



Year 10

ANNUAL CARBON & SUSTAINABILITY REPORT

NEW ZEALAND NATIONAL FIELDDAYS SOCIETY INC

1 October 2022 - 30 September 2023



This report by **Instep (a division of Asian Scientific Technologies Limited)** has been prepared for
New Zealand National Fieldays Society
and is issued according to Instep standard terms and conditions.

New Zealand National Fieldays Society
CARBON & SUSTAINABILITY REPORT
01 October 2022 - 30 September 2023

Report Date: 17 November 2023



CARBON & SUSTAINABILITY PROGRAMME 2022 - 2023

A handwritten signature in black ink, appearing to read "P. Birkett".

Peter Birkett
Author

A handwritten signature in blue ink, appearing to read "M. Birkett".

Margaret Birkett
Peer Reviewer

Table of Contents

Executive Summary	4
Introduction	9
Background: NZNFS	9
Background: Carbon Footprint	10
Emissions Inventory	11
Organisational Boundaries	11
Operational Boundaries	11
Inventory Exclusions	13
Calculation Methodology	14
Total Carbon Emissions	15
Historical Emissions	17
Scope 1	20
Equipment Fuel	22
Company Vehicles	25
Scope 2	28
Consumed Electricity	30
Scope 3	34
Distributed Energy	36
Air Travel	37
Waste	38
Suppliers & Materials	41
Water	42
Community	44
Short Term Goals	46
2023 - 2024 GHG Reduction Goals	48
A Little Bit About Us	49
The Certification Process	49
Who Are We?	50

EXECUTIVE SUMMARY



New Zealand National Fieldays Society (NZNFS) has completed its tenth year undertaking the Instep Carbon and Sustainability Programme in which greenhouse gas (GHG) emissions are calculated for the whole operation's carbon footprint. Resource-use is monitored and objectives set to enhance NZNFS's sustainability in future years.

This report details 01 October 2022 - 30 September 2023, a year during which the worldwide Covid-19 pandemic still managed to have lingering impact on the delivery of key signature events such as Fieldays. All data was collected by NZNFS staff and GHG calculations calculated and reported by Instep, following international ISO standard ISO 14045 - 1. The results in this report have been verified according to ISO 14045 - 3 and the details of this are provided in a separate Verification Report.

During 2022 - 2023, NZNFS's total carbon footprint was 226.46 tonne CO_{2e}. This 91% increase against the previous year highlights the continuing disruptive recovery phase all event sectors were working through during the last three plus years.

NZNFS also calculates a standardised footprint against the number of events held. The standardised footprint is 0.90t CO_{2e}/ event day; 42% lower than 2021 - 2022 due to the unprecedented impact of delivering two Fieldays within the 12 month reporting period. This naturally distorts various aspects of the NZNFS results for the 2022 - 2023 reporting period.

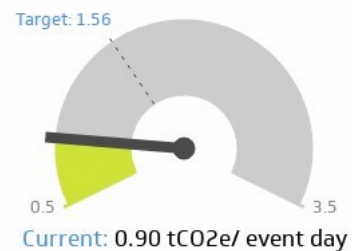
Due to the lingering disruption it has again been deemed prudent to treat 2022 - 2023 as a 'dwell' year resulting in NZNFS retaining GOLD Instep Certification.

In addition to the annual emission inventory, long term goals have been set in alignment with various United Nations Sustainable Development Goals.

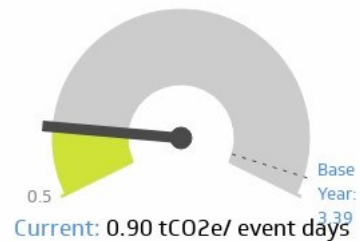
Total Carbon Footprint - t CO_{2e}



Standardised Emissions vs. Maintenance Goal



Standardised Emissions vs. Base Year



\$58.41 carbon cost/ t event day

Indicative cost based on NZ Unit Price at date of report. One NZ Unit is equivalent to One Tonne CO_{2e} (forestry schedule)

ENERGY OBJECTIVES:



OBJECTIVE 1: SHORT TERM (2024) - Ongoing

- Energy reduction and increase in alternative energy, target a 5% improvement in energy efficiency.

OBJECTIVE 2: MEDIUM TERM (2024 - 2026)

- Invest in on-site alternative energy solutions,

OBJECTIVE 3: MEDIUM TERM (2024 - 2026)

- Use data to indicate energy usage per event, allow events to be part of a 'zero energy' scheme if NZNFS goes, or considers energy neutral.

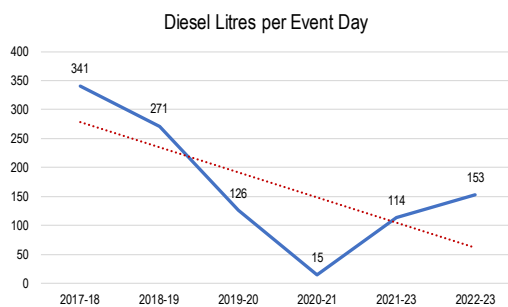
OBJECTIVE 4: LONG TERM (2026 - 2030)

- Investigate carbon mitigation or conservation programmes that may include events contributions.

SPECIFIC ENERGY OBJECTIVES (DIESEL)

Diesel litres consumption per event averages 138 litres since 2017 and through the disruptive period.

2022- 2023 litres consumed 153 litres per event day.



SPECIFIC ENERGY OBJECTIVES (DIESEL) SHORT TERM (2024)

- Closely log litres consumed per event and establish clear impact from all events and purposes of diesel consumption.

SPECIFIC ENERGY OBJECTIVES (DIESEL) MEDIUM TERM (2024 - 2026)

- Evaluate hydrogen or non-fossil fueled portable energy generation for selected areas and events.
- Ensure actual size and loading rates are suitable for maximum efficiency for appropriate site or location.

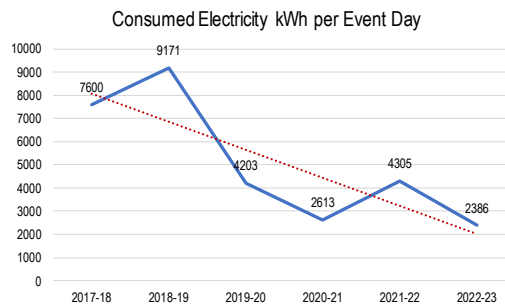
SPECIFIC ENERGY OBJECTIVES (DIESEL) LONG TERM (2026 - 2030)

- Establish plan to target being fossil fuel-free in the energy area by 2030.

SPECIFIC ENERGY OBJECTIVES (ELECTRICITY) SHORT TERM (2024)

Average Electricity kwh consumption per event averages 5,038 kWh since 2017.

2022-2023 kWh consumption was 2,386 kwh per event day.



- *Closely log kwh consumed per event and establish clear impact from all events.*

ACTIONS:

Identify events that could be operated from appropriately sized solar systems.

Trial 'selected' solar system or energy storage systems for specific events.

SPECIFIC ENERGY OBJECTIVES (ELECTRICITY) MEDIUM TERM (2024 - 2026)

- *Develop and evaluate long term plans to utilise and store 'off grid' power generation for up to 40% of the power requirements for smaller events,
Complete cost benefit exercise by 2026.*

SPECIFIC ENERGY OBJECTIVES (ELECTRICITY) LONG TERM (2026 - 2030)

- *Continue to examine the opportunity for sun, wind and water generation as a key 'signature' energy source supported by appropriate funding.*

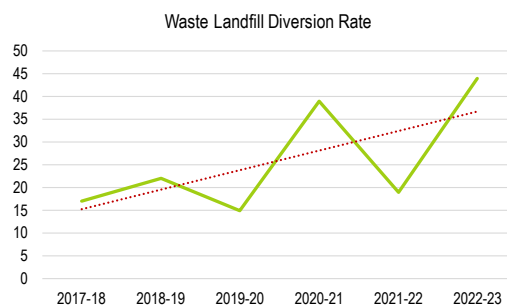
WASTE OBJECTIVES



OBJECTIVE 1: SHORT TERM - **Not Achieved**

- *Divert 50% of all waste from landfill by weight.*

2022-2023 landfill diversion rate is 44%. Graphic clearly highlights impact of 'non-Fieldays' impact.



OBJECTIVE 2: MEDIUM TERM (2024 - 2026)

- *Introduce a detailed Waste Minimisation Plan (WMP) which will include 'no-go' areas for serve-ware and packaging for ALL events. Highlight the reason for them being problematic. Develop a 'single-use plastic elimination programme' (SUEP)*

OBJECTIVE 3: MEDIUM TERM (2024 - 2026)

- *Take action to improve LD % rates for all events. Reduce Landfill to a maximum of 25% of total waste.*

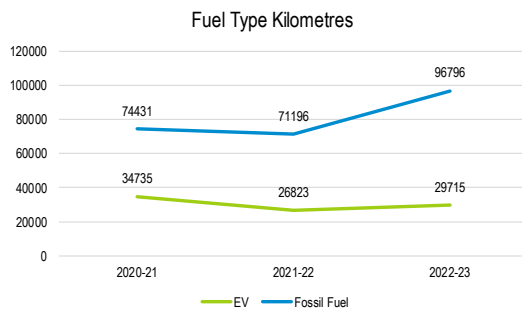
TRANSPORT OBJECTIVES



OBJECTIVE 1: SHORT TERM - Ongoing

- Lower fossil fuel kilometres travelled contribution to 50%.

Fossil fuelled vehicles continue to dominate the fuel type kilometres travelled at 77% for the current year. On the arrival of EV's some 3 years ago they immediately registered 32% of the distances travelled, this has reduced with 2022 - 2023 recording a reduction of 23%.



