



Carbon Inventory Report: **Restoring Rosedale Park**

Trading As Rosedale Restoration Project

Period:	1 Jan 2022 - 31 Dec 2022
Base year:	1 Jan 2020 - 31 Dec 2020
Status:	Unverified Inventory
Assurance type:	N/A
Certification type:	Carbon Footprint
Last updated date:	2023-11-06



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Table of contents

1 Summary	Page 3
1.1 Organisation Information	
2 Background	Page 3
2.1 Statement of Intent	
2.2 Communication and dissemination	
3 Reporting methodology and compliance standards	Page 4
3.1 Methods & Emissions factor sources	
3.2 Consolidation approach	
3.3 Base year recalculation policy	
3.4 GHG information management and monitoring procedures	
3.5 Changes to methodology	
4 Reporting boundary	Page 6
5 Reporting Scopes	Page 7
5.1 Include/ Excluded Categories	
6 Greenhouse Gas (GHG) emissions profile	Page 10
6.1 Emissions Summary	
6.2 Emissions by Activities	
7 Data Quality, Uncertainties and Assumptions	Page 15
7.1 Scope 1 Emissions by gas type	
7.2 Other emissions	
8 Emission Performance against previous years	Page 18
9 Emission Reduction Recommendations	Page 20
10 Double counting and pre-offsets	Page 20
11 Offsets and Certification	Page 21
11.1 Certification Type	
11.2 Offset amount	
11.3 Carbon credits	
12 References & Other information	Page 22
12.1 Standards	
12.2 Emission Factors	

1 Summary

This carbon inventory was prepared for Restoring Rosedale Park, trading as Rosedale Restoration Project.

Thereafter in the report, the organisation will be referred to as null.

Report period 1 Jan 2022 - 31 Dec 2022

Base year 1 Jan 2020 - 31 Dec 2020

1.1 Organisation Information

"North Harbour Hockey Association (NHHA) delivers hockey services to six thousand hockey players and whānau in the North Harbour region. The Trust is responsible for the facility. We established a North Shore Women's Hockey Association in 1973 and became one of the largest hockey associations in Aotearoa in 1983 when the North Shore Men's Hockey Association was formed. The amalgamation of women's and men's hockey occurred in 1989 when we became known as NHHA. We deliver our services at the new National Hockey Centre which opened at the beginning of the pandemic. This is the home of the Black Sticks and the national facility for international hockey events. We are a for-purpose SME managing competitions for 10 clubs, 16 secondary schools, 68 Junior Schools and offer sports opportunities to under 5-year old across the lifespan to include players over 60 years of age playing in Masters tournaments or socially. We operate seven days a week and rely on a strong band of dedicated volunteers, without whom we could not function. Whilst hockey is the primary vehicle for our services, the promotion of individual, whānau, community and national wellbeing are our drivers for delivering excellence in sport to our local community. Increasing social equity, environmental wellbeing, and financial resilience to ensure we leverage long term sustainability is a critical piece for our organizations purpose. NHHA developed and implemented Te Hōnonga a Iwi as a part of the organisation's Future Fit Sustainability Roadmap. The project is a SME-led, integrated, local urban social and environmental restoration. We work in partnership with Kaumatua, Richard Nahi, Ngāti Whātua o Kaipara, as well as leading and coordinating 40 local stakeholders from the public, private, education, sports, and arts sectors to regenerate 10,000 m2 of unused, weed-infested land. Using sustainability and bioorganic principles, the project utilises principles of diversity, inclusion, and intersectionality to enhance social equity and increase physical and emotional wellbeing. This enables greater social connectivity between stakeholders, and strengthens local business resilience. It has demonstrated that sports organisations and SMEs can make an immediate, positive difference within the community they serve, and leave a legacy of care and hope for the youth of tomorrow by mitigating climate change. In addition to Iwi/mana whenua, seven schools, a Montessori, a retirement home, Massey University, other sports codes, local government, NGO's, and local SMEs all contribute integrated value to the project. The team is intergenerational with stakeholders from 2 years of age helping to sow cover crops, Rangitahi leaders in specialist roles, and under the leadership of retiree Jan Knight, Greenwich Gardens older adults used their expertise to care for 3,700 natives before planting. Te Hōnonga a Iwi is privileged to partner with other socio-cultural groups, including our Chinese community and neuro-diverse Rangitahi managing mixed abilities from Wairau Valley Special School. Ngāti Whātua o Kaipara leadership has enabled meaningful connection to the Whenua, new insights into the people NHHA serves, growth in cultural safety, enhanced integrated thinking, and a more holistic social-ecological wellbeing platform."

