

YEAR
5

**SUSTAINABLE
EVENT
REPORT**

Orange
F.O.O.D Week
1 - 10 APRIL, 2022



ORANGE F.O.O.D WEEK 2022

FAST FACTS



Consumed enough kWh to run a Leaf EV for over **62,950 km**



6,295 kWh

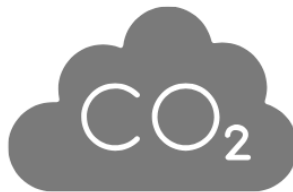
Enough energy to fuel 9 return trips between Orange and Sydney in a petrol car



> 302 L



Composted sufficient material to save...



265 kg of CO₂e emissions



Signature events returned excellent 87% landfill diversion rate saving...

621 kg CO₂e emissions



Reduced transport emissions saved the equivalent of...

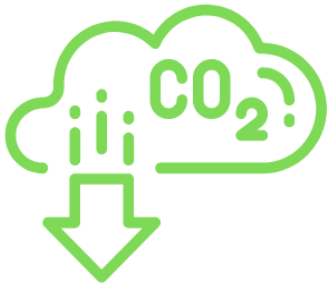


20 return flights to London

Air travel CO₂e emissions increase to account for 21.0% of travel emissions



ORANGE F.O.O.D WEEK 2022 FAST FACTS



Lowest
standardised
CO2e emissions
per visitor for total
event



0.0125 tonne
CO2e per visitor



0.028 tonne
CO2e emissions
per visitor to
signature events

13 Sheets per
visitor to signature
events..



Total # of
equivalent A4
sheets used



117,200 A4
sheets



2,398 litres of water
consumed at
signature events



Every visitor
consumed less
than 0.6 litres
of water

This report by **Instep (a division of Asian Scientific Technologies Limited)** has been prepared for
Orange F.O.O.D Week 2022
and is issued according to Instep standard terms and conditions.

ORANGE F.O.O.D WEEK
SUSTAINABLE EVENT PROGRAMME
1 - 10 April 2022



SUSTAINABLE EVENT 2022
ISO 20121

A handwritten signature in blue ink that reads "P. Birkett".

Peter Birkett
Author

A handwritten signature in blue ink that reads "M. Birkett".

Margaret Birkett
Peer Reviewer

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EXECUTIVE SUMMARY



Orange F.O.O.D Week has now been committed to sustainable event management for five years, incorporating environmental management and carbon footprint calculations into the event planning and staging. This year's event was held 1 - 10 April and whilst 2022 saw the return of the popular Night Market, the event programme continues to be re-developed after Covid-19's problematic period of 2020 and 2021, and without doubt general health and safety considerations were still at the forefront of the 2022 delivery. The main difference was the 'soft' return of the very popular Night Market which saw relatively low numbers of visitors compared with previous years. Vendors were also slightly down highlighting the somewhat tentative restart of this signature event. Despite the return of the Night Market, the change in programme for 2022 saw the large evening dinner withdrawn which, when combined with other factors, saw the total signature event visitors reduce to 4,002 against 4,500 last year. The 2017 event was established as the base year and comparisons will be made with findings of the most recent event of 2021, and the 2017 base year, with references to the pre covid year of 2019. During the event various Environmental Impact Areas (EIAs) were identified in order to set objectives and monitor progress. Data was collected over the duration of the event and followed up by post-event data collection with 2022 focusing on the newly developed programme consisting of seven signature events. All information was then used to calculate a carbon footprint for the event, assess whether objectives had been achieved, and recommend initiatives for environmental improvement in future. Results and objectives for all EIAs are summarised in Table A on the following page.












As part of the programme, a greenhouse gas (GHG) emission profile was calculated using internationally recognised methods.

Various EIAs were monitored and an emission profile of 111.45 tCO₂e was established, a significant reduction of 50.4% when compared with the 224.52 tCO₂e generated from the larger event in 2021. This equates to a reduced standardized carbon footprint of 0.028 tCO₂e per visitor for the seven signature events, down by 44.0%. It is important to acknowledge the smaller event in 2021, when compared with pre covid 2019, could only use an extrapolation of transport data provided in previous years. 2022 saw new survey results which changed the profiles of visitors' geographical regions assisting in significant reduction in transport-associated emissions. This assists the total event to deliver a reduction of 44% using estimated visitor numbers to record 0.0125 standardized tCO₂e emissions for 2022. Despite these significant improvements, transport emissions continue to dominate the CO₂e profile accounting for 98% of the total profile, down from the 99.7% last year.

ORANGE F.O.O.D WEEK 2022
COMMITTED TO SUSTAINABLE EVENT
MANAGEMENT ACROSS ALL AREAS OF
EVENT PLANNING AND STAGING.
AS AUSTRALIA'S LONGEST RUNNING
REGIONAL FOOD FESTIVAL, THE
ORGANIZING TEAM AIMS TO SHOWCASE
EXCELLENT ENVIRONMENTAL
STEWARDSHIP AS AN EXAMPLE TO
AUSTRALIA'S FOOD AND PRODUCE
EVENT SECTOR

Table A: F.O.O.D 2022 Summary of Results

 = Achieved
  = Partly Achieved
  = Not Achieved

Environmental Impact Area		Versus 2021	Objectives 2022		Summary
Energy	1.90 tonne CO _{2e}	↑ >100%	1. Ensure all generators are 'fit for purpose' and are not over capacity. This was partially achieved with the Producers Market using a 60 kVa unit when maybe a 20k Va would suffice		<p>The welcome back of the of the Night Market made significant impact on consumption rates and associated CO_{2e} emissions. This is especially noticeable in consumed electricity, LPG and diesel fuel consumption rates.</p> <p>Contrary to the above, not having the larger Annual Dinner assisted in returning a 94% reduction in consumption of Town Gas for 2022.</p> <p>LPG consumption is somewhat back in line with increased consumption due to vendors at the Night Market. The Mark Best dinner contributed for the first time in 2022. The 33.8% increase is directly attributed to the night market and Mark Best additions. A similar situation with diesel consumption, increased by Night Market consumption.</p>
	624 kWh Electricity	↑ >100%	2. Improve messaging to all event management that generators should be operated for the minimum hours possible whilst maintaining health and safety operational requirements.		
	0.5 m ³ Town Gas	↓ 94.2%	3. Communicate with all venue and facility management to seek assistance in obtaining actual power and gas readings both pre and post event. This was significantly better in 2022 with HQ meters easily accessible. However, other		
	113.15 kg LPG	↑ 33.8%			
	273 Lt Diesel	↑ >100%			
	22.0 Lt Petrol	↓ 31.0%			
Waste	0.092 tonne CO _{2e}	↑ >100%	1. Increase communications to all vendors and support staff seeking their assistance in minimizing quantity of waste, and strongly suggesting the 'take me home' programme assists in reducing emissions and costs.		<p>Increased CO_{2e} generation due to increased volumes of landfill waste.</p> <p>Increased landfill waste volumes on the back of increased visitors at the Night Market.</p> <p>Total landfill diversion rates also impacted by the return of larger waste-generating events.</p> <p>Organic material increases due to volume increases ex Night Market .Organic materials continue to contribute a significant 37% by weight.</p> <p>Actual sorting at the Night Market and Producers Market allowed confidence in the accuracy of organic and composting data.</p> <p>Landfill diversion again records over 87% across all events with Forage again recording an excellent 97%, Night Market's robust set of data delivers 86%, and the Producers Market went from zero to 76% due to sorting.</p>
	131 kg landfill waste	↑ >100%	2. Communicate and seek assistance from ALL stakeholders that all 'food ware' will be NON PLA and compostable to AS4736 standard or AS 5810 in the case of Forage.		
	46.9 kg recycling	↓ 0.5%	3. Create a plastic only bin at all waste stations to establish plastic footprint.		
	142.8 kg cardboard	↑ >100%	4. Establish Green Teams to separate out 'single use' light plastics that cannot be recycled within the 'general co-mingled' recycling regime.		
	378 kg organic	↑ 50%	5. Provide plastic collection points for 'behind the scenes' vendors. A single bin every 5 vendors will be required in identified 'hot spots'.		
	322 kg glass	↑ 142%	6. Continue to promote 'progressive ' programme to be PLASTIC FREE.		
	87.15 % landfill diversion	↓ 3.7%	7. Work with council to ensure full sets of waste stations are available at Cook Park.		
			8. Identify any impact from waste cooking oils or waste water.		

Environmental Impact Area		Versus 2021	Objectives 2022		Summary
Transport	109.40 tonne CO _{2e}	↓ 51.12 %	1. Promote Car sharing	✓	<p>Due to the challenging Covid associated restrictions, 2021 was not able to gather detailed transport related data across all areas. This meant that extrapolation was used using previous years' data. It was acknowledged that, as a result, this important area may be overstated for the 2021 period.</p> <p>It would appear this may have been the case, and when combined with improved car sharing, reduced visitor numbers, and reduced interstate traffic, 2022 records a significant 51% reduction in transport-associated CO_{2e} emissions.</p>
	357,252km car travel	↓ 20.2%	2. Explore opportunity to introduce 'bus route timetable' for selected events	✓	
	15,872 km train travel	↓ 74.3	3. Analyse and select appropriately sized vehicles used by event management	✓	
	79,376 pkm air travel	↑ 100%	4. Minimize event management vehicle travel distances where possible	✓	
	374 km bus travel	↓ 28.5%	5. Assist suppliers' travel distances by maximizing efficiencies with service requirements e.g. waste management	✓	
				6. Continue to provide mass transport options	
Materials	12,286A4 sheets	↓ 64%	1. Minimize printed material and utilize electronic administration where possible	✓	
			2. Avoid printing 'year sensitive' where possible	✓	
Water	2248L water	↓ 74.2%	1. Identify areas of excess consumption	✓	2022 programme changes deliver a significant saving due to, for example, the 300 Person Dinner with fully operational washrooms not included when compared with last year.
			2. Explore opportunities to dispose of 'excess' water in the most positive and useful way	✓	

INTRODUCTION



Sustainability and environmental concerns are becoming increasingly important amongst event visitors and stakeholders. The management team at Orange F.O.O.D Week has acknowledged these concerns and is committed to playing their part in bringing more sustainable events to not only the F.O.O.D Week organization, but to the Orange and NSW region's major events arena.

For five years Orange F.O.O.D Week, held in early April, has incorporated sustainable event management into its event planning and staging. The Instep Sustainable Event Programme (ISEP) follows international standard ISO 20121 which includes monitoring of sustainability metrics and calculation of greenhouse gas (GHG) emissions, or a carbon footprint as it is commonly referred to. Orange F.O.O.D Week is currently an ISEP certified Sustainable Event.

