Carbon Inventory Report:

Freedom Mobility Ltd

Period: 2021 calendar year

Unverified Inventory

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Authored by: Kent Barrett

Reviewed by: Ian Challenger

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

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1 Summary

This carbon inventory was prepared for Freedom Mobility Ltd for the 2021 calendar year. It is the fourth annual greenhouse gas (GHG) emissions inventory, and was prepared in accordance with the requirements of ISO 14064-1 (2018). It covers the period between the 01.01.2021 – 31.12.2021.

The base year period for Freedom Mobility Ltd is the 2018 calendar year. In subsequent inventories, comparisons will be made to this base year.

1.1 Organisational Information

Freedom Mobility Ltd provided the following description of their services:

"Provide modified rental vehicles to short term and long term disabled people."

2 Background

2.2.1 Statement of intent

Freedom Mobility Ltd has provided the following statement of intent:

"We are committed to carbon reduction and continuing the ongoing fight against climate change."

2.1 Communication and dissemination

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

2.2 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 Ltd 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 Reporting methodology and compliance standards

3.1 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 Freedom Mobility Ltd 's organisational GHG inventory is illustrated in the following diagram:

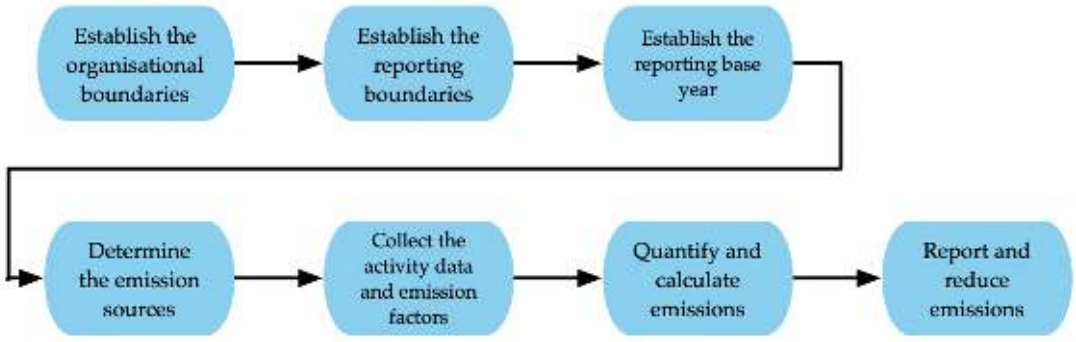

Figure 1: ISO 14064-1 (2018) Methodology for Measuring a GHG Inventory

3.2 Data Collection

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

$$\text{Tonnes } CO_2e = \text{Total GHG activity x appropriate emission factor}$$

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.

3.3 Consolidation approach

The organisational boundary identifies which facilities or subsidiaries of Freedom Mobility 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 Freedom Mobility Ltd's inventory, the operational control method has been used to consolidate emissions. This means that all emissions over which Freedom Mobility Ltd has operational control have been included in the inventory.

Included within Freedom Mobility Ltd's organisational boundary are therefore all emission sources that occur within Freedom Mobility Ltd's Head Office and Work Shop operations located at 10A Walls Road, Penrose, Auckland.

3.4 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 organisational or reporting boundaries or calculation methodology, Ekos' policy is to recalculate base year data with explanation.

3.5 GHG information management and monitoring policy

Freedom Mobility Ltd 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.

4 Organisational boundary

The diagram in Figure 2 below describes the organisational boundary and Table 1 outlines the business units that are included and excluded from this inventory.

