



Carbon Inventory Report: **The Humble Oat Co Ltd.**

Trading As Otis Oat Milk

Period:	1 Apr 2021 - 31 Mar 2022
Base year:	1 Apr 2020 - 31 Mar 2021
Status:	Verified Inventory
Assurance type:	Reasonable Scope 1 & 2 (Category 1 & 2) Limited Scope 3 (Category 3-6)
Certification type:	Climate Positive
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1 Summary

This carbon inventory was prepared for The Humble Oat Co Ltd., trading as Otis Oat Milk.

Thereafter in the report, the organisation will be referred to as Otis Oat Milk.

Report period 1 Apr 2021 - 31 Mar 2022

Base year 1 Apr 2020 - 31 Mar 2021

This measurement is following the boundaries set on the base year. Otis Oat Milk only presented organic growth since the base year was set. No other changes.

1.1 Organisation Information

Otis Oat Milk uses southern-grown oats harvested by New Zealand farmers. Otis Oat Milk is proud to be part of a New Zealand movement toward locally grown plant-based products that the whole world can enjoy. The oats are shipped to Sweden for outsourced production by specialised manufacturings. From there Otis Oat Milk ships the finished product to NZ and to Singapore. Otis Oat Milk business operations measurement commences from when our finished goods leave the manufacturing sites to when they get to our Distribution centers.

2 Background

2.1 Statement of Intent

We're a small brand but we have big ambitions to create positive change for our people, planet and the communities we serve. Our sustainability plan outlines not only our ambitions but more importantly the required actions to create the change we seek. We have focused our plan around three pillars: planet, people & community. Otis Oat Milk is committed to measure and manage the carbon emissions related to its operations from when our finished goods leave the manufacturing sites to when they get to our Distribution centers. Otis Oat Milk aim as an organisation that has reverence for our natural environment is to role model best carbon practices, and to be vocal advocates for the protection and enhancement of the global environment through our network of global clients. Otis Oat Milk is also committed to offset our business operation emissions by 120%. Intended users of this inventory report will be the Staff for internal management and we've made public our carbon footprint and reduction plan. The certification achievements will also be shared with the external public and stakeholders.

2.2 Communication and dissemination

This inventory was prepared as a management tool for Otis Oat Milk to:

- Assist it in managing its response to climate change and its reduction of GHG emissions.
- Be a communication tool that demonstrates to stakeholders that the organisation has identified its emissions profile,
- Is aware of the significant issues related to climate change and is taking action to mitigate these issues, including offsetting unavoidable emissions.

The users of this report will include, but are not limited to, the staff, manager and Board of Otis Oat Milk, its shareholders and members. The summary of this inventory will be made available to all stakeholders on request.

3 Reporting methodology and compliance standards

3.1 Methods & Emissions factor sources

This report is the 2nd annual greenhouse gas (GHG) emissions inventory that has been prepared by Otis Oat Milk.

It was prepared in accordance with;

- The International Standards Organisation's process for calculating and reporting GHG emissions: ISO 14064-1 (2018).
- World Resource Institute's "Greenhouse gas protocol"

The calculation method used to quantify the GHG emissions was the activity data multiplied by the appropriate emission factor:

Tonnes CO₂e = Total GHG activity x appropriate emission factor

Ekos' GHG calculation tool (Online based) was used for the calculation of emissions for this inventory.

GHG emission factors were generally sourced from New Zealand's Ministry for the Environment. Where appropriate emission factors were not available, other reliable sources such as international government agencies or published research were used. Full reference sources are listed in the Reference section of this report.

The methodology used is illustrated in figure 1 below:

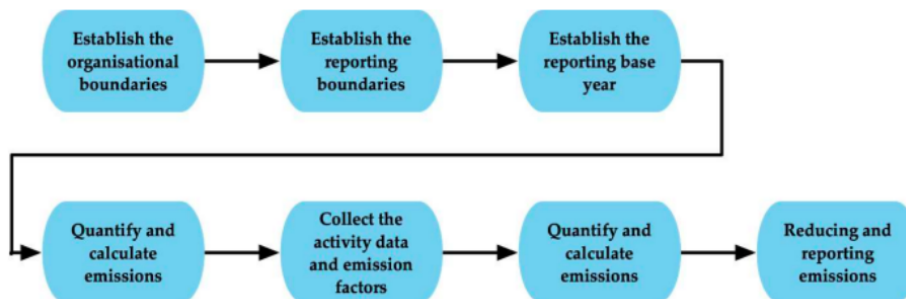


Figure 1: ISO 14064-1 (2018) methodology for measuring a GHG inventory

3.2 Consolidation approach

The organisational boundary identifies which facilities or subsidiaries are included or excluded from the carbon inventory. Emissions from all aspects of the organisation are consolidated to determine the total volume. Consolidation is done using one of these methods:

- Control, whereby all emissions over which the organisation has either financial or operational control are included in the inventory
- Equity share, whereby the organisation only includes emissions for the portion of the facilities and business that the organisation owns.

