



GREEN SPACE
DARK SKIES

GREENSPACEDARKSKIES.UK

SUSTAINABILITY IMPACT REPORT

EXECUTIVE SUMMARY — MARCH 2023

PRESENTED BY



WALK
THE
PLANK

COMMISSIONED BY



CREATIVITY IN THE UK

CONTENTS

INTRODUCTION	03	MATERIALS & GRAPHICS	35
ABOUT GREEN SPACE DARK SKIES	04	FOOD & BEVERAGE	38
SUSTAINABILITY OVERVIEW	07	WASTE MANAGEMENT	43
SUSTAINABILITY STRATEGY	11	DIVERSITY, EQUALITY & INCLUSIVITY	49
RESULTS OVERVIEW	13	HEALTH & SAFETY	55
HEADLINE SUCCESSES & CARBON SAVINGS	16	EDUCATION & LEARNING	57
ENVIRONMENTAL & COMMUNITY APPROACH	21	DIGITAL	59
ENERGY	24	CLIMATE INVESTMENT	63
TRANSPORT	29	CONCLUSION	66
		CONTACT	72

The full Sustainability Report is available on request



GREEN SPACE DARK SKIES

INTRODUCTION

This Executive Summary is intended to give an overview of sustainability practice across the whole Green Space Dark Skies project, produced by Walk the Plank, and summarise key findings from the full Sustainability Impact Report. A core principle of the Green Space Dark Skies Sustainability Strategy was to be transparent about the project's sustainability journey from end to end. The report therefore not only outlines the final carbon impact of the project but evaluates the implementation and effectiveness of both social and environmental sustainability policies and processes. It highlights the major successes and important learnings for future events and assesses how well the sustainability targets were met. The purpose of this report is to provide a useful resource for other large-scale outdoor arts and cultural events and productions that are looking carefully at social and environmental sustainability.

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ABOUT GREEN SPACE DARK SKIES

Green Space Dark Skies (GSDS) was a series of 20 mass participation outdoor events that took place between April and September 2022 as part of the UNBOXED: Creativity in the UK festival. The project was produced by award-winning outdoor arts experts, Walk the Plank (WtP), a National Portfolio Organisation for Arts Council England and a registered charity.

GSDS set out to open up the dialogue around **RIGHTS** and access to and within our landscapes, our **RELATIONSHIP** with the environment, and the collective **RESPONSIBILITY** we have as custodians of the environment for future generations. Acknowledged as leaders in sustainability in the live outdoor events sector, Walk the Plank created GSDS with the principles of environmental and social sustainability at its core. It was therefore crucial for the project to have the smallest possible negative impact, both in terms of the carbon emissions and the direct impact on the sites and communities the project visited.

GSDS was not only exemplary of low-carbon and inclusive outdoor event production, but also aimed to have a valuable ongoing legacy in the form of the post-project Sustainability Impact Report that provides key learnings and recommendations for future outdoor arts and cultural projects surrounding environmental and social sustainability best practice.

The GSDS events were hosted in National Parks, Areas of Outstanding Natural Beauty, mountains, lakes and moorland throughout England, Wales, Scotland and Northern Ireland. Thousands of people became “Lumenators”, each carrying a specially designed and manufactured low impact Geolight into the landscape as dusk fell to create mass participatory artworks that were captured on camera. The finale was broadcast on Sunday 30 October 2022 as part of a one hour special BBC Countryfile programme with over 5.5 million viewers.

PROJECT AIMS:

Highlight fragility of our natural habitats

Remove barriers that prevent access

Be an environmentally and socially conscious project

Be climate positive

To innovate and work with technology in nature

ABOUT GREEN SPACE DARK SKIES

20
EVENTS

4
NATIONS ACROSS THE UK
(England, Wales, Scotland
and Northern Ireland)

5.5 M
VIEWERS broadcasted the
BBC Countryfile special

650
STAFF / CREW

16
UNIQUE FILMS
STREAMING to over
1 million viewers

AWARDS

Won 'Sustainability' and
shortlisted for 'Best
Practice' awards at
**NATIONAL OUTDOOR EVENTS
ASSOCIATION AWARDS 2022**

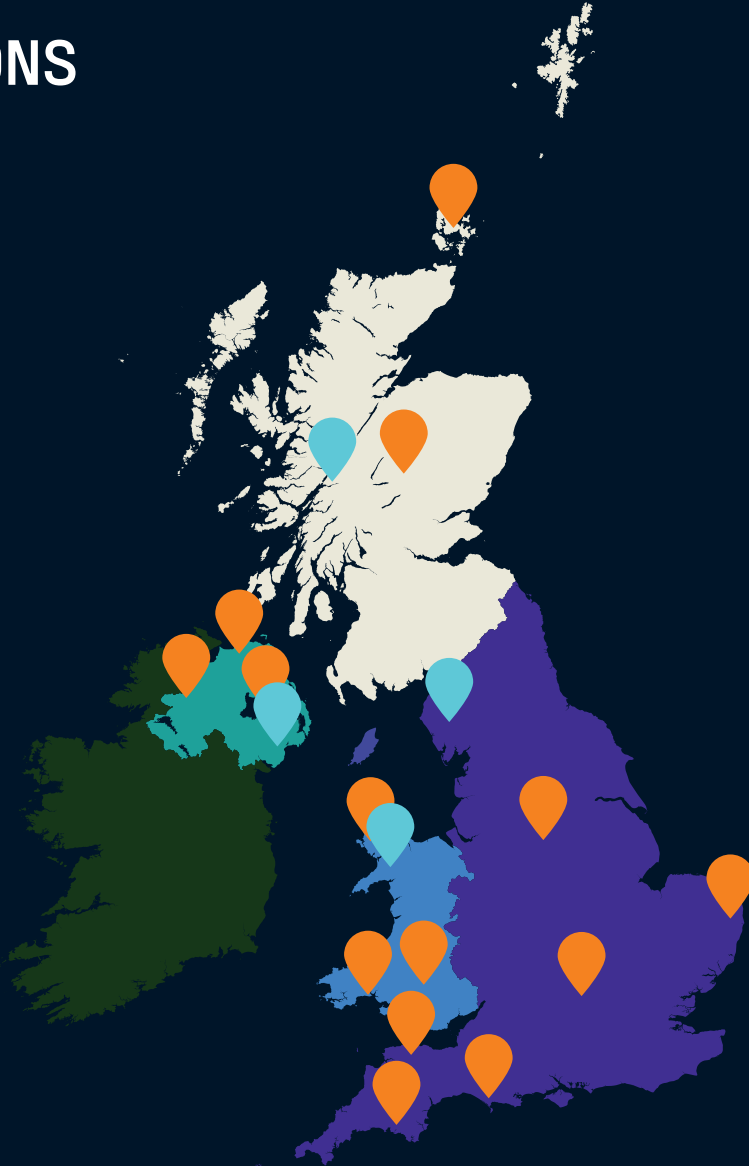
Won 'Accessibility' &
'Cultural' awards at
**GLOBAL WEB EXCELLENCE
AWARDS 2022**

Shortlisted for 'Digital
Content' and 'Digital
Inclusion' at the **DIGITAL
CULTURE AWARDS 2023**

Won 'Best Use
of Technology' at
**EVENT PRODUCTION
AWARDS 2023**

Won 'Best Operations'
award and shortlisted
for 'Diversity & Inclusion'
award at **ACCESS ALL
AREAS AWARDS 2022**

LOCATIONS



PEAK DISTRICT NATIONAL PARK: 23 April
LAGAN VALLEY AONB: 30 April
AHNE GŴYR / GOWER AONB: 13 May
DARTMOOR NATIONAL PARK: 21-22 May
EXMOOR NATIONAL PARK: 28 May
DORSET AONB: 11 June
BROADS NATIONAL PARK: 15 June
SPERRIN AONB: 25 June
CAUSEWAY COAST AONB: 2 July
BANNAU BRYCHEINIOG / BRECON BEACONS NATIONAL PARK: 6 July
THE CHILTERN AONB: 15 July
YNYS MÔN / ANGLESEY: 6-7 August
CAIRNGORMS NATIONAL PARK: 11 August
ORKNEY ISLANDS: 16 & 20 August

FINALE

LAKE DISTRICT NATIONAL PARK: 3 September
BEN NEVIS & GLEN COE NSA: 10 September
PARC CENEDLAETHOL ERYRI / 'YR WYDFFA/SNOWDON: 17 September
MOURNE AONB: 24 September

SUSTAINABILITY OVERVIEW

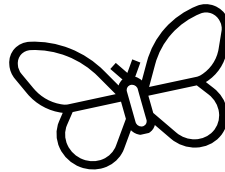
Building on Walk the Plank's many years of refining their sustainable approach, GSDS was a project that went above and beyond to address all aspects of its environmental and social impacts. It placed environmental sustainability at the heart of its design and delivery, highlighting the value of the natural environment as a core purpose and delivering significant measurable positive impact. The project's Sustainability Strategy was founded on five guiding principles and had eight SMART (Specific, Measurable, Attainable, Realistic, and Time Bound) objectives and targets.

GUIDING PRINCIPLES



Leave no trace

Walk lightly on the land and leave no trace



Inspire

Highlight the beauty, value and diversity of species that our landscapes are home to, and tell our sustainability story



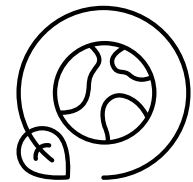
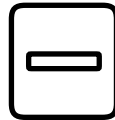
Beyond carbon neutral

Exemplar low carbon production, be climate positive and invest in nature and climate



Transparency

Measure and report on all our impacts, positive and negative



Circular economy

Zero waste policy, use minimal resources, procure from sustainable sources, plan for reuse and repurposing, innovate

TARGETS

Headline Target: CLIMATE POSITIVE

Travel

Majority shared travel target for participants (more than 80%)

Accurately measure travel impact across the project for all stakeholders



Climate Financing

1x nature focussed investment or project in each region

Social Impact

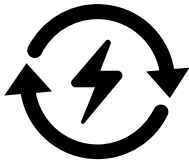
50% of participants positively impacted by the experience in relation to nature and environment

Supply Chain

100% of key contractors meet the WtP minimum standards set out in the Procurement Policy

Energy

100% renewable energy across the project

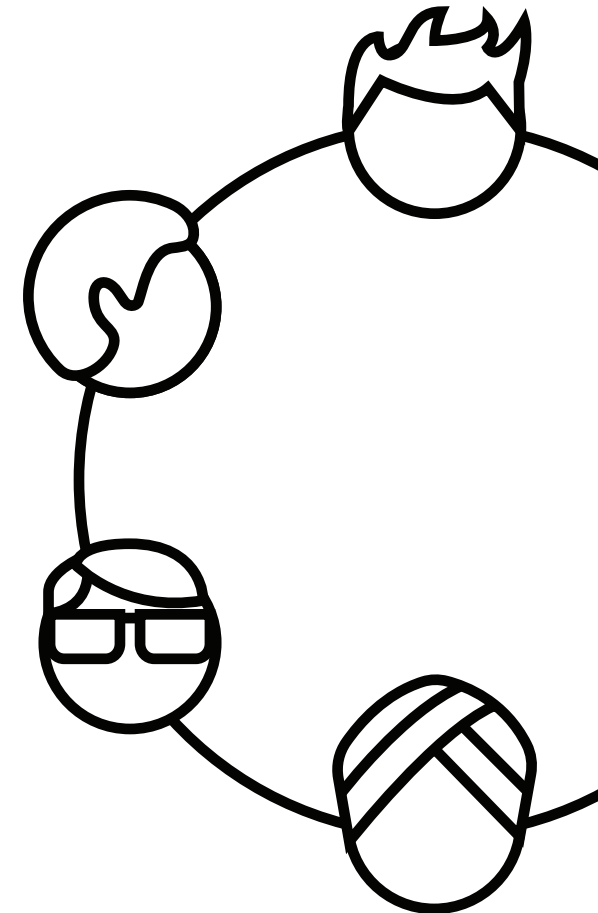


Resource Usage

Zero-waste policy

Limit disposables / single use throughout the project

Follow the waste hierarchy



DOCUMENTS

TOOLS

Sustainability Strategy – overview of aims, approach and delivery

Walk the Plank Procurement Policy – guides sustainable procurement

Monitoring, Reporting and Evaluation Plan – the what / where / who / how / why of data collection and reporting

Asset End of Life Plan

Production Sustainability Handbook – guidance on sustainable event production for Production Managers

Production Manager On-Site Checklist – a fool-proof checklist for on-site sustainability requirements

Sustainability Event Report per event

Sustainability Impact Report & Executive Summary

TRACE and Albert carbon calculation software

Digital Carbon Emissions Tool (self-built)

Asset Embodied Carbon Emissions Tool (self-built)

SUSTAINABILITY STRATEGY

The scope of the GSDS Sustainability Strategy was extremely broad, covering all scope 1, 2 and 3 emissions (where relevant) across eleven key areas: energy; transport; production and signage materials; food and beverage; waste; health & safety; accessibility; equality, diversity and inclusivity; education and learning; environmental conservation; and digital. The project had a rigorous management structure that enabled efficient identification, management, measurement, and reporting of social and environmental impacts. The social and environmental sustainability aspects of the project were led by a dedicated Sustainability Manager with support from champions in each department.