Benchmarking between both current and past F.O.O.D Weeks and other sustainable events, is now an established way to gauge each event's progress against Orange F.O.O.D Week's best practices for Sustainability.

$$\begin{aligned} & \text{CALCULATION METHODOLOGY} \\ & \text{ACTIVITY DATA X EMISSION FACTOR =} \\ & \text{GREENHOUSE GAS EMISSIONS,} \\ & \text{TONNE CARBON DIOXIDE EQUIVALENT} \\ & \text{(T CO}_2\text{E)} \end{aligned}$$

BACKGROUND: F.O.O.D Week, Orange, NSW Australia

Orange F.O.O.D (Food of Orange District) Week festival is Australia's longest running regional food festival and has been commended as one of Australia's top ten food festivals. The 2022 festival took the opportunity to deliver a slightly re-modelled programme on the back of

on-going pandemic caution in the community.

It was rewarding to see the return of the very popular Night Market after two years of not being able to be delivered due covid restrictions and general health and wellbeing considerations.

While visitor numbers were down against previous years, it was again highlighted how visitors appreciated the opportunity to enjoy one of Orange region's most loved events. Visitors and vendors from Orange, the surrounding towns and villages, as well as from throughout the NSW region, travelled to the event. The event is run by the F.O.O.D Week Association whose prime function is to coordinate and run F.O.O.D Week; a gourmet festival showcasing the region's food and wine, food producers, wineries, restaurants, chefs, caterers and cooks.

The association has always had as its goal "to promote the diverse and excellent regional produce from the district across three local government areas; Orange, Blayney and Cabonne" (<http://orangefoodweek.com.au/our-story>).

These three Shires, Orange, Cabonne and Blayney, are nestled in the heart of Central NSW and are known as 'The Food Basket' of NSW and each year F.O.O.D. Week celebrates this fact.

The festival is held over 10 days during April showcasing the region's exceptional local produce along with the producers, chefs, caterers and cooks behind it all.

As part of F.O.O.D Week, there are a number of major events which are designed to attract visitors to the region and promote the use of local produce.

This event is now recognized by Destination NSW as one of the flagship events of the state and has evolved to become a gourmet festival of national standing.

BACKGROUND: Sustainable Events

Increasingly, event organisers have recognised that staging an event can impact the environment in various ways, and many have embraced the challenge of running their event in the most sustainable way possible.

There are many definitions of the word “sustainable”. In terms of our natural environment, a sustainable event is one that ensures resources are used in such a way that they will remain available for others to use and enjoy. The key goal when undertaking a sustainable event is that environmental impact areas are identified and monitored so that strategies can be put in place to manage these areas in future, and ultimately reduce their impact.

As part of a sustainable event, a carbon footprint is calculated. A carbon footprint is a way of quantifying the amount of GHG emissions an individual, organisation or event is responsible for.

It is widely recognised that global emissions of the six GHGs are responsible for increasing the greenhouse effect in the atmosphere, and causing potentially dangerous levels of climate change.

To calculate a carbon footprint, all possible sources of GHG emissions must first be identified. Then activity data relating to the source is collected and the amount of GHG calculated using published emission factors. Emissions from all sources are then added together to give a total carbon footprint, or carbon emission profile, expressed in carbon dioxide equivalent or CO_{2e}.

Sustainable event planning and reporting is assessed against the internationally recognised ISO 20121. Instep provided independent monitoring at Orange F.O.O.D Week and collected data, both physical and theoretical, during the planning, administration and delivery of the event over the ten days.

Due to the size and variation of offerings, it is prudent to focus on the signature events spread over the duration of the event. This includes The Night Market, Sampson Street Lunch, F.O.O.D Week HQ, Mark Best Dinner, Forage, and the Sunday Producers Market at Cook Park.

This data was then used to calculate a carbon footprint for the event and reduction measures recommended. Instep follows the internationally recognised World Resources Institute Greenhouse Gas Protocol¹ to calculate carbon emissions and undertake quality assurance checks. Emission factors used in calculations are selected based on the best currently available. The report also determines compliance of the event to the International Standard ISO 20121².

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

1. World Resources Institute: 2004 GHG Protocol Corporate Standard

SUSTAINABLE EVENT PROGRAMME



ENVIRONMENTAL IMPACT AREAS

The Environmental Impacts of Orange F.O.O.D

Week 2022 were separated into the following areas:

- Energy*
- Waste* & Recycling
- Transport*
- Suppliers & Materials
- Water
- Attitudes & Legacy
- GHG Emissions

** these areas contribute directly to GHG emission calculations*

Objectives are set within each EIA to direct efforts and rate success.

A breakdown of the EIAs monitored within the event boundaries, and the objectives set for Orange F.O.O.D Week, are listed in Table 1 on the next page.

ORANGE F.O.O.D WEEK IS
COMMITTED TO SUSTAINABLE EVENT
MANAGEMENT ACROSS ALL AREAS OF
EVENT PLANNING AND STAGING.

ORANGE F.O.O.D WEEK AIMS TO
SHOWCASE EXCELLENT ENVIRONMENTAL
STEWARDSHIP AS AN EXAMPLE TO
AUSTRALIA'S MAJOR EVENTS SECTOR
IMPROVING MANAGEMENT OF EVENT
SUSTAINABILITY BY MONITORING
ENVIRONMENTAL IMPACTS THAT CAN BE
REDUCED IN FUTURE YEARS.

ORANGE F.O.O.D WEEK AIMS TO BE A
LEADER IN STAGING SUSTAINABLY
MANAGED EVENTS.

SHORT TERM GOALS

Orange F.O.O.D Week management is committed to aligning sustainability practices with the environmental concerns of food producers and supporting communities; leading by example when it comes to showcasing sustainable management.

Objectives and future goals are a crucial aspect of any sustainability programme and in addition to the ongoing objectives detailed on page 7 and 8, further short term objectives were set out in last year's report for the 2022 event. These annually reviewed objectives and targets deliver a three-step plan for each environmental impact area; some very ambitious signaling is a real commitment from the organisers to sustainability.

The actions, as detailed in each section of this report, will help form objectives for the coming year and steer Orange F.O.O.D Week towards its ultimate 2027 goal.

Working towards short, mid and long term goals allows the event management team continually improve its stewardship of this sustainable event and ensure Orange F.O.O.D Week 2022 complies with ISO 20121 Sustainable Event certification.

The short term 2022 targets and achievements are detailed in Table 1.

Table 1: Orange F.O.O.D Week 2022 Objectives

SHORT TERM - 2022	
Lower TOTAL CO _{2e} emissions by 2% from 2019 level (this has been left as the target due to 2021 being deemed as a dwell year)	ACHIEVED
Consider CO _{2e} mitigation for non transport emissions to become carbon positive.	WORK IN PROGRESS
Target a 2% reduction in total energy levels against 2019 levels. Require service venue providers to deliver actual energy consumption data (this has been left as the target due to 2021 being deemed as a dwell year)	ACHIEVED
Expand composting and continue with mandatory AS standard serve ware.	ACHIEVED
Make three major events 'plastic free'.	WORK IN PROGRESS
Consider food harvesting.	WORK IN PROGRESS
Create 'Hot Zones'.	ACHIEVED
Trial 'pickers' for entire event, this will clearly create a detailed waste analysis for each event.	PARTIALLY ACHIEVED
Improve and expand transport surveying to include vendors, stallholders and suppliers.	WORK IN PROGRESS
Focus on 'actual' travel details with visitors, and if possible utilise postcode	WORK IN PROGRESS
Examine possibility of council offering a selected car parking zone for 'car-pooling' visitors to The Night Market (this has been left as the target due to 2021 being deemed as a dwell year)	NOT ACHIEVED

BOUNDARY

A boundary that includes event areas which will contribute to GHG emissions is also decided on. Setting the boundary for an event can be difficult as events are often made up entirely of indirect GHG emission sources.

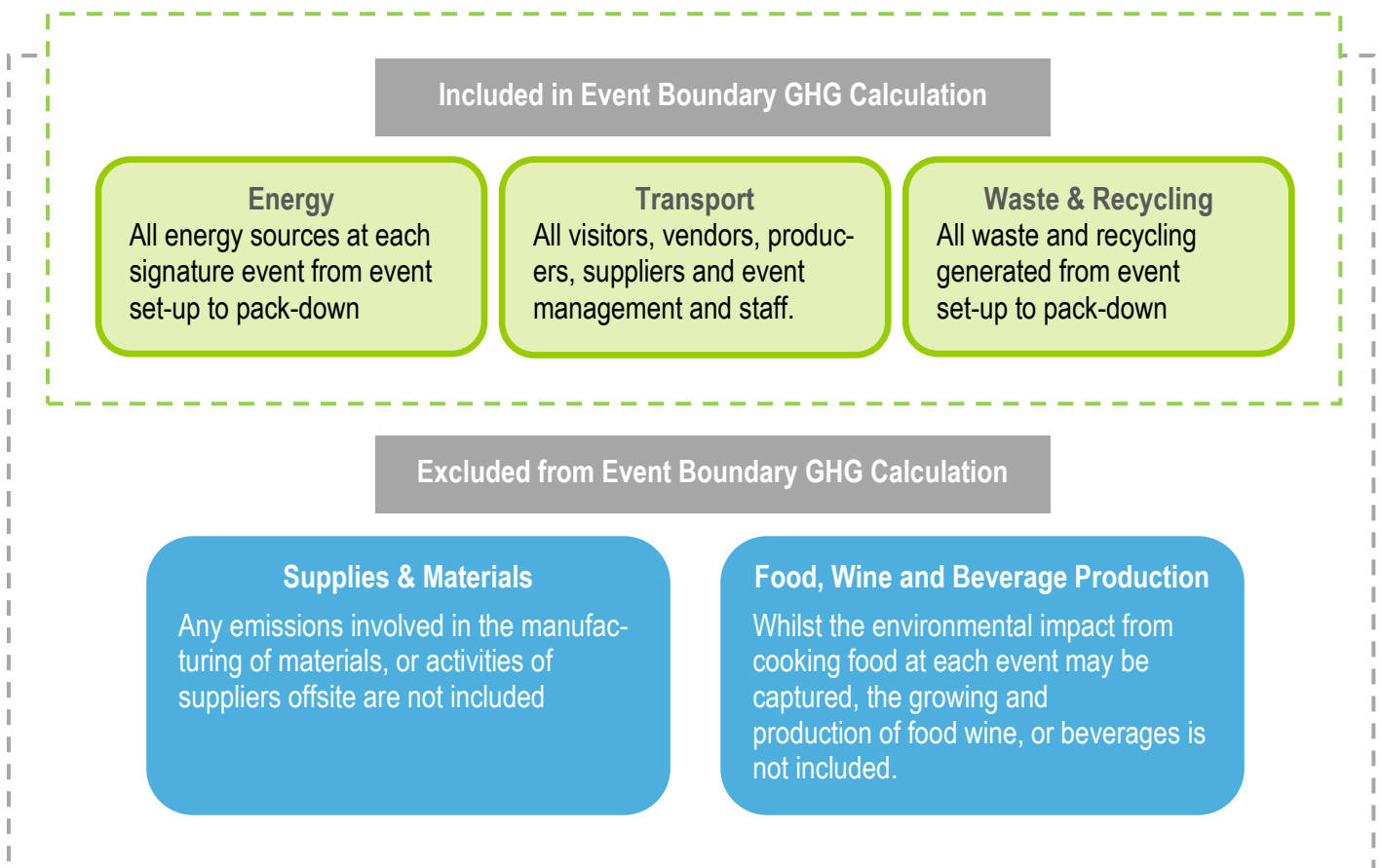
Indirect sources are those which event organisers do not directly own or control, but have indirectly contributed to. For example, event organisers often hire venues to stage their event, the operation of which may be left up to the venue owner as part of the lease agreement. This would be an indirect emission source. This is in contrast to direct GHG emission sources, which are those that event organisers own or control.

