



Carbon Inventory Report:

SUSTAINABLE ORGANIC GOODS

BENNETTO™

NATURAL FOODS CO

Bennetto Natural Foods Ltd

Period: 2021 Financial Year

Unverified Inventory



Date: 5th April 2022

Authored by: Kent Barrett

Reviewed by: Willow Milligan

ekos.co.nz | ekos@ekos.co.nz

Contents

1	Summary	3
2	Background	3
2.1	Communication and dissemination	4
2.2.1	Statement of intent	4
2.2	Reporting period and base year	4
2.3	Verification and Compliance with Standard	4
3	Organisational boundary	4
4	Reporting boundary	5
5	Greenhouse Gas (GHG) Inventory	7
5.1	Methodology	7
5.2	Data Collection	7
5.3	Bennetto Natural Foods Ltd GHG Profile	8
5.3.1	Emissions breakdown by scope	8
5.3.2	Scope one emissions by gas type	10
5.3.3	Emissions breakdown by activity	11
5.4	Uncertainty and Data Quality	13
6	Offsets and Certification	14
7	Carbon Emission Reduction Planning Process	15
8	Glossary	18
	Appendix 1: Emission Factors	19

1 Summary

This carbon inventory was prepared for Bennetto Natural Foods Ltd for the 2021 Financial Year.

Organisation background	Name: Bennetto Natural Foods Ltd Contact person: Lucy Bennetto Contact email: Lucy@bennetto.co.nz Area of business: Wholesale Trade Full Time Equivalents (FTEs): 1 Contract manufacturer of chocolate. Sales and distribution
2021 Financial Year	01.04.2020 – 31.03.2021
Organisational boundary	This measurement covers the following sites: 63 Cleveland Street, Christchurch
Reporting boundary	Business operations direct and indirect emissions resulting from: <ul style="list-style-type: none">• Direct (scope 1)<ul style="list-style-type: none">○ Company Vehicles• Indirect electricity (scope 2)<ul style="list-style-type: none">○ Electricity• Indirect (scope 3)<ul style="list-style-type: none">○ Purchased Goods & Services○ Fuel & Energy Related Emissions○ Upstream Freight○ Business Travel○ Staff Commuting
Exclusions:	<ul style="list-style-type: none">• Indirect (scope 3)<ul style="list-style-type: none">○ Business Waste○ The following aspects of Purchased Goods & Services:<ul style="list-style-type: none">▪ Potable Water○ The following aspects of Business Travel:<ul style="list-style-type: none">▪ Rental Cars
Emissions	Total emissions: 197.75 tCO ₂ e
Offsets	Total offsets: 58 tCO ₂ e (120% excluding 183 tCO ₂ e previously offset emissions)

Bennetto Natural Foods Ltd has elected to offset 120% of these emissions with 50% International Indigenous forest VERs (Verified Emissions Reduction Units) certified to Plan Vivo Standard and 50% New Zealand Units (NZUs), verified to the New Zealand Emissions Trading Register provided by Ekos. Through this measurement and offsetting, Bennetto Natural Foods Ltd has qualified for Climate Positive Business Operations certification for the 2021 Financial Year and has been issued certificate number 40000548.

2 Background

This report is the third annual greenhouse gas (GHG) emissions inventory, prepared for Bennetto Natural Foods Ltd. It was prepared in accordance with the requirements of ISO 14064-1 (2018) and covers the period 01.04.2020 – 31.03.2021.

2.1 Communication and dissemination

This inventory was prepared as a management tool for Bennetto Natural Foods Ltd 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 Bennetto Natural Foods Ltd 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 Bennetto Natural Foods Ltd, its shareholders and members. The summary of this inventory will be made available to all stakeholders on request.

2.2.1 Statement of intent

Bennetto Natural Foods Ltd has provided the following statement of intent:

To be Climate Positive.

2.2 Reporting period and base year

This inventory is for the 2021 Financial Year. The base year for Bennetto Natural Foods Ltd's inventory was the 2019 Financial Year. Due to significant additional inclusions in the Purchased Goods & Services Category and a subsequent significant increase in overall emissions, it was decided to change the base to the 2021 Financial Year period. This inventory will be compared with the previously completed 2020 Financial Year period. Future inventories will be compared with the 2021 Financial Year base year.

2.3 Verification and Compliance with Standard

This inventory is consistent with the International Standards Organisation's process for calculating and reporting GHG emissions 14064-1 (2018). This measurement was externally reviewed by McHugh and Shaw as being consistent with the ISO 14064-1 standard for measurement. Whilst this is the case, it should be noted that this measurement is an unverified inventory and that no verification audit has been conducted of the findings.

3 Organisational boundary

The organisational boundary identifies which facilities or subsidiaries of Bennetto Natural Foods Ltd 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.

For Bennetto Natural Foods Ltd's inventory, the operational control method has been used to consolidate emissions. This means that all emissions over which Bennetto Natural Foods Ltd has operational control have been included in the inventory.

Included within Bennetto Natural Foods Ltd's organisational boundary are therefore all emission sources that occur within Bennetto Natural Foods Ltd's operations at 63 Cleveland Street, Christchurch.

