



ICO Traders Limited

Greenhouse Gas Emissions

Inventory Report

Year ended 31 March 2022

Document Control

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Glossary

Greenhouse Gas (GHG)	Greenhouse gases (GHG) are gases that influence the way in which the Earth's atmosphere traps heat. Increasing levels of GHGs in the atmosphere are causing the phenomenon of climate change.
GHG Emissions Inventory	The sum of GHGs emitted by an organisation in a given time period. Sometimes referred to as a Carbon Footprint. Typically expressed in terms of tonnes of carbon dioxide equivalents (tCO ₂ -e), and for a 12-month reporting period.
Carbon Dioxide Equivalent (CO₂-e)	A standard unit for measuring GHG Inventories. The impact of each different GHG is expressed in terms of the global warming potential (GWP) of one unit of carbon dioxide (CO ₂). Typically expressed in kilograms (kg CO ₂ -e) or tonnes (tCO ₂ -e).
Global Warming Potential	A measure of a gas's ability to cause radiative forcing in the atmosphere (or climate change) relative to the ability of CO ₂ . For example, sulphur hexafluoride (SF ₆) has a GWP of 23,900, thus 1kg of SF ₆ emitted is 23,900 times more potent than 1kg of CO ₂ .
Emission Factor	A metric that converts a specific emission source - such as a litre of diesel - into terms of CO ₂ or CO ₂ -e.
ISO14064-1:2018	The International Standard used for preparing a GHG emissions inventory. It defines 3 Scopes for accounting and reporting purposes (explained below).
Scope 1 Emissions	Direct emissions arising from sources that are owned or controlled by the company (e.g. vehicles, fossil fuel used on site, refrigerant leakage).
Scope 2 Emissions	Emissions from the generation of purchased electricity, heat and steam consumed by the company. <i>For most businesses this relates exclusively to electricity usage</i>
Scope 3 Emissions	Indirect emissions that occur as a consequence of the company's activities but are from sources not owned or controlled by the company (e.g. business flights). Note - a business' Scope 3 emissions are another business' Scope 1 emissions.

1. Executive Summary

This is the third Greenhouse Gas (GHG) Inventory Emissions Report of ICO Traders Limited and has been prepared for the reporting period 1 April 2021 to 31 March 2022.

The measurement and reporting of this GHG Inventory has been performed in accordance with the GHG Protocol and ISO14064-1:2018 *Quantification and reporting of greenhouse gas emissions*.

This report outlines the process used to prepare the GHG Inventory, which includes determining the organisational boundary, the emission source inclusions and exclusions, and the data collection methods used.

We have provided recommendations on emission reduction opportunities for ICO Traders and the options available for setting emission reduction targets.

ICO Traders has offset 100% of its carbon emissions and has qualified for the Climate Action Net Carbon Zero stamp of approval.

Offsetting and Net Carbon Zero

To qualify for the Climate Action Net Carbon Zero stamp of approval from Opportune Consulting Limited a business must measure its carbon footprints in accordance with the GHG Protocol and ISO14064-1:2018 *Quantification and reporting of greenhouse gas emissions* and offset 100% of its carbon emissions.

ICO Traders has measured all of its Scope 1 and Scope 2 emissions and an agreed selection of Scope 3 (indirect, or value chain) emissions (refer to section 9).

ICO Traders has offset 100% of its carbon emissions, totalling 24 tCO₂.

ICO Traders has qualified for the Climate Action Net Carbon Zero stamp of approval for the year ended 31 March 2022.

The offsets purchased for this year are from Permanent Forests NZ Limited.

Certificate number: PFNZ2022089

Date issued: 31 October 2022

Waipuna Bush – 204 PFSI NZUs: the indigenous forest located within the land on computer freehold CB26K/1012, CB7C/243, CB26K/1023, CB26K/1013, CB26K/1014, CB26K/1015, CB26K/1011, CB2B/457, CB8A/184, CB26K/1022, CB26K/1016, CB7C/244, CB26K/1018, CB26K/1019, CB26K/1020, CB8A/1236, CB26K/1021 with the Forest Sink registered under Covenant with MPI identifier 16-11-0098.

The offsets were retired on the New Zealand Emissions Trading Register.

Results

ICO Traders measured GHG emissions for the year end March 2022 are 23.9 tCO₂-e. Your primary source of emissions is Scope 3 emissions relating to freight. The bulk of the freight emissions come from steel wire furniture that is shipped from China to New Zealand.

