



MINISTÈRE  
DES SPORTS  
ET DES JEUX OLYMPIQUES  
ET PARALYMPIQUES

*Liberté  
Égalité  
Fraternité*



# RECOMMENDED METHODOLOGY FOR THE USE OF ORGANISERS OF EUROPEAN SPORTS EVENTS

Implement a low-carbon and efficient waste  
reduction strategy (towards 0 waste)

## REVIEW OF EXISTING PRACTICES

Document  
developed in  
collaboration  
with Oxygène

**OXYGÈNE**

CONSEIL EN STRATÉGIE  
RESPONSABLE

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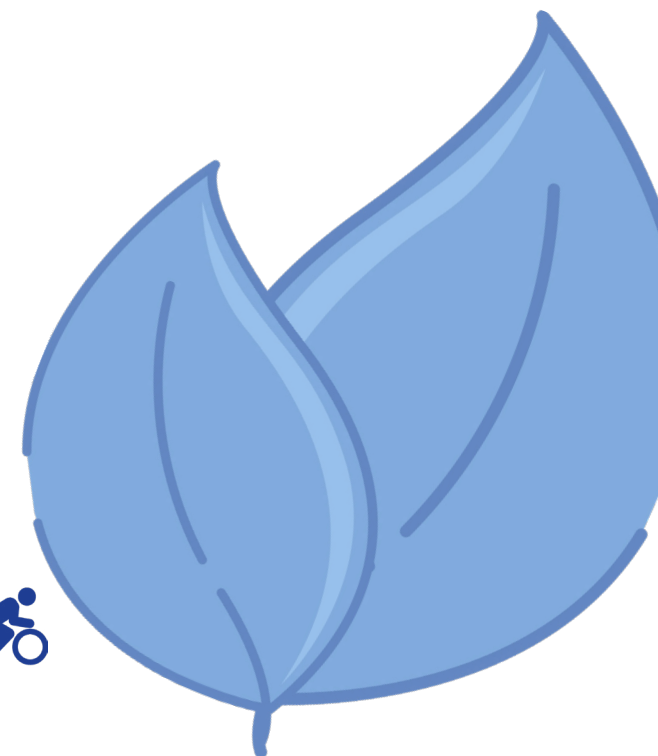
Note : To help organisers easily identify the initiatives likely to interest them given the characteristics of the event and the solutions put in place, this table summarises the main information for each initiative.  
REVIEW OF LOW-CARBON INITIATIVES

TOPIC IDENTIFICATION GUIDE

Major sporting event venue Organisation	Sport	Typology, location, and specifications	Themes
REVIEW OF LOW-CARBON INITIATIVES			
Formula E	Electric car	<ul style="list-style-type: none"><li>International stage championship</li><li>Town centres</li><li>Multi-site</li></ul>	<ul style="list-style-type: none"><li>Carbon footprint measurement</li><li>Carbon reduction and offset strategy</li><li>Optimisation of the sports calendar</li><li>Technological innovations</li><li>Certifications of commitments and link with the scientific community</li></ul>
Mercedes Benz Arena	Multisport	<ul style="list-style-type: none"><li>Multi-evens</li><li>Peripheral city centre</li><li>Single site</li></ul>	<ul style="list-style-type: none"><li>Infrastructure and energy</li><li>Reduction of CO2 emissions</li><li>Environmental performance measurements</li></ul>
Forever Green Match	Soccer	<ul style="list-style-type: none"><li>Regular national championship matches</li><li>Peripheral city centre</li><li>Single site</li></ul>	<ul style="list-style-type: none"><li>Mobility</li><li>Sustainable partnerships</li><li>Carbon footprint reduction</li><li>Carbon offset</li><li>Certification of commitments</li></ul>
London Marathon	Running	<ul style="list-style-type: none"><li>Marathon</li><li>Downtown</li><li>Single site</li></ul>	<ul style="list-style-type: none"><li>Reduction of carbon emissions</li><li>Offsetting carbon emissions</li><li>Waste reduction</li><li>Responsible procurement</li><li>Renewable energies</li></ul>
SailGP	Sail	<ul style="list-style-type: none"><li>International stage Championship</li><li>Coastal cities</li><li>Multi-site</li></ul>	<ul style="list-style-type: none"><li>Global strategy for measuring-reducing-offsetting carbon emissions</li><li>Commitment certifications</li></ul>

OTHER SPECIFIC LOW-CARBON INITIATIVES			
Formula 4	<b>Automotive</b>	<ul style="list-style-type: none"> <li>• National Championship</li> <li>• Circuits outside the cities</li> <li>• Multi-site</li> </ul>	- Energy
Aviron Bayonnais	<b>Rugby</b>	<ul style="list-style-type: none"> <li>• Club</li> <li>• Downtown</li> <li>• Single site</li> </ul>	- Water
Tour de France	<b>Cycling</b>	<ul style="list-style-type: none"> <li>• Traveling event with stages</li> <li>• Cities and countryside</li> <li>• Multi-site</li> </ul>	- Energy
24h of Le Mans	<b>Automotive</b>	<ul style="list-style-type: none"> <li>• International event</li> <li>• Circuit outside the cities</li> <li>• Single site</li> </ul>	- Carbon footprint reduction
Forest Green Rover	<b>Soccer</b>	<ul style="list-style-type: none"> <li>• Club</li> <li>• Peripheral city centre</li> <li>• Single site</li> </ul>	- Carbon footprint reduction
2018 European Cross Country Championships	<b>Cross-country</b>	<ul style="list-style-type: none"> <li>• European event</li> <li>• Peripheral city centre</li> <li>• Single site</li> </ul>	- Carbon footprint reduction
Euro 2016	<b>Soccer</b>	<ul style="list-style-type: none"> <li>• International event</li> <li>• Peripheral city centre</li> <li>• Multi-site</li> </ul>	- Offsetting carbon emissions
Case Study - 2030 FIFA World Cup	<b>Soccer</b>	<ul style="list-style-type: none"> <li>• International event</li> <li>• Peripheral city centre</li> <li>• Multi-site</li> </ul>	- Carbon footprint measurement

REVIEW OF INITIATIVES TOWARDS 0 WASTE			
Wembley Stadium	<b>Multisport</b>	<ul style="list-style-type: none"> <li>• Multi-events</li> <li>• Peripheral city centre</li> <li>• Single site</li> </ul>	<ul style="list-style-type: none"> <li>- Infrastructure</li> <li>- Waste management</li> <li>- Commitment certifications</li> <li>- Sustainable partnerships</li> </ul>
Nation Football League	<b>American Football</b>	<ul style="list-style-type: none"> <li>• Championship Finals</li> <li>• Different site for each edition, mainly on the outskirts of towns</li> <li>• Single site</li> </ul>	<ul style="list-style-type: none"> <li>- Waste management</li> <li>- Food upgrading</li> <li>- Collection actions</li> <li>- Energy</li> </ul>
London Marathon Event	<b>Running</b>	<ul style="list-style-type: none"> <li>• Mass events</li> <li>• Downtown</li> <li>• Single site</li> </ul>	<ul style="list-style-type: none"> <li>- Global waste reduction strategy</li> <li>- Sustainable partnerships</li> <li>- Responsible procurement</li> </ul>
Commonwealth Games Gold Coast 2018	<b>Multisport</b>	<ul style="list-style-type: none"> <li>• Major international event</li> <li>• According to disciplines</li> </ul>	<ul style="list-style-type: none"> <li>- Global waste reduction strategy (5R)</li> <li>- Responsible procurement</li> </ul>
ANOTHER SUSTAINABLE INITIATIVE			
ECO-GAMES	<b>Multisport</b>	<ul style="list-style-type: none"> <li>• Any event size</li> <li>• All locations</li> <li>• Mono or Multi-site</li> </ul>	- Strategic sustainable principles



