GLOBAL
DESTINATION
SUSTAINABILITY
MOVEMENT

CARBON FOOTPRINT AND OFFSETTING GUIDE

Offsetting the carbon footprint of an event

What is a carbon offset?

Carbon offsetting is a mechanism used to compensate for the production of greenhouse gas emissions through the purchase of carbon credits in projects that remove emissions from the atmosphere or avoid generating the emissions in the first place.

A **carbon offset credit** is a transferrable instrument certified by governments or independent certification bodies to represent an emission reduction of one metric tonne of CO_2 (tCO_2e). The purchaser of an offset credit can "retire" it to claim the underlying reduction towards their own GHG reduction goals.

There are various different types of carbon offsetting projects. The most common are:

Removal: Projects that absorb, or drawdown carbon out of the atmosphere. For example

- Nature based solutions such as reforestation, peatland restoration and mangrove restoration
- New engineered methods and emerging technologies such as direct air capture and accelerated mineral weathering

Avoidance: Projects that reduce emissions by preventing their release into the atmosphere in the first place. For example,

- REDD+ projects reduce forestry loss and preserve existing forests
- New renewable energy projects that switch energy usage from fossil fuels to cleaner renewable energy.
- Waste treatment that reduces the release or carbon and methane

A good carbon offsetting project not only delivers environmental impacts but also positive social and economic impact for the local community.

Principles for carbon offsetting

The Catalan Office for Climate Change establishes four basic principles for offsetting greenhouse gas emissions:

1. **Calculate GHG emissions with recognized methodologies**. Ie ISO14001, Greenhouse gas Protocol, or the Net Zero Events Carbon Measurement protocol.
2. **Reduce GHG emissions first, then compensate**: It's important to stress that event organisers must make all efforts to reduce carbons emissions (see guide) before compensating for the remaining unavoidable emissions through the purchase of carbon offset credits.
3. **Compensate with guarantees**. Event organisers should only buy carbon credits that are independently verified, and that guarantee that emission reductions are real, permanent and additional. There are many organisations and governments that accredit and verify carbon offset projects. The main international standards and accreditation bodies are

- Verra
- Gold standards
- United Nations – Clean development Mechanism

- Climate Community and Biodiversity Standard- CCBS
- Plan Vivo
- Social Carbon
- ISO 14:064:2

4. **Compensate with transparency**: Event organisers need to communicate clearly and transparently so that anyone interested can understand the calculation methodology, the scope of the emissions included, the reduction measures implemented, the percentage of the emissions offset, and the project with which it has been compensated.

The Catalan voluntary greenhouse gas emissions offset program

Catalan Office of Climate Change (OCCC) has developed a voluntary greenhouse gas emission compensation program with *high-quality cost-effective* carbon offsetting projects in Catalonia that are managed by social entities. These projects are analysed and selected by the OCCC, audited and verified by an independent external organisation.

How do you buy the offsets?

1. Send a mail to compensacionscat@sendeco2.com explaining the requirements and the number of tons of CO2 that need to be offset (if known)
2. SendeCO2 will generate a quote with, a) the cost of GHG credits and transaction costs and b) VAT: the current cost is 10€ per metric ton, plus a management fee. VAT is 21%
3. Once the buyer confirms and pays for the GHG credits, SendeCO_2 issues an invoice and cancels these GHG credits from the general exchange. It then communicates this to the OCCC so that they can send the buyer the certificate of purchase and cancellation of the credits.
4. At this time the buyer can already disseminate the emission compensation and can use the Program label. Any communication made regarding these GHG credits must be conducted following the instructions contained in the manual of good practices.

More information is available in English, Catalan and Spanish: https://canviclimatic.gencat.cat/es/ambits/mitigacio/programa-voluntari-de-compensacio-de-gasos-amb-efecte-dhivernacle/

To reduce the cost and administration derived from the purchase of Carbon Credits for organisations who manage multiple events, it is often recommendable to build a "pool of credits", and then the offset of event emissions can be made from this pool throughout the year.

In this way, it will avoid managing the purchase of credits individually for each event, simplifying administrative management. Additionally the cost of offsetting is increasing, so buying early may save costs for future projects.

Other offsetting entities

- Spanish NGO Ecodes has managed a program called Cero CO_2 since 2005. It offers various services to help measure and offset carbon emissions through projects in Spain and overseas. https://www.ceroco2.org/
- South Pole is one of the leading international carbon action companies. They develop and implement comprehensive emission reduction projects and strategies globally. https://www.southpole.com/es

Measuring Event Emissions

What should be measured?

The following table outlines the key emissions sources to be measured across the board as a starting point. Source The Net Zero Carbon Events roadmap.