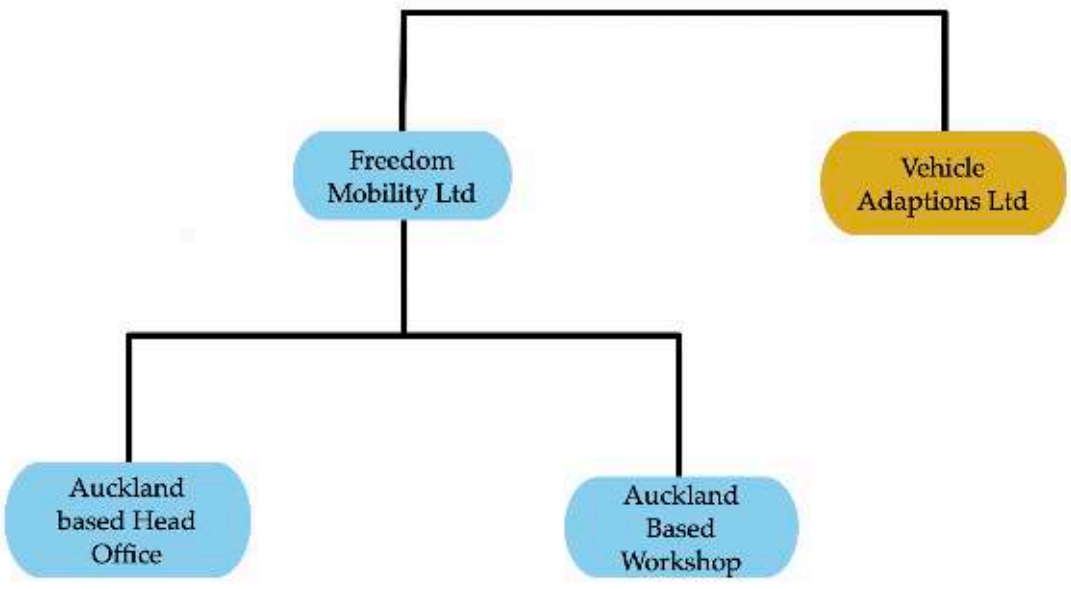

Figure 2: Freedom Mobility Ltd's Organisational Boundary

Vehicle Adaptions Ltd have been excluded from the Organisational Boundary.

Table 1: Business units included and excluded from the organisational boundary

Legal entities (include any subsidiaries)	Business unit / Location	Included/ excluded	Reason for exclusion
Freedom Mobility Ltd	Head Office: 10A Walls Road, Penrose, Auckland	Included	
	Workshop: 10A Walls Road, Penrose, Auckland	Included	
Vehicle Adaptions Ltd		Excluded	Excluded from organisational boundary as the intent behind the measurement process was to understand the carbon footprint of Freedom Mobility Ltd's operations.

5 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:

- 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 the organisation
- Scope 3 – (category 5) Indirect GHG emissions associated with the use of products from the organisation
- Scope 3 – (category 6) indirect GHG emissions from other sources

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

As per ISO 14064-1 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 or expensive to obtain
2. The accuracy of the quantified emissions is likely to be poor due to the nature of the emissions factor
3. The large amount of assumptions likely to result in unreliable emissions totals

Emissions sources included and excluded from this inventory are shown in below:

Table 2: Freedom Mobility Ltd's Included and Excluded Emissions Categories

Emissions category & sources	Ekos rule	Include/ Exclude/Not relevant	Source data difficult/ expensive to obtain	Limited level of influence	Insignificant/ de minimis
Category 1) Direct GHG emissions and removals; (GHG Protocol scope 1)					
Stationery combustion	Mandatory	Not Applicable			
Mobile combustion	Mandatory	Included			
Chemical and industrial processes	Mandatory	Not Applicable			
Fugitive emissions	Mandatory	Not Applicable			
Land use and Land Use changes	Mandatory	Not Applicable			
Category 2) Indirect GHG emissions from imported energy; (GHG Protocol scope 2)					
Purchased electricity	Mandatory	Included			
Category 3) indirect GHG emissions from transportation (GHG Protocol scope 3)					
Upstream transport and distribution of goods	Mandatory	Included			
Business travel	Mandatory	Included			
Employee commuting	Mandatory	Included			
Downstream transport and distribution of goods	Non-mandatory	Not Applicable			
Category 4) Indirect GHG emissions from products used by organization; (GHG Protocol scope 3)					
Waste generated in operations	Mandatory	Included			
Fuel and energy related activities (T & D Losses)	Mandatory	Included			
Fuel and energy related activities (WTT emissions for fuel)	Mandatory	Included			
Emissions from purchased goods	Non-mandatory	Included			
Emissions from the use of services	Non-mandatory	Not Applicable			
Capital goods	Non-mandatory	Not Applicable			
Upstream leased assets	Non-mandatory	Included			
Category 5) Indirect GHG emissions associated with the use of products from the organization; (GHG Protocol Scope 3)					
Downstream leased assets	Mandatory	Excluded	Yes		