The consolidation method used in this inventory to determine Otis Oat Milk's emissions is Control - Operational.

3.3 Base year recalculation policy

Base year data may need to be revised when material changes occur and have an impact on calculated emissions. When the changes are estimated to represent more than 5% of Scope 1, 2 or 3 emissions, or when there are significant changes to the reporting boundaries or calculation methodology, Ekos' policy is to recalculate base year data with explanation.

3.4 GHG information management and monitoring procedures

The organisation is responsible for appropriate document retention, archiving and record keeping for each emissions source. Ekos' annual review requirement is in place to ensure any errors and omissions in the GHG Inventory report is addressed.

3.5 Changes to methodology

The weight of individual imports was averaged and multiplied by the total kilometres travelled in each mode due to how the data was presented for the 2022 financial year period.

The weight of cartons used for bottling were estimated base on growth percentage.

Reviewed the methodology applied for End of Life (EOL) of sold goods. Applied most recent emission factor.

4 Reporting boundary

The below diagram describes the organisational boundary and outlines the business units that are included and excluded in this inventory.

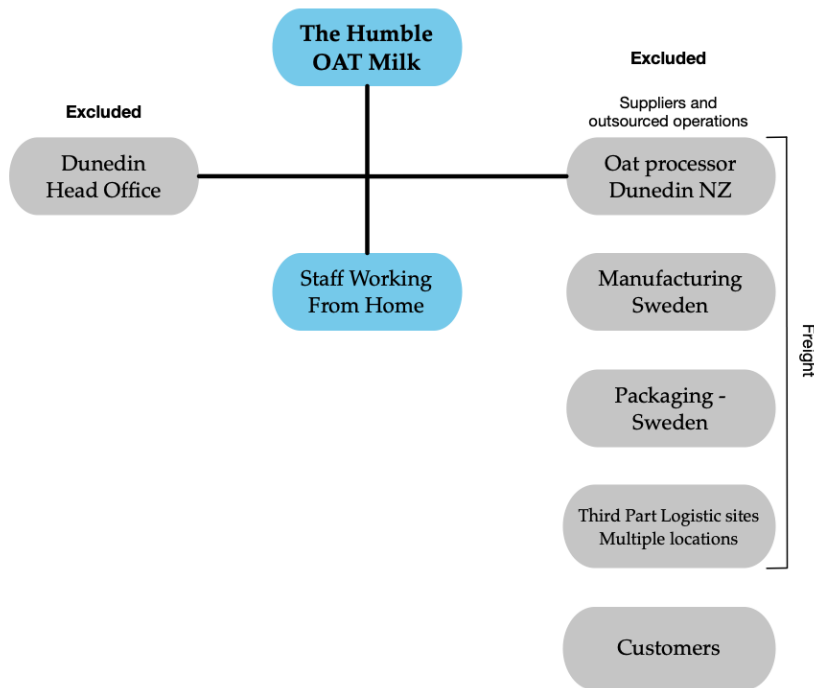


Figure 2: Otis Oat Milk's Organisational Boundary.

Otis Oat Milk run a slim operation with 100% of its staff working from home. The registered head office address relates to its accountant's office.

Otis Oat Milk doesn't have any operational control over the oats supplier, outsourced manufacturing or third-part logistic sites.

Table 1: Business units included/excluded

Legal entities (Include any subsidiaries)	Business unit / Location	Activities / Purpose	Included / Excluded	Reason for exclusion
The Humble Oat Milk - Head Office	123 Vogel Street, Dunedin Central, Dunedin, 9016 , New Zealand		Excluded	Accountant office used as registered office. All Staff working from home.
Harroways Mill	Dunedin		Excluded	Otis Oat Milk doesn't have operational control over this site. Emissions related to the freight movements have been accounted for since this point.
The Green Dairy Company	Sweden		Excluded	Otis Oat Milk doesn't have operational control over this site. Emissions related to the freight movements have been accounted to this point.
Third-Party Logistic Sites	Sweden / Singapore / NZ		Excluded	Otis Oat Milk doesn't have operational control over this site. Emissions related to the freight movements have been accounted for until this point.

5 Reporting Scopes

5.1 Include/ Excluded Categories

ISO 14064-1(2018) categorises emissions as follows:

- Scope 1 - (Category 1) Direct GHG emissions and removals.
- Scope 2 - (Category 2) Indirect GHG emissions from imported energy, heat or steam generated elsewhere.
- Scope 3 - (Category 3) Indirect GHG emissions from transportation.
- Scope 3 - (Category 4) Indirect GHG emissions from products used by organization.
- Scope 3 - (Category 5) Indirect GHG emissions associated with the use of products from the organization.
- Scope 3 - (Category 6) Indirect GHG emissions from other sources.

In compliance with the ISO Standard, the organisation has included all relevant direct and indirect emissions in this GHG inventory.

