



GREEN LEAGUE
Sport Alliance for the Environment

Sport and Environment Training Package

Sport's impact on the environment and green practices for sport professionals



Funded by
the European Union

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them. [Project Number: 101050262]

Acknowledgments

This collection has been created within Erasmus+ sport project “Green League – sport Alliance for the Environment”.

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Edition: Electronic

Project reference no.: 101050262-Green League-ERASMUS-SPORT-2021-SCP



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Foreword

Green League – Sport alliance for the environment is a project funded by the European Union under the Erasmus+ program.

The aim of the project is to enhance the link between sport and the environment through experiential learning, promoting outdoor physical activity as a tool to support environmental awareness, and encouraging sustainable practices in sport.

As stated by the United Nations Office on Sport for Development and Peace (UNOSDP, 2015), sport not only contributes to a healthier, fairer and more equal society but has also a great potential in raising awareness and harnessing societal energy towards a cause. In this sense, sport can contribute to the environmental agenda, by encouraging the population to take urgent action to combat climate change and its impacts (SDG 13), promoting healthy lives and well-being for all at all ages (SDG3), and by contributing the global partnership for sustainable development (SDG17).

In line with these, the Green League project fosters the role of sport professionals and amateur athletes in promoting sport as a tool to contribute to environmental sustainability, by making use of experiential learning to generate environmental awareness through sport.

The project answer to the needs of encouraging the population to take urgent action to combat climate change and its impacts and of promoting healthy lives and well-being for everyone, therefore using sport as tool to generate environmental awareness while contributing to a healthier lifestyle.

Therefore, specific objectives of the project are:

- to build the capacity of sport professionals at EU level to promote outdoor physical activity as a tool to educate people on environmental matters;
- to design and deliver local sport events, promoting sport's practice while passing on a common environmental awareness to young people, their families, and amateur athletes through experiential learning;
- to actively engage sport clubs, young sport players, and amateur athletes combining sport tournaments and environmental actions;
- to share the project's key messages and values, while conducting tailored awareness-raising actions promoting the tangible role sport can play in enhancing environmental consciousness.

Introduction

Training booklet content

The content of the booklet is divided into six chapters, through which we get to know some basic topics related to the preservation of the environment in connection with sports and the organization of sports events and activities.

In the first two chapters, we get acquainted with basic knowledge about ecosystems and their characteristics and the potential threats to these ecosystems when performing sport and sport events.

In the third chapters, we familiarize with the legislation, regulations and directives adopted at EU level; in particular, the directives provide important information to sports practitioners regarding the goals that we want to pursue both at the global and local level, namely nature conservation.

The fourth chapter presents concrete examples of how sport can impact the environment, both at a positive and negative level.

In the fifth chapter, the focus is on the planning and implementation of sports in harmony with nature and environment protection and preservation.

Finally, in the sixth chapter, the potential offered by sport as a tool for raising awareness and highlighting the importance of using sport for environmental preservation, is presented.

Gaining knowledge on these topics, provides basic information and guidance to experts and organizations that want to work for a better and positive link between sport and environment.

In order to provide a comprehensive material, each chapter begins with a “*fact-sheet*” that provide an introduction to the topic, specifying the objective, the expected results, some introductory remarks and keyword for additional self-guided research; In the fact-sheet are also provided some useful guidelines and information on how to deliver a training on that specific topic, which materials are needed and some tips and recommendations for trainers that want to train other on that topic.

At the end of the booklet, in the “*Annexes*” section, for each module can be found a PDF Presentation that can be used, or used as an example, from sport clubs and sport professionals to train other sport professionals, amateur athletes, young sport players on these topics and issues.

Target groups and beneficiaries

The booklet is intended for sports practitioners, professionals, trainers and sport organizations and clubs, that wants to better-up the link between sport and environment and wants to catalyse the attention to environmental issues while organizing and performing sport with their users.

The booklet will therefore have a positive impact on amateur athletes, young sport players and their families that will gain new knowledge and will be more aware of how the environment can be negatively impacted and of the importance of protecting the environment while performing sport. Ultimately, the last and biggest beneficiary of this booklet will be the environment.

With this booklet, we want to make performers aware of the issue of environmental protection and the fact that sport also affects the environment. In doing so, we also highlight the great positive potential sport has in raising awareness on environmental issues.

Learning objectives

Every action we take affects our environment, not only the biggest ones, but also (and more often) the smallest ones. Even when our intentions are positive and beneficial, we must be aware that our actions can also have negative consequences. Sport is an activity that evokes mostly positive reactions, and many times we don't even think that even sports can have a negative impact on our environment.

Through the topics presented in this booklet, you will learn about the negative and positive effects of sport on the environment, and on the other hand, the efforts and measures that we as a society invest in efforts to preserve the environment, in sport and through sport.

Specifically, you will learn about:

- the **characteristics** of ecosystems, their roles, interconnection and the **risks** of negatively impacting them,
- the **potential threats** to these ecosystems when performing sport.
- **legislation** at EU level about sport and environment,
- the **impact** that sport has on the environment both on a small and large scale,
- how to **plan and deliver** sport activities and events in harmony with the environment,
- the **potential of sport** sector to **raise awareness** of the importance of green sport practices.

Module 1

Characteristics of Ecosystem

Authors	CESIE, Vivi Sano ETS
Objective of the module	<p>Through this module the learner will have a general overview of the specific natural ecosystems of our planet where most sports and physical activity take place – aquatic (freshwater and saltwater), mountain, forest – in order to gain knowledge on how they work, their characteristics and processes, how they contribute to the life in the planet earth and why it is important to protect and respect them.</p> <p>The specific objectives of this module are:</p> <ul style="list-style-type: none"> • To learn about the specific natural ecosystems where the majority of sports and physical activity is practised • To know more about these ecosystems’ characteristics and processes • To know more about the consequences of direct and indirect human actions in these ecosystems • To better understand why it is important to protect and respect these ecosystems
Expected Results	<p>After the completion of the module the learners will have an overview of the specific ecosystems where most sports and physical activity take place and their characteristics, being able to better understand their role, the interconnection between them and between them and the human kind.</p> <p>At the end of this module the learners will be able to better understand why it is important to protect and respect these ecosystems and why it is important to interact with these ecosystems without modifying or altering their natural functioning.</p>
Keywords	Ecosystems; mountains; forests; rivers; wetlands; water pollution; sustainability; ecosystems recovering; anthropic impact; climate change; global warming; seas; oceans; mountain; forest; deforestation; environmental impact; mining; pollution;
How to deliver the topic	<ol style="list-style-type: none"> 1. Icebreaking activity – optional (20 min) If the participants don’t know each other, it is important to build the group first. Here you can read more about activities to propose to your class: https://www.sessionlab.com/blog/icebreaker-games/ 2. Short clip on the ecosystems (https://www.youtube.com/watch?v=QQYgCxu988s) An initial short film gives an overview of the main existing ecosystems to introduce the topic. After the video it is important to start a brainstorming together, also to better understand the level of knowledge of the group and to spur their thinking, by asking: “which ecosystems have you seen? Which risks to these ecosystems?”

3. Presentation of the different categories of ecosystems (ANNEX I-characteristic of ecosystems). Visual and oral presentation of the natural ecosystems, using a PowerPoint presentation together with videos can be useful in order to make the presentation more interactive.

4. After this initial part, the ecosystems can be presented in a more detailed way. It is better to divide the presentation in 2, by presenting firstly one group/category of ecosystems and then the other (e.g., firstly aquatic ones, then terrestrial ones, or on reverse), so as to not do a too long presentation with the risk of losing the participant's attention.

It can be useful to start with a question, such as, “what’s the percentage of freshwater?” and then starting with the presentation. It is important to ask questions and give hints to allow communication among the trainer and the participants, to spur their critical thinking and to make them reflect on these ecosystems also during the presentation. Asking questions will bring debates and brainstorming, and this can also help participants discover new things in a more interactive way, so as to not have too much text in the presentation and thus using a participatory learning approach.

Some sample questions to stimulate the conversation are: What’s the situation of rivers and streams in the place where you live? Did you notice a change last summer in your country?” “Have you heard any news about it?