Processing of the sold product	Non-mandatory	Not Applicable			
Use stage of the product	Non-mandatory	Not Applicable			
End of life stage of the product	Non-mandatory	Not Applicable			
Franchises	Non-mandatory	Not Applicable			
Investments	Non-mandatory	Not Applicable			
Category 6) Indirect GHG emissions from other sources (GHG Protocol Scope 3)					
List any other relevant sources		Not Applicable			

It is important to note that Downstream Leased Assets has been identified as a significant emissions source and it must be included within the 2022 calendar year emissions inventory and offsetting process in order for Freedom Mobility Ltd to retain Zero Carbon Business Operations within Ekos' certification programme.

6 Greenhouse Gas (GHG) Inventory

6.1 Freedom Mobility Ltd GHG Summary

Freedom Mobility Ltd's total emissions for the 2021 calendar year were 143.34 tonnes of CO_2e. Below, Table 3 shows Freedom Mobility Ltd's emissions by scope and ISO category and Figure 3 shows Freedom Mobility Ltd's emissions by scope. The majority of emissions generated are Scope 3 at 52%, followed by Scope 1 at 47% and Scope 2 at 1%.

Table 3: Freedom Mobility Ltd's Emissions summary by Scope and ISO Category

Scope	Emissions Category	tCO2e
1	(1) Direct GHG Emissions	67.99
2	(2) Indirect GHG Emissions from Imported Energy	0.82
3	(3) Indirect GHG emissions from Transportation & Distribution	49.91
	(4) Indirect GHG Emissions from Products & Services used by the organisation	24.61
	(5) Indirect GHG Emissions from the use of the Organisations Products	0.00
	(6) Indirect Emissions from Other Sources	0.00
Total Gross GHG Emissions		**143.34**
GHG Removals/ sinks		NA
Purchased credits/ Pre-offset		0.89
Total Net GHG Emissions		**142.45**

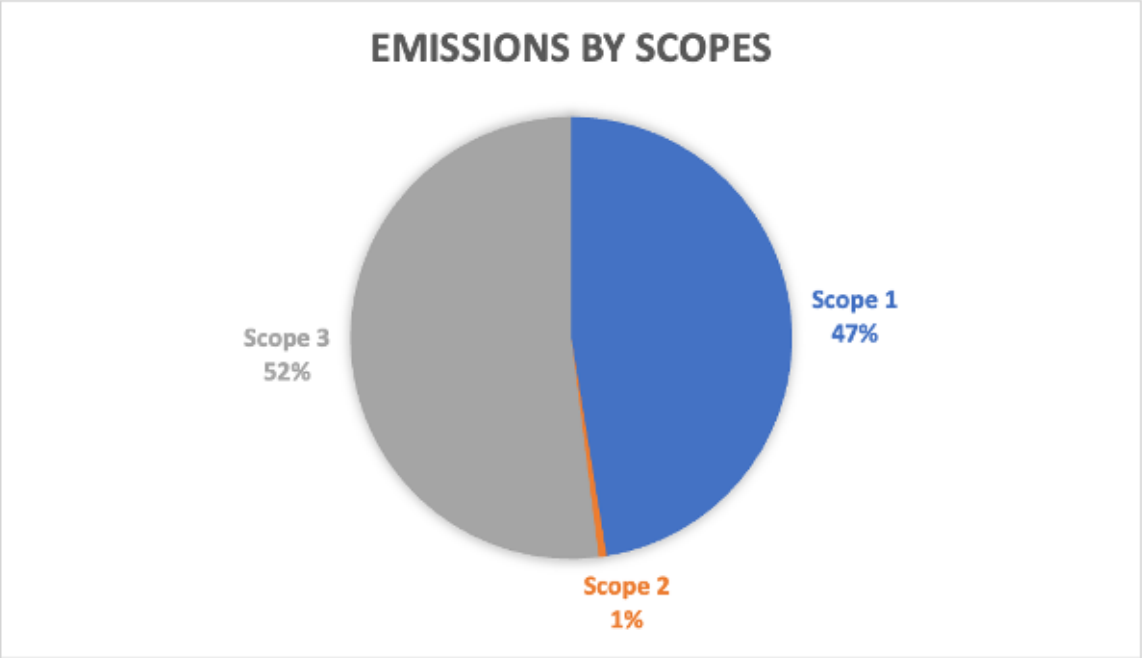

Figure 3: Freedom Mobility Ltd's Emissions by Scope

Below, Table 4 shows Freedom Mobility Ltd's emissions by its chosen intensity level indicators.