*As per ISO14064-1 clause 5.2.3, Ekos shall define its own pre-determined criteria for significance. The following qualitative criteria for Non-mandatory status have been considered;

1. Source data likely to be difficult/expensive to obtain and
2. The accuracy of the quantified emissions likely to be poor due to nature of the emissions factor or
3. The large amount of assumptions likely to result in unreliable emissions total.

The included/excluded emissions sources are shown in the following table:

Table 2: emissions categories included and justification if excluded

ISO & GHG Protocol Categories	Example of Emissions Sources	Ekos' Position	Include/ Exclude	Exclusion Criteria	Notes
Category 1) Direct GHG emissions and removals: (GHG Protocol scope 1)					
Stationary Combustion	Coal, diesel and gas use for heating, generation of energy etc	Mandatory	Not Applicable	None	
Mobile Combustion	Fuel use for company owned vehicles, forklift/mowers or if you lease vehicles but have operational control.	Mandatory	Include	None	
Chemical & Industrial Processes	Use of CO2 or nitrous oxide in bottling, packaging, beer taps etc	Mandatory	Not Applicable	None	
Fugitive Emissions	Top up of refrigerant gases when maintaining any fridges, freezers or Air-conditioning units	Mandatory	Not Applicable	None	
Land Use & Land Use Changes	Fertiliser use and animals (ruminants) on land.	Mandatory	Not Applicable	None	
Category 2) Indirect GHG emissions from imported energy: (GHG Protocol scope 2)					
Purchased Electricity	Electricity use in all facilities	Mandatory	Not Applicable	None	All Staff Working from home
Category 3) Indirect GHG emissions from transportation: (GHG Protocol scope 3)					
Inward/Outward Freight	Upstream transport and distribution of goods	Mandatory	Include	None	
Business Travel	Business travel (flights, accommodation etc)	Mandatory	Include	None	
Staff Commuting	Employee commuting, including emissions related to the transportation of employees from their homes to their workplaces.	Non-mandatory	Not Applicable	None	All Staff Working from home
Downstream Transport & Distribution of Goods	Downstream transport and distribution for goods, freight services that happen throughout the supply chain but not paid for by the organization	Non-mandatory	Include	None	Partial inclusion for 2 specific market where data was available.
Work From Home	Staff working from home	Non-mandatory	Include	None	

Table 2: emissions categories included and justification if excluded continued.

ISO & GHG Protocol Categories	Example of Emissions Sources	Ekos' Position	Include/ Exclude	Exclusion Criteria	Notes
Category 4) Indirect GHG emissions from products used by organization: (GHG Protocol scope 3)					
Waste Generated in Operations	Waste generated in operations (solid waste to landfill and wastewater to water treatment plants)	Mandatory	Not Applicable	None	All Staff Working from home
Fuel and Energy related Activities (T&D Losses)	Fuel and energy related activities (T&D losses for electricity & natural gas)	Mandatory	Not Applicable	None	All Staff Working from home
Fuel and Energy related Activities (WTT Emissions for Fuel)	Coal, diesel and gas use for heating, generation of energy etc	Mandatory	Include	None	
Emissions From Purchased Goods	Emissions from purchased goods, i.e. contract growers or processing to your key production	Non-mandatory	Exclude	Limited level of influence	
Emissions from the Use of Services	Emissions from the use of services (i.e. IT servers, consulting, cleaning, maintenance, bank)	Non-mandatory	Exclude	Limited level of influence	
Capital Goods	Capital goods	Non-mandatory	Not Applicable	None	
Upstream Leased Assets	Upstream leased assets (leased vehicles - fuel use should be reported under scope 1, leased office space - the electricity use is passed on by the landlord to the company, therefore should be included in scope 2.)	Non-mandatory	Not Applicable	None	
Category 5) Indirect GHG emissions associated with the use of products from the organization: (GHG Protocol Scope 3)					
Downstream Leased Assets	Downstream leased assets (If you own a rental car or camper van company, you should include the customer's fuel use of the vehicles. If you own warehouses and office buildings, you should include all scope 1 & 2 emissions of lease's use of the asset)	Mandatory	Not Applicable	None	
Processing of the Sold Product	Emissions from the Processing of the sold product	Non-mandatory	Not Applicable	None	
Use Stage of the Product	Emissions from the use stage of the product	Non-mandatory	Not Applicable	None	
End of Life Stage of the Product	Emissions from end of life stage of the product	Non-mandatory	Include	None	
Franchises	Franchises (To be considered only if already included under the consolidation approach. Scope 1 and 2 of each franchisee requires collection)	Non-mandatory	Not Applicable	None	
Investments	Investments (Mandatory for financial industries such as Banks and Investment Fund organisations., Non-mandatory for other sectors)	Non-mandatory	Not Applicable	None	
Category 6) Indirect GHG emissions from other sources:					
Any other relevant emissions	Any relevant emissions which do not fall within the other categories	Non-mandatory	Not Applicable	None	

5.2 Specific or Additional Exclusions

Table 2.1 Specific or Additional Exclusions

Emissions source excluded	Scope	Reason for exclusion
Emissions from the third party producers	3	Otis Oat Milk doesn't have operational control over this sites. Emissions related to the freight movements have been accounted for.
Downstream freight	3	Whilst the downstream freight associated with 3 significant export clients was included in the Downstream Freight category, the downstream freight associated with the other product distribution has been excluded from measurement.