2 Background

2.1 Statement of Intent

NHHA believes that we have a long-term responsibility to deliver sustainable, regenerative, and impactful services to benefit our players, our local and national community, as well as the local and global natural environment for present and future generations. NHHA's vision is to increase our sustainability through diversification, inclusion, and innovation. Developing our organization's commitment to increase our sustainability by improving social equity and justice, and enhancing our natural environment, was a logical fit for the NHHA Board's strategic planning and direction. From a governance lens, we have changed our strategy, our organisational structure, policies, and processes to enable management to create action-based solutions to increase the wellbeing of our people and the planet, increase our organisation's capability to deliver contemporary sports and community services in financially resilient manner and mitigate climate change.

2.2 Communication and dissemination

This inventory was prepared as a management tool for [preferredName] to:

3 Reporting methodology and compliance standards

3.1 Methods & Emissions factor sources

This report is the 1st annual greenhouse gas (GHG) emissions inventory that has been prepared by Restoring Rosedale Park.

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:

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

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:

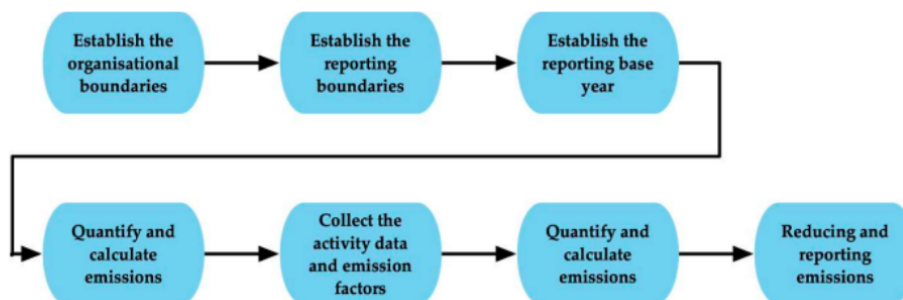


Figure 1: ISO 14064-1 (2018) methodology for measuring a GHG inventory

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 Restoring Rosedale Park'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

No changes as this is base year.

4 Reporting boundary

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

None provided

Figure 2: Restoring Rosedale Park's Organisational Boundary.

Not applicable as it is one park.

Table 1: Business units included/excluded

Legal entities (Include any subsidiaries)	Business unit / Location	Activities / Purpose	Included / Excluded	Reason for exclusion
Rosedale Park	SW corner Rosedale Park, 2 Jack Hinton Drive, Rosedale, Auckland, 0632.	Working bees, Youth monitoring including bioaquatic diversity, water quality, plant growth and survival, pest plant removal, animal pest control, water management, seed whakapapa; Education; Communications- Marcomms, social media comms; Research; Other mo	Included	

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	Digger.
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	Include	None	
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	Include	None	
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	Not Applicable	None	
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	Include	None	
Fuel and Energy related Activities (T&D Losses)	Fuel and energy related activities (T&D losses for electricity & natural gas)	Mandatory	Include	None	
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	Not Applicable	None	
Emissions from the Use of Services	Emissions from the use of services (i.e. IT servers, consulting, cleaning, maintenance, bank)	Non-mandatory	Not Applicable	None	
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	Leased Digger to be included in scope 1.
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	Not Applicable	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	

6 Greenhouse Gas (GHG) emissions profile

Data was collected by Restoring Rosedale Park'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.

