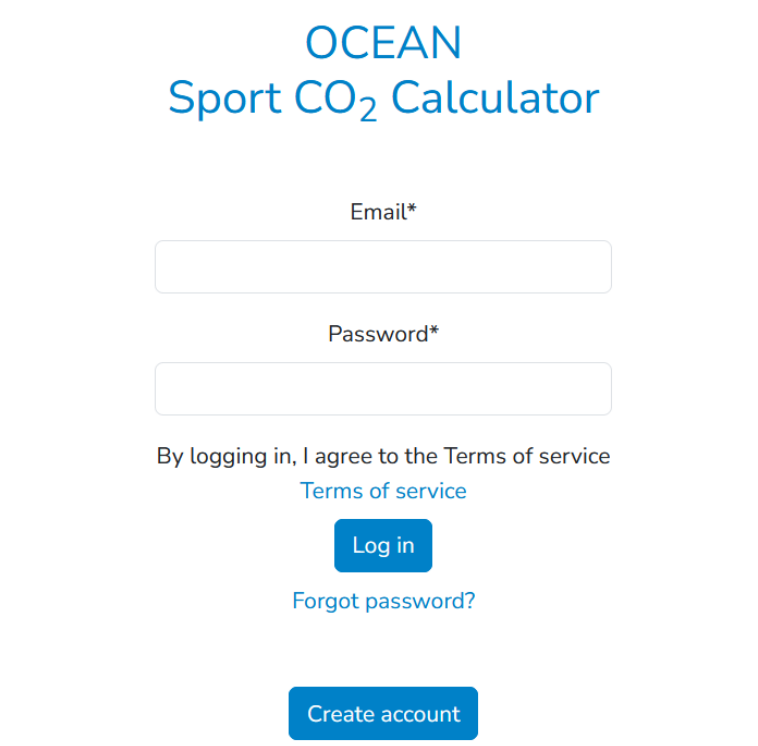
User Manual for the Sport CO_2 Calculator



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BACKGROUND

Context

The Sport CO_2 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 CO_2.

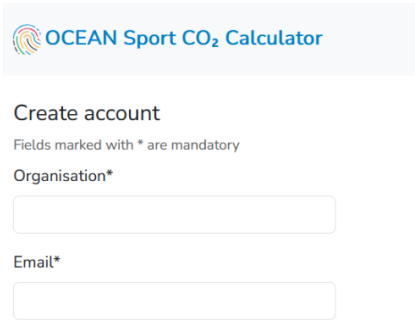
GETTING STARTED

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.



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

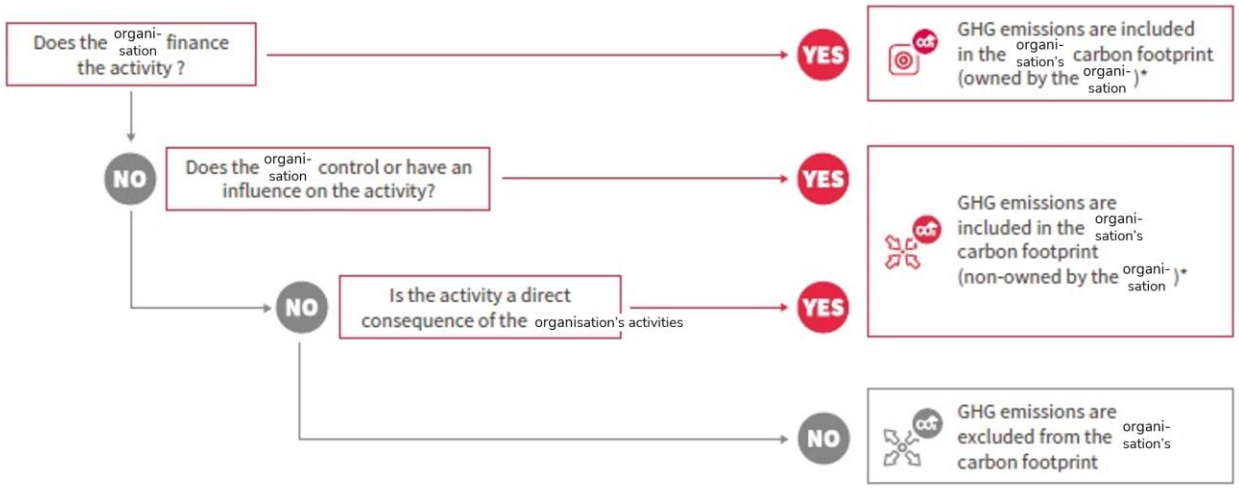
STEP 1. INSERTING DATA

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 2018[1]), 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.

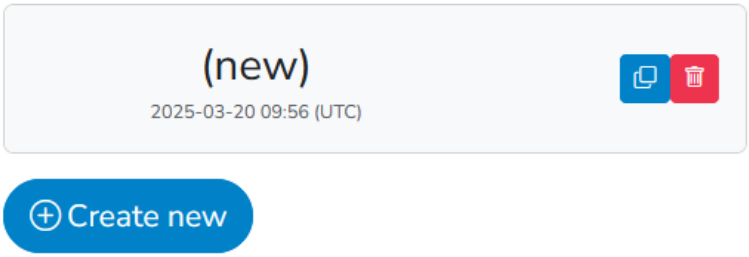
[1] https://stillmed.olympic.org/media/Document%20Library/OlympicOrg/IOC/What-We-Do/celebrate-olympic-games/Sustainability/IOC-Carbon-Footprint-Methodology.pdf

[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.

All data that users insert should refer to one year, e.g. consumption of electricity etc. over a period of 12 months. Usually, one calendar year is used as the reference value.