SUSTAINABILITY STRATEGY

Walk the Plank became a member of isla (event industry sustainability advocate organisation)



Dedicated Sustainability Manager and champions in each department (including Marketing)

Use of carbon calculation tools:

- TRACE (by isla for event industry; Walk the Plank was one of the first 30 organisations in the world to use)



- Albert (by BAFTA for film industry)

Energy:

- Renewable battery power sources (TCP Eco batteries and solar panel array, Green Voltage, portable batteries);
- Monitoring all consumption using meters;
- Mains power from renewable tariffs;
- Use of HVO and BioLPG;
- Prioritising accommodation with green energy tariffs.

Food & Beverage:

- Plant forward catering menus;
- Reducing consumption and waste;
- Local suppliers;
- Reusable and compostable serveware;
- Water refill points.

Waste:

- Segregated “binrastructure” into four waste streams;
- Recycling of e-waste and batteries;
- Reducing single-use plastics;
- Collecting solids and urine on mountains;
- Post-project charity donations;
- Recycling or upcycling production assets (Banner Bags).

Production & Signage Materials:

- Circular economy ethos;
- Minimal production assets;
- Low impact materials;
- Asset End of Life Plan to help planning for reuse / recycling / repurposing / donations;
- Kerbside recyclable paper signage from Sustainable Signage Company;
- PVC-free recyclable banners from Wild (B-Corp);
- Reusable bungees or string.

Transport:

- Prioritising local suppliers;
- Big Green Coach Company and Kinto Join Car Pooling App;
- Crew car sharing;
- Low CO2 vehicle hire;
- Fuel efficiency measures; minimising flights.

Health & Safety:

- Outdoor event Health & Safety specialists;
- Mountain safety consultants (MTN Safety).

RESULTS OVERVIEW

The final carbon footprint (scopes 1, 2 and 3) of the whole project (including event production, film production, and digital) was 378.84 tCO₂e. The average per event was 19.94 tCO₂e* and per Lumenator was 0.06 tCO₂e.

The event with the highest emissions was Slieve Donard (89.37 tCO₂e), followed by the other two finales in Scafell Pike (39.49 tCO₂e) and Ben Nevis (32.38 tCO₂e). This was due to the increased number of days on site and larger number of staff and crew involved at the finale events. Slieve Donard also involved a lot of overseas travel including ferries and flights. In general, the Northern Ireland events had higher emissions for this reason (Giant's Ring 25.33 tCO₂e, Gortin Lakes 14.46 tCO₂e and Giant's Causeway 18.12 tCO₂e). The event with the lowest emissions was Barton Broad (5.59 tCO₂e) which was due to it being a much smaller event with low numbers of Lumenators and staff, crew and contractors, and minimal energy use (121.45 kWh).

We did well in meeting or coming extremely close some of our key targets, such as exceeding 80% of Lumenators sharing their travel, 13/19 of the events using over 80% renewable energy, 100% of our key suppliers meeting our procurement standards, and balancing our emissions to the point we were carbon net positive by 10 times. Additional achievements included: 50/50 meat to vegetarian catering; diverting >99% of our waste from landfill; booking over 1/4 of our accommodation with hotels that had green energy tariffs; reusing, repurposing or recycling 100% of our signage and upcycling banners into tote bags; seeing 71% of suppliers coming from within a 50 mile radius; and meeting all accessibility requirements across all events. The effective implementation of our Sustainability Strategy enabled us to make a significant total carbon saving of nearly 100 tCO₂e.

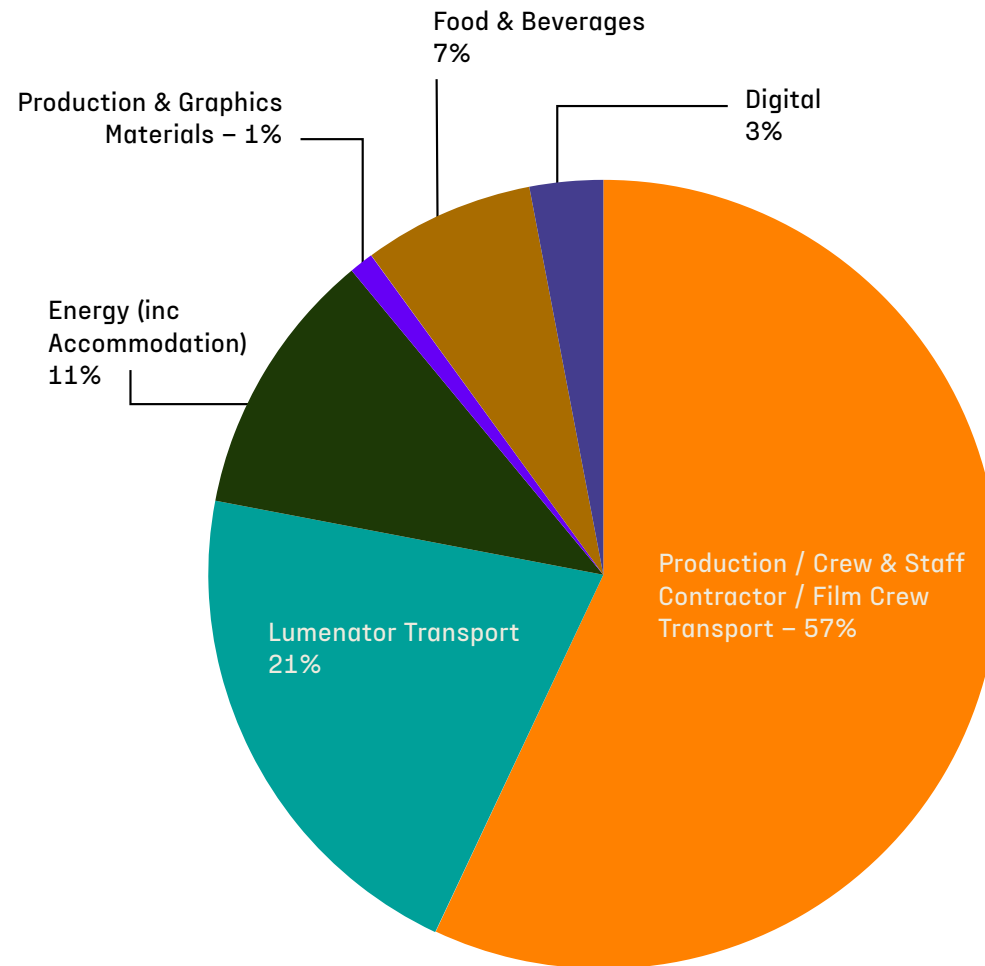
*Divided into 19 event locations as the North Ronaldsay and Orkney events were combined into one location

TOTAL EMISSIONS PER AREA

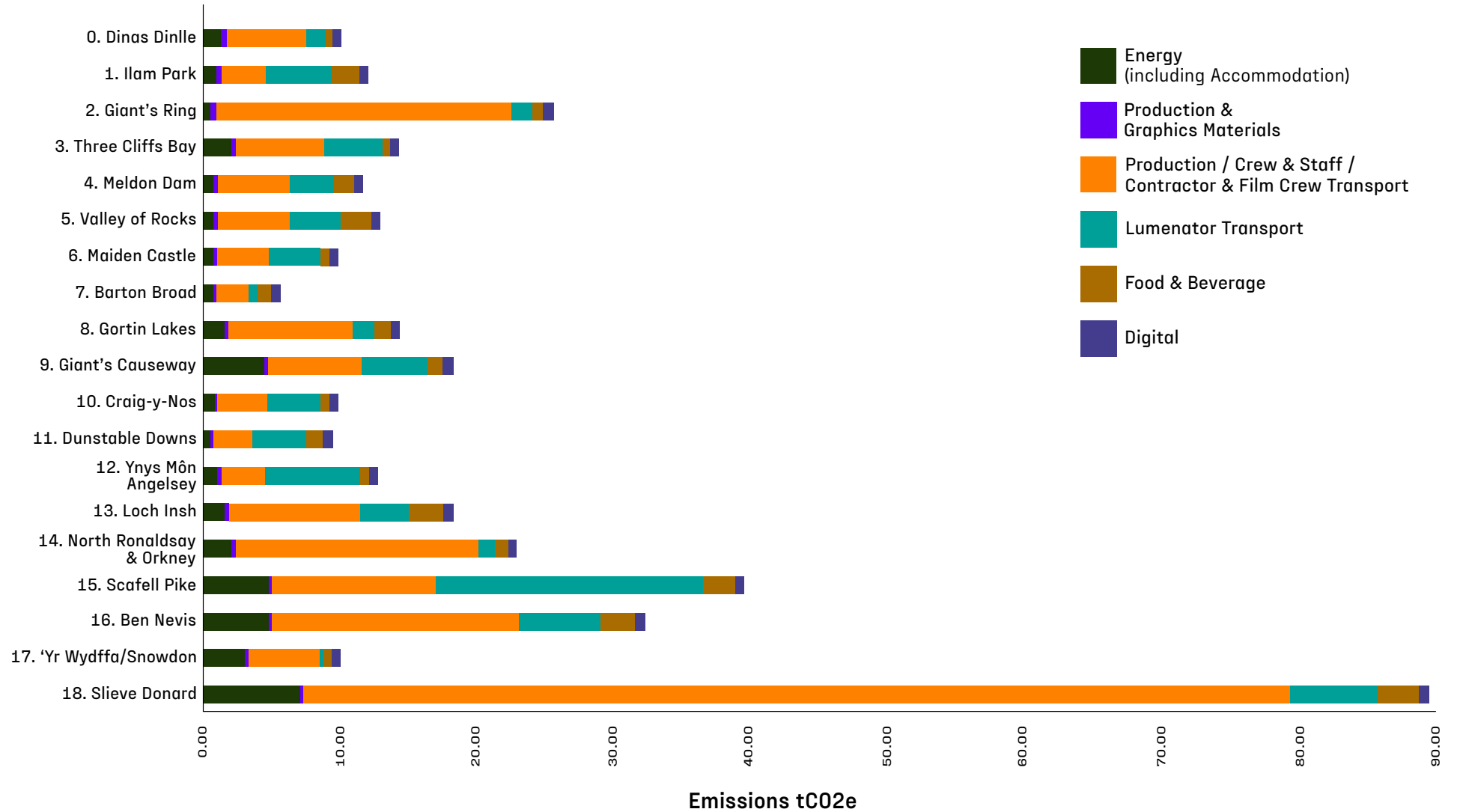
Total carbon footprint:
378.84 tCO2e

Average emissions per event:
19.94 tCO2e

Average emissions per Lumenator:
60kg CO2e



BREAKDOWN OF EMISSIONS PER AREA PER EVENT



HEADLINE SUCCESSES & CARBON SAVINGS

The project had some major sustainability successes and achieved some impressive carbon savings. The greatest savings were from Lumenators or staff / crew using coaches instead of individual car journeys (47.23 tCO₂e), vegetarian meals instead of meat (approx 25-30 tCO₂e), and choosing hotels with green energy tariffs (16.3 tCO₂e). The smaller (but still significant) savings were from diverting materials from landfill (2.2 tCO₂e in total), and use of renewable energy (1.21 tCO₂e). This shows that the biggest impact areas are transport, accommodation, and food and beverage, however materials and waste are still important areas to consider.

