CARBON FOOTPRINT REPORT

Greenhouse gas emissions resulting from

CLIMATE CHANGE SUMMIT 2024

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LIST OF ABBREVIATIONS

AR5	Fifth Assessment Report
ANRE	National Authority for Energy Regulation
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
DEFRA	UK Department of Environment, Food and Rural Affairs
RP	Reporting period
GHG	Greenhouse gas
GWP	Global Warming Potential
IPPCC	Intergovernmental Panel on Climate Change
kg	Kilogram
kWh	Kilowatt
mc	Cubic meter
MW	Megawatt
t	Ton
UM	Unit of measure
UNFCCC	United Nations Framework Convention on Climate Change

1. INTRODUCTION

This report presents the findings from the measurement of greenhouse gas emissions associated with the **Climate Change Summit 2024**.

The Climate Change Summit is the largest event in Romania and Central and Eastern Europe focused on driving practical solutions to the urgent climate challenges of today and tomorrow. It takes place amid profound geopolitical and geoeconomic shifts, at a pivotal moment when societies are reshaping their visions for a sustainable future.

The third edition of the Summit occurred **from 15 to 17 October 2024** in Bucharest, bringing together hundreds of participants and expert speakers who engaged in insightful discussions on climate change solutions, opportunities in the green economy, and climate action strategies.

The aim of this report is to assess and document the carbon footprint of the event, following international best practices. It serves as a foundation for enhancing the environmental performance of upcoming editions, promoting transparency in event organization, and supporting efforts to reduce and, where possible, compensate for environmental impact.

2. CLASSIFICATION OF GREENHOUSE GAS EMISSIONS

In this report carbon dioxide equivalent (CO_2e) emissions represent the emissions of all greenhouse gases, aggregated and converted into CO_2e units using Global Warming Potential[1] values.

Initially, the requirements of the Kyoto Protocol and, therefore, the International Protocol on Greenhouse Gases (GHGs) were limited to a set of six individual GHGs or classes of GHGs:

- carbon dioxide (CO_2)
- methane (CH_4)
- nitrous oxide (N_2O)
- hydrofluorocarbons (HFCs)
- perfluorocarbons (PFCs)
- sulphur hexafluoride (SF_6)

In addition, changes to the international accounting and reporting rules under the Paris Climate Agreement also require the reporting of another GHG, nitrogen trifluoride (NF_3)[2].

Global Worming Potential (GWP) values describe the radiative forcing impact (or degree of damage to the atmosphere) of one unit of a given GHG relative to one unit of carbon dioxide, GWP values convert GHG emissions data for non-CO_2 gases into units of CO_2e.

[1] IPCC Fifth Assessment Report, 2013 (AR5)
[2] Kyoto 2nd commitment period (2013-2020)

The GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard (referred to as the GHG Protocol Scope 3 Standard) identifies events and conferences as a scope 3 activity that is not specifically included in the list of scope 3 categories. It recommends that a public GHG emissions report include emissions from events and conferences, and that they be reported separately from other scope 3 categories, such as in an "other" scope 3 category. Events and conferences may represent a significant quantity of emissions due to high frequency of events, large volume of attendees, or large distances traveled by attendees.

For this category of Scope 3, Events and Conference, we did the calculation of the carbon footprint following the Greenhouse Gas Inventory Guidance, Indirect Emissions from Events and Conference, and NetZero Carbon Events publication guidance.

The emissions sources covered include the emission generated at the time of the events itself and the emissions which take place outside the location of the event venue before, during and after the event.

