INTRODUCTION

This report quantifies the main greenhouse gas emissions associated with the BNA Festival of Neuroscience 2025 and explains, in a transparent way, how those emissions were estimated. The analysis was built around the GHG Protocol principles, using the 2025 UK Government conversion factors for travel, hotel stays and material production. Across the categories quantified in this report, the festival footprint is estimated at 228 t CO2e.

The results are clear: travel is by far the dominant driver of impact. Participant travel accounts for 177 t CO2e, or 78% of quantified emissions. Venue operations from the ACC Liverpool report add 21 t CO2e, while accommodation contributes 22 t CO2e and quantified materials contribute 0.25 t CO2e.

The report also sets out what BNA is already doing well: measuring emissions, choosing venues with stronger sustainability credentials, encouraging greener transport, and using previous reporting to improve the next event. It closes by identifying practical next steps for BNA2027 in Belfast.

BNA British Neuroscience Association

British Neuroscience Association

GHG SCOPE BREAKDOWN

SCOPES	DESCRIPTION	CARBON FOOTPRINT CO_2E
SCOPE 1	Direct fuel and process emissions controlled by the organiser	No significant emssion
SCOPE 2	Purchased electricity: Venue energy from ACC Liverpool	4.100 t CO_2e
SCOPE 3	Other indirect emissions across the event value chain: Travel, accommodation, food, beverage, waste, water, and materials.	224.163 t CO_2e

228.3 t CO_2e

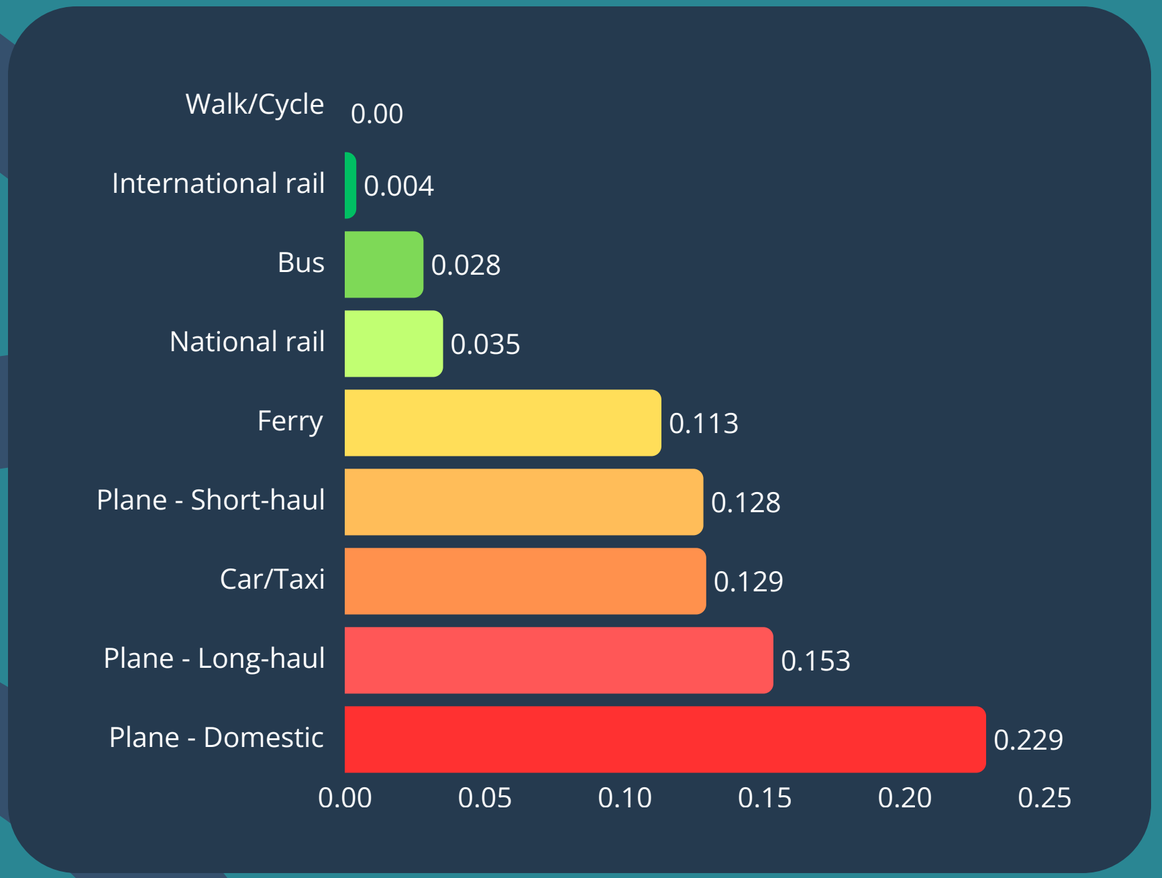
Total Carbon Footprint

BNA British Neuroscience Association

MODES OF TRANSPORT

Transport mode strongly influences emissions, with flights and car travel being the most carbon-intensive, while rail and bus travel are substantially more efficient.
This demonstrates that shifting travel choices could significantly reduce overall emissions.