OBJECTIVE 2: MEDIUM TERM (2024 - 2026)

- Continue to focus on growing EV contribution where possible.

OBJECTIVES 3 : LONG TERM (2026 - 2030)

- Electrify or non-fossil fuel all event associated service vehicles.

INTRODUCTION



The NZNFS operates as a non-profit organisation, registered with the Charities Commission. The Society was developed in 1969, focusing on the development of the New Zealand National Agricultural Fieldays Event. This annual Carbon & Sustainability report covering October 2022 to September 2023 occurs 36 months after the start of the worldwide Covid-19 pandemic which led to the cancellation of Fieldays 2020; the first time in its history. 2021 - 2022 saw the New Zealand event industry entering a recovery phase after the previous disruptive years.

The recovery period saw an adjustment to the number of events taking place last year, including the postponement of the major Fieldays event. As a result of this lingering impact, the 2022 Fieldays event actually took place in November, the 2022 - 2023 NZNFS reporting period. (October - September)

When combined with the normal timing of the 2023 Fieldays event in June, the current reporting period accounts for two Fieldays events, somewhat distorting comparisons with previous years.

NZNFS facilities are hired out to host a variety of major and minor events, the key major event is Fieldays which during 'normal' years is held in June.

The Society's mission is *"to be the best multi-functional events organisation, providing quality events and service to our customers"*.

NZNFS management recognises that true leadership now incorporates sustainability and environmental stewardship. This commitment by management to reduce its own environmental impact is carried out through a full GHG profile (ISO 14064-1), as well as a commitment to, and action towards, sustainability goals including a future commitment to the United Nations Sustainable Development Goals (SDGs).

This Carbon & Sustainability report details activity data from NZNFS GHG emission sources collected throughout the period 01 October 2022 - 30 September 2023 and has been verified by independent company Instep.

BACKGROUND: New Zealand National Fieldays Society

The NZNFS Mystery Creek Events Centre is located just ten minutes from the city of Hamilton, New Zealand. This is a purpose built facility accommodating a variety of events; from gala dinners to music festivals; from conferences to school balls.

Mystery Creek covers an area of 114 hectares. Since 1971 there has been constant development; buildings have been built; many of the roads have been sealed; power and water infrastructure has been installed and a water treatment plant has been developed.

The Society consists of a pool of dedicated volunteers and a professional event management team. Both groups work side-by-side, reporting to the Board of Directors.

As a non-profit organisation, any surplus generated from its own events, or from hosting events, is invested in further development of the property, venues and facilities.

This is NZNFS's tenth year in the Instep Carbon and Sustainability Programme.

BACKGROUND: Carbon Footprint

A carbon footprint is a way of quantifying the amount of GHG emissions for which an individual, organisation or event is responsible. It is widely recognised that global emissions of the six greenhouse gases are responsible for increasing the greenhouse effect in the atmosphere and causing potentially dangerous levels of climate change.

Increasingly, organisations have recognised the need to monitor and calculate their carbon footprint so they can put in place strategies to manage and reduce it.

To calculate a carbon footprint all possible sources of GHG emissions must first be identified. Activity data relating to the source is then collected and the amount of GHG calculated using published emission factors.

Emissions from all sources are added together to give a total carbon footprint, or carbon emission profile, expressed in carbon dioxide equivalent or CO_{2e}.

A GHG PROFILE IS A WAY OF
QUANTIFYING THE AMOUNT OF
GHG AN ORGANISATION IS RESPONSIBLE
FOR, EXPRESSED AS TONNES OF
CARBON DIOXIDE EQUIVALENT, OR CO_{2E}.
IT IS DIVIDED INTO
3 AREAS KNOWN AS SCOPES,
AND MEASURED ACCORDING TO
INTERNATIONAL STANDARDS

THERE ARE 6 GREENHOUSE GASES
CO₂, CH₄, N₂O, HFCS, PFCS & SF₆.
EMISSIONS ARE STANDARDISED AND
REPORTED AS CO_{2E}
OR CARBON DIOXIDE EQUIVALENT

EMISSIONS INVENTORY



ORGANISATIONAL BOUNDARIES

Before identifying emission sources to be included in a footprint analysis, it is essential to set a boundary for the footprint. A boundary defines the business operations in such a way that certain emission sources can be either included or excluded from footprint analysis. This is important so that the organisation does not under or over estimate the GHG emissions for which it is responsible. It helps to avoid double counting of emissions, when two organisations both include emissions from the same sources in their own inventories.

The control approach used to set NZNFS's organisational boundary is the operational control approach. This specifies that the society shall include all GHG emission sources over which they can implement operating policies.

A representation of the organisational boundary can be seen in Figure 1, Page 11.

**OPERATIONAL CONTROL:
THE ORGANISATION ACCOUNTS FOR
100% OF THE GHG EMISSIONS OVER
WHICH IT HAS THE FULL AUTHORITY TO
INTRODUCE OPERATING POLICIES**

OPERATIONAL BOUNDARIES

Operational boundaries refer to the actual sources of GHG emissions within the organisation's operations that will be included in the emission profile. They are commonly referred to as either direct emissions; which are those that the organisation has direct control over (e.g. driving the company car), or indirect emissions; which are a consequence of the organisation's activities, yet are controlled by someone else (e.g. taking an international flight in a plane). Operational boundaries are divided into three areas known as Scopes. A full list of all emission sources within the society's operational boundary is included in Table 1.

SCOPE 1

Scope 1 emissions are direct emissions that occur in sources directly under your control. They must be included in your carbon profile. The following Scope 1 sources were identified within NZNFS profile:

- Equipment Fuel
- Company Vehicles
- Refrigeration and Cooling

SCOPE 2

Scope 2 emissions refer only to those indirect emissions that are produced through the generation of electricity purchased by your organisation. Scope 2 emissions must be included in your carbon profile. The following Scope 2 sources were identified within the NZNFS profile:

- Consumed Electricity

SCOPE 3

Scope 3 emissions refer to all other indirect emissions that may be outside your footprint boundary. There are a huge number of possible sources that can be included in Scope 3 footprint analysis. The inclusion of Scope 3 sources is optional, but it is important to consider any sources that may have a significant impact on your carbon footprint, or offer potential for reduction measures.

The following Scope 3 sources were included in the NZNFS profile:

- Distributed Energy
- Air Travel
- Landfill Waste

SUSTAINABILITY MEASURES

There are many other environmental impacts that are not included in GHG emission calculations yet still have environmental impacts that are discussed in this report;

- Total Waste
- Paper
- Water Consumption
- Community

Table 1: NZNFS Emission Sources Monitored 2022 - 2023

Scope	Category	Source	ID	Activity Data	Data Units
1	Equipment Fuel	Operational Equipment and Heating	MCC1-1-3	Fuel receipts	kgs/m³/Ls
	Company Vehicles	Company Vehicles	MCC1C1-13	Company records	Ls
2	Consumed Electricity	Electricity Head Office/ Facilities	MCC21-2	Power bills	kWh
3	Distributed Energy	As above	MCC3D1	Power bills	kWh
	Travel	Air Travel	MCC3T1	Company records	pkm
	Waste	Landfill Waste	MCC3W1	Invoices/ estimates	m³
SUSTAINABILITY MEASURES	Water	Water		Company records	litres
	Total Waste	General Recycling / Worm Farm/ Cardboard		Invoices/ estimates	m³
	Paper	Printing and Publications		Invoices/ estimates	# A4 sheets

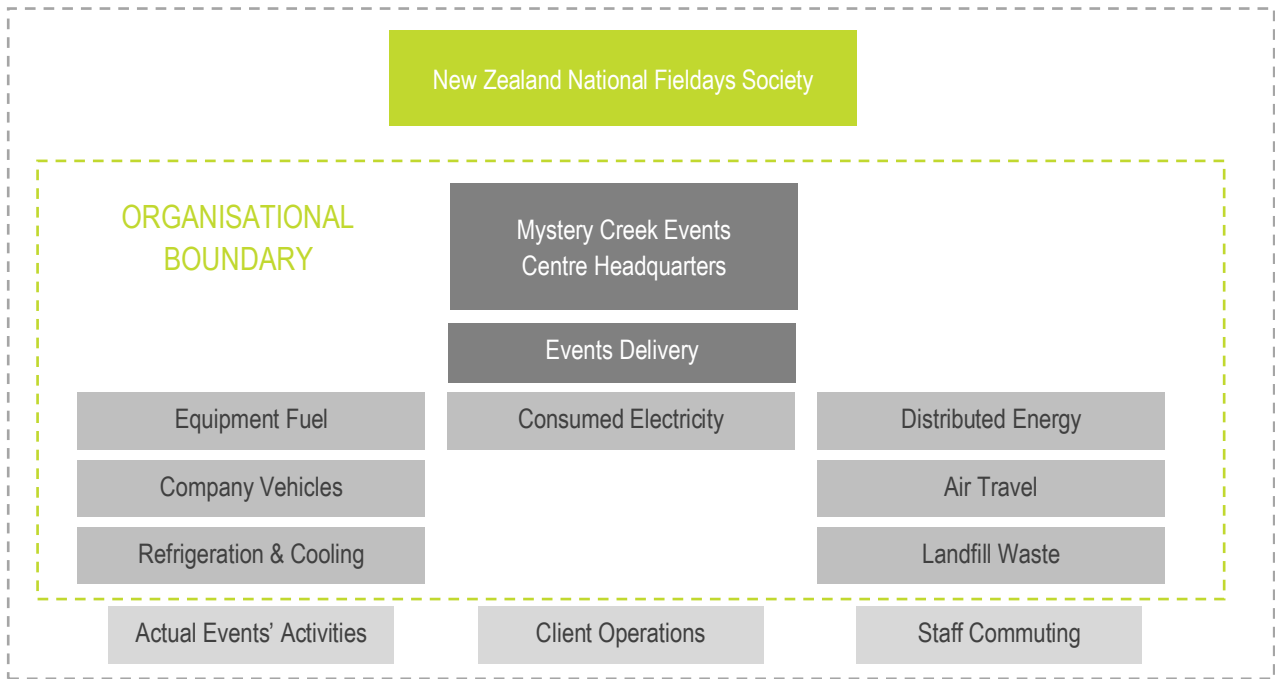


Figure 1: Organisational Boundary

INVENTORY EXCLUSIONS

In order to maximise the transparency of NZNFS profile GHG profile, this report includes a full disclosure of emission sources not included in calculations, and the reasons for their exclusion.

