

ENERGY BREAKTHROUGH

ENVIRONMENTAL REPORT 2023

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B-Alternative wishes to acknowledge the traditional custodians of the lands on which our team members work and live, predominantly lands belonging to the Wadawurrung, Woiworung and Boonwurrung people of the Kulin nation.

We wish to pay our respects now and always to Elders past, present and future, and acknowledge that sovereignty was never ceded.

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ABOUT US



B-Alternative (BA) is a social enterprise with a primary purpose to promote environmental sustainability and social responsibility, by finding innovative and cost-effective solutions to complex environmental challenges. Our core impact is centered around waste avoidance and reduction while maintaining financial viability for our clients.

We provide practical, eco-friendly solutions to everyday living by sourcing and supplying truly compostable products and packaging, raising awareness through facilitated environmentally focused conversation for schools and social events, and providing sustainable festival/event waste reduction services.

Our core pillars are **education**, **waste reduction**, and **Earth-friendly products**.



"NEVER BEFORE HAVE WE HAD SUCH AN AWARENESS OF WHAT WE ARE DOING TO THE PLANET, AND NEVER BEFORE HAVE WE HAD THE POWER TO DO SOMETHING ABOUT THAT "

- SIR DAVID ATTENBOROUGH

INTRODUCTION

Event Overview

This report presents an analysis of the environmental sustainability efforts and outcomes of the Energy Breakthrough event held in 2023, building upon the initiatives implemented in the previous year. The event aimed to promote waste reduction, resource recovery, and environmental consciousness among participants, vendors, and patrons. This report highlights the waste management strategies deployed during the event, assesses their effectiveness, and compares the results with those of the preceding year.



2022 RESULTS

Table 1. Quantity (kg) of resources/waste sent to their specific handling streams, post Energy Breakthrough 2022

Resource Stream	Weight (kg)
Organics	1340
Commingled Recycling	900
General Waste	3720
Aluminum Cans	88
Cardboard	400
Scrap Metal	100

2023 RESULTS

- A total of 4853kg of materials (including CDS) were managed into different recovery and waste streams at the 2023 Energy Breakthrough event, down 26% from 2022's 6588kg
- 54% of waste was diverted from landfill (Figure 1), compared to 44% in 2022
- 34% (1660kg) of waste was organic and was composted
- Total landfill was 2240kg (46%) of total waste, decreasing by 40% from 2022's 3720kg
- Container Deposit Scheme (CDS) totalled 85kg (6%) of total waste/resources
- Cardboard totalled 140kg (3%) of the total, down 68% from 2022's 440kg.
- Commingled recycling totalled 340kg (7%), down 62% from 2022's 900kg
- Scrap metal was 185kg (4%), up 85% from 2022's 100kg.
- 4963 single use packaging items were avoided through the implementation of a reusable crockery system
- Estimated attendance numbers increased from 14,475 in 2022, to 18,350 in 2023

Table 1. Quantity (kg) of resources/waste sent to their specific handling streams, post Energy Breakthrough 2023

Resource Stream	Weight (kg)
Organics	1660
Commingled Recycling	340
General Waste	2240
Aluminum Cans	85
Cardboard	140
Scrap Metal	185
CDS	288

2023 RESULTS

Table 2. Breakdown of CDS items sent to be recycled, post Energy Breakthrough 2023

Resource Stream	Weight (kg)	Qty
Aluminum Cans	85	4597
PET	64	3215
Glass	120	274
HDPE	1	12
LPB	17	929
Steel Cans	1	11
Total	203	

RESULTS

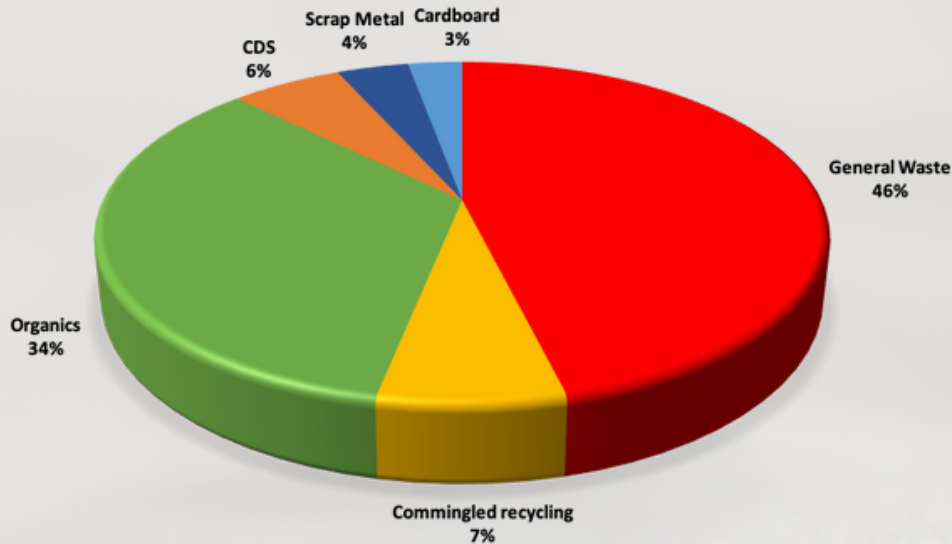


Figure 1. Detailed breakdown of the percentage quantity (kg) of various resources sent to different recovery and waste streams, post Energy Breakthrough 2023.

