PlanetMark

Tournament Emission Measurement

Birmingham County Football Association

02 April 2023 to 15 May 2023

Measure

Engage

Communicate

Measured carbon EMISSIONS

106.1
tCO_2e measured emissions

Measured emissions equivalent to
94 flights from London to New York

0.4
tCO_2e per employee

Buildings
0.7 tCO_2e

Travel
91.4 tCO_2e

Waste
0.2 tCO_2e

Water
0.03 tCO_2e

Food & Beverages
13.8 tCO_2e

Step one.

MEASURE

Measured carbon footprint.
Location BASED

Reporting period:
02 April 2023 to 15 May 2023

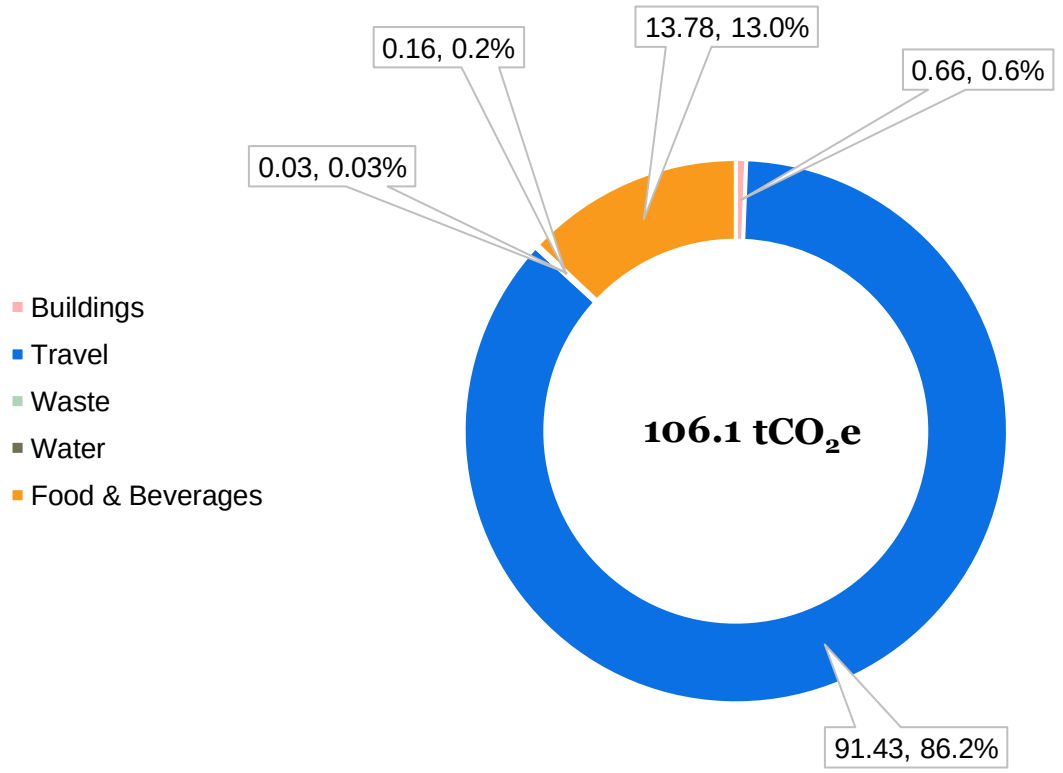
Reporting Boundary:
The Molineux; Birmingham County FA HQ; Walsall FC locations, (3 games at Walsall, 1 at Molineux and 10 and BCFA Headquarters).

Emissions measured:
Electricity, T&D Losses, Natural Gas, On-Site Renewables, Water, Travel, Waste, Food & Beverages

Highlights:

Carbon footprint (tCO_2e):	**106.1**
Per spectator (tCO_2e):	**0.009**
Data quality score:	**11 out of 16**

Carbon footprint by emission source for year ending 2023, tCO_2e



Note: Your carbon footprint is reported two ways; one is using the location based method of calculating Scope 2 electricity emissions and the other the market based method. A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice).

Measured carbon footprint.

Market BASED

Reporting period:
02 April 2023 to 15 May 2023

Reporting Boundary:
The Molineux; Birmingham County FA HQ; Walsall FC locations, (3 games at Walsall, 1 at Molineux and 10 and BCFA Headquarters).

Emissions measured:
Electricity, T&D Losses, Natural Gas, On-Site Renewables, Water, Travel, Waste, Food & Beverages