Boundaries for Orange F.O.O.D Week 2022 are depicted below.

BENCHMARKING

Benchmarking is a valuable tool for Orange F.O.O.D Week to compare sustainability strategies employed at similar sized events.

Although each regional food and wine producers' events may be similar, they can differ in size, geographical attraction of participants and logistical challenges, and this needs to be taken into account when making comparisons, however, benchmarking in this way allows lessons learned to be shared and can set a standard of best practice for sustainable events throughout regional events.



Event Boundaries Orange F.O.O.D Week 2022

METHODOLOGY



Instep provided independent monitoring throughout Orange F.O.O.D Week 2022 and put together calculations included in this report. Instep uses International Standard 20121 for Event Sustainability Management Systems during event planning phases, and the internationally recognised ISO 14064-1 to calculate GHG emissions. Emission factors used in calculations are the most current available for the particular source.

The second stage involves collecting data (both quantitative and qualitative) throughout the event, so that conclusions can be drawn around whether objectives have been met.

In order to do this, Instep staff attend the event while it is staged, collecting data independently of organisers. This is then backed up with other secondary data including energy bills and contractor invoices. For GHG emissions in particular, strict protocols around calculation are in place. Instep uses the internationally recognised ISO 14064-1 to calculate GHG emissions and ISO 14064-3 to verify.

Compliance against ISO 20121 is assessed post event to certify the event as a Sustainable Event.

BASE YEAR

A base year is a year for which there is good quality GHG and sustainability data available that can be used as a baseline to monitor future reduction success. Orange F.O.O.D Week's base year is 2017; the first year an environmental monitoring programme was put in place.


Comparisons are also made between the more recent previous events.

CALCULATION METHODOLOGY ACTIVITY
DATA X EMISSION FACTOR =
GREENHOUSE GAS EMISSIONS,
TONNE CARBON DIOXIDE
EQUIVALENT, TCO_{2E}

GHG

Emission Sources





"Greenhouse Gas Emissions from an event come from a wide range of sources including suppliers, visitors and hired equipment"

ENERGY

1.90 tonne CO_{2e}
 623.92 Kilowatts Electricity,
 0.5 m³ Town Gas,
 194.15 Kilograms LPG
 273 Litres Diesel
 29.5 Litres Petrol



Energy consumed in equipment is central to any event, but especially events such as F.O.O.D Week that provide facilities ranging from community halls to semi-remote, or open landscape areas.

Energy emission sources include electricity consumed in permanent-type event venues such as halls, government buildings etc.

These types of venues can, as in the case of the F.O.O.D Week HQ, consume a relatively small but nevertheless important quantity of piped gas for heating purposes.

Diesel and petrol consumption and associated CO_{2e} emissions are from event hiring of lighting towers and energy generators around the events, especially at outside locations. This can also include quad bikes, tractors or other equipment utilised.

LPG includes the use of LPG in portable cooking facilities which naturally are a key component in this type of event. Data is collected during the event through surveys and meter readings, and then followed up post-event with energy invoices where appropriate. Details of all activity data for the energy areas, the associated calculated emissions, and the percentage change from last year's results are shown on the following page in Table 2. Total emissions for Orange F.O.O.D Week 2022, from all energy sources, are 1.90 tonne CO_{2e} which is over 100% higher than 0.64 recorded in 2021. As detailed in Figure 1, this important scope continues to be dominated by three main energy sources; LPG, consumed electricity and diesel fuel .

Figure 2 details changes in CO_{2e} emission generation over the last five years. Significant changes have occurred over this period, and when coupled with the problematic covid period the result do change significantly.

A re-developed programme has delivered different, and generally smaller events over the last two years. This naturally somewhat distorts comparisons with previous years.

F.O.O.D Week 2022 saw a return to some form of normality with the return of the Night Market. This large event utilizes three main areas within the energy scope; mains electricity, diesel fuel and LPG. As a result all major KPIs recorded increases.

Total Energy CO_{2e} Emissions by Type 2022

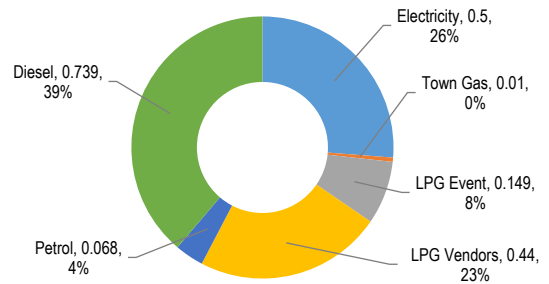


Figure 1: Total GHG Emissions Energy Sources

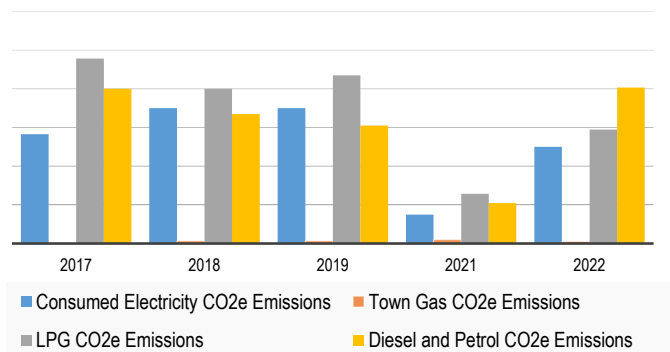


Figure 2: Energy Resource GHG Historical

TOTAL GREENHOUSE GAS EMISSIONS FROM ENERGY SOURCES IN 2022 ARE >100% HIGHER THAN 2021 AND 19.2% LOWER THAN THE BASE YEAR

Table 2: Energy Emissions & Consumption Year on Year

	Emission Source	Data Source	2022 Activity Data	% Change Activity Data vs. 2021	2022 GHG Emissions (tCO _{2e})	% Change GHG Emissions vs. 2021	2021 Activity Data	2021 GHG Emissions (tCO _{2e})	% Change GHG Emissions 2022 vs. Base Year
Electricity			kWh		t CO_{2e}		kWh	t CO_{2e}	
	Night Market	Meter readings	547.4	↑ 100%	0.44	↑ 100%	0	0	↓ 12.8%
	F.O.O.D HQ	Meter readings	25.42	↓ 68.6%	0.02	↓ 70.1%	81	0.067	↑ 100%
	Mark Best Dinner	Estimates	12	N/A	0.0097	N/A	N/A	N/A	N/A
	Forage	Estimates	8	↓ 20.0%	0.006	↓ 25.0%	10	0.008	N/C
	Producers Market Cook Park	Meter Readings	6	↓ 56.4%	0.0049	N/C	13.75	0.011	↓ 83.0%
	Sampson Street Lunch	Meter Readings	25.1	N/C	0.020	N/C	25.1	0.020	N/A
	Total Electricity		623.92	↑ 100%	0.505	↑ 100%	182.1	0.147	↓ 9.8%
Town Gas	F.O.O.D HQ	Meter Reading	0.5	N/A	0.001	↓ 92.9%	8.7 m ³	0.0141	↑ >100%
	Total Town Gas m³		0.5	↓ 94.2%	8.7	↓ 92.9%	8.7 m³	0.0141	↑ >100%
Diesel Petrol			Ls				Ls	tCO_{2e}	
	Night Market	Burn Rate	202.5	↑ 100%	0.807	↑ 100%	0	0	↑ 44.8%
	Forage	Burn Rate	45	↓ 28.3%	0.115	↓ 25.8%	62.8	0.155	↑ 5.5%
	Producers Market Cook Park	Burn Rate	50	↑ 100%	0.135	↑ 100%	22.5	0.059	↑ 22.7%
	Sampson Street Lunch	Estimates	5	↑ 100%	0.01	↑ 100%	0	0	N/A
	Total Fuel litres	Burn Rate/ Hrs	302.5	↑ 100%	0.807	↑ 100%	85.3	0.214	↓ 3.35%
LPG			kg				kg		
	Night Market	Survey	81	↑100%	0.247	↑100%	0	0	↓ 40.5 %
	Sampson Street Lunch	Survey	22	↑100%	0.067	↑100%	0	0	N/A
	Forage	Survey	33.0	↑7.84%	0.10	↑33,3%	30.6	0.11	↓ 9.1%
	Producers Market Cook Park	Survey	31.15	↓13.5%	0.095	↓13.6%	36	0.11	↑ 5.5%
	Total LPG	Survey	194.15	↑100%	0.59	↑100%	84.6	0.258	↓ 38.3%
TOTAL GHG Emissions					1.906	↑100%		0.64	↓ 19.2%

ENERGY OBJECTIVES: 2022

1. Ensure all generators are 'fit for purpose' and are not over capacity. ✓
2. Improve messaging to all event management that generators should be operated for the minimum hours as possible whilst maintaining health and safety operational requirements. ✓
3. Communicate with all venue and facility management to seek assistance in getting actual power and gas readings both pre and post event. ✓

OBJECTIVE 1:

Two different sized generators are used across the event. A 20KVa and a larger 60 KVa. The larger 60 KVa is suited for the Night Market while the 20 kVa is utilised for the reduced demand at the Forage and smaller events. 2022 saw the 60 KVa used at the Producers Market which may have been an over supply. Systems need to be in place to ensure appropriate size is specified and available from the rental provider.

