



Corporate Greenhouse Gas Inventory for:

Sin Gusano

Fiscal Year: 2020 / 2021

A Greenhouse Gas inventory produced by MyCarbon, an inventory platform provided by Carbon Green Ltd.



Table of Contents

Introduction.....	3
Inventory Team and Contact Information	4
Reporting Period.....	4
Organizational Boundaries.....	5
Operational Boundaries	5
Identified Emissions	6
Scope 1 Emissions	6
Scope 2 Emissions	6
Scope 3 Emissions	6
Exclusions.....	7
Base Year	8
Quantification Methodology.....	8
GHG Inventory Data Quality Management.....	9
GHG Emissions	10
Emissions by Source.....	10
Emissions by Source.....	13
Emissions by Location.....	14
Emissions by Category	14
Summary	15
References	15



Introduction

This is a greenhouse gas (GHG) inventory report for Sin Gusano for the 2020 / 2021 fiscal year, produced by MyCarbon a platform developed by Carbon Green Ltd. The report follows the five main reporting principals as outlined by ISO 14064-1: **Transparency, relevance, accuracy, consistency, completeness.**

Sin Gusano promotes the diversity and heritage of artisan agave spirits. Imports from Mexico for sale in Europe.

standard emitted specification with Guidance at the Organisation Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals. The report will be made publicly available [insert where the report will be](#)



Inventory Team and Contact Information

Name: The Sin Gusano Project

Address:

Company email: jon@singusano.com

Company phone:

Inventorer name: Jon Darby

Inventorer email: jon@singusano.com

Name: MyCarbon [Carbon Green Ltd.]

Address: www.mycarbon.co.uk

Company email: info@mycarbon.co.uk

Company phone: 07885991779

Inventorer name: Toby Green

Inventorer email: toby.green@mycarbon.co.uk

Reporting Period

The inventory covers the 2020 / 2021 fiscal year from 6th April 2020 to 5th April 2021.



Organizational Boundaries

Company organizational boundaries.

The GHG inventory report includes all UK and Mexican operations of the Sin Gusano Project, inclusive of the production and distribution of the product sold by Sin Gusano.

Operational Boundaries

Sin Gusano has compiled a GHG inventory report for the 2020 / 2021 fiscal

Additional notes



Identified Emissions

The following emissions were determined to be relevant within the organizational boundaries:

- Production of artisanal agave spirits.
- Production of dry goods (bottles, labels, boxes).
- Electricity and Gas used for the office.
- Petrol for UK and Mexican car journeys.
- Freighting of goods.
- Air travel.

Scope 1 Emissions

Scope 1 Emissions

Scope 2 Emissions

Scope 2 Emissions
National grid electricity
National grid gas

Scope 3 Emissions

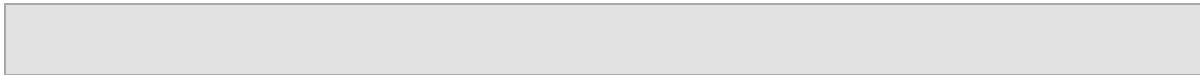
Scope 3 Emissions



Jon car travel, Mexico
Jon car travel, UK
Jon return flight to Mexico from UK
Jon single flight to Mexico from UK
Goods (bulk) from home to bodega (Mexico)
Goods (bulk) from bodega to port (Mexico)
Goods (bulk) from port to bottling warehouse (UK)
Bottles from warehouse to home (UK)
Dry goods from producer to warehouse (UK)
UPS courier service (individual orders)
Artisanal agave spirit production
Production of boxes
Production of glass bottles
Production of bottle labels

Exclusions

Emission Exclusions



No identified emissions have been excluded from this GHG inventory.

Base Year

This is the Base year.
The base year is 2020 / 2021.

Quantification Methodology

The methodologies used to collect and assess the emissions data varied throughout the inventory. The primary methodology used was multiplying GHG activity data by appropriate GHG emission factors. All methodologies were selected based on their ability to provide accurate and consistent results. The use of activity data and emission factors was feasible due to the availability of both accurate activity data and emission factors from reputable organisations.

All emission factors for the emissions associated to The Sin Gusano Project are provided by Department for Business, Energy & Industrial Strategy and peer reviewed literature.

<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

<https://www.mdpi.com/2071-1050/12/19/8242>



An emission factor for the production of one litre of agave spirit was adapted from *Life Cycle Environmental Impacts and Energy Demand of Craft Mezcal in Mexico* by J.M. Martínez *et al.*

J.M. Martínez *et al.* produced an emission factor of 1.7 kg CO₂e for 0.75 L of produced spirit. This equates to 2.27 kg CO₂e for 1 litre produced.

This emission factor was scaled down by 17.2% to account for the blending and distribution data which has been provided separately for this report. The adapted emission factor becomes **1.87956 kg CO₂e for 1 litre of agave spirit** produced.

J.M. Martínez *et al.* accounted for additional machine work and fertilisers. However, the agave spirit distributed by Sin Gusano is one with no additives (certainly not sugar, which is mentioned in the report), raw material from the wild, and with no pesticides (and often no added water) used in the growing process. On occasion there will be water used in an agave nursery for the first year of life, but then the plant is transferred to the wild and left to nature. The results from J.M. Martínez *et al.* concludes "the CO₂ emissions of spirits whose process is industrialised and whose life cycle includes everything from obtaining raw materials to the end of life show higher values than spirits whose process is carried out by hand or whose raw materials are obtained from the wild."

The emissions associated with the machining and fertilisers were very low, and it was deemed that removing and further adapting the emission factor would have an insignificant impact on the total carbon footprint of Sin Gusano. With emissions reporting it is better to overestimate than to under estimate.