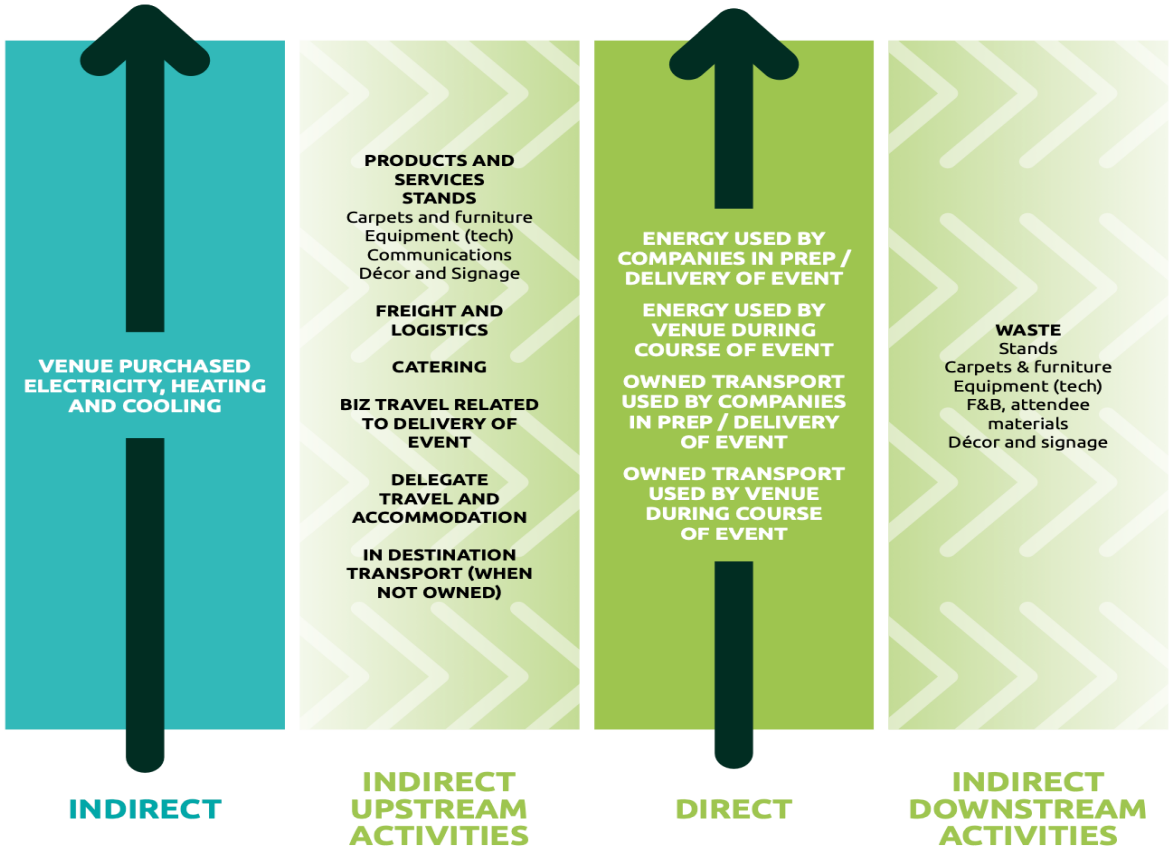

Figure 1. The emissions sources of an event based on the structure as the GHG Protocol Scope 1, 2 and 3.

3. EMISSION CATEGORIES

The greenhouse gas emissions presented in this report have been calculated based on the activities and data provided by the reporting company and the emission factors for each emission category. The emission factors used for this report are updated for the reporting year and come from internationally recognized databases and are detailed in Chapter 5.

According to the international GHG Protocol, greenhouse gas emissions have been classified according to their SCOPE as follows:

a) SCOPE 1 – Direct GHG emissions

Direct GHG emissions occur from sources that are owned or controlled by the company, for example, emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.; emissions from chemical production in owned or controlled process equipment.

For most businesses in the events industry Scope 1 emissions will be limited to any on-site generated energy usage of corporate office buildings and venues, and emissions from company owned or leased vehicles.

b) SCOPE 2 – Electricity Indirect GHG Emissions

Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company. Purchased electricity is defined as electricity that is purchased or otherwise brought into the organisational boundary of the company, including purchased heating and cooling. Scope 2 emissions physically occur at the facility where electricity is generated.

For most businesses in the events industry Scope 2 emissions will include purchased electricity for corporate offices and in the case of venues, the venues themselves.

c) SCOPE 3 – Value Chain GHG Emissions

Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company.