5. After the first group/category of ecosystems, and after the final debate on these, the same approach can be used to present the other category of ecosystems, starting again with questions (i.e.: “what’s the percentage of mountains in the planet?”), then visually and verbally presenting them, asking questions sometimes in the middle of the presentation and ending with more questions and debate.

6. Closing video
(<https://www.youtube.com/watch?v=LIPMERHaLKM&t=58s>) The presenting session finishes with a second video that gives the participant the hope to keep acting for the environment, and that can help with the final reflection and debate, for example by asking at the end of the video: “what’s the risks of these habits?”

7. Final and closing reflection and debate
It is useful to close the training session with a final reflection on what has been addressed during the training session and create a debate to further boost their reflection and critical thinking on these issues. It is important that the trainer facilitates the conversation and does not stop the brainstorming and debate.

Materials needed	<ul style="list-style-type: none"> • Learning material “Characteristics of Ecosystems” • PDF Presentation “Characteristics of Ecosystems” (ANNEX I - Characteristics of Ecosystems) • Laptop, projector, Adobe reader.
Recommendations for future trainers	<p>The suggestion for trainers that deliver this session is to try to engage the participants through questions and references to catch their attention. If needed, it is possible to integrate the presentation with links, videos and extra material. The important thing is always to choose reliable sources and explain the whole context. If there is time, it could be useful to have a field trip in one of the ecosystems so as to also use an experiential learning approach together with the participatory and interactive approach.</p>

Introduction

To know about the ecosystems that are present in the planet earth, how they work, their characteristics, the interconnections that exist between them and their role to protect all the living beings as well as the planet earth itself, it is really important in order to better understand how our actions, both direct and indirect/unconscious ones, can impact them and then have negative consequences in other ecosystems, living being, human being and even in our daily life.

Natural disasters, viruses and diseases, lack of primary goods, are all strictly connected with air and water pollution, intensive exploitation of land and sea, deforestation and intensive farming in the sea and on land, and so on.

These are some of the direct and most visible actions and causes, but sometimes we act with positive and genuine purposes and, given our lack of knowledge, we have negative impacts.

Thus, starting from the characteristics of the ecosystems, both aquatic and terrestrial ones, and studying their characteristics and then moving onto their functioning and roles, will help us better understand what actions have already been done and are still being done that have a great negative impact on them and their functioning, why it is important to respect them and not to alter them, will allow us to better understand how to act and how to live in them without changing their processes; knowing all this allows us to develop an environmental awareness that will help in small and large actions to protect the nature we live in. From the small sporting activity in nature to the activity of the large factory, everything can have an impact on nature if we are not aware that our actions can impact it, thus, gaining knowledge will help everyone to act more consciously and have fewer negative impacts.

Natural ecosystem

An ecosystem is a community of organisms living and interacting within a particular environment. On our planet there are several types of ecosystems; in this module we will refer to the natural ecosystems.

Natural ecosystems are all those that form in nature, without human intervention, and manage to achieve their ecological balance in complete autonomy.

Natural ecosystems are divided into several types of other ecosystems according to the environment, the characteristics, the floor, the fauna and other aspects.¹

For the purposes of this training package, in this module we will present the ones where most of human physical activity and sport take place: aquatic ecosystems (freshwater and saltwater), terrestrial ecosystems (mountains and forests).

Aquatic ecosystems

General description

In an aquatic ecosystem, that environment is water and all plants and animals in the system live in or on that water. The specific setting and type of water (such as freshwater or saltwater, lake or river, sea

¹ The natural ecosystems are divided into many more - i.e.: The forest (temperate, tropical and boreal); The savannah; The steppe; The desert; The tundra; The bush; The marine/saltwater; The freshwater; - all of them are then divided into sub-ecosystems according to specific characteristics.

or ocean and so on...) determines which animals and plants live there.

Aquatic ecosystems cover about 70% of the earth's surface. Aquatic ecosystems are both freshwater and saltwater. Freshwater ones are lakes, streams, rivers, lagoons and saltwater ones are oceans and seas.

The aquatic ecosystems can be divided into:

- Saltwater ecosystems
- Freshwater ecosystems

SALTWATER ECOSYSTEMS.

Saltwater ecosystems, also known as **marine ecosystems**, cover about 70% of the earth's surface and are identified by the presence of salts in the water. The marine ecosystems include different types, such as seas, oceans (the largest marine ecosystem), salt marshes, coral reefs, shallow coastal waters, estuaries, coastal saltwater lagoons, rocky shores and coastal areas. They host animal life - from microscopic zooplankton to fish of all sizes to marine mammals, including seals, whales and manatees - and also plant species that are important in many ways, from economics to protection from extreme natural events.

One of the examples are the **Mangrove trees**, that are essential to coastal marine ecosystems since they provide habitat for numerous organisms, buffer storms by functioning as wind breaks, baffle wave action with their roots and filter water by catching sediment and detritus in their roots. Another examples are salt marshes; they occur in protected areas along the coastline and provide many of the same benefits as mangrove habitats.

Estuaries are another important marine ecosystem where saltwater and freshwater meet to make a brackish mix. Estuaries provide habitat for the majority of commercial fishing and provide important nesting grounds and habitat for juvenile aquatic plants and animals. Estuary vegetation helps to filter runoff and other pollutants, but since most water drains from the land to the ocean through them, potential for pollution is high.

Coral reefs are among the world's richest ecosystems. Corals reefs are fragile ecosystems that are sensitive to imbalances in water quality. Larger coral reef species rely on corals as a source of food and for protection, and coral reefs provide a protected nursery and hatchery area for many important fish species.

In recent decades, saltwater ecosystems have been challenged by increasing global population and decreasing environmental conditions.²

FRESHWATER ECOSYSTEMS.

Freshwater ecosystems are aquatic ecosystems with no salt in the water. Freshwater ecosystems are those whose environment is water with a very low salt content. In these ecosystems we find places such as rivers, lakes, wetlands, swamps, jungles and floodplains. They are very rich in biodiversity and important for the planet's climate. Each of these systems is unique and, even within the categories, each specific habitat is influenced by other characteristics (such as altitude, temperature, humidity, etc.). Freshwater ecosystems provide homes for a wide variety of animal life including insects, amphibians and fish.³

Less than three percent of our planet's water is freshwater, and less than half of that is available as a

² <https://sciencing.com/aquatic-ecosystem-9590.html>

³ <https://www.renovablesverdes.com/>

liquid; the rest is locked away as ice in polar caps and glaciers. For these reasons, freshwater ecosystems are a precious resource.

More than half of all freshwater on our planet seeps through soil and between rocks to form aquifers that are filled with groundwater.

Freshwater ecosystems naturally share resources between habitats. River and stream ecosystems, for example, bring salts and nutrients from the mountains to the ocean, and salmon bring these nutrients from the ocean to the mountain.

Lakes and ponds, on the other hand, can exchange nutrients in a seasonal cycle depending on outdoor and water temperatures and with a constant movement of nutrients from the bottom to the surface and back again.⁴

Roles of aquatic ecosystems

The largest part of the biosphere is indeed made up of aquatic environments and the communities that inhabit them; waters, in fact, cover about three quarters of our planet's surface. The importance of aquatic ecosystems relies also on the fact that they play a fundamental role in **establishing greenhouse gas emissions and mitigating the impacts of climate change**.⁵

Aquatic ecosystems are interconnected from the continent to the seas and the influences in one can therefore propagate from one to the other, especially along the continent-sea route.

Coastal wetlands such as lagoons, natural or artificial salt marshes, dune systems and Posidonia meadows act as **natural barriers against extreme marine events**.

Inland wetlands such as floodplains, rivers, lakes and marshes, on the other hand, have the capacity to **absorb water, store excess rainfall and mitigate the impacts of flooding**.

Wetlands release stored water, delaying the onset of drought by minimising water scarcity.

In addition, peat bogs, dune systems and Posidonia meadows **store large amounts of carbon**. Peatlands, for example, cover about 3% of the land area of our planet and store about 30% of all carbon, twice as much as all the world's forests combined.