Table 1: Emissions by Scope

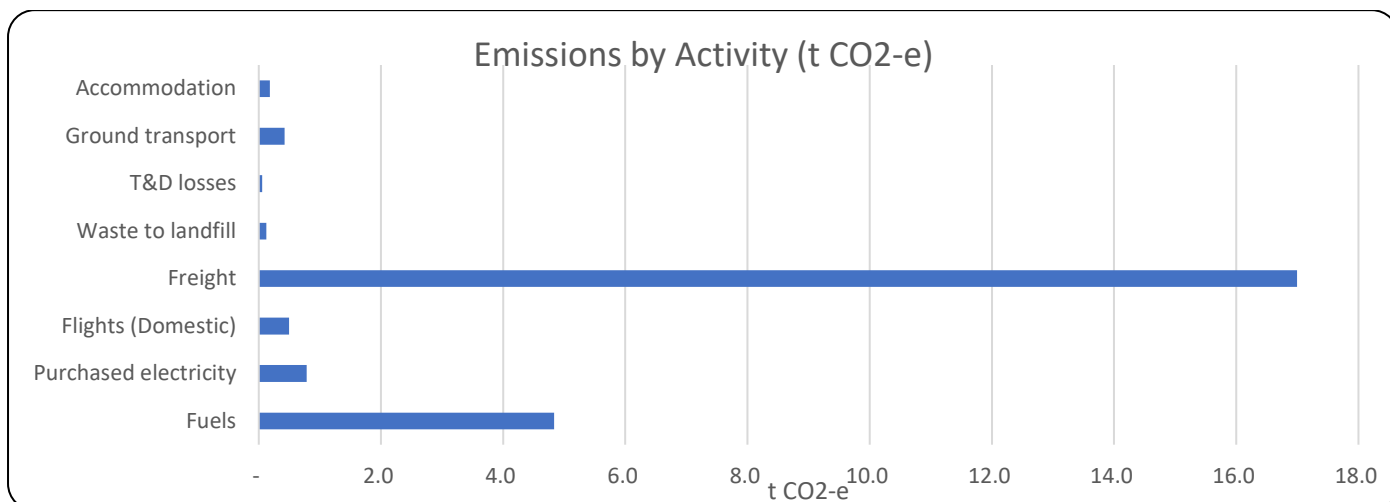
Emissions	tCO²-e	% of Total
Scope 1	4.8	20%
Scope 2	0.8	3%
Scope 3	18.3	77%
Total	23.9	100%

Table 2: Emissions by Category

Scope	Category emission source	kg CO₂-e	kg CO₂	kg CH₄	kg N₂O	% of Total Emissions
1	Fuels	4.8	4.8	-	0.1	20%
2	Purchased electricity	0.8	0.8	-	-	3%
3	Flights (Domestic)	0.5	0.5	-	-	2%
3	Flights (International)	-	-	-	-	
3	Freight	17	16.7	-	0.2	71%
3	Waste to landfill	0.1	-	0.1	-	0%
3	T&D losses	0.1	0.1	-	-	0%
3	Ground transport	0.4	0.4	-	-	2%
3	Accommodation	0.2	0.2	-	-	1%
						0%
1	Scope 1 total	4.8	4.8	-	0.1	20%
2	Scope 2 total	0.8	0.8	-	-	3%
3	Scope 3 total	18.3	17.9	0.1	0.3	77%
	Inventory total	23.9	23.4	0.2	0.3	100%

Emissions By Activity

Figure 1: Emissions by Activity (t CO²-e)



Opportunities and Recommendations

We recommend exploring the following emission reduction opportunities:

- Freight – Choose freight suppliers that are actively working towards and investing in low emission vehicles and transportation.
- Fuel use – we recommend investigating current vehicle use, route optimisation and developing a plan to convert to low emissions vehicles over time.
- Perform an energy audit at your main operational site to identify opportunities for energy reduction or energy elimination, across both electricity usage and gas (heating) usage. Energy audits will commonly identify opportunities such as:
 - Improved lighting solutions which have short payback periods, such as installing LED lights.
 - Changing staff behaviour to turn off lights at night and turn off equipment when not in use.
 - Investigating energy efficient alternatives when purchasing appliances such as fridges, hot water and heating services.
 - Review the heating arrangement and identify opportunities to reduce usage, through areas such as timer settings, configuration, temperature settings and boiler operation.
- The main opportunity for reducing waste is to identify any sources where waste can be eliminated. The second opportunity is by increasing the rate of recycling which can occur.
- Travel emissions encompass flights, accommodation, and taxis/ rental cars. These emissions are entirely activity based, therefore, to achieve a reduction in these emissions there would need to be a reduction the amount of travel undertaken (e.g. using virtual meetings).