GHG emission sources not included in the profile of NZNFS profile:

- Land transport emissions from taxi and hire cars
- Emissions from paper and publications due to a change in Instep methods.

ALMOST EVERYTHING HAS A CARBON FOOTPRINT, HOWEVER, MANY ENVIRONMENTAL IMPACTS ARE NOT CURRENTLY INCLUDED IN EMISSION CALCULATIONS DUE TO LOW IMPACT, COMPLEX CALCULATIONS OR INACCURATE DATA

CALCULATION METHODOLOGY



Data was collected for the 12 month period 01 October 2023 to 30 September 2023 from a range of sources.

All data supplied by NZNFS was subject to Instep Quality Assurance.

Further detail on quality assurance and uncertainty assessment can be found in the accompanying Verification Report.

Instep performed calculations on data supplied by NZNFS in accordance with the methods detailed in the internationally recognised WBCSD /WRI Greenhouse Gas Protocol¹ and ISO 14064-1².

Emission factors used were the most current available and came from a variety of sources. Details on the calculation methodology and emission factors used for each source are listed in detail in the Verification Report which has been prepared according to ISO 14064-3³.

WHAT ARE THE SUSTAINABLE DEVELOPMENT GOALS?:



In 2015, with the 2030 Agenda for Sustainable Development, the world's leaders set out on an ambitious path to end poverty, fight inequality and injustice, and protect the planet.

The Member States of the United Nations unanimously agreed upon the 17 Sustainable Development Goals (SDGs), making them the world's agenda for sustainable development.

The SDGs provide a coherent, holistic, integrated framework for addressing the world's most urgent sustainability challenges and creating a better future for all.

The success of the agenda will be based on collaborative efforts by all parties in society, including businesses.

¹ World Business Council for Sustainable Development & World Resources Institute (2004) *Greenhouse Gas Protocol Corporate Accounting & Reporting Standard*

² ISO 14064-1 Specification with guidance at the organisation level for quantification and reporting of GHG emissions and removals.

³ ISO 14064-3 Specification with guidance for the validation and verification of greenhouse gas assertions.

TOTAL CARBON EMISSIONS

226.46 tonne CO_{2e}



NZNFS has a total carbon emission profile of 226.46 tonnes (t) CO_{2e} for the 2022 - 2023 monitoring period.

The standardised footprint is 0.90 tonne CO_{2e} per event day. The method of recording number of event days changed in 2020 - 2021 to more accurately reflect the use of the site, e.g. in 2020 - 2021 Fielddays recorded 31 event days, rather than only 4 in previous years. The 2022 - 2023 period highlights the impact of increased major events, including two Fielddays events, and sees an increase in event days from the previous 76 days in 2021 - 2022 to record 252 in the current reporting period. This has led to a significant reduction in the standardised footprint, as the carbon total is standardised against a higher number of event days. The event days have been normalised in the same way in comparison years to remain comparable. The goal for 2022 - 2023 was a maintenance goal due to the pressures NZNFS faced during the Covid-19 recovery phase. The goal against the 2021 - 2022 year was to maintain a standardised footprint of 1.56 tCO_{2e}/event day. This was easily achieved.

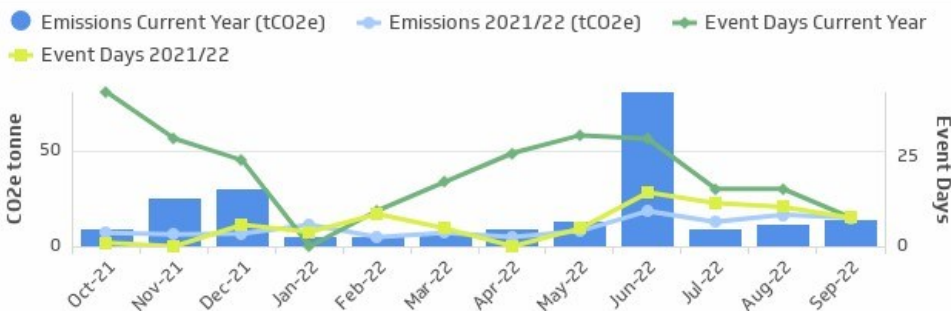
Due to the continuing impact from the Covid recovery period these years are treated as a dwell year. As a result NZNFS remains at GOLD level certification.

Total Carbon Footprint - t CO_{2e}



A STANDARDISED FOOTPRINT HELPS TO MONITOR EFFICIENCY FROM YEAR TO YEAR. NEW ZEALAND NATIONAL FIELDAYS SOCIETY STANDARDISED FOOTPRINT IS 0.90 TONNE CO_{2e}/EVENT DAY

Yearly Emissions



2022/23 emissions:
226.46 tCO_{2e}
▲ 91.4% vs. 2021/22

2022/23 event days:
252 days
▲ 231.6% vs. 2021/22

Total carbon emissions for 2022 - 2023 primarily continue to reflect the disruption during the recovery period after the impact of Covid-19 on NZNFS's operations over recent years.

MAJOR EVENTS

NZNFS's premier major event is Fieldays, this annual event was postponed in mid 2022, with a new date established in November 2022, which pushed the event into the current reporting period of 2022 - 2023.

While the impact of this major event is acknowledged, the combined impact of all other minor events is increasingly significant, and under normal circumstances contributes over 50% to the annual emission profile.

Because of these results, NZNFS's senior management has pledged to focus future efforts on all events, including minor events, sharing some of the sustainability learnings that have proved successful at Fieldays, with other events.

MINOR EVENTS COLLECTIVELY
CONTRIBUTE 53% OF MYSTERY CREEK
EVENTS CENTRE'S TOTAL ANNUAL
EMISSIONS.

HISTORICAL EMISSIONS



This is NZNFS's tenth year undertaking the Instep Carbon & Sustainability Programme.

The carry-over of the 2022 Fielddays event introduces a significant anomaly with two Fielddays impacting the current reporting year, providing a somewhat distorted comparison with the previous year.

The first year of calculating NZNFS's carbon footprint was 2013 - 2014 and this is treated as the base year against which subsequent reductions and increases in emissions can be compared.

NEW ZEALAND NATIONAL FIELDAYS SOCIETY'S
2022 - 2023 CARBON FOOTPRINT IS
91.4 % HIGHER THAN 2021 - 2022

Table 2: Current and Historical Emissions

Scope	Emission Source	Activity Data	GHG Emissions (tCO _{2e})	% Change from 2020-2021 GHG Emissions (tCO _{2e})	% Change from Base Year GHG Emissions (tCO _{2e})
1	Equipment Fuel	2,957 kg 44,551 Ls	127.23	+>100%	+>100%
	Company Vehicles	12,976 Ls	13.18	-25%	-86%
	Refrigeration & Cooling	Annual Loss	2.57	0%	10%
2	Consumed Electricity	601,440 kWh	64.36	+44%	+13%
3	Distributed Energy	601,440 kWh	5.17	+44%	+22%
	Air Travel	16,611 pkm	1.90	-3.7%	->100%
	Landfill Waste	103,803 kg	12.04	+>100%	->100%
TOTAL			226.46	+91.4%	-19%
Sustainability Measures	Total Waste	186,721 kg		+>100%	
	Paper & Publications	93,243 A4 sheets		+>100%	
	Water	6,815,440 Ls		+20%	
Standardised footprint (tCO_{2e}/event day)			0.90	-42%	-

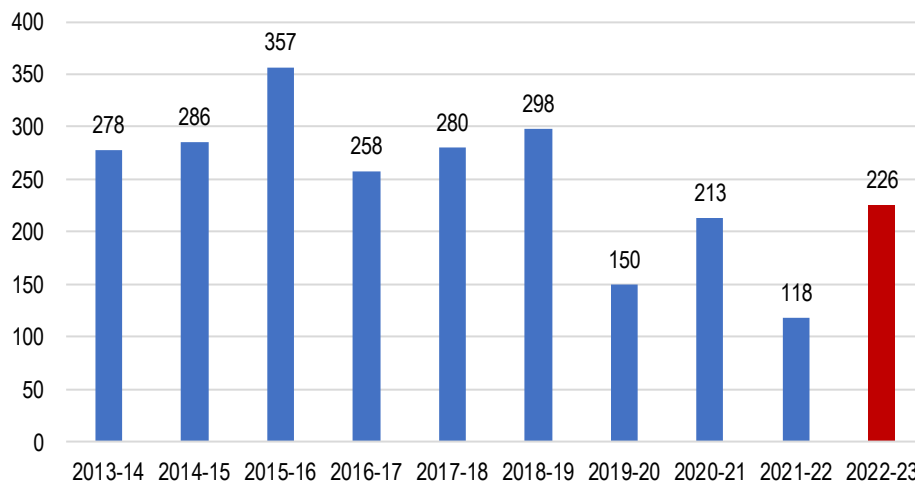
This year's total carbon footprint for NZNFS is 91.4% higher than 2021 - 2022, but still 19% lower than base year levels.