Table 4: Freedom Mobility Ltd's Emissions by Intensity Level Indicators

Emissions intensity Indicator	Company Measure	tCO_2e
Tonnes of CO_2e/Number of FTE	13	11.03

6.2 Emissions by activity

Below, Figure 4 and Table 5 show Freedom Mobility Ltd's emissions by activity ranked from largest to smallest.

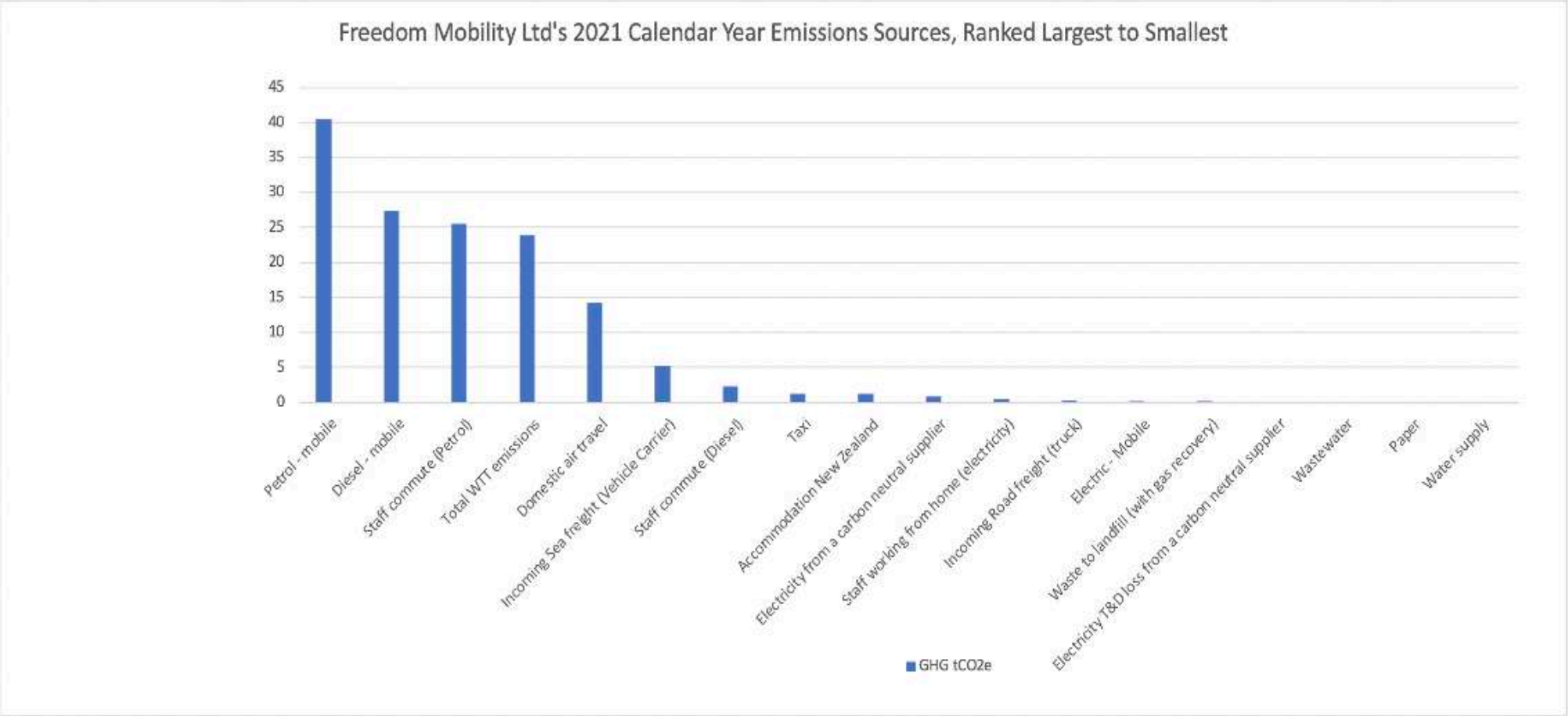

Figure 4: Freedom Mobility Ltd's 2021 Calendar Year Emissions Sources,, Ranked Largest to Smallest