SUCCESSSES



100%
KEY SUPPLIERS MET PROCUREMENT
STANDARDS (Target 9)

50/50 SPLIT
OF VEGETARIAN AND MEAT
MEALS OVERALL

71%
SUPPLIERS CAME FROM
WITHIN 50 MILES (Target 3)



81%
LUMENATORS SHARED TRANSPORT
(exceeded Target 2)

13/19 EVENTS
USED OVER 80% RENEWABLE ENERGY
(Target 4)



26%
ACCOMMODATION HAD A
GREEN ENERGY TARIFF

AWARDS

NATIONAL OUTDOOR EVENTS ASSOCIATION AWARDS 2022 'Sustainability' (won) and 'Best Practice' (shortlisted)

ACCESS ALL AREAS AWARDS 2022 'Best Operations Manager' (won) and 'Diversity & Inclusion' award (shortlisted)

GLOBAL WEB EXCELLENCE AWARDS 2022 'Accessibility' and 'Cultural' (won)

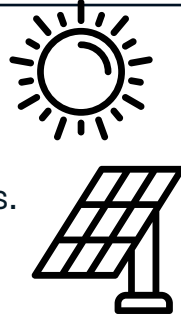
EVENT PRODUCTION AWARDS 2023 'Best Use of Technology' (won)

DIGITAL CULTURE AWARDS 2023 'Digital Inclusion' (shortlisted) and 'Digital Content' (shortlisted)

SUCCESSSES



Generated **144KWH IN SOLAR ENERGY** at events.



Taken action to ensure the long-term impact of the activity is climate positive through mitigating ten times the carbon footprint through the planting of **15,154 TREES** with the Woodland Trust* (Target 7).

DONATED SURPLUS PRODUCTION ASSETS AND CLOTHING to Mustard Tree and Greater Together Manchester charities (Targets 5 and 6).



Followed the waste hierarchy and **DIVERTED >99% OF OUR WASTE FROM LANDFILL** (Target 5).

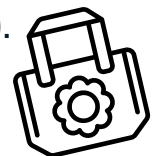
Offered Carbon Literacy Training to 80 people through Climate NI.

REPURPOSED ASSETS from other UNBOXED commissions (bungees donated by 59 Productions).

Accurately measured impact across all areas for all stakeholders for scope 1, 2 and 3 (Target 3).

Trialled new tools (TRACE, Albert and Kinto Join), technologies (TCO Eco lithium iron batteries and Green Voltage batteries), and materials (ECOEndurance, ECO Xtreme and biodegradable cable ties by Sustainable Signage Company).

UPCYCLED BANNERS INTO TOTE BAGS (Targets 5 and 6).



Understood our **DIGITAL IMPACT** for the first time.



* The Woodland Trust is a non-profit-making company limited by guarantee (registered company number: 1982873) and a registered charity, numbers 294344 and SC038885. Registered office: Kempton Way, Grantham, Lincolnshire NG31 6LL.

MAJOR CARBON SAVINGS



Photo credit: Acey Media

47.23 TCO2E

FROM COACHES INSTEAD OF
INDIVIDUAL CAR JOURNEYS

25-30 TCO2E

FROM VEGETARIAN INSTEAD
OF MEAT MEALS

16.3 TCO2E

FROM CHOOSING ACCOMMODATION
WITH GREEN ENERGY TARIFFS

1.21 TCO2E

FROM USING RENEWABLE ENERGY
VS NON-RENEWABLE ENERGY

1.54 TCO2E

BY FOOD COMPOSTING

0.38 TCO2E

BY RECYCLING INSTEAD
OF LANDFILL

0.72 TCO2E

USING HVO INSTEAD
OF DIESEL

KEY FINDINGS – REDUCING EMISSIONS

Transport, food and beverage, and accommodation were all high impact areas when looking to reduce emissions.

ENVIRONMENTAL & COMMUNITY APPROACH

We worked closely with international designations to recognise and protect the flora, fauna, geology and heritage in each of the event locations. In keeping with the aims of the project, the ambition was to achieve minimum negative impacts on the landscape whilst generating the maximum positive benefits for the participants and the communities in which GSDS worked.

ENVIRONMENTAL

Worked closely with land authorities to plan events.

Expertise sought from partners, rangers and specialists such as National Trust, wildlife trusts, ecologists, Natural England, Natural Resources Wales and Nature Scot.

Habitat Regulations Assessments were undertaken to ensure that events did not negatively impact on biodiversity and avoided areas with rare animals, wild habitats, nesting areas and migration routes.

Geolight design and event planning worked to the Dark Skies specifications and guidelines provided by National Parks UK and Duncan Wise (Northumberland National Park and dark skies lead for the National Parks).

'Light touch' production (vehicles, equipment, décor, structures etc).

Limit participant numbers and invite audiences to view online only to reduce erosion damage.

Make use of pathways to reduce trampling damage.

Restrict light spills and sound levels.

SOCIAL / COMMUNITY

Use of local accommodation, transport, site infrastructure, and catering suppliers.

Engaged with organisations locally to provide staff, stewards/marshals, performers and participants.

Pre and post-event communication with staff, crew, contractors and participants for further environmental and sustainability learning.

Donated surplus production assets to local charities.

KEY FINDINGS – ENVIRONMENTAL & COMMUNITY APPROACH

When working in ecologically and socially sensitive environments it's vital to work closely with partners / experts.

Allow plenty of resources and time in pre-production for obtaining permissions.

Some assessments will uncover site-specific challenges that might influence production planning - do these assessments early in order to facilitate efficient and sensitive planning.



ENERGY

Energy was an extremely complex area due to the nature of the production and the technology involved. Power was needed in many different locations which varied per event, and sometimes was needed across two days which meant that careful consideration had to be given to battery usage and charging from renewable sources. A dedicated member of the touring crew was therefore tasked with monitoring energy consumption and reporting it to the Sustainability Manager post event. Various tools were used to measure consumption, for example taking meter readings, using our own 13amp and 16amp power meters, and the VictronConnect App on the TCP Trailer which could be accessed remotely.

The events that used 100% renewable energy were Dinas Dinlle, Meldon Dam, Maiden Castle, Craig-y-Nos, Ynys Môn / Anglesey, and Yr Wyddfa / Snowdon. In addition to these, events that used 80% renewable energy were Ilam Park, Giant's Ring, Three Cliffs Bay, Valley of Rocks, Dunstable Downs, Loch Insh, and Ben Nevis. The highest consumers of non-renewable energy were Slieve Donard (1614 kWh), Gortin Glen Lakes (830 kWh), and Scafell Pike (609.62 kWh), all due to not being able to connect to the national grid or procure HVO in those locations.

ENERGY

Scope:

Walk the Plank office
(Good Energy – 100% renewable energy,
and solar panels on roof of workshop)

External and Work from Home offices

On site power consumption

Touring / recharging power consumption

Film production

Digital

Technology / equipment used:

TCP Eco Lithium Iron battery units

Green Voltage battery generators

Jackery 500W portable batteries

Mains power meters

13A and 16A power meters

Generators using HVO fuel
(diesel only when no other alternative)



ENERGY

Total energy consumption: 8032.05 kWh

Total renewable / non-renewable split:

56% renewable / 44% non-renewable

(saved 1.21 tCO₂e)

100% renewable energy at 6/19 events

(80% renewable energy at 13/19 events)

Solar energy generated:

144kWh (saved 40 kgCO₂e)

Fuel consumption:

235 litres HVO (saved 730 kgCO₂e)

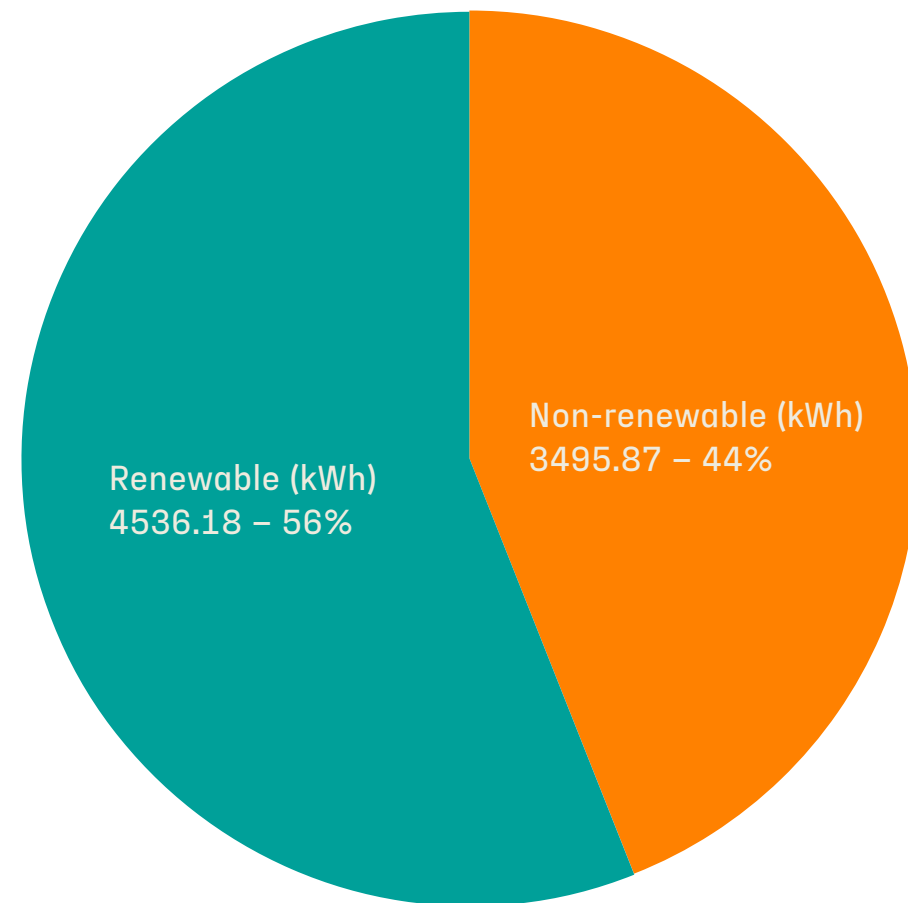
44kgs BioLPG (saved 40 kgCO₂e)

350.40 litres diesel (only when essential)

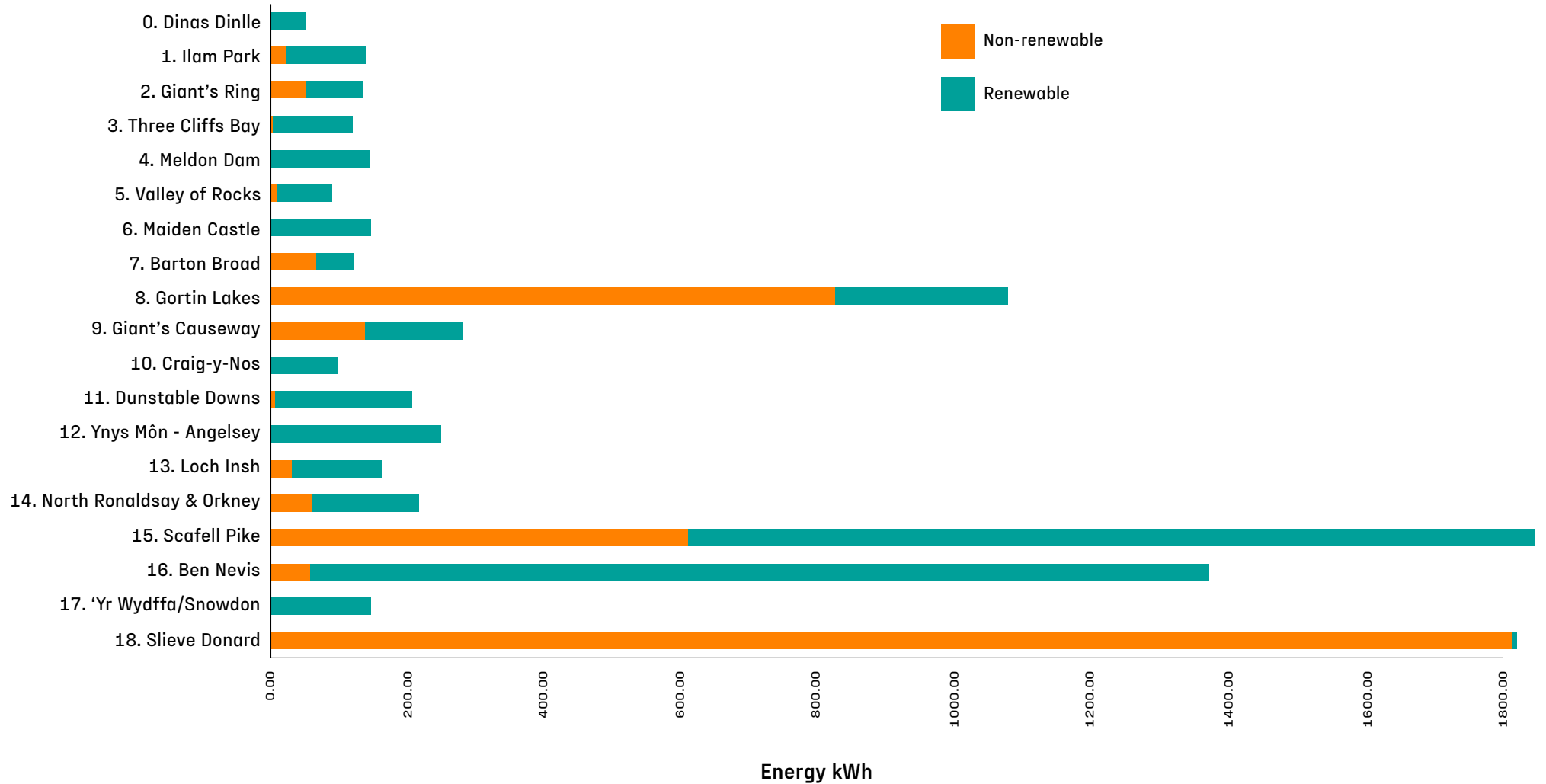
26% of accommodation had a green

tariff (saved 16.3 tCO₂e)

TOTAL ENERGY CONSUMPTION



TOTAL ENERGY CONSUMPTION PER EVENT



KEY FINDINGS – ENERGY

Power management, especially when touring, is difficult and needs to be carefully managed. Useful to have a dedicated power manager.