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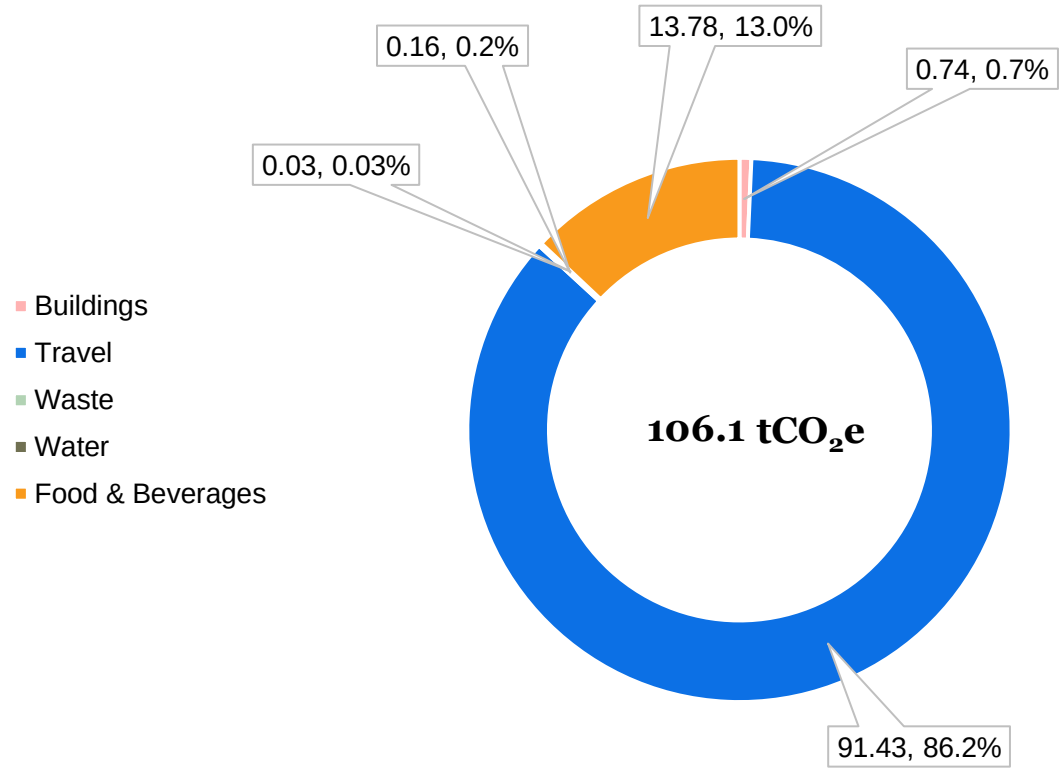
Carbon footprint by emission source for year ending 2023, tCO_2e



Note: Your carbon footprint is reported two ways; one is using the location based method of calculating Scope 2 electricity emissions and the other the market based method. A location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data). A market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice).

Carbon footprint.

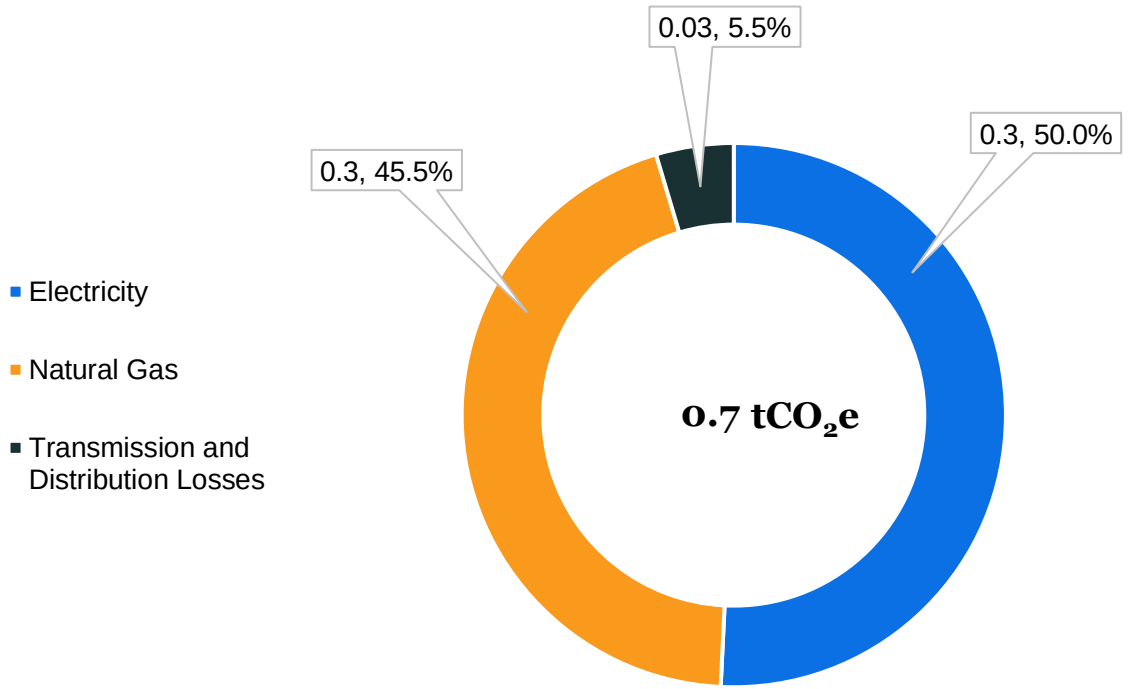
BUILDINGS

Emissions from buildings only account for 0.62% of the total carbon footprint across all games. There is a fairly even split between the amount of emissions created by Natural Gas (45.5%) and Electricity (54.5% combined between Electricity and T&D losses).

Electricity and Gas emissions from the Walsall site were estimated based on the readings from the Molineux fixture. To improve accuracy in future, readings for the Walsall games could be collected.

