



Carbon Footprint Report for:
ZJV (NZ) Ltd (Ziptrek Ecotours)
Period: 2019 Financial Year



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1. Summary

This report is a carbon footprint measurement report of greenhouse gas emissions and offsetting prepared for ZJV (NZ) Ltd (Ziptrek Ecotours) with the following boundaries:

Organisation details	Name: ZJV (NZ) Ltd (Ziptrek Ecotours) Contact person: Bex Gardiner Email: bgardiner@ziptrek.com Area of Business: Tourism FTEs: 12
Report period	(April 2018 – March 2019)
Organisational Boundary	This measurement covers the following sites: Camp Street Office: Camp Street, Queenstown.
Operational Boundary	Business Operations Scope 1, 2 and 3 emissions resulting from: <ul style="list-style-type: none">• Fuels• Air-conditioning• Purchased energy• Line losses• Driving• Flying• Waste to Landfill• Freight• Accommodation• Agriculture
Omissions	None
Emissions	Total emissions = 42.56tCO ₂ e (excluding radiative forcing).
Offsets	Total offsets = 34.04tCO ₂ e (excluding radiative forcing). 8.53tCO ₂ e from scope 3 flight emissions were offset through the airline.

ZJV (NZ) Ltd (Ziptrek Ecotours) has elected to offset 100% of these emissions with Verified Emission Reduction units provided by Ekos. Through this measurement and offsetting ZJV (NZ) Ltd (Ziptrek Ecotours) has qualified for Zero Carbon Business Operations certification for the 2019 financial year.



2. Methodology

This report was prepared with activity data provided by ZJV (NZ) Ltd (Ziptrek Ecotours) and compiled and calculated by Ekos.

The International Standards Organisation (ISO) 14064-1 sets out two methods for measuring greenhouse gas emissions:

- I. Direct measurement
- II. Use of an emission factor multiplied by activity data.

This report is based on method II.

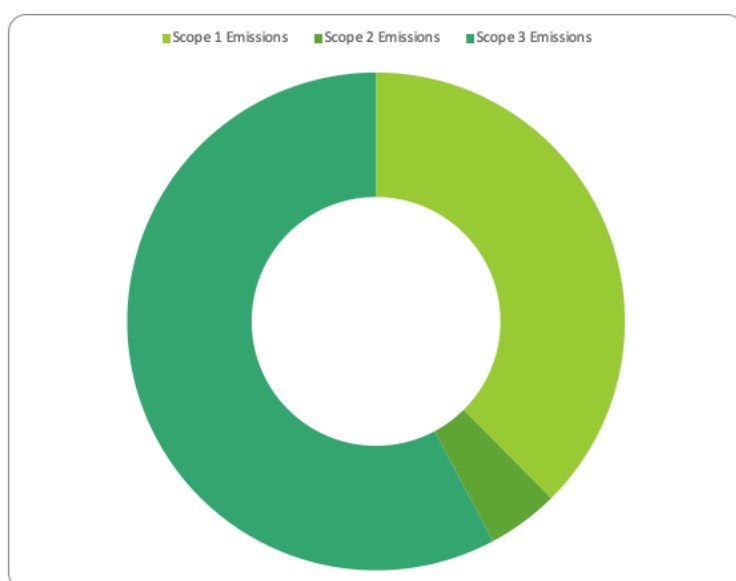
Emission factors have been sourced from the New Zealand Ministry for the Environment 2019 Guidance for Voluntary Greenhouse Gas Reporting and the UK's Department of Environment, Food and Rural Affairs (DEFRA 2018).

3. Emissions by Scope

Table 1. Emissions by Scope (excluding radiative forcing)

Scope 1 Emissions	15.99
Scope 2 Emissions	1.97
Scope 3 Emissions	24.60

Figure 1. Emissions by Scope (excluding radiative forcing)