This includes the emissions generated in the production of purchased goods and services and capital goods, by travel and distribution of products, business travel and employee commuting and waste.

In the events industry, as with most others, most emissions come from sources which are not owned or controlled by the company, be it an event organiser, venue or service provider.

Examples of Scope 3 emissions include the emissions generated by upstream activities such as the production of exhibition stands and booths, catering and freighting of items to/from

a venue, travel and accommodation of employees at an event, waste generated in an event and the travel of attendees to and from an event where it is purchased by the company.

4. METHODOLOGY OF IDENTIFICATION, CALCULATION AND RESULTS OF GREENHOUSE GAS EMISSIONS

The emissions inventory was based on the five principles of the international GHG Protocol:

- "**Relevance**: Ensure the GHG inventory appropriately reflects the GHG emissions of the company and serves the decision-making needs of users-both internal and external to the company.
- **Completeness**: Account for and report on all GHG emission sources and activities within the chosen inventory boundary. Disclose and justify any specific exclusions.
- **Consistency**: Use consistent methodologies to allow for meaningful comparisons of emissions over time. Transparently document any changes to the data, inventory boundary, methods, or any other relevant factors in the time series.
- **Transparency:** Address all relevant issues in a factual and coherent manner, based on a clear audit trail. Disclose any relevant assumptions and make appropriate references to the accounting and calculation methodologies and data sources used.
- **Accuracy**: Ensure that the quantification of GHG emissions is systematically neither over nor under actual emissions, as far as can be judge, and that uncertainties are reduces as far as practicable. Achieve sufficient accuracy to enable users to make decisions with reasonable assurance as to the integrity of the reported information."[3]

Based on these principles and the prioritization exercise from Net Zero Carbon Events document the emissions sources were graded according to:

- Level of influence of the events industry (any of the key stakeholders).
- Size of emissions (i.e. the proportion of an event's emissions generated by that source).
- Significance (stakeholder expectations for action).

Category	Emissions source	Influence	Size	Significance
Venue and buildings	On-site venue energy	HIGH	HIGH	HIGH
	Purchased energy, heating and cooling for venue	HIGH	HIGH	HIGH
	Embodied carbon	LOW	LOW	LOW
	T&D Losses	LOW	LOW	LOW
	Water	MEDIUM	LOW	LOW
Space design and production	Stands	HIGH	MEDIUM	HIGH
	Production materials (e.g. carpets)	HIGH	MEDIUM	HIGH
	Signage	HIGH	LOW	MEDIUM
	Audio Visual	LOW	LOW	LOW
	Furniture	MEDIUM	MEDIUM	LOW
	Other	N/A	N/A	N/A
Communications	Paper	HIGH	LOW	LOW
	Promotional material	HIGH	MEDIUM	MEDIUM
	Intangible communications	LOW	LOW	LOW
Catering	Production and transportation of food & drink	MEDIUM	HIGH	HIGH
Logistics	Freight Transport	MEDIUM	HIGH	HIGH
	Attendee travel	LOW	VERY HIGH	HIGH

[3] https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf, pag 7

Travel to the event destination	Exhibitor / sponsor travel	LOW	MEDIUM	HIGH
	Staff travel	MEDIUM	MEDIUM	HIGH
Local transport	Attendee, exhibitor / sponsor, staff transport	MEDIUM	MEDIUM	MEDIUM
Accommodation	Attendee accommodation	MEDIUM	MEDIUM	MEDIUM
	Exhibitor / sponsor accommodation	MEDIUM	LOW	MEDIUM
	Staff accommodation	HIGH	LOW	MEDIUM
Waste	General waste	HIGH	HIGH	HIGH
	Production waste	HIGH	HIGH	HIGH
	Food waste	HIGH	MEDIUM	HIGH

Table 1. The category of emission sources
Source: Net Zero Carbon Events

This analysis was a guidance to set the Scope 3 boundaries and will be used to identify the Priority Action Areas in order to reduce the emissions for the next event.