6 Greenhouse Gas (GHG) emissions profile

Data was collected by Otis Oat Milk's staff with guidance where required from Ekos. The table below provides an overview of the data collected for each emission source. All emissions were calculated using Ekos-developed calculator.

6.1 Emissions Summary

Table 3: Emissions Summary by GHG Scopes and ISO Categories.

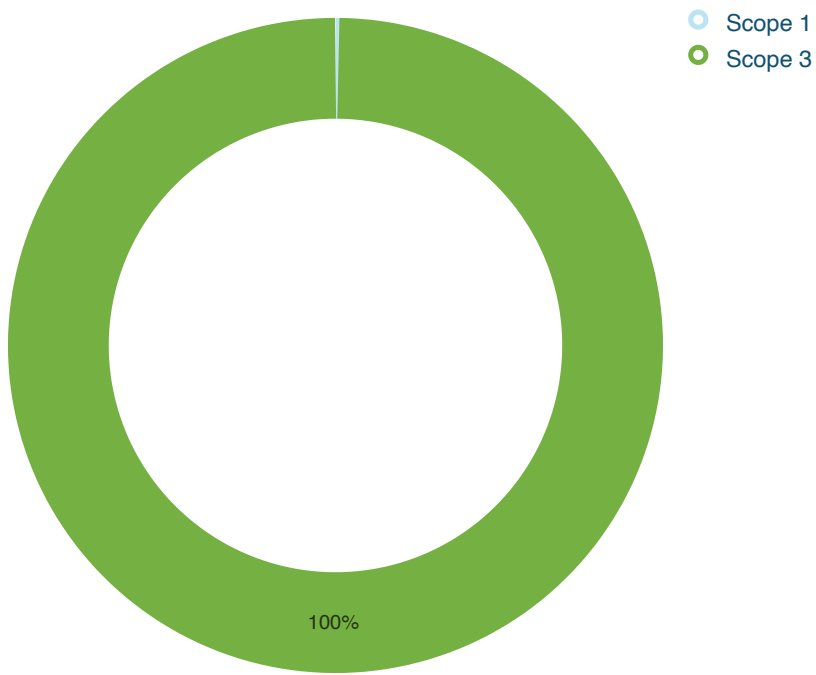
Scope	Emissions Category	tCO ₂ e (location-based)
1	(1) Direct GHG Emissions	2.27
2	(2) Indirect GHG Emissions From Imported Energy	0.00
3	(3) Indirect GHG Emissions From Transportation & Distribution	989.78
3	(4) Indirect GHG Emissions From Products & Services Used By The Organisation	1.35
3	(5) Indirect GHG Emissions From The Use Of The Organisation's Products	45.32
3	(6) Indirect GHG Emissions From Other Sources	0.00
Total Gross GHG Emissions		1,038.73
GHG Removals/ Sinks		NR

Electricity emissions are usually calculated and reported using the location-based methodology, which is the average generation emissions for the region or the national grid. The standard requires the electricity to be also reported using the market-based methodology where this is relevant or available, this is commonly known as "dual reporting". In this report, if market-based factor is available and used in the inventory, dual reporting will occur in Table 3 of the report. Thereafter, the emissions will be represented in only the method that is most relevant.

Table 4 shows the emissions intensity, if emissions intensity metrics were provided.

Table 4: Emissions Intensity Summary

Emission Intensity Metrics	Input	tCO ₂ e Intensity Metric (location-based)
Number of FTE	6.50	159.80
Gross Revenue (\$Mil)	3.46	299.78
Production (MT)	1.45	716.36



Note: labels for less than 2% are not displayed.