Buildings	tCO_2e	%
Electricity	0.3	50.0
Natural Gas	0.3	45.5
Transmission and Distribution Losses	0.03	4.5
Total	**0.7**	**100.0**

Buildings emissions for year ending 2023, tCO_2e



All rows and tables are rounded to one decimal place. This may lead to slight discrepancies in totals within the report.

Carbon footprint.

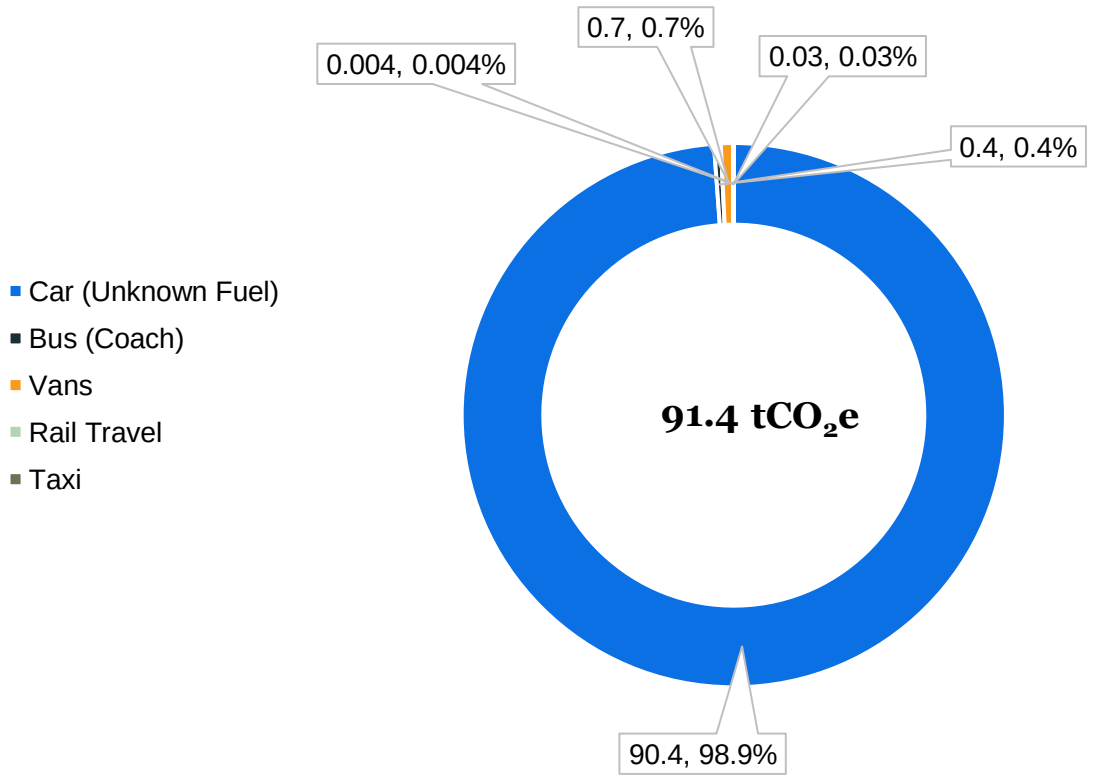
TRAVEL

Emissions from Travel accounted for the vast majority of emissions associated with all games (86.4% of total carbon footprint). Of this, emissions from cars represented by far the largest proportion of emissions (99%), with emissions from other travel sources only accounting for 1% of Travel emissions. Encouraging public transport to the fixtures will help significantly reduce emissions in this category in future.

Where spectators travelled to a game in groups of between 8 and 12, it was assumed they travelled by minibus. These journeys were recorded as Van journeys, as there are no emissions factors for minibuses, and this represented the most similar vehicle. Journeys of more than 12 spectators were assumed to have taken place by Coach.

Travel	tCO_2e	%
Car (Unknown Fuel)	90.4	98.9
Bus (Coach)	0.4	0.4
Vans	0.7	0.7
Rail Travel	0.004	0.004
Taxi	0.03	0.03
Total	**91.4**	**100.0**

