VIU MANENT
VALLE DE COLCHAGUA - CHILE

Greenhouse Gases Effect Management and Reduction Plan

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1. Introduction

This report corresponds to the first Greenhouse Gas Effect Management and Reduction Plan prepared by Viña VIU MANENT and is part of the commitment for the request for CEMARS/carbonNZero certification.

2. Management Commitment

Viña VIU MANENT, through its CEO General, José Miguel Viu, has committed to measuring its carbon footprint and beginning the management and reduction of its Greenhouse Gases Effect (GHG).
Because we anticipate an increase in our production for the coming years, we are very committed to this project are and working very hard to decrease the intensity of the total GHG.

3. Primary Sources of Greenhouse Gas Emissions (GHG)

We have detected the primary sources of GHG to be related to the use of glass in bottles, the highway transport of products and supplies, the use of diesel fuel, and the consumption of electricity.

Glass (Bottles) – 730,92 tons of CO2 emitted (33.9% of total emissions)

Highway Transport – 229,85 tons of CO2 emitted (10.6% of total emissions)

Diesel Fuel (agricultural processes) – 168,7 tons of CO2 emitted (7.8% of total emissions)

Electricity-Cellar – 142,11 tons of CO2 emitted (6.6% of total emissions)

Electricity-Vineyards (Irrigation) – 68,42 tons of CO2 emitted (3.2% of total emissions)

4. Objectives of the Reduction of Greenhouse Gas Emissions (GHG)

We have established that our objectives for the management of Greenhouse Gas Emissions (GHG) are to decrease the intensity of the emissions related to the use of glass, diesel fuel in agricultural processes, and electricity in the wine cellar, which represents nearly half of our primary sources of emissions.

To control those objectives, we have established measurement indicators with goals and timeframes. Furthermore, a specific person has been designated responsible for monitoring and managing each objective.

Glass Bottles

Goal – Reduce GEI due to the use of glass bottles. We expect a 13% decrease in the intensity of GHG related to the use of glass bottles in 2011–2015.

Responsible party – Operations Manager

Objective – Reduce the intensity of emissions

Indicators – (Glass-related emissions/Liters bottled) and (Kg Glass / Liters bottled)

		Goal		
	2010	2015	Variation	
Glass-related emissions	730,92	837.06	14.5%	106.14
Liters bottled	2,051,646	2,700,000	31.6%	648,354
Indicator	**0.00036**	**0.00031**	**-13.0%**	**-0.00005**

		Goal		
	2010	2015	Variation	
Glass (Kg)	1,644,006	1,882,728	14.5%	238,722
Liters bottled	2,051,646	2,700,000	31.6%	648,354
Indicator	**0.80**	**0.70**	**-13.0%**	**-0.10**

Importance – The use of glass bottles is the primary source of Greenhouse Gas Emissions in our operations processes, and therefore their reduction will have a significant impact on our objectives. To achieve this goal it is essential to use lighter weight bottles and therefore less glass.

Diesel for Agricultural Processes

Goal – Reduce GEI due to the use of diesel fuel in the agricultural processes. We expect an 18.5% decrease in the intensity of GHG due to the use of diesel fuel in 2011–2015.

Responsible party – Agricultural Manager

Objective – Reduce the intensity of the emissions

Indicators – (Emissions due to Diesel fuel/Tons of grapes harvested) and (Liters of Diesel fuel/Tons of grapes harvested)

		Goal		
	2010	2015	Variation	
Diesel-related Emissions	168.70	184.65	9.5%	15.95
Grapes harvested (Ton)	2,056	2,760	34.3%	704
Indicator	**0.082**	**0.067**	**-18.5%**	**-0.015**

		Goal		
	2010	2015	Variation	
Diesel (L)	59,384	65,000	9.5%	5,616
Grapes harvested (Ton)	2,056	2,760	34.3%	704
Indicator	**28,888**	**23,551**	**-18.5%**	**-5,337**

Importance – The use of diesel fuel in tractors, vehicles, and other agricultural machinery represents a significant portion of the company's total GEI. The likely increase in the mechanization of agricultural operations should be made compatible with an increase in the productivity of the use of machinery.

Electricity in Wine Cellar

Goal – Reduce GEI through more efficient use of electricity. We expect a 10% decrease in the intensity of GEI due to the use of electricity in the wine cellar in 2011–2015.