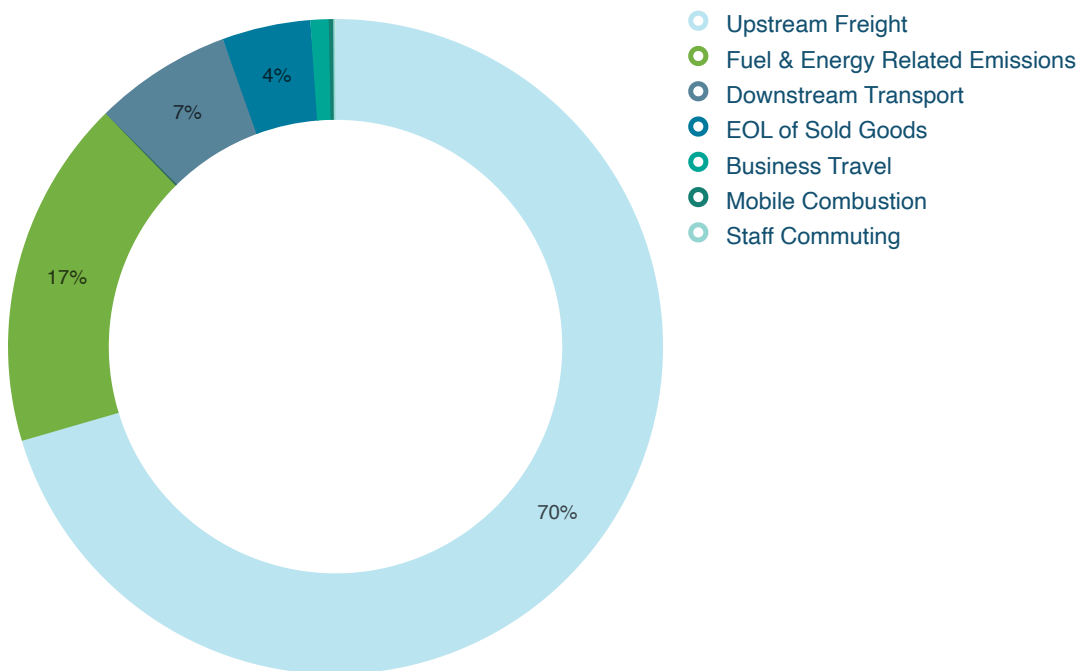
Figure 3: Emissions by Scopes

6.2 Emissions by Activities

Table 4 and Figure 4 below shows the emissions by Activity groups and the % it represents.

Table 4: GHG emissions by Scope and Activity groups (location-based)

GHG scope	Factor Groups	Sum of tCO ₂ e	% of Inventory
1	Mobile Combustion	2.27	0.22%
3	Upstream Freight	731.05	70.38%
3	Fuel & Energy Related Emissions	179.29	17.26%
3	Downstream Transport	70.57	6.79%
3	EOL of Sold Goods	45.32	4.36%
3	Business Travel	9.59	0.92%
3	Staff Commuting	0.64	0.06%
Grand Total		1,038.73	100.00%



Note: labels for less than 2% are not displayed.

Figure 4: Emissions by Activity Groups

Table 5 and Figure 5 below identifies the organisation's top emissions sources by ranking the largest to the smallest.

Table 5: GHG emissions sources ranked by largest to smallest (location-based)

Emission Sources	GHG tCO₂e	% of Inventory
Inward Freight - Container Ship - Average	504.60	48.58%
Well to tank emissions	179.35	17.27%
Outward Freight - Container Ship - Average	142.96	13.76%
Freight Not Paid For - Container Ship - Average	69.41	6.68%
Milk cartons	45.32	4.36%
Inward Freight Other Freight - Truck	38.74	3.73%
Outward Freight Other Freight - Truck	37.51	3.61%
Domestic Air Travel - New Zealand Domestic Economy Class	9.34	0.90%
Inward Freight Other Freight - Rail	5.14	0.49%
Mobile Combustion - Diesel	2.20	0.21%
Outward Freight Other Freight - Courier Van	2.10	0.20%
Freight Not Paid For Other Freight - Truck	1.16	0.11%
Staff Working From Home	0.64	0.06%
Business Accommodation - New Zealand	0.11	0.01%
Business Travel - Taxi	0.08	0.01%
Mobile Combustion - Petrol	0.07	0.01%
Grand Total	1,038.73	100.00%