Building confidence when using new technologies / equipment is important – trial before you get on site and work closely with expert suppliers.

Choosing accommodation with renewable tariffs creates major carbon savings.

Difficult to procure HVO in Northern Ireland.

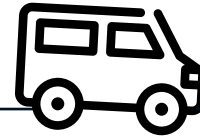
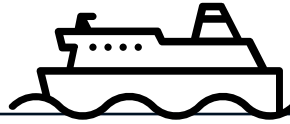
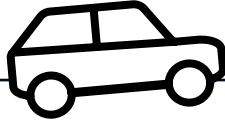


TRANSPORT

Planning, monitoring, measuring, and reporting on transport emissions was another complex area due to the touring nature of the project and as there were multiple stakeholders involved (staff / crew, Walk the Plank production, contractors / suppliers, couriers, shipping, and Lumenators). 13/19 of the events (68%) exceeded the target “80% of Lumenator journeys were shared transport” (Target 2) and this was 81% overall across the whole project. We worked hard to meet our target of accurately measuring our transport for all stakeholders across the project (Target 3) however, there is room for further streamlining in this area.

The majority of transport emissions came from Lumenator transport (28%), followed by Staff/ Crew (27% including flights) and Shipping (27%). WtP Production vehicles and Contractors were similar at 7% and 8% respectively, and Film Production was only 3%. The smallest number of emissions came from Couriers as hardly any were used across the whole project. The event with the highest transport emissions was Slieve Donard (78.59 tCO₂e) due to being a large overseas event with lots of staff / crew, contractors and Lumenators. The events with the smallest transport emissions were Barton Broad (2.94 tCO₂e) and Yr Wyddfa / Snowdon (4.98 tCO₂e) due to being smaller productions with less crew, Lumenators and Contractors. Dunstable Downs also had low emissions (6.94 tCO₂e) due to the use of coaches for Lumenators and being close to a major city which kept Contractor transport emissions down.

TRANSPORT



WTP Production:

Hired in low CO2e vehicles

Fuel efficiency measures

Packing vans efficiently

Took shortest routes available and limited unnecessary journeys

Prioritised ferries over flying where possible

Explored HVO and electric (logistically not possible)

Staff / Crew:

Booked / encouraged use of public transport

Facilitated car sharing where possible

Prioritised ferries over flying where possible

Contractors:

Local suppliers – 71% suppliers came from within 50 miles

Tracked mileage and combined loads where possible

Overseas Shipping:

Prioritised sea over air freight

Hired locally to avoid shipping

Lumenators:

Big Green Coach Company and Kinto Join Car Pooling App;



KINTOJOIN

81% shared transport (exceeded 80% target);

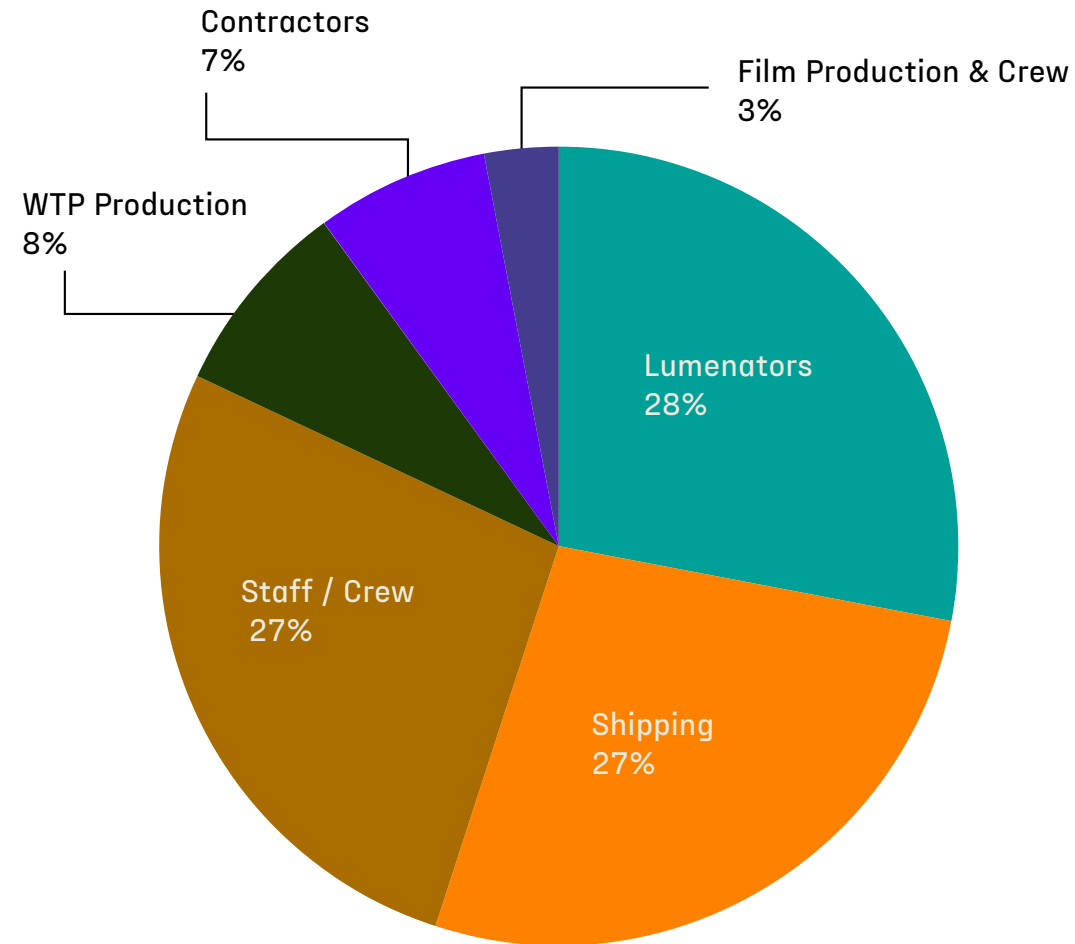
21% of journeys were by coach (saved 47.23 tCO2e);

65% came by car;

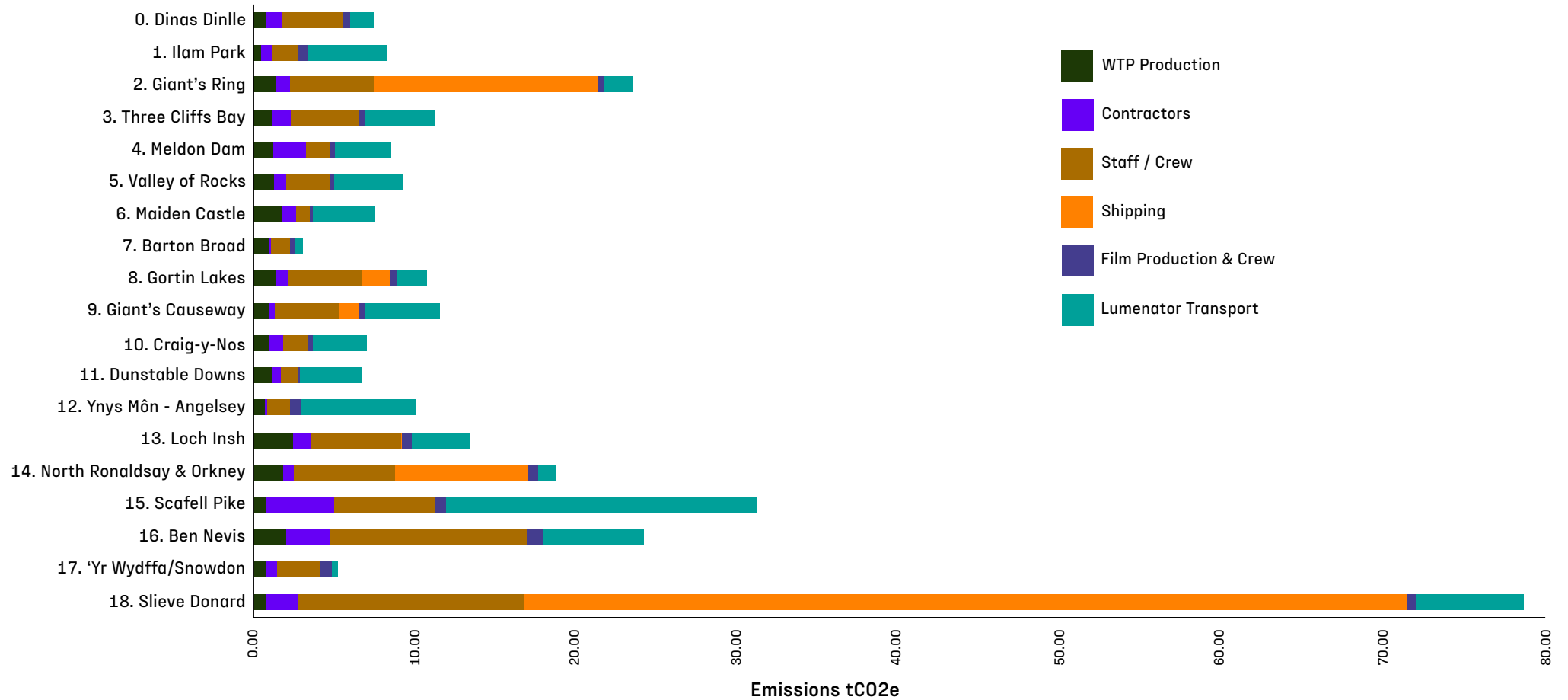
10% walked

TRANSPORT EMISSIONS PER AREA

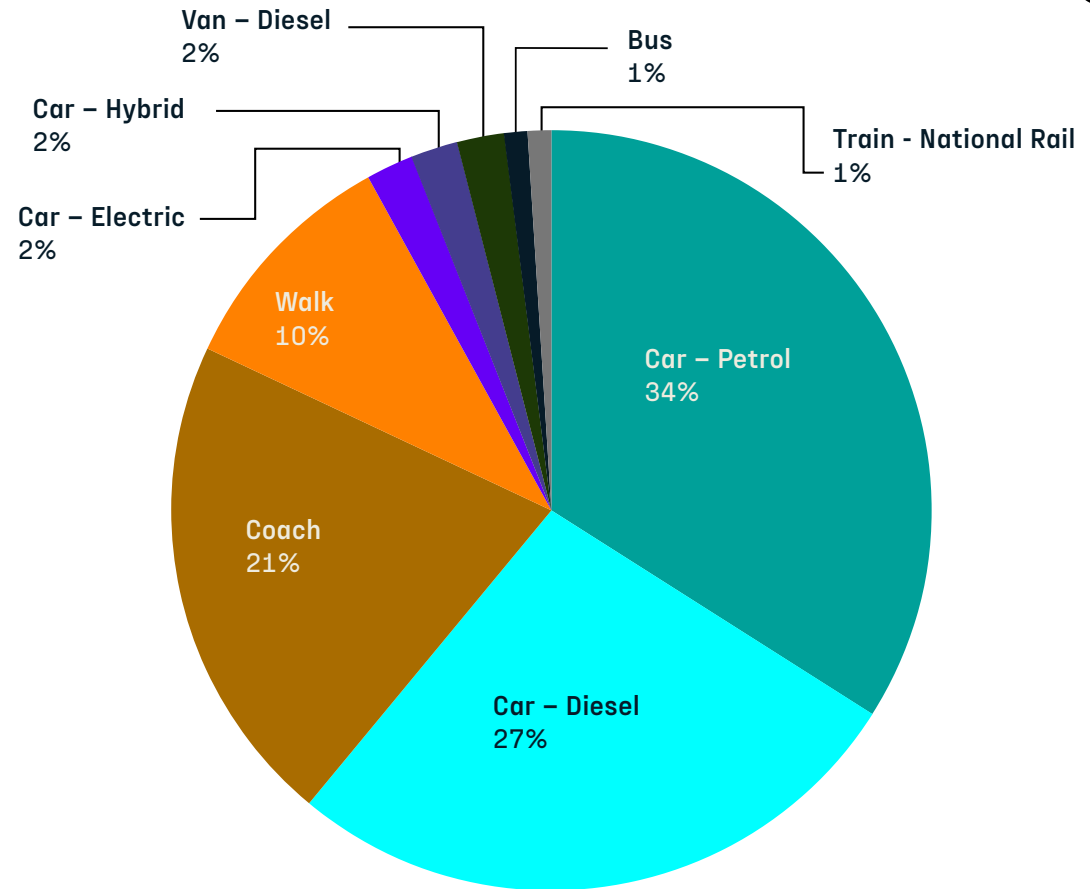
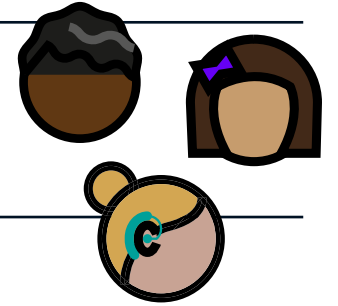
Total emissions:
294.87tCO₂e (78% of total)