Travel emissions for year ending 2023, tCO_2e



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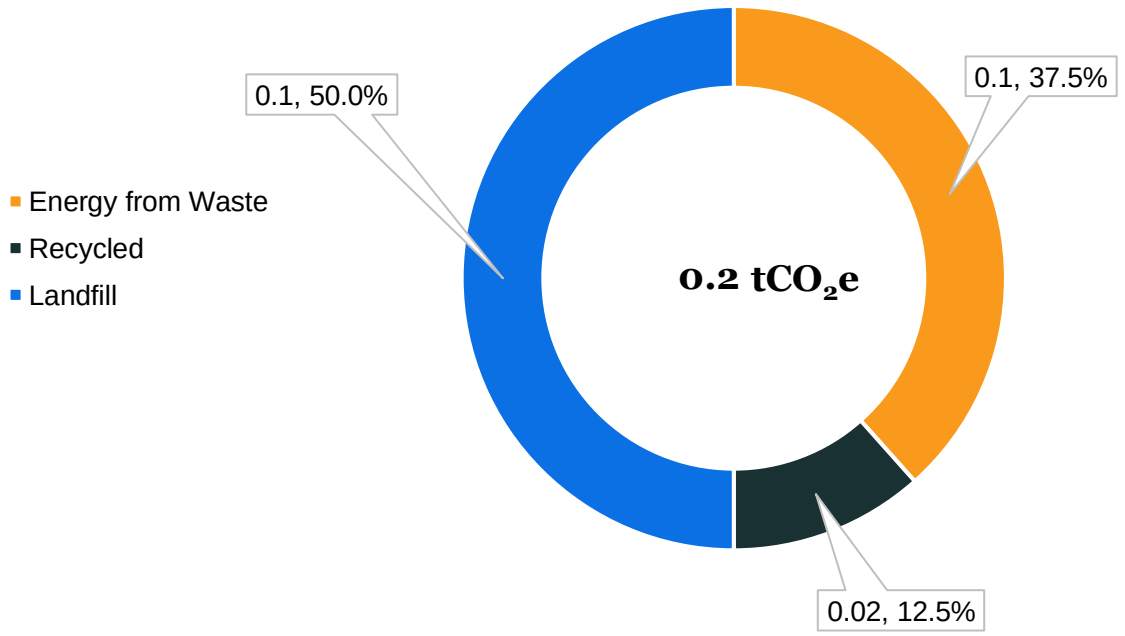
Carbon footprint.

WASTE

Emissions from Waste only represented a small fraction of the total carbon footprint from all the BCFA fixtures reported on here (0.15%). The use of Energy from Waste facilities to dispose of waste at the Molineux was a contributing factor to keeping Waste-related emissions down. Following this approach at the other sites will help lower emissions in this category in the future.

Waste	tCO_2e	%
Energy from Waste	0.1	37.5
Recycled	0.02	12.5
Landfill	0.1	50.0
Total	**0.2**	**100.0**

Waste emissions for year ending 2023, tCO_2e



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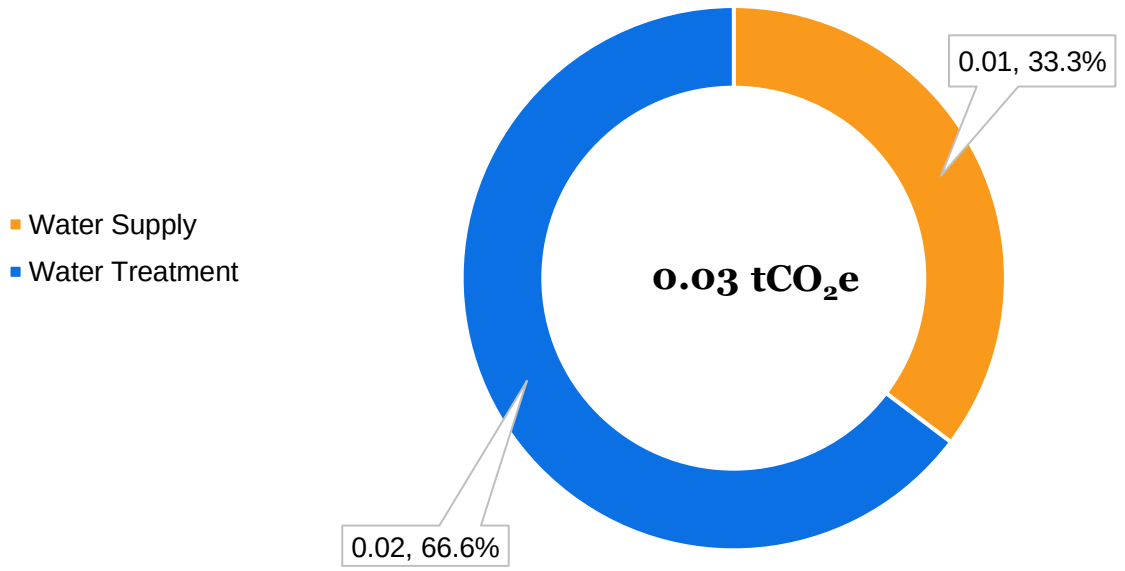
Carbon footprint.

WATER

Water-related emissions represent a tiny percentage of the total carbon footprint of all fixtures reported on here. Water use at the BCFA headquarters was based on estimates from data submitted which covered the two months these games were played in. Water use for Walsall FC fixtures were estimated using industry baselines. More accurate data for each of these venues could be achieved if meter readings were taken before and after the fixtures.

Water	tCO_2e	%
Water Supply	0.01	33.3
Water Treatment	0.02	66.6
Total	**0.03**	**100.0**