Carbon Intensity by Transport Mode (kg CO_2e per km)



METHODOLOGY

All calculations were performed in accordance with the UK Government Greenhouse Gas (GHG) Conversion Factors for Company Reporting (2025)

GHG emissions = activity data x emission conversion factor

Factor	Value	Use in this report
National rail	0.03546 kg CO2e/passenger-km	Travel modelling for rail
Domestic flight	0.22928 kg CO2e/passenger-km	UK domestic air travel
Short-haul flight	0.12786 kg CO2e/passenger-km	Short-haul international air
Long-haul flight	0.15282 kg CO2e/passenger-km	Long-haul air travel
UK hotel stay	10.4 kg CO2e/room-night	Staff and speaker

TRAVEL

Travel data were collected for attendees and speakers, including:

- Origin location (town/city/postcode)
- Mode of transport (e.g. train, plane, car, bus, ferry)

Invalid or incomplete entries were removed prior to analysis.

Travel distances were estimated using the Haversine formula with geospatial coordinates (latitude and longitude) for origin locations and the event venue (Liverpool). Mode-specific adjustment factor was applied to approximate realistic journey most closely. Travelling by plane was saparated by the flight distance: domestic (up to 800km), shot-haul (801km - 3700km), long-haul (above 3700km).

VENUE

Venue-related emissions were obtained using EVENTsmart reporting and included:

- Catering (food and beverage)
- Energy consumption
- Waste
- Water use

ACCOMODATION

Accommodation data included:

- Number of hotel night stays for staff, speakers and estimated stays for attendees
- Emission Factor: 10.4 kg CO_2e per night

PRODUCTION

Production-related emissions:

- Printed materials
- Merchandise (e.g. t-shirts)
- Transport of materials to the venue

Where details were unavailable, estimates based on material type and typical dimensions were applied.