The wetlands, those areas characterized from the presence of both water and land⁶, such as lakes, peat bogs, rivers and mouths, ponds, lagoons, fishing valleys, brackish marshes, shorelines with coastal marine waters, offer **multiple services**:

- Wetlands provide the water we drink and wash with,
- Wetland plants filter and absorb harmful fertilisers and pesticides, as well as heavy, metals and toxins of industrial origin, which are released into the waters,
- most of the rice and fish for aquaculture is produced in wetlands,
- 70% of all freshwaters used for crop irrigation comes from the wetlands,
- Wetlands are rich in biodiversity (home to more than 100,000 known freshwater species),
- Wetlands act as shock absorbers of extreme natural events, absorbing abundant rainfall and reducing the impact of river flooding, while they act as water storage during periods of drought,

⁴ <https://education.nationalgeographic.org/resource/freshwater-ecosystem>

⁵ https://www.changeclimatechange.it/site/assets/files/6165/2021_ecosistemi_acquatici.pdf

⁶ From Ramsar Convention, wetlands are marshes and bogs, fens or ponds, natural or artificial, permanent or temporary, with standing or flowing water, fresh, brackish or salt, including expanses of sea water whose depth at low tide does not exceed six metres. (Ramsar Convention, 1971)

- Wetlands mitigate the impact of climate change and limit the erosion of coastal areas by rising sea levels, reducing the impact of typhoons, hurricanes and tsunamis,
- Wetlands provide livelihoods and sustainable products for 62 million people (fisheries, timber, vegetable oils, medicinal plants, fodder for animals, stems and leaves for textiles, etc.).⁷

Environmental impact and risks

Aquatic ecosystems are thus really important for life on earth; nonetheless, they are increasingly threatened ecosystems, due to human pressure, anthropogenic pressure and global warming.

Climate change.

The consequences of climate change are primarily related to the increase in extreme weather events, the variation in the annual distribution of rainfall, ocean acidification, the increase in hydrogeological risk and floods, increased heat waves, droughts and floods, rising sea levels - lakes, rivers, oceans and seas of the continent - are affected.

For example, global warming causes such heat to be stored in the oceans, which subsequently affects the temperature of the water and its circulation. The melting of the polar ice caps due to high temperatures itself causes the amount of fresh water flowing into the oceans to increase, thus further changing the currents. Water temperatures are one of the strongest regulators of marine life and temperature increases are already causing major changes underwater, including significant changes in the distribution of marine species, with an additional impact on fisheries-dependent economic sectors and communities. Rising water temperatures can also increase the risk of waterborne diseases.

The high temperatures of the waters, especially the oceanic ones, are leading to a deterioration of coral reefs and plants in coastal areas, resulting in the destruction of those barriers against previously mentioned catastrophic natural marine events.

Another key element of climate change is the impact on the earth's water cycle, which continuously distributes water from our oceans to the atmosphere, soil, rivers and lakes, and then back to our seas and oceans. Changes in water distribution may lead to thunderstorms accompanied by more intense rain showers in some areas, while other areas may face more severe drought conditions, especially during the summer months, with obvious consequences for terrestrial ecosystems as well such as the evaporation and consequent lack of water; similarly, a reduced river flow due to decreased rainfall results in a higher concentration of pollutants, as there is less water to dilute them.⁸

Climatic conditions are decisive factors in determining which plant and animal species can live, grow and reproduce in a given geographical region. Some species are so tied to the climatic conditions to which they have adapted that a slight increase in temperature or a small reduction in rainfall or an imperceptible alteration in another parameter can increase their vulnerability.⁹

Water also has the task of transporting the pollution we emit into the air, soil and water itself and, in some cases, is also the final destination of our waste and chemicals.

⁷ https://www.changeclimatechange.it/site/assets/files/6165/2021_ecosistemi_acquatici.pdf

⁸ <https://www.eea.europa.eu/it/segnali/segnali-2018/articoli/cambiamenti-climatici-e-acqua-2014>

⁹ <https://www.isprambiente.gov.it/it/attivita/biodiversita/le-domande-piu-frequenti-sulla-biodiversita/quali-sono-le-relazioni-tra-biodiversita-e-cambiamenti-climatici>

Pollution.

In relation to water pollution, plastic is the main pollutant of seas and oceans. Plastics and microplastics are the waste most commonly found in seas and oceans. We must not only think of bags or disposable plastic, but also of all those smaller materials, microplastics in fact, which can be even more easily ingested by the animals that populate the marine ecosystem and which subsequently end up on our plates and thus are also directly ingested by humans¹⁰ - in addition to the direct fatal impact they often have on marine fauna.

Other sources of water pollution also include sewage or industrial waste discharges, atmospheric deposition of all pollutants released into the air and carried into the sea by rainfall, and offshore sources, i.e., pollution caused by ships, oil and mineral resources extraction.

Invasive species.

In this case, we are talking about the introduction of invasive species into certain areas, a process that may be involuntary, through the hulls of merchant ships, or voluntary through fish farms. The consequence in both cases is that invasive species cause great imbalances to biodiversity.

Fishing

In many parts of the world, there is overfishing. Among the various modern fishing techniques, dredging and bottom trawling are among the most dangerous for aquatic ecosystems (high frequency with which they are practised, destruction and removal of the bottom along the beaten stretch, extensive damage to marine habitats). Another phenomenon is bycatch, i.e. the accidental capture of non-commercial species such as turtles, seals, dolphins and sharks and seabirds. Finally, ghost fishing (abandonment or loss at sea of fishing gear that pollutes and in which animals are trapped and die) and illegal fishing (such as shark or whale fishing). All these activities cause irreparable damage and changes that result in serious losses in biological diversity.¹¹

Cementing rivers.

The many interventions carried out, mostly in the past, on watercourses in order to govern their waters, by means of straightforward embankments, cementing of the riverbeds and other concrete works, have profoundly changed many rivers, turning them into canals, all very similar and unsuitable for accommodating the great variety of life forms that naturally populated them.¹² The partial or total covering of rivers that act as rainwater containers often also causes flooding of roads, just as the cementing of rivers, forcing them into smaller, non-natural spaces, can cause overflows with sometimes catastrophic consequences.

Terrestrial ecosystems

Terrestrial ecosystems are ecosystems that have been created on the emerged part of the biosphere.

Unlike aquatic ones, they are characterised by the constant presence of a solid substrate.

Conventionally, terrestrial ecosystems can be divided into forests, mountains, grasslands, deserts - although transitions between one and the other create new ones (The forest (temperate, tropical and boreal); The savannah; The steppe; The desert; The tundra; The bush; etc.).

For the purposes of this training package, we will focus on forest and mountain ecosystems.

¹⁰ <https://www.openpolis.it/i-rifiuti-che-inquinano-mari-e-oceani-una-minaccia-per-ecosistema-e-per-luomo/>

¹¹ <https://divecircle.com/blog/minacce-ecosistema-marino-naturali-e-antropiche/>

¹² <https://idrolife.eu/il-fiume/>

General description

MOUNTAIN ECOSYSTEM.

The characteristics of **mountain** climate and ecosystems vary depending on specific altitude, the landforms, biomes, bodies of water surrounding the mountain, and proximity to the equator. However, mountainous regions share a variety of characteristics despite differences in climate, weather, and specific indigenous life. These properties include rapid variation in weather and organisms, biodiversity, and the property of being fragile.¹³

Mountain ecosystem is a complex habitat for living organisms to survive. The lower slopes of a mountain ecosystem are usually covered with forests. As you go higher, the vegetation becomes less, and on extreme tips, the vegetation becomes equal to zero.

Mountain ecosystem provides a home to various plant and animal species despite the adverse climate conditions. The species that have adopted the harsh climate of the mountain ecosystem win to survive.

The ecosystem found on high elevations at low latitudes is usually termed as a mountain ecosystem. Mountain ecosystem is quite vulnerable in terms of natural calamities such as landslides, soil erosion, loss of habitats, etc.

Dense forests are a common characteristic of a mountain ecosystem at moderate elevations. The climate becomes tougher with the increase of the elevations.¹⁴

FOREST ECOSYSTEM.

The **forest** is a plant association consisting of trees, shrubs, bushes.