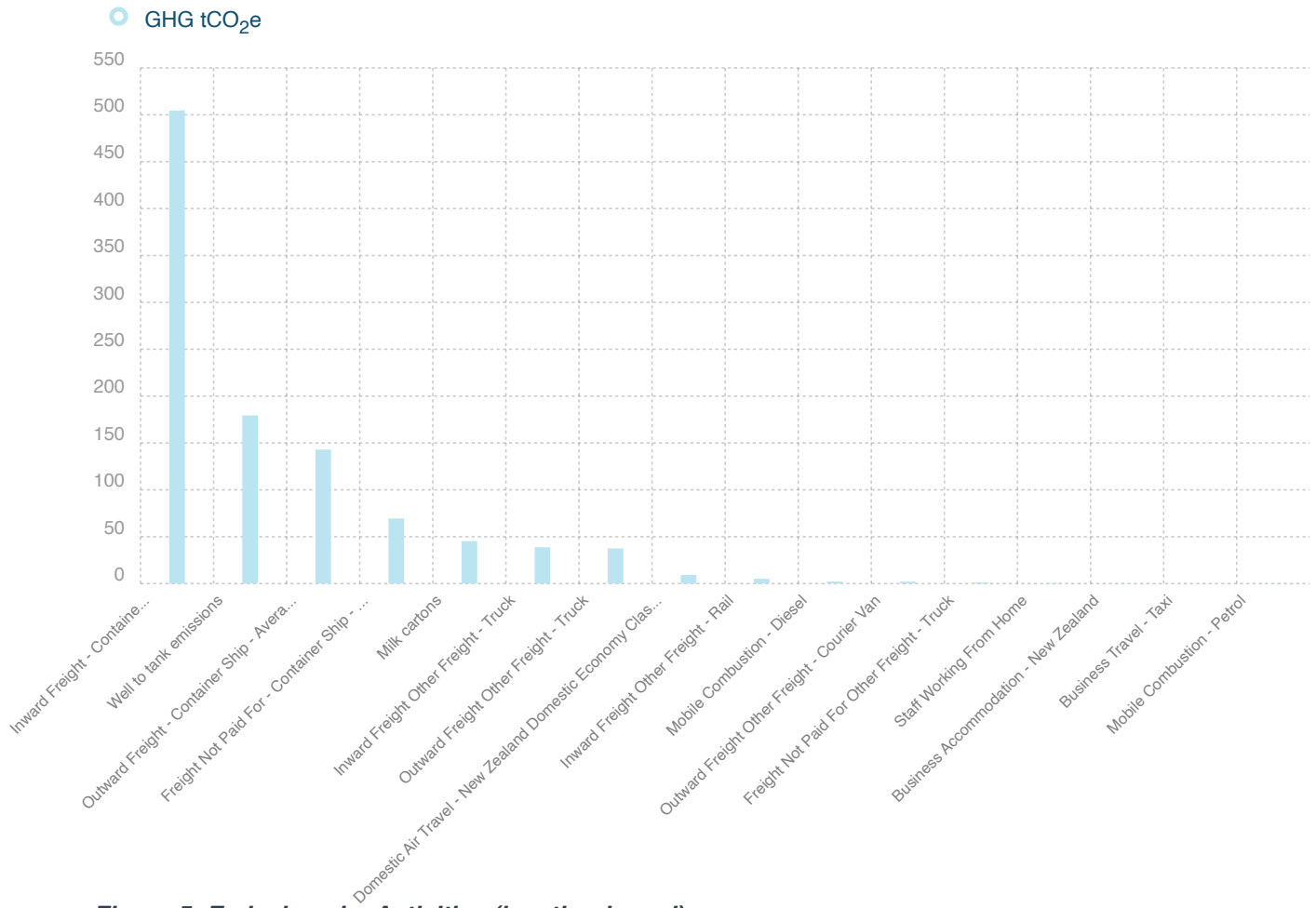


Figure 5: Emissions by Activities (location-based)

7 Data Quality, Uncertainties and Assumptions

Activity data was obtained from a range of sources, and the data quality are ranked and outlined in Table 6 below.

Table 6: Activity data collection - quality and source

Emissions source	Scope	Unit	Data source	Data quality	Any assumptions made
Mobile Combustion - Fuels	1	L	Accounts Report	Low	Applied the average cost of \$2.5 NZD per liter of Petrol, and \$1.823 NZD per liter of Diesel.
Sea Freight Received	3	TKM	Import/export register	Medium	Average weight of shipments applied to all modes. Assuming manual import/export register is accurate.
Other Freight Received	3	TKM	Imports/exports register	Medium	Average weight of shipments applied to all modes. Assuming manual import/export register is accurate.
Other Freight Received	3	TKM	Supplier reports	Good	
Other Freight Sent	3	TKM	Supplier reports	Medium	The courier data is assumed 95% truck and 5% van. Assumed that supplier data was providing the correct weight.
Domestic NZ Business Flights	3	PKM	Accounts Report	Low	Internal records applied to identify one way and some locations. No international flights due COVID 19.
Business Accommodation	3	Person nights	Accounts report	Low	Internal records applied to number of room and nights.
Business Travel Taxi Money	3	\$	Accounts report	Good	No assumptions.
Staff Working from Home	3	DAYS	Internal records	Poor	Considered 44 week in the year and 6.5 FTE working 5 days a week.
Sea freight not paid for by client	3	TKM	Imports/export register	Medium	Average weight of shipments applied to all modes. Assuming manual import/export register is accurate. Assumed destination port.
Other Freight not paid for by client	3	TKM	Imports/exports register	Low	Assumed departure port. Average weight of shipments applied to all modes. Assuming manual import/export register is accurate.
Milk cartons	3	-	Supplier estimate	Low	Supplier informed 30g per 1 L carton. Applied that against total liters produced.

The client source data is rated on a scale of Good, Medium, Low to Poor. The rating is given based on assessing the data source against our Data quality matrix. The classification is based on determining two criteria of uncertainties; Data completeness and Data accuracy. The higher the level of uncertainty due assumptions in the calculation or lack of data for the period, then the lower the quality of the data.

Where accurate data is not available, it is appropriate to estimate to ensure that a comprehensive inventory measurement is completed. Estimates must be carried out on a scientifically derived basis to ensure accuracy.

It is recommended that the organisation works to improve the data collections processes for any items listed above as having low data quality or high assumptions. This will increase the quality of the carbon inventory report in the future. These improvements should start as soon as possible/or as appropriate.