# REVIEW OF LOW-CARBON INITIATIVES

**Formula E** - The first championship to be certified “net zero” since its creation

- Sport :** electric cars  
**Type of event :** international stage championship  
**Location :** city centres  
**Feature :** multi-site  
**Topics :**

  - Carbon footprint measurement
  - Carbon reduction and offset strategy
  - Optimisation of the sports calendar
  - Technological innovations
  - Certificates of commitment and links with the scientific community

Formula E is an international single-seater motorsport championship for electric cars. It is the first motorsport series to be certified “net zero” since its creation and to hold the certification for sustainable events recognised by the ISO 20121 standard.

From its first event, Formula E measured its **carbon footprint** to establish an effective overall strategy. Its environmental program is based on three pillars: organising sustainable events, having a significant positive impact in each host city, and using their global platform to promote electric cars and the role they play in the fight against air pollution.

Since its inaugural season, Formula E has collaborated with carbon experts to measure and monitor the carbon footprint of its championship. The organisation thus continuously evaluates its emissions to identify opportunities for improvements in operations and planning for the championship, which contributes to reducing its environmental impact in the long term.

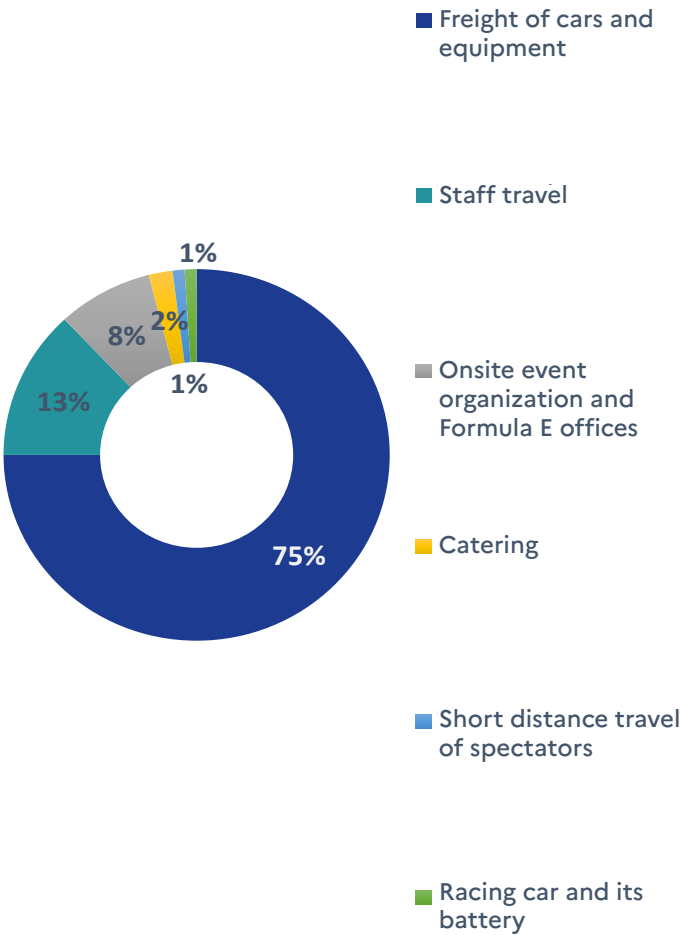
Aware of the environmental impact of the movement of spectators, the championship has chosen to organise its events in the heart of cities in order to reduce transport- related emissions.

The overall carbon footprint for Formula E 2020-2021 Season 7 has been measured at 19,600 tonnes of CO 2 equivalent for 15 races world-wide, of which each race generates an average of 1,300 tons of CO 2. The breakdown by carbon scope is respectively 3% for scope 1, less than 1% for scope 2 and 96% for scope 3, which highlights the fact that **most emissions generated are not under the direct control of the organiser**<sup>1</sup>.

For scope 1 emissions as illustrated in the attached figure::

- 75% of emissions are generated by car freight and equipment. The transition to biofuels for transport by sea and road has allowed over the years seasons to reduce this impact ;
- 13% of emissions come from staff travel ;
- 8% of emissions come from the organisation of events on Formula E sites and offices. Improvements in this segment are mainly related to the possibility of connecting electrical networks where it is possible and where it is not to use generators or use biofuels which emitless CO 2 than traditional diesel ;
- 2% of emissions are related to catering ;
- 1% of emissions are related to spectators who only travel over short distances to travel to the event sitet ;
- 1% of emissions are related to the racing car and its battery.

Scope 1 allocation of emissions



Season after season, Formula E strives to reduce the footprint of each event by highlighting implemented **measures to reduce their emissions**. Initiatives such as optimising the transport and logistics, extending end- of-life options for used lithium-ion batteries in racing cars and eliminatingsingle-use plastics on site contribute to reduce the overall emissions of each event. Other examples of initiative discounts implemented by Formula E include :

- **Freight** : schedule optimisation, setting up multiple sets of ocean freight to cover certain continents, use of a multimodal approach with priority to road, sea and rail rather than air where possible and carrying out inventory audits of freight to understand what can be purchased locally ;
- **Suppliers** : Works directly with suppliers to ensure low-cost solutions impact, including sourcing food and beverages locally and integrating sustainability into the construction, operation and content of the reserved area to fans ;
- **Transport** : no public parking at events to encourage the use of public, sustainable, and shared transport.

Only essential race personnel attend events in order to reduce any unnecessary attendance, priority to rail services for European races.

The implementation of these initiatives designed to reduce the championship’s environmental footprint allows Formula E to operate with the lowest possible level of unavoidable emissions.

<sup>1</sup> <https://www.fiaformulae.com/en/discover/sustainability/leadership-and-innovation>



The championship then directed **its efforts toward offsetting its unavoidable emissions** in sustainable projects that will benefit local economies and societies at race sites, but which will also contribute to reducing CO2 emissions worldwide.

Les émissions inévitables des saisons passées ont toutes été compensées par des investissements exclusivement dans des projets certifiés selon les exigences strictes du Verified Carbon Standard (VCS), du Clean Development Mechanism (CDM) et/ou du Gold Standard (GS) qui suivent tous les règlements décrits dans le Protocole de Kyoto par le Secrétariat des Nations unies pour le changement climatique.