Bennetto Natural Foods Australia was excluded from the organisational boundary.

4 Reporting boundary

The reporting boundary identifies which emission sources are included in the carbon inventory and which are excluded. ISO 14064-1(2018) categorises emissions as follows:

- Direct emissions (scope 1) are those resulting directly from the organisation's operations including stationary energy sources and vehicles owned by the company.
- Indirect emissions (scope 2 and 3) emissions are indirectly created by the company through the importation of electricity, heat or steam generated elsewhere or from the organisation's purchase of goods and services (such as business travel and the production of waste) that cause emissions to be generated by others.

In compliance with the ISO Standard, Bennetto Natural Foods Ltd has measured all relevant direct and indirect emissions shown below in this GHG inventory.

The included emission sources are shown in Figure 1 below:

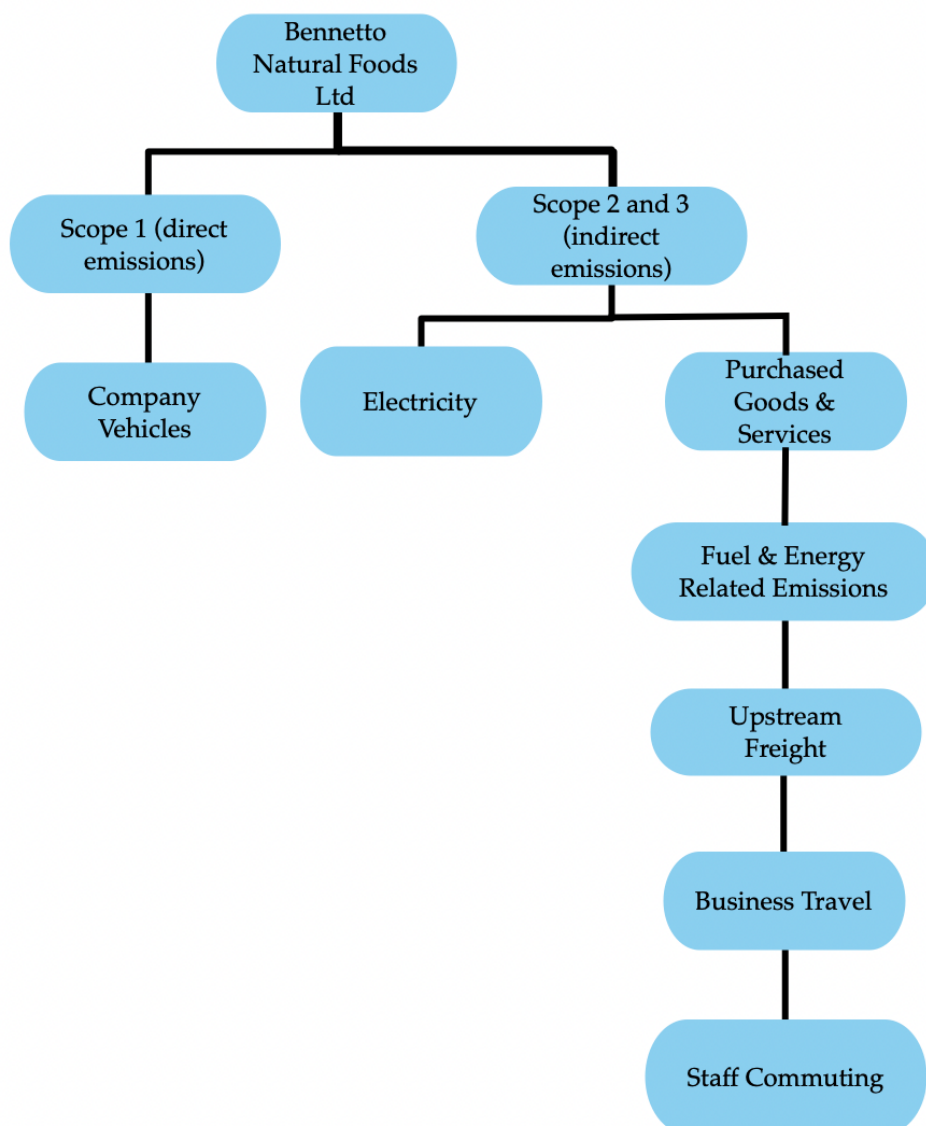


Figure 1: Bennetto Natural Foods Ltd's 2021 Financial Year Emission Sources

Emissions sources included in measurement but reported in other business activities

End of Life emissions were included in the Purchased Goods & Services emissions calculation due to its inclusion in the product carbon footprint measurement provided by the contract manufacturer.

International Inward Freight emissions were included in the Purchased Goods & Services emissions calculation due to its inclusion in the product carbon footprint measurement provided by the contract manufacturer.

Exclusions

The following emission sources have been excluded from the reporting boundary:

- Business Waste
- The following aspects of Purchased Goods & Services:
 - Potable Water
- The following aspects of Business Travel:

- o Rental Cars

5 Greenhouse Gas (GHG) Inventory

5.1 Methodology

This GHG inventory was prepared to be consistent with the international Standards for calculating GHG emissions. These Standards are the World Resource Institute's "Greenhouse Gas Protocol, a corporate accounting and reporting standard (GHG protocol) and "ISO 14064-1 (2018) Specification with guidance at the organisation level for quantification and reporting of GHG emissions and removals" (ISO 145064-1 (2018)). In measuring this inventory, the five principles of ISO 14064-1 (2018) were strictly applied.