TRANSPORT EMISSIONS BREAKDOWN PER EVENT



LUMENATOR MODE OF TRANSPORT BREAKDOWN



OTHER MODES OF TRANSPORT:

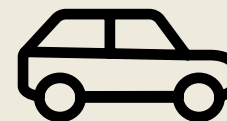
Van - Petrol	Van - Electric	Van - Biodiesel	Other	Bicycle	Motorbike
<1%	<1%	<1%	<1%	<1%	<1%

KEY FINDINGS – TRANSPORT

Low-emissions solutions when touring is harder to achieve as infrastructure and technology is not there yet (ie. HVO / electric).

In remote locations it's hard to rely on public transport and encourage car sharing.

Shared transport initiatives, such as coaches have huge carbon saving.



MATERIALS & GRAPHICS

We aimed to keep the production as ‘light touch’ as possible in order to minimise resource use and reduce waste. We prioritised rental for nearly all required production assets and infrastructure, however anything we did build was made from low impact and sustainably sourced materials and was designed with a circular economy approach with the asset’s ‘end of life’ in mind. Alternatives to traditional materials such as foamex and correx were trialled, such as paperboard and timber signage, and biodegradable cable ties from the Sustainable Signage Company. Similarly, we chose suppliers that had take-back recycling schemes such as Wild VC, who are also a B Corp. In general, the production and signage assets were kept to a minimum and this area was the second lowest contributor to the overall total emissions at just 1%.

MATERIALS & GRAPHICS



Total emissions:

3.95tCO2e (1% of total)

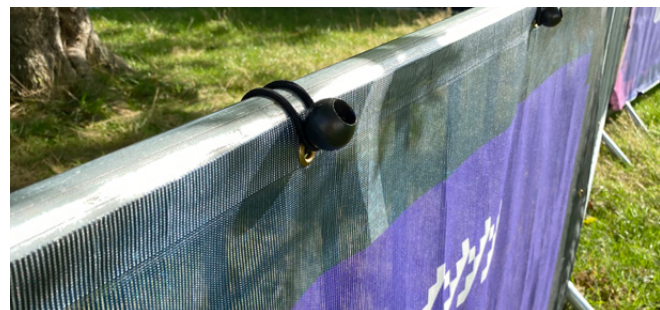
Total embodied carbon in Geolights:

23.96 tCO2e (not included in final total as are now stock equipment)

Successfully trialled ECOGreen Extreme (70% recycled waterproof fibreboard) and ECO Endurance (FSC certified wood) signage with Sustainable Signage Company

Repurposed reusable bungees from another commission (59 Productions) to reduce use of cable ties

PVC-free banners and stickers from Wild VC (a B-Corp) that we returned to them for recycling or upcycled into tote bags



T-Shirts made from certified recycled organic cotton

Tabards reused in WtP stock

Headphones reused throughout project and then recycled as eWaste

Outdoor clothing sourced from factory defects and then donated to charity

Trialled seeded wristbands (unsuccessful)

Recycled Tyvek wristbands by sending back to supplier

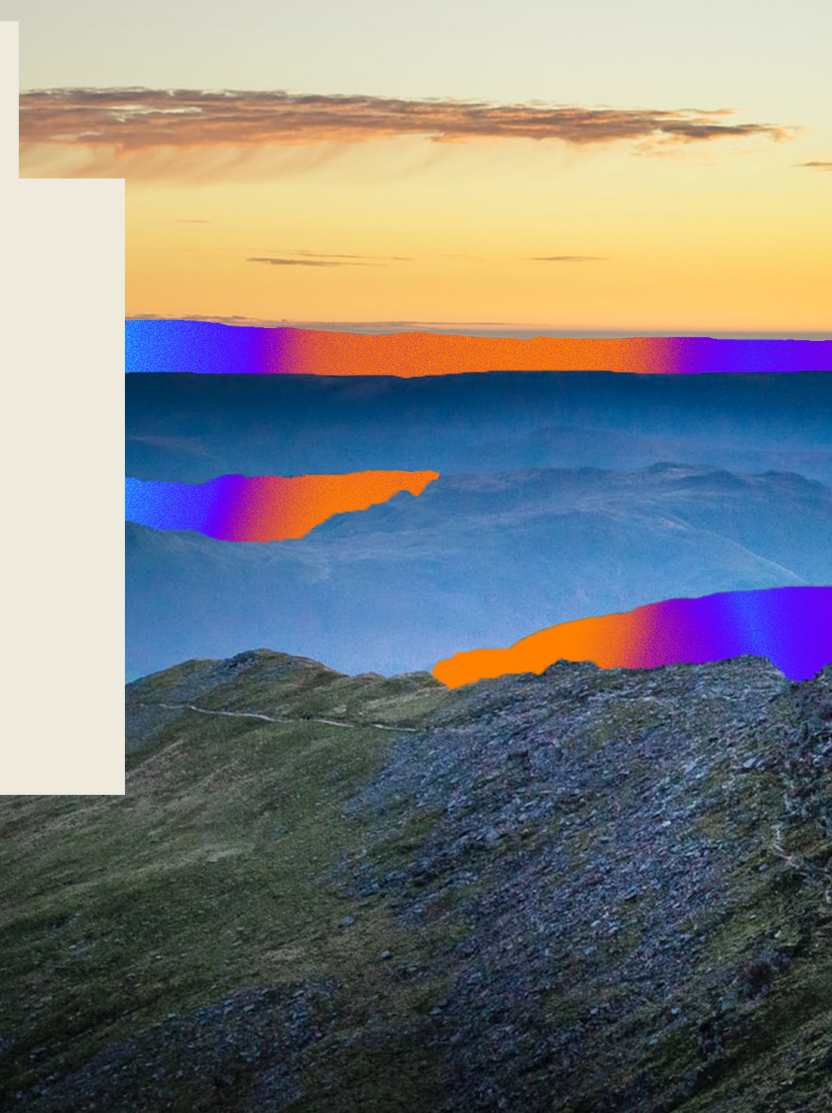
Other creative production assets such as **flags, aeolian instruments and banners** kept in WtP stock for reuse

KEY FINDINGS – MATERIALS & GRAPHICS

Using circular economy thinking and planning 'end of life' for production and signage assets is vital to reducing waste.

Successful trial of Sustainable Signage Company new paperboard technology (alternative to foamex / correx) as outdoor signage (lasted 20 events).

Bungees work well instead of cable ties in most instances.



FOOD & BEVERAGE

Catering was provided to crew and often to Lumenators on site or in local establishments. Where on site catering was used, it was easier to request vegetarian and vegan meals in order to reduce emissions. Some catering companies are very onboard with sustainability and this makes it easier to set targets and work closely with them. Others are newer to the concept and this can make requesting lower-impact options more difficult. To ensure success in this area, we learnt that it was important to take time to explain the aims of the project and see how it's possible to work together to reduce emissions.

The events with the highest food and beverage emissions were the three large finale events (Slieve Donard 2.83 tCO₂e, Scafell Pike 2.53 tCO₂e, and Ben Nevis 2.38 tCO₂e) due to the events being longer with more staff and crew. The event with the lowest emissions in this area was Three Cliffs Bay (0.43 tCO₂e) however, this was likely due to the fact that we did not pay for Lumenator meals and therefore they did not come into scope for carbon reporting. The proportion of vegetarian and vegan meals to meat meals overall was nearly an exact 50% / 50%. In total we provided 6653 vegetarian and vegan meals, and 6711 meat meals which meant a carbon saving of approximately 25-30 tCO₂e.

FOOD & BEVERAGE

6653 VEGETARIAN MEALS
(saved 25-30 tCO₂e)

Diligent about ordering catering to reduce food waste

Providing **VEG-LED MEALS** where possible

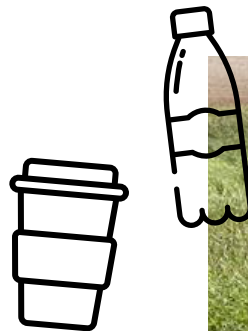
Collecting **FOOD SCRAPS FOR COMPOSTING** (saved 1.54 tCO₂e)

REUSABLE AND COMPOSTABLE SERVEWARE (Vegware)

Used **LOCAL SUPPLIERS** to reduce transport emissions

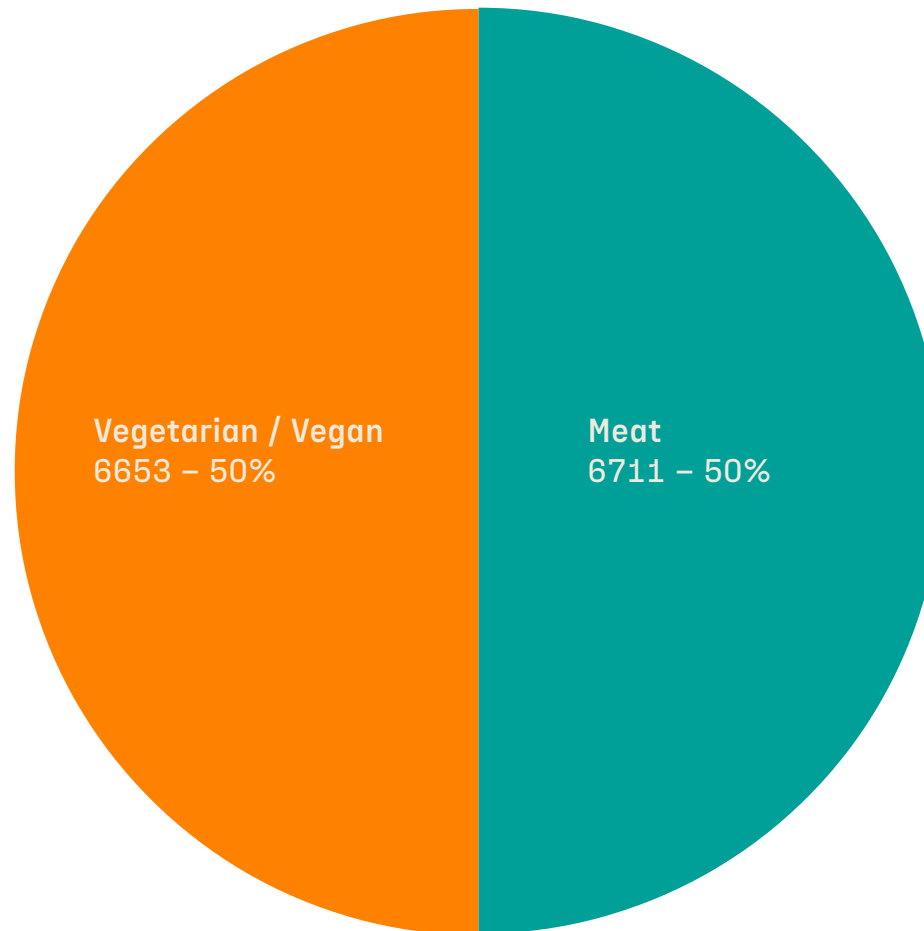
WATER DISPENSERS (Partnered with WaterNI and Wessex Water) and energy efficient tea urns