The unavoidable emissions of past seasons have all been offset by investments exclusively in projects certified according to the strict requirements of the Verified Carbon Standard (VCS), the Clean Development Mechanism (CDM) and/or the Gold Standard (GS), which all follow regulations described in the Kyoto Protocol by the United Nations Secretariat on climate change.

Formula E is also the first championship to receive environmental accreditation from the FIA<sup>2</sup>, the International Automobile Federation, at maximum three-star level, renewed for the third consecutive time in November 2020. The FIA's environmental accreditation program aims to help those involved in sports automotive companies around the world to measure and improve their environmental performance by introducing clear and consistent environmental management in motorsport. A core pillar of the program is based on the measurement, reduction, and offsetting of carbon emissions.

Through its commitment with its federation and the advancement it offers, Formula E makes it possible to create **positive commitment** around a common sustainable development project. From season 9 (2022-2023), environmental accreditation will be mandatory for all participating teams in the Formula E championship. 6 teams out of 11 were already accredited by the closing of season 8.

Innovation is continuous. The introduction, for season 9, of the 3rd generation of cars offers enhanced performance and meets even more stringent environmental requirements, including:

- 3rd generation batteries which are amongst the most advanced batteries on the market and the most durable ever made. They are composed of minerals from sustainable sources while battery cells are reused and recycled at the end of life ;
- Linen fibre and recycled carbon fibre are used in the construction of the bodywork for the first time in a racing car. Recycled carbon fibre comes from 2nd generation cars withdrawn from service and reduces the total amount of virgin carbon fibre used. This reduces the carbon footprint of the production of the 3rd generation car's body by more than 10%. All carbon fibre used is reused for new applications thanks to the adoption of an innovative process used by the aerospace industry ;
- Natural rubber and recycled fibres make up 26% of new tires and all the tires are fully recycled after the race ;
- The new car's carbon footprint was measured right from the design phase in order to determine all possible measures to reduce the environmental impact, while all unavoidable emissions are offset as part of the commitment to Formula E for Net Zero Carbon ;
- All suppliers must operate in accordance with international standards aimed at reducing the impact of manufacturing on the environment (ISO 14001) and will be rated 3 stars by FIA environmental accreditation.

In 2021, Formula E became the first sport in the world to join the Science Based initiative Targets (SBTi) and the Business Ambition Pledge for the 1.5°C commitment. It will further reduce its 45% emissions by 2030<sup>3</sup>.

Finally, it signed the first version of the charter of 15 eco-commitments of heads of sport and event organisers from the French Ministry of Sports and the Olympic and Paralympic Games<sup>4</sup> for the Parisian stage of 2017. It is also a signatory, of the Sport for Climate Action initiative<sup>5</sup>, Climate Neutral Now<sup>6</sup> and Race to Zero<sup>7</sup> of United Nations.

### Berlin - Mercedes Benz Arena

- Sport :** multisport  
**Type of event :** multi-event  
**Location :** peripheral city centre  
**Feature :** single site  
**Topics :**
- Infrastructure and energy
  - Reduction of CO 2 emissions
  - Measurement of environmental performance



*Organisers are not the only ones to integrate sustainable criteria into their specifications, taking into account the impact of their activities: site managers and multimodal management (sport, culture, etc.) have also integrated these issues into the administration of their infrastructure. The example of the Mercedes Benz Arena provides interesting insights to the organiser of events by giving them the key to understanding the existing means and better perceiving the extent to which **the choice of a site contributes to overall improvement, and its impact, and above all what can benefit the overall positive balance of the event itself.***

The Mercedes-Benz Arena is a multi-purpose indoor sports hall located in Berlin, Germany, which opened its doors in 2008. With a capacity of 17,000 people, it hosts the ice hockey club Eisbären Berlin and the Alba Berlin basketball team, and use for other games of ice hockey, basketball and handball as well as concerts.

With more than one million annual visitors, the Mercedes-Benz Arena takes into account the impact of its development potential since its opening. Efforts focus on energy and water conservation, , recycling, the use of environmentally friendly products and the environmental awareness.

3 <https://www.fiaformulae.com/en/news/2021/september/formula-e-first-sport-science-based-targets>  
4 The second version of the Charter is available at this adress : <https://www.sports.gouv.fr/les-chartes-des-15-engagements-ecoresponsables-1156>  
5 <https://unfccc.int/fr/action-climatique/sectoral-engagement/le-sport-au-service-de-l-action-climatique>  
6 <https://unfccc.int/climate-action/climate-neutral-now>  
7 <https://unfccc.int/climate-action/race-to-zero-campaign>

2 <https://www.fia.com/fr/programme-daccreditation-environnementale>

The **CO2 emission reduction measures implemented** are <sup>8</sup> :

- Renewable hydroelectric electricity from Northern Europe ;
- Conversion of all lighting equipment to LED-type low-power mode ;
- Supply of natural gas offset by the purchase of carbon credits attached to an Indian-based hydropower project ;
- Installation in 2017 of 3 high-efficiency refrigeration units for the ice rink contributing to a 40% reduction in total energy load ;
- Reduction of CO 2 emissions thanks to a co-generation plant on the roof, fed by natural gas, which covers 90% of the basic energy load of the arena resulting in a reduction of 570 tons of CO 2 per year ;
- Plants cover a large part of the roof of the arena and the car park contributing to improve insulation and temperature variations and therefore energy flow ;
- Purchase of regional products and seasonal foods for catering reduces associated transport emissions ;
- The Arena is optimally connected to local and long-distance public transport ;
- Encouraging spectators to use public transport, to carpool or to come by bike.

The Mercedes Benz Arena conducts a **monthly environmental performance review through the measurement** of energy and water consumption as well as waste sorting and shares its best environmental practices with other places.

### Forever Green Match

- Sport :** soccer  
**Type of event :** regular game of the national championship  
**Location :** peripheral city centre  
**Feature :** single site  
**Topics :**
- Mobility
  - Sustainable partnerships
  - Carbon footprint reduction
  - Carbon offset
  - Certificates of commitments



Thanks to the “Match for sustainable development” of Real Betis against Athletic Club in Spain, the equivalent of the annual carbon footprint of 500 private vehicles was avoided, **as supporters were encouraged to travel to the match using public, own or shared transport to get to the Benito**

### Villamarín stadium.

In total, the match’s carbon footprint was 3,373.75 tonnes of CO2eq, 91% of which came from fan travel. The club’s partner measuring carbon footprint believes that the public transport campaign saved 911 tons of CO 2 eq, a reduction of over 20% emissions<sup>9</sup>.

This **initiative was facilitated by Betis’partnership** with an electric bicycle rental company. All spectators attending the match received a discount code to use for renting electric bikes from this company to get to the stadium. A discount was also available for electric motorcycles and scooters.

The club **within the framework of its sustainable commitments offset the remaining emissions, which could not be avoided**, and in particular, the Forever Green program launched in 2020<sup>10</sup>.