METHODOLOGY

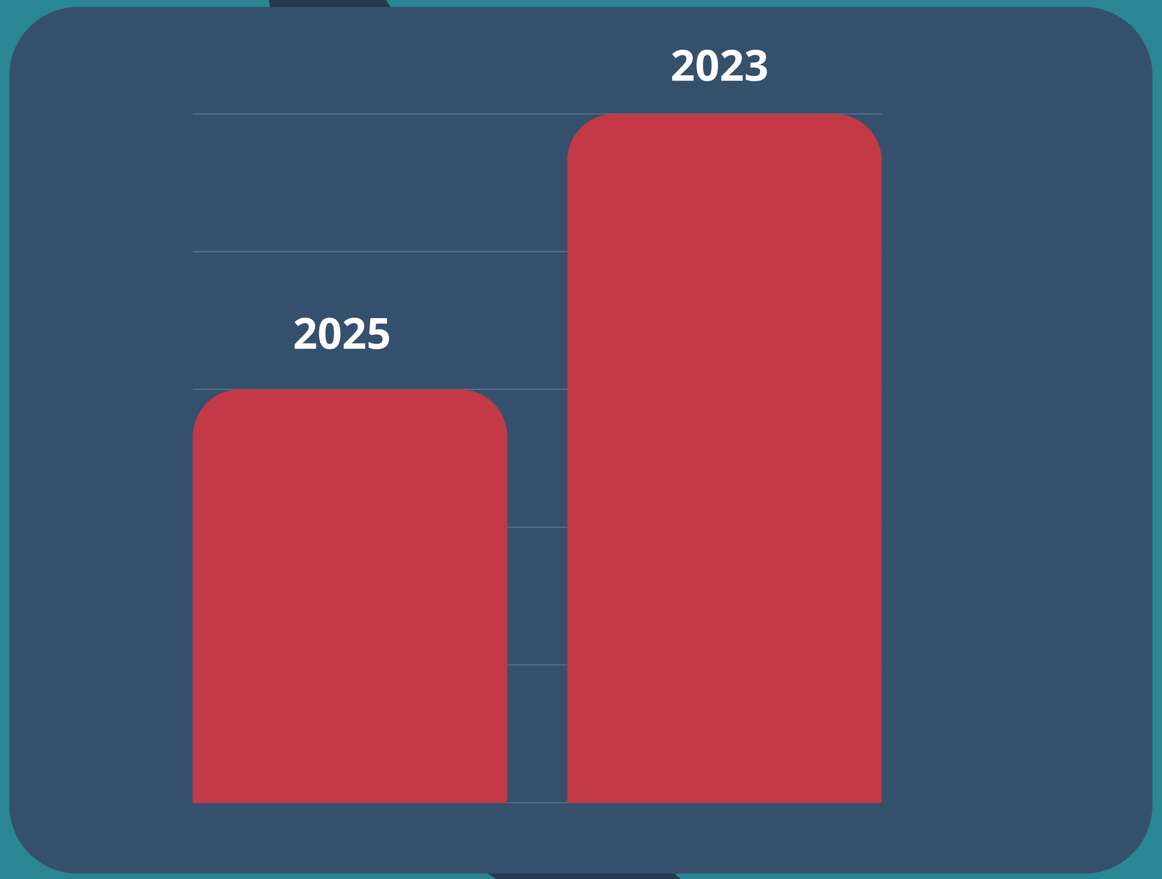
British Neuroscience Association

COLLECT THE DATA → CLEAN AND CHECK THE DATA → CALCULATE EMISSION → ANALYSE RESULTS → REPORT FINDINGS

COMPARISION WITH BNA2023

BNA2023: 250.91 t CO_2e
BNA2025: 228.26 t CO_2e

BNA2025 Carbon emission was 22.65 t CO_2e lower than previous BNA Festival



Travel remained the largest contributor in both years
The reduction suggest progress that we hope to maintain over next years for future Festivals of Neuroscience

Carbon Emissions Reduction: 22.65 t CO_2e

This reduction is roughly equivalent to around 1000 trees growing for 10 years

NEXT STEPS FOR BNA2027

British Neuroscience Association

Reduce travel-related emission

The BNA2027 Venue has already been announced, which gives attendees and speakers more time to plan their journey in advance. This creates an oppurtinity to make more concious travel decisions, including choosing lower-carbon transoprt options such as rail where feasible, and reducing reliance on last-minute flights.

Venue sustainability

BNA2027 will take place at ICC Belfast, a venue with strong sustainability credentials. ICC Belfast reports that it is the first venue on the island of Ireland to achieve Green Meetings Gold certification and the first venue in Northern Ireland to achieve ISO 20121, the international standard for sustainable event management. The venue also highlights local sourcing, farm-to-fork catering, and a wider city context in which most hotel rooms are Green Tourism accredited. This gives BNA2027 a stronger foundation for lower-impact event delivery.

Improving future reporting

Future reporting could be strengthened through more detailed and standardised data collection, particularly for travel, accommodation and production-related emissions. Improving the quality and consistency of reporting would make future carbon assessments more accurate and allow stronger year-on-year comparisons. Sharing this report also plays an important role in raising awareness of the climate crisis, encouraging more sustainable choices, and supporting a culture of continuous improvement across future BNA events.

THANK YOU

SEE YOU AT BNA2027

RESOURCES:

- British Neuroscience Association (BNA) (2026) BNA2027 International Festival of Neuroscience. Available at: https://www.bna.org.uk/events/bna2027-international-festival-of-neuroscience/ (Accessed: 16 April 2026).
- Department for Energy Security and Net Zero (2025) Greenhouse gas reporting: conversion factors 2025. London: GOV.UK. Available at: https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2025 (Accessed: 16 April 2026).
- ICC Belfast (2026) Sustainable venue hire. Available at: https://iccbelfast.com/organise/event-sustainability/sustainable-venue (Accessed: 16 April 2026).
- International Festival of Neuroscience 2025 (n.d.) Carbon report [internal venue/event emissions summary]. Provided by user.
- BNA (2025) BNA Festival of Neuroscience 2025 attendee and speaker travel dataset [internal spreadsheet]. Unpublished internal data.
- BNA (2025) BNA Festival of Neuroscience 2025 hotel night stay records [internal records]. Unpublished internal data.
- BNA (2025) BNA Festival of Neuroscience 2025 production and printed materials records [internal records]. Unpublished internal data.