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User Manual for the Sport CO₂ Calculator

OCEAN Carbon Footprint Measurement Tool for sport organisations

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Developed in the framework of the OCEAN Project



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BACKGROUND

Context

The Sport CO₂ Calculator was developed by the Oeko-Institut as part of the [OCEAN project](#), coordinated by the European Olympic Committees (EOC) EU Office, in collaboration with 18 European National Olympic Committees, the International Olympic Committee (IOC) and the Association of National Olympic Committees (ANOC).

The development of the tool was co-funded by the European Union, and its extension is supported by the IOC and ANOC.

Users

This tool is for any sports organisation in the world willing to measure and track their carbon footprint efficiently.

Use case

This User Manual aims at guiding users in using the tool to measure their organisation's carbon footprint. The tool shall enable organisations to compile a carbon footprint that is in line with the GHG Protocol. Scope 1, scope 2 and scope 3 emissions are covered. All relevant greenhouse gases are considered and usually converted into equivalents of CO₂.

GETTING STARTED

Technical issues

The tool has been tested in various current browsers, for example Mozilla Firefox version 115.14.0esr. If you have technical problems accessing the tool or inserting data, please try a different browser or update your browser.

Registration/login

Only users who have created an account and logged in can use the functionalities of the tool. During registration, users can select their organisation and their type of organisation from predefined lists or insert them freely/select 'other'. It is not a problem to create multiple accounts for one organisation, but it is your responsibility not to get confused with the accounts/datasets.



Create account

Organisation*

Email*

Language

Users can select English/French/Spanish as the tool language. The language can be selected during registration or any time afterwards by changing the profile settings.

Overview on the functionalities

The typical workflow consists of the following steps:

1. Inserting data: Users enter the relevant data in the tool
2. Results: Carbon footprint results of your organisation are displayed
3. Export: A raw data set of the carbon footprint result can be downloaded as an Excel file
4. Reduction plans: Users define relative reduction targets (coming soon)

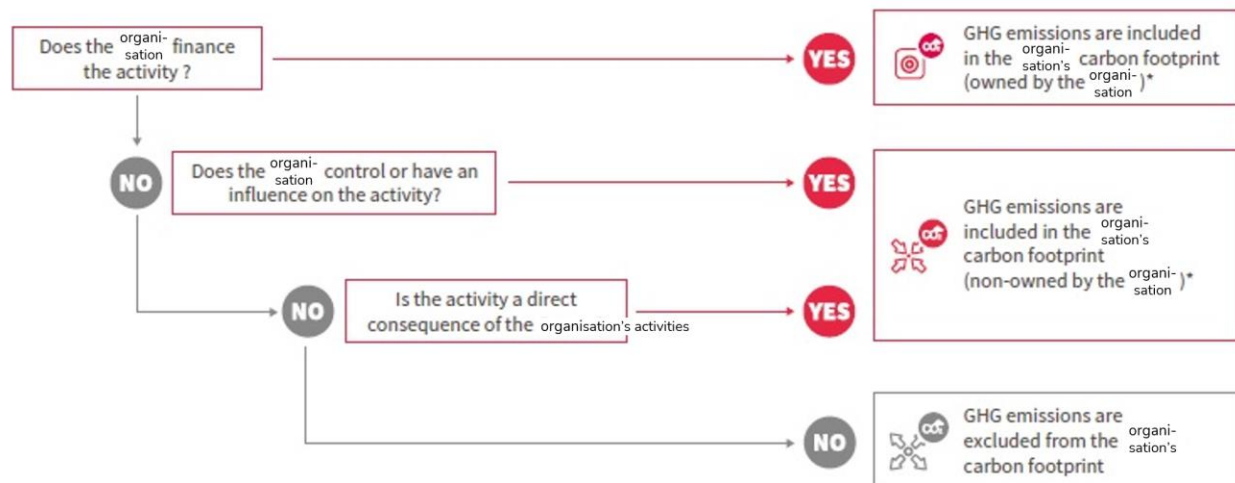
STEP 1. INSERTING DATA

Scope of the measurement

The scope of the carbon footprint was developed within the OCEAN project, drafted by the Oeko-Institut and refined based on the feedback of participating National Olympic Committees and the IOC.