**Real Betis has decided to support an emissions reduction project** in Latin America, the Orosi wind farm in Costa Rica. This project aims to install 25 wind turbines in the province of Guanacaste contributes to the diversification of Costa Rica’s energy matrix using the country’s wind potential. Each of these turbines has a capacity of 2 MW. At the same time, the project offers an important alternative to the dominant use of hydroelectric power plants and is a good alternative for power generation during the dry season.

In 2019, Real Betis became the first football club to join the United Nations initiative « Climate Neutral Now », committing to **measure and reduce its carbon footprint, as well as to offset unavoidable emissions by purchasing carbon offsets from certified climate protection projects**. To achieve its offset objectives, the legal structure of the Club has merged with a carbon project developer (i.e., a company developing carbon recognised initiatives and whose projects issue carbon credits) and is a climate protection solution provider.

Recently, Real Betis also became the first football club to join « The Climate Pledge » from the Amazon, accepting the challenge to take steps to implement decarbonisation action through real changes and innovations, which include efficiency improvements, the use of renewable energy, the reduction of materials and other strategies to eliminate its carbon emissions.

Forever Green<sup>11</sup> is a commitment founded by Real Betis and open to all committed participants with the aim of creating awareness among the population of the current need to fight climate change.

8 <https://www.mercedes-benz-arena-berlin.de/en/aeg-1earth/csr-sustainability>

9 <https://www.sustainabilityreport.com/2022/05/26/match-for-sustainability-public-transport-push-slashes-fan-travel-carbon-footprint/>  
10 <https://www.laliga.com/en-GB/news/real-betis-launches-forever-green-a-sustainability-platform-for-companies-through-football>  
11 <https://forevergreen.es/?lang=en#forevergreen>

## London Marathon - Run to reduce



**Sport :** running

**Type of event :** marathon

**Location :** city centre

**Feature :** single site

**Topics :**

- Reduction of carbon emissions
- Offsetting carbon emissions
- Waste reduction
- Responsible purchasing
- Renewable energies



The London Marathon has implemented many solutions, each contributing to the **reduction in carbon emissions**<sup>12</sup>. Collecting a large amount of data enables to visualise possible reduction strategies.

The identified items of reduction in 2020 are:

- Organisation vehicles;
- Power generators;
- The energy used by the organisation's premises;
- Travel for elite runners (paid for by the organisation), participants, staff of the organisation and event partners;
- Emissions related to the products used during the event such as bibs and medals<sup>13</sup>.

Following this effort, the organisers of the London Marathon **have shared environmental data within their contractual clauses with suppliers** in order to identify areas for reduction and to engage them in a common approach.

The organisers have also identified goals to eliminate, reduce, reuse, and recycle all waste so that no waste from the event goes to landfill in an emission reduction perspective.

75% of the diesel usually used for generators has been replaced by hydrogenated vegetable oil contributing to a reduction in emissions. The best solution is to connect to the local urban grid, but this is not always technically possible.

Electric vehicles have also taken the place of old diesel vehicles for transport of organisers and elite runners.

The energy used in the premises controlled by the organiser now comes entirely from renewable energy.

In partnership with local charities in London and Kenya, where several elite athletes come from,

<sup>12</sup> <https://www.tcslondonmarathon.com/news-and-media/latest-news/leaving-the-right-impression>

<sup>13</sup> Although low contributor to the overall carbon footprint of major events, these objects are symbolic for the participants. It is therefore a necessary commitment that carries a message.

the London Marathon organiser has committed to planting trees to offset the emissions related to their travel.

## SailGP - Protect the Sea

**Sport :** sailing

**Type of event :** international stage championship

**Location :** coastal towns

**Feature :** multi-site

**Topics :**

- Global strategy for measuring-reducing-offsetting carbon emissions
- Commitment certifications



SailGP, an international sailing competition, was the first organisation to receive three gold medals as part of the UN's Climate Neutral Now initiative and reached the highest standard in reduction and offset together of its carbon footprint since the start of its activities. Sail GP's triple gold medal in the initiative Climate Neutral Now<sup>14</sup> recognises, at the highest level, the championship has :

- **Independently measured and certified its carbon emissions**, including scope 3 ;
- Implemented **reduction strategies** aimed at reducing its footprint by 55% by 2025 ;
- Helped to **offset its remaining footprint** through UN-verified projects.

Precisely, SailGP has measured all of its carbon emissions since 2018, including scopes 1, 2 and 3, including its entire supply chain as well as the impact of fans and spectators.

Understanding SailGP's total emissions footprint combined with controlling their organisation has helped it to design reduction strategies for its operation. To reduce its footprint, Sail GP has opted for the following solutions:

- Improve energy efficiency by increasing shore-based power supply and using electric motors for its fleet of on-water support boats ;
- Involve its stakeholders and partners to contribute to collective reductions ;
- Improve its logistics management.

Finally, SailGP withdrew through the compensation mechanism 50,000 tonnes of CO<sub>2</sub> to achieve carbon neutrality. .

<sup>14</sup> <https://sailgp.com/news/sailgp-triple-gold-united-nations-climate-neutral-now-initiative/>



# Other initiatives contributing to a low-carbon strategy, briefly

## Formule 4 — First single-seater competition to use biofuel 🏎️

The French Motor Sport Federation, committed to the ecological transition of auto sport with an objective of carbon neutrality of all French motorsport in 2050 and in 2022 introduced biofuels in the French F4 single-seater championship<sup>15</sup>. The formula of biofuel used by the French F4 **saves more than 70% greenhouse gas emissions compared to the fossil fuels previously used**. This biofuel, derived from waste, meets the sustainability criteria established under the European Directive on Renewable Energy (RED), as well as the parameters of the «Advanced» specification Sustainable Fuel established by the International Automobile Federation (FIA).



## The Water Charter of Aviron Bayonnais Rugby Pro

Aviron Bayonnais Rugby Pro, a rugby club, in collaboration with its suppliers defines and applies a **Water Charter**<sup>16</sup> whose commitments concern :

- The quality and quantitative preservation of water;
- Reducing the water and carbon footprint of the catering;
- The implementation of indicators to measure water consumption and use;
- Raising awareness among all club stakeholders and club initiatives and support the local area.

Also, Aviron Bayonnais Rugby Pro is part of a collaborative and shared approach via the awareness of all of its employees (players, sports and administrative staff) to the challenges of sustainable development. Finally, the club wishes to participate in the education of the younger generation and continues to bring its support for the “Water Family” charity. The Aviron Bayonnais players have recently been able to talk remotely with students about water protection and remind them of the good practices to adopt.



## A green, electric and hybrid caravan for the Tour de France 🚲

In addition to the 200 professional cyclists, nearly 2,300 land vehicles (following cars, lorries, buses) and helicopters criss-cross French and European countries as part of the Tour de France.