The primary driver of this year's increase is the inclusion of the previously discussed extra Fielddays event for the reporting period. In terms of the event centre's carbon footprint, this has manifested as a significant increase in major scopes with the exception of Company Vehicles and Air Travel.

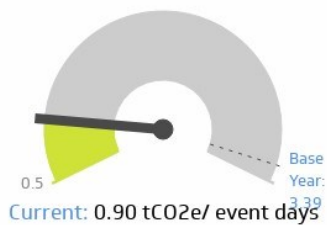
NZNFS had committed to a maintenance goal during this reporting period, due to ongoing re-scheduling and recovery pressures.

This goal was achieved due to the impact of the increased event days during the reporting period. This resulted in an emission ratio of 0.90 tCO_{2e}/ event day compared to 1.56 tCO_{2e}/ event day during 2021 - 2022 and 3.39 tCO_{2e}/ event day during the base year.*

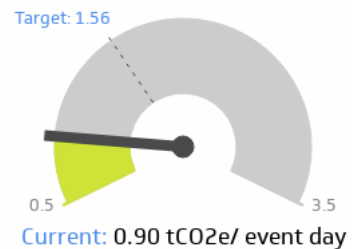
Historic CO_{2e} Emissions



Standardised Emissions vs. Base Year



Standardised Emissions vs. Maintenance Goal



*Base year standardised emissions have not been able to be normalised to new event day measures, so cannot be directly comparable.

Scope:

1

EQUIPMENT FUEL

127.23 tonne CO_{2e}
2,957 LPG: 44,522 Ls fuel



Table 4: NZNFS Equipment Fuel Emission 2022 - 2023

Category	Current Year Activity Data	% Activity Change vs. Last Year	Current Year GHG Emissions (tCO _{2e})	% CO _{2e} Change vs. 2021/22	% CO _{2e} Change vs. Base Year	2021/22 Activity Data	2021/22 GHG Emissions (tCO _{2e})
LPG (kg)	2,957	-33%	8.78	-34%	-62%	4,405	13.35
Diesel (Ls)*	38,503	+>100	103.57	+>100%	-	8,674	23.16
Petrol (Ls)*	6,049	+76%	14.88	+97%	-	3,442	8.43
Total	2,957 kg, 44,552 L		127.23	+>100%	-	4,405 kg, 12,116 L	44.94
Fuel tCO _{2e} / event day			0.50	- 15%			0.59 **

* Diesel and Petrol not recorded during 2013 base year, so comparison in this case is to 2014

** Note this standardised number has changed based on new event day system

Emissions from Equipment Fuel are produced when various fossil fuels, including LPG, diesel and petrol, are burnt in stationary equipment or machinery. NZNFS's event centre has a wide variety of equipment using these fuels in day-to-day maintenance and usually peak in use during Fielddays event days.

LPG went against the trend of increased consumption due to increased event days and recorded a significant 33% reduction; this is likely associated with a reduction in directly managed kitchen and food services over the year.

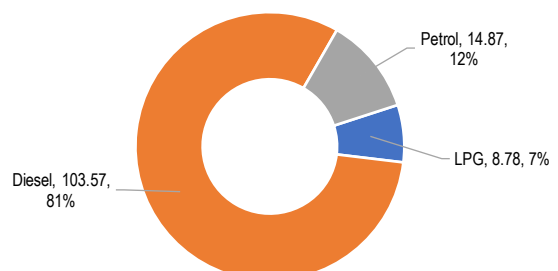
As detailed in the graphic, diesel continues to dominate this important area contributing 81% of the associated CO_{2e} emissions, with petrol contributing 12% and LPG reducing 7%

As detailed in Table 4, total equipment fuel emissions are 183% higher than 2021 - 2022 with all but LPG detailing significant increases in consumption and associated tCO_{2e} emissions.

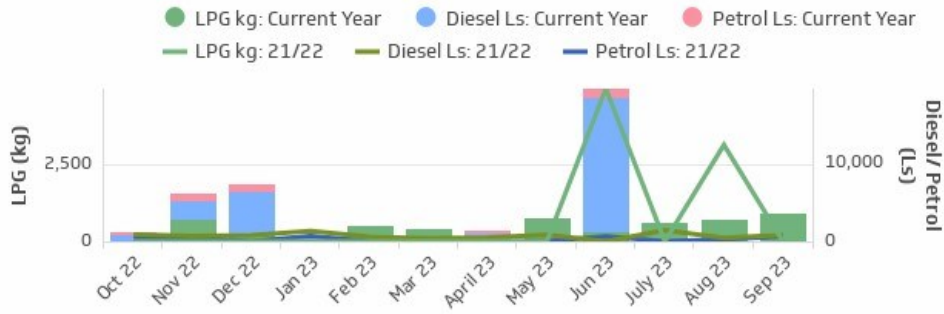
Event days record a recovery to high levels of 252, this includes the extra days for the delayed 2022 Fielddays held in November 2022.

This increase in event days assists in delivering a reduction in the fuel tCO_{2e} per event day ratio from 0.59 fuel tCO_{2e}/ event day last year to record 0.50 fuel tCO_{2e}/ event for 2022 - 2023.

Energy CO_{2e} by Type



Equipment Fuel Consumption: 2022/23



2,957 kg LPG
 ▼ -33% vs. 2021/22

6,049 Ls petrol
 ▲ 76% vs. 2021/22

38,503.2 Ls diesel
 ▲ 344% vs. 2021/22

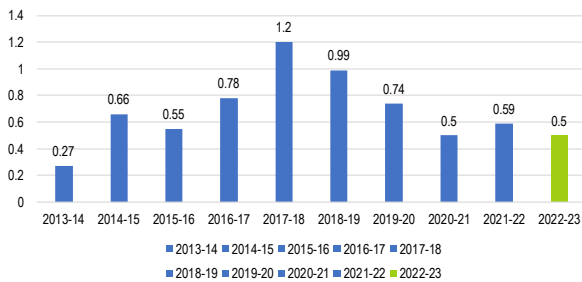
127.2340 tonne total CO₂e
 ▲ 183% vs. last year

INSIGHTS:

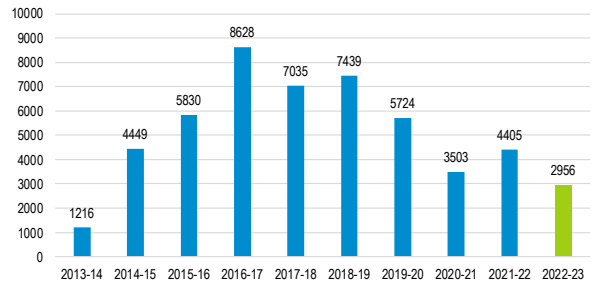
- Major liquid fuels increased in line with increased event days and the peaks of Fieldays in November and June.
- LPG trended down compared with the previous year.

As detailed below, the pattern of total fuel energy-related emissions generated per event day over the last five years are somewhat distorted due to event delivery disruption, but the trend continues to be positive.

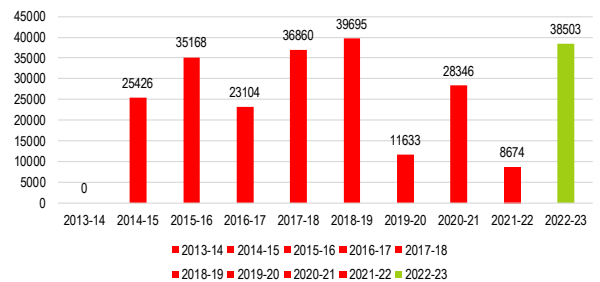
Fuel Emissions per Event Day



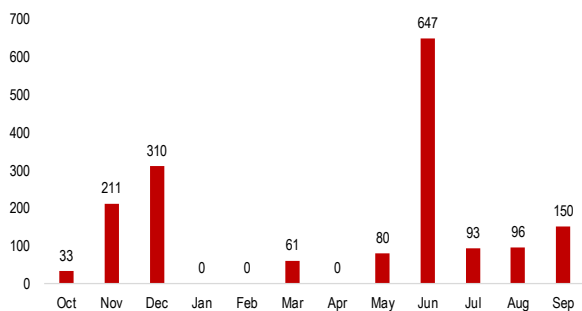
LPG Kg Consumption



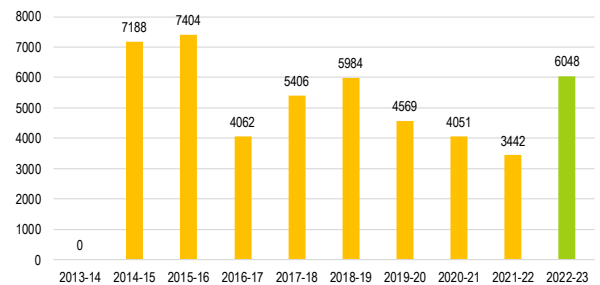
Diesel Litres Consumption



Liquid Energy Fuel Lts per Event Day



Petrol Litre Consumption



Equipment Fuel Objective

To lower the % of Equipment Fuel emissions from fossil fuels.