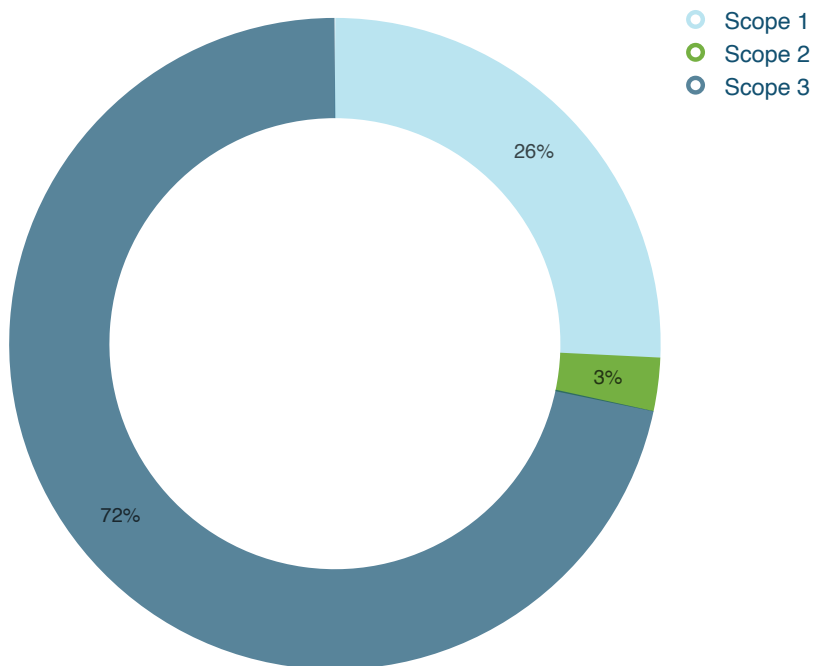
Scope	Emissions Category	tCO ₂ e (location-based)
1	(1) Direct GHG Emissions	1.36
2	(2) Indirect GHG Emissions From Imported Energy	0.14
3	(3) Indirect GHG Emissions From Transportation & Distribution	0.82
3	(4) Indirect GHG Emissions From Products & Services Used By The Organisation	2.96
3	(5) Indirect GHG Emissions From The Use Of The Organisation's Products	0.00
3	(6) Indirect GHG Emissions From Other Sources	0.00
Total Gross GHG Emissions		5.28
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	10.00	0.53
Gross Revenue (\$Mil)	0.00	0.00
Production (MT)	0.00	0.00