In 2013, a study<sup>17</sup> revealed that the carbon footprint of the Tour de France was estimated at 341,000 tons of emissions. Amaury Sport Organisation (A.S.O), the organiser of the event, believes that the teams and organisation vehicles generate 5,000 tonnes of CO 2 per tour, and 22 000 tons of CO 2 were emitted by caravan advertising and the media release. If we include the spectators, the TV viewers, Internet users and the 18 million items of food distributed, the total carbon

15 <https://www.ffsa.org/Pages/Actus/2022/FFSA-Academy-x-Repsol.aspx>  
16 <https://fr.linkedin.com/pulse/laviron-bayonnais-rugby-pro-signe-la-charte-de-leau>  
17 <https://www.ouest-france.fr/environnement/climat/point-de-vue-tour-de-france-et-climat-les-thermometres-grimpent-aussi-6968128>

footprint is 341,000 tons.

Among the **reduction efforts** undertaken, the transition of vehicle combustion represents a valid opportunity. In partnership with one of its partners and sponsors, all of the organiser’s cars from 2021<sup>18</sup> have evolved into **hybrid rechargeable models** to replace the petrol or diesel models used previously. Three fully electric vehicles were also used on several stages to investigate a full transition to electric. A total of 250 vehicles are affected by this change contributing to a reduction in emissions, due to a lower emission factor for hybrid vehicles and electric compared to vehicles using fossil fuels.  
les spectateurs, les téléspectateurs, les internautes et les 18 millions de denrées alimentaires distribuées, l’empreinte carbone totale est bien de 341 000 tonnes.

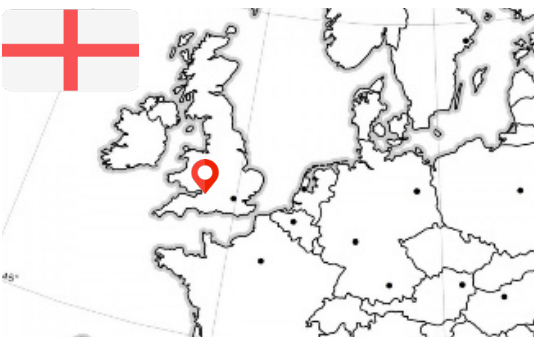
## The Green Ticket of the Le Mans 24 Hours 🏎️

The 24 Hours of Le Mans, a 24-hour endurance motor racing competition, introduced an original concept in 2022 to encourage spectators to participate in its efforts to sustainable development<sup>19</sup>. To encourage them to use low-emission transport, spectators were able to remove their **greenback** upon presentation of proof of use of a low-carbon mode of transport such as a tramway, TER or SNCF ticket, or a logbook from an electric or hybrid vehicle. This ticket gave them access to benefits such as discounts on on-site activities.

The Automobile Club de l’Ouest, organiser of the event, also offered a « **Green Challenge** » consisting of a dozen tasks included in an environmental approach and solidarity (sustainable catering, low-carbon transport, charity challenge, responsible initiatives...) with different prizes and in particular a track experience in a hydrogen powered racing prototype.



## Carbon catering at Forest Green Rovers FC 🏃



Studies have shown that by removing meat and dairy products from the food selection, the carbon footprint of the food can be reduced by up to 73%. This is an effective way to minimise the environmental impact of catering operations. The English Soccer Club Forest Green Rovers FC was the first to implement this reduction measure in 2015. In 2017, the club was recognised as the **first vegan football club** in the world when it was Certified Vegan by The Vegan Society. English Premier League clubs Arsenal and Chelsea, amongst others, followed suit and started providing vegan options as well. The introduction of a vegan diet as part of the daily life of a club can be transposed to the organisation of an event.

The entire club is also **100% powered by green energy**, some of which is generated on site through solar panels installed on the roof of the stadium and a solar tracker located at the entrance to

18 <https://presse.skoda.fr/skoda-sengage-sur-son-18eme-tour-de-france/>  
19 <https://newsroom.lemans.org/fr/press/les-24-heures-du-mans-lancent-leur-green-ticket>



the venue.

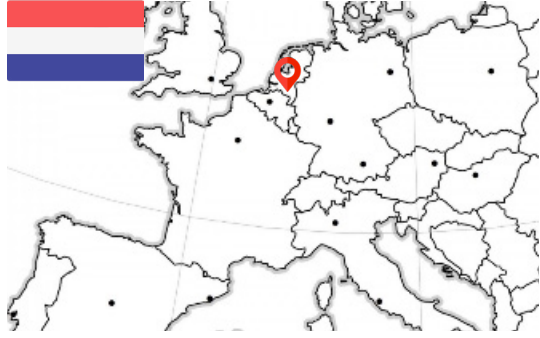
Since 2011, the club has been measuring its carbon footprint, and between 2017-2018 and 2018-2019 seasons, it has been reduced by nearly 30%. Since 2018-2019 season, the club has joined the United Nations initiative on climate change, Climate Neutral.  
situé à l'entrée du terrain.

Tilburg Cross Country — Proximity at the heart of impact reduction



The 2018 European Cross-Country Championships, held in Tilburg in collaboration with European Athletics, have set simple sustainability and carbon reduction goals that are accessible to everyone :

- The event venue has been deliberately chosen so that all competitors and officials could walk to the event from their hotel;
- Spectators were encouraged to use bicycles;
- Fare reductions were offered to facilitate spectators' access to public transport and bicycle rental.



Euro 2016 — A collective compensation effort



L'UEFA worked with a carbon project developer during the 2015-2016 season to **measure and offset its carbon emissions**.

UEFA has invested in a wind farm project that brought renewable electricity to remote villages in New Caledonia.

This sustainability program has been extended to show UEFA EURO 2016 spectators and teams how they can offset their carbon emissions whilst travelling. Fans traveling to France for the tournament were encouraged to use the award-winning eco-calculator, which was made readily available as an app. This application helped them to measure, compare and compensate for the environmental impact of different types of transport to get to the competition. Fan and spectator engagement was weak at the offset, but all 24 teams taking part in UEFA EURO 2016 signed up to the environmental programme. UEFA has also offset its own emissions. The combined effort by teams, spectators and UEFA resulted in a total of 35,000 tonnes of CO2 offset<sup>20</sup>.

20 <https://greensportsalliance.org/uefawwf-report-playing-for-our-planet/>

Case study: Projecting the carbon footprint of tourist accommodation during the 2030 FIFA World Cup<sup>21</sup>

- Sport :** soccer  
**Type of event :** World Cup  
**Location :** peripheral city centre  
**Feature :** multi-site  
**Topics :**
- Sports format
  - Carbon impact
  - Infrastructures and reception capacities



For its 2026 Games, the Football World Cup organised by FIFA will host 48 participating teams instead of the current 32. These new specifications will make it possible to make an estimated profit of one billion dollars.

This multi-site event, which is necessary due to its competition format, requires the movement of worldwide competitors but also fan spectators making the trip. Moreover, as a long-term event, tourist stays are also often of longer duration and whose footprint will accelerate the carbon footprint of the event due to the use of increased transport and accommodation. This additional carbon footprint is not however taken into account by FIFA when changing the number of teams participating in the world Cup.

