Advertising services	9.6
3	Cellar door and export services	9.5
3	Entertainment	8.8
3	Taxi and hire car	7.4
3	Trade advertising	4.1
3	Storage & warehousing	3.4
3	Accounting services	3.3
3	Winery Civil Work	3.0
3	Insurance	2.1
3	Transport services	2.0
3	Motor vehicle repairing	1.8
3	Wine Shows & Memberships	1.7
3	Telephone & internet	1.6
3	Winery Repairs & Maintenance	1.2
3	Computer equipment	1.2
3	Rates & Taxes	0.5

Emissions Summary		
Scope	Emission source	tCO_2-e
3	Banking	0.4
3	Education	0.4
3	Security	0.3
3	Business services	0.2
3	Postal services	0.0
3	Glass Bottles	59.8
Total Gross Emissions		547.5

4. Carbon offsets

Part A. Offsets summary

Offsets Summary			
Offset type and registry	Year retired	Quantity	Serial numbers
• VCU • VCS Registry https://vcsregistry2.apx.com/myModule/rpt/myrpt.asp?r=206&h=13379	2016	548	3673-161016562-161017109-VCU-009-APX-IN-1-250-01012007-31122007-0
Total offsets retired			548
Net emissions			0
Total offsets held in surplus for future years:			0

Part B. Offsets purchasing and retirement strategy

Historically, offsets are purchased and retired in arrears at the end of the reporting period. However in future reporting years they will be purchased and retired upfront for the reporting period.