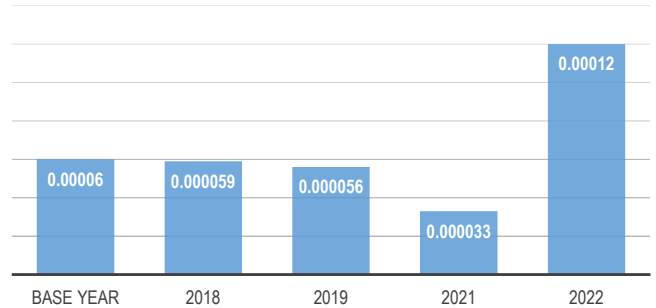
OBJECTIVE 2:

Instructions continue to be issued to all energy personnel involved in energy consuming areas. The operational management of this area continues to be well managed and minimizes over-run where possible. Despite the objective being mostly met, it could be documented with more certainty with a specific 'energy procedure' written up as part of the broader operational and management procedures, in line with the sustainability programme and ISO 20121 standard requirements.

OBJECTIVE 3:

This objective was only partially achieved in 2022. Meter data is now available at the HQ facility, but estimates are still required for Sampson Street and Mark Best Dinner. The complexity of this request is appreciated, especially when health and safety procedures are often an issue when attempting to access appropriate control rooms etc.

Electricity CO₂e Emissions Per Visitors Signature Events

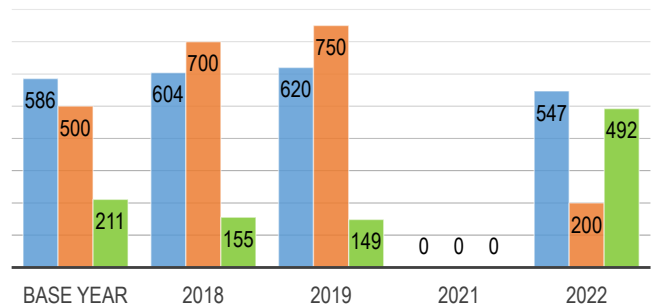


CONSUMED ELECTRICITY

As detailed in Table 2, consumed electricity increased by over 100% compared with last year; this is naturally a result of the re-introduction of the Night Market. The actual tCO_{2e} generated per visitor to each signature event varies significantly over the last 4 years due to a combination of changed programmes, changed locations, and importantly, reduced number of visitors over recent years.

New meters at Robertson Park may account for a slight deviation in raw data compared with previous years, but as shown above, the largest consumer of electricity remains fairly consistent, but the impact on efficiency rates are impacted by reduced visitor numbers.

Night Market



- Electricity Consumption kWh Night Market
- Visitor Numbers (normalised)
- kWh Efficiency per Visitor (normalised)

DIESEL CONSUMPTION

The 60KVa generator used at the Producers Market may be over supply for the event. It is acknowledged that often it is the availability from the rental provider; this offers an opportunity to explore efficiency improvement.



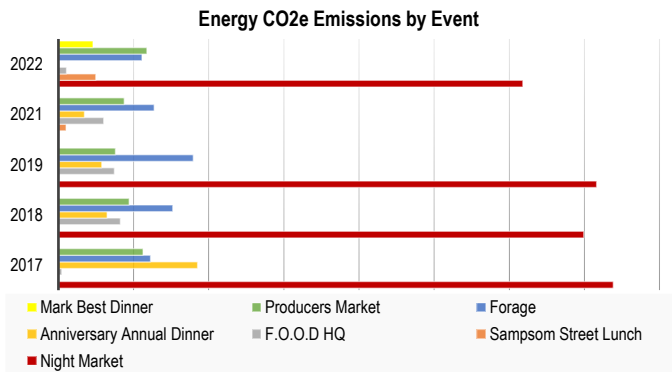


Figure 3: Total Energy CO_{2e} Emissions by Event

Figure 3 details total CO_{2e} emissions generated from consumed energy fuels at each signature event. This highlights the impact of the Night Markets' revival. Increases were recorded in three areas; Sampson Street Lunch, F.O.O.D Week HQ, and Producers Market. Increases of >100%, 75% and 34% respectively were recorded based on different reasons. Sampson Street Lunch recorded increased LPG usage against zero consumption last year, while HQ recorded a small quantity of mains gas. Producers Market utilised a 60 kVa generator for energy requirements. This increased the burn rate equation from 3.5 litres/ hr to 10 litres/hr.

Table 3: Energy Benchmarking Orange F.O.O.D Week 2022

Energy Benchmarking					
	F.O.O.D Week 2022	F.O.O.D Week 2021	F.O.O.D Week 2019	OTW Melbourne 2019	Fieldays 2021
	10 days	10 days	10 days	2 days	4 days
	4,002 visitors	4,500 visitors	12,368 visitors	680 teams or 2720 walkers	132,776 visitors
Total Energy tCO_{2e}	1.90	0.64	2.20	10.30	97.4
Total Energy tCO_{2e} / Visitor	0.000474	0.000142	0.000178	0.0038	0.00073
Total kWh Electricity	623.92	182.1	846.75	4,619	150,353
kWh per Visitor	0.155	0.040	0.068	1.70	1.13
Total LPG kg	194.15	84.6	290	381	9726
LPG kg/ Visitor	0.048	0.019	0.023	0.059	0.073
Total Fuel Ls	302.5	85.3	231	1,554	22,636
Fuel Ls/ Visitor	0.076	0.0189	0.0187	0.174	0.170
Town Gas m³	0.5	8.7	6.0	-	-
Gas m³/ Visitor	0.00012	0.0019	0.00048	-	-

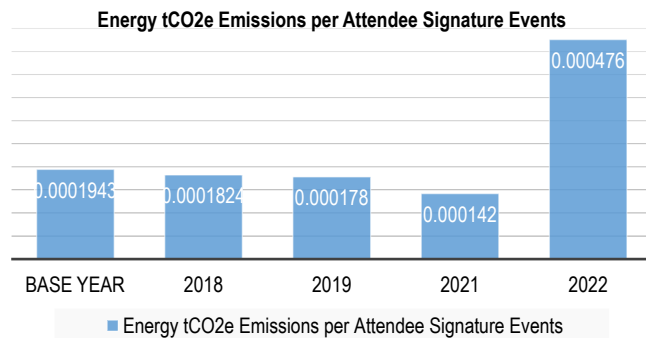


Figure 4: Total Energy CO_{2e} Emissions per Visitor at Signature Events

Figure 4 details significant increase in standardised energy tCO_{2e} emissions across signature events year on year. The inclusion of Night Market, and reduced visitors, impacts this important KPI. Table 3 details fuel benchmarking comparisons against 2019 and other ISO 20121 sustainable events.

Goals are set on a short (next event), medium (2 years) and long term (5 plus years) time-scale with the aim of challenging the status quo with an ambitious long term goal, yet scale this achievably by using shorter term objectives.

ENERGY GOALS BEYOND 2022:

Despite a changed programme for 2022, achievements and outcomes of energy objectives allows F.O.O.D Week to set future sustainability goals that will have maximum impact.

SHORT TERM 2022 (current.)

Target a 2% reduction in total energy levels against 2019 levels. (2020 and 2021 deemed a dwell years)

ACHIEVED

SHORT TERM 2023

Assuming the programme may revert to increased events and visitors it is prudent to still target a 2% reduction in total energy levels against 2022 levels.

MID TERM 2025

Engage in a detailed 'energy ' requirement analysis and examine future trends for external and remote energy provisions. Explore more efficient fuel for running generators and solar sources for lighting etc. Explore mitigation options.

LONG TERM 2027

Introduce a targeted portion of renewable powered energy sources. While not currently feasible for all areas, future technology will assist in reducing the use of fossil fuelled energy generation.

2023 ENERGY ACTIONS:

- Create an energy group to examine all energy requirements and whether there are examples of oversupply.
- Target an energy CO_{2e} emission ratio of 0.000200 tCO_{2e} compared with 0.000476 in 2022. (based on anticipation that 2023 will be a larger event than experienced in 2022)
- Explore mitigation opportunities (e.g. 'Switch off Campaign'). Total kWh for all energy in 2022 is 6,295 kWh.

WASTE & RECYCLING

0.092 tCO_{2e} Emissions
 1019.01 kg Total Waste
 130.88 kg Landfill Waste
 511.68 kg Recycling Material
 378.15 kg Organic Material
 79.3% Landfill Diversion



Table 4: Waste Emissions & Generation Orange F.O.O.D Week 2022

Source	2022 Activity Data				Data Source	2022 GHG Emissions (tCO _{2e})	% GHG Change vs. 2021 (tCO _{2e})	2021 Activity Data		2021 GHG Emissions (tCO _{2e})	Base Year GHG Emissions (tCO _{2e})	% GHG Change vs. Base Year (tCO _{2e})
	Total weight (kilogram)	% Change vs. 2021 (kilogram)	Total volume (cubic metre)	% Change vs. 2021 (cubic metre)				Total weight (kilogram)	Total volume (cubic metre)			
Landfill	130.88	↑ >100%	3.53	↑ 70.5%	Instep Audit/ Invoice	0.092	↑ >100%	50.9	2.07	0.036	↓ 32.5%	
Co-Mingled Recycling	44.17	↓ 5.4%	1.34	↑ 69.6%	Instep Audit/ Invoice			46.7	0.79			
Glass	322.5	↑ >100%	-	-				133	-			
Cardboard Recycling	142.78	↑ >100%	2.42	↑ >100%	Instep Audit			53.7	0.91			
Organic	378.15	↑ 50.0%	4.53	↑ 25.8%	Instep Audit			252.0	3.6			
TOTAL Waste	1019.0	↑ 90.0%	11.82	↑ 60.4%	Instep Audit	0.092	↑ >100%	536.2	7.37	0.036	↓ 32.5%	
TOTAL Landfill Diversion	887.6	↑ 82.8%	8.29	↑ 56.4%	Instep Audit			485.4	5.3			
Diversion Rate	87.10%	↓ 3.7%			Instep Audit			90.5%			↑ 100%	

Consumption in general, and the production of waste, have numerous negative environmental impacts. In particular, large volumes of waste sent to landfill consume resources and contribute to GHG emissions through waste breakdown and emissions of methane gas. The 2022 programme changes contributed to the increase of total waste by 90%; the Night Market contributed over 100% of the change against last year. Despite the Night Market contributing 68% of total waste generated over the signature events, a superb 87% landfill diversion rate is achieved.