Table 5: Freedom Mobility Ltd's 2021 Calendar Year GHG Emissions Sources Ranked Largest to Smallest

Emissions Sources	GHG tCO2e	% of inventory
Petrol - mobile	40.45	28.2%
Diesel - mobile	27.38	19.1%
Staff commute (Petrol)	25.51	17.8%
Total WTT emissions	23.87	16.7%
Domestic air travel	14.21	9.9%
Incoming Sea freight (Vehicle Carrier)	5.24	3.7%
Staff commute (Diesel)	2.27	1.6%
Taxi	1.25	0.9%
Accommodation New Zealand	1.20	0.8%
Electricity from a carbon neutral supplier	0.82	0.6%
Staff working from home (electricity)	0.44	0.3%
Incoming Road freight (truck)	0.24	0.2%
Electric - Mobile	0.16	0.1%
Waste to landfill (with gas recovery)	0.14	0.1%
Electricity T&D loss from a carbon neutral supplier	0.07	0.0%
Wastewater	0.05	0.0%
Paper	0.03	0.0%
Water supply	0.01	0.0%
Grand Total	**143.34**	**100.0%**

6.3 Scope one emissions by gas type

ISO 14064-1 (2018) requires that Scope 1 emissions are reported separately by gas type. Below, table 7 shows these separated emissions for each scope 1 emissions source. The vast majority of this is carbon dioxide.

Table 6: Freedom Mobility Ltd's 2021 Calendar Year Scope 1 Emissions by Gas Type

Emissions Sources	tCO2e	tCO2	tCH4	tN2O
Diesel - mobile	27.38	26.92	0.04	0.43
Petrol - mobile	40.45	38.68	0.46	1.32
Electric - Mobile	0.16	0.15	0.01	0.00
Grand Total	**67.99**	**65.75**	**0.50**	**1.75**

6.4 Other Emissions

6.4.1 Fugitive Emissions (refrigerants)

Fugitive Emissions were not applicable to this emissions inventory.

6.4.2 Combustion of Biomass

Combustion of Biomass emissions were not applicable to this emissions inventory.

6.4.3 Land use and Land use Change

Land Use and Land Use Change emissions were not applicable to this emissions inventory.

6.4.4 Pre-verified data

Pre -verified data was not applicable to this emissions inventory.

7 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 inventory measurement is completed. Estimates must be carried out on a scientifically-derived basis.

Activity data was obtained from a range of sources, which are outlined in the table below:

Table 7: Activity Data Collection – Quality and Source

Emissions source	Unit	Data source	Data quality	Any assumptions made
Diesel - mobile	1	Fuel Card Report	Good	NA
Petrol - mobile	1	Fuel Card Report	Good	NA
Electric - mobile	1	Service records	Medium	NA
Electricity from a carbon neutral supplier	2	Invoices	Good	NA
Electricity T&D loss from a carbon neutral supplier	3	Invoices	Good	Assume national default rate
Incoming Road freight (truck)	3	Shipping records	Medium	Assuming manual distances provided by the client are accurate
Incoming Sea freight (Vehicle Carrier)	3	Shipping records	Medium	Assuming manual distances provided by the client are accurate
Domestic air travel	3	Receipts	Good	Assuming manual data processing by the client is correct.
Taxi	3	Financial records	Good	Assumption data compilation completed by the client is correct
Accommodation New Zealand	3	Receipts	Good	NA
Staff commute (Petrol)	3	Staff Responses	Low	Assuming data provided by the client's staff is correct.
Staff commute (Diesel)	3	Staff Responses	Low	Assuming data provided by the client's staff is correct.
Staff working from home (electricity)	3	Extrapolation of contracted days worked	Medium	Assuming standard sick and holiday leave