Responsible party – Operations Manager

Objective – Reduce the intensity of the emissions

Indicators – (Emissions due to the use of Electricity / Tons of grapes processed) and (Electricity KwH / Tons of grapes processed)

		Goal		
	2010	2015	Variation	
Electricity-related Emissions – Cellar	142.11	168.37	18.5%	26.26
Grapes Processed (Ton)	2,848	3,750	31.7%	902
Indicator	**0.050**	**0.045**	**-10.0%**	**-0.005**

		Goal		
	2010	2015	Variation	
Electricity - Cellar (KwH)	397,530	471,000	18.5%	73,470
Grapes Processed (Ton)	2,848	3,750	31.7%	902
Indicator	**139.6**	**125.6**	**-10.0%**	**-14.0**

Importance – The use of electricity in the wine cellar for cooling, powering motors, and lighting represents a significant part of our company's total GE.

The anticipated increase in production will generate a greater demand for electricity, which we must compensate with greater productivity in our processes.

5. Specific Projects for Reducing GHG

Glass Bottles

Objective – Reduce the GHG due to the use of glass bottles by changing to lighter-weight bottles.

Strategy – Continue using lightweight bottles in the *Estate Collection* product line and change to lightweight bottles in the *Gran Reserva* and *Secreto* lines.

Responsible Party – Operations Manager

Timeframe – In progress

Monitoring and Measurement – Through the records of bottling processes and the purchase of bottles.

Electricity in the Cellar

Objective – Reduce the consumption of electricity in the cellar.

Strategy – Increase productivity (greater production in less time), improve the level of detail of electricity consumption in the different areas of the cellar, and evaluate the use of CMC to replace the use of cold temperatures for stabilizing wines.

Responsible party – Operations Manager and Chief Winemaker

Timeframe – In progress

Monitoring and Measurement – Through records compiled from the detailed information listed by the electric company on the bill. The records must be improved in order to detail the consumption of the areas of the cellar.

Consumption of Diesel Fuel in the Vineyards

Objective – Reduce the consumption of diesel fuel in agricultural operations.

Strategy – Evaluate the implementation of agricultural machinery and equipment that allows for reduced consumption of diesel fuel for the application of pesticides via a greater coverage or lower fuel consumption. Also improve the level of detail of the records of diesel fuel consumption per machine and task.

Responsible party – Agricultural Manager

Timeframe – In progress

Monitoring and Measurement – The consumption of diesel fuel is generally registered by recording the output of diesel since inventory. Therefore it is necessary to improve the level of information by implementing a better process for recording information per machine and task.

6. Monitoring and Follow-Up

Detailed records of electricity consumption in the wine cellar, of diesel fuel in the vineyards, and of bottlings are kept and updated monthly.

The Operations and Agricultural Managers are responsible for reviewing the results and determining deviations. The results of this analysis are reported to General Management and the rest of the VIU MANENT team.

7. Management of Emissions and Reductions

This is Viña VIU MANENT's first report on its Greenhouse Gas Emissions (GHG).
The total GHG during 2010 was 2,158.35 tons of CO2e.

		Goal		
Scope	2010	2015	Variation	
Scope 1	407.38	505.05	24.0%	97.67
Scope 2	218.78	269.33	23.1%	50.55
Scope 3	1,532.18	1,891.54	23.5%	359.36
TOTAL	**2,158.34**	**2,665.92**	**23.5%**	**507.58**

Due to our anticipated increase in production in the coming years, we expect to increase the emission of greenhouse gases to a total of 2,665.92 tons of CO2e in the year 2015, which is an increase of 507.57 tons per year. However, we expect to reduce the intensity of these emissions in relation to production by 6.2%.

		Goal		
	2010	2015	5-year variation	
Total CO2 Emissions	2,158.35	2,665.92	23.5%	507.57
Grapes Processed (Ton)	2,848	3,750	31.7%	901.99
Indicator	**0.758**	**0.711**	**-6.2%**	**-0.047**

On the other hand, the emissions related to our packaging (glass bottles, aluminum caps, corks, cardboard boxes, and paper labels) are expected to increase to 1171.84 tons of CO2e by 2015 (an annual increase of 186.53 tons), but we hope to reduce their intensity in relation to bottled wine by 9.6%.

		Goal		
	2010	2015	5-year variation	
Packaging Emissions of CO2	985.31	1,171.84	18.9%	186.53
Cases Bottled (9 L)	227,960	300,000	31.6%	72.040
Indicator	**0.0043**	**0.0039**	**-9.6%**	**-0.0004**