The methodology used in measuring Bennetto Natural Foods Ltd 's organisational GHG inventory is illustrated in the following diagram:

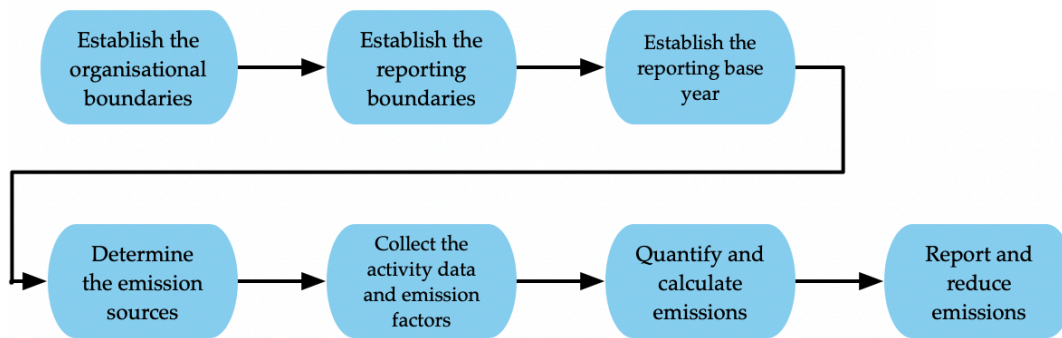


Figure 2: ISO 14064-1 (2018) Methodology for Measuring a GHG Inventory

5.2 Data Collection

Data was collected by Bennetto Natural Foods Ltd 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 an Ekos-developed calculator. The calculation method used to quantify emissions was the activity data multiplied by the appropriate emission factor:

$$\text{Tonnes CO}_2\text{e} = \text{Total GHG activity} \times \text{appropriate emission factor}$$

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, as provided in Appendix 1.

Table 1: Data Sources for Bennetto Natural Foods Ltd's 2021 Financial Year Emissions

Emission Source	Unit	Data Source
Company Vehicles	km	Internal Mileage Calculations
Electricity	kWh	Supplier Invoices
Paper	Reams of Paper	Internal Records

Purchased Goods & Services	IT Services	GB of storage	Supplier Records
	Contract Manufacturer	tCO2e	Product Carbon Footprint Measurement Report
Fuel & Energy Related Emissions	Transmission and Distribution Losses	kWh	Supplier Invoices
	Fuel & Energy Related Emissions	Company Vehicles (km) Staff Commuting (km)	Internal Mileage Records Internal Calculation
	Freight Related Emissions	Tonne km	Supplier Records and GoSweetSpot data
	Air Travel	Passenger km	Supplier Records
Upstream Freight		Tonne km	Supplier Records and GoSweetSpot data
		kWh	Supplier Records
		Air Travel	Passenger km
		Accommodation	Person nights
Staff Commuting	Vehicle Mileage	km	Internal Calculations
	Working from Home	Days	Internal Calculations

5.3 Bennetto Natural Foods Ltd GHG Profile

Bennetto Natural Foods Ltd total emissions for the 2021 Financial Year were 197.75 tonnes of CO₂e.

5.3.1 Emissions breakdown by scope

Figure 3 below shows Bennetto Natural Foods Ltd 's emissions by scope with the majority of emissions coming from scope 3 at 99.4%, followed by scope 1 at 0.4% and scope 2 emissions at 0.2%.