Emissions source	Unit	Data source	Data quality	Any assumptions made
Waste to landfill (with gas recovery)	3	Waste Audit	Poor	Exact February waste data was applied to the May – November period. Exact January waste data was applied to December. The landfill was assumed to have gas recovery as operations are based in Auckland
Wastewater	3	Watercare invoices	Good	Assuming manual data processing by the client is correct.
Water supply	3	Water Care	Medium	Total water consumption is split 50:50 between Freedom Mobility Ltd and another organisation operating out of the same building. 9 months of accurate consumption data was available. The average volume of the 9 months of accurate data was applied to the three months where no accurate data was available.
Paper	3	Internal Records	Medium	Assuming manual data processing by the client is correct.

It is recommended that Freedom Mobility Ltd works to improve the data collections processes for any items listed above as having 'low' or 'poor' 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.

8 Emissions Performance Against Previous Years

Below, figure 5 and table 9 show the change in emissions between the 2021 calendar year emissions results, base year emissions results and the previous years (2020 calendar year) emissions results.

8.1.1 Emissions Performance Against the Base Year

Over the base year there was an overall increase of 90% in the 2021 calendar year emissions.

This overall result was made up of the following results in individual emissions sources;

Increases:
7% in Petrol Company Vehicle emissions, 650% in Diesel Company Vehicle emissions, 223% Incoming Sea Freight emissions, 1544% in Electricity emissions and 1662% in Electricity Transmission & Distribution Line Loss emissions.

Reductions:
50% in Domestic Flight emissions and 94% in Waste to Landfill emissions

8.1.2 Emissions Performance Against the Previous Years Measurement

Below, Figure 5 and Table 8 show the change in emissions between the present year, base year, and previous year measurement.

Over the previous year's measurement there was an overall reduction in emissions of 49%.

This overall result was made up of the following results in individual emissions sources;

Increases:
25% in Taxi emissions, 804% in Wastewater emissions, 25% and 418% in Paper Consumption emissions.

Reductions:
37% in Petrol Company Vehicle emissions, 17% in Diesel Company Vehicle emissions, 10% in Well to Tank emissions, 24% in Domestic Flight emissions, 39% in Incoming Sea Freight emissions, 35% in Accommodation emissions, 12% in Electricity Emissions, 58% in Incoming Road Freight emissions, 71% in Waste to Landfill emissions, 12% in Electricity Transmission & Distribution Line Loss emissions, 65% in Water Consumption emissions, 100% in Other Purchased Goods & Services and 100% in Capital Expenditure emissions.

Please note, the significant reductions in Purchased Goods & Services and Capital Expenditure emissions are due to Ekos' decision not to include goods and services that required the use of financial based emissions due to the high level of uncertainty within these emissions factors.

Table 8: Freedom Mobility Ltd's Emissions by Activity Year on Year Comparison

Activities	Base year (2018 calendar year) tCO2e	Previous year (2020 calendar year) tCO2e	Current year (2021 calendar year) tCO2e	% Change against base year	% Change against previous year
Petrol - mobile	37.86	64.06	40.45	+7%	-37%
Diesel - mobile	3.65	32.9	27.38	+650%	-17%
Staff commute (Petrol)	NA	Excluded	25.51	NA	NA
Total WTT emissions	NA	26.64	23.87	NA	-10%
Domestic air travel	28.34	18.81	14.21	-50%	-24%
Incoming Sea freight (Vehicle Carrier)	1.62	8.55	5.24	+223%	-39%
Staff commute (Diesel)	NA	Excluded	2.27	NA	NA
Taxi	1.25	1	1.25	0%	+25%
Accommodation New Zealand	NA	1.86	1.20	NA	-35%
Electricity from a carbon neutral supplier	0.05	0.93	0.82	+1544%	-12%
Staff working from home (electricity)	NA	Excluded	0.44	NA	NA
Incoming Road freight (truck)	NA	0.57	0.24	NA	-58%
Electric - Mobile	NA	NA	0.16	NA	NA