7.1 Scope 1 Emissions by gas type

ISO 14064-1 requires Direct emissions to be reported separately, showing emissions contribution by the 6 Kyoto GHG gas types. The breakdown by CO₂, CH₄ and N₂O is shown in Table 7 below. Breakdown by HFCs, PFCs and SF₆ will be shown in Table 7a, if applicable. If none displayed it is not applicable or none occurred.

Table 7: Direct emissions breakdown by gas types

GHG scope	1
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Emission Sources	tCO ₂ e	tCO ₂	tCH ₄	tN ₂ O
Mobile Combustion - Petrol	0.07	0.07	0.00	0.00
Mobile Combustion - Diesel	2.20	2.17	0.00	0.03
Grand Total	2.27	2.23	0.00	0.04

7.2 Other emissions

Fugitive emissions - (refrigerants)

No sites have reported any top-ups of gas for this reporting period. Air conditioning is excluded from the inventory where offices are leased.

There are no operations that use PFC, NF3 or SF6.

Combustion of Biomass - (e.g wood pellets)

No known combustion of biomass occurred from the operation during this measure period and therefore no emissions from the combustion of biomass are included in this inventory.

Land use and Land use change

No deforestation has been undertaken by the organisation on land it owns during this measurement period. Therefore no emissions from deforestation are included in this inventory.

Pre-verified data

No pre-verified data is included within the inventory.

8 Emission Performance against previous years

Table 8 and figure 6 below shows emissions comparison against base year and previous year, if applicable.

Table 8: Comparison against base year

Activities	Base year tCO ₂ e (location-based)	Current year tCO ₂ e (location-based)	% Change against base year
Upstream Freight	314.90	731.05	132.15%
Fuel & Energy Related Emissions	45.38	179.29	295.08%
Downstream Transport	67.39	70.57	4.72%
EOL of Sold Goods	72.54	45.32	-37.52%
Business Travel	14.63	9.59	-34.48%
Mobile Combustion	3.59	2.27	-36.65%
Staff Commuting	1.12	0.64	-43.06%
Grand Total	519.55	1,038.73	99.93%