Short Term - 2022

Mid Term - 2025

Longer Term - 2030

Lower fossil fuel % from 2021 levels of

Lower fossil fuel % to

Lower fossil fuel % to

64 %

50 %

TBC %



2022/23: 66 % energy emissions from fossil fuels

SUSTAINABLE DEVELOPMENT GOAL SETTING:



NZNFS has set short, medium and long term goals around energy and fuel efficiency towards 2030, in line with the United Nations Sustainability Goals.

NZNFS goals align with the following Sustainable Development Goals (SDG)

SDG #7 for Affordable and Clean Energy

7 AFFORDABLE AND CLEAN ENERGY



Target 7.3:

By 2030 double the global rate of improvement in energy efficiency.

SDG #13 for Climate Action.

13 CLIMATE ACTION



Target 13.2:

Integrate climate change measures into national policies, strategies and planning.

2030 OBJECTIVES:

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Energy Objectives

- 1. Review all MCEC Fossil Fuel consumption and options in readiness for 2030.
- ⓘ 2. Replace Diesel fuel equipment by 2027 in readiness for any potential constraints on fossil fuels from 2030 onwards.
- ⓘ 3. Trial small targeted Wind generation systems
- ⓘ 4. Consider an Event 'Community Event' Switch Off Campaign to return an Energy Positive Result by 2025.

COMPANY VEHICLES

13.18 tonne CO_{2e}
126,511 km



Table 6: NZNFS Company Vehicles Emissions 2022 - 2023

Category	Current Year Activity Data (km)	% Activity Change vs. Last Year	Current Year GHG Emissions (tCO _{2e})	% CO _{2e} Change vs. 2021/22	% CO _{2e} Change vs. Base Year	2021/22 Activity Data	2021/22 GHG Emissions (tCO _{2e})
Company Vehicles (fuel)	96,796	+36%	13.18	-25%	-85.4%	71,196	17.50
Vehicles (EV)	29,715	+10.4%	-	-	-	26,923	0
Total	126,511	28.9%	13.18	-25%	-85.4%	98,119	17.50
Fuel tCO _{2e} / event day			0.05				0.23 **
* EV electricity emissions are included in Scope 2 electricity emissions							
** Note this standardised number has changed based on new event day system							

Emissions from Company Vehicles are produced when purchased fuel (petrol, diesel, LPG) is combusted in a mobile source.

This includes a NZNFS fleet of staff company cars with an increasing mixture of EV and Hybrid. Electric vehicles utilise the dedicated charging station in the NZNFS carpark.

A combination of odometer readings and fuel consumption is recorded to calculate efficiency and associated GHG emissions.

Despite increased kilometres travelled, emissions from 2022 - 2023 have reduced by 25% compared with last year. The main reason for this is the efficiency of hybrid engines delivering significant lower fuel consumption rates than previous years.

Travel in fuelled vehicles is 36% higher than in 2021 - 2022, whilst travel in EV vehicles increased by a more modest 10%.

Total kilometres travelled this year is 126,511 km versus 98,119 last year, an increase of 28.9%.

Company Vehicles: 2022/2023



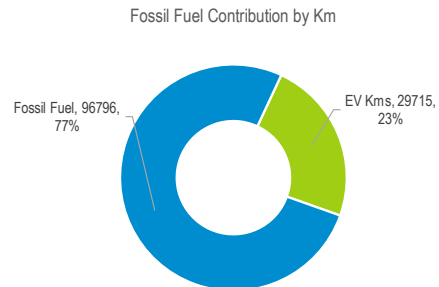
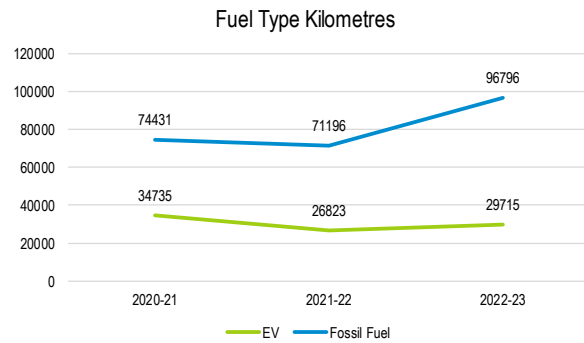
96796 km fuel vehicles
▲ 35.96% vs. 2021/22

13.18 tonne CO_{2e}
▼ -24.70% vs. 2021/22

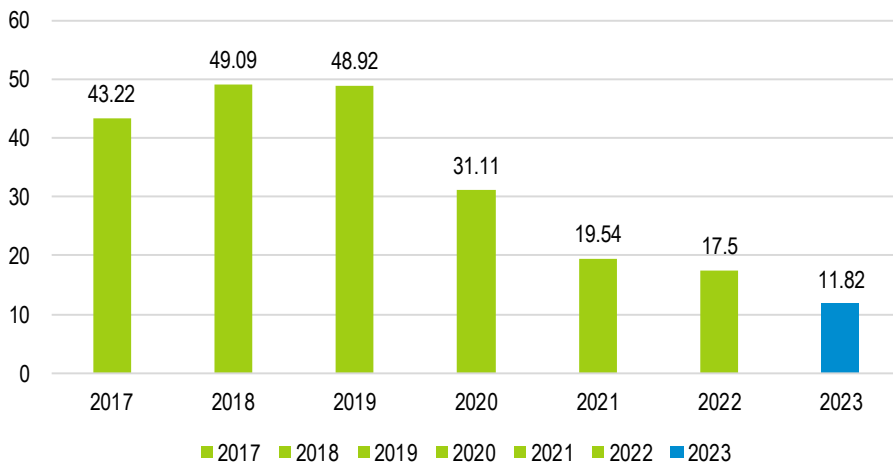
29,715 km electric vehicles
▲ 10.37% vs. last year

INSIGHTS:

- Despite disruptive operational conditions in recent years the emissions from this important scope continues to reduce. As seen on the graphics, fossil-fueled vehicles continue to dominate the fuel type kilometres travelled at 77% for the current year. On the arrival of EV's three years ago, they immediately registered 32% of the distance travelled, this has reduced with 2022 - 2023 recording a reduction to 23%.
- The EV fleet travelled 29,715 kilometres in 2022 - 2023; had this been travelled in diesel vehicles it would have added an additional 4.83 tCO_{2e} to the carbon profile. Taking into account the small amount of electricity used at the EV charging station, EVs saved 4.5 tCO_{2e}, or avoided increasing the current year's emissions by 38%.



Total CO_{2e} Emissions



Transport Objective

To increase the proportion of travel in EVs.

Short Term - 2022

Mid Term - 2025

Longer Term - 2030

Increase EV travel to..

Increase EV travel to..

Increase EV travel to..

40 %

60 %

90 %



2022/23: 23 % km travelled in EVs

- Despite the increase in EV travel, the targeted 40% of all travel being EV by 2022-2023 was not achieved, recording 23% for the reporting period.
- The mid and longer term EV objectives should be revisited in view of the changing fleet to more hybrid vehicles, and the analysis carried out on what the fleet fuel type might look like in 2030.

2030 OBJECTIVES:

- ✓ Achieved
- In Progress
- Not achieved

Transport Objectives

- ✓ 1. Introduce electric vehicles into the fleet.
- 2. Increase the proportion of kilometres travelled by EVs in the fleet.
- 3. Continue to promote event bus patronage.
- 4. Provide ongoing incentives to EV usage both within the organisation and for event attendees.
- ✓ 5. Incentivise ride sharing both within the organisation and for event attendees.

Scope:

2

CONSUMED ELECTRICITY

64.36 tonne CO_{2e}

601,440 kilowatt hours



Table 5: NZNFS Consumed Electricity Emissions 2022 - 2023

Location	Current Year activity Data (kWh)	% Activity Change vs. 2021/22	Current Year GHG Emissions (tCO _{2e})	% CO _{2e} Change vs. 2020/21	% CO _{2e} Change vs. Base Year	2021/22 Activity Data	2021/22 GHG Emissions (tCO _{2e})
Dairy Shed	10,903	+>100%	0.80	+91%	-	3,879	0.45
Sub C Pavilion	216,304	+>100%	23.77	+>100%	-	76,896	10.5
Sub B Back Rd	41,845	+>100%	5.2	+>100%	-	8,060	1.06
125 Mystery Creek	125,580	-4.43%	12.33	-30.3%	-	131,400	18.2
Sub D	76,380	+>100%	8.82	+>100%	-	14,880	1.98
Sub A Main	92,627	+71%	10.15	+46%	-	54,276	7.07
208 Airport Rd	1,571	+>100%	0.16	+>100%	-	572	0.07
205 Airport Rd	15	-16%	0.001	-50%	-	18.0	0.002
284 Airport Rd	4,783	-6%	0.51	-19%	-	5116	0.64
EV Station	4,563	+47%	0.49	+8%	-	3,095	0.46
Wairepo	24,893	-10%	1.84	-53%	-	27,650	4.10
Workshop	1,371	+1.70%	0.13	-16.5%	-	1,348	0.170
Total	601,440	+83.8	64.32	+44%	+13%	327,191	44.77
kWh/ event day	2,386.7	-44.60%	0.25	-57.5%	-	4305.14	0.589

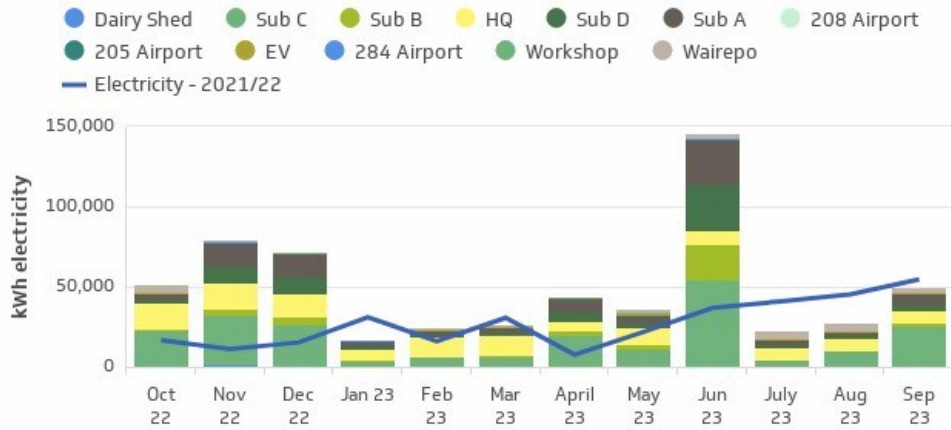
Almost every type of business or organisation will have a GHG profile which features considerable emissions from Consumed Electricity. These are Scope 2, or indirect emissions, as they occur outside your organisational boundary.