Via an organics stream and reusable system in place, **1973kg** of organic/compostable and food packaging material and has been **diverted from landfill**. This has stopped a large amount of CO₂e from being released into the atmosphere (see graphic, right).

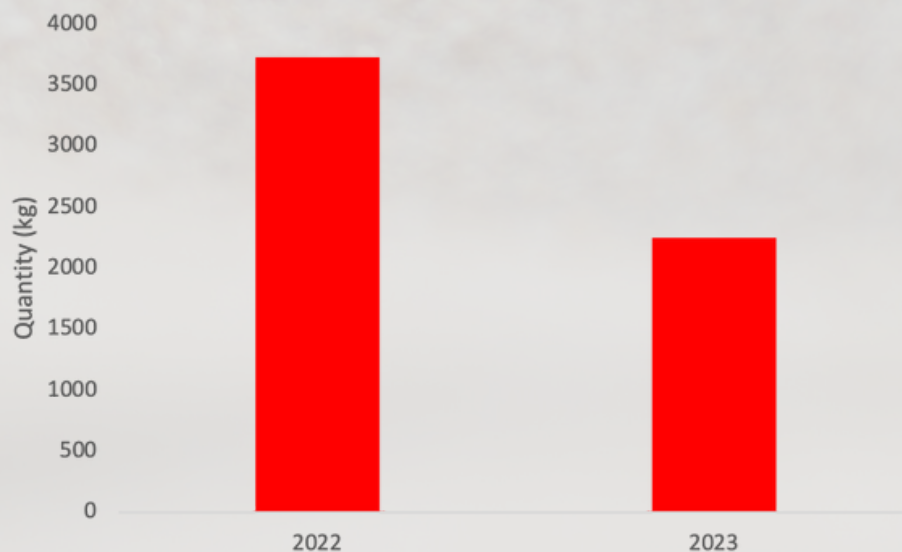


Figure 2. Comparison of the general waste generated (kg) in 2022 compared 2023 at Energy Breakthrough.

EVENT WINS



1973KG

ORGANICS OUT
OF LANDFILL

=



13,811KG CO₂E
REDUCTION

=



55 HOURS FLYING
A BOEING 747

=



CAR TRIP 5X
AROUND AUSTRALIA

RESULTS

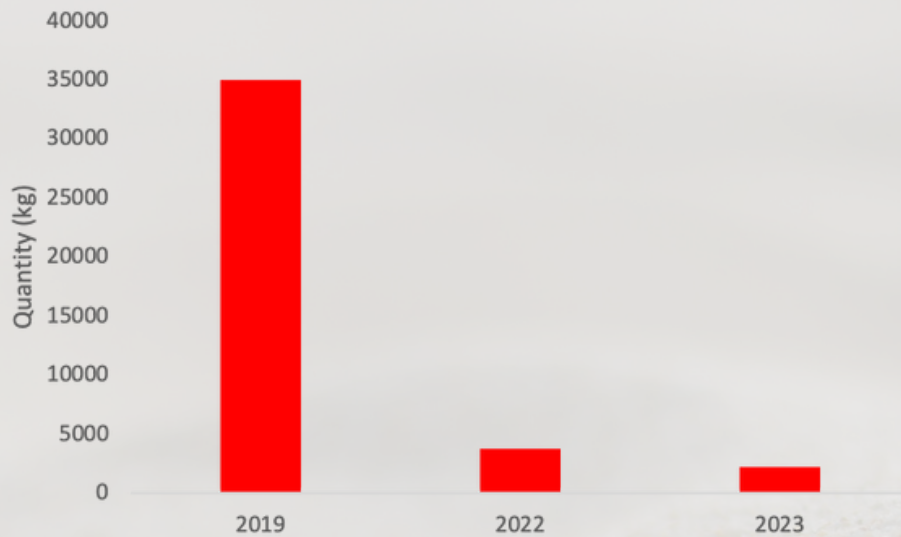


Figure 3. Comparison of the general waste generated (kg) in 2019 compared 2022 and 2023 at Energy Breakthrough.