Encouraged attendees and crew to bring **REFILLABLE BOTTLES AND COFFEE CUPS** (saved 130kgCO₂e)

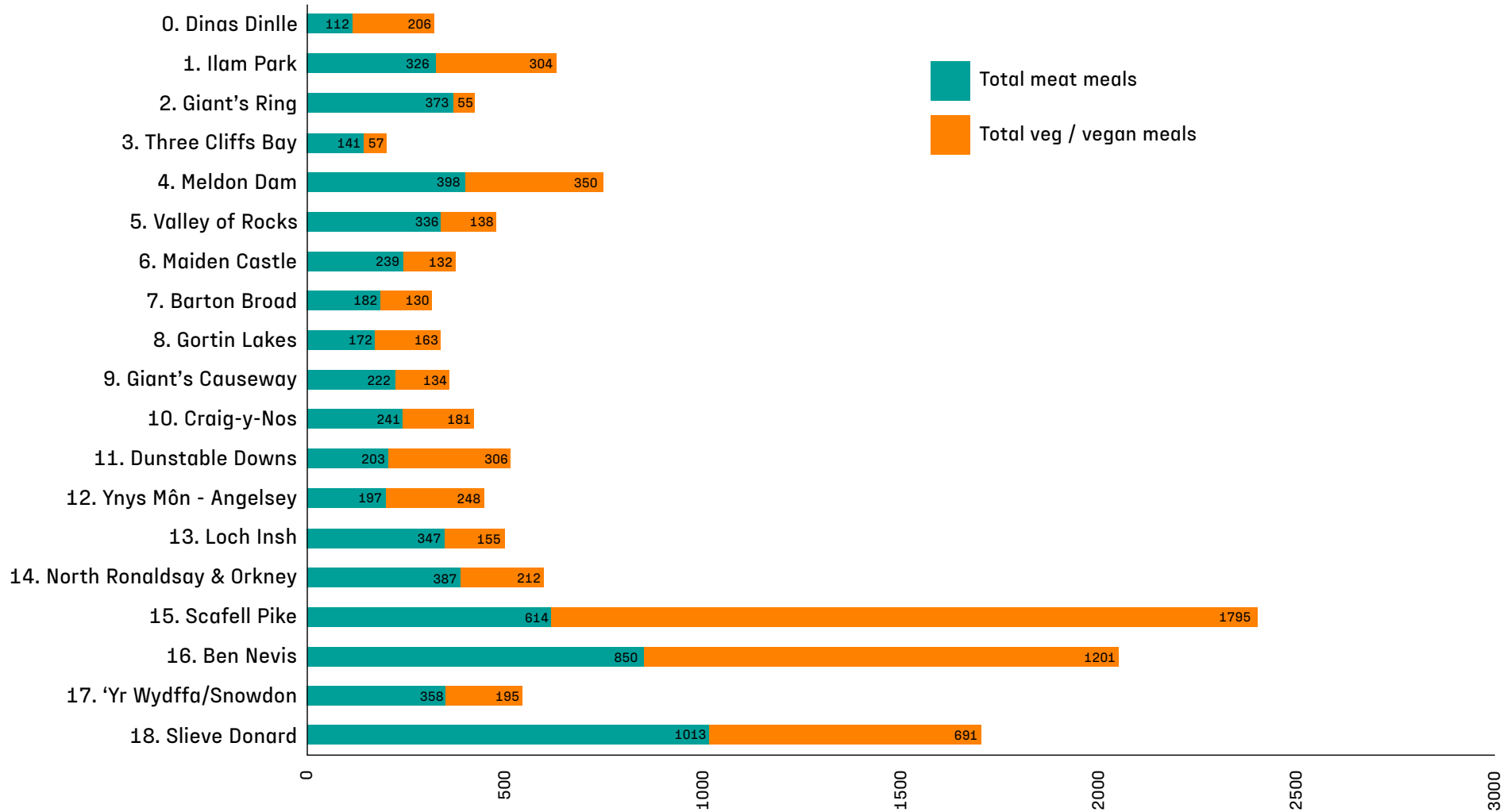


WHOLE PROJECT MEAT VS VEGETARIAN / VEGAN MEALS

Total emissions:
22.55 tCO₂e (7% of total)



TOTAL MEAT VS VEGETARIAN / VEGAN MEALS PER EVENT



KEY FINDINGS – FOOD & BEVERAGE

Choosing vegetarian over meat has a huge carbon saving.

Using local establishments for catering reduces transport and waste.

Good communication was needed to ensure we met all allergen and dietary requirements and prioritised vegetarian / vegan over meat where possible.

WASTE MANAGEMENT

The production of the project was kept as 'light touch' as possible in order to design-out waste from the outset by reducing the amount of assets needed. However, some waste was generated across the project in the Walk the Plank office as well as at the events. Overall, the largest waste stream was general waste (51%) largely due to contaminated food packaging, followed by mixed recycling at 38%, with paper and cardboard at only 8%. Food composting was a key sustainability success at the events as nearly 244.4kgs was collected saving 0.14 tCO₂e in carbon emissions by diverting food waste from landfill.

An 'Asset End of Life Plan' helped us to carefully plan and manage our waste streams from the outset, and we also made the effort to collect and responsibly process additional waste streams such as batteries and eWaste, tyvek wristbands, banners and signage, and human waste at the finale events on the mountains.

The event with the highest waste emissions was Ben Nevis (0.04 tCO₂e) due to it being a large event across many days and needing to process the waste through a local contractor which sent a small % to landfill (30%, 30kgs). Slieve Donard also had higher waste emissions (0.02 tCO₂e) due to it being a larger event. All the other events had low emissions from waste (0.01 tCO₂e) due to having a small amount of waste and processing it through Cobden Works which sent 0% to landfill. Overall, we only sent 36kgs (<1% of total) to landfill which is very close to our zero waste to landfill target.

WASTE MANAGEMENT

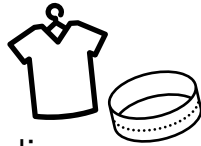
Total emissions:

01.5 tCO₂e (<1% total)

ASSET END OF LIFE PLAN helped to plan lifecycle of all assets

OUTDOOR CLOTHING DONATED

to Mustard Tree and Greater Together Manchester charities



530 TYVEK WRISTBANDS

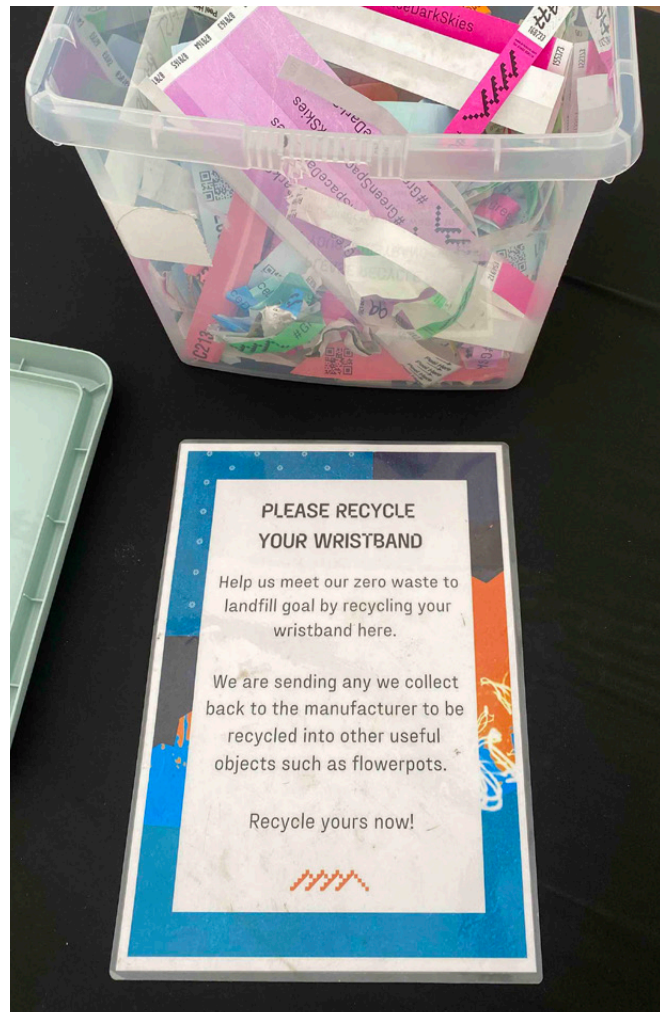
sent back to Dupont for recycling

10.8KGS of eWaste and batteries recycled

13KGS OF HUMAN SOLIDS AND

16 LITRES of liquids on mountains collected using containers and biodegradable WAG Bags

Diverted **>99% WASTE** from landfill



WASTE MANAGEMENT

COLLECTED WASTE IN THE FOLLOWING AREAS:

Walk the Plank Office
(general, mixed recycling, paper, food composting)

On site at events
(general, mixed recycling, paper, food composting, batteries and eWaste, wristbands)

Post-production
(signage, production assets)



ALL SIGNAGE RECYCLED / REPURPOSED AT END OF PROJECT:

ECOGreen Xtreme – kerbside paper recycling / kept in WtP stock for reuse

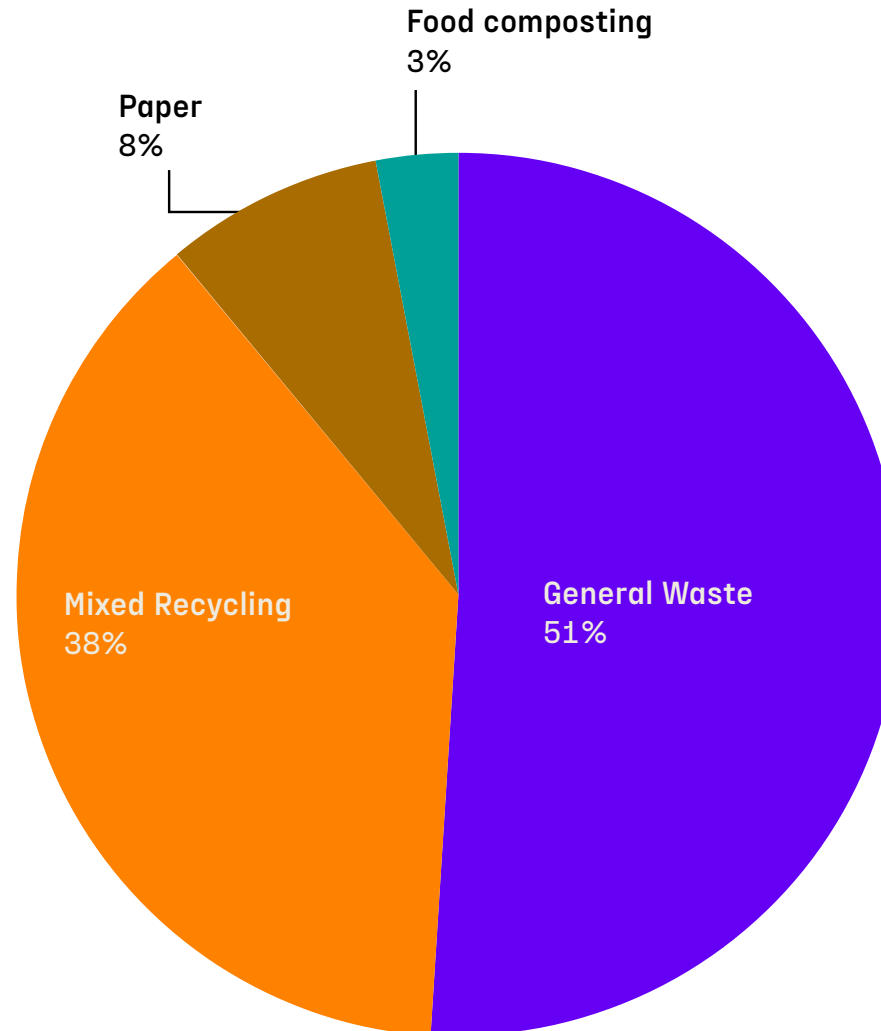
ECO Endurance – timber kept in WtP stock for reuse / repurposing