The forest is an ecosystem. Present on the European continent since ancient times, although it is very small today, it is fundamental to the health of the environment. It consists of plants, animals, fungi, bacteria, which interweave complex relationships with each other. The forest is a reservoir of biodiversity.

As an ecosystem, the forest is a complex whole, consisting of a living part and a non-living part, in which different relationships are established between the different components based on their specific way of obtaining nourishment.

Green plants, performing chlorophyll photosynthesis, use solar energy to form the organic substances on which they feed and are called producers.

Animals, which must find the already synthesized nutrient in the environment, are the heterotrophic consumers distinguished into herbivores and carnivores; finally, bacteria are the heterotrophic decomposers.

Trophic networks are established among producers, consumers and decomposers. The more intertwined and species-rich these are, the more stable the 'forest' system will be, in balance with the environment and an expression of healthy biodiversity.

¹³ <https://sciencing.com/characteristics-mountain-ecosystem-8211750.html>

¹⁴ <https://www.earthreminder.com/mountain-ecosystem-animals-food-web-facts/>

Role of terrestrial ecosystems

Mountain.

The mountain ecosystem covers approximately 1/5th of Earth's surface and has been evolved through a process known as plate tectonics. These ecosystems are found on higher altitudes (the height of a mountain ecosystem is measured from sea level).

The Mountain ecosystem is fundamental to life since it **acts as a primary source of freshwater**; in fact, approximately 80% of the world's freshwater originates from mountains in the form of melting mountain ranges and is submerged into rivers and lakes.

Mountain ecosystem **supports the lives of various plants and animal species** despite its fragile features. However, these species are always at risk of becoming endangered because of harsh weather conditions. The plants and trees that grow in the mountain ecosystem mostly include oak, maple, stonecrops, mosses, climbers, conifers, chestnuts, junipers, campions, ferns, etc.

The climate of the mountain ecosystem is quite sensitive and sometimes causes natural disasters such as avalanches, erosion's, earthquakes, etc. There is a variation in the climate and temperature of mountain regions, depending on locations and altitudes. The fluctuation in the climate becomes more as you go higher on high altitudes. It takes just a moment to change the weather from a thunderstorm to a bright sunny sky or from warm weather to a below freezing point. Mountain ecosystem also **influences storms affecting lower altitudes** as well.

Forest.

On their side, **forests** are among the most valuable and irreplaceable plant associations for the balance of life on Earth. In fact, they serve to **protect the soil by keeping it fertile and hindering its desiccation and erosion by atmospheric factors**. Thanks to the chlorophyll photosynthesis of green parts, forests help **keep the percentage of atmospheric oxygen stable**. They **moderate wind action, fix dust in the air and are important regulators of atmospheric humidity**.

Not only that, forests are also a generous receptacle for animals. First of all, insects and then gastropods (snails and slugs), worms, birds, reptiles, amphibians and mammals. Enormous amounts of bacteria, the single-celled microorganisms that attack the bodies of dead animal and plant organisms, live in the soil and subsoil, causing them to putrefy and decompose. In this way, the chemicals that make up organic material are returned to the environment to be reused and, through long biogeochemical cycles, form new material.

Forests have a great capacity to **absorb CO₂** and thus have a **mitigating function on climate change**; dense vegetation helps **regulate local temperature** through its ability to reflect sunlight and its evapo-transpiration properties.¹⁵

Humans also derive direct benefit from forests, both economic (fire and construction timber, flowers and fruits, mushrooms, medicinal herbs) and protective, such as noise attenuation, landscaping, beneficial psychological effects and recreational spaces.¹⁶

¹⁵ <https://www.focus.it/ambiente/ecologia/foresta-amazzonica-deforestazione-e-aumento-delle-temperature>

¹⁶ https://www.treccani.it/enciclopedia/bosco_%28Enciclopedia-dei-ragazzi%29/

Environmental impact and risks

Unfortunately, **human activities like mining, livestock, energy production, deforestation and tourism are impacting both forests and mountain ecosystems.** Humans have exploited the timber, mining and pasturage resources of mountain environments for millennia.

Changes in these ecosystems will lead to eutrophication, loss of biodiversity and reduce availability of clean drinking water, a rise in the temperatures but also give rise to wildlife and human pathogens, leading to increasing probabilities of zoonoses.

Pollution.

The impact of pollution on forests and mountains is also a big problem. In mountains, pollutants can be transported by orographic effects and may enrich in lake sediments, peat bogs, and generally in mountain wetlands, driven by patterns of rainfall, snowfall, length of growth season, and wind patterns. Temperature-dependent partitioning between air and atmospheric particles, snow surface, or water droplets determine dry and wet deposition rates that may lead to a fractionation and deposition of different pollution compounds at different altitudes.

The considerable masses of CO₂ in the air caused by the greenhouse effect also have a polluting effect on forests and mountains; specifically, its phytotoxicity inhibits chlorophyll photosynthesis, impairing nutrient uptake. With high ozone concentrations, a reduction in photosynthetic activity of up to 15% is estimated.

Climate change and global warming.

Climate change is a worldwide threat, but its impact on mountains is particularly strong and troubling. High elevation areas tend to experience intensified climate-change induced warming and weather extremes. High mountains are experiencing more rapid changes in temperature and much higher variations in daily temperatures as compared to lowland regions. **Glaciers are melting more and more quickly;** snow cover is reduced and highly variable between years. Further, heavy rain events, creating torrents and floods, and periods of no rain, drying out mountain landscapes, have been observed to be more and more common. All this has important implications for nature, for wildlife and for human society.

Climate change puts enormous stress on forests and mountains, leading to important changes in their biological communities due to changes in abundance of species, loss of species, and range changes of species. Interactions between the species and the environment drive the functioning of ecosystems. Mountains and their biodiversity are sentinels of change. Changes in the mountains will lead to the loss of essential ecosystem services, which poses risks for the well-being of all of us.

These human impacts on terrestrial ecosystems **disturb biodiversity** across all trophic levels, from microbes, plankton, fungi, yeasts, bacteria, viruses and protozoans, and these changes on the composition perturb the natural equilibrium of the ecosystems and can lead to the **increase of pathogens, also critical to human well-being.**¹⁷

Anthropic pressure.

Given the role of forest plants in regulating temperatures, **deforestation** has created and is creating higher temperatures especially in the forests, with **tragic consequences for the biodiversity;**

¹⁷ <https://theconversation.com/mountains-a-fragile-source-of-life-153400>

moreover, the elimination of the native tree species compromises the integrity of the soil and its ability to absorb rainfall. The end effect is faster and more violent erosion, which has made the cataclysms that are major floods increasingly frequent.

Mining is already harmful to the environment and adding the pollution of aquifers and run-off water results in an even heavier environmental impact. In fact, the waste products from the excavation and refining of raw material often remain out in the open, and with the rains, the poisonous substances of these products are diluted in the rainwater, moving through ecosystems and affecting humans and animals.¹⁸

Conclusion

Concluding, as we saw our ecosystems play a really important role in giving us primary goods fundamental for living, in protecting us from natural extreme events, in mitigating the already negative actions we made – protecting them and acting in a way to not impact on them is therefore crucial for all the living beings.

Climate change, global warming, air and water pollution, anthropic pressure, deforestation, cementing, are not issues related only to big factories and are not problems that can be solved only by governments and international organisation.

As we already saw, all the ecosystems work thanks to the equilibrium of all the elements and thanks to the actions of all the living species, from the smallest to the biggest, and we are one of these species, thus it is our duty, everyone's duty, to act in a respectful and conscious way and to not broke this equilibrium.

Human beings must not impact the environment and ecosystems nor with big actions nor with small actions. "Big actions" are the most known ones and the ones that can be easily avoided – trying to use public transportation and environmentally-friendly means of transportation, sorting and recycling.

Anyway, also "small actions" and less visible actions can have impacts on the environment and the ecosystems we live in; when we smoke and throw the cigarette in the ground and then with wind and rainwaters it arrives to the marine ecosystem; when we go hiking and we forget our plastic bottle on the trail; when we go fishing and the net destroy the marine floor and kills animals; when we go to the beach and forget a napkin or a plastic fork in the sand; when we throw used/fried oil in the kitchen sink; when we use a spray deodorant; when we buy fruit, vegetables, fish and meat in big chain supermarkets; all these small and daily actions that nowadays are our normal routine, are all affecting and negatively impacting the environment we live in.