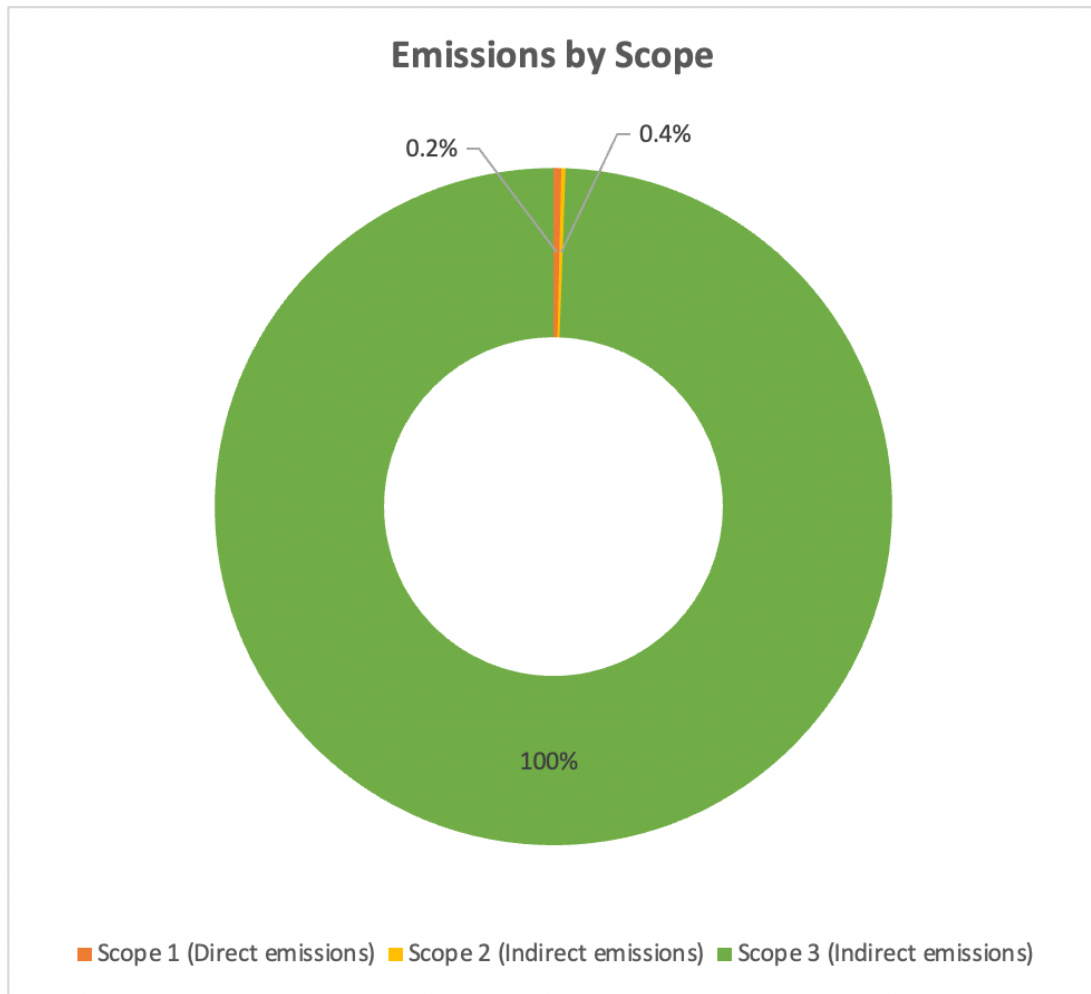


Figure 3: Bennetto Natural Foods Ltd's 2021 Financial Year Emissions by Scope

Below, Figure 4 and Table 2 also shows the change in emissions between the 2021 Financial Year (new base year) and the previously completed 2020 Financial Year measurement. The results show a 74000% increase in scope 1 emissions a 10% reduction in scope 2 emissions and an increase of 1185% in scope 3 emissions. The emissions increased overall by 1156%. These significant increases were due to the inclusion of additional business activities.

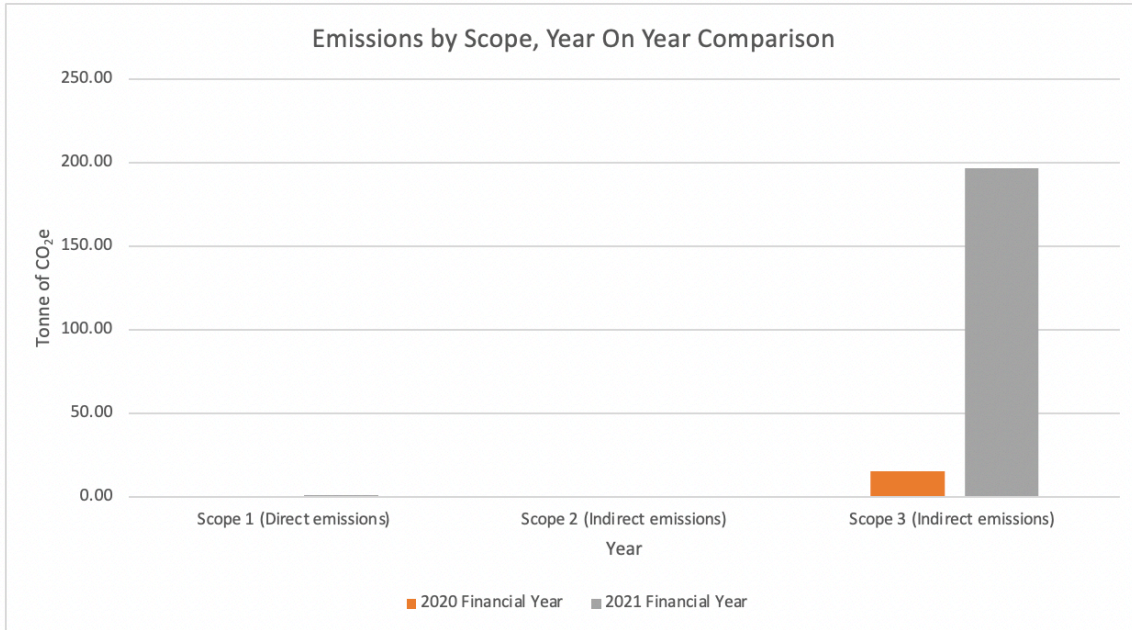


Figure 4: Bennetto Natural Foods Ltd's Emissions by Scope Year on Year Comparison

Table 2: Bennetto Natural Foods Ltd's Emissions by Scope Year on Year Comparison

Scope	Tonnes of CO ₂ e	% of total	% change from previous year
Scope 1	0.74	0.4%	NA
Scope 2	0.40	0.2%	-10%
Scope 3	196.62	99.4%	+1185%
Total	197.75		1156%

5.3.2 Scope one emissions by gas type

ISO 14064-1 (2018) requires that scope 1 emissions are reported separately by gas type. Table 3 below shows these separated emissions for each scope 1 emissions source. The vast majority of this is carbon dioxide.