Water emissions for year ending 2023, tCO_2e



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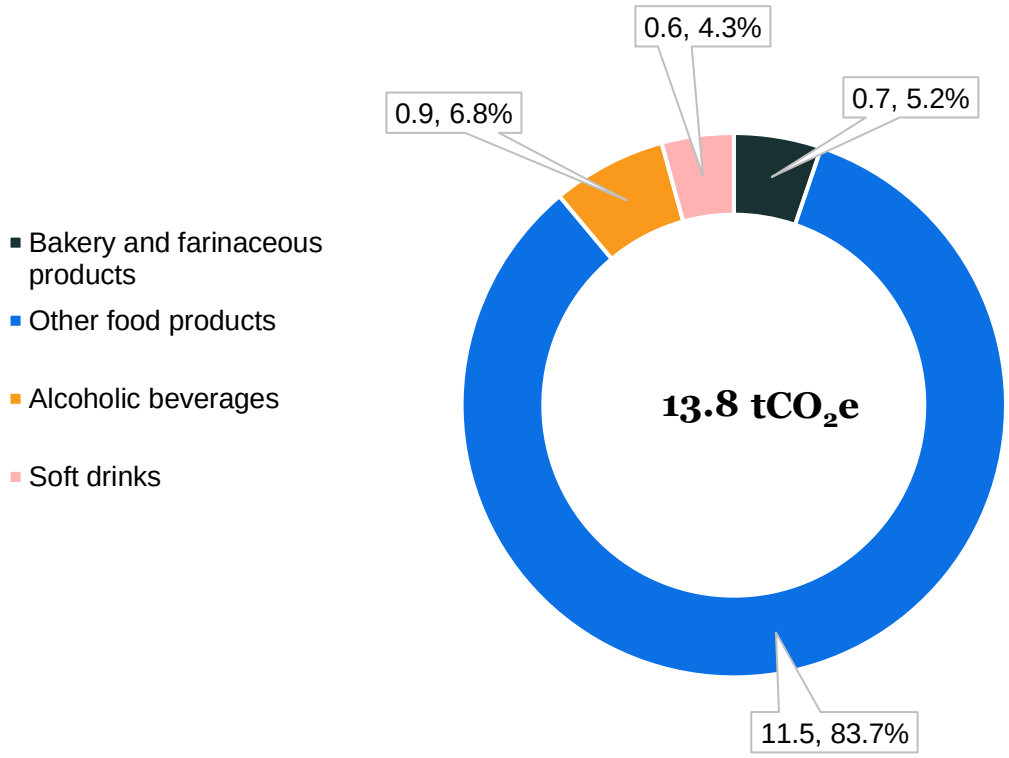
Carbon footprint.

PROCUREMENT

This category represents emissions caused by the goods that were purchased by the BCFA for the fixtures – which consist entirely of Food & Beverages. After Travel, it represents the most significant contributor towards the total carbon footprint (13.0%). Emissions associated with the creation of Other Food Products (which include hot drinks and confectionary) account for the bulk of emissions in this category (83.7%).

Food & Beverages	tCO_2e	%
Bakery and Farinaceous Products	0.7	5.2
Other Food Products	11.5	83.7
Alcoholic Beverages	0.9	6.8
Soft Drinks	0.6	4.3
Total	**13.8**	**100.0**

Procurement emissions for year ending 2023, tCO_2e



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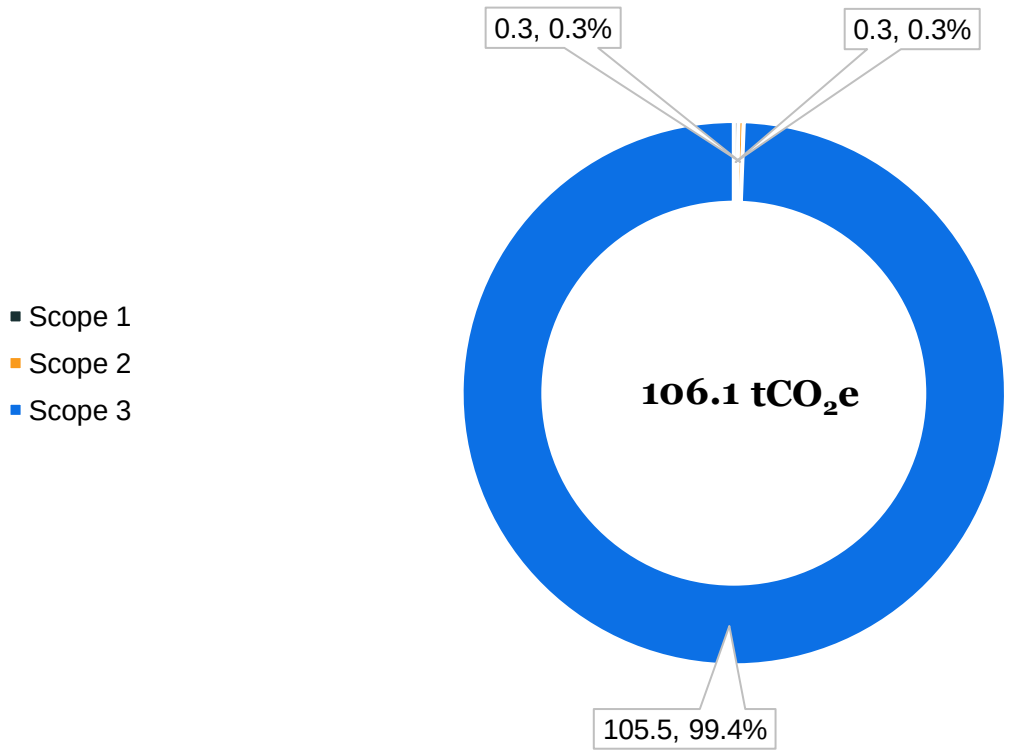
Measured carbon footprint.

