



# GBTA Convention 2022 Carbon Footprint



This report was proudly prepared by Thrust Carbon,  
a multi award winning green technology firm, focused on  
a world where our actions don't have to cost the Earth.



# Event footprint

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**The carbon footprint of GBTA Convention  
2022 is 4700.6 tonnes of CO<sub>2</sub>e**

This is equivalent to...



The carbon capture by 142 blue whales



Producing 1.98 million bars of dark chocolate



The carbon captured in a forest of 3,102 mature oak trees



To driving a small car 42.7 million kilometres. You could also drive to the moon 111 times



To 1.26 million days of video conferencing

**This is a footprint of  
1.02 tonnes of CO<sub>2</sub>e  
per attendee**

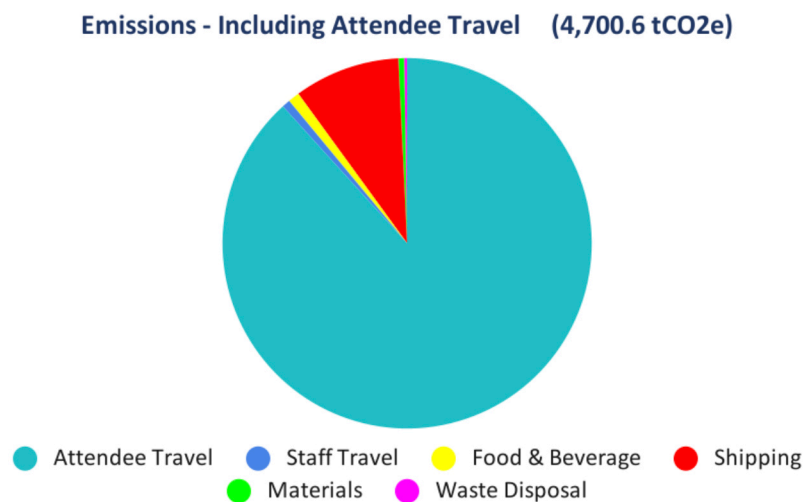


# Attendee Travel Emissions

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Although not within GBTA control, a significant data collection exercise and complex calculation were executed to understand the impact of attendee travel.

A 'Traveling More Sustainably' guide was issued to attendees in advance of Convention to help them reduce their travel emissions.



# Offsetting Emissions

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GBTA has offset a total of 722.7 tCO<sub>2</sub>e, equivalent to the emissions from staff travel, venue usage, food & beverage, shipping, material use and waste (688.28 tCO<sub>2</sub>e), plus a 5% uncertainty buffer (34.42 tCO<sub>2</sub>e).

This has been spread across two verified offset schemes:



### Carbon Offset Certificate

**Thrust Carbon**

has purchased and retired  
**457 tonnes of CO<sub>2</sub>e**  
on  
**Nov 7, 2022**

This offset was purchased from **Truck Stop Electrification, Texas**,  
an **American Carbon Registry** project that offsets emissions  
through **Electrification**

**Powered by Thrust Carbon**

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### Carbon Offset Certificate

**Thrust Carbon**

has purchased and retired  
**266 tonnes of CO<sub>2</sub>e**  
on  
**Nov 7, 2022**

This offset was purchased from **Yingpeng HFC23 Decomposition Project, China**, a **Verra Verified Carbon Standard** project that  
offsets emissions through **Decomposition**

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# Green Wins (1/2)

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GBTA provided a free shuttle service to the venue, saving 57.9kg CO<sub>2</sub>e for every 100 attendees who used this instead of a taxi.

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The San Diego Convention Centre sent 7.5 tonnes of non-food waste for recycling, saving 3.9 tCO<sub>2</sub>e versus landfill.

*A saving of 26.9% within the Waste Disposal emissions category.*



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771 kg of food waste was re-directed to employee dining, composting or local farms, saving in excess of 365 kgCO<sub>2</sub>e versus landfill.

*A saving of 3.3% within the Food & Beverage emissions category*

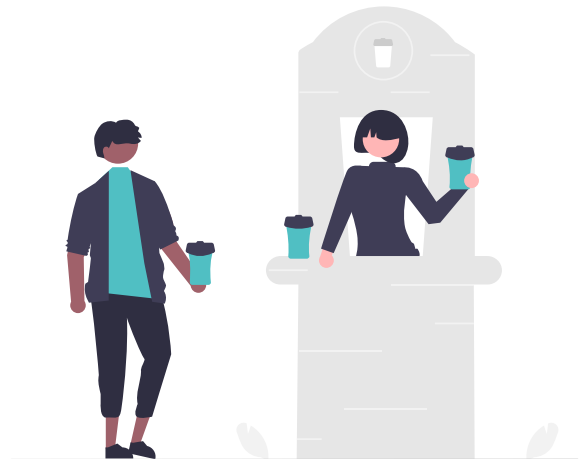
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## Green Wins (2/2)

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By purchasing compostable cups instead of single-use plastic cups bound for landfill, GBTA eliminated 241.5kgCO<sub>2</sub>e.

*A saving of 1.1% within the Food & Beverage emissions category*



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GBTA chose an all-vegetarian menu for the main stage Monday lunch, saving 7.4 tCO<sub>2</sub>e.