Based on the methodology developed for the carbon footprint of the Olympic Games (IOC/Quantis 2018¹), activities shall be included in the carbon footprint if the organisation for which the carbon footprint is compiled has:

- financed the activity,
- control over the activity,
- influence on the activity,
- or if the activity is a direct consequence of the organisation's acting.



*If the answer is YES but the emissions cannot be estimated with any reasonable degree of accuracy, these may be excluded from the carbon footprint calculation. However, their omission must be clearly explained and justified in the carbon footprint report.

According to the Greenhouse Gas (GHG) Protocol, the scope of the carbon footprint shall cover the activities of organisations and their subsidiaries. "Operational control"² is defined as the criterion to include or exclude the activities of subsidiaries.

¹ <https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/IOC/What-We-Do/celebrate-olympic-games/Sustainability/IOC-Carbon-Footprint-Methodology.pdf>

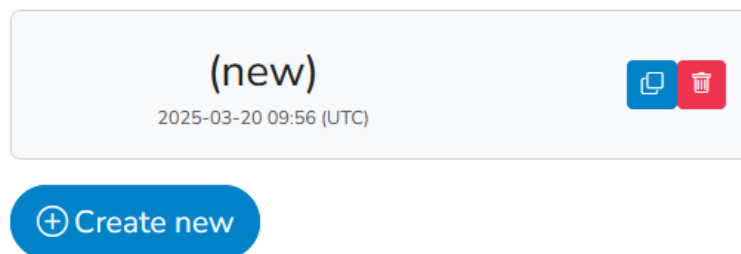
² "A company has operational control over an operation if the former or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation" (GHG Protocol).

One exemption has been agreed upon for the NOCs participating in the OCEAN Project and shall apply to all NOCs using this tool. Since emissions linked to the travel and accommodation in the Olympic Village of athletes and their entourage for the Olympic Games are included in the carbon footprint measurement of the Organising Committee of the Olympic Games (OCOG), these emissions are shown only in an annex to the National Olympic Committees' carbon footprint. All other sports events (e.g. European Games, European Youth Olympic Festival, Youth Olympic Games) are not part of this exemption.

In several cases users can assign a person group to activities. When selecting "Olympic games: Athletes and entourage" emissions count into the annex only (see above).

Starting a new dataset

Users can create an unlimited number of datasets. Users can either click on "Create new" or copy existing datasets.



Guidance on inserting data

Inserting data is the essential part of your carbon footprint. The level of accuracy of the inserted data directly influences how meaningful the results are and how insightful their interpretation can be. It is the responsibility of the reporting organisation to ensure an accurate, complete, transparent and consistent collection of relevant data and to develop methods to become more efficient in the process of data collection. External carbon footprint consultants or carbon footprint tools can help only to a limited degree because internal management processes are very organisation-specific.

However, the tool offers guidance to collect your data in the section on commuting, thanks to two Excel files which can help you to collect required data.

During data entry in the tool, data is saved automatically. Users can come back later for further input.

For some fields, users can obtain additional information by hovering over them. The following table provides additional explanations for specific data entry fields:

Section	Field	Explanation
General information	Year	Users must select a year for each dataset. It indicates the year for which the carbon footprint is calculated. In general, the carbon footprint results are compiled for one calendar year and not e.g. for April of a year to March of the subsequent year. Emission factors such as the carbon intensity of 1 kwh of electricity change over time. Against this background, it is important that users select the year correctly.
General information	Country	Users must select a country for each dataset. It is recommended to select the country where the organisation's headquarter is located.
General information	Number fulltime employees	Please count the employees' part time factor, e.g. 2 employees working in a 80% position count as 1,6 full time equivalents (FTE)
General information	Buildings	<p>In case your organisation acts as a lessor, i.e. there are leased assets not under the operational control of the organisation for which the carbon footprint is compiled, according to the GHG Protocol scope 1 and 2 emissions of lessees that occur during operation of leased assets must be taken into account.</p> <p>Please note the following example: NOC S owns a building that is rented by company H. Company H operates a hotel in the building. Scope 1 and 2 emissions of Company H that occur during the operation of the hotel are included in the carbon footprint of the NOC S. These emissions mainly include consumption of electricity, heating, cooling and possible refrigerant leakage. NOC S must insert relevant data on the consumption of Company H.</p>
Energy & buildings	Thereof renewable, purchased off-site	For renewable electricity volumes inserted here, you need official certificates validated by official authorities (e.g., Guarantee of Origin in Europe, REC in North America, or i-REC standard, for other countries).

External events	Number participants	<p>Only count every person once</p> <ul style="list-style-type: none"> - including public visitors, staff, personnel (security, catering, cleaning, etc.), sponsors, athletes, etc. - excluding participants whose travels and overnight stays are already covered in other sections, in particular 'Vehicle fleet', 'Flights', 'Railway trips' and 'Other business trips'
External events	Average event days	<p>For a one-day event, insert "1". For multiple day events, please consider that some participants participated in all event days and others did not participate in all event days.</p>
In-House events	Number participants	<p>Sum of in-house event participants during the reference year whose travels and overnight stays are not yet covered via other sections, including</p> <ul style="list-style-type: none"> - public participants / visitors - other participants such as special guests, officials, VIPs, sponsors, media, athletes, etc. - staff such as your NOC's employees, volunteers, personnel (medical, security, catering, cleaning, hosts, drivers, guides, etc.) <p>Please consider excluding those participants whose travels and overnight stays are already covered. Presumably, the remaining participants particularly include professional partners and to some extent public visitors.</p>
Events – NOC House Olympic Games	Material consumption for temporary structures, etc.	<p>Please only list materials that usually do not undergo more than 10 re-use loops.</p>

STEP 2. RESULTS

The results page updates immediately and always shows up-to-date results according to the inserted data. All results are displayed in metric tonnes of CO₂ equivalents per selected year.

Tips for the interpretation of the results are given in the tool. Options include:

- hot spot analysis
- disaggregation of the results into (sub-)organisations, buildings, person groups or emission scopes
- comparison to the carbon footprint results of other National Olympic Committees, e.g. with all results divided by the number of full time equivalent employees to improve comparability
- comparison to your own earlier carbon footprints

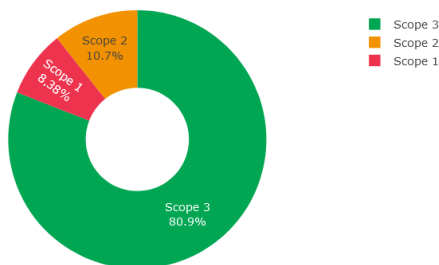
Overall result

	Location-based approach	Market-based approach
t CO ₂ -eq / year	911.9	869.4
t CO ₂ -eq / year / fte	17.5	16.7

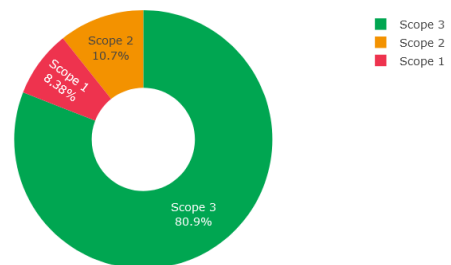
Results differentiated by scope - location-based approach

	t CO ₂ -eq / year	t CO ₂ -eq / year / fte	Share in %
Scope 1	76.4	1.5	8.4
Scope 2	97.6	1.9	10.7
Scope 3	738.0	14.2	80.9

Result by scope - location based



Result by scope per FTE - location based



Location-based vs. market-based approach

Carbon footprint results are displayed for the location-based approach and the market-based approach. According to GHG Protocol Scope 2 Guidance³, Scope 2 emissions shall be reported according to a location-based method **and** a 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).”