The emissions occur where the electricity is being produced, however, these are a direct consequence of your actions (e.g. turning on the lights).

As detailed in Table 5, both consumption and associated emissions in 2022 - 2023 increased against 2021 - 2022. The reason for the difference in increases for actual kWh consumed and the associated tCO_{2e} emissions generated is due to a significant change in consumed electricity emission factors issued by the government and based on increased generation from renewable sources.

The key movers in the current year were the sites directly associated with major events which all recorded increases in both kWh and tCO_{2e} emissions.

Electricity Consumption: 2022/23



601,441 kWh electricity

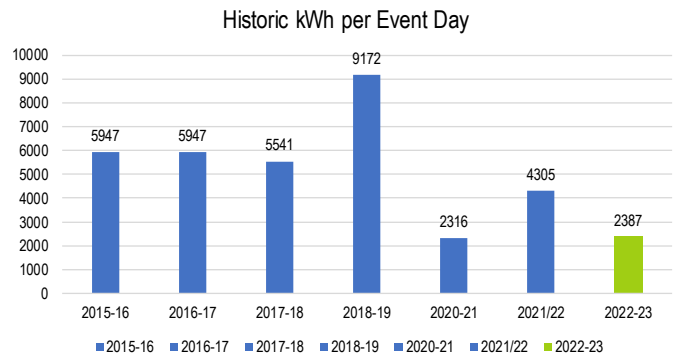
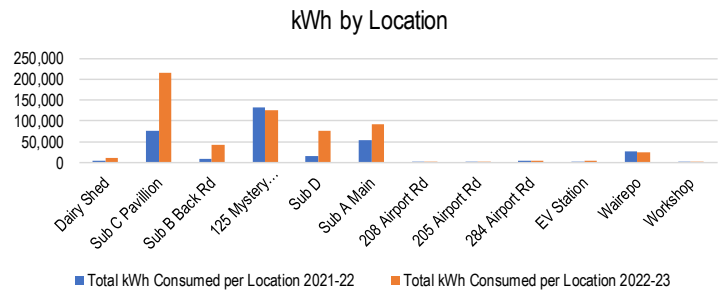
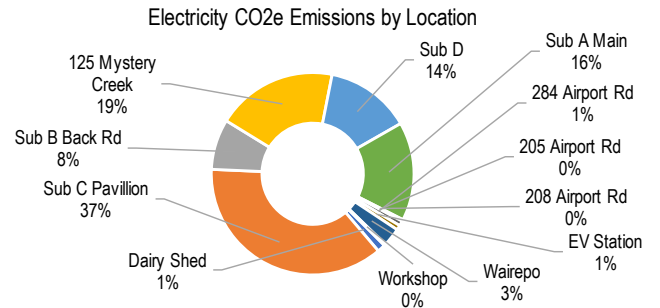
▲ 84% vs. last year

64.36 t CO₂e

▲ 44% vs. last year

INSIGHTS:

- While the current reporting period records increases in most areas, the kWh usage at NZNFS HQ, due to a concerted effort by staff, saw the kWh consumed reduce by 4.4% against last year, although this could have been assisted by reduced air conditioning use due to operational issues early in the year. The HQ contribution is back down to under 20% of the total emissions generated; down from 41% for the previous year.
- Naturally, key service areas such as Sub C, Sub B, Sub A and Sub D all increased over 100% compared with last year. Sub C Pavilion remains the highest contributor.
- As detailed in the graphic, electricity usage per event day reduced compared with last year and is close to matching the lowest ratio on record. This is naturally driven by the 70% increase in event days.



Electricity Objective

Reduce electricity emissions per event day to zero.

Short Term - 2022

Mid Term - 2025

Longer Term - 2030

Reduce emissions/ event day to...

Reduce emissions/ event day to...

Reduce emissions/ event day to...

300

200

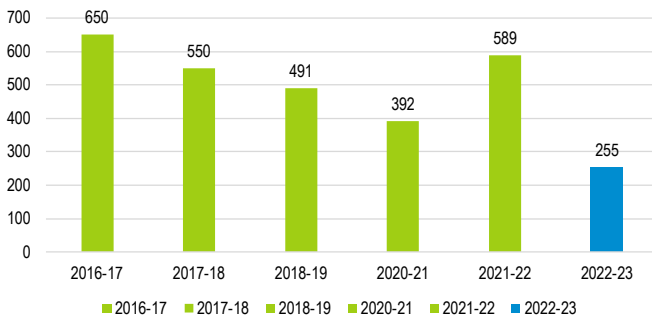
0

last year: 589.00



2022/23: 255 kg electricity emissions/ event day

Kg CO₂e Emissions per Event Day



- The reducing trend towards the target of kg CO₂e emissions per event day, as shown above, is back on track and meets the objectives set after the disruption year last year. However, 2023 - 2024 will be a crucial year as normality returns.

2030 OBJECTIVES:

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Electricity Objectives

- ⓘ 3. Trial small targeted Wind generation systems
- ⓘ 4. Consider an Event 'Community Event' Switch Off Campaign to return an Energy Positive Result by 2025.
- ⓘ 5. Reduce electricity emissions per event day to zero.

Scope:

3

"Scope 3 emissions include indirect GHG emissions from sources not owned or directly controlled by New Zealand National Fieldays Society but related to the Mystery Creek Events Centre's activities"

DISTRIBUTED ENERGY

5.17 tonne CO_{2e}
601,440 kilowatt hours



Table 7: NZNFS Distributed Energy Emissions 2022 - 2023

Category	Current Year Activity Data (kWh)	% Activity Change vs. 2020/21	Current Year GHG Emissions (tCO _{2e})	% CO _{2e} Change vs. 2020/21	% CO _{2e} Change vs. Base Year	2021/22 Activity Data (kWh)	2021/22 GHG Emissions (tCO _{2e})
Distributed	601,440	+83.8%	5.17	+44%	-24%	327,191	3.60

Emissions from Distributed Energy occur when electricity is transferred through power lines to NZNFS operations to be consumed and small amounts are lost. Consequently, it is directly related to the amount of kWh consumed.

Any actions put in place to reduce Consumed Electricity use will also affect Distributed Energy emissions.

AIR TRAVEL

1.90 tonne CO_{2e}
16,611 passenger kilometres



Table 8: NZNFS Air Travel Emissions 2022 - 2023

Category	Current Year Activity Data (pkm)	% Activity Change vs.2021/22	Current Year GHG Emissions (tCO _{2e})	% CO _{2e} Change vs. 2021/22	% CO _{2e} Change vs. Base Year	2021/22 Activity Data	2021/22 Emissions (tCO _{2e})
Air Travel	16,611	-1.9%	1.90	-3.7%	->100%	16,940	1.97

Air Travel GHG emissions are a result of the burning of aviation fuels during flight. As with many New Zealand organisations, Air Travel emissions are an unavoidable part of the business emission profile.

NZNFS staff members travel internationally and nationally to carry out various forms of business.

The reduced air travel activity continues, although a low level of Trans-Tasman activity is recorded for the reporting period. However, with very little domestic activity kilometres travelled and associated tCO_{2e} emissions reduce compared with last year.

As detailed below, Air Travel only saw activity in two months of the year compared with the increased activity in the last quarter last year.

Air Travel: 2022/2023



16,612 passenger kilometres
▼ -2% vs. last year

1.90 tCO_{2e}
▼ -4% vs. last year

WASTE

186,721 kg total waste
45% Landfill Diversion



Table 9: NZNFS Waste Profile 2022 - 2023

Category	Current Year Activity Data (kg)	% Activity Change vs. 2021/22	Current Year GHG Emissions (tCO2e)	% CO2e Change vs. 2020/22	% CO2e Change vs. Base Year	2021/22 Activity Data (kg)	2021/22 GHG Emissions (tCO2e)
Landfill	103,803	+>100%	12.04	+>100%	->100%	19,084	2.97
General Recycling	0	-100%		-100%		795	
Glass Recycling	6,309	+>100%		+>100%		2,127	
Cardboard Recycling	35,921	+>100%		+>100%		1,539	
Organic/ Compost	9,290	+>100%		+>100%		0	
Scrap Metal Recycling	3,020	+>100%		+>100%		0	
Wood Recycling	24,880	+>100%		+>100%		0	
Plastic Wrap	740	+>100%		+>100%		0	
TOTAL WASTE	186,721	+>100%	12.04	+>100%	->100%	23,547	2.97
Waste kg/Event	740	+>100%				310	
Landfill	56%	-32%				81%	
Diversion Rate	44%	+>100%				19%	

Landfill waste emissions are produced when an organisation's waste is sent to council-owned landfills where organic waste breaks down and produces methane, a powerful greenhouse gas.