GHG Inventory Data Quality Management



- MyCarbon uses the latest figures from DEFRA for all common emission factors.
- All other emission factors are from peer reviewed sources and have been referenced.
- Inventory data has been produced from financial records.

GHG Emissions

As the standard stipulated, emissions are to be reported by gas, by category and by source. Please refer to the following tables for finalized emissions resulting from The Sin Gusano Project in the fiscal year 2020 / 2021.

Emissions by Source

National Grid (UK) Electricity:

Usage (kWh)	Co Eff ¹	CO ₂ e (kg)	CO ₂ e (tonnes)
301	0.23314	70.2	0.072

¹ Kg Co₂e per kWh [1]

National Grid (UK) Gas:

Usage (kWh)	Co Eff ¹	CO ₂ e (kg)	CO ₂ e (tonnes)
851.25	0.18387	156.5	0.157

¹ Kg Co₂e per kWh [1]

Employee Car Travel:

ID	Vehicle	Fuel	Distance	Co Eff ²	CO ₂ e (kg)	CO ₂ e
----	---------	------	----------	---------------------	------------------------	-------------------



		Type	(km)			(tonnes)
Jon - Mexico	Upper medium	Petrol	2000	0.20161	403.22	0.403
Jon - UK	Upper medium	Petrol	100	0.20161	20.161	0.020
				Total	423.38	0.423

² Kg Co2e per km [1]

Employee Air Travel:

ID	Type	Class	Distance (km)	Co Eff ²	CO ₂ e (kg)	CO ₂ e (tonnes)
Jon, UK – Mexico, return	Long Haul	Economy	17858	0.14615	2609.947	2.61
Jon, UK – Mexico, one way	Long Haul	Economy	8929	0.14615	1304.973	1.30
				Total	3914.92	3.91

² Kg Co2e per km [1]

Transportation of Goods - Ship:

Item	Vehicle	Weight (kg)	Distance (km)	Co Eff ²	CO ₂ e (kg)	CO ₂ e (tonnes)
Goods (bulk) from Veracruz to Tilbury.	Container ship	600	11280*	0.009684	109.24	0.109

² Kg Co2e per km [1]

*6090 nautical miles for a Mexico – UK shipping route.



Transportation of Goods - Road:

Item	Vehicle	Weight (kg)	Distance (km)	Co Eff ³	CO₂e (kg)	CO₂e (tonnes)
Goods (bulk) from home to bodega.	Van	600	50	0.36977	18.488	0.0185
Goods (bulk) from bodega to port.	HGV	600	492	0.0639	31.439	0.0314
Goods (bulk) from port to bottling.	HGV	600	280	0.0639	17.892	0.0179
Dry goods from producer to home.	Van	1200	16	0.73954	11.833	0.0118
Bottles from warehouse to home.	HGV	700	160	0.07455	11.928	0.0119
UPS courier service	Van	1.2	33600*	0.00074	24.848	0.0248



(individual orders).						
				Total	116.42	0.12

³Kg Co2e for the weight of goods to travel 1 km [1]

*600 orders of average weight 1.2 kg, sent an average distance of 56 km.

Production of Goods:

Item	Quantity	Weight (kg)	Co Eff	CO ₂ e (kg)	CO ₂ e (tonnes)
Glass bottles	1200 units	600*	843.0 ⁴	505.8	0.506
Paper labels	1200 units	3.6*	919.4 ⁴	3.310	0.003
Cardboard boxes	600 units	300*	750.3 ⁴	225.1	0.225
Agave spirit	600 litres	N/A	1.87956 ⁵	1127.7	1.128
			Total	1861.93	1.86

⁴Kg Co2e to produce 1 tonne of relevant item [1]

⁵Kg Co2e to produce 1 litre of agave spirit [2]

*Assume 500g per glass bottle

*Assume 3g per paper label

*Assume 500g per box

Emissions by Source

Source	Description	CO ₂ e (tonnes)
Agave spirit	Production of 600L of handmade agave	1.13



	spirit	
Dry Goods	Production of glass bottles, paper labels and cardboard boxes	0.73
UK Office	Energy usage of the home office	0.23
Transport	Transportation of Jon & raw materials	4.56
Total		6.65

Emissions by Location

Location	CO ₂ e (tonnes)
UK	1.05
Mexico	1.58
Air & Sea	4.02
Total	6.65

Emissions by Category

Category	CO ₂ e (tonnes)	CO ₂ e (tonnes) + 5%
Scope 1: Direct Emissions	0	0
Scope 2:	0.23	0.24



Indirect Energy Emissions		
Scope 3: Indirect Other Emissions	6.42	6.74
Total	6.65	6.98

Summary

Emissions resulting from The Sin Gusano Project in the fiscal year 2020 / 2021 have been reported by MyCarbon a platform created by Carbon Green Ltd. Emissions have been reported in conformance with the ISO 14064-1 standard entitled *Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

References

Emissions resulting from The Sin Gusano Project in the fiscal year 2020 / 2021 have been reported to **total 6.98 tonnes CO₂e**.

- [1] Greenhouse gas reporting: Conversion factors 2020
Department for Business, Energy & Industrial Strategy
Published: 9 June 2020
Last updated: 17 July 2020
Last accessed: 13 May 2021



<https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2020>

- [2] Maciel Martínez, J.; Baltierra-Trejo, E.; Taboada-González, P.; Aguilar-Virgen, Q.; Marquez-Benavides, L. Life Cycle Environmental Impacts and Energy Demand of Craft Mezcal in Mexico. *Sustainability* 2020, 12, 8242. MDPI <https://doi.org/10.3390/su12198242>