Two scenarios were evaluated: in scenario 1, the current structure of 32 teams is maintained and in scenario 2, an expansion to 48 teams is considered. A comparative analysis of these two scenarios shows that **due to increased tourist demand for accommodation, FIFA's decision to increase the number of participants in the world cup will increase its carbon footprint by 24%.**

However, an increase in the carbon footprint is also to be expected due to other contributing items. To host the 2030 FIFA World Cup, the winning consortium needs to meet a number of technical requirements. Amongst others, these include updating the provision of 72 training centres for the 48 football teams, provide 12 stadiums with a minimum capacity of 40,000 spectators and at least one stadium with double that capacity for opening and closing matches, 70,000 hotel places and a good transport infrastructure. To reduce the carbon footprint, the study recommends that the organiser considers selecting host countries based on their national energy matrix. Indeed, the energy matrix of the host countries have great importance in the carbon footprint because the more renewable energy a host country uses, the lower the carbon impact of hosting the event will be. The organiser should also give priority to countries with existing infrastructure to avoid specific construction for the event and having the greatest numbers of climate-friendly tourist accommodation, shown by, for example, the award of reputable environmental certificates.

Beyond this particular event, FIFA could contribute to developing effective measures to reduce carbon emissions for its sporting events. **The global mobilisation resulting from the football World Cup** can raise public awareness of the issues related to global greenhouse gas emissions and can, in theory, have an effect on the daily behaviour of participants and consumers.

In parallel, the governments of countries that promote renewable energy sources can make this option an **important lobby** in the future, to host the event. The environmental concerns will be increasingly relevant in these applications. The more governments commit to steer their country towards these policies, the greater their chances of hosting a GESI (major international sporting event) having taken into account environmental requirements.

21 <https://www.sciencedirect.com/science/article/pii/S2666784320300048>

# REVIEW OF INITIATIVES TOWARDS ZERO WASTE

## Wembley Stadium — The partnership contribution to achieve the goals<sup>22</sup>

**Sport :** multisport  
**Type of event :** multi-events  
**Location :** peripheral city centre  
**Feature :** single site  
**Topics :**

- Infrastructure
- Waste management
- Sustainable partnerships
- Commitment certification



As indicated above, the organisers are not the only ones to integrate criteria of sustainable conditions in their specifications or to take into account the impact of their activities: the managers of sports and multimodal facilities (sport, culture, etc.) have also integrated these issues into the administration of their infrastructure. It is also important here to provide event organisers the key to understanding the existing levers to improve these venues, such as Wembley Stadium, to better understand the extent to which the **choice of venue contributes to the overall positive balance of the event itself.**

Wembley Stadium is the largest in the UK, it can accommodate up to 90,000 spectators. Built in 2007, it primarily brings together football fans (home of the national team and Olympic site during the London Olympic Games in 2012, Rugby League) but hosts other sporting and musical events (almost fifty a year in total). It is owned by Wembley National Stadium Ltd, a subsidiary of English football's governing body, the Football Association.

In 2014, Wembley Stadium set itself the goal of becoming one of the most environmentally friendly arenas in the world and has achieved the Carbon Trust Standard for its reduction of carbon emissions. The stadium also obtained ISO 20121 certification in 2019.

To do so, the stadium has defined priority themes<sup>23</sup> including **waste management** and has, in collaboration with its partner Veolia, formed working groups to find solutions adapted to the site in order to improve its waste management:

- Complete cleaning solutions supported by good management of recyclable materials and provision of vehicles and equipment with manual and mechanical sweeping as well as waste collection ;
- Tailored staff training to increase recycling :
  - No waste has gone to landfill since 2010 ;
  - More than 100 people trained to date in good practices in the management of waste and are present on site to support good practices during operation ;
  - Up to 86% of event waste is recycled; o Reduction of 150,000 tons of waste in 1 year ;
  - Reduction of 150,000 tons of waste in 1 year ;

22 <https://www.veolia.co.uk/case-studies/wembley-events>

23 Energy and climate action, Waste, Water, Transportation, Charity and community, Transparency and communication, Sustainable procurement

- In close collaboration with catering and subcontractors, Veolia ensures that the vast majority of new products offered for sale on site are recyclable before commercial validation ;
- Introduction of food waste recycling through trials, implementation design, delivery, promotion, training and follow-up ;
- Maintenance of outside the grounds, collection of waste from the perimeter and the local treatment of wood, metal, hazardous materials and equipment waste electricity and electronics, also called WEEE.

## Nation Football League — Prise en compte de l'ensemble des typologies de déchets<sup>24</sup>

**Sport :** American football  
**Type of event :** championship finals  
**Location :** different site each game mainly peripheral area of cities  
**Feature :** single site  
**Topics :**

- Waste management
- Food upgrading
- Collection actions
- Energy



The Nation Football League (NFL) has embarked on an environmental program that is working to mitigate the environmental impact of major NFL events and creating a **green legacy** (green heritage) in every community that hosts the Super Bowl, Pro Bowl and NFL Draft. Since 1993, the Super Bowl has been recognised as one of the American events that has integrated the environmental theme as a priority issue. THE NFL achieves its goals through **active partnerships** with its sponsors, local host committees, government agencies and non-profit organisations.

Among the actions implemented, waste management is a priority :

### • Food recovery

NFL Green, partners with local food banks and event managers to ensure that prepared and unserved foods, as well as packaged snacks and beverages are donated to beneficiaries in need. The NFL is also ensuring that the remaining proceeds from sponsor activations are included in food donations. Super Bowl events can generate up to 140,000 pounds (approximately 63,500 kg) of food and drink to donate.

### • Recovery of materials

Major League events generate tens of thousands of pounds<sup>25</sup> of materials to donate such as decorative fabrics, rugs, building materials and other items. NFL Green forms coalitions with community partners to recover these precious materials and donate them to local non-profit groups like Habitat for Humanity, the Salvation Army, or local schools and artist groups to give them a second life.

24 <https://www.nfl.com/causes/nfl-green/>

25 1kg = 2,20462262 pounds

• **Recycling and waste management**

NFL Green (the branch of the NFL in charge of sustainable development) works closely in collaboration with stadiums and event facilities to maximise and increase recycling and waste diversion rates. Sponsors have pledged to support Zero Waste and fan engagement initiatives.

• **Super Bowl e-waste recovery**

The NFL is working alongside NFL sponsor Verizon to support and amplify responsible e-waste recycling through its activation of «Recycling Rally» Every year, a one-day public e-waste event is held in partnership with the local zoo just before the Super Bowl<sup>26</sup>. In 2019, the collection made it possible to process 87 pallets of material brought by more than 400 participants. This action allows the NFL to contribute to the issue of electronic waste used by all the fans not present at the event using it through computer screens, tablets, and mobile phones.


• **Green energy**

Green energy in the form of renewable energy certificates is used to power large events. Each year, the NFL lists the estimated electricity consumption in the event facilities, then purchases Renewable Energy Certificates (RECS: Renewable Energy Certificate) equivalent to this total energy consumption. Buying RECS helps provide funds to increase green electricity capacity nationwide and is a significant accepted method to mitigate the greenhouse gas impact of our consumption of energy.