Table 3: Bennetto Natural Foods Ltd's 2021 Financial Year Scope 1 Emissions by Gas Type

Emissions source	Activity	Carbon Dioxide Equivalent Emissions	Carbon Dioxide Emissions	Methane Emissions	Nitros Oxide Emissions	HFC Emissions	PFC Emissions	Sulphur Hexafluoride emissions
Company Vehicles	Petrol Km	0.74	0.70	0.00	0.00	0.00	0.00	0.00
	Total	0.74	0.70	0.00	0.00	0.00	0.00	0.00
Total		0.74	0.70	0.00	0.00	0.00	0.00	0.00

5.3.3 Emissions breakdown by activity

Below, Figure 5 shows Bennetto Natural Foods Ltd emissions by activity. The majority of emissions came from Purchased Goods & Services at 92%, Business Travel at 4%, Upstream Freight at 2%, Fuel & Energy Related Emissions at 1%, Company Vehicles at <1%, Electricity consumption at <1%, and Staff Commuting at <1%.

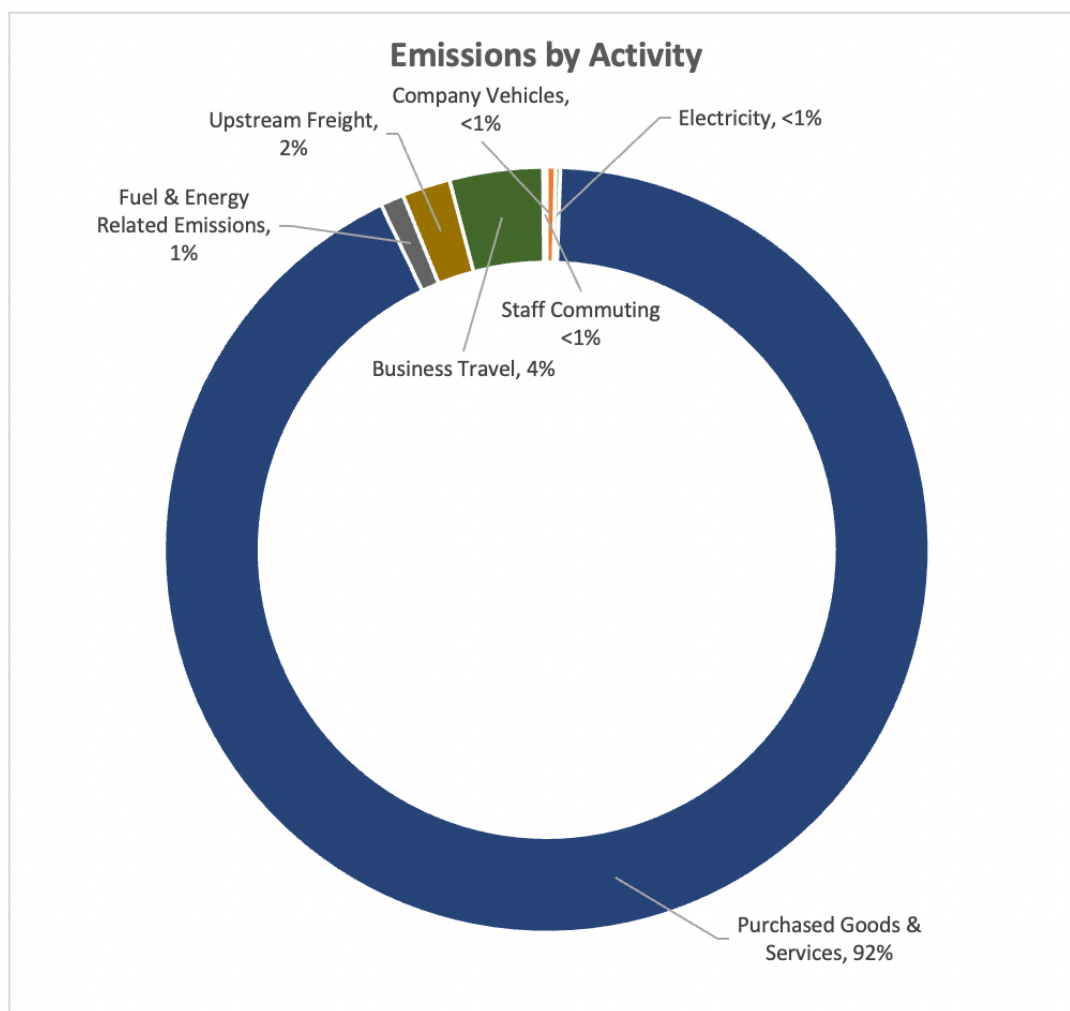


Figure 5: Bennetto Natural Foods Ltd's 2021 Financial Year Emissions By Activity

Below, Figure 6 and Table 4 show the change in emissions between the current measurement (new base year) and previously completed 2020 Financial Year measurement. When the current measurement is compared with the previous year's measurement there is a decrease in Business Travel emissions of 12%, Upstream Freight emissions of 35%, Electricity emissions of 10% and an increase in Purchased Goods & Services emissions of 82861% and Fuel and Energy Related emissions of 5673%. The significant increases seen in Purchased Goods & Services and Fuel & Energy Related emissions are largely due to the inclusion of additional activities within the measurement process.