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

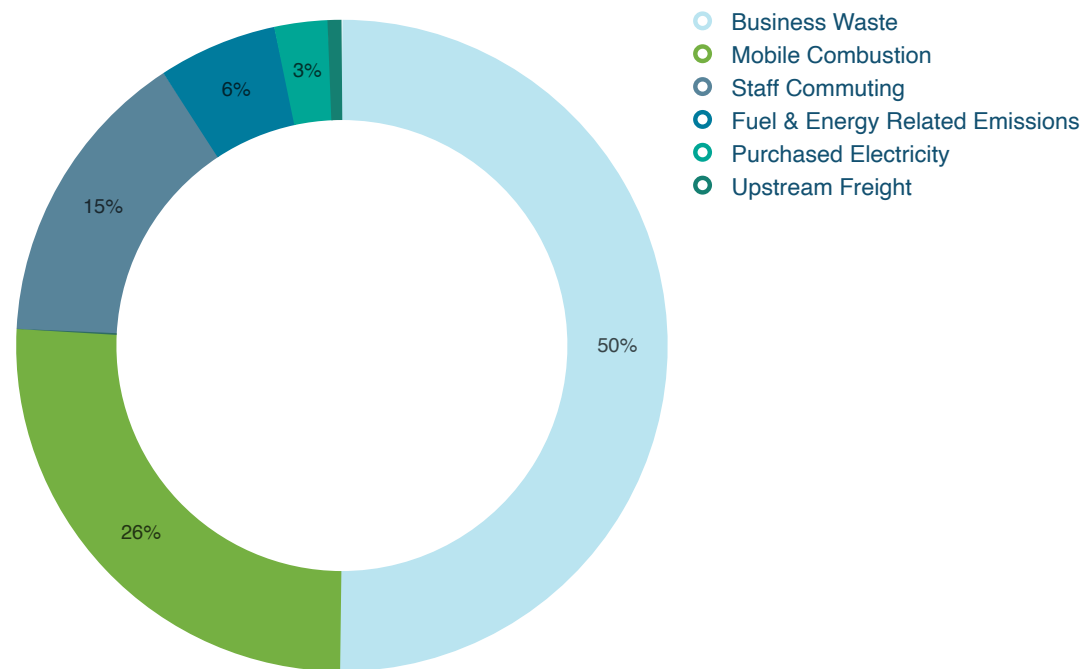
Figure 3: Emissions by Scopes

6.2 Emissions by Activities

Table 5 and Figure 5 below shows the emissions by Activity groups and the % it represents.

Table 5: GHG emissions by Scope and Activity groups (location-based)

GHG scope	Factor Groups	Sum of tCO ₂ e	% of Inventory
1	Mobile Combustion	1.36	25.72%
2	Purchased Electricity	0.14	2.64%
3	Business Waste	2.65	50.12%
3	Staff Commuting	0.79	14.96%
3	Fuel & Energy Related Emissions	0.31	5.90%
3	Upstream Freight	0.04	0.67%
Grand Total		5.28	100.00%



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

Figure 5: Emissions by Activity Groups

Table 6 and Figure 6 below identifies the organisation's top emissions sources by ranking the largest to the smallest.

Table 6: GHG emissions sources ranked by largest to smallest (location-based)

Emission Sources	GHG tCO₂e	% of Inventory
Waste Composting	2.63	49.90%
Mobile Combustion - Diesel	1.36	25.72%
Staff Commuting - Petrol	0.75	14.13%
Well to tank emissions	0.30	5.59%
Electricity - New Zealand (Unit 1)	0.14	2.64%
Staff Working From Home	0.04	0.81%
Inward Freight Other Freight - Truck	0.04	0.67%
Electricity T&D Losses	0.02	0.31%
Waste & Wastewater General Waste to Landfill - With Gas Recovery (Unit 1)	0.01	0.22%
Staff Commuting - Electric Vehicle	0.00	0.02%
Grand Total	5.28	100.00%