Based on this analysis, four categories of emissions sources have been identified, from very high to low priority.

VERY HIGH PRIORITY	HIGH PRIORITY	MEDIUM PRIORITY	LOW PRIORITY
Scored high or very high on all three categories	**Scored high or very high in two categories**	**Scored high in one category**	**Did not score high in any category**
Venue energy, heating and cooling (on-site and purchased) General waste Production waste	Stands Production materials Production and transport of food and drink Freight transport Attendee travel Food waste	Paper Promotional material/ merchandise Exhibitor / sponsor and staff travel Staff accommodation	Embodied carbon T&D losses Water Embodied carbon of Audio Visual equipment Furniture Intangible communications Transport in destination Attendee, exhibitor / sponsor accommodation

Table 2. Emissions sources from very high to low priority
Source: Net Zero Carbon Events

The following data and supporting information have been collected from the event organizer. The assumptions and estimations were explained in the table below.

Emissions source	Data collected	Metrics to be reported	Data	Supporting information/ Assumptions and estimations
N/A	Number of event days (open to public).	Days	1 day at National Opera	
	Number of event days (mounting / dismounting).	Days	2 days	Mounting was made with a day before of the event and dismounting was made in the same day with the event at National Opera.
	Total number of offline attendees including staff.	Number of attendees including staff.	1,018	1000 attendees registered online for the first day of the event and 18 persons from staff.
Venue electricity (purchased)	Amount of each energy source used during the period of the event.	Total energy (kwh).	3,000 kwh	At the National Opera electricity monitoring began with the mounting and end with dismounting.
		Total renewables based on grid (kwh). % of renewables	51.44% renewables 1,543.2 kwh	
	Hotels	Total electricity (kwh/night/person)	45	The consumed energy was estimated based on the GHG Inventory Guidance, Indirect Emissions from Events and Conferences.
		Total natural gas (m3/night/person)	3.27	
		Total persons	27	
Water	Amount of water consumed during the event.	m3	45	There was not water at the bottle. The water was from the location and filtered.
Production material	Material type(s) and weight.	kg of printed paper	0.5	The quantities were measured.
		kg of plastic board (badges)	14	
		kg of board	22.5	
Food consumed	Number of meals consumed and category (red meat, other meat / seafood, vegetarian, vegan).	Number served of each meal type	800	The meals were: • 100 non- Vegetarian • 650 Vegetarian • 50 snacks

	Coffee	Number of coffees	2300	The service provider monitored consumption.
	Wine	Number of liters	20	The service provider monitored consumption.
Logistics / freight	Mode of transport, distance and weight / volume transported.	Total distance (km) and weight (kg) of mode of transport car.	0.5 tones / 30 km	The emissions were calculated based on the mode of transport, distance, and weight / volume transported.
		Total distance (km) and weight (kg) of mode of transport van.	2.5 tones / 30 km	
		Total distance (km) and weight (kg) of mode of transport truck.	12 tones / 8 km	
Travel (attendees and staff)	City of origin, mode of transport for each attendee. Any journeys offset.	Total distance (km) for air	40,750	The emissions were calculated based on the country, number of persons, one way distance and type of the flight.
		Total distance (km) for passenger vehicle	10,500	
		Total distance (km) for Rail / Tram /Underground	2,100	
		Total distance (km) for bus	2,800	
Waste	Material type(s) and weight.	Residual waste (kg)	354,6	The quantities were measured and sent to disposal and recycling.
		Plastic and boards (kg)	70	

Table 3. Collected data from the organizer, and supporting information

5. EXCLUDED EMISSIONS

The second and third days of the event were excluded from the emissions calculation due to the decentralized and diverse nature of the activities, which took place simultaneously at multiple locations across the country and difficulty to gather data. Some activities were held indoors, others outdoors, with varying durations and formats. Additionally, as participation was open and free of charge, the number of attendees at each location could not be reliably estimated. These factors made it unfeasible to collect consistent and accurate data, and therefore emissions associated with those days were not included in the current inventory.