Emissions source	Data to be collected	Metrics to be reported	Notes
N/A	Number of event days (open to public). Number of event days (mounting / dismounting). Space rented by the event (net and gross, in m2 or square foot) – distinguish indoor and outdoor if not all indoor. Total number of attendees including staff.	Days. M2 or square foot (net and gross, in m2 or square foot). Number of attendees including staff.	General information which is needed to support calculations.
Venue energy (on-site generated)	Amount of each energy source used during the period of the event.	Total Direct energy (kwh). Total Indirect energy (kwh). Total Energy (direct + indirect) (kwh). Energy intensity (kwh / m2). Total renewables generated on site (kwh). Total renewables purchased (kwh). Total renewables based on grid (kwh). % of renewables .	If specific data is not available venues should take annual usage and divide by total floor area of the venue and 365 in order to get average usage per m2 per day. This can then be apportioned per event relating to area covered and number of days[10]. Event period should include build up and break down.
Venue electricity (purchased)	Amount of electricity purchased during the period of the event.		
Water	Amount of water consumed during the event.	(Gallons or litres).	Apportionment may also be necessary (see above).
Production material	Material type(s) and weight.	Weight (kg) of each type of material.	Should be broken down into material type (carpet, metal, wood etc.).
Design material	Material type(s) and weight.	Weight (kg) of each type of material	Should be broken down into material type (paper, foam board, laminate etc.).
Food consumed	Number of meals consumed and category (red meat, other meat / seafood, vegetarian, vegan).	Number served of each meal type (#). Carbon emissions of menu.	Proposed categorisation of meals • Red meat • Other meat / seafood • Vegetarian • Vegan
Logistics / freight	Mode of transport, distance and weight / volume transported .	Total distance (km) and weight (kg) of each mode of transport.	Air, Rail, Sea, Road Separate out if SAFs, EVs etc. are used, if known.
Travel (attendees and staff)	City of origin, mode of transport for each attendee. Any journeys offset.	Total distance (km) for each mode. Total offsets purchased.	Air, Rail, Sea, Road.

Continue >

Data collection responsibilities

The table below sets out the entity or entities which should take responsibility for data collection for different emissions sources at events. Note that this does not mean that entity should take responsibility for reducing or offsetting those emissions, but should ensure that the systems are in place to measure and report the emissions. Fundamental to the ability to measure and reduce emissions across all elements of the event is for data to be shared with stakeholders, so those entities collecting data should also be prepared to share it.

Category	Emissions source	Data collection responsibility	Comments
Venue and buildings	On-site venue energy	Venue	
	Purchased energy for venue	Venue	
	Embodied carbon	Venue	
	Water	Venue	
Space design and production	Stands	Organiser and / or service provider	Entity in direct contact with supplier
	Carpets	Organiser or service provider	Entity in direct contact with supplier
	Signage	Organiser or service provider	Entity in direct contact with supplier
	Audio Visual	Organiser or service provider	Entity in direct contact with supplier
	Furniture	Organiser or service provider	Entity in direct contact with supplier
	Other	Organiser or service provider	Entity in direct contact with supplier
Communications	Paper	Organiser	
	Promotional material	Organiser	
	Intangible communications	Organiser	
Catering	Production and transportation of food and drink	Venue or Organiser	Entity in direct contact with supplier
Logistics	Freight Transport	Venue or service provider	Entity in direct contact with supplier
Travel to the event destination	Attendee travel	Organiser	
	Exhibitor / sponsor travel	Organiser or service provider	Entity in direct contact with exhibitor / sponsor
	Staff travel	ALL	Each responsible for own

Continue >

Not all emissions are equal. When starting to measure carbon emissions, or when time and resources are limited, the following chart can help to define priorities for collecting data. Good measurement tools such as those listed below can help to estimate average impact data based on industry averages and coefficients. This is particular useful for areas that are hard to measure.

Very High Priority	High Priority	Medium Priority	Low Priority
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 and merchandise Exhibitor, sponsor and staff travel Attendee, exhibitor, sponsor and staff accommodation	Embodied carbon T&D losses Water AV69 Furniture Intangible communications Transport within the destination

More information: The Net Zero Carbon Events roadmap. Tools to calculate emissions

There exist various tools on the market for measuring carbon emissions of events. The following have been evaluated and are recommended:

- **GREEN EVENTS TOOL**, created by the United Nations, this is a free web-based assessment platform conceived and designed to evaluate the sustainability and environmental performance of events. It is developed, hosted and maintained by UNEP, the UNFCCC secretariat and the Gulf Organisation for Research & Development (GORD). GET targets decarbonization and sustainable development by focusing on environmental impacts of conferences, meetings, exhibitions, trade fairs, sporting events. etc. https://greeneventstool.com/
- **TRACE**: Developed by isla, the UK industry body for sustainable events, TRACE is a platform for measuring and minimising carbon emissions at live, hybrid and digital events. It is one of the most advanced platforms on the market and can be used for measuring single events, or for agencies or organisations that want to measure hundreds or thousands of their meetings, exhibitions or conferences. It is already being used by hundreds of event agencies and organisers. It also has a supplier application. https://traceyour.events/

Many of the carbon offsetting companies provide tools and services for measuring the emissions of events.