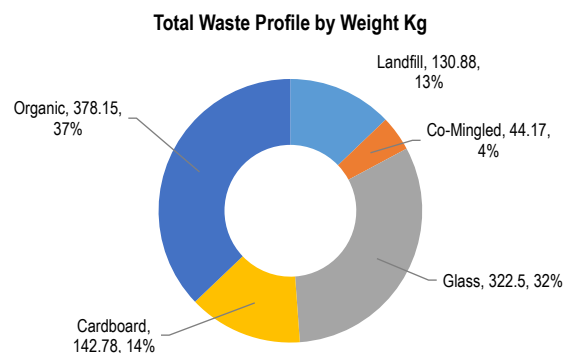


Figure 5: Total Waste Profile 2022

WASTE OBJECTIVES: 2022

1. Increase communications to all vendors and support staff, seeking their assistance in minimizing quantity of waste and strongly suggesting the 'take me home' programme assists in reducing emissions and cost. ✓
2. Communicate and seek assistance from ALL stakeholders that all food ware will be NON PLA and compostable to AS4736 standard or AS 5810 in the case of Forage. ✓
3. Create a plastic-only bin at all waste stations to establish a 'plastic footprint'. ✓
4. Establish Green Teams to separate out single-use light plastics that cannot be re-cycled within the general co-mingled recycling regime. ✓
5. Provide plastic collection points for 'behind the scenes' vendors. A single bin for every 5 vendors will be required in identified 'hot spots'. ✓
6. Continue to promote 'progressive' programme to be PLASTIC FREE. ✓
7. Work with council to ensure full sets of waste stations are available at Cook Park. ✓
8. Identify any impact from waste cooking oils or waste water. ✓

OBJECTIVE 1:

2022 saw a continuing and intensified effort in raising awareness and seeking the assistance of all stakeholders to identify and appreciate the impact waste generation has on the F.O.O.D Week event.

Proof of the success of this messaging is detailed in Figure 6 which highlights that despite the return of the Night Market, which generates close to 70% of the total event waste, material not sent to landfill remains very positive at 87%.

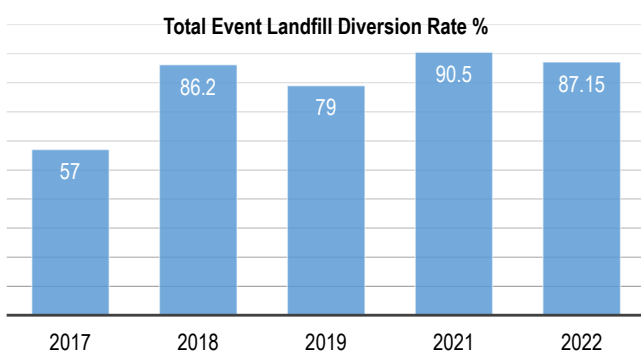


Figure 6: Landfill Diverted Material
25

OBJECTIVE 2:

Closely linked to Objective 1, this was again extremely successful with material aligned to AS 5810 (home composting) increasing by 50% compared with last year. An example on how this objective is gaining traction is the improvement at the Producers Market which saw AS 5810 material increase from zero to 63% of total waste. This solid improvement assists in lifting this event's landfill diversion rate from 0% to 73.38%. Issues do still remain as regards a presence of PLA product which has to go to landfill due to the challenges of disposal in Orange.

OBJECTIVE 3:

Despite a specific plastic waste stream could not be identified for the entire event, it was very positive to see vendors and stall holders separating single-use plastic, which was minimal. 2023 should identify all plastic volumes.

OBJECTIVE 4:

A small, but dedicated, team of sorters focused on The Night Market and The Producers Market resulting in a 50% growth in composting material in accordance with AS 5810.

OBJECTIVE 5:

This was partially achieved but a more detailed plan and messaging needs to be in place for 2023.

OBJECTIVE 6:

This programme is progressing well, and should see an expansion to eliminate all AS 4736 and PLA products as the number 1 objective for 2023.

OBJECTIVE 7:

While council did not assist specifically, establishing a waste sorting team and appropriate waste signage achieved the objective.

**WASTE DIVERSION RATE IS A GOOD
MEASURE OF PROGRESS.
ORANGE F.O.O.D WEEK 2022 ACHIEVED A
LANDFILL DIVERSION RATE OF 87.15%**

OBJECTIVE 8:

Although this is naturally considered, especially at the Night Market, there remains opportunities to ensure this is totally examined for 2023 in establishing ‘hot zone’ analysis.

Figure 7 highlights total weight of waste per visitor to each signature event. Again, the restructured programme naturally eliminates comparisons with the Night Market and F.O.O.D Train against last year. Only Forage and Food Week HQ (Shining the Light) recorded reductions in waste generated per visitor. The main contributor to total waste is the Night Market and as detailed, while higher than recent years, this is mainly due to visitor numbers, and when compared with the base year continues to perform well.

Figure 8 details percentage change of waste generated against the percentage of reduced visitors for the restructured 2022 signature events programme. For this comparison, the Night Market is compared with 2019.

As highlighted, there appears to be mixed results with Night Market, Sampson Street, and Producers Market all recording increases. This is likely to due to a combination of several factors including increased specific weight recording across all events, waste sorting in the case of Night Market and Producers Market, and reduced visitors at the Night Market and Producers Markets.

Other areas improved the ratio, with again HQ benefitting from actual weights rather than volumes only. Forage performed well with a 28.3% reduction compared to last year with identical visitor numbers. This is a challenging area, especially at the Night Market when vendors often have to gauge the quantities of food prep. required without knowing accurate visitor numbers.

As detailed in Figures 9 & 10, organic waste and landfill diversion rates continue to record positive levels.

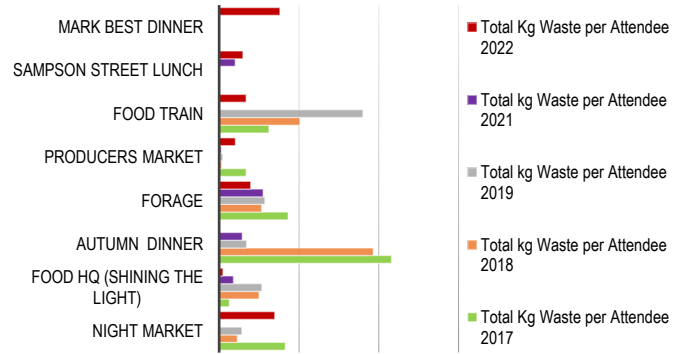


Figure 7: Total Waste Per Visitor At Signature Events

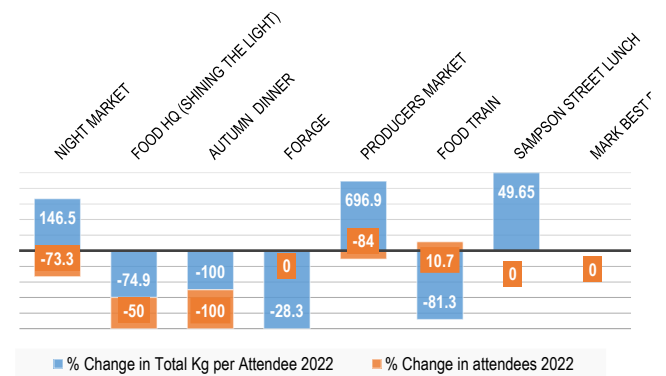


Figure 8: Total Waste % Change Per Visitor At Signature Events

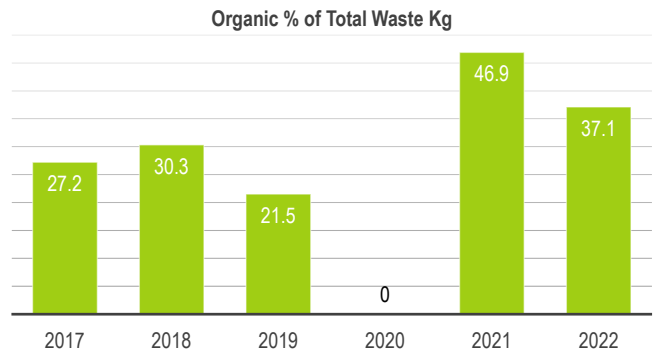


Figure 9: Organic Waste % of Total by Weight.

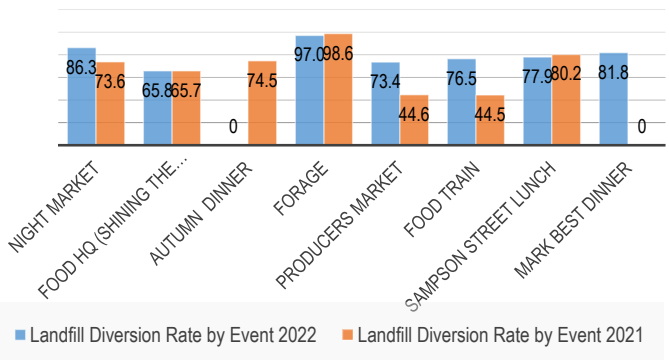


Figure 10: Landfill Diversion rate by Signature Events*

* Night Market compared with 2019

HIGHLIGHTS 2022

1. Total waste per visitor at signature events doubled from 0.13 kg per signature event visitor in 2019 to 0.25 kg per visitor (visitor numbers down 67.6% against 2019).
2. Total landfill diversion material per visitor increased to 0.22 kg per visitor compared with 0.10 kg per visitor in 2019.(visitor numbers down 67.6% against 2019).
3. Total kg waste generated reduced by 38.3% against 2019
4. Landfill diversion rate climbs to 87.1% compared to 79.2% in 2019.

Note: All compared against 2019.