**London Marathon Event —**  
Global reduction and innovation for the reduction  
of plastic beverage containers<sup>27</sup>

**Sport :** running  
**Type of event :** mass event  
**Location :** city centre  
**Feature :** single site  
**Topics :**

- Global strategy for the reduction of waste Sustainable Partners
- Responsible procurement



London Marathon Event (LME) is one of the world’s leading organisers of grassroots sporting events (large events). The LME team organises 13 world-class events annually, with over 200,000 participants.

The **7 principle sustainable strategies** of Marathon Event organisation are :

1. Identify, understand, measure and improve its environmental impact ;
2. Eliminate, reduce, reuse and recycle all waste ;
3. Instil zero waste through LME activities ;
4. Develop and implement a framework around responsible procurement ;

5. Reduce energy consumption and improve its efficiency ;
6. Use energy from renewable sources ;
7. Publish an annual environmental report.

Environmental impacts of events identified by LME	
Waste	LME Waste Products / Consumables
Plastic bottles	Kit bags
Compostable cups	Medical products
Paper and cardboard	Event clothing
Wood	Documents and printed media
Metal	Restoration (can be included in waste data)
Collected textiles left by participants waste	
Waste of all kinds	

The organisation has achieved the goal of not sending waste to landfill: non-recyclable waste was sent to incineration for energy recovery for heat and energy.

The waste initiatives of the various events organised by London Marathon Events are as follows<sup>28</sup> :

The Vitality Big Half :

- The energy drink Lucozade Sport was distributed 10,000 times in edible bubble form to avoid single-use plastic waste
- The runners were encouraged to drink, hydrate and throw their bottles into dedicated areas;
- Branded material is reused or recycled into industrial benches;
- The billboards are not dated. A self-adhesive zone is removed at the end of each event, so you can reuse the panel for next event
- Clothing discarded at the start of the race is reused or recycled.

The Virgin Money London Marathon :

- 700 water bottles (90% recycled materials) were collected to be cleaned and recycled;
- Reduction of 215,000 single-use bottles thanks to 7 water stations;
- Plastic bottles are collected in specific areas;
- The energy drink Lucozade Sport was distributed 36,000 times in bubble form edible to avoid single-use waste;
- 36,000 modular glasses were distributed;
- The need for generators has been halved on the starting area by re- evaluating the real need;
- Use of low energy light (Low energy hybrid tower);
- Distributed BUXTON water bottles are made from 50% recycled plastic;
- Lucozade energy drink bottles are 100% recycled;
- The billboards are not dated. A self-adhesive zone is removed at the end of each event, so you can reuse the panel the next edit;

26 <https://www.youtube.com/watch?v=p92uYV6Ubl4>  
27 [https://lme.digitalcontent.blob.core.windows.net/%24web/VMLM/2020/dept-sites/LME\\_Environmental\\_Report.pdf](https://lme.digitalcontent.blob.core.windows.net/%24web/VMLM/2020/dept-sites/LME_Environmental_Report.pdf)

28 Where initiatives were similar across events, they have been removed to avoid redundancy, so these lists are not exhaustive. Please refer to the report produced by the organizer for details of each event.



- Advertising banners (30 km in total) are collected, then reused or recycled.

The Vitality Westminster Mile & Vitality London 10 km :

- The staff and spectators are encouraged to use their own water bottles thanks to the implementation of water points and dedicated informed communication;
- The runners are encouraged to drink, hydrate and throw their bottles in dedicated areas.
- Volunteers are there to recycle at the water supply point.

The Prudential RideLondon :

- No single-use plastic used in catering;
- No plastic bags distributed;
- No plastic bottles used during the race or in the village;
- Water supply is by water bowser;
- Secure bicycle parking facilities have been installed to encourage participants to move around by bike.

The Swim Serpentine :

- The racer’s kits are put in bags made of sugar cane in England.

**Commonwealth Games Gold Coast 2018 —**  
**A comprehensive global « 5R » strategy<sup>29</sup>**

**Sport :** multisport  
**Type of event :** major international event  
**Location :** according to disciplines  
**Feature :** multi-site  
**Topics :**

- Global waste reduction strategy (« 5R »)
- Responsible procurement

The Gold Coast 2018 Commonwealth Games was the biggest elite multi-sport event the Gold Coast has ever organised. The City of Gold Coast hosted this event from April 4th-15th 2018. 6,600 athletes and team officials from 70 nations and countries competed in 18 sporting disciplines at 18 venues across Queensland.

Up to 40,000 spectators attended the opening and closing ceremonies held at Carrara Stadium. An estimated 1.5 million tickets were sold for the 11 days of competition, broadcast to a global audience of 1.5 billion.  
The organising committee was made up of 1,000 employees, more than 30,000 external service providers and 15,000 volunteers. This same committee **positioned sustainable development as the**

<sup>29</sup> <https://gc2018.com/about/sustainability> ; [https://gc2018.com/sites/default/files/2018-08/Sustainability%20Report%20-%20Pre%20Games%20\(Final\).pdf](https://gc2018.com/sites/default/files/2018-08/Sustainability%20Report%20-%20Pre%20Games%20(Final).pdf) ; [https://gc2018.com/sites/default/files/2018-08/Sustainability%20Report%20-%20Post%20Games%20\(Final\).pdf](https://gc2018.com/sites/default/files/2018-08/Sustainability%20Report%20-%20Post%20Games%20(Final).pdf) ; <https://gc2018.com/sites/default/files/2017-09/CS101%20-%20Sustainability%20Report%202014%20-%2015.pdf> ; [https://gc2018.com/sites/default/files/2017-09/CS537\\_-\\_SUS\\_Sustainability\\_Report\\_2015-16\\_Final.pdf](https://gc2018.com/sites/default/files/2017-09/CS537_-_SUS_Sustainability_Report_2015-16_Final.pdf)

**keystone of its event.** All of the **social, and environmental topics** were taken into account in the CSR strategy of the event. 3 pillars were identified :

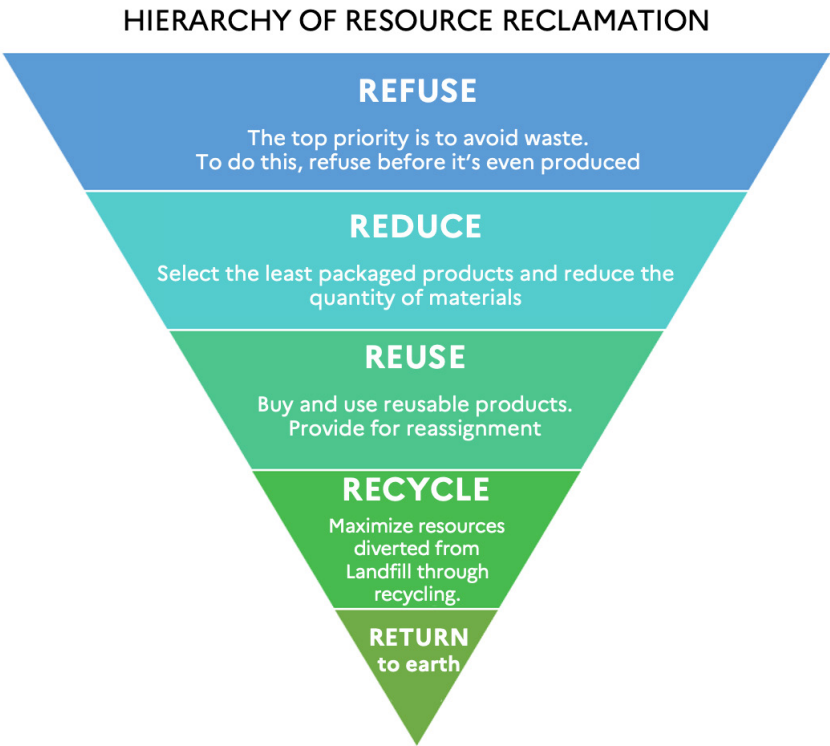
- Sourcing responsibly;
- Manage impacts;
- Inspire inclusion.