The NZNFS Head Office has a full range of waste diversion options including worm farm, general, glass and paper recycling.

The 2022 - 2023 reporting period highlights the impact from the increase in event days and the impact of two Fieldays events.

As detailed in Table 9, the total amount of total waste generated has increased significantly compared with the disrupted period last year.

The change in landfill diversion rate is an important observation, and highlights the benefits the high landfill diversion rate at certain events has on the Society's annual diversion rate.

It highlights the known challenge that other events have in improving landfill diversion levels. When no Fieldays events take place, the diversion rate is significantly lower as reported in 2021 - 2022.

Waste & Recycling: 2022/23



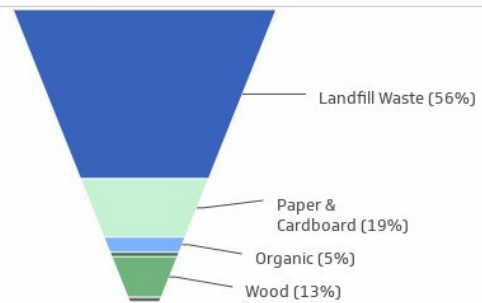
186,721 kg Total Waste
▲ 693% vs. last year

12.04 t CO₂e
▲ 306% vs. last year

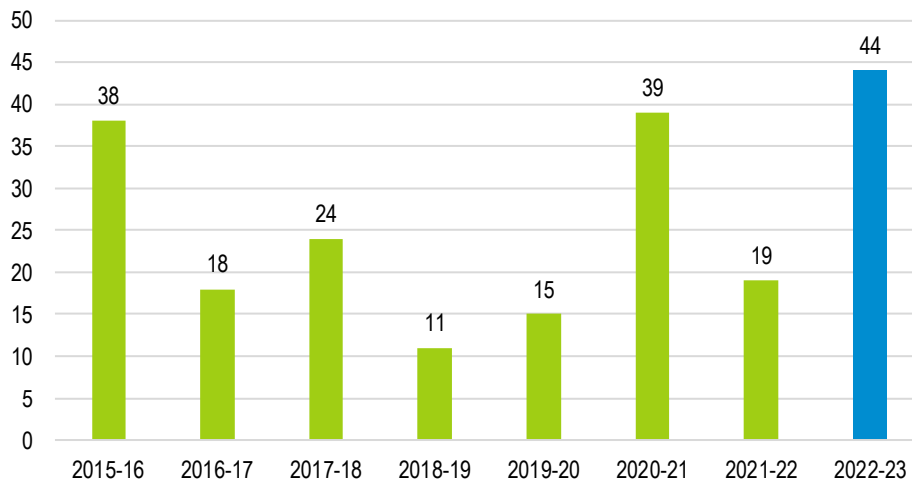
INSIGHTS:

- Landfill Diversion rate is back in line with long term objectives and planning, and highlights the benefit of the work put into the signature events. NZNFS continues to share the learnings from larger events to other smaller events and their own site waste handling throughout the year.
- As detailed in Table 9, the defined recyclable material is now standard reporting and assists greatly in planning waste management programmes and cost minimisation.

Waste & Recycling: 2022/23



Historic Landfill Diversion % Rate



Waste Objective

Divert 70% of event waste from landfill.

Short Term - 2023

Mid Term - 2025

Longer Term - 2030

Increase landfill diversion to...

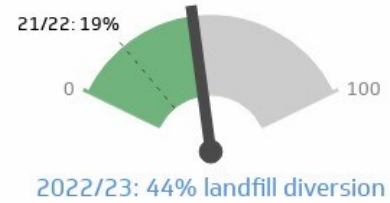
Increase landfill diversion to...

Increase landfill diversion to...

50%

60%

70%



SUSTAINABLE DEVELOPMENT GOAL SETTING:



NZNFS has set short, medium and long term goals around energy and fuel efficiency towards 2030, in line with the UN Sustainability Goals.

NZNFS goals align with the following Sustainable Development Goal (SDG):

SDG #12 for Responsible Consumption and Production



Target 12.5:

By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse.

WASTE OBJECTIVES:

- ✓ Achieved
- In Progress
- ⓘ Not achieved

Waste & Recycling Objectives

- 1. Divert 50% of all waste from landfill at MCEC by 2023.
- ✓ 3. Compost full range of compostable materials.
- 4. Create waste minimization standards to be used across all MCEC events.
- 5. Develop a Single Use Plastic Elimination programme (SUEP)

SUPPLIERS AND MATERIALS

93,243 A4 sheets



Table 11: NZNFS Paper & Publications Emission Summary 2022 - 2023

Category	Current Year Activity Data (# A4 sheets)	% Activity Change vs. Last Year	2021/22 Activity Data (# A4 sheets)
Paper and Publications	93,243	+.100%	23,107

Paper consumption remains central to most office-based organisations, despite the shift to online systems and other multi-media tools.

NZNFS paper-metrics includes all printed materials ordered for individual events, including tickets and event information.

When converted to the number of A4 sheet used, the Society’s printed paper use increased by over 60,000 A4 sheets compared with 2021 - 2022.

Key influence factors on this increase are naturally as reported for other major KPIs.

WATER CONSUMPTION

6,815,440 litres



Table 11: NZNFS Water Consumption 2022 - 2023

Category	Current Year Activity Data (Ls)	% Activity Change vs. 2021/22	% Activity Change vs. Base Year	2021/22 Activity Data (Ls)
Potable Water	26,640	+30%	-	20,479
River Water	6,788,800	+20%	-	5,650,300
TOTAL	6,815,440	+20.2%	-	5,670,779
Lts /Event	27,045			78,760

Water Consumption is a crucial sustainability metric to monitor. Not only can it be costly to businesses where it is used in processes, but it is rightly viewed as one of the world's most precious resources.

Water consumption is monitored through a number of meters around the Mystery Creek site.

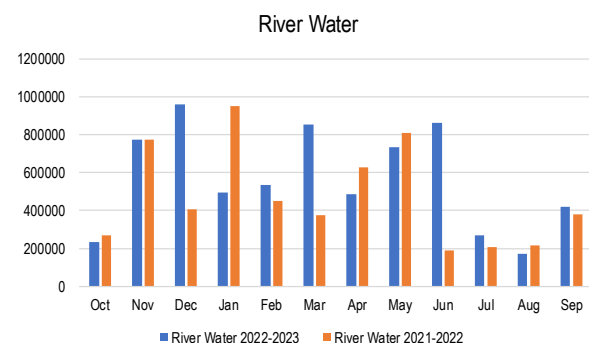
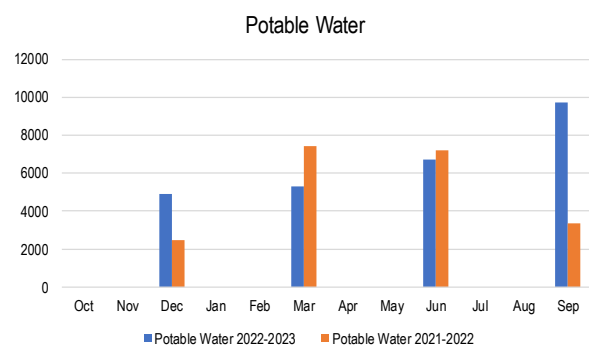
In line with increased business activity by way of event days, total quantity of water consumed increased by 20.2% compared with last year.

This delivers a 65% reduction when compared with the 71% increase in event days for the reporting period.

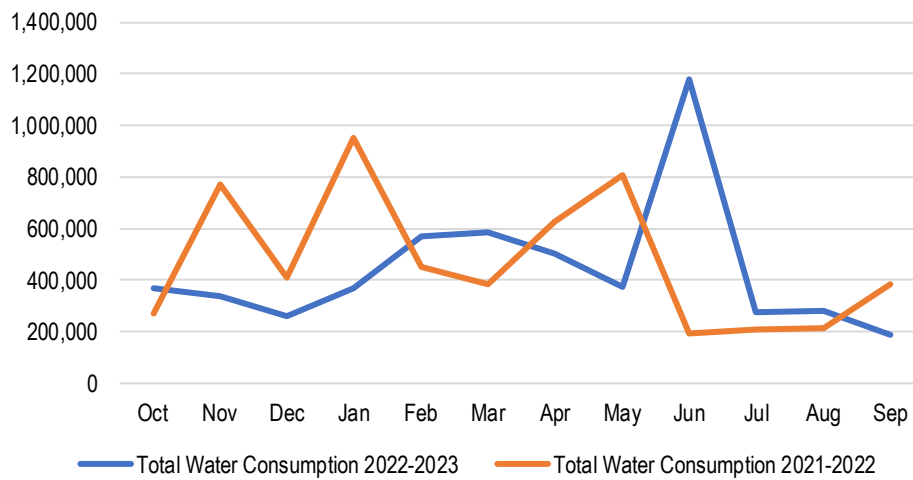
As detailed in the graphics, the potable water consumption is 'spasmodic' which is related to invoicing periods.

It is assumed that the significant lift in the September invoice period is in fact related to the June (Fielddays) consumption period.

The River Water offtake is significantly more regular, and naturally connected with the site's activity. The increased activity in the Fielddays periods is naturally evident along with other high demand periods of the year.