Your options for emission reduction targets have been outlined in Section 14 of this report. Setting a Science Based Target has grown to become the most common approach to target setting used globally by companies. Companies signing up to SBTi targets are required to reduce their emissions in line with limiting global warming to 1.5°C. This approach commonly results in an absolute emissions reduction target of 42% by 2030, on Scope 1 and Scope 2 emissions (when using a FY2022 baseline). Scope 3 targets are not mandated if an organisation has less than 500 FTE.

2. Introduction

This report is the second annual greenhouse gas (GHG) emissions inventory report for ICO Traders Limited. The inventory is a quantification of the amount of GHG emissions that can be attributed to the organisation's operations within the declared boundary and scope for the specified reporting period, which is for the financial year 2021-22.

The inventory has been prepared in accordance with the requirements of the *Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)* and *ISO 14064-1:2018 Specification with Guidance at the Organization Level for Quantification and Reporting of Greenhouse Gas Emissions and Removals*.

3. Intended use and Purpose of this Document

This inventory (also known as a 'carbon footprint') has focussed on ICO Traders direct (Scope 1 and 2) emissions and an agreed selection of Scope 3 emissions.

The Scope 3 emissions measured were chosen based on best practice and in line with other measuring agencies in New Zealand.

The audience for this report is anticipated to be internal stakeholders, in particular ICO Traders owner who is seeking to understand the emissions of the business. This process will be used as the basis for communicating with external stakeholders the steps ICO Traders has taken to activity reduce, manage and offset its carbon footprint.

The expectation is that ICO Traders will report annually on its footprint, and that over time ICO Traders will consider including a broader set of Scope 3 (indirect, or value chain) emissions within its inventory.

This document will allow ICO Traders to:

- understand what its emissions currently are, and where these emissions occur across the business
- understand what data is required to enable the accurate calculation of emissions, and to put in place data capture mechanisms for future carbon footprinting
- understand at a high level the opportunities that ICO Traders has to reduce its emissions
- provide ICO Traders with information about its own carbon inventory to be able to communicate the process with external stakeholders

4. Organisation description

ICO Traders is a Christchurch based company that designs and crafts timeless furniture and homewares using the mediums of wire and wood. The products are sold through wholesale and ecommerce, with most customers based in New Zealand.

5. Reporting Period Covered

This report describes ICO Trader's GHG emissions inventory for the period 1 April 2021 to 31 March 2022.

The inventory provides an account of Scope 1 and 2 GHG emissions and an agreed set of Scope 3 emissions for the reporting period.

6. Organisational boundaries included for this reporting period

The *GHG Protocol* allows two distinct approaches to consolidate GHG emissions: the equity share and control (financial or operational) approaches. We have used an operational control consolidation approach to account for emissions in this reporting period.

The organisational boundary for this emissions inventory includes the operations and emissions associated with ICO Traders Limited only. ICO Traders does not own any other entities.

7. Information Management Procedures

ICO Traders has collected the data over the twelve-month period with advisory from Opportune Consulting. A collection template, developed by Opportune Consulting, has been used to collate and calculate the GHG emissions. Ongoing monitoring of emissions will be reported annually including comparison to the base year.

GHG emissions across Scopes 1, 2, and 3 are calculated using a bottom-up approach where outputs from activities are converted to a CO²-e value using an appropriate emission factor.

Scope 1, Scope 2 and Scope 3 GHG emissions are calculated using direct measurement of energy sources consumed and conversion to GHG (a CO²-e value).

8. Organisational business units excluded from inventory

No business units have been excluded in this inventory.

9. GHG emission source inclusions

The GHG emissions sources included in this inventory were identified with reference to the methodology in the *GHG Protocol* and *ISO14064-1:2018* standards.