In the next module the focus will be on potential threats to these ecosystems when performing sport.

¹⁸ <https://library.weschool.com/lezione/inquinamento-ambientale-impatto-uomo-geologia-erosione-ecologia-bhutan-4123.html>

Module 2

Potential threats to ecosystems when performing sports.

Authors	CARDET
Objective of the module	<p>Through this module the learner will have a general overview of the potential threats to the ecosystems when performing sports. The module will explore the aquatic (freshwater and saltwater), mountain, forest. This module relates to the previous module of “Characteristics of Ecosystem”, which is basically an introduction to the different ecosystems. This module will contribute to gain knowledge on the potential threats.</p> <ul style="list-style-type: none"> • The specific objectives of this module are: • To learn about the potential threats to the ecosystems, • To explore examples of sports events that threaten the environment, • To know more about biodiversity.
Expected Results	After the completion of the module the learners will have an overview of the threats of ecosystems caused by sports and physical activity. At the end of this module the learners will be able to examine different case studies of how the sports harmed the ecosystems.
Keywords	Ecosystems; Biodiversity; rivers; wetlands; water pollution; sustainability; ecosystems recovering; climate change; global warming; seas; oceans; mountain; forest; deforestation; environmental impact; mining; pollution.
How to deliver the topic	<ol style="list-style-type: none"> 1. Icebreaking activity – optional (20 min) If the participants don’t know each other, it is important to build the group first. Here you can read more about activities to propose to your class: Icebreakers Activities 2. Short clip-on sports and climate change (https://www.youtube.com/watch?v=-CgvRsX38As) This clip is on the sports and climate change created by the International Olympic Committee (IOC) media. After the video is important to start a brainstorming together, also to better understand the level of knowledge of the group and to spur their thinking, by asking: What information stuck in your mind after watching this video? 3. Presentation of the potential threats to the ecosystems when performing sports (ANNEX I). Visual and oral presentation of the potential threats, using a powerpoint presentation together with videos can be useful to make the presentation more interactive. After this initial part, the potential threats can be presented in a more detailed way. It is better to divide the presentation in 2 parts. First by presenting the terminology, direct and indirect threats and then explore in depth the potential threats when performing sports. It can be useful to start with a question, such as, “How do you think spectators or fans threaten the environment?” and then starting with the presentation.

	<p>4. Closing video (https://www.youtube.com/watch?v=wApsA_SbMrc)</p> <p>The presenting session finishes with a second video that presents the sustainability plan of France for the Olympic games in 2024. In the end ask the participants a question, for instance: What information stuck in your mind after watching this video?</p> <p>5. Final and closing reflection and debate. It is useful to close the training session with a final reflection on what has been addressed during the training session and create a debate to further boost their reflection and critical thinking on these issues. It is important that the trainer facilitates the conversation and does not stop the brainstorming and debate.</p>
<p>Materials needed</p>	<ul style="list-style-type: none"> • Learning material “Potential threats to the ecosystems when performing sports”. • PDF Presentation “Potential threats to the ecosystems when performing sports” (ANNEX II - Potential threats to the ecosystems when performing sports) • Laptop, Projector, Adobe reader
<p>Recommendations for future trainers</p>	<p>The suggestion for trainers that deliver this session is to try to engage the participants through questions and references to catch their attention. If needed, it is possible to integrate the presentation with links, videos and extra material. The important thing is always to choose reliable sources and explain the whole context.</p>

Introduction

Through this Module will be examining some of the connections between the topic of climate change and the world of sports. This module will specifically go into how sporting events have potential threats on the ecosystem.

The Module starts from a terminology section. Therefore, the potential threats are analysed and presented. Although threats are linked to two ecosystems (aquatic and terrestrial), most of the time they are the same and change form. As a result, threats are divided into the following different categories: habitat loss or modification, disturbance or damage to wildlife, introduction of invasive alien species, soil erosion and compaction, depletion of water resources, pollution and climate change, and unsustainable sources.

Biodiversity

“Biodiversity refers to the variety of living species on Earth, including plants, animals, bacteria, and fungi. While Earth’s biodiversity is so rich that many species have yet to be discovered, many species are being threatened with extinction due to human activities, putting the Earth’s magnificent biodiversity at risk.”¹⁹

How can we understand biodiversity?

Just imagine the variety of life that can be found on Earth. All living things, not just humans, but also plants, animals, and bacteria. As humans we only identified 1.2 million of these species and the number is almost 10 times greater.

There are many studies around the identification of all species present in different ecosystems. Biodiversity is different from place to place. In some countries like Mexico, Brazil there is more biodiversity than others. Ecosystems with the highest biodiversity are usually warm and humid, are ideal for plant growth and the species present there are not visible to people with the naked eye. Extremely high levels of biodiversity and species that are only found in a particular location (endemic species) are called hotspots.

Biodiversity is at risk because of the human factor. Many human activities pollute, destroy, and disturb these ecosystems and biodiversity. These are studies that refer to the disappearance of half of all species on Earth.

What is an ecosystem?

An ecosystem is a geographical area where plants, animals and other organisms, as well as the weather and landscape, work together to form a bubble of life. Some natural ecosystems are aquatic and terrestrial.

¹⁹ <https://education.nationalgeographic.org/resource/biodiversity>

Coral Triangle

The most diverse ecosystem in the world is the vast Coral Triangle in Southeast Asia. The Coral Triangle stretches from the Philippines in the north to the Solomon Islands in the east and the islands of Indonesia and Papua in the west.

Direct impact

An outcome directly attributable to a defined action or project activity; often also called a primary impact.²⁰

Indirect impact

Impact triggered in response to the presence of the project, rather than being directly caused by the project's own operations, often produced away from or as a result of a complex pathway; sometimes called secondary or induced impacts²⁰.

Sports event

Any planned and organised sports competition held at a specific time and place.

Potential threats to all the ecosystems when performing sports.

This section will present the potential threats to the ecosystem.

Direct threats:

Many sports are played in or near aquatic ecosystems, in fresh or saltwater, in lakes, rivers, seas or the ocean, some sports are beach volleyball, kayaking, etc. Other sports performed in terrestrial ecosystems such as desert, forest, grasslands, and mountain are hiking, sandboarding, cycling, buggies, etc.

In both ecosystems the threats are enormous. The sporting events held in the above ecosystems result in the distribution of biodiversity and wildlife, the change in soil morphology, the large amount of waste during sporting events, which may include plastic or food waste.

Indirect threats:

In addition, many sports are played in stadiums or arenas rather than directly outside in the natural ecosystem. However, it is important to note that these venues also interfere with ecosystems.

One of the threats is that many venues consume large amounts of water. For example, stadiums or artificial snow for alpine sports. An article by Ken Belson in the New York Times reveals the water

²⁰ [BBOP Glossary - Forest Trends \(forest-trends.org\)](https://www.forest-trends.org/)

numbers required for stadiums. For example, hockey games require about 12,500 gallons of water to produce ice²¹. In addition, Kyle Bunds reported that:

“If you put a stadium in the middle of a city and you have 80,000 people converging on the space for a day, the impacts on the environment are going to be very negative. There’s not much of an argument to be made that there isn’t an issue with waste, water and air pollution. The task is mitigating those negative impacts.”²¹

In addition, this excessive use of water for sports venues can create problems for local freshwater ecosystems. Problems may include a decrease in water levels or drying out of wetlands. This can affect the wider catchment and not just the immediate surroundings of the venue.

Check these videos:

[Manchester City and Xylem present: The End Of Football](#)

[Will Your Football Club Be Underwater In 2050?](#)

Another environmental issue related to sports is air pollution from transportation. Bunds and Jonathan Casper conducted a study on air pollution at NC State’s Carter-Finley Stadium. The study was to measure air quality six hours and then three hours before the game. On these monitors the two researchers were able to track humidity, ozone, temperature and carbon dioxide levels. The numbers even three hours before the game were high and "There's kind of a slow entry and exit from an event, so you have a lot of idling cars creating a cloud of air. In that micro-environment around the stadium, there were some games we saw where the air pollution didn't get back to low levels until about 12 hours after the game." Although pollution outside the stadium is significant, the stadium itself produced excellent air quality.