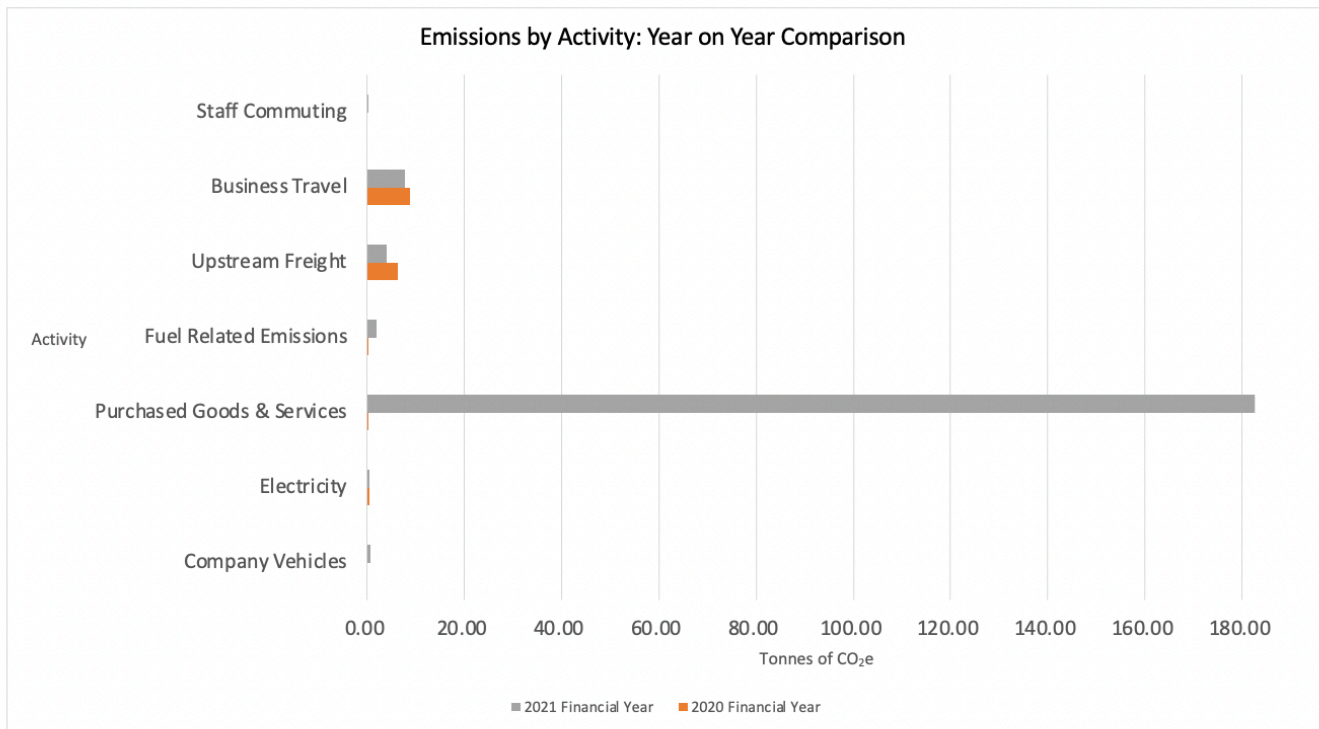


Figure 6: Bennetto Natural Foods Ltd’s Emissions By Activity Year on Year Comparison

Table 4: Bennetto Natural Foods Ltd’s Emissions By Activity Year on Year Comparison

Scope of emissions	Activity	tCO ₂ e	% of total emissions	% change from previous year
Scope 1	Stationary Fuel	NA	NA	NA
	Company Vehicles	0.74	<1%	NA
	Industrial Processes	NA	NA	NA
	Air Conditioning/Refrigerants	NA	NA	NA
	Agriculture	NA	NA	NA
Scope 2	Electricity	0.40	<1%	-10%
Scope 3	Purchased Goods & Services	182.51	92%	82861%
	Capital Expenditure	NA	NA	NA
	Fuel & Energy Related Emissions	1.96	1%	5673%
	Upstream Freight	4.04	2%	-35%
	Business Waste	Excluded	NA	NA
	Business Travel	7.80	4%	-12%
	Staff Commuting	0.31	<1%	NA

Upstream Leased Assets	NA	NA	NA
Downstream Transport	Excluded	NA	NA
Processing of Sold Goods	NA	NA	NA
Use of Sold Goods	NA	NA	NA
End of Life Treatment of Sold Goods	0.00	0%	NA
Downstream Leased Assets	NA	NA	NA
Franchises	NA	NA	NA
Investments	NA	NA	NA
Total	197.75		1156%
FTEs	1		
Emissions Intensity per FTE	197.75		