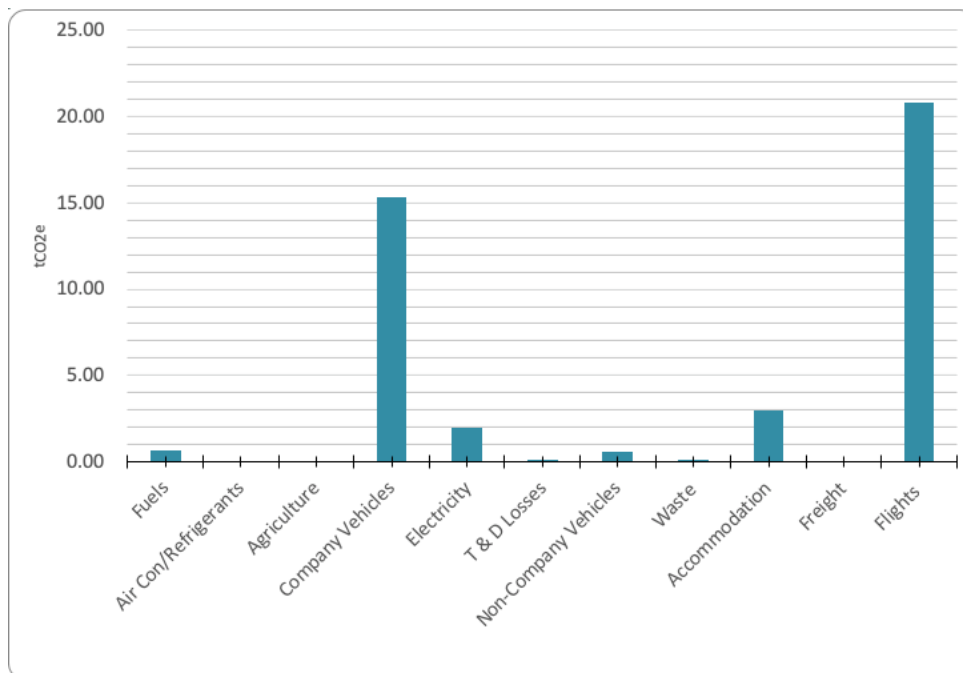


4. Emissions by Activity

Table 2. Emissions by Activity (excluding radiative forcing)

	Activity	tCO ₂ e
Scope 1	Fuels	0.67
	Air Con/Refrigerants	0.00
	Agriculture	0.00
	Company Vehicles	15.32
Scope 2	Electricity	1.97
Scope 3	T & D Losses	0.15
	Non-Company Vehicles	0.60
	Waste	0.08
	Accommodation	2.97
	Freight	0.00
	Flights	20.80
Total		42.56
	FTEs	12
	Footprint per FTE	3.55

Figure 2. Emissions by Activity (excluding radiative forcing)



5. Omissions

There were no organisational or activity omissions.

6. Uncertainty

The Ekos *De minimis* rule is to apply a conservative 2% of the client's total footprint to activities relevant to the client, but where there is insufficient data to make a calculation or an evidence-based



estimate. The *De minimis* rule is only applied to those activities that Ekos is able to determine will be less than 1% of the client's total footprint.

The Ekos *de minimis* rule was not applied to any areas of this calculation.

We recommend that ZJV (NZ) Ltd (Ziptrek Ecotours) puts systems in place to enhance its measurement for the following activities:

Non-company vehicles:

Taxis/Uber:

This data can be enhanced by improving the record keeping of staff reimbursements.

Rental Cars:

Use providers who record mileage on the invoice. If such a provider is not available, implement a staff mileage log and store this in an emissions inventory folder.

7. Offsets and Certification

To qualify for Zero Carbon Certification with Ekos an organisation must measure and offset 100% of Scope 1 (fuels, air conditioning) Scope 2, (purchased energy), and Scope 3 (line losses, driving, flying, freight and waste to landfill) activity emissions.

ZJV (NZ) Ltd (Ziptrek Ecotours) has measured all required activity emissions, totalling 42.56tCO₂e tCO₂e excluding radiative forcing.

ZJV (NZ) Ltd (Ziptrek Ecotours) has offset 34.04 tCO₂e (100%) (excluding radiative forcing).

ZJV (NZ) Ltd (Ziptrek Ecotours) qualifies for Zero Carbon – Business Operations certification for the 2019 financial year.

Offsets are sourced from Verified Emission Reduction Units (VERS) produced in the Rarakau Rainforest Carbon Project in Southland, New Zealand, and these offsets are retired on the Markit Environmental Registry.

8. Emission Reduction Recommendations

The emissions profile hotspot for ZJV (NZ) Ltd (Ziptrek Ecotours) & their Zero Carbon Business Operations certification for the 2019 financial year is its scope 3 flight emissions & scope 1 company vehicles.

To reduce flight emissions Ekos recommends that ZJV (NZ) Ltd (Ziptrek Ecotours):

Changes their travel policy to only allow for staff to travel economy unless employee has specific requirements (health & mobility) that require premium economy/business class.