*A saving of 14.7% within the Food & Beverage emissions category.*

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By going digital instead of ordering 4,000 paper business cards, GBTA saved 784kgCO<sub>2</sub>e.



*A saving of 3.4% within the Materials emissions category*

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# Detailed footprint (1/2)

## Staff Travel

Air travel	25,560/kg CO2e
Local commutes (car use)	2,730/kg CO2e
Hotel stays	2,508/kg CO2e
Conference transport - shuttle	7/kg CO2e
	<b>30,805/kg CO2e</b>

## Attendee Travel

Air travel	2,829,544/kg CO2e
Car travel	720,298/kg CO2e
Rail travel	28,054/kg CO2e
Coach/Bus travel	26,556/kg CO2e
Conference transport - shuttle	874/kg CO2e
Hotel stays	183,167/kg CO2e
	<b>3,788,493/kg CO2e</b>

## Event Venue

Electricity usage	154,469/kg CO2e
Gas usage	28,981/kg CO2e
Water usage	192/kg CO2e
	<b>183,642/kg CO2e</b>

## Food & Beverage

Event Food	39,898/kg CO2e
Event Beverages	2,941/kg CO2e
	<b>42,839/tCO2e</b>

# Detailed footprint (2/2)

## Shipping

Shipping	398,425/kg CO2e
	<b>398,425/kg CO2e</b>

## Materials

Graphics & Signage	19,845/kg CO2e
Compostable Cups	346/kg CO2e
Sustainable Paper	34/kg CO2e
600 Lanyards	252/kg CO2e
Water bottles (swag)	82/kg CO2e
T-Shirts (AA race)	1,400/kg CO2e
	<b>21,960/kg CO2e</b>

## Waste Disposal

General trash	8,939/kg CO2e
Materials recycling	955/kg CO2e
F&B Composting	708/kg CO2e
	<b>10,602/kg CO2e</b>

Uncertainty buffer (5%)	223,838/kg CO2e
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<b>Total</b>	<b>4,700,604/kg CO2e</b>
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# Methodology (1/3)

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## Staff Travel

GBTA provided Thrust Carbon with a list of staff flight bookings with data including start and end airports as well as airline, record locator and travel date data. These journeys were processed by the Thrust Calculator, which combines existing flight emission methodologies (such as ICAO and DEFRA) with novel datasets to retrieve the most appropriate carbon value for each given journey depending on the exact input data available.

Hotel emissions were calculated by applying the number of room nights to the relevant nightly emissions factor for San Diego from the Cornell Hotel Sustainability Index.

For local commuting, a daily average car emissions figure was applied for each day of the convention for the one GBTA staff member who commuted locally. The total number of hours worked by event contract staff was provided. This was used to estimate the number of daily commutes by contractors. A daily average car emissions figure was applied for each contractor for each day of the convention.

## Attendee Travel

To understand how attendees travelled to San Diego, GBTA collected a large sample of travel start and end points via the registration process. This was extrapolated across the entire attendee count to calculate the proportion and number of journeys within certain distance bands. Travel modes were applied to each distance band based on US EPA guidelines, and relevant US EPA emissions factors applied.

Hotel emissions were calculated by applying the number of room nights to the relevant nightly emissions factor for San Diego from the Cornell Hotel Sustainability Index.

To calculate local shuttle emissions, the total distance traveled over the course of the week was calculated. An emissions factor from WinACC (Winchester Action on Climate Change), based on DEFRA, was then applied.

## Event Venue

The event venue supplied precise electricity, gas and water usage figures for Convention. Emissions factors from the USA EPA and DEFRA were then applied, including the specific electricity emissions factor for California.

# Methodology (2/3)

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## Food & Beverage

All food and beverage portions ordered for GBTA Convention 2022 were counted and analysed in detail. Emissions were then calculated using methodology and research by the International Olympic Committee, who have conducted substantial research into the average carbon emissions of meals and beverages of various types. Where a particular food is not specified within the IOC dataset, we applied a 'nearest' food type or used multipliers from other sources.

## Shipping

The total shipping weight for materials for GBTA Convention was provided. Shipping distances were applied based on data from the US Bureau of Transportation Statistics.

## Materials

Graphics and signage - the weight of ordered graphics and signage weight of graphics and signage was adjusted and combined with emissions factors of typical representative materials.

Compostable cups - Research on the GHG emissions of compostable cup production and disposal from the Journal of Cleaner Production was utilised. A reasonable 50% composting rate was assumed (100% would result in lower emissions, but may be unrealistic).

Sustainable paper - The weight of paper ordered was estimated based on the available details, and the relevant DEFRA material factor applied.

Lanyards - Average material weights (fabric and metal) for each lanyard were assumed based on product information from lanyard retailers, and DEFRA material factors applied to the total.

Water bottles - A factor for emissions per water bottle was applied, based on a summary from the Beverage Industry Environmental Roundtable, The Stanford Magazine, The Pacific Institute and the journal Environmental Research Letters.

T-shirts - Research on a wide variety of different t-shirt types, published by Carbonfact, was utilised.

# Methodology (3/3)

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## Waste Disposal

The event venue provided data on waste quantities, types and disposal methods (landfill, recycling or compost). USA EPA emissions factors were applied..

## Uncertainty Buffer

While every effort is taken, it is not possible to know every single emission. We therefore add a reasonable buffer (5%), to capture unknown emissions.