Activities	Base year (2018 calendar year) tCO2e	Previous year (2020 calendar year) tCO2e	Current year (2021 calendar year) tCO2e	% Change against base year	% Change against previous year
Waste to landfill (with gas recovery)	2.22	0.5	0.14	-94%	-71%
Electricity T&D loss from a carbon neutral supplier	0.004	0.08	0.07	+1662%	-12%
Wastewater	NA	0.0051	0.05	NA	+804%
Paper	NA	0.0051	0.03	NA	+418%
Water supply	NA	0.02	0.01	NA	-65%
Reimbursed Staff Mileage	0.47	NA	NA	NA	NA
Capital Expenditure Emissions	NA	93.13	0.00	NA	NA
Other Purchased Goods & Services	NA	30.74	0.00	NA	-100%
Grand Total	**75.46**	**279.80**	**143.34**	**+90%**	**-49%**

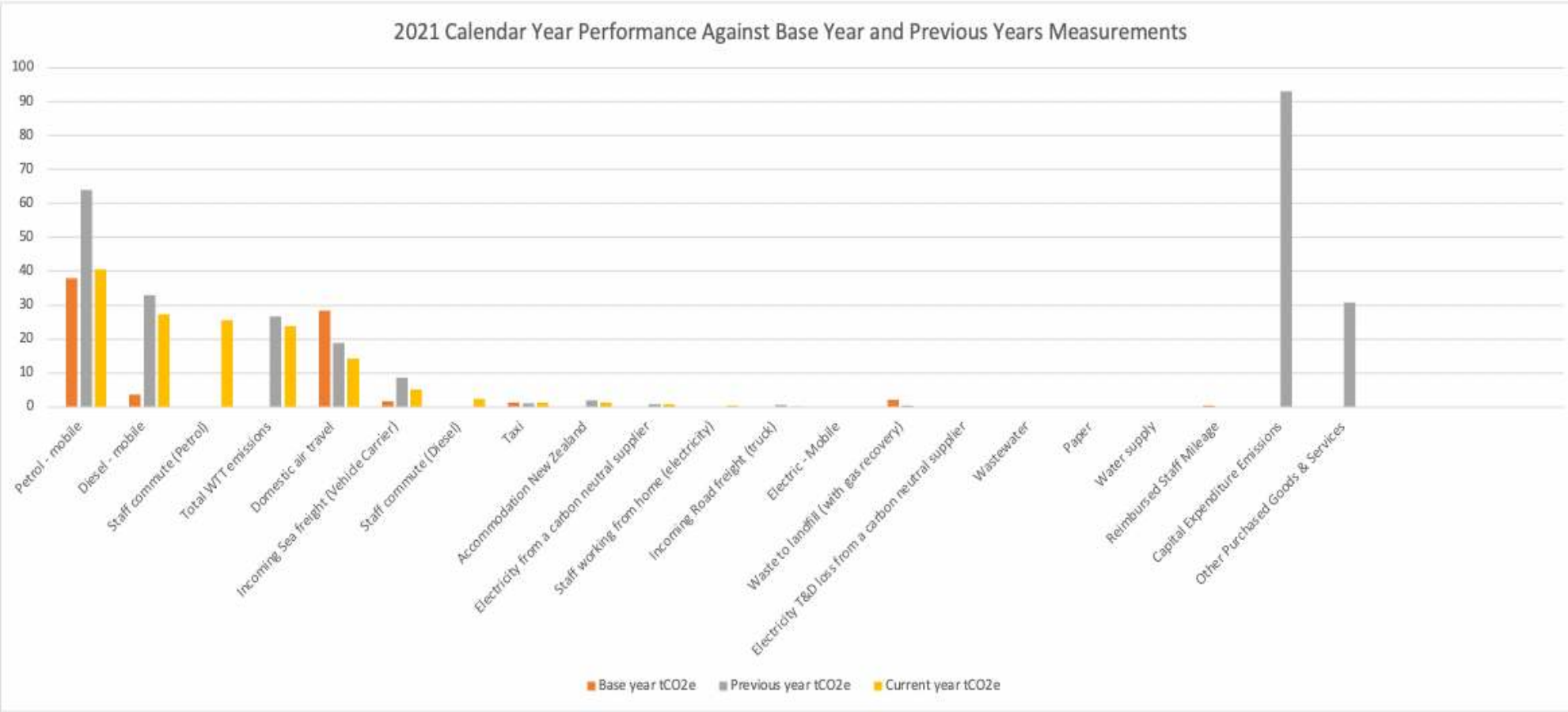

Figure 5: Freedom Mobility Ltd's Emissions by Activity Year on Year Comparison

9 Emissions Reduction Recommendations

Ekos require participants of its programmes to undertake actions to reduce their operational carbon emissions. These actions should be based on Freedom Mobility Ltd's emission hotspots. These will usually be the highest emission sources. However, there may be other relevant opportunities to reduce emissions directly, or to influence the supply chain to do the same.