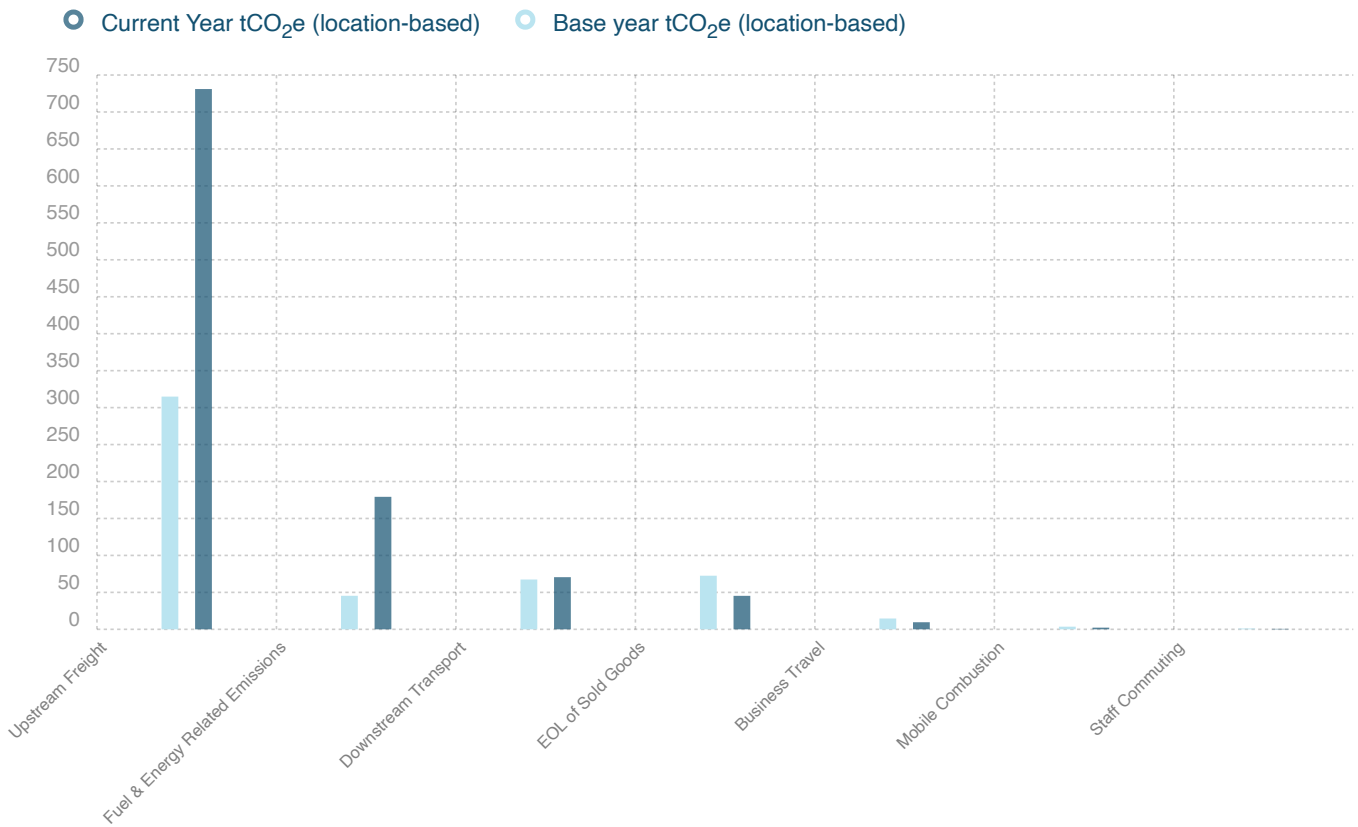


Figure 6: Emissions compared with previous years

Otis Oat Milk have experienced a significant organic growth for the period therefore emissions related to freight movements and End of Life (EOL) have increased respectively. Please refer to the section 9 for emissions reduction plan.

9 Emission Reduction Recommendations

Please refer to a separate, detailed reduction plan prepared by the organisation which documents the targets, responsibilities, actions and top level management commitment.

10 Double counting and pre-offsets

Double counting can sometimes occur when emissions have been included and potentially offset in the GHG emissions inventories of two different organisations, e.g. a company and one of its suppliers/contractors. This is particularly relevant to indirect (Scope 2 and 3) emissions sources.

There may also be instances where an organisation uses the product or service of another company who has already measured and offset their product/service.

The programme recognises organisation, product or services which has been identified by the programme as having completed measurement and offset their emissions and in this case, the double counted emissions will be reported but do not require offset.

There were no known instances of recognised offset deductions relevant for this inventory.

There were no known instances of double counting of emissions within this inventory.

11 Offsets and Certification

11.1 Certification Type

Otis Oat Milk has chosen to apply for Climate Positive Certification.

11.2 Offset amount

Table 9: Offset calculation (location-based)

Total Gross GHG Emissions	Offset requirement		Purchased credits/ Pre-offset	Net offset requirement	Total Credits to offset
1,038.73	Climate Positive Option (120%)	1,246.47	0.00	1,246.47	1,247.00

Otis Oak Milk have selected to split the offsetting projects by choosing Permanent New Zealand Restorative Forest Units (NZUs) produced in the Kānuka Hill Native Regeneration Project in Mohua Golden Bay, Aotearoa New Zealand for the Scope 1 and 2 emissions. And Verified Emission Reduction Units (VERs) produced in the Drawa Rainforest Conservation Project, in Fiji for the Scope 3 emissions.

11.3 Carbon credits

Otis Oat Milk has elected to cancel the following carbon credits:

Offset Type	Description	# Units Cancelled
VERs - Drawa	Offsets have been sourced in the form of Verified Emission Reduction Units (VERs) produced in the Drawa Rainforest Conservation Project, in Fiji. These offsets are retired in certified to the Plan Vivo Standard and the Markit Environmental registry.	1,244.00
NZUs - Uruwhenua	Offsets have been sourced in the form of Permanent New Zealand Restorative Forest Units (NZUs) produced in the Kānuka Hill Native Regeneration Project in Mohua Golden Bay, Aotearoa New Zealand and verified to the New Zealand Emissions Trading Register. These offsets are retired in the New Zealand Carbon Emissions Trading Register.	3.00

12 References & Other information

12.1 Standards

International Organization for Standardization, 2006. ISO14064-1:2018. Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas GHG emissions and removals. ISO: Geneva, Switzerland.

World Resources Institute and World Business Council for Sustainable Development, 2004 (revised). The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard. WBCSD: Geneva, Switzerland.

12.2 Emission Factors

MfE - 2022 Emission Factors Workbook and 2022 Emission Factors Flat File

DBEIS - 2022 UK Government GHG Conversion Factors for Company Reporting

Radiative Forcing - Aviation GHG emission calculations take into account the greenhouse gases covered by the UNFCCC Paris Agreement relevant to aviation (carbon dioxide, methane and nitrous oxide). There are also additional global warming impacts of aviation emissions called "radiative forcing" (RF). These include water vapour, NO_x, and contrails. Some voluntary carbon offset suppliers make inclusion of RF mandatory and others exclude it. This is because of the scientific uncertainties associated with the methodology for accurately calculating radiative forcing.

Following the MFE methodology, Ekos uses a radiative forcing multiplier of 1.9 for all flight related activity

Uplift factor - does not apply to domestic air travel. However, it has been applied to international air travel. (section 7.5.4 and 7.5.5 of the MfE Emissions detailed Guide 2022).

Well to Tank factors were sourced from DBEIS and is automatically applied to relevant activity data. WTT Business travel EF is 'with RF'.

All NZ electricity factor are location-based unless otherwise stated.