The priorities attached to issue 1 were broken down as follows: **Responsible procurement, Catering (food and beverage) and waste.**

- The formal objective set for the catering, was to provide responsible catering options and reduce food packaging
- Reducing waste to landfill using innovative waste management practices and adopting priority waste and its reuse. A number of recommendations aimed at increasing the amount of Diverted waste from landfills was produced as:
  - Management of waste by a single entity per site for better coordination and accountability;
  - Improved labelling and signage on bins to allow for a greater segregation of recycling, especially for International visitors;
  - Consistent packaging across all food and beverage outlets;
  - Options for better separation and treatment of food and recyclable materials on site or nearby.

Waste was therefore a central issue on which efforts were focused. In this fact, a **guide to materials and packaging was produced<sup>30</sup>** for all stakeholders in order to reduce and avoid any upstream production. It specified in a very methodical way the 5Rs policy adopted by the organiser (refuse, reduce, recycle, reuse, return to the earth, see illustration below) and the rights and duties of service providers, suppliers, partners and people whose activity was identified as producing waste. A sector was specifically formed with the Game’s partners to treat waste. The accountability of partners, by the organiser, ensured their ability to handle the volumes that they generated.

All staff members were trained in waste management and in the strategies and existing possibilities to avoid or reduce the quantity of waste produced by the event.



<sup>30</sup> [https://gc2018.com/sites/default/files/2017-11/CWM-POL-002%20Materials%20and%20Packaging.v2\\_0.pdf](https://gc2018.com/sites/default/files/2017-11/CWM-POL-002%20Materials%20and%20Packaging.v2_0.pdf)



A multiple stream recycling system within the premises of the organising committee was also put in place.

Finally, other examples of raising-awareness have also encouraged compliance with the commitments of the organising committee as :

- Messages to spectators encouraging them to refill their reusable water bottle ;
- The presence of trained volunteers at the water refilling sites to guide the spectators ;
- working to raise awareness of the challenges of plastics for use only as shown in the diagram below:



**GC2018 Sustainable Solutions to top plastic pollutants**

# SUSTAINABLE DEVELOPMENT: BASIS OF THE EVENT FOR THE ORGANISER OF TOMORROW

## ECO-GAMES<sup>31</sup>, sustainable principles at the core of the event

The ECO-GAMES organised in France and overseas is an event concept created by Didier Lehenaff, whose founding principles have been designed to minimise the impact of its organisation.

This system of 10 principles **helps make organisers think about the rationale and the objectives of their event by perceiving how sustainable development can be the main issue and sport the platform for achieving the Sustainable Development Goals.**

### Principle n°1 : GAMES GENETICALLY DEDICATED TO SUSTAINABLE DEVELOPMENT

The preparation and running of the Eco-Games are essentially part of the perspectives of their sustainable development: extreme valuation of environmental components, application an environmental organisation charter, maximisation of local social dynamics, optimisation of organisational costs, logic of redistribution of possible gains to the actor's premises, etc.

### Principle n°2 : LOCAL ENVIRONMENT FIRST

The local physical and human environment determines sports practices and extra-curricular activity sports that will be included in the Eco- Games program; these practices therefore stem naturally from the characteristics of the host territory and those of its inhabitants and are part of it harmoniously.

### Principle n°3 : ACCESSIBLE GAMES

Practices are systematically adapted to make them accessible to all audiences, competitors or not, women and men, young and old, etc., in order to promote participation of the greatest number.

### Principle n°4 : AGAINST THE « ALL COMPETITIVE »

The sports program offers a balanced mix between competitive modalities and discovery (i.e., without classification or timing).

### Principle n°5 : ENVIRONMENTAL PERFORMANCE OF PARTICIPANTS AND ORGANISERS

As often as possible, pure athletic performance is weighted by consideration of the local physical and human environment, in order to best enhance the host territory, and minimise the environmental footprint / maximising the personal and social development of participants. The organisers are also committed to improving the environmental performance over the years of their event.

### Principle n°6 : MINIMALISM

The organisation of the Eco-Games is fundamentally minimalist and their logistics refined as much as possible, in such a way as to partly overcome the constraints that traditionally surround sports

organisations, and to simplify their preparation and conduct (the minimalism of structures and organisation is undoubtedly THE hallmark of these Games). In short: K.I.S.S. (Keep It Simple Stupid)!

### Principle n°7 : DO WITH WHAT EXISTS

ECO-GAMES make maximum use of the practical support resources available in the local environment; these resources will have been the subject of an in-depth preliminary study allowing them to be fully identified. "Doing with what already exists" therefore constitutes a true leitmotif for these Games.

### Principle n°8 : AGAINST EVERYTHING ECONOMIC

Dependence on money is minimised, in favour of other models such as donation or barter; the sponsorship is preferred to traditional financial partnerships, which advocate the logic of a return on investment sometimes enslaving the organiser; no race bonus and other grid of prizes are offered to the winners of the various events; etc.

### Principle n°9 : DE-COMPARTMENTALISE FOR BETTER ACCOUNTABILITY

To fight against the extreme compartmentalisation of roles and responsibilities, which harms fundamentally sport and the well-being of its practitioners, the Eco-Games offers the opposite of "de-compartmentalise to better empower"; in other words, to make people understand "from within" the athletes the workings of the organisation of the sport, and to involve them in it, in a logic participation of all the actors concerned.

### Principle n°10 : A STRONG EXTRA-SPORTS PROGRAM

The Eco-Games are not only «sporty», they also offer a rich program of activities promoting the local natural and cultural heritage, in a wide variety of forms: conference-debates, seminars, exhibitions, field meetings, visits to parks and reserves, operations to rehabilitate natural spaces, recycl'art, etc

31 <https://www.eco-games.fr/les-eco-games/le-concept-des-eco-games/principes-d-organisation/>



MINISTÈRE  
DES SPORTS  
ET DES JEUX OLYMPIQUES  
ET PARALYMPIQUES

*Liberté  
Égalité  
Fraternité*



Document  
developed in  
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