Wild VC blackout banners – upcycled into tote bags

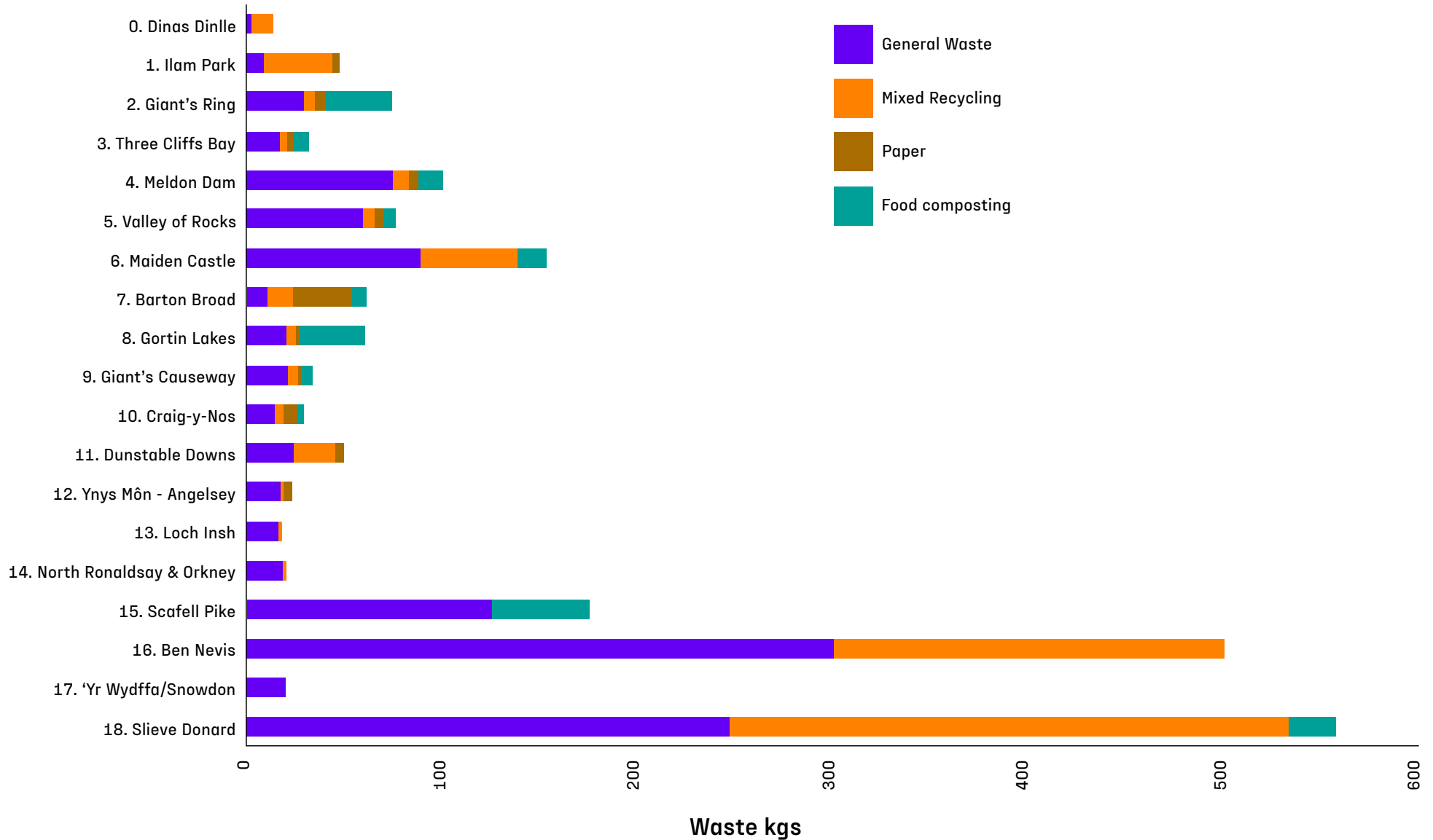
Wild VC mesh banners – sent back for recycling

TOTAL WASTE PRODUCTION

Total emissions:
01.5 tCO2e (<1% total)



WASTE PRODUCTION BREAKDOWN PER EVENT



KEY FINDINGS – WASTE MANAGEMENT

Compostables (food and beverage serveware) were a difficult waste stream to handle due to lack of infrastructure – had to go through general waste.

Public education of waste is poor and this makes on-site waste management difficult.

End of life planning from the outset and understanding all your waste streams is essential to reducing and managing waste responsibly.

EQUALITY, DIVERSITY & INCLUSIVITY

It was important to us to make the project inclusive and accessible to all, both on site and online. The location for each event was different, with some sites more accessible than others, however, we aimed to provide accessibility assistance wherever possible. While we were not able to remove all barriers to access, we did everything we could to make support available to those who needed it. Detailed information about access was provided on the dedicated page for each event, such as distances, terrain, and changing place facilities, and Lumenators were encouraged to make their access needs known upon registering.

It was important that everyone felt welcome to attend the events and our team members undertook comprehensive training in Diversity, Equality & Inclusion, access and safety. Diverse project champions included Muslim Hikers and Glasgow All Nations Sport, Arts and Recreation (ANSAR), and Ambassadors included Siemens graduate engineers Annabel Ohene and Nathaniel Fernandes.

EQUALITY, DIVERSITY & INCLUSIVITY



The following actions were taken to make the project as accessible and inclusive as possible:

Part of a national Accessibility Working Group

Engaging with a specialist accessibility consultant and Direct Access for each site

Working closely with local groups and charities that were accessibility specialists (e.g. disability performance collectives such as Extraordinary Bodies and Cirque Bijou)

Captioning and audio descriptions for the short films

Ensuring website and communications were accessible – confirmed to level Double-A of the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines and won global Web Excellence Accessibility Award.

Access Manager on site at events clearly identifiable in a blue tabard

BSL signers available at events on request

On site quiet spaces and sensory lights

Mobility assistance on request

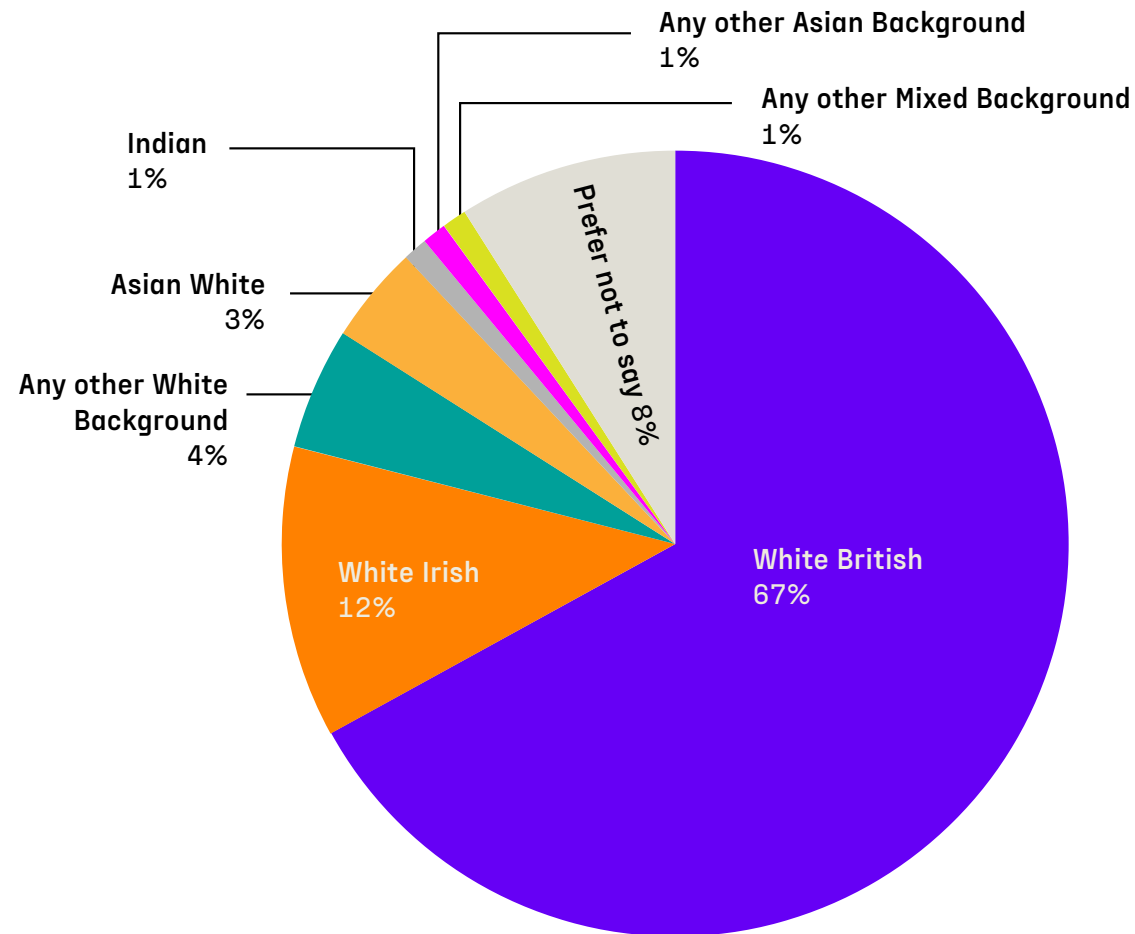
Accessibility Info Packs unique to each event supplied (details important information about access manager, the daily schedule, descriptions of the day's activities, photographs of the site and locations where there was difficult terrain, site plan)

Mobility toilets

Diversity Ambassadors

Outdoor clothing provided to those who did not own appropriate outdoor wear (i.e. coats and walking boots)

LUMENATOR ETHNICITY



KEY FINDINGS – EQUALITY, DIVERSITY & INCLUSIVITY

A lot of planning is required to ensure everyone feels equal and included and it's necessary to allow time for this.

EDI training for the core crew was informative and useful for inclusive planning.

It was essential to have access consultants visit some of the more complex event locations to ensure appropriate measures could be put in place.

HEALTH & SAFETY (EXTREME OUTDOOR ENVIRONMENTS)

As the project visited some extreme environments, Walk the Plank engaged with an outdoor event Health and Safety specialist and mountain safety consultants to ensure that the events were delivered in the safest possible way for all crew, contractors, and participants. An experienced event Production Manager, Health and Safety consultant, and semi-professional mountaineer and climber, was appointed as the Health and Safety Advisor. MTN Safety were appointed as mountain safety consultants to provide safety planning, advice, training & logistics for the challenges of organising and filming the events.

MTN SAFETY'S INVOLVEMENT

PROVIDE ADVICE AND SUPPORT
for the safety planning of the event

Support the **CORE RISK ASSESSMENT** process for working with staff and participants on the mountain, including emergency planning and mountain rescue scenario planning

MONITOR AND ADVISE ON WEATHER FORECASTS and ground conditions in the lead up and on site



Provide a **SKILLED AND EXPERIENCED TEAM** to guide staff and participants on site across the event week

LIAISE WITH LOCAL MOUNTAIN RESCUE TEAMS

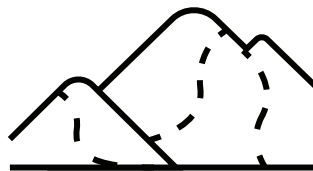


Photo credit: Brian Morrison

EDUCATION & LEARNING

GSDS was all about connecting people to beautiful landscapes across the UK and we wanted to help schools, communities, organisations, and individuals to develop, make new contacts and access support and resources. We believe that learning about our local green spaces is an important part of connecting with our neighbours, with our landscape and with our own personal stories. Together with our partners we created a wide range of experiences that encouraged exploration, love and care for the UK's green spaces. It was also important to expand the knowledge of our own team, so we offered Equality, Diversity & Inclusivity training to core crew.

EDUCATION & LEARNING



CARBON LITERACY TRAINING

for core crew and as part of our inseting initiative

EQUALITY, DIVERSITY AND INCLUSIVITY TRAINING

for core crew

A “LUMENATOR RESOURCE” EDUCATIONAL PACK

DOWNLOADABLE RESOURCES

such as ‘Conversation Starters’ for Group leaders on relevant topics to Green Space Dark Skies

PRODUCED A LEGACY LEARNING RESOURCE

– Teachers & Group Leaders learning resource pack

GREEN SPACE STORIES

citizen science project to gather the public’s thoughts about the landscape which will then be looked after by National Parks UK and available for public and academic use for 5 years



Photo credit: Jayne Jackson (Activate)



Photo credit: Phil Young

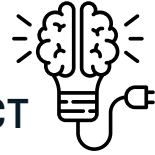
DIGITAL

The impact of digital marketing and cloud hosting is an under researched area as many aspects are complex and hard to measure. The GSDS Digital Sustainability Guide was written with the intention to give an overview of the research we undertook to better understand the digital footprint of the GSDS project. Specialist consultation was also sought with a digital sustainability specialist from EcoPing and Wholegrain Digital to help gain more insight.