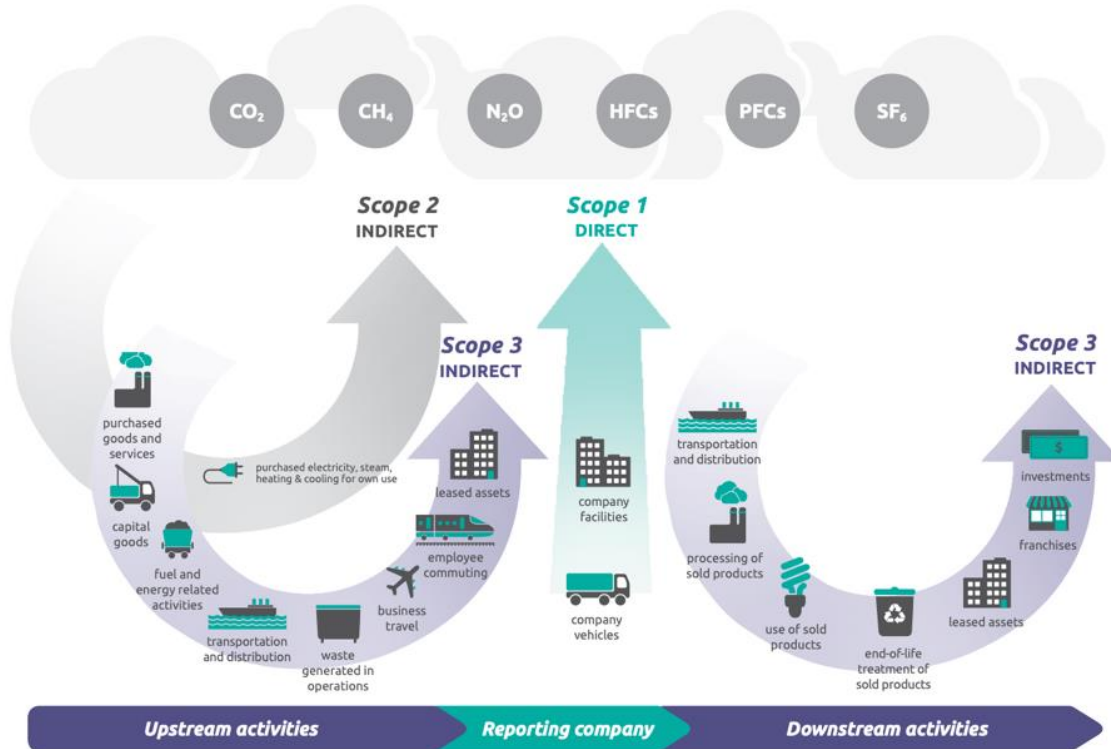
As adapted from the *GHG Protocol*, emissions are classified under the following categories:

- **Direct GHG emissions (Scope 1):** emissions from sources that are owned or controlled by the company.
- **Indirect GHG emissions (Scope 2):** emissions from the generation of purchased electricity, heat and steam consumed by the company.

- **Indirect GHG emissions (Scope 3):** emissions that occur because of the company's activities but from sources not owned or controlled by the company. These emissions are sometimes referred to as value chain emissions.

The following figure illustrates how the different scopes are determined.

Figure 2: GHG Protocol - Figure 1.1 of Scope 3 Standard



We have at this stage focused on measuring Scope 1 and Scope 2 emissions and an agreed selection of Scope 3 (indirect, or value chain) emissions.

Scope 1 emissions are direct emissions that are operationally controlled by ICO Traders, including:

- Mobile consumption emissions related to vehicles owned or operated by ICO Traders.
- Stationary combustion of fuels used in heating the operational sites of ICO Traders.

Scope 2 emissions are indirect GHG emissions from imported energy, including:

- Purchased electricity that is consumed at sites operated by ICO Traders.

The Scope 3 emissions are indirect GHG emissions.

Your Scope 3 emissions include the following:

- Upstream transportation (the freighting of goods purchased).
- Downstream transportation (the freighting of goods sold).
- Business travel (primarily flights and accommodation).
- Waste generated in our offices.
- Staff commute to work
- Electricity transmission and distribution losses.

ICO Traders will review which Scope 3 emissions are relevant and appropriate on an ongoing basis, as it continues to measure and report its carbon footprint.