Freedom Mobility Ltd will need to prepare a targeted emissions reduction plan for the short, medium and long term based on the results of the 2022 calendar year carbon emissions measurement. This plan will detail the specific reduction activities required, and demonstrated a top level management commitment.

In the meantime, based on the results from the 2021 financial year measurement, Freedom Mobility Ltd should consider emissions reduction opportunities within the following emissions hot spots;

Scope 1 Company Vehicle Emissions:

- To reduce Company Vehicle emissions in the short term, Ekos recommends regular servicing of the company vehicle fleet. Regular servicing will optimise the efficiency of the current fleet and reduce emissions.
- In the medium term, Ekos recommends that Wilson Parking educate its staff on efficient driving behaviour and install driving software that tracks and encourages efficient (and safe) driving practices.
- In the medium term, Ekos also recommends alternative low carbon transport alternatives be encouraged/incentivised when employees are carrying out small urban based business errands/trips. This could include the provision of e-scooters or e-bikes at each office. The accessibility of these alternative modes of transport will reduce the reliance of the Company Vehicle fleet.
- In the long term, Ekos recommends transitioning to a hybrid and electric vehicle fleet.

Scope 3 Staff Commuting Emissions:

- Incentivising staff to commute via active transport modes (where appropriate) can result in reduced Staff Commuting emissions. This could be done by allowing employees who are able to actively commute to clock on from the start of their commuting journey.
- Encouraging the use of low carbon commuting modes can also result in reduced Staff Commuting emissions. This could be achieved by leasing a fleet of e-bikes for staff to use to get to and from work (where appropriate).
- Encouraging and incentivising carpooling is also an important Staff Commuting emissions reduction opportunity.

Scope 3 Well to Tank Emissions:

- This category relates to the well to tank emissions associated with the production of electricity and the consumption of fossil fuels. Reducing the direct emissions of the following business activities will also result in an indirect reduction in Well to Tank emissions:
  - Company Vehicles
  - Electricity
  - Business Travel
  - Staff Commuting
  - Freight

Scope 3 Domestic Flight Emissions:

- The implementation of a 'only fly when essential' policy can result in reduced annual flight emissions.
- Ekos recommends the development and implementation of an ambitious annual flight emissions cap.

Freedom Mobility Ltd emissions reductions will be calculated as both absolute and intensity metrics and will be compared to the base year in future inventories.

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 does not require offset.

There were instances of double counting or pre-offset in this inventory, and these are described below:

Freedom Mobility Ltd sources CarbonZero certified electricity. The previously offset electricity emissions totalled 0.89tCO2e for the 2021 calendar year period.

11 Offsets and Certification

Freedom Mobility Ltd wishes to achieve Zero Carbon Business Operations.

To qualify for Zero Carbon Business Operations certification with Ekos, an organisation must measure its business operations and have offset 100% of direct and indirect emissions.

Freedom Mobility Ltd has measured all required activity emissions, totalling 143.34tonnes of CO_2e.

Freedom Mobility Ltd has offset 100% of these emissions, totalling 143tonnes of CO_2e (excluding 0.89tCO2e previously offset emissions).

Freedom Mobility Ltd has qualified for Zero Carbon Business Operations Certification for the 2021 calendar year period.

The offsets purchased and retired for this certification are Verified Emission Reduction units (VERs) and have been sourced from the Ekos carbon credit supply chain. These offsets are retired on the Markit Environmental Registry.

12 Glossary

De minimis

Certain activities contribute less than 1 percent of the total of CO_2e 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' surface, the atmosphere and clouds. These include:

- Carbon dioxide (CO_2)
- Methane (MH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF_6)

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.