5.4 Uncertainty and Data Quality

Where accurate data is not available, it is appropriate in some situations to estimate activity data to ensure that a comprehensive carbon measurement and inventory is completed. Estimates must be carried out on a scientifically-derived basis. For Bennetto Natural Foods Ltd's GHG inventory, there are the following areas of uncertainty:

- Company Vehicles
 - Company Vehicle fuel volume consumption data was unavailable. This category was included with the reliance on mileage calculations for common weekly trips and annual sales trips. Ekos strongly recommends the use of a business fuel card. Fuel cards accurately record the volume of fuel consumed which results in a more accurate emissions calculation result.
- Purchased Goods & Services:
 - Reams of paper consumed
 - This aspect of the Purchased Goods & Services category was included with the reliance on an estimated consumption calculation carried out by the client. Ekos recommends accurately recording this with its own accounting code in Xero (or other accounting system being used) so an easy annual report can be run.
 - Product carbon footprint measurement supplied by contract manufacturer
 - Product carbon footprints often contain various uncertainties. Ekos recommends engaging with the contract manufacturer to learn more regarding this uncertainties.
- Accommodation
 - Exact accommodation data was not available. The client carried out an estimation based on flight bookings. Ekos strongly recommends implementing systems to accurately track this information. Again,

financial spend data for accommodation should be given a unique code in the accounting system to allow for an annual report to be run.

- Staff Commuting
 - Exact commuting data (including working from home) was not available. This activity was included with the reliance on an estimation based on common staff practices. Ekos recommends implementing a system to accurately record this information moving forward. Such a system could be a staff commuting mileage log that is filled in by staff on a weekly basis, including what days were worked from home.
- Upstream Freight (distribution centre)
 - The GoSweetSpot data for outward freight did not allow for the separation of ferry journeys. Due to this, for North Island deliveries the ferry leg was calculated as road freight as this is the conservative approach. The GoSweetSpot data also did not provide the destination postcode. Due to this, a 50km road freight assumption was included from the arrival airport. Ekos strongly recommends engaging with GoSweetSpot to ensure more detailed reports can be run in future years.
 - The emissions associated with the movement of Bennetto Natural Food Ltd's goods through the Lyttleton distribution centre were calculated through engaging with the service provider. The service provider was able to provide annual electricity consumption and the floor space occupied by Bennetto Natural Food Ltd's goods. The emissions calculation was completed by applying proportional electricity consumption based on floor space occupied by Bennetto Natural Foods Ltd. Ekos recommends consistent engagement with this service provider to further refine the data available each year.

These improvements should start as soon as possible.

6 Offsets and Certification

To qualify for Climate Positive Business Operations certification with Ekos, an organisation must measure its business operations (carbon footprint) and offset 120% of direct and indirect emissions.

Bennetto Natural Foods Ltd has measured all required activity emissions, totalling 197.75 tonnes of CO₂e.

Bennetto Natural Foods Ltd has offset 120% of these emissions, totalling 58 tonnes of CO₂e excluding previously offset emissions of 183 tonnes of CO₂e.

Bennetto Natural Foods Ltd has qualified for Climate Positive Business Operations Certification for the 2021 Financial Year.

50% of the offsets purchased and retired for this certification were International Indigenous forest VERs (Verified Emissions Reduction Units) certified to the Plan Vivo Standard and sourced from the Babatana Rainforest Conservation Project in the Solomon Islands and 50% were New Zealand Units (NZUs), verified to the New Zealand Emissions Trading Register and sourced from the Kern Creek Forest Conservation Project in Maruia, New Zealand. These offsets will be retired from the Markit Environmental Registry and the New Zealand Carbon Register.

7 Carbon Emission Reduction Planning Process

As part of the programme rules for Ekos' carbon measurement programme, it is recommended that Bennetto Natural Foods Ltd develop a Carbon Emissions Reduction Plan.

Deciding on what further reductions should occur and when offsetting should start can be difficult. Ekos recommended undertaking a four-step process to develop a carbon reduction plan. The four steps are as follows:

1. Rank emissions activities by contribution. For Bennetto Natural Foods Ltd, the emission sources in order of highest to lowest emissions are shown in Table 5 below.

Table 5: Bennetto Natural Foods Ltd's Emissions Sources from Highest to Lowest Emissions



<i>Activity</i>	<i>tCO2e</i>	<i>Change in position from previous year</i>
<i>Purchased Goods & Services</i>	182.51	+82861%
<i>Business Travel</i>	7.80	-12%
<i>Upstream Freight</i>	4.04	-35%
<i>Fuel & Energy Related Emissions</i>	1.96	+5673%
<i>Company Vehicles</i>	0.74	NA
<i>Electricity</i>	0.40	-10%
<i>Staff Commuting</i>	0.31	NA



2. Identify actions that can be taken to reduce emissions. Ekos has made the following recommendations for actions to reduce emissions in the top three emissions sources:
 - Purchased Goods & Services
 - It should be noted achieving reductions in this category will be difficult due to the limited level of influence Bennetto Natural Food Ltd has over these emissions and the emissions sources as they are outside of Bennetto Natural Food Ltd's direct operations. Ekos recommends continued engagement with the contract manufacturer regarding their emissions reduction initiatives and emissions reductions goals for the future to ensure the manufacturer understands the importance of this work to their client base.
 - Business Travel
 - Ekos recommends removing as many flights from Bennetto Natural Food Ltd's operations as possible. This can be achieved through implementing an 'only fly when essential' policy and setting a policy that requires a minimum number of business engagements in a particular region prior to a flight being booked.
 - Upstream Freight
 - Ekos recommends removing all air freight from the distribution supply chain.