BY SCOPE

Both most emitting categories – travel and purchased food and beverages represent scope 3 emissions thus this scope is the most dominant for BCFA. Scope 3 is classified as indirect emissions as they are not directly influenced by the reporting company but come from their value chain. These emissions are usually harder to control than scope 1 and 2 but nevertheless still need to be reduced via player, spectator and supply chain engagement.

Scope	tCO_2e	%
Scope 1	0.3	0.3
Scope 2	0.3	0.3
Scope 3	105.5	99.4
Total	**106.1**	**100.0**

Measured carbon emissions by scope for year ending 2023, tCO_2e



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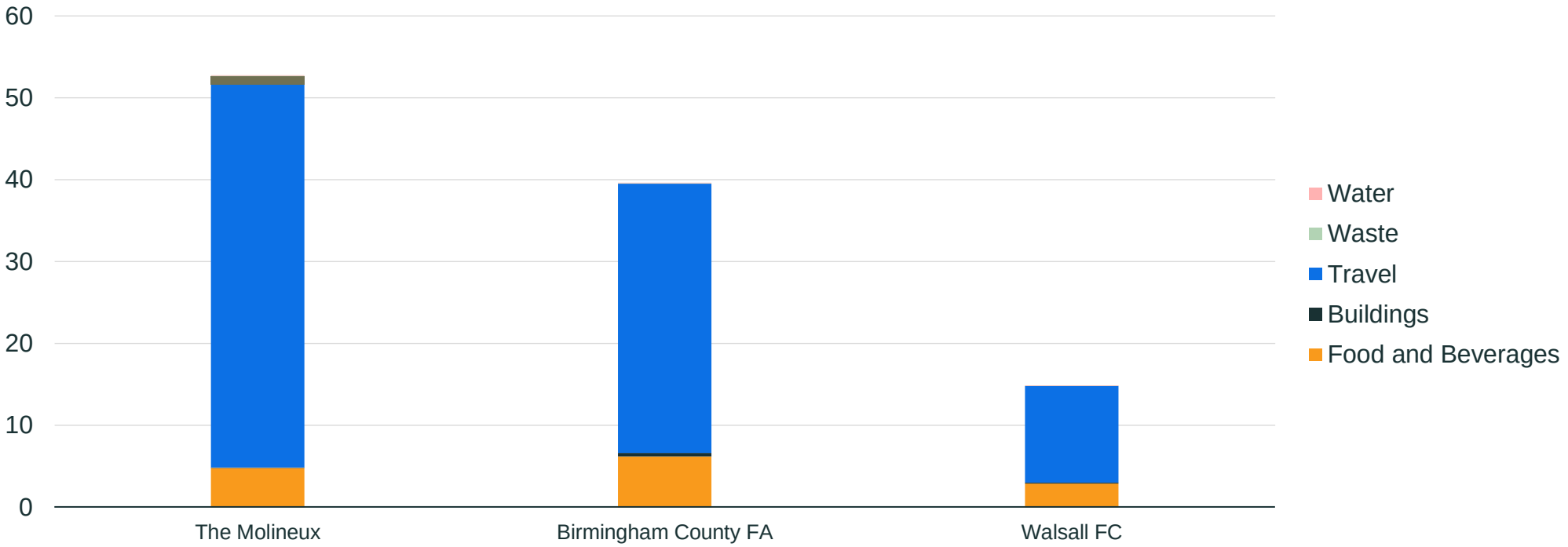
Carbon footprint.

BY LOCATION

Carbon footprint for each location

tCO_2e



Data: Key Risks and Recommendations

Risks

1. **Assumptions:** The biggest overarching risks are estimations based on assumptions - this can create a large error margin which is directly linked to the assumptions made.
2. **On-the-Gate Spectators:** Assumptions have been made on the mode of transport taken by spectators who paid for their tickets on the gate. Without data on these modes of transport, the analysis could vary.
3. **Utilities Data:** There is a lack of data on Utilities usage during the matches. Without this data, analysis of Electricity, Gas, and Water usage at each of the games relies on estimations.
4. **BCFA Estimations:** Electricity, Gas and Water usage at BCFA games have been estimated based on monthly usage at the site. It has been assumed match days used twice the amount of each of these as non-match days.
5. **Walsall FC Estimations:** Electricity and Gas usage at Walsall FC has been estimated based on the amounts used during the Molineux fixture, as both are Sports stadiums. The real data may vary from the assumption made.
6. **Group Travel:** We cannot be sure of the mode of transport taken where eight or more passengers are listed under one journey. Assumptions have been made about the use of Minibuses and Coaches for single journeys which accounted for a number of passengers that could not fit into a large Car.
7. **Food & Beverage Assumptions:** Food and Beverage data at BCFA and Walsall FC games has been estimated based on data from the Molineux fixture.

Recommendations

1. **On-the-day Travel:** Attempt to understand how spectators who purchase tickets on the day have travelled to the venue, and how far they have come. This could be done when they purchase their tickets or after the event.
2. **Large Group Surveys:** For spectators travelling in large groups, establish how these groups are planning to travel to the venue.
3. **Identify Public Transport:** Where spectators are travelling in smaller groups, ask them to identify the type of transport they will be taking.
4. **Accurate Meter Reads:** Ensure meter reads are taken before and after each of the fixtures, to accurately assess the amount of Electricity, Gas and Water being used during each fixture.
5. **Framework for Recording Food Sales:** Work with venues to set out a plan to record Food and Beverage sales at each location before the games take place.
6. **Game Day vs. Non-Game Day Consumption:** Establish a framework to understand how much Electricity, Gas, and Water is used on a match day at each venue, versus a non-match day. This will reduce reliance on estimations.