Table 2: GHG emission sources included in this inventory

Scope	GHG emission source	Data Source	Data Collection Unit	Methodology and data quality
Scope 1	Transport fuel – 2 x diesel vehicles	Fuel Receipts. Xero print out showing purchases	Litres	Estimated litres used, based on dollars spent as per Xero and average fuel costs for the year – medium quality
Scope 1	Diesel radiator – home & office heating system	Supplier Invoices – SHF Petroleum	Litres	Estimated litres used , based on dollars spent as per Xero and average fuel costs for the year – medium quality
Scope 1	LPG Gas hot water system used in home and office	Supplier Invoices – Rockgas	Kg's	Estimated kilograms used, based on dollars spent as per Xero and average fuel costs for the year – medium quality
Scope 2	Household and office usage	Monthly Invoices from electricity suppliers – Contact Energy	Kwh	Based on monthly invoices – high quality
Scope 3	Domestic flights on Air New Zealand	Xero/ booking documentation/ supplier invoices	Km's	Monthly reports – high quality
Scope 3	Domestic road freight	Supplier print outs/ invoices	Kms	Monthly reports – high quality
Scope 3	International Shipping	Supplier invoices/ statements	Kms	Monthly reports – high quality
Scope 3	General Waste sent to landfill	Supplier invoices/ statements	Kgs	Monthly Invoices – high quality
Scope 3	Staff's commute	Distance	Km	Estimated based on travel distance – medium quality
Scope 3	Taxi's	Receipts. Estimate based on dollars spent	Dollars	Monthly Invoices – high quality
Scope 3	Rental Car	Suppliers invoice	Kms	Monthly Invoices – high quality

10. GHG emission source exclusions

No emissions have been excluded from this GHG inventory.

11. Data Collection and Uncertainties

Section 9 describes how data was collected for each GHG emissions source, the data source and any uncertainties and assumptions where data was estimated.

Data collection was sourced from ICO Traders accounting, financial and business records.

All emissions were calculated by Opportune Consulting. The calculation methodology for quantifying the GHG inventory uses the emission source activity data multiplied by relevant GHG emissions factors.

Except where stated, emissions factors used were sourced from NZ Ministry for the Environment (MfE), with the most up to date figures available at the time (2020) used.

The emissions factors for air travel include radiative forcing, as per the precautionary principle.

Quantities of each greenhouse gas are converted to tonnes CO₂e using the global warming potential from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5). The time horizon is 100 years. All data in this report are expressed in tonnes of carbon dioxide equivalent.

12. GHG emission calculations and results

ICO Traders GHG emissions for the year ended 31 March 2022 are 23.9 tCO₂-e.

Tables 3 and 4 provide an overview of where the emissions are occurring across the organisation.