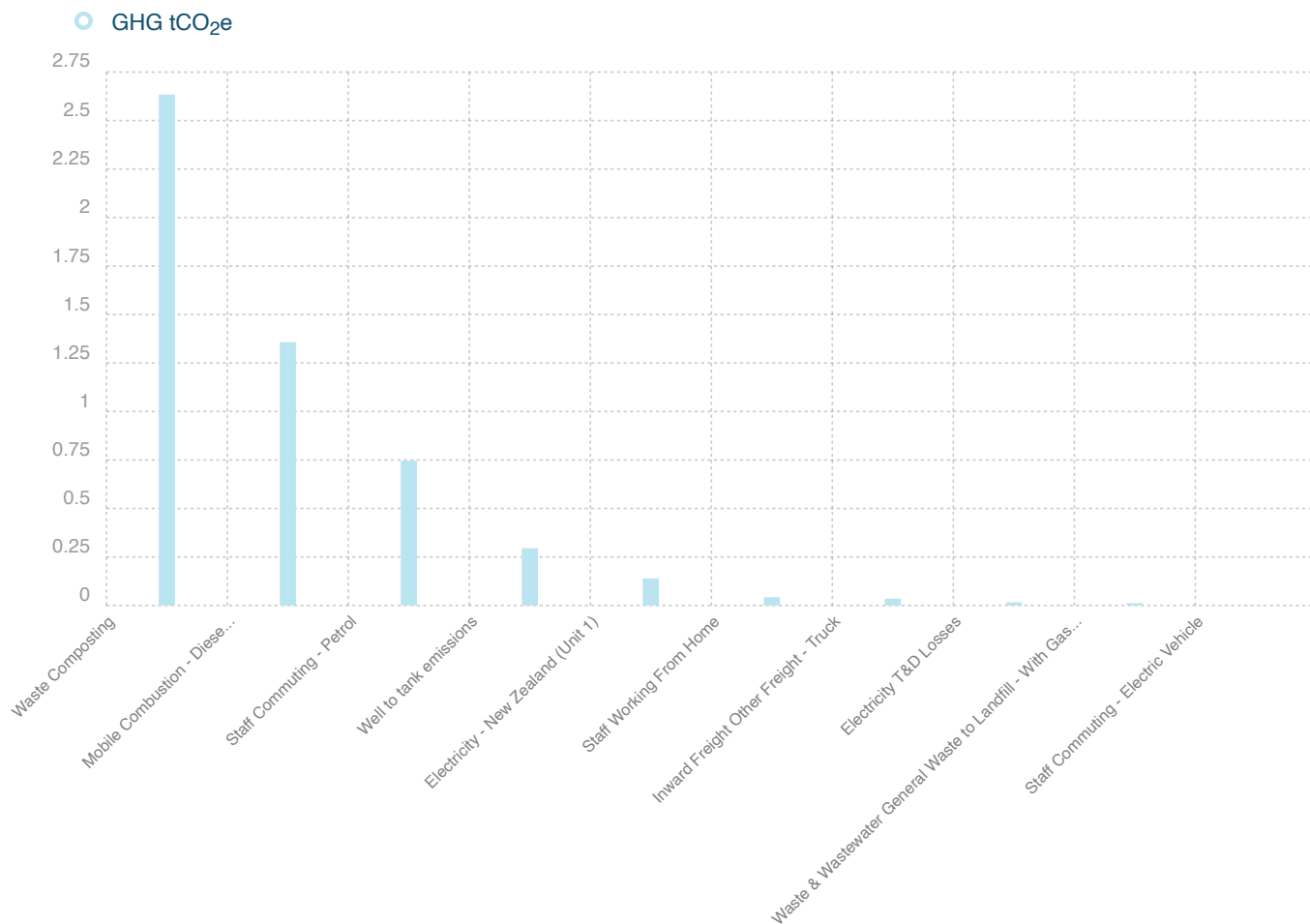


Figure 6: Emissions by Activities (location-based)

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 7 below.

Table 7: Activity data collection - quality and source

Emissions source	Scope	Unit	Data source	Data quality	Any assumptions made
Mobile Combustion - Fuels	1	L	Internal Calculation	Poor	Assume L for digger and mulcher.
Electricity - Electricity Consumption	2	KWH	Internal Calculation	Poor	Assume .5 KWH used for 6 hours out of the year for the conveyor belt.
Other Freight Received	3	TKM	Internal Calculation	Poor	Assume Kms used and weight delivered to be accurate.
Waste & Wastewater - Landfill Waste	3	KG	Internal Calculation	Low	Assume accurate weight for waste was measured.
Wastewater Waste - Waste Composting	3	KG	Internal Calculation	Poor	Organic biomass was harvested by hand on site and put into the bioreactors to make bio-organic compost.
Staff Vehicle Mileage	3	KM	Internal Calculation	Poor	Assume all petrol. Assume 473 vehicles from based number of volunteers
Staff Working from Home	3	DAYS	Internal Calculation	Poor	Assumed accurate data. Converted hours to days.

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 8 below. Breakdown by HFCs, PFCs and SF₆ will be shown in Table 8a, if applicable. If none displayed it is not applicable or none occurred.

Table 8: 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 - Diesel	1.36	1.34	0.00	0.02
Grand Total	1.36	1.34	0.00	0.02

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

2 load of biorganic compost delivered to site to sow cover crop and plant 4 000 natives. 4000 m2 Cover crop is planted on site.

Pre-verified data

No pre-verified data is included within the inventory.

8 Emission Performance against previous years

Table 9 and figure 7 below shows emissions comparison against base year and previous year, if applicable.