Data Report.

APPENDIX

Sources.

Source	Scope	Unit	Current 02 April 2023 to 15 May 2023 Amount	tCO_2e	% total carbon footprint
Buildings					
Electricity (location based)	2	kWh	2,526.63	0.3	0.3%
Electricity (market based)	2	kWh	2,526.63	0.3	-
Natural Gas	1	kWh	1,599.78	0.3	0.3%
Transmission and Distribution Losses	3	kWh	2,526.63	0.3	0.0%
Procurement					
Food and Beverages	3	£	23,135.94	13.8	12.9%
Travel					
Bus	3	passenger.km	762.73	0.4	0.3%
Car (Unknown Fuel)	3	km	529,463.36	90.4	84.9%
Van	3	km	2,888.12	0.7	0.6%
Rail Travel	3	passenger.km	105.83	0.0	0.0%
Taxi	3	km	133.38	0.0	0.0%
Waste					
Energy from Waste	3	tonnes	2.94	0.1	0.1%
Landfill	3	tonnes	0.18	0.1	0.1%
Recycled	3	tonnes	0.87	0.0	0.0%
Water					
Water Supply	3	cubic metres	81.58	0.0	0.0%
Water Treatment	3	cubic metres	81.58	0.0	0.0%
		Location Based			
Total		**tCO_2e**		**106.1**	
No. employees		Number		253	
Total per employee		**tCO_2e**		**0.4**	
No. spectators		Number		11,742	
Total per spectator		**tCO_2e**		**0.009**	
No participants		Number		3,426	
Total per participant		**tCO_2e**		**0.03**	
		Market Based			
Total		**tCO_2e**		**106.1**	
No. employees		Number		253	
Total per employee		**tCO_2e**		**0.4**	
No. spectators		Number		11,742	
Total per spectator		**tCO_2e**		**0.009**	
No participants		Number		3,426	
Total per participant		**tCO_2e**		**0.03**	

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About this report – General.

Company Name	Birmingham County Football Association
Sector	Sport
Reporting Period	02 April 2023 to 15 May 2023
Year Of Certification	3rd
Reporting Boundary	Walsall FC, Molineux, BCFA Headquarters (3 games at Walsall, 1 at Molineux and 10 and BCFA Headquarters)
Emission sources included	Electricity, T&D Losses, Natural Gas, On-Site Renewables, Water, Travel, Waste, Procurement (Food & Beverages)
Total FTE Employees (annual average no.)	253
Data Collection Lead	Richard Lindsay, Richard.Lindsay@birminghamfa.com, Sustainability & Business Insights Manager
Current Conversion Factor	BEIS 2022, Spend BEIS 2019 adjusted for inflation
Methodology	We follow the GHG Protocol for Corporate Emission Reporting Standard.
Community Project	Contributions to the Eden Project have been made as part of Planet Mark Certification.
Prepared by	Hugh Williams, Sustainability Consultant, Planet Mark
Checked by	Jamie Beevor, Head of Technical, Planet Mark Alex Smith, Technical Consultant, Planet Mark Rima Trofimovaite, Head of Measurement, Planet Mark
Date	9 August 2023

About this report – Caveats (i).

Operational Boundary	Scope	Unit	Data Source	Data Accuracy	Comments, omissions, estimates or extrapolations	Organisational Boundary
Electricity	2 and 3	kWh	Primary Source - Invoices and Landlord Reports Secondary Sources - Estimations	Actual meter reads with some interpolation and estimations to match reporting period	Electricity usage at the Birmingham County FA HQ has been estimated based on the monthly electricity usage shared in the data submission. It has been assumed that match days used twice the amount of electricity as non-match days. No electricity data was reported for Walsall FC games, so this has been estimated using electricity data from Molineux as a proxy. Although Molineux is a larger ground and had more spectators than the Walsall games, the fact that both are stadia makes it a useful proxy here. Your electricity consumption is shown in the carbon footprint as Purchased Electricity emissions (Scope 2 emissions) and Electricity Transmission and Distribution losses (Scope 3 emissions). Your scope 2 electricity emissions are reported in two ways; one is using the location based method and the other the market based method. Location based electricity emissions have been calculated using carbon emission factors for average UK national grid electricity. Market-based electricity emissions have been calculated using carbon emission factors for your specific electricity supply fuel mix as published on your supplier's website for electricity supplied in the period April 2021 to March 2022 and in some instances using a residual fuel mix 2021/22 (as no information on your specific supplier fuel mix was available).	All Sites
On-Site Renewables	2	kWh	Primary source - supplier report	Actual	On-site renewables consumption is included within Electricity in the report. 0% of generation is exported. Feed-in-Tariff is not received for on-site renewables. Zero emissions have been applied to location and market-based.	Birmingham County FA HQ

Note: unless otherwise stated in the report all electricity emissions are location based (i.e. calculated using carbon emission factors for average UK national grid electricity).
Do let us know if your electricity is from 100% renewable energy and we will provide dual reporting to show both market based and location based electricity emissions.