Figure 3: GHG emissions by scope

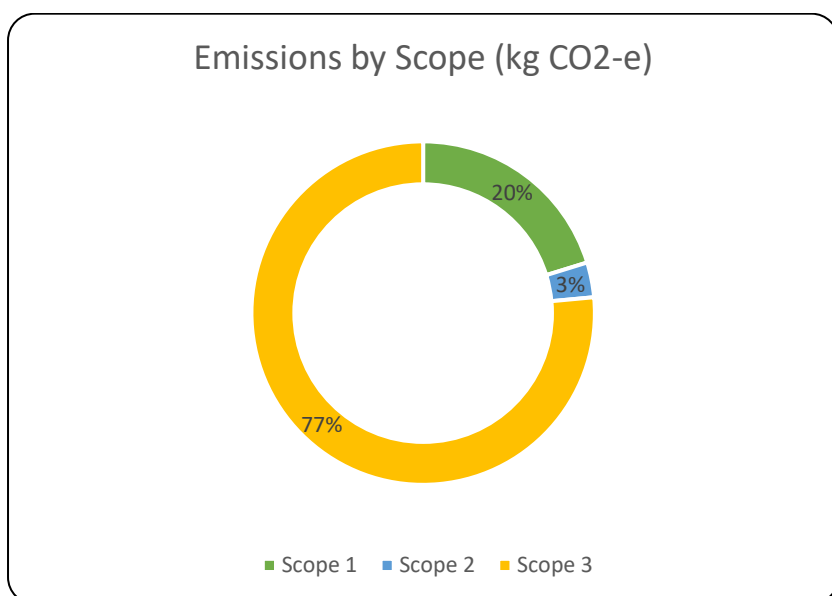
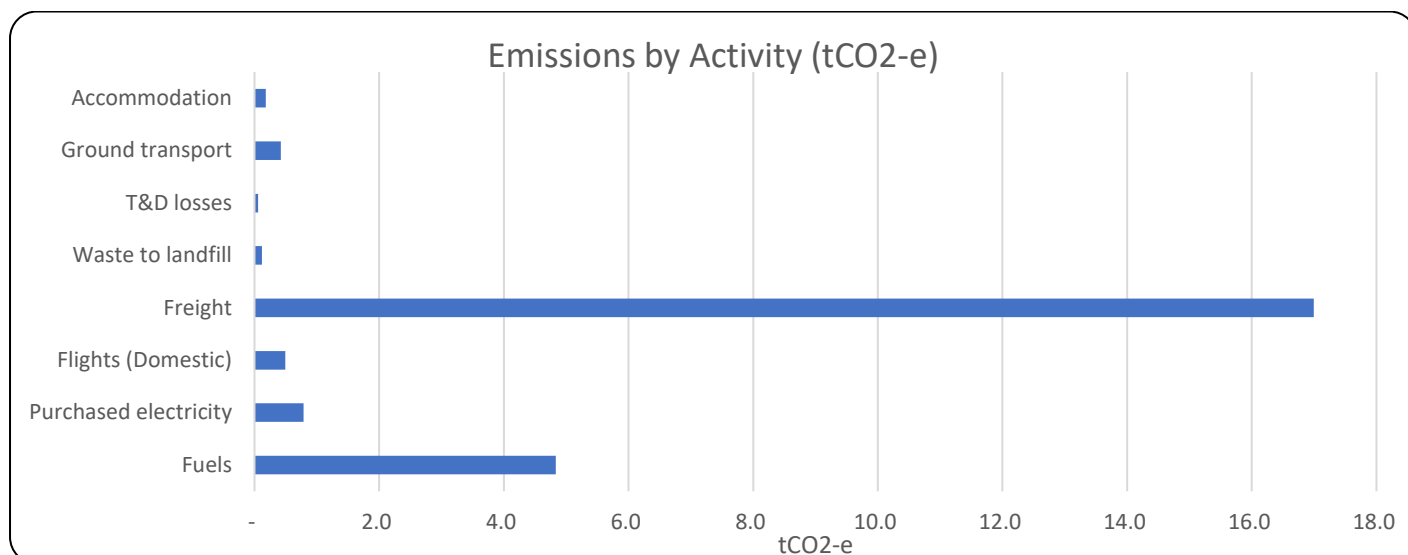


Figure 4: GHG emissions by source (t CO₂-e)



13. GHG liabilities

Liabilities relate to refrigerants on hand at the end of the period. ICO Traders has no such liabilities on hand at 31 March 2022.

14. GHG Emissions Reduction Opportunities

The following section highlights some potential emissions reduction opportunities that ICO Traders may wish to consider as it seeks to reduce its overall emissions. In many cases there will be financial savings and other benefits associated with these opportunities.

When it comes to reducing emissions, we follow the 'Avoid, Reduce, Switch' framework:

- Avoid – how can we avoid emissions entirely?
- Reduce – how can we do things more efficiently to reduce emissions?
- Switch – what new low emissions technology can be used?

We would recommend that these opportunities be discussed and further investigated.

We would also suggest that reduction opportunities be considered in conjunction with an assessment of potential emissions reduction targets.

14.1 Shipping and road freight

Emissions from freight represent 71% of your total emissions. Capturing these within Scope 3 is a key part of your obligations for carbon footprinting the supply chain of your business. Any reduction in emissions would need to occur from a direct reduction in the carbon intensity of the fuel used by your shipping and road freight suppliers.

The sea freight emissions in this report are calculated based on a default emissions factor applied to shipping (which accounts for the type of ship as well as distance travelled and weight of the logs). If your third-party shipping supplier was to implement a lower-emissions fuel on their ships, then you should be

able to receive the benefit of that by applying a lower emissions value in your footprint. We are aware that some of the major shipping lines are commissioning low-emission fleets.

14.2 Reduce fuel usage

Potential strategies for reducing fuel emissions include the following:

- Investigate current vehicle use
 - Can some trips in utes, vans and petrol cars be avoided? We would recommend vehicle use be investigated to answer this question
 - You may also consider removing the ability for personal usage of company vehicles.
- Route optimisation
 - Reduce km travelled through route optimisation
 - Improve driver behaviour.
- Develop a plan to convert to low emissions vehicles over time
 - Continue electrifying passenger vehicles and consider converting to electric vans, as the technology is readily available now
 - Consider using a biodiesel blend instead of diesel for suitable vehicles
 - Avoid purchasing or leasing new diesel utes and develop a plan for electric utes as fully electric alternatives are likely to be available in NZ within 3 years.