Table 9: Comparison against base year

Activities	Current year tCO ₂ e (location-based)
Business Waste	2.65
Mobile Combustion	1.36
Staff Commuting	0.79
Fuel & Energy Related Emissions	0.31
Purchased Electricity	0.14
Upstream Freight	0.04
Grand Total	5.28

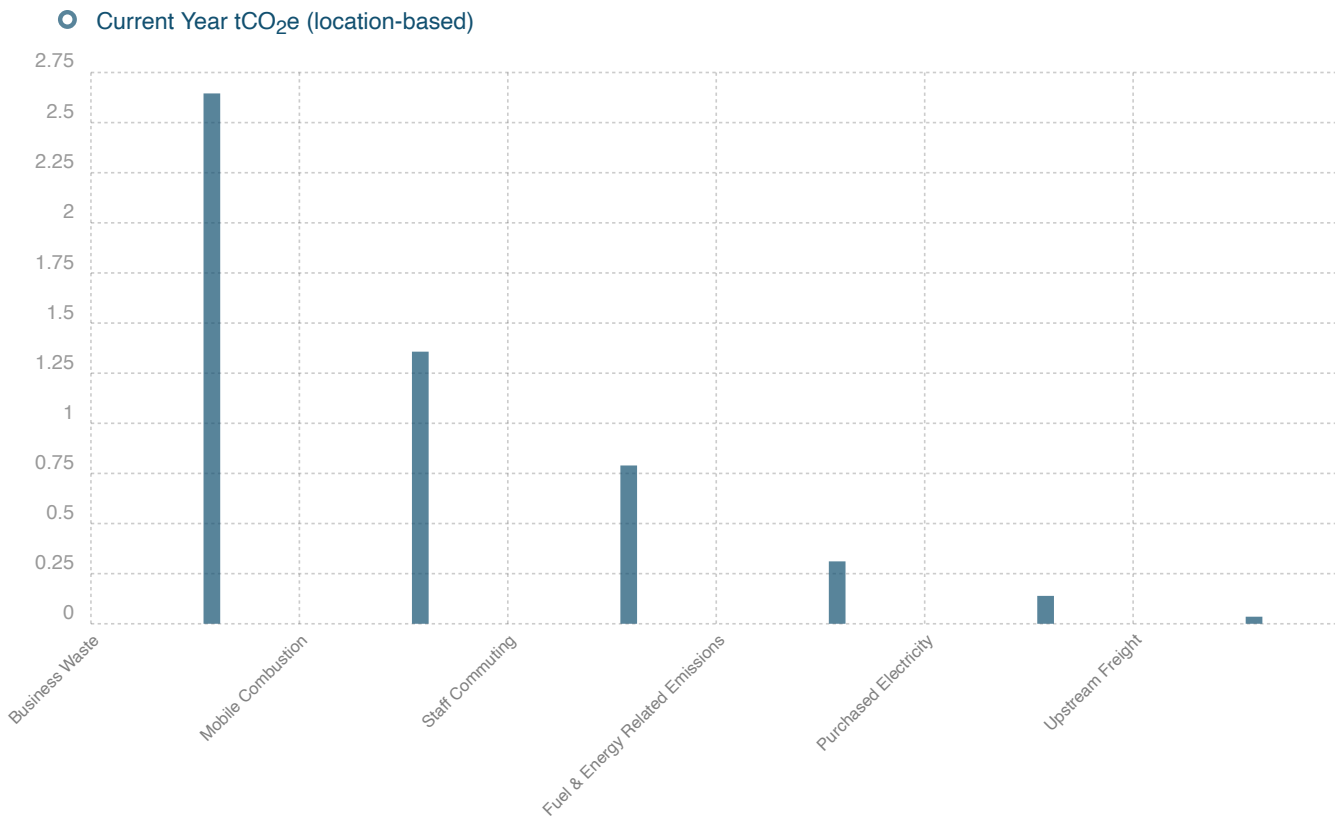


Figure 7: Emissions compared with previous years

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

Restoring Rosedale Park has chosen to apply for Carbon Footprint Certification.

11.2 Offset amount

Table 10: Offset calculation (location-based)

Total Gross GHG Emissions	Offset requirement		Purchased credits/ Pre-offset	Net offset requirement	Total Credits to offset
5.28	Carbon Footprint (0%)	0.00		0.00	0.00

11.3 Carbon credits

No offset required for this inventory.

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.