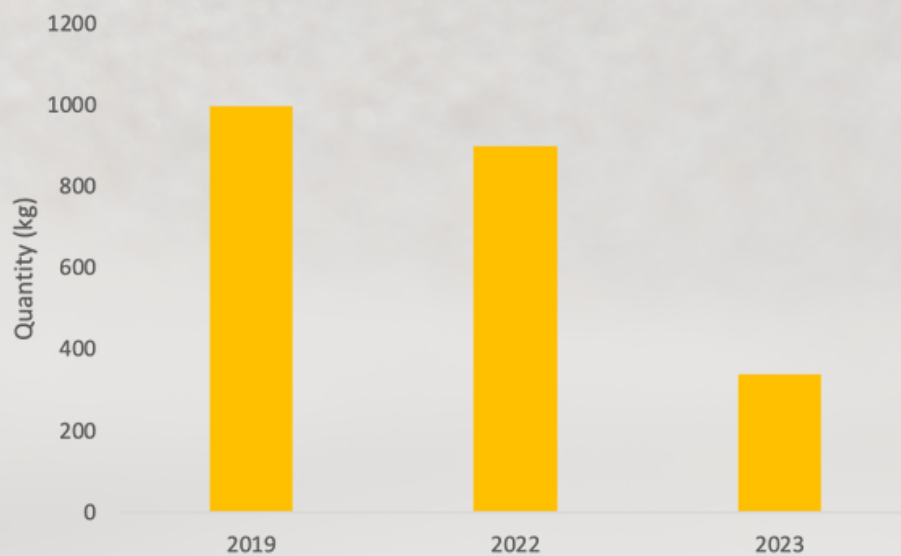


Figure 4. Comparison of the commingled recycling generated (kg) in 2019 compared 2022 and 2023 at Energy Breakthrough.

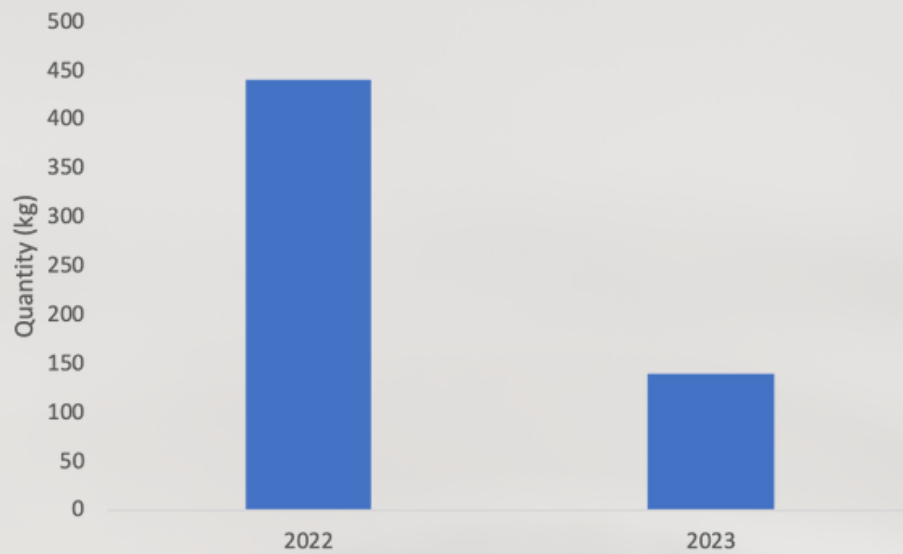


Figure 4. Comparison of the cardboard generated (kg) in 2022 compared to 2023 at Energy Breakthrough.



Figure 5. Comparison of the estimated attendance numbers between 2019, 2022 and 2023 at Energy Breakthrough.

DISCUSSION

Waste Management - Comparison with 2022:

In comparison to the previous year's results, several notable trends emerge. Despite an increase in estimated attendance numbers from 14,475 in 2022 to 18,350 in 2023, there was a significant reduction in total waste managed. The diversion rate improved from 44% in 2022 to 54% in 2023, reflecting the success of enhanced waste management strategies.

Moreover, the decrease in general waste from 3720kg in 2022 to 2240kg in 2023 is particularly impressive, considering the increase in attendance. This indicates the effectiveness of waste reduction initiatives and the successful implementation of the reusable crockery system. Additionally, all other resources decreased, except for organics, which increased. This highlights the increased attention placed on composting, potentially due to heightened patron awareness and education surrounding composting practices. Furthermore, there was an increase in scrap metal, suggesting improved recycling efforts in this area.