- Ekos also recommends engaging with freight suppliers who are actively engaged in carbon emissions measurement, reduction and offsetting initiatives.
 - Fuel & Energy Related Emissions
 - This category relates to the well to tank emissions associated with the production of electricity and the consumption of fossil fuels. Reducing the following business activity emissions will also result in a reduction in Fuel & Energy Related Emissions;
 - Electricity
 - Upstream Freight
 - Company Vehicles
 - Staff Commuting
3. Rank the actions identified according to cost. Some research will be required to find out the associated cost of each potential action. Rank the actions as negative cost (1), low cost (2), medium cost (3), or high cost (4).

The aim of this process is to identify the “low hanging fruit” or lowest cost actions, such as changing policies or processes and undertaking these first. Actions slightly higher up “the tree” will require some expense, such as replacing lightbulbs for more efficient LEDs. So, these should be carried out once the low-cost actions are exhausted. The next actions are those that cost slightly more but are still relatively low cost so can be carried out once categories 1 and 2 have been completed. Finally come the very expensive actions, such as building energy efficient buildings. For these actions, it may be more effective and affordable for the Bennetto Natural Foods Ltd to purchase restorative forest carbon credits than to undertake these projects. This process is shown in Table 6.

Table 6: The “Abatement Tree” Ranking Categories

Abatement ranking	Action	Examples from the recommended actions
1. Cost negative and easy wins.	 Highest priority actions. Do these first.	The establishment of an ‘only fly when essential’ policy. Establishing a minimum number of engagements in a region prior to the booking of flights. Removal of Air Freight from freight movements.
2. Cost positive but still easy wins.	 Second highest priority. Do these second.	Engage with a freight supplier actively engaged in emissions reduction and Zero

		Carbon certification practices.
3. Cost positive harder wins but below the carbon price.		Third highest priority. Do these after 1 & 2 above.
4. Cost positive and above the carbon price.		For these, action is cost prohibitive, or the technology not available. Offsetting is a cheaper and immediate solution, allowing you to do something now, and to internalise the cost of carbon in your business.
		Replacing petrol vehicles with electric or hybrid models.
		Installation of solar PV panels.

4. Implement the reduction plan and repeat. Now the plan is implemented and a budget set to pay for the actions. If not done last year, consider committing dedicated staff time to the project and establish an implementation group to monitor progress. Finally, the process starts again by measuring next year and adding a new actions to the plan as implementation continues.

8 Glossary

De minimis

Certain activities contribute less than 1 percent of the total of CO₂e emissions. These may be excluded from the GHG inventory, provided that the total of excluded emissions does not exceed a materiality threshold of 5 percent. That is, the total of all excluded emission sources should not exceed 5 percent of the total inventory.

Greenhouse gas (GHG)

Gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the Earth's surface, the atmosphere and clouds. These include:

- Carbon dioxide (CO₂)
- Methane (CH₄)
- Nitrous oxide (N₂O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF₆)

GHG Scopes:

- Scope 1: Direct emissions from sources owned or controlled by reporting entity. For example diesel generator, coal heating, own vehicle fleet, agriculture
- Scope 2: Indirect emissions generated by purchased energy. For example, electricity, gas.
- Scope 3: Indirect emissions that are a consequence of activities undertaken by the reporting organisation or related individual, but not directly controlled by the organisation. For example, flights, freight, non-company vehicles, waste, electricity line distribution and transmission losses.

Appendix 1: Emission Factors

Ekos uses emission factors provided by the New Zealand Ministry for the Environment (MfE) publication *Measuring Emissions: A Guide for Organisations 2019*. Ekos emission factors for air travel include Radiative Forcing, which helps organisations account for the wider climate effects of aviation, including water vapour and indirect GHGs. This is an area of active research, which seeks to express the relationship between emissions and climate warming effects of aviation.

Ekos uses a multiplier of 1.9 to account for radiative forcing effects in line with the Ministry for the Environment publication *Measuring Emissions: A Guide for Organisations 2019*.

Where emission sources are not covered by the MfE publication, Ekos identifies suitable factors for use have been sourced from the Department for Environment and Rural Affairs (DEFRA), UK Government document *Factors for Greenhouse Gas Reporting 2018*, the Motu institute and Aslan, J. Mayers, K. Koomey, J. France, C. 2017. *Electricity Intensity of Internet Data Transmissions, Untangling the Estimates*. *Journal of Industrial Ecology*, Volume 22, number 4.