How sports event impact biodiversity:

The guidelines for mitigating the impacts of sporting events on biodiversity²² distinguish the environmental threats posed by sporting events and divide them into the following categories. The threats are not identified in one of the two ecosystems but can be applied to both. In the next section, tables with examples of specific ecosystems will be presented.

Habitat loss or modification

- **Removing natural areas:** The removal/conversion of natural areas to create temporary or permanent facilities for sporting events, such as parking areas, hospitality areas, broadcast stands, etc. Impacts may include the dispersal or loss of natural inhabitants of the ecosystem through reduced access to food or water and reduced reproduction.

²¹https://www.nytimes.com/2014/10/08/business/energy-environment/water-waste-going-going.html?_r=0

²² Brownlie, Susie, Bull, Joseph W. and Stubbs David (2020). Mitigating biodiversity impacts of sports events. Gland, Switzerland: IUCN. xiv+80 pp

- **Crowds:** Large numbers of people participating or watching sports in open spaces can pose a threat to the environment by degrading the environment, destroying habitats and plants and disturbing wildlife.
- **Unintentional fires:** Immediate destruction and loss of habitat that may far exceed the boundaries of the site.
- **Behaviour of Athletes, fans, and other individuals:** All people associated with sport can contribute to a higher risk of fire due to unauthorised removal of wild vegetation or animals.

Disturbance or damage to wildlife

- **Barriers and Fences:** In many cases, temporary or permanent barricades and fences are placed outside sporting venues to disperse and limit the movement, injury or loss of wildlife.
- **Electric cables:** In many cases, temporary or permanent electrical or non-electrical cables are placed outside sporting venues and result in the accidental deaths, injuries, or electrocution of wild animals.
- **Noise:** During sporting events (fans, athletes, public announcements, fireworks, etc.) noise and vibrations can disturb, disorient, change the behaviour of wild animals and affect their reproduction. For example, in the aquatic ecosystem, noise from machinery and people (such as boat engines and marina activities) can disturb marine life.

Case Study-The case of Qatar World Cup 2022:

The 2022 World Cup in Qatar, according to FIFA, will be a fully carbon-neutral event. After the event comes to an end, the carbon footprint calculations will be presented. **Is the World Cup being held in Qatar "totally carbon-neutral" or does it have a tell-tale hint of greenwashing?**²³

Introduction of alien invasive species

- **Outdoor movement:** Any movement of athletes and spectators can spread seeds of invasive, non-native species into the ecosystem.
- **Sporting equipment:** Many sports equipment, such as clothing, footwear and other items, such as landscaping plants, that are moved to new locations could inadvertently release invasive alien species. Invasive species pose a threat to the survival of native plants and animals if they become established because they displace them in the food chain, compete for habitat, devour them or transmit new diseases.

Soil erosion and compaction

- **Permanent modifications or venue improvements:** Due to the building of new infrastructure or upgraded sites, they may become prone to landslides and soil erosion.
- **Temporary facilities:** The construction of parking lots, broadcast units and other facilities and the trucks and heavy equipment for building them, can contribute to the loss of native plants as well as compaction and soil erosion.

²³ McCullough, Brian. (2010). *The impact of sport and physical activity] on the environment.*

- **Soil natural areas removal:** Removing soil to create sports fields in natural areas can result in the loss of plants and animals that live in the soil.
- **People movement:** Soil erosion, especially near riverbanks, steep slopes and coasts.

Depletion of water resources

- **Water supply for the sports fields and for events:** The water extraction can change aquatic ecosystems and plant and animal habitat.
- **Water to make snow:** Increased sediment flux in water bodies affecting the species composition of aquatic plant and animal life.

Case Study- Indian Premier League (IPL) cricket matches:

In 2016 a major sports event was impacted by water shortages, and it was ordered by the High court to move the date because of the drought. In many parts of India there was a lack of water due to high levels of drought. The court had to change the matches because of the high amount of water used to prepare the stadiums.²⁴

Pollution

- **Chemicals, fuels, oil:** Many poisonous or dangerous chemicals are used in sports grounds, the use of pesticides, fertilizers are mismanaged and during sports performances there are water leaks or sewage spills. Also, during snowmaking, the use of sewage, salt, chemicals, and paints pollutes, damage or lose natural wildlife habitats and aquatic ecosystems.
- **Waste:** Litter left behind (rubbish, balloons, etc.) can harm wildlife or cause death by ingestion of litter, suffocation, or suffocation from litter.
- **Solid waste:** Improper disposal of waste in unauthorised or undesignated waste management facilities can cause damage to terrestrial and marine ecosystems. By causing run-off and discharging pollutants into groundwater, surface water and soils, waste delivered to landfills that are poorly managed can have adverse effects on aquifers and other natural environments, reducing the suitability of habitats for plants and animals. In addition, emissions from landfills have an indirect impact on biodiversity by accelerating climate change.

Case Study-Alpine World Ski Championships²⁵:

In 2019 the Alpine World Ski Championships became the first climate-neutral competition. To minimize the carbon emissions, the organizers used solar panels, electric vehicles, battery storage facilities and charging infrastructure. By that action, it was estimated to save 1,000 tons of carbon dioxide.

²⁴ McCullough, Brian. (2010). *The impact of sport and physical activity] on the environment.*

²⁵ McCullough, Brian. (2010). *The impact of sport and physical activity] on the environment.*

Climate change and unsustainable sourcing

- **Using non-renewable energy sources:** In sporting events, the use of non-renewable energy sources releases greenhouse gases, which indirectly affect biodiversity through their impact on climate change; the impact of emissions and air pollution on wildlife.
- **Supplies and services:** Choosing products, materials or services that are known to have adverse impacts on biodiversity or that are not produced or provided in a sustainable manner, such as:
 - Single-use plastics,
 - Timber and wood products from unsustainable forestry operations,
 - Food and materials (such as cotton) from unsustainable agricultural production,
 - Fish and seafood from unsustainable fisheries,
 - Plant or animals' products that are not following the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) regulations.

Case Study-From 2000 Sydney Summer Games to 2028 Los Angeles Summer Games²⁶:

The 2000 Summer Games in Sydney were the first Olympic Games to incorporate the International Olympic Committee (IOC) environmental pillar throughout the bidding process and through the completion of the Olympic Games.

The Sydney Games featured many environmental considerations, such as clean-up of toxic sites, environmentally friendly construction of facilities, facilitating increased use of public transportation, and the introduction of recycling in Olympic facilities. Despite a partnership with Greenpeace international being formulated, the Sydney Games faced criticism. Critics from other environmental groups claimed that the Games were not truly environmentally friendly and accused the Games of greenwashing or making false environmental claims (Beder, 1999).

The Los Angeles Games mark a new trend with the IOC on how they approach environmental sustainability and event legacies. IOC new policies on bidding cities aimed to align their sustainability and legacy plans with the host cities sustainability goals. This approach is intended to ensure that the Olympic Games serve as a medium to further not hinder sustainable development in the city. In Los Angeles, the organizing committee is planning to forward Los Angeles' Sustainable plan focusing on water conservation and mass transit options.

Check this video: [A greener Winter Olympics starts with ice](#)

²⁶ McCullough, Brian. (2010). *The impact of sport and physical activity] on the environment.*

Conclusion

Sport has a big impact on the environment which has the effect of changing it and then as a result, the environment has an impact on sport.

Although participating in and watching sports is a privilege, at the same time sports have the power to bring together people from different backgrounds and can have a real positive impact on different issues. We must bear in mind that social justice is fundamental to the climate change debate and that those who are systematically most vulnerable will bear the greatest burden of its consequences.

Therefore, the pleasure of participating in high-level sporting events should not take precedence over the right of all people to a healthy planet and a habitable future. More activism and calls for concrete action from organisations, athletes and fans will help ensure that future generations can enjoy the games we love.