2023 WASTE ACTIONS:

- Continue broadcasting and enforcing composting regime, mandating compostable serve-ware in accordance with AS 5810 (home composting) requirements for ALL vendors and events.
- Continue to target 'Plastic Free' and 'PLA Free' events in line with national trends and regulations.
- Trial 'Food Harvesting' at the end of Night Market.
- Create detailed waste contractor's contract to ensure total confidence in data and handling of waste pick-ups etc.
- Create 'hot zones' at Night Market, Forage and Producers Market.
- Service these 'hot zones' appropriately with waste handling systems.
- Engage 'pickers' for ENTIRE EVENT to get landfill down to 5%.
- Discuss possibilities for replacing single use coffee cups for the entire event

Table 5: Waste Benchmarking Orange F.O.O.D Market 2022

Waste Benchmarking						
EVENT	Orange F.O.O.D Week 2022	Orange F.O.O.D Week 2021	Orange F.O.O.D Week 2019	Oxfam Trailwalker 2019	Equidays 2017	NZ Fieldays 2021
	10 days 4,002 visitors	10 days 4,500 visitors	10 days 12,368 visitors	2 day 680 teams or 2720 walkers	3 days 22,209 visitors	4 days 132,776 visitors
GHG Emissions (tCO _{2e})	0.092	0.0356	0.24	0.283	0.8	18.60
Total Waste (kg)	1019	536.2	1,652	1,470	1,658	96.987
Total Landfill Diversion Material (kg)	888.1	485.4	1,309	660	795	37,163
Diversion Rate	87.1%	90.5%	79.2%	44.9%	48%	38%
Waste (kg) Visitor	0.25	0.12	0.13	2.16	0.07	0.73

GREEN TEAMS A MAJOR SUCCESS AT
NIGHT MARKET AND
PRODUCERS MARKET.
SEPARATING AND COMPOSTING
ORGANIC WASTE

WASTE GOALS BEYOND 2022:

Utilising achievements and outcomes of the 2019 and 2022 Waste Objectives allows Orange F.O.O.D Week to set future sustainability goals that will have maximum impact. Goals are set on a short (next event), medium (2 years) and long term (5 years) time-scale with the aim to challenge the status quo with ambitious long term goals, yet scale this achievably using shorter term objectives.

SHORT TERM 2023

Expand composting and continue with mandatory AS5810 standard serve ware.
Make ALL major events 'plastic free' and 'PLA free' to align with local and national trends and regulations on plastic and PLA handling.
Consider Food Harvesting.
Create 'Hot Zones'.
Sort ALL waste with 'pickers'.
Discuss possibilities for replacing single use coffee cups for the entire event.

MID TERM 2025

What does it take to be 'large skip' free at the Night Market?
Target less than 2% going to landfill
Get waste to a level where 'pickers' continue to be feasible to ensure 100% accuracy.

LONG TERM 2027 -

Aim to be 'plastic free', 'PLA free', full composting serve-ware, and less than 2% landfill.

Coffee Cup Discussion



Although this problem has been around for a number of years action is now being taken throughout the country to ban certain problematic plastic packaging. It is almost certain that this will include coffee cups lined with some form of plastic. The discussion will continue as regards compostable cups etc, but certainly this is an important issue and should be openly discussed with F.O.O.D Week coffee providers. This discussion should start now to get traction whilst national media focus on the pending and progressive plastic ban.

Every year, around one billion disposable coffee cups end up in Australian landfill. About 300 million of these, or one third of the national total, are disposed of in NSW.

What is a disposable coffee cup made from? There are a variety of disposable coffee cups available. Generally, disposable cups have three main components:

1. Cup: Most cups are made from virgin wood fibre.
2. Cup lining: The inside of paperboard cups are coated with a polymer lining to provide a waterproof barrier and structural integrity. It is estimated that up to 98% of the disposable coffee cups used in Australia are lined with Low Density Polyethylene (LDPE).
3. Lids: Cup lids are usually made from High Impact Polystyrene (HIPS). HIPS carries the plastic identification code #6 and is recyclable if it is separated and sent to a separate plastics collection system.

Given the composition of disposable coffee cups, there has been confusion regarding their recyclability. Disposable coffee cups can't go into a co-mingled recycling bin as existing paper recycling equipment cannot easily separate paper fibres from the polymer lining. Single use coffee cups are currently accepted for recycling in only a handful of council collections. Due to a thin plastic lining that makes them waterproof, *most coffee cups can't be efficiently processed in most paper recycling mills, so the majority are incinerated or sent to landfill.*

TRANSPORT

109.40 t CO_{2e}
 357,397 km Vehicle Travel
 15,872 km Train Travel
 79,376 pkm Air Travel
 374 km Bus Travel



The Impact of Transport is one of the largest in terms of event GHG emissions; the scope of this source extends to over 4,002 individuals travelling to, and attending, the signature event. 2022 saw significant changes in this high impact area and whilst a number of changes are easily accountable it makes sense to be reminded of last year's comments in the 2021 report, which read:

"Robust transport data was not available for the 2021 event so the extrapolation method has been used based on previous surveys in previous years. Whilst acceptable, this system unfortunately has a very high level of inaccuracy and does not have the ability to hinder the effort to report meaningful transport emissions. With this in mind, it is prudent not to attempt to report the visitors actual geographical origin as previously reported. However, extrapolation of distances travelled will capture the estimated variations in travelled distances"

It is therefore deemed that 2021 transport data could have been overstated.

Despite these challenges, several key aspects emerge from survey data available. Previous survey data has been used as a base to extrapolate and report total CO_{2e} emissions based on reduced visitor numbers for the restructured signature events.

As detailed in Figure 11, distances and associated CO_{2e} emissions are dominated by medium-sized cars which contribute 76.6% of total transport CO_{2e} emissions.

Domestic air increased against last year on the back of a small, but significant, change in interstate visitors and regions.

All other areas represent a low level of contribution recording less than 1% of the total transport CO_{2e} emissions.

Total Transport tCO_{2e} Emissions by Mode of Transport

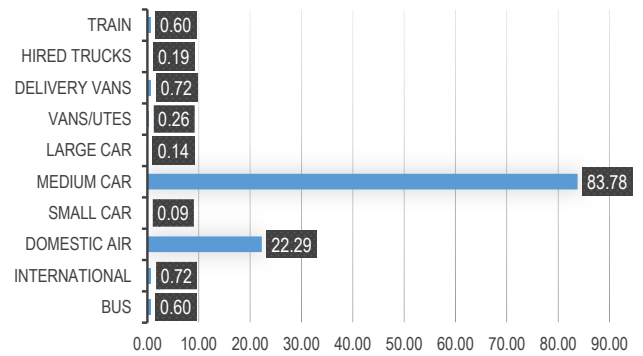


Figure 11: Total Transport CO_{2e} Emissions Profile 2022

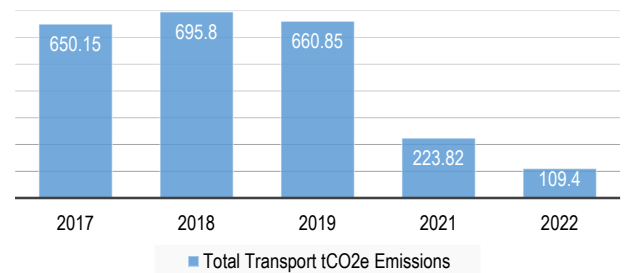


Figure 12: Total Transport CO_{2e} Emissions

Figure 12 highlights significant reduction in total transport CO_{2e} emissions compared with 2021 and previous years. As discussed previously, this is influenced by several changes.

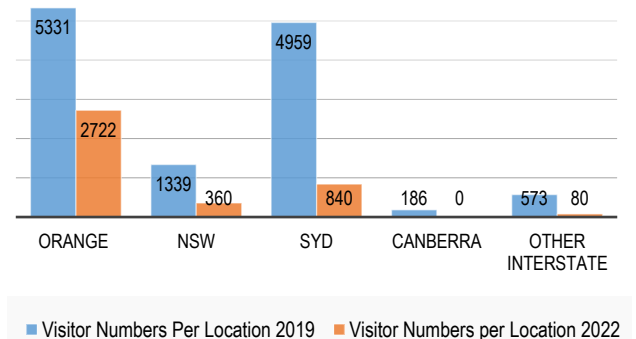


Figure 13: Total Transport CO_{2e} Emissions

Figure 13 details the main contributor of changing geographical areas that reduced numbers of visitors travelled from. The local Orange area dominated the visitor profile; 68% compared with 43% in 2019. Longer distance travel from Sydney reduced from 40% to 21%.

Table 5: Transport GHG Emissions Orange F.O.OD Week 2022

Emission Source	2022 Activity Data	Data Source	2022 GHG Emissions (tCO _{2e})	% Change tCO _{2e} vs. 2021	2021 GHG Emissions (tCO _{2e})	% Change tCO _{2e} 2022 vs. Base Year
Cars (pkm)	357,302	survey	84.01	↓ 61.4%	217.8	↓ 82.1%
Train (km)	15872	survey	0.60	↓ 74.4%	2.35	↓ 84.6%
Domestic Air (pkm)	75,053	survey	22.29	↑ >100%	2.26	↓ 79.0%
International Air (pkm)	4,323	Survey/records	0.72	↑ 100%	0	↑ 46.9%
4WD/ Large (km)	95	survey	0.26	↓ 11.0%	0.37	↓ 52.7%
Bus (pkm)	374	survey	0.60	↓ 28.5%	0.84	↓ 99.1%
Trucks (km)	70	survey	0.19	↑ >100%	0.01	↑ 72.7%
Other (km)	305	survey	0.73	↑ >100%	0.16	↑ >100%
Total Transport Km/CO_{2e}	453,394		109.40	↓ 51.12%	223.82	↓ 83.0%
Total CO_{2e} Per Visitor Signature Event			0.027	↓ 46.0%	0.050	↓ 61.5%
Total CO_{2e} Per Total Visitors			0.0122	↓ 45.5%	0.0224	↓ 76.3%

Table 5 highlights a significant reduction in all areas, with the exception of domestic and international air travel which was influenced by an increase in interstate travel; international air travel was Instep management attending the event compared with no visit in 2021.

The 'mix' of visitors' geographical travel made a huge difference with major reduction in travel from Sydney and an increase in shorter distances from the local Orange area.

When combined with an excellent survey statement reporting that 95% of visitors travelled in a single vehicle with 2 or more people, this delivers a 51% reduction in associated CO_{2e} emissions for 2022.

This reduction could have been higher, but the wording of the survey wasn't quite correct and didn't allow an accurate calculation to account for vehicles with 2 or more in them.

KEY POINTS 2022

1. A 10.7% reduction in visitors naturally influences travel distances
2. Over 4000 fewer visitors from Sydney compared with 2019.
3. Local Orange visitors make up 68% of total visitors compared with 43% in 2019.
4. Carpooling increased to 95% for 2022.