The largest emissions in this area came from Facebook film streaming (34%), followed by monthly newsletter emails (32%). YouTube film streaming was quite high at 15% of the total, followed by website hits at 9%, with Twitter posts being the lowest at <1%. Overall, the combined film streaming across the platforms made up the largest portion at 51% of the total (3.621 tCO₂e).

DIGITAL

FIRST TIME EVER LOOKING AT IMPACT OF DIGITAL FOR A PROJECT



Sought advice from **WHOLEGRAIN DIGITAL AND ECOPING** and created own tool to calculate emissions for those areas we could find tools for / research on

Doubled total to account for anything else we could not calculate

Did a sustainability analysis with digital agency **CORPORATION POP** to look at where the website was doing well / room for improvement

LOOKED AT / TOOLS USED:

Website hits –
EcoGrader and Website Carbon



Monthly newsletter email –
emissions factor based on research



Event communication emails –
emissions factor based on research

Cloud computing Microsoft 365
(GSDS proportion) –
PowerBI Emissions dashboard

Youtube, Facebook, Instagram
film streaming –
emissions factor based on research

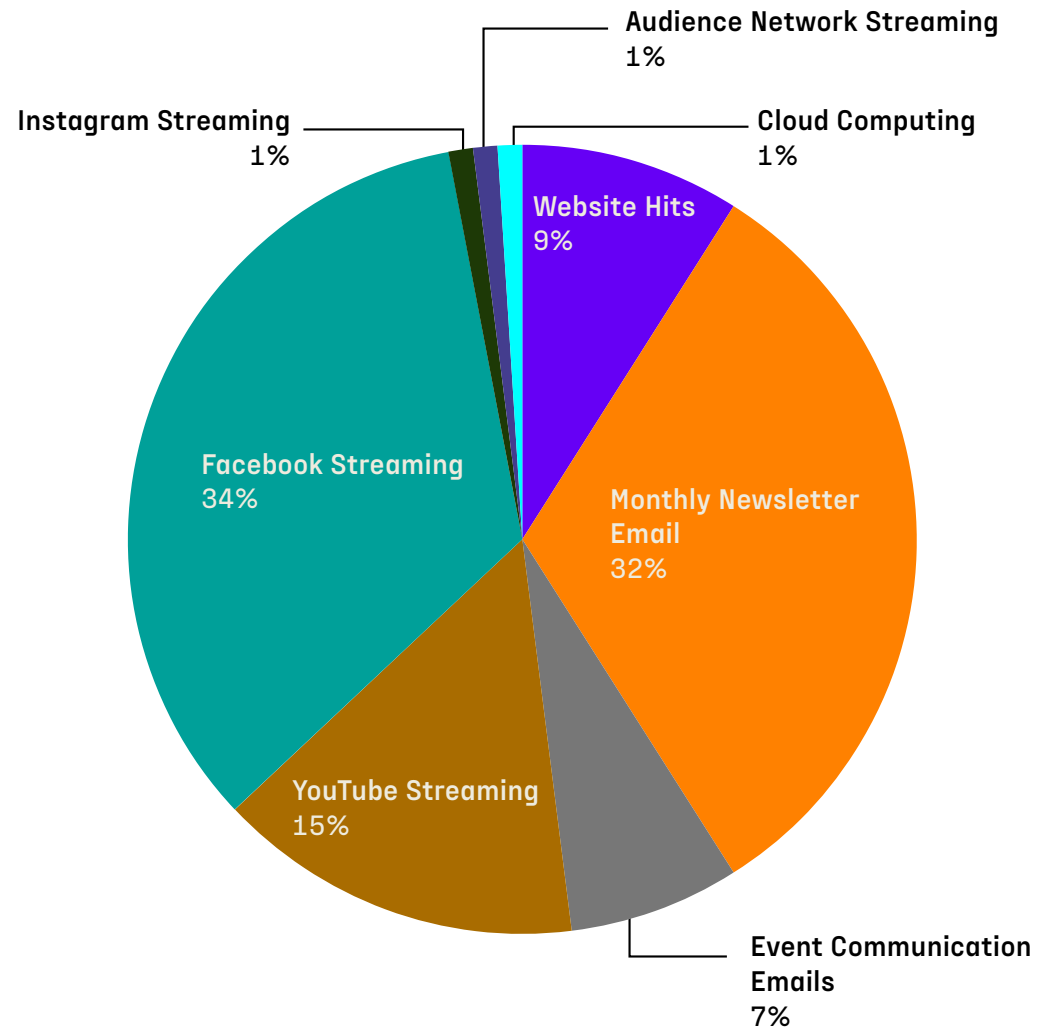


Twitter posts –
emissions factor based on research



DIGITAL FOOTPRINT EMISSIONS PER AREA

Total emissions:
12.77 tCO₂e (3% of total)



KEY FINDINGS – DIGITAL

There is very limited or conflicting research in this area so hard to accurately calculate emissions.

Content heavy emails with large attachments have a big impact.



CLIMATE INVESTMENT

From the outset we wanted to address our unavoidable CO2e emissions and we pledged to do this through climate investment. We chose this term as we didn't want to have a "business as usual" approach where we simply offset the impact of the project. We set out with the aim of being an exemplar low-carbon production. Having set out this vision, GSDS was then contractually obliged by UNBOXED to be a 'climate positive' project using certified and verified credits (this was a different contractual arrangement to other UNBOXED projects).

We decided that a diverse climate investment portfolio of 'offsetting' through certified and verified carbon credits and 'insetting' through carbon literacy training would create the greatest lasting and beneficial change in the creative industries. The project took action to ensure the long-term impact of the activity is climate positive through mitigating ten times the carbon footprint through the planting of 15,154 trees with the Woodland Trust.* In addition to this, we rolled out carbon literacy training to approximately 80 people (insetting) and also invested £1000 in a project by Activate Performing Arts which raises climate change awareness.

* The Woodland Trust is a non-profit-making company limited by guarantee (registered company number: 1982873) and a registered charity, numbers 294344 and SC038885. Registered office: Kempton Way, Grantham, Lincolnshire NG31 6LL.

BALANCING UNAVOIDABLE EMISSIONS



Target was to have
1 NATURE-BASED CLIMATE INVESTMENT PER LOCATION
 (Target 7)

Aimed to be climate positive, and achieved this through working with the Woodland Trust.*

Decided on a broader portfolio of both offsetting and insetting

In addition to our own efforts to balance our unavoidable emissions, the **BIG GREEN COACH COMPANY OFFSET 8.4 TCO2E** for the coaches they provided for GSDS through Ecolibrium. The funds they have donated to are being utilised in a conservation project in Guatemala.

OFFSETTING

Taken action to ensure the long-term impact of the activity is climate positive through mitigating ten times the carbon footprint through the planting of 15,154 trees with the Woodland Trust.*

Scheme has locations across all four regions of the UK with some even on the same site as our events

INSETTING

Doing carbon literacy training has a carbon reduction of 5-15% per person = knowledge 'ripple effect'

Offered 80 people (professionals, creatives and members of local community) carbon literacy training through Climate NI

Training was specific to arts and cultural sector and worked with ClimateNI to include GSDS as a case study

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KEY FINDINGS – CLIMATE INVESTMENT

UK Carbon market is in its infancy and it's hard to find credits that are available now.

The minimum to budget for gold-standard offsetting is £25/tonne.

Research shows that carbon literacy can offer carbon savings of 5-15% per person.

CONCLUSION

CONCLUSION

Green Space Dark Skies set out to achieve some extremely ambitious sustainability targets across both social and environmental aspects of the project.

The scope of the project was vast (covering scope 1, 2 and 3 emissions) across all areas including energy, transport, materials, food and beverage, waste, accessibility, diversity, and digital.

Major sustainability successes were in areas such as:

Accurately collating data across all areas and the trialling of new carbon calculation tools such as TRACE and Albert

Achieving huge carbon savings through using coaches (over 40 tCO₂e) and exceeding our 80% target for shared Lumenator transport

71% of suppliers coming from within a 50 miles radius

Reusing, repurposing, or recycling 100% of our signage and upcycling banners into tote bags

An equal split of meat and vegetarian meals with a carbon saving of 25-30 tCO₂e

Over 25% of accommodation being on green energy tariff with a carbon saving of over 16 tCO₂e

Over 80% renewable energy at 13/19 events with a carbon saving of 1.21 tCO₂e

Gaining a better understanding of our digital emissions

Diverting >99% of our waste from landfill

Taken action to ensure the long-term impact of the activity is climate positive through mitigating ten times the carbon footprint through the planting of 15,154 trees with the Woodland Trust.

Additionally, we engaged in insetting through offering Carbon Literacy Training to over 80 people and making a project grant to Activate Performing Arts for an artistic commission which raises climate change awareness

CONCLUSION

Key lessons that we learnt were mainly surrounding learning that allocating time and resources towards sustainability was essential to achieving success.

A dedicated Sustainability Manager was crucial to keeping sustainability on the agenda throughout the project and ensuring that the strategy was being delivered as planned and all relevant data was being measured, monitored and processed correctly.

A comprehensive environmental and community approach and working closely with our project partners was needed for reducing the negative and maximising the positive social and environmental impact of the project. Building-in circular economy thinking and procuring or designing with the asset's end of life in mind was also vital for minimising and reducing waste.

High-impact areas for lowering carbon emissions were shared transport, choosing accommodation on green energy tariffs, veg-led catering, and digital areas such as the design of the website and reducing the size of emails for mass communication.

In particular, we found that power and waste management while touring and in remote outdoor locations are complex areas and require careful attention, both on and off site.

Social aspects such as meeting all accessibility needs also require careful planning and specialist consultation was particularly useful.

We are keen to share the learnings we have made over the course of Green Space Dark Skies and welcome opportunities to talk with others about what we've learned in the process of delivering on the project's ambitious sustainability vision and strategy.

We believe that we need a collective and collaborative approach to meet the challenge of the climate emergency and that openly sharing knowledge and experience is vital to establishing a new working culture where sustainability is as central to event production as health and safety.

KEY FUTURE RECOMMENDATIONS

PROCESS & TOOLS

Have a dedicated Sustainability Manager to help keep sustainability on the agenda throughout the project – and bring them on board early

Utilise an event-specific carbon calculation tool such as TRACE for emissions reporting

Carbon Literacy Training and sustainability inductions help to educate and empower the team

Make your sustainability strategy publicly available and send to all stakeholders (ie. crew and suppliers)

ENERGY

Choosing accommodation with renewable energy tariffs offers significant emissions savings

Have a dedicated member of the team to focus on power management / data collection

Work closely with specialist suppliers to overcome challenges (ie. building bespoke battery units)

TRANSPORT

Build-in attendee transport data collection process into accreditation / registration

Providing shared transport solutions such as coaches to both crew and attendees offers significant emissions savings

Sustainability considerations should be built into touring logistics and overall operations

Plan routes and loads carefully to reduce vehicle numbers and time spent driving

KEY FUTURE RECOMMENDATIONS

MATERIALS & GRAPHICS

Create an 'Asset End of Life Plan' to help minimise production waste

The Sustainable Signage Company offer great alternatives to foamex and correx

Bungees work well instead of cable ties on heras and pedestrian barrier banners

Challenge the brief every time – do you really need it?

FOOD & BEVERAGE

Choosing vegetarian / vegan over meat offers significant carbon savings

Liaise with crew and work with suppliers to plan quantities carefully

Work with local suppliers and establishments to reduce transport and serveware waste

Provide water refill tanks

WASTE

Compostables require careful management – check with local waste authority

Informational signage and colour coding is helpful to guide people how to dispose of their waste responsibly

Assess potential on-site waste streams before the event to plan accordingly (ie. eWaste and consumables)

Utilise supplier 'recycling take-back' schemes

Put food composting bin near to food areas or brew station as well as main bin array

KEY FUTURE RECOMMENDATIONS

ENVIRONMENTAL

When working in ecologically and socially sensitive environments it's vital to work closely with local authorities, partners and experts

Some assessments will uncover site specific challenges that might influence production planning - essential to do these assessments early in order to facilitate efficient and sensitive planning

DIGITAL

Seek expert consultation on web design (eg. Wholegrain Digital)

Reduce content heavy emails with large attachments as these have high emissions

CLIMATE INVESTMENT

Balancing Unavoidable Emissions

The minimum to budget for offsetting is £25/tonne

Look at insetting initiatives too (eg. event / entertainment industry specific carbon literacy training which can offer future carbon savings of 5-15% per person and has a ripple effect)



GREEN SPACE DARK SKIES

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Held at places of Historic Interest or Natural Beauty, looked after by National Trust

Thanks to the many organisations and individuals who worked hard to make Green Space Dark Skies a success across the four nations.