Data input is based on the metric system. There are several comprehensive tables of conversion factors into other units available, e. g. in the UK DEFRA's conversion factors.

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	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. 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.
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).
Other materials usage	If the below listed items cover only a part of your procured items not listed elsewhere, please estimate the share of the below listed items in the total	For example, you may - have invoices for procured sportswear and signage items and you may be able to insert detailed information for these items, - not have information on all other procured items (not listed elsewhere during data input) - know that the items for which you have detailed information are the majority of your further procurements (in terms of mass) and estimate the missing share to be e.g. 20% In that case you could insert the detailed information and insert 80% in the field.
Vehicle fleet	Fuel consumption / Electricity consumption	If you know the fuel consumption (l of gasoline/diesel/LPG or kg of CNG), please insert it. If you do not know the fuel consumption but only how many kilometres were travelled, please apply a reasonable average consumption per kilometre. Until recently, many NOCs used Toyota cars. Against this background, the following list shows exemplary fuel consumptions per 100 km for several Toyota cars: - Toyota Corolla Hybrid: 5,2 l gasoline/100 km - Toyota C-HR Hybrid: 5,3 l gasoline/100 km - Toyota Prius Hybrid: 5,1 l gasoline/100 km - Toyota Pro Ace Verso: 7,7 l diesel fuel/100 km - Toyota RAV 4 Hybrid Hybrid: 6,4 l gasoline/100 km - Toyota RAV 4 Plug-In Hybrid (PHEV): 2,5 l gasoline + 15,2 kWh electricity/100 km - Toyota Yaris Hybrid: 4,5 l gasoline/100 km - Lexus RX450H Hybrid: 8,5 l gasoline/100 km
Other business trips	Option 1 / 2	If you know the length of the trips, please use Option 1 to insert data. It is more precise. If you do not know the length of the trips but only how many trips were undertaken, please use Option 2

		to insert data. A default trip length for the different modes of transport is then applied. You may use both options in one line; they both add to the total.
Events – External	Number participants	Only count every person once - 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'
Events – External	Average event days	You are asked to insert the average number of events days in which each participant participated, differentiated between local participants, regional participants, etc. For a one-day event, insert "1" in all columns. For multiple day events, please consider that some participants participated in all event days and others did not participate in all event days. Example for a 3-day event: - Participants day 1: Persons A, B and C - Participants day 2: Persons B, C and D - Participants day 3: Persons B, C, D and E ➔ On average, each participant participated in 2 event days. Calculation: Mean value of 1(A), 3 (B), 3 (C), 2 (D) and 1 (E).
Events – In-House	Number participants	Sum of in-house event participants during the reference year whose travels and overnight stays are not yet covered via other sections, including - 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.) 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.
Events – NOC House Olympic Games	Material consumption for temporary structures, etc.	Please only list materials that usually do not undergo more than 10 re-use loops.

Uploading data via Excel

Users can insert data by uploading Excel files. For each topic area, you can download a specific template (blue button on the left).

The downloaded template includes an “Instructions” tab. **Please follow these instructions closely to avoid malfunctioning of the upload feature.**

The “Data” tab includes all data entries made by users so far for this topic area. Users can adapt data entries, e. g. delete existing data, add new data, copy and paste data from another file (preferred option: insert values only), etc.

Users can then upload the Excel file (yellow button on the right). **Attention: Previous data entries are replaced.**

The feature is expected to be particularly useful for the following topic areas where large amounts of data need to be inserted:

- Material usage
- Other materials usage
- Commuting
- Vehicle fleet
- Overnight stays
- Events

The feature can be used for any topic area. However, to avoid errors, the feature should only be used if a relevant benefit arises from its use.

Attention: Uploading data for sub-organisations via separate files is not possible but has to be merged with the main organisation prior to the upload.

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 CO_2 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

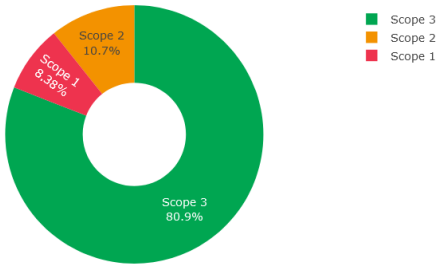
Overall result

	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

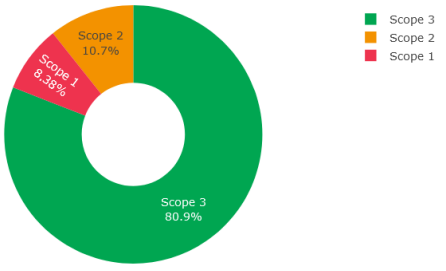
Results differentiated by scope - location-based approach

	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 Guidance[3], 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 result figures by clicking the camera icon in the top right corner.

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.

STEP 4. Reduction plan

This is a simple but informative and insightful tool which allows you to see the impact of area-specific relative reduction targets on your total carbon footprint. Please see the instructions on the top of the site.

	Baseline 2025 t CO_2-eq	Relative reduction until 2030	Resulting carbon footprint in 2030 t CO_2-eq
Overall goal	449.6	- 50 %	224.8
Goal reached	449.6	- 0 %	449.6
Further reduction measures are required.			
Water consumption & waste	0.0	- 0 %	0.0
Materials usage	0.0	- 0 %	0.0
Vehicle fleet	447.5	- 0 %	447.5
Flights	2.1	- 0 %	2.1
Events - In-house	0.0	- 0 %	0.0
Events - NOC House OG	0.0	- 0 %	0.0

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_2O). 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 Results
Market-based approach	See explanations under Results
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: Example: Three employees of your organisation fly from airport A to airport B. The distance between airport A and B is 500 km. This results in 1 500 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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