Staff Feedback and Observations:

During the event, various feedback and observations were noted by the staff, which provide insights into areas of improvement and successes. Here is a compilation and expansion of the feedback received:

Detailed Planning and Setup:

- It was highlighted that detailed activities related to dishwashers, connections, power, and water needed more thorough planning and execution. Specific locations and connections were not adequately addressed, leading to assumptions and logistical challenges.

Bin Shortages and Setup:

- There were reports of a shortage of 40 bins on Tuesday, which should have been in place by Sunday to accommodate the early start of the event. Preparation should be completed by 5 pm on Monday to ensure a smooth start on Tuesday morning.

Electrical Setup and Compliance:

- The electrician admitted to shortcomings in connecting dishwashers and other electrical equipment, resulting in delays and operational issues. Compliance items related to electrical setups were overlooked, highlighting the need for better planning and coordination.

Waste Management:

- The placement of covered bins was praised as a positive improvement from previous years. However, it was noted that only one IBC for wastewater was insufficient, necessitating the need for two for future events.
- Strategic placement of 1100-liter cardboard skips around the grounds proved effective in minimising clutter and reducing sorting efforts.
- The system helped manage single-use items, with 4963 items saved, 4287 used, and 662 lost.

Compliance and Operational Challenges:

- There were instances of confusion and complaints regarding compliance with Occupational Health and Safety (OHS) standards. However, compliance officers confirmed adherence to regulations.
- Challenges were encountered with the implementation of the Container Deposit Scheme (CDS), requiring adjustments and improved communication to ensure smoother operations in the future. The scheme had only just come into play so it is assumed that for next November this issue will not be apparent.

Suggestions for Improvement:

- Engaging students, schools, and teachers in waste management efforts during the event was proposed as a way to promote ownership and responsibility. Assigning bin stations to schools could encourage participation and foster a culture of sustainability.
- Improved communication with external stakeholders, such as sports clubs, was identified as crucial for resolving conflicts and ensuring smooth collaboration during the event. Clear guidelines and codes of conduct should be communicated and signed by all parties involved.

CONCLUSION

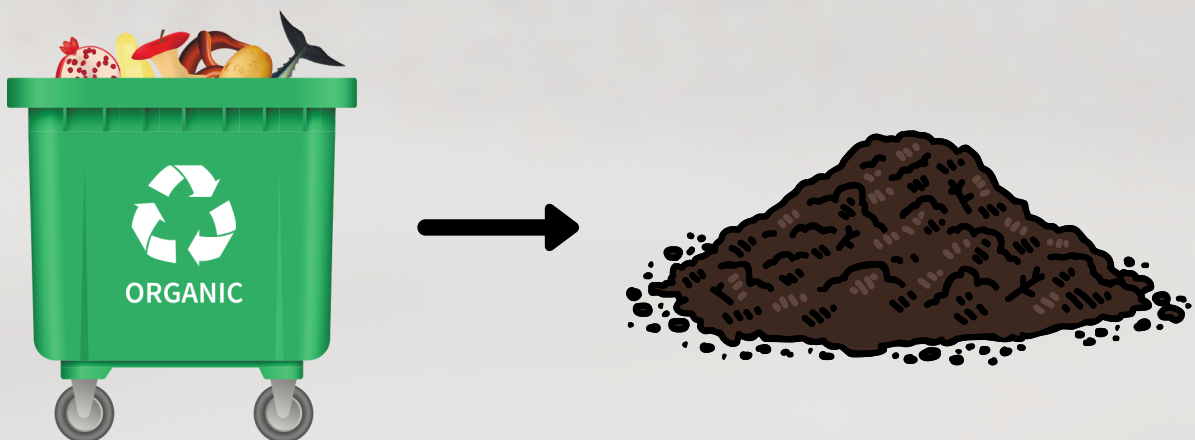
The feedback and observations from staff provide valuable insights into the strengths and weaknesses of the Energy Breakthrough event. While there were challenges and areas for improvement identified, such as logistical planning, waste management, and stakeholder communication, there were also successes, including improved waste diversion and operational efficiencies. Moving forward, addressing these areas of improvement will be essential to further enhance the sustainability and success of future Energy Breakthrough events.

WHY COMPOST?

WHEN FOOD SCRAPS ARE SENT TO LANDFILL, THEY DECOMPOSE AND RELEASE METHANE (CH_4) INTO THE ATMOSPHERE.



METHANE IS A GREENHOUSE GAS APPROXIMATELY 25 TIMES MORE POTENT THAN CARBON DIOXIDE (CO_2), WHICH CONTRIBUTES TO GLOBAL WARMING AND SPEEDS UP CLIMATE CHANGE.



BY COMPOSTING, A DIFFERENT CHEMICAL PROCESS TAKES PLACE, STOPPING METHANE FROM BEING RELEASED INTO THE ATMOSPHERE.



B alternative