**CAR TRAVEL CONTRIBUTES OVER 75% OF
TOTAL TRANSPORT CO_{2e} EMISSIONS
WHICH REDUCED BY
51.1% AGAINST LAST YEAR.**

TRANSPORT OBJECTIVES

1. Promote car sharing ✓
2. Explore opportunities to introduce bus route timetable for selected events ✓
3. Select appropriate size and type of vehicle for event management ✓
4. Minimise event management vehicle travel distance where possible ✓
5. Assist suppliers travel distances by maximizing efficiency ✓
6. Continue to provide public and mass transport options and advice ✓

OBJECTIVE 1:

Event management continues to promote car-pooling and share-rides. 2022 saw an excellent 95% surveyed reporting 2 or more in a vehicle. Further detail on actual number of vehicles used for car-pooling would be useful. For example: the survey asks 'how many were in your travelling or visiting group?'. Whilst important from a mass visitor point of view, it may fall short in establishing how many and what type of vehicle was used. This will become more important as EV use increase.

OBJECTIVE 2:

This objective continues to develop and whilst logistically challenging, and maybe not worthy at this time, it would certainly enhance the mass transport type approach in the future.

OBJECTIVE 3:

Total CO_{2e} emissions from this important area continue to be at consistent levels with careful selection and allocation of hire or volunteer vehicle use. This is especially noticed with electric powered ATV used at Forage.

OBJECTIVE 4:

Another area where often volunteers or organizers travel significantly more kilometres than logged. Ensure planning of delivery, pick-ups etc. are in line with minimizing travel distances and inefficiencies.

OBJECTIVE 5:

Similar to Objective 4 where focus is now on ensuring the event minimizes suppliers' travel. This is important in the hire area where any over-catering can lead to wasted travel and associated emissions and costs.

OBJECTIVE 6:

Local marketing and information is excellent and whilst somewhat limiting from a public transport point of view, promotion of train and bus (within the management of the event) continues to be very successful.

OBSERVATIONS

- * A number of assumptions had to be made which resulted in extrapolated travel allocation.
- * Interstate interpretation has the ability to change distance travelled and associated CO_{2e} emissions significantly.
- * Bus services took a minimum of 250 cars off the road and saved an estimated 3,100 kg of CO_{2e} emissions.

**CAR TRAVEL CONTRIBUTES OVER 97% OF
TOTAL TRANSPORT CO_{2E} EMISSIONS
WHICH REDUCED BY
66.1% AGAINST LAST YEAR.**

TRANSPORT GOALS BEYOND 2022:

More robust data allows a more accurate reporting of transport emissions in 2022, unfortunately, this is also strongly influenced by the change of geographical travel.

Utilising the achievements and outcomes of the 2022 Transport Objectives allows Orange F.O.O.D Week to set future sustainability goals that will have maximum impact.

Goals are set on a short (next event), medium (2-3 years) and long term (5 years) time-scale with the aim to challenge the status quo with an ambitious long term goal, yet scale this achievably using shorter term objectives.

SHORT TERM - 2023

If possible improve and expand transport surveying to include vendors, stallholders and suppliers.

Focus on 'actual' travel details with visitors, and if possible utilise post code details.

Continue analysing bus services to expand selected routes. (Night Market?)

Examine possibility of council offering a selected car parking zone for 'car-pooling'

MID TERM 2025

Evaluate an electric bike hire system for travel within a set radius.

Consider 'car share' app.

Negotiate discounted rates with rail providers to promote increased train use from Sydney.

Consider EV mini bus service.

LONG TERM 2027

Increase Electric service vehicles and electric transport services offered to visitors.

Table 6: Transport Benchmarking Orange F.O.O.D Week 2022

Transport Benchmarking					
EVENT	F.O.O.D Week 2022	F.O.O.D Week 2021	F.O.O.D Week 2019	NZ Fieldays 2021	Oxfam Trailwalker Sydney 2018
	10 days 4,002 visitors	10 days 4,500 visitors	10 days 12,396 visitors	4 days 132,776 visitors	3days 533 team 2132 walkers
GHG Emissions (tCO _{2e})	109.40	223.82	660.85	4,684	139.82
Largest Transport Impact	visitors 97%	visitors 99%	visitors 99%	visitors 90%	Teams/support 88%
Car Emissions (tCO _{2e})	84.01	217.8	639	4,216	45.10
Total kgCO _{2e} /Visitor	27.3	49.7	53.31	35.3	65.6

TOTAL GREENHOUSE GAS EMISSIONS

111.45 tonne CO_{2e}



Table 7: Total Greenhouse Gas Emissions Orange F.O.O.D Week 2022

Emission Source	2022 GHG Emissions (tCO _{2e})	2021 GHG Emissions (tCO _{2e})	% Change GHG Emissions vs. 2021	% Change GHG Emissions vs. Base Year
Energy	1.90	0.64	↑ >100%	↓ 17.5%
Waste	0.092	0.036	↑ 100%	↓ 32.3%
Transport	109.4	223.82	↓ 51.1%	↓ >100%
Distributed Losses	0.06	0.02	↑ >100%	↓ 33.3%
Total GHG Emissions	111.45	224.52	↓ 50.4%	↓ 82.9%
t CO _{2e} / visitor signature event	0.028	0.050	↓ 44.0%	↓ 60.0%
t CO _{2e} / visitor total event	0.0125	0.0225	↓ 44.4%	↓ 80.0%

Orange F.O.O.D Week’s Carbon Footprint is made up of all GHG Emission sources detailed in the previous sections of this report, namely energy, waste and transport. While actions to reduce emissions need to be made within each of these three areas, the event’s total carbon footprint and the footprint intensity per event, act as an overall indicator of progress made towards sustainability goals.

Figure 13 details transport emissions; as in most events they continue to dominate the total emission profile. This area is a challenge for any event management group due to the limitations they have on influencing the way visitors travel to the event, and often the challenges in getting robust data. Once again in 2022, the management group maximized opportunities to manage this area as best they could by providing bus transport for specific events, and encouraging mass transport, or car sharing, where possible. Table 7 highlights the impact of reduced visitor numbers and dominance of local travel which reduces transport-associated emissions significantly. This assists in delivering improved standardised CO_{2e} emissions (Figure 14).

Total tCO_{2e} Emissions 2022

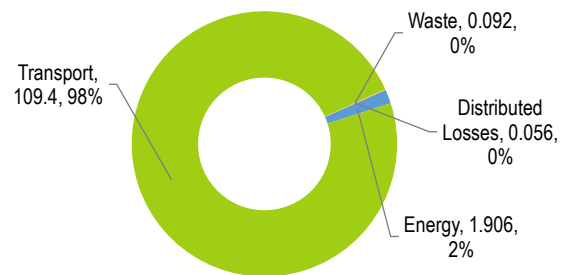


Figure 13: GHG Profile Orange F.O.O.D Week 2022

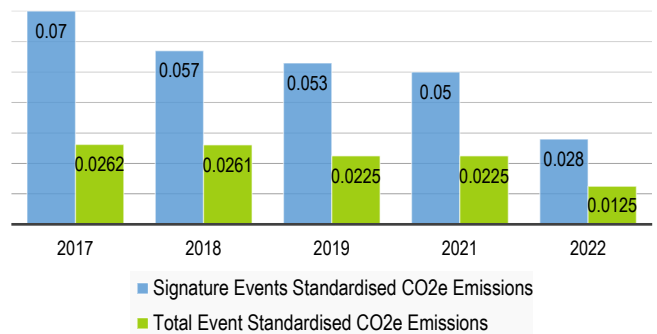


Figure 14: Standardised tCO_{2e} Per Event

EXCELLENT 44% REDUCTION FOR SIGNATURE EVENTS' STANDARDISED CO_{2E} EMISSIONS v LAST YEAR AND 60% v BASE YEAR

Figure 15 highlights significant progress made since starting the Instep Sustainability Event Programme in 2017. Whilst 2021 and 2022 somewhat distorts the pattern due to changed circumstances, it does highlight excellent controls in place for most of the events delivered; even in newer events such as Sampson Street Lunch and Mark Best Dinner where all aspects of emission profiles were at low levels. Positive results from Night Market and Forage highlight these events have embedded sustainability and emission controls into their delivery. The Producers Market took a significant step forward in 2022 with a very positive waste management initiative which saw 73% of waste diverted from landfill. Continual change in state and national waste regulations have the potential to impact the waste programme and management will need to engage with all stakeholders in readiness for 2023 where changes in plastic-based waste management will need to be addressed.

TOTAL GHG OBJECTIVES

1. Use the ghg emission profile to focus reduction efforts ✓
2. Continue to lower the carbon footprint per visitor ✓
3. Track total emissions year on year from 2017 base year levels ✓

OBJECTIVE 1:

While F.O.O.D Week's overall GHG emission profile continues to be dominated by transport emissions, 2022 saw significant reductions to change of visitors' geographical travel; an excellent 95% reported they car-shared to the event. It is suggested the survey include more detail on travel arrangements to ensure more accurate reporting in this important area.

OBJECTIVE 2:

The impact from transport choices is the main contributor to the total carbon footprint per visitor. 2021 and 2022 delivered a number of anomalies due to changed signature event programmes; the lack of robust

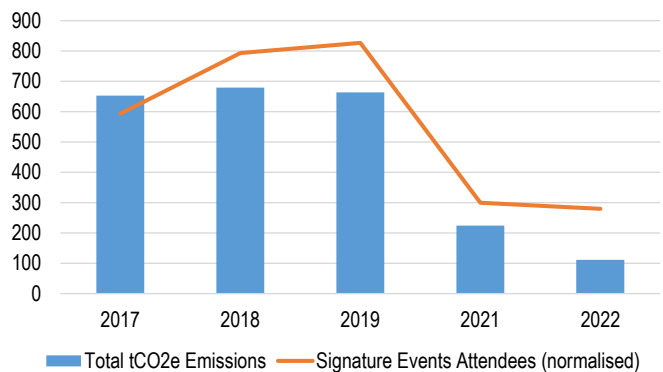


Figure 15: Total CO_{2e} Emissions and Visitors Trends

transport data in 2021 potentially delivered an inflated emission profile for 2021.

An 11% reduction in visitors for signature events assisted in reducing transport emissions and assisted in reducing both total and standardised CO_{2e} for the current year.

OBJECTIVE 3:

Orange F.O.O.D Week management continues to be extremely successful in controlling total CO_{2e} emissions compared with the base year.

GHG EMISSION GOALS, BEYOND 2022:

Utilising achievements and outcomes of 2022 GHG emission objectives allows Orange F.O.O.D Week to set future sustainability goals that will have maximum impact. Goals are set on a short (next event), medium (2-3 years) and long term (5 years) time-scale with the aim to challenge the status quo with an ambitious long term goal, yet scale this achievably using shorter term objectives.