The emissions generated by participants who followed the event online were not included in the carbon footprint calculation for this edition.
Reasons for exclusion include the lack of detailed data on user consumption behavior and the complexity of estimating emissions at large scale. We acknowledge that these represent a Scope 3 emission source and aim to explore methods for quantification in the future.

6. EMISSION RESULTS CLIMATE CHANGE SUMMIT 2024

TRAVEL/MOBILITY	18.306
HOTELS	1.174
RESTAURANTS/CATERING	1.037
ENERGY CONSUMPTION BY THE EVENT	0.737
MATERIALS	0.009
FREIGHTING GOODS	0.115
WASTE	0.249
TOTAL CO_2 EMISSIONS /FIRST DAY OF THE EVENT (tCO_2e)	**21.626**

Table 4. Summary of the Emissions of the Climate Change Summit 2024

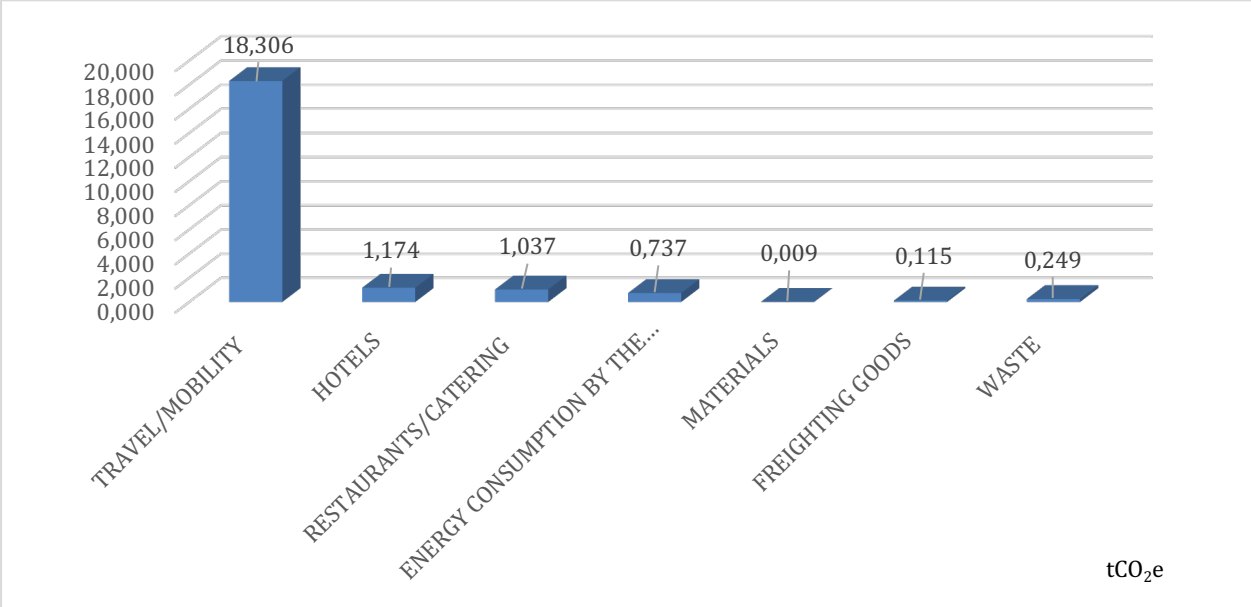

Figure 2. *Emissions of the Climate Change Summit 2024* by category

7. EMISSION FACTORS AND UNCERTAINTY

The GHG Protocol is an internationally accepted standard developed by the World Resources Institute and the World Business Council for Sustainable Development. The standard aims to harmonize the calculation of greenhouse gas emissions across companies and organizations to ensure consistency for emissions trading schemes and climate initiatives.

The emission factors used in the calculation of this report are updated for 2024 and are taken from the public data of the Department for Environment, Food & Rural Affairs UK (DEFRA) according to the recommendation of GHG Protocol which establishes comprehensive global standardized frameworks for measuring and managing greenhouse gas (GHG) emissions from public and private sector operations, value chains and mitigation actions.