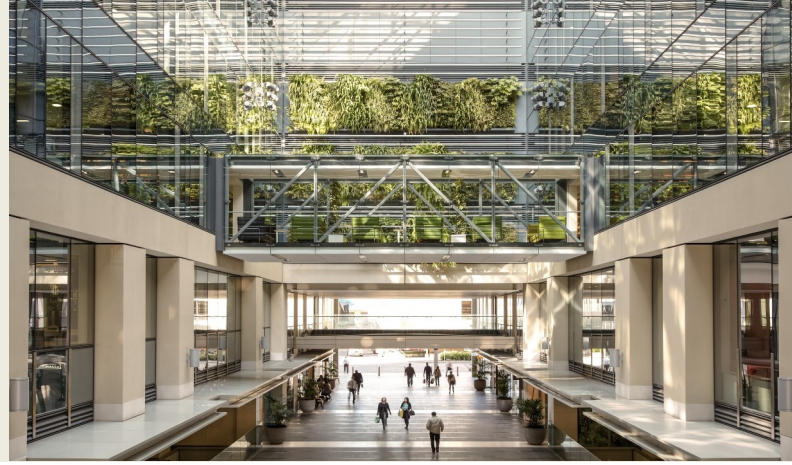
Total Water Consumption



INSIGHTS:

- Total water increase is clearly driven by 'spikes' in River Offtake in the specific month of June. Recent years have seen more reliable volume data available, especially with the River Offtake. As the data shows, it is a significant source with almost 7 million litres used.
- Potable water-use is 30% higher than 2021 - 2022, on the back of increased event days.

COMMUNITY



All businesses operate within a community; a community of staff members, local people and in the case of NZNFS their community of event exhibitors. Operating sustainably means respecting the needs and values held by the community and treating both the people, environment and biodiversity within, with respect.

INSIGHTS:

- NZNFS has become a local leader in its “Predator Free Mystery Campaign” with work in this area strongly maintained throughout 2022 - 2023 with dedicated staff resources continuing to grow.
- The Society’s Operational Management Team has recognised that one of NZNFS’s main areas of potential is its ability to influence wider stakeholders, including non Society-run events, attendees and exhibitors; and has started detailed planning for this in the 2023 - 2024 year.

2030 OBJECTIVES:

- ✓ Achieved
- In Progress
- ! Not achieved

Community

- 1. Work towards "Predator Free Mystery Creek".
- ✓ 2. Further engage exhibitor's to take on event sustainability Best Practices.
- 3. Collect ideas on how best to support local community groups and initiatives.
- 4. Further engage non MCEC events to incorporate sustainable practices into event days eg: waste diversion

SUSTAINABLE DEVELOPMENT GOAL SETTING:



NZNFS has set short, medium and long term goals around energy and fuel efficiency towards 2030 in line with the UN Sustainability Goals.

These goals align with the following Sustainable Development Goal (SDG):

SDG #11 for Sustainable .Cities and Communities

11 SUSTAINABLE CITIES AND COMMUNITIES



Target 11.4:

Strengthen efforts to protect and safeguard the world’s cultural and natural heritage.

2024

Short Term Goals

REDUCTION GOALS



2023 - 2024 GHG REDUCTION GOALS

A Quantifiable Reduction Goal is a crucial commitment to a percentage reduction over a specific time period in relation to either base year values or year-on-year reduction.

Commitments can be based on absolute values (i.e. reduce by x tonne CO_{2e}) or standardised metrics (e.g. reduce by x tonne CO_{2e}/ unit sale or event).

Due to the changed circumstance in the 2022 - 2023 reporting year, it is recommended that the NZNFS focus on the total tCO_{2e} emissions generated and commit to a 10% reduction in total tCO_{2e} emissions.

Therefore, setting a target of 203 tCO_{2e} emissions generated for 2023 - 2024, compared with the current level of 225 tCO_{2e} emissions.

NEW ZEALAND NATIONAL FIELDAYS
SOCIETY
HAS COMMITTED TO A TOTAL CARBON
EMISSION REDUCTION OF 10%
TARGETING A LEVEL OF
203 tCO_{2e} emissions for the
2023 - 2024 REPORTING PERIOD.

A LITTLE BIT ABOUT US

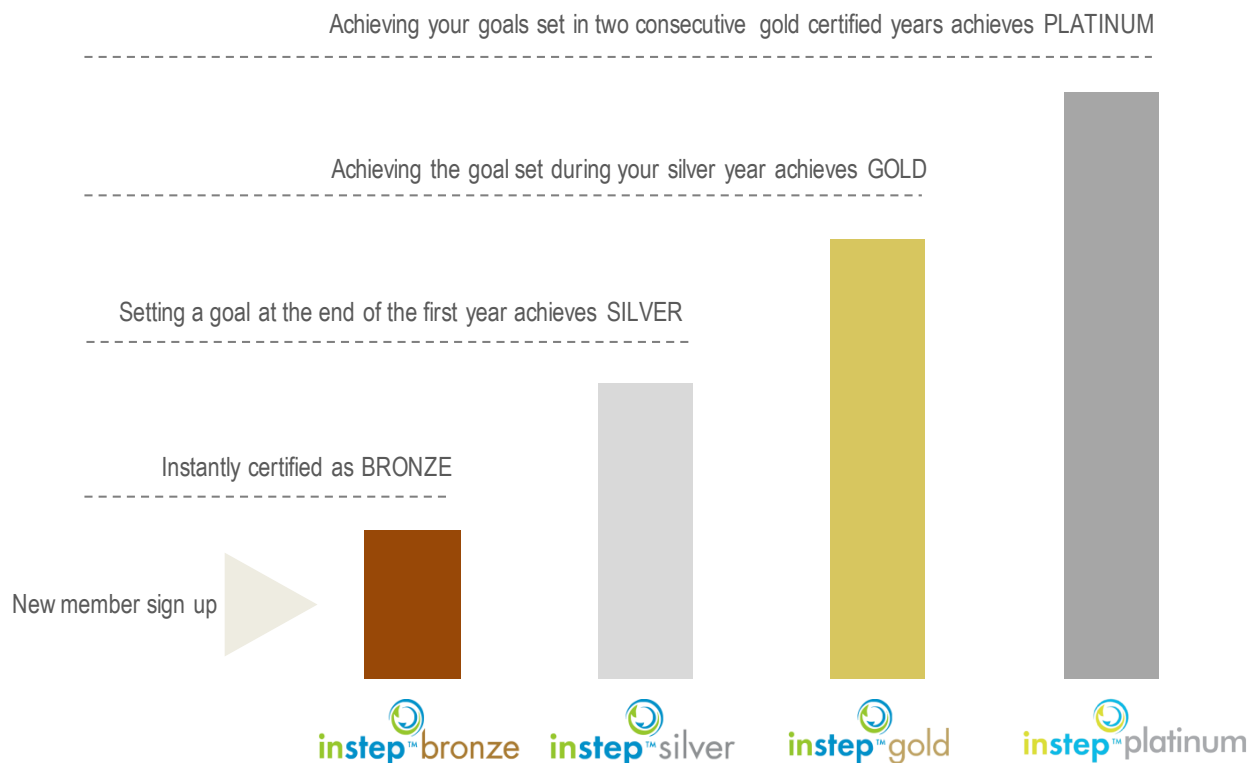


By joining the Instep Programme you are making a conscience decision to do something positive about a global problem. At Instep we believe that without first understanding your own impacts, one cannot take the right action. We strongly believe that your individual awareness and action has a more positive impact on our environment than the purchasing of carbon 'offsets'. Any effects of climate change cannot be reversed overnight, however you may be surprised how small changes through the Instep programmes can make a big difference to your own situation. At Instep, we like to look at the positive things you can do, and they might be easier than you think. Our experience has shown that if 'you measure it – you manage it'.

AS THE PROVERB GOES “EVERY JOURNEY OF A THOUSAND MILES STARTS WITH A SINGLE STEP”. THE INSTEP PROGRAMMES WILL ASSIST YOU IN YOUR OWN SUSTAINABILITY JOURNEY

THE CERTIFICATION PROCESS

On joining an Instep programme, members receive a Bronze participation certificate which shows that you have taken the initiative to manage your carbon emissions. On completion of the programme, Instep undertakes a full reassessment of your carbon footprint and certifies your operation depending on the target.



We then discuss goals for the future and how we can work together to achieve these agreed goals. The core focus of the Instep programme is emission reduction. By setting a goal for the coming year for emission reduction you will receive Silver certification. Members who then reach their reduction target at the end of that monitoring period are awarded Gold certification. Once you have reached Gold, if you continue to set and achieve your reduction goals for two consecutive Gold certified years, you will be awarded Platinum certification.

WHO ARE WE?

Peter Birkett, Director and Founder of Instep.

With over forty years' experience in the international specialist chemical industries, Director and Founder Peter Birkett knows that environmental monitoring and reporting must be carried out accurately, professionally and with little disturbance to business-as-usual. After viewing first-hand the environmental and sustainability issues industry and business face around the world Peter established Instep aiming to assist with minimising the impact of these processes on the environment and assist businesses of all types to meet the environmental challenges in today's business world.

Alisha Black, Technical Director Instep.

Scientific credibility and compliance with all International Standards are key to the success of the Instep programmes and consulting services. Under the control of Alisha Black and her scientific team we know that this requirement is achieved. Alisha completed her MSc in Biology at the University of Auckland in 2003, studying molecular genetics and environmental science. Since then her working experience has involved roles both in the laboratory and the field undertaking air, water and odour testing. Over the last 17 years Alisha and her team have created and developed the very successful range of Instep Carbon and Sustainability Programmes.

Margaret Birkett, Director and Finance Manager

Margaret's background is in education with many years of teaching both in the UK, Hong Kong and New Zealand. She subsequently moved into educational administration with responsibility for budgets, payroll and enrolments. Most recently she has held the roles of Careers, Gateway and STAR administrator, and International Student Manager-all within the educational system.