Reduce the number of flights taken through improving access to and encouraging the use of technological meeting platforms such as Zoom or Skype for Business.

Reduce the number of flights by encouraging the use of lower emitting modes of travel such as bus, train and hire car, where possible.



To reduce company vehicle emissions Ekos recommends:

Continue with your goal of transitioning to an electric fleet. We are aware this will take some time due to the price constraints.

Only use the diesel vehicles when the terrain/journey requires these models and use the micro petrol and petrol hybrid models for all other journeys that require the use of company vehicles.

Encourage staff to use more fuel-efficient modes of transport when carrying out business operations such as public transport or a business owned ebike.



9. Glossary

De minimis

Certain activities may contribute such a small portion of the total CO₂e emissions that they make up less than 1 per cent. These may be excluded from the footprint measurement, provided that the total of excluded emissions does not exceed the materiality threshold 5 per cent: meaning the total of all emission sources excluded as *de minimis* must not exceed 5 per cent of the total footprint. To ensure assertions of carbon neutrality are upheld, Ekos applies a conservativeness factor of 1% for every activity deemed *de minimis* for the purposes of offsetting.

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) and sulphur hexafluoride (SF₆).

The GHG scopes referred to are:

- Scope 1 - direct emissions from sources owned or controlled by you (e.g. diesel generator, coal heating, own vehicle fleet, agriculture)
- Scope 2 - indirect emissions generated by purchased energy (e.g. electricity, gas)
- Scope 3 - indirect emissions that are a consequence of the operations of an organisation or individual, but are not directly owned or controlled by the organisation or individual (e.g. flights, freight, non-company vehicles, waste, accommodation, electricity line losses).

Radiative forcing (RF) - Radiative forcing helps organisations account for the wider climate effects of aviation, including water vapour and indirect GHGs. This is an area of active research, aiming to express the relationship between emissions and the climate warming effects of aviation, which is yet to be agreed. For this reason, Ekos makes accounting for RF optional for our clients.

A multiplier of 1.9 is used to account for Radiative forcing in accordance with the Ministry for Environment *Measuring Emissions: A Guide for Organisations 2019*.



Appendix 1: Emission Factors

Ekos uses emission factors provided by the New Zealand Ministry for the Environment (MfE) *Measuring Emissions: A Guide for Organisations 2019*.

Where emission sources are not covered by the MfE emission factors, Department for Environment and Rural Affairs (DEFRA) UK Government conversion Factors for Greenhouse Gas Reporting 2018.

Emission source	Emission Factor	Notes	
Electricity			
Electricity	0.000098 tCO ₂ e/kWh		
Electricity Transmission and Distribution	0.0000007 tCO ₂ e/kWh		
Fuels			
Coal Commercial	0.0018 tCO ₂ e/kg	Commercial	
LPG Commercial	0.00303 tCO ₂ e/kg	Commercial	
Company Vehicles			
Diesel	0.00269tCO ₂ e/L	Transport	
Petrol	0.00245tCO ₂ e/L	Transport	
	Pre 2010	2010-2015	Post 2015
Micro Petrol (<1350 cc)	0.00021 tCO ₂ e/km	0.00020 tCO ₂ e/km	0.00019 tCO ₂ e/km
Petrol hybrids (<2000 cc)	0.00018 tCO ₂ e/km	0.00016 tCO ₂ e/km	0.00015 tCO ₂ e/km
Non-Company Vehicles			
Rental Car	0.00021/km		
Waste to Landfill			
General waste (without gas recovery)		Conversion from kgs to L divides by 7.6923	
General waste (with gas recovery)	0.00117 tCO ₂ e/kg 0.00024 tCO ₂ e/kg		
Flights			
NZ Domestic	0.000130 tCO ₂ e/km	If Radiative Forcing is included a multiplier of 1.9 is applied, as recommended by MfE.	
NZ International <3,700km Economy	0.000084 tCO ₂ e/km		
Business	0.000127 tCO ₂ e/km		
NZ International >3,700km Economy	0.000086 tCO ₂ e/km		
Premium	0.000138 tCO ₂ e/km		
Business	0.000138 tCO ₂ e/km		
Accommodation			



Hotel stays	0.01230tCO ₂ e/room per night	In New Zealand
Australia	0.06510tCO ₂ e/room per night	
United States	0.02560/room per night	
India	0.10310/room per night	
South America (Argentina)	0.05730/room per night	