For the GHG emissions of the quantity of electricity, the emission factors issued by ANRE for the year 2024 were used.

The emission factors used for the GHG inventory are taken from official sources and are specific to each GHG source category. The selection of these emission factors is intended to minimize uncertainty as much as possible.

A maximum (materiality) significance level of 15% has been set for emissions which means that the maximum error rate for data collection and calculations is 15%.

8. ABOUT CARBON EXPERT

With fifteen years of experience in the field of greenhouse gas emissions, renewable energy markets, sustainable development and energy efficiency projects, we are a group of experts who have succeeded in forming the prerequisites for professional expertise in this vast field.

We are an experienced team from Romania, Poland, Bulgaria, France, Germany, Italy and Spain, well experienced in the carbon and energy markets, in partnership with prestigious national international organizations.

Our core expertise is the certification of sustainable projects in the voluntary carbon market with the aim of obtaining carbon credits for companies as a financing means for their expansion, which boosts circular economy.

9. SERVICES CARBON EXPERT

Work package		Details
1	CO2 Reduction Strategy	Analysing the emissions sources generation, calculating CO2 emissions, advice on emissions reduction targets and strategic plan, and proposals to reduce CO2 emissions
2	Assistance in Audit for Corporate and Product Carbon Footprint	Audit support for the calculation of corporate carbon footprint or product carbon footprint and amendments to the report at the request of the auditor regarding its form.
3	Product Carbon Footprint (PCF)	PCF services measure and assess the total greenhouse gas emissions associated with a specific product based on ISO 14067, enabling organizations to understand and reduce its carbon footprint.
4	Environmental Product Declaration (EPD)	EPD services create standardized reports that convey a product's environmental performance, aiding transparency and enabling consumers and stakeholders to make eco-conscious choices.
5	Decarbonization targets SBTi/CDP	Consulting to define the company's decarbonisation targets, as required by the Science Base Target Initiative or Carbon Disclosure Project, that align with NetZero emissions requirements.
6	CO2 Offset	Consultancy on the offset of the residual carbon emissions to achieve NetZero and project offset proposals
7	Environmental impact study	We prepare the following types of documentation necessary to obtain regulatory acts in terms of environmental legislation: -Environmental report necessary to obtain the environmental permit -Environmental impact report required as part of the environmental consent process -Environmental balance sheet level 0, 1, 2 required as part of the environmental permitting process

		- Site report required as part of the integrated environmental permit process
8	CBAM Report	Our comprehensive CBAM services encompass sector-specific assessments, emissions data verification, compliance strategy development, and ongoing support. We help clients understand the CBAM requirements, calculate emissions, and ensure compliance with EU regulations.
9	Assistance in Ecovadis Audit	EcoVadis audit support services cover every aspect of the audit process. From data collection and documentation to assessment response and performance improvement, we ensure an integrated experience for our clients. We provide guidance on aligning your practices with EcoVadis criteria and optimizing your sustainability performance.
10	EU-ETS market	EUA and EUAA trading on the European carbon market (EU ETS) through direct access to the ICE ECX exchange, London
		Advice on obtaining free EUA allocation for Phase IV - EU ETS and support to documentation for EU ETS 2 (transport, buildings, waste and other small industry)
11	Project certification on the Voluntary Carbon Market	Drawing up a pre-feasibility study that will analyze and include scientifical services: research and analysis of methodologies and tools, support in data collection, an emission reduction Excel sheet according to the appliable methodology. Based on the study the Beneficiary can take the decision to continue or not the certification process of the project in order to obtain carbon certificates
		Coordination of projects to obtain voluntary CO2 carbon credits on the international carbon market for energy efficiency, renewable, forestry, agricultural projects, etc.
		Preparation of documentation required by the Standard Organisation
		Consultancy in setting up the strategy for the sale of voluntary carbon certificates
12	Studies	Various scientifical and technical studies on the CO2 and energy markets