SHORT TERM - 2023

Lower TOTAL CO_{2e} emissions by 2% from 2022 level.
Consider CO_{2e} mitigation for non transport emissions to become carbon positive
Reduce CO_{2e} emissions per visitor by 3% v 2022

MID TERM 2025

Consider CO_{2e} mitigation for non transport emissions to become carbon positive


LONG TERM 2027

.Develop a mitigation programme for entire emission profile

SUSTAINABILITY

MEASURES





"These do not contribute to your GHG emissions but including these sources helps you manage and reduce your consumption of resources."

MATERIALS

117,200 A4 sheets



Table 8: Materials Orange F.O.O.D Week 2022

Source	Data Source	2022* Activity Data A4 equivalents
F.O.O.D Week Programmes	records	117,000
Others	records	170
Raffle Tickets	records	30
Total # A4 sheets		117,200

Paper and Publications is now included as a Sustainability Measure, meaning quantities are monitored without associated GHG emissions.

Major events such as Orange F.O.O.D Week rely on sharing important information with visitors, vendors, media and other stakeholders using printed materials such as programmes, schedules and crucial health and safety aspects related to any event in the public arena. Although not contributing to the CO_{2e} emission profile, this area is a crucial sustainability aspect to F.O.O.D Week, delivering key information to eager visitors wanting to know what's on and where.

Technological advances certainly assist in sharing such information and it is expected that paper and publications will be minimized in coming years.

Robust data was not available at the time of writing, resulting in extrapolation of calculations carried out for 2022.



Review year sensitive printing (Library Photo)

MATERIALS OBJECTIVES

1. Minimize printed material ✓
2. Avoid year-sensitive printing where possible ✓

OBJECTIVE 1:

For an event of this size the quantity of print material is low. The main contributor is the important Event Programme which is a high quality, 46 page, A5 booklet-style programme delivering information on every event during the event period.

OBJECTIVE 2:

This appears not to be achievable due to the largest print run being the important programme as discussed, however, internal communications can still avoid year sensitivity.

2023 MATERIALS ACTIONS:

- Promote electronic communications as much as possible including Apps where available.
- Carry out an in depth stationery and information audit.

WATER CONSUMPTION

2,398 litres

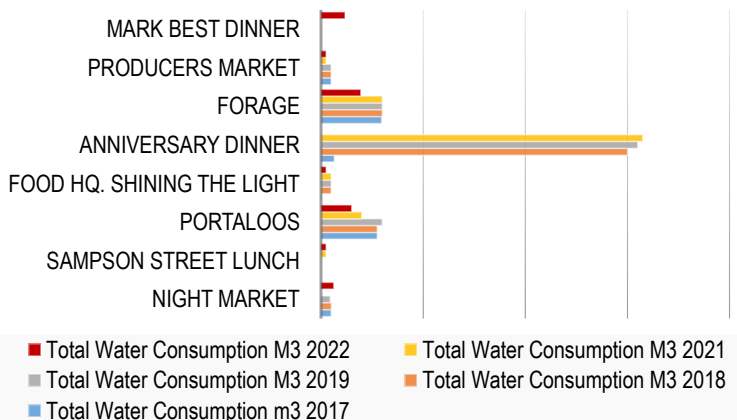


Table 9: Water Consumption by Signature Event

Including Water Conservation and waste water management into an event is an integral part of its sustainability, now and into the future. Whether an event is an indoor or outdoor venue, it will use clean water and produce waste water. An event may consume and dispose of metered water or impact on natural waterways.

2022 continues to see respect for this important commodity well entrenched into the event's ethos. Levels of consumption remain well under control with a large 72% reduction driven by altered programmes which delivered reduced total numbers. Despite the return of Night Market, volumes eliminated by not including a large scale hall-style 'Dinner' accounted for most of the reduction.

These events are traditionally higher consumers as diners enjoy the comforts of the hall's permanent facilities. As detailed in Table 9, portaloos consumption reduces due to lower visitor numbers while all other areas record reduced consumption.

TOTAL WATER CONSUMPTION IS LESS THAN 1 LITRE PER VISITOR

WATER OBJECTIVES

1. Identify areas of excess consumption ✓
2. Explore opportunities to dispose of excess water in the most positive and useful way possible ✓

OBJECTIVE 1:

As suggested, this crucial and important area is well understood by all stakeholders involved in the event, including visitors. While water availability is an important aspect of any event, the waste water factor continues to be a messaging opportunity for event organisers.

OBJECTIVE 2:

In line with Objective 1, little waste is generated and where it is, it appears to be disposed of in a responsible manner.

2023 WATER ACTIONS:

Work with all suppliers to provide accurate and robust data.

Make the availability of this data part of the contractual arrangement at the early stage of planning with all stakeholders.

ENVIRONMENTAL ATTITUDES



One of the indirect positive benefits from undertaking an Instep Sustainable Event Programme is the wider impact the event can have on the education and awareness of participants and stakeholders on sustainability issues.

Strategies and ideas around the environment and sustainability can be shared through communication with stakeholders e.g. pre-event newsletters, on-site signage and through engagement in the sustainable event process such as active encouragement to recycle and feedback in surveying.

Orange F.O.O.D Week management has strong relationships with their suppliers, visitors, supporters and stakeholders in general, and continues to increasingly create more awareness around environmental sustainability and lasting positive action.

Evidence of improving attitudes towards environmental issues was seen in many areas:

- Positive feedback on the minimization of waste.
- Response to requests around transport considerations.
- A cementing of sustainability as central to F.O.O.D Week's ethos and the benefits that it provides to the Orange regional area in general.



Sustainable actions leave a lasting image and set the tone for a can-do attitude.

Essential catering material need not be unsustainable nor hinder the quality of presentation or delivery.



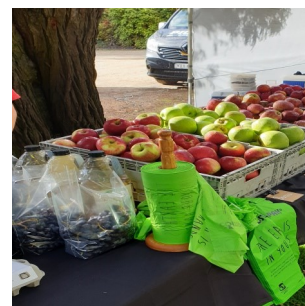
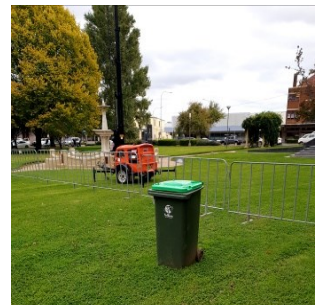
It may be a challenge to service a rural and outdoor event but sustainable electric ATVs deliver very positive messaging.

Third Party Eyes

A Sustainable Event Programme must present event management with questions as well as answers.

The following is a list of questions, observations and opportunities from the Instep team to be included in future planning.

- * The irony of sustainable products being wrapped in single use plastic!
- * PLA Water drink cups - 'landfill here we come!' Restricted from 2023.
- * *We're getting sorted*
thanks to an enthusiastic set of youngsters.
- * Positioning of skips and bins are crucial.
- * Thanks go to the team member who taped up the public bins. Means we got more accurate data.
- * A lonely 'single bin regime' just doesn't work.
- * Clean and up to standard waste bins are an essential component to a world class FOOD Show.
- * Significant move by most vendors at Producers Market to use compostable packaging.
- * Sort ALL waste generated from ALL events to establish absolute waste stream analysis.



2023

LOOKING AHEAD



"A reduction goal for the future is an essential component to reducing your emissions. It allows progress to be tracked over time."



REDUCTION GOALS



FUTURE GOALS

Orange F.O.O.D Week management is committed to aligning sustainability practices with the environmental concerns of food producers and supporting communities; leading by example when it comes to showcasing sustainable management.

Again 2022 delivers the three-step plans for each Environmental Impact Area; some very ambitious signaling is a real commitment from the organisers to sustainability. The actions as detailed in each section of this report, will help to form objectives for the coming year and steer Orange F.O.O.D Week towards its ultimate 2027 goal. Working towards a short, mid and long term goal allows event management team continually improve its stewardship of this sustainable event and ensure Orange F.O.O.D Week complies with ISO 20121 Sustainable Event certification.

SHORT TERM - 2023

Lower TOTAL CO_{2e} emissions by 2% from 2022 level.
Consider CO_{2e} mitigation for non transport emissions to become carbon positive
Lower CO_{2e} emissions per visitor by 3% v 2022

Assuming the programme may revert to increased events and visitors, it is prudent to still target a 2% reduction in total energy levels against 2022 levels.

Expand composting and continue with mandatory AS5810 standard serve ware.
Make ALL major events 'plastic free' and 'PLA free' to align with local and national trends and regulations on plastic and PLA handling.
Consider Food Harvesting.
Create 'Hot Zones'.
Sort ALL waste with 'pickers'.
Discuss possibilities for replacing single use coffee cups for the entire event.

If possible improve and expand transport surveying to include vendors, stallholders and suppliers.
Focus on 'actual' travel details with visitors, and if possible utilise post code details.
Continue analysing bus services to expand selected routes. (Night Market?)
Examine possibility of council offering a selected car parking zone for 'car-pooling'

MID TERM - 2025

Consider CO_{2e} mitigation for non transport emissions to become carbon positive
Reduce CO_{2e} emissions per visitor by 5% versus 2022

Engage in a detailed 'energy' requirement analysis and examine future trends for external and remote energy provisions. Explore more efficient fuel for running generators and solar sources for lighting etc.
Explore mitigation options.

What does it take to be 'large skip' free at the Night Market ?
Target less than 2% going to landfill
Get waste to a level where 'pickers' continue to be feasible to ensure 100% accuracy

Evaluate an electric bike hire system for travel within a set radius.
Consider 'car-share' app.
Negotiate discounted rates with rail providers to promote increased train use from Sydney.
Consider EV mini bus service.

LONG TERM - 2027

Reduce both TOTAL CO_{2e} emissions and CO_{2e} emissions by visitor by 5% versus 2022.

Introduce a targeted portion of renewable powered energy sources. While not currently feasible for all areas, future technology will assist in reducing the use of fossil fuelled energy generation.

Aim to be 'plastic free', 'PLA free', full composting serve - ware, and less than 2% landfill.

Electric service vehicles and electric transport services offered to visitors.

Explore an environment levy on vendors, or 'Green Tickets'.

Make the signature events carbon positive by establishing an appropriate mitigation route.

A LITTLE BIT ABOUT US



By Joining the Instep Programme you are making a conscious 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 programme 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'.

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, 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 15 years Alisha and her team have created and developed the very successful range of Instep Carbon and Sustainability Programmes.

Margaret Birkett, Verifier and Finance Manager

Margaret's background is in education with many years of teaching in the United Kingdom, 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.

**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**