Module 3

Legislation and Directives at the EU level

Authors	OTB
General Objective of the module	The main objective of this module is to improve the understanding of the EU framework in sport.
Expected Results	By the end of this module, you will gain an insight of EU sport legislation, directives, priorities and initiatives
Keywords	EU policy, sport sector, well-being, green sport, environment, sustainability
How to deliver the topic	<ol style="list-style-type: none"> 1. Welcoming and introduction (10 min) Here you shortly present the project and the module. Warm up (10 min) 2. You can use Menti as a short warm up activity. In this part you can ask some personal questions like: How are you feeling today? Where are you from etc. and make a short quiz on the topic before presenting it for example: What would you include in your sport policy paper? When was the first European Union official EU sport policy established? When was the first official mention of sport in the EU work? and similar questions that you find interesting. 3. Presenting the module (30 min) You can use Annex 1 to present the module. 4. Debriefing (10 min) "Let's mingle a bit". Here you can start with the questions from the Annex 1 and add additional ones.
Materials needed and further reading	<ul style="list-style-type: none"> • PDF Presentation "Legislation and directives at the EU level" (ANNEX III - Legislation and directives at the EU level) • Laptop, internet access and projector.
Recommendations for future trainers	Try to make this activity interactive as much as you can. The active involvement of participants (questions, feedback, quiz competition etc.) will raise the quality and boost the overall satisfaction.

Introduction

The EU is in charge of developing policy and fostering cooperation and initiatives in support of sport across Europe.


The European Union did not have an official EU sport policy until the adoption of the Lisbon Treaty in 2009. Until that milestone other EU policies had an impact on sport. The case-law of the European Court of Justice (ECJ), Bosman ruling (1995), stretching from Walrave (1974), and the Meca-Medina (2006) ruling have shaped the EU's influence on sport. The European Court of Justice made a ruling that sport, whenever it constitutes an economic activity, has to comply with EU law.

The White Paper on Sport set the basics of the development of the EU sport policy, followed by the 2009 entry into force of the Lisbon Treaty and adoption of three EU Work Plans for Sport by the Council of Ministers (2011-2014, 2014-2017 and 2017-2020).

This module consists of introductory content, reflection time, case studies, and material for further exploration. We will go through the main texts that shape today's EU sport policy. This will help us better understand EU priorities and initiatives in sport. We encourage you to further explore the material linked in the document.

Sport policy development

Timeline: Milestones in European sports politics and policies²⁷

1954	Council of Europe: European Cultural Convention including a reference to sport	 <p>European Parliament</p>	1997	Amsterdam Treaty adopted – including a declaration on sport (No.29)	1997	Resolution on the role of the European Union in the field of sport	2010	Council of the EU: "Resolution on the EU structured dialogue on sport"		
1963	Council of Europe: European sport certificate		1997	European Commission: Sports Unit			2010	Special Eurobarometer 334	2010	Resolution on increased support for grassroots sport
1974	ECJ: Walrave / Koch – Association Union Cycliste Internationale (preliminary)		1978	European Commission: Working Document on developments in and prospects for Community action in sports matters			2010	New Council formation "Education, Youth, Culture and Sport"		
1975	Council of Europe: European Sport of all Charter		1978	Public hearing on human rights violations in Argentina	1999	European Commission: Helsinki Report on Sport	1999	Resolution on urgent measures to be taken against doping in sport	2010	Council of the EU: Conclusions on the role of sport as a source of and a driver for active social inclusion
1976	ECJ: Dona / Mantero (preliminary ruling)	1980	Debate on the Olympic Games and the Boycott of the Moscow Games	2000	Nice Treaty adopted – including declaration on the specific characteristics on sport and its social functions			2011	European Commission: Communication – Developing the European dimension of sport	
1985	European Commission: Adonnino Report on a People's Europe	1985	Resolution on measures to combat vandalism and violence in sport	2001	European Commission: Discussions with UEFA / FIFA on international football transfers	2002	Report on the proposal for an EP and Council Decision establishing the "European Year of Education through Sport 2004"	2011	1 st EU Work Plan for Sport (2011-2014)	
1985	Council of Europe: European Convention on spectator violence and misbehaviour at sport events and in particular at football matches	1988	Resolution on vandalism and violence in sport	2001	European Commission: Discussions with UEFA / FIFA on international football transfers	2002	Report on the proposal for an EP and Council Decision establishing the "European Year of Education through Sport 2004"	2011	Formation of 6 Expert groups on Sport	
		1988	Larive-report on Sport in European Community and a people's Europe	2002	Special Eurobarometer 58.2	2003	Resolution on Woman and sport	2011	ECJ: Football Association Premier League vs QC Leisure und Karen Murphy vs Media Protection Services Ltd (preliminary)	
		1989	Van Raay report on the freedom of movement of professional footballers	2004	European Year of Education through Sport (EYES)	2004	Resolution on respect for core labour standards in the production of sports goods for the Olympic Games	2012	European Commission and UEFA: Financial Fair – Play and EU State Aid policy	
1990	Council of Europe: Anti-Doping Convention			2004	Special Eurobarometer 62			2012	Fisas Report – on the European dimension in sport	
1991	First European Sport Forum			2006	Council of the EU: Arnaut Report	2006	Declaration on forced prostitution in the framework of world sports events	2012	Resolution on a European Dimension in sport	
1991	Commission and UEFA Gentleman's agreement in football			2007	European Commission: White Paper on sport	2007	Resolution on the role of sport in education	2013	Resolution on match fixing and corruption in sport	
1991	European Commission: Communication – The European community and sport			2007	Council of the EU: Enlarged Partial Agreement on Sport (EPAS)	2007	Belet-Report	2013	Council of Europe: Convention on the Manipulation of Sports Competitions	
1993	EU Office of German Sports in Brussels			2008	First EU Sport Forum	2008	Resolution on the White Paper on sport	2014	Special Eurobarometer 412	
1994	European Commission: Study on the impact of EU activities on sport	1994	Resolution – The European Community and Sport	2008	European Commission: EU Physical Activity Guidelines			2014	European Commission: Draft Arrangement of Cooperation with UEFA	
1995	European Commission: EURATHLON			2009	EOC EU Office in Brussels	2009	Resolution on Social Economy	2014	Erasmus+ Sport Programme 2014-2021	
1995	ECJ: Union Royale Belge des Societes de Football Association ASBL vs Jean-Marc Bosman (Bosman Ruling) (preliminary ruling)			2009	European Commission: Preparatory Actions in the field of Sport			2015	2 nd EU Work Plan for Sport (2014-2017)	
				2009	Association of European Team Sports			2015	House of Sport	
				2009	Treaty on the Functioning of the EU (TFEU) including 165			2015	High-Level-Groups on sport diplomacy and sport for all and Expert Group on HEPA	
								2015	First European Week on Sport	
								2016	First European School Sport day (ESSD)	
								2017	Takkula Report – on an integrated approach to Sport Policy: good governance, accessibility and integrity	
								2017	European Commission: Decision on anti-trust proceedings against the ISU	
								2017	Expert group on Skills and Human Resources Development in Sport	
								2018	Special Eurobarometer 472	
								2018	Hearings on transfer system in football, mental health in elite sport and shield trafficking in sport	
								2019	Council of the EU: Convention on the Manipulation on Sports Competitions	
								2020	Debate on the impact of Covid-19 on youth and on sport	
								2021	Resolution on the impact of Covid-19 on youth and on sport	

²⁷ Source: EU sports policy: Mittag, J. & Naul, R. (2021), EU sports policy: assessment and possible ways forward, European Parliament, Research for CULT Committee – Policy Department for Structural and Cohesion Policies, Brussels; Last visited 09.05.2023. https://www.europarl.europa.eu/cmsdata/237440/PE652-251_Study-EU-Sport-Policy.pdf

The EU fosters the idea of improvement of the general well-being, overcoming societal issues (e.g., racism, social exclusion, gender inequality, etc.), and economic benefits through sport. Sport policy plays an important role in the EU's external relations within three aspects:

- the societal role of sport;
- its economic dimension;
- the political and legal framework of the sports sector.