About this report – Caveats (ii).

Operational Boundary	Scope	Unit	Data Source	Data Accuracy	Comments, omissions, estimates or extrapolations	Organisational Boundary
Natural Gas	1	kWh	Primary source - invoices and Secondary Sources - Estimations	Actual meter reads with some interpolation and estimations to match reporting period	Natural Gas usage at the Birmingham County FA HQ has been estimated based on the monthly gas usage shared in the data submission. It has been assumed that match days used twice the amount of gas as non-match days. No natural gas data was reported for Walsall FC games, so this has been estimated using gas data from Molineux as a proxy. Although Molineux is a larger ground and had more spectators than the Walsall games, the fact that both are stadia makes it a useful proxy here.	All Sites
Water Supply & Treatment	3	m^3	Primary source - invoices and meter reads	Actual meter reads	Water usage at the Birmingham County FA HQ has been estimated based on the water usage for April and May which was shared in the data submission. It has been assumed that match days used twice the amount of water as non-match days. No water data was reported for Walsall FC games, so this has been estimated.	All Sites

Note: unless otherwise stated in the report all electricity emissions are location based (i.e. calculated using carbon emission factors for average UK national grid electricity).
Do let us know if your electricity is from 100% renewable energy and we will provide dual reporting to show both market based and location based electricity emissions.

About this report – Caveats (iii).

Operational Boundary	Scope	Unit	Data Source	Data Accuracy	Comments, omissions, estimates or extrapolations	Organisational Boundary
Private Vehicles Used for Business	3	km	Primary sources - travel report and Secondary Sources - estimated figures	Actual and Estimated	Travel distances for spectators who purchased tickets on the day have been estimated using the average of the known distances travelled by spectators for that game.	All Sites
Coach Travel	3	km	Secondary source - estimates	Estimated	Where the number of spectators listed for a single journey is over 12, it is assumed that these spectators travelled by Coach.	The Molineux and Walsall FC
Van Travel	3	km	Secondary source - estimates	Estimated	Where the number of spectators listed for a single journey has been listed as between 8 and 12, it is assumed that these spectators travelled by Minibus, with the emissions factor for travel by Van used as a proxy.	All Sites
Taxi Travel	3	km	Primary source - travel report	Actual cost, estimated distance	Where only cost per trip is available, we assumed £2.53 per mile. Calculations based on a fixed start price of £2.8 per journey, an average cost of £2.02 per mile and an average taxi journey of 5.36 miles. (sources: UK national average taxi costs, Numbeo and 2019 Passenger journeys per person per year - Taxi and Private Hire Vehicle Statistics: England 2021.)	The Molineux
Rail Travel	3	pkm	Primary source - travel report	Actual cost, estimated distance	Where only spend data is available, distance has been estimated using £0.55 per mile for national rail and £0.86 per mile for London underground. Calculations based on 2021 analysis of Planet Mark members' rail journeys.	The Molineux

Note: unless otherwise stated in the report all electricity emissions are location based (i.e. calculated using carbon emission factors for average UK national grid electricity).
Do let us know if your electricity is from 100% renewable energy and we will provide dual reporting to show both market based and location based electricity emissions.

About this report – Caveats (iv).

Operational Boundary	Scope	Unit	Data Source	Data Accuracy	Comments, omissions, estimates or extrapolations	Organisational Boundary
Waste	3	tonnes	Primary source - supplier report	Actual	We have updated our approach to calculating emissions from waste. This change in methodology has led to a reduction in our estimate of the weight of waste arisings based on the number of bin collections and this may result in an apparent reduction in the waste emissions estimate.	All Sites
Procurement – Food & Beverages	3	£	Primary source - supplier report Estimated	Actual and Estimated	Emissions for Food & Beverages have been calculated using cost-based emissions factors. For the Molineux game, this was based on the evidence submitted. As no spend data was submitted for the games at the other sites, Food & Beverage spend has been estimated here using the data from the Molineux fixture.	All Sites
Headcount		no.	Secondary source - data submission form	Actual	We have used full time equivalent employees across all events.	All Sites
Floor Area		m^2	Secondary source - data submission form	Assumed Actual	Confirmed with customer that floor area for Walsall FC is 6943 m2.	All Sites

Note: unless otherwise stated in the report all electricity emissions are location based (i.e. calculated using carbon emission factors for average UK national grid electricity).
Do let us know if your electricity is from 100% renewable energy and we will provide dual reporting to show both market based and location based electricity emissions.

About this report.
Data Quality.

	01 April 2022 to 31 March 2023	Definition
Relevance of boundary	4/4	Boundary accurately reflects the entire carbon footprint of all events for the studied period. (eg 95% of activity included)
Data completeness	2/4	Data for at least half the events is provided for all or most sources.
Transparency	3/4	Majority disclosure of assumptions and/or some original evidence provided.
Data accuracy	2/4	Mainly use of secondary data sources and/or estimated data.
Total score	**11 out of 16**	

THANK YOU

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