14.3 Reduce your electricity consumption

We recommend you perform an energy audit at your main sites to identify opportunities for energy reduction or energy elimination. Energy audits will commonly identify opportunities such as:

- Changing staff behaviour to turn off lights and monitors off at night and turn off equipment when not in use
- Improved lighting solutions which have short payback periods, such as installing LED lights
- Investigating energy efficient alternatives when purchasing appliances such as fridges and hot water services.

14.4 Waste

The main opportunity for reducing waste is to identify any sources where waste can be eliminated. This can be done by reviewing processes that generate waste and determining where waste elimination can occur in the process.

The second opportunity is by increasing the rate of recycling which can occur. For example, you can collect and sort your soft plastics, polystyrene and other recyclable waste and take it to the appropriate collection points.

14.5 Travel

Travel emissions encompass flights, accommodation, and taxis/ rental cars. These emissions are entirely activity based, therefore, to achieve a reduction in these emissions there would need to be a reduction the amount of travel undertaken (e.g. using virtual meetings).

15. Discussion

Now that ICO Traders has completed its GHG Emissions inventories for 2021 and 2022, the next steps are to:

- measure and understand a wider set of Scope 3 emissions
- agree on a baseline to compare future footprints against
- set an organisational emissions reduction target.

15.1 Scope 3 emissions

This initial footprint has focussed on an agreed set of Scope 3 emissions only (travel, waste, T&D losses, staff commute and freight); however, it is likely that additional Scope 3 emissions for ICO Traders would be significant.

Furthermore, ISO 14064:2018 (the latest ISO standard for GHG emissions, only now coming into common use) requires organisations to apply and document a process to determine which indirect (Scope 3) emissions to include in their GHG inventory.

As part of this process, the organisation shall define and explain its own pre-determined criteria for significance of indirect emissions, considering the intended use of the GHG inventory.

Whatever the intended use is, criteria should not be used to exclude substantial quantities of indirect emissions or evade compliance obligations. Using those criteria, the organisation shall identify and evaluate its indirect GHG emissions, to select the significant ones. The organisation shall quantify and report these significant emissions.

We would recommend that ICO Traders next footprint be developed in accordance with ISO 14064:2018, and robustly consider all Scope 3 emissions.

Notable Scope 3 emissions for ICO Traders are likely to include the following:

- Emissions from purchased goods and capital goods
- Contractor/ supplier emissions (particularly fuel use)
- Processing of sold products
- End of life treatment of sold products

15.2 Developing a baseline

A baseline year is required for ICO Traders to measure emissions against in future years (for example, when setting reduction targets against a baseline year).

The year of this report (1 April 2021 to 31 March 2022) will be considered ICO Traders baseline year, as there was no significant impact from COVID-19 on the operations (and therefore emissions) of the company.

We recommend you assess if this is an appropriate baseline year or if applying an adjusting metric can be used for future year comparisons. Using a metric such as tonnes of carbon per dollars of revenue (tCO₂-e per \$ revenue) is one option that can be used.

15.3 Emissions reduction targets

There are number of approaches that could be used by ICO Traders to set emissions reduction targets. Some potential approaches are listed below.

Table 4: Emissions reductions targets options for ICO Traders

Approach	Description	What level of reduction is required?
Science Based Targets (SBTi)	The Science Based Targets initiative has grown to become the most common approach to target setting used globally by companies. Companies signing up to SBTi targets are required to reduce their emissions in line with limiting global warming to 1.5°C. (https://sciencebasedtargets.org/)	This approach commonly results in an absolute emissions reduction target of 42% by 2030, on Scope 1 and Scope 2 emissions (when using a FY2020 baseline). Scope 3 targets are not mandated if an organisation has less than 500 FTE.
Alignment with NZ govt targets	The NZ govt requires that all government agencies be carbon neutral by 2025.	Government agencies can achieve targets through a combination of emissions reductions and the purchase of offsets.

We would suggest that target setting be considered in conjunction with an assessment of your potential emissions reduction opportunities, in order that you can understand the potential financial costs associated with achievement of various targets.

16. References

International Organization for Standardization. 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*. Geneva: ISO.

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

Ministry for the Environment. 2020. Measuring Emissions: A Guide for Organisations: 2020 Detailed Guide. Wellington: Ministry for the Environment.