Usually, scope 2 emissions are accounted for in the following way:

	Location-based	Market-based
Renewable electricity	National grid average	0 ⁴
Non-renewable electricity	National grid average	National residual mix

The residual mix represents the average from all unclaimed energy (“grid mix without renewables”).

³ https://ghgprotocol.org/sites/default/files/2022-12/Scope2_ExecSum_Final.pdf

⁴ Scope 3 emissions of electricity consumption are not necessarily 0.

STEP 3. EXPORT

Users can download the automatically generated result figures: when you hover over them, a camera icon appears, which leads you to the download.

In addition, all numerical results can be exported into an Excel file: click on the Export button.



The Excel file contains your raw emissions data. Users can, e.g. use the file to create figures or to draw comparisons.

ABBREVIATIONS AND GLOSSARY

Term	Explanation
Carbon footprint	A carbon footprint is a calculated value usually indicated as mass units of CO ₂ equivalents which represents the total amount of greenhouse gas emissions that are linked to an activity, a product, an organisation or other entities.
CO ₂ equivalents (CO ₂ eq)	In addition to CO ₂ , other greenhouse gases also contribute to the global warming, in particular methane (CH ₄) and nitrous oxide (N ₂ O). A carbon footprint considers all relevant greenhouse gases. Emissions of other gases are transferred into equivalent mass amounts of CO ₂ and the obtained result is then expressed as CO ₂ equivalents.
Emission factor	Emissions linked to a certain process or product, usually expressed in kg of CO ₂ equivalents per reference activity, e.g. per kg of a product or per kilometre travelled.
FTE	Full Time Equivalent
GHG Protocol	The GHG Protocol (Greenhouse Gas Protocol) is an internationally recognised set of standards and methodological framework for carbon accounting and reporting developed under the coordination of the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).
Location-based approach	See explanations under Dashboard
Market-based approach	See explanations under Dashboard
NOC	National Olympic Committee
OCEAN	OLYMPIC COMMITTEES OF EUROPE APPROACHING CARBON NEUTRALITY, a project coordinated by the EOC EU Office, co-funded by the European Union.
Pkm	Person-kilometres. Example: Your organisation rents a car and three employees travel 100 kilometres with that car. This results in 300 pkm (person-kilometres).

Radiative forcing, RF	Flights cause CO ₂ emissions due to the combustion of fuel. In addition, flights have an influence on the radiative forcing and on climate change due to other non-CO ₂ impacts, e.g. water vapour, contrails, NO _x , etc. There is currently still a high uncertainty over the magnitude and in some cases also over the direction of these non-CO ₂ impacts. Nevertheless, there are approaches to transfer them into equivalent amounts of CO ₂ . The resulting contribution to the carbon footprint is illustrated separately, with the indicator 'RF'.
Scope 1	Scope 1 "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." (GHG Protocol)
Scope 2	"Scope 2 accounts for GHG emissions from the generation of purchased electricity, steam, and heating/cooling consumed by the company. Purchased electricity, steam, and heating/cooling is defined as electricity, steam, and heating/cooling that is purchased or otherwise brought into the organizational boundary of the company. Scope 2 emissions physically occur at the facility where electricity, steam, and heating/cooling is generated." (GHG Protocol)
Scope 3	"Scope 3 emissions are a consequence of the activities of the company, but occur from sources not owned or controlled by the company. Some examples of scope 3 activities are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services."



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Project Coordinator

EOC EU Office

Avenue de Cortenbergh 71 - 1000 Brussels - Belgium

Eva Rebmann rebmann@euoffice.euolympic.org - www.euoffice.euolympic.org (For general information about the Project or the Tool only).

Developer

Oeko-Institut e.V.

Rheinstraße 95 - 64295 Darmstadt - Germany

Tobias Wagner (t.wagner@oeko.de) (For general information about the Project or the Tool only).

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