These objectives were endorsed in the first comprehensive initiatives on sport: the [White Paper on Sport](#) and the **Pierre de Coubertin Action Plan**, developed in 2007.

The White Paper on Sport and the Pierre de Coubertin action plan

"Sport is part of every man and woman's heritage and its absence can never be compensated for."

The quote is attributed to Pierre de Coubertin, a French educator, who has become known as the founder of the International Olympic Committee and is known as the father of the modern Olympic Games. Coubertin believed in the power of sport as a tool for character development and transnational understanding.

White Paper²⁸ focuses on the societal role of sport, its economic dimension and its organisation in Europe, aiming to foster, among others the:

1. Enhance the societal role of sport by:

- Promoting public health through physical activity;
- Enhancing the role of sport in education and training;
- Using the potential of sport for social inclusion, integration and equal opportunities
- Strengthening the prevention of and fight against racism and violence
- Boosting volunteer activities;
- Supporting sustainable development;
- Fight against doping;

2. Foster the economic dimension of sport by:

- Moving towards evidence - based sport policies
- Putting public support for sport on a more secure footing

EU policy acknowledges the **macro-economic impact of sport**. It can serve as a tool for the development of cities, rural areas, and entire regions. Sport represents a large and fast-growing economic sector and makes an important contribution to growth and job creation.

3. Foster the organisation of sport through:

- The specificity of sport;
- Free movement and nationality;
- Transfers;
- Players' agents;
- Protection of minors;
- Fighting against corruption, money laundering and other forms of financial crime;
- Licensing systems for clubs;
- Support the right to information and wide access for citizens to broadcasts of sport events;

²⁸ Source: White Paper - White Paper on Sport {SEC(2007) 932} {SEC(2007) 934} {SEC(2007) 935} {SEC(2007) 936}; last visited 09.05.2023. <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52007DC0391>, last visited on 1.2.2023

Reflection time

- Why is it important to address sport in EU policy?
- Write down 10 most important aspects that you would include in your policy paper.

Developing the European dimension in sport

The entry into force of the Lisbon Treaty in 2009 and the White paper were the baseline for the first policy document adopted by the Commission on the sport after the Lisbon called the “[Developing the European Dimension in Sport](#)”.

The emphasis was put on the potential of sport to significantly contribute to the overall objectives of the Europe 2020 strategy for growth and jobs, the anti-doping convention of the Council of Europe, security and safety arrangements for the international sports events, national targets on the physical activity and developing standards for disabled people to access sports events and venues. On the economic side, the Commission dealt with sports related intellectual property rights, sports financing, monitoring the application of state aid law in the field of sport and establishment of mechanism for the selling of media rights to ensure adequate revenue redistribution.

The EU Work Plan for Sport

The EU Work Plan for Sport is one of the most important EU documents on sports policy. Its focus is on the Union main activities in the sport and serves as a guidance for the promotion of cooperation between Member States, EU institutions and sports stakeholders.

In 2011 the Council adopted the first European Union Work Plan for Sport for [\(2011-2014\)](#) build on the White Paper on Sport and its successor European Union Work Plan for Sport [\(2014-2017\)](#) in 2014.

The themes identified in the first European Union Work Plan for Sport for (2011-2014) and the White Paper which serve as a general basis for future cooperation and which are the following:²⁹

(a) the societal role of sport:

- fight against doping,
- education, training and qualifications in sport,
- prevention of and fight against violence and intolerance,
- health-enhancing physical activity,
- social inclusion in and through sport,
- voluntary activity in sport,
- cooperation with third countries and organisations,
- sustainable development in and through sport;

b) the economic dimension of sport:

- evidence-based policy-making in the field of sport,
- sustainable financing of sport,
- application of EU State aid rules to sport,
- regional development and employability;

²⁹ Source: Resolution of the Council and of the Representatives of the Governments of the Member States, meeting within the Council, on a European Union Work Plan for Sport for 2011-2014; last visited 09.05.2023
<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A42011Y0601%2801%29&qid=1614269891631>.

(c) the organization of sport:

- good governance in sport,
- the specific nature of sport,
- free movement and nationality of sportspeople,
- transfer rules and activities of sport agents,
- integrity of sporting competitions, including match fixing, corruption, money laundering and other forms of financial crime,
- European social dialogue in the sport sector,
- protection of minors,
- licensing system of clubs,
- media rights and intellectual property rights.

The Member States and the Commission established the following expert groups to address the following:

- anti-doping;
- good governance in sport;
- education and training in sport;
- sport, health and participation;
- sport statistics;
- sustainable financing of sport;
- match-fixing;
- gender equality;
- economic dimension;
- health-enhancing physical activity (HEPA);
- human resource management in sport.

Two years later in May 2016, the Council adopted the [Conclusions](#) on enhancing integrity, transparency and good governance in major sport events, develop models for exchange of practices and public-private cooperation.

The Education, Youth, Culture and Sport Council adopted in 2017 the third EU Work Plan for Sport ([2017-2020](#)). The differences from the previous ones was that only two expert groups were established (integrity and skills and human resources development in sport), new working methods were introduced and prolonged the plan duration to align it with the Erasmus+ programme and the multiannual financial framework.

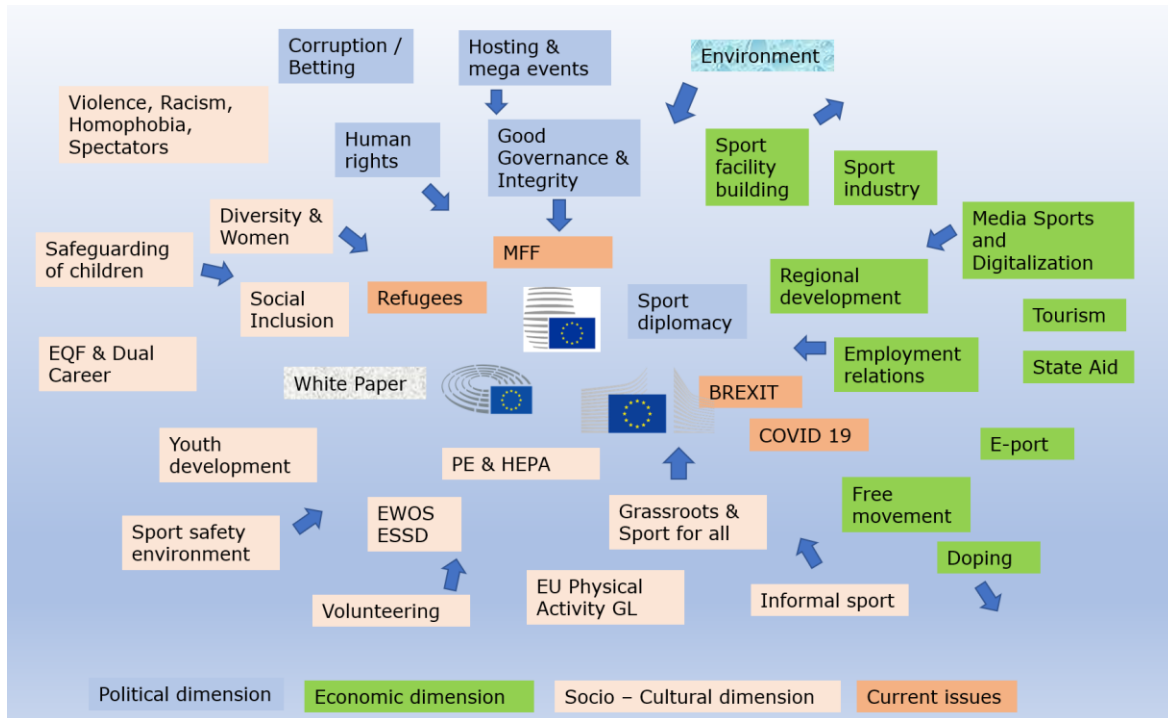
The fourth [EU Work Plan for Sport \(2021-2024\)](#) was adopted by the Council of European Ministers of Sport in 2020. The focus and key priorities of the plan are physical activity and creating sport opportunities for all generations. One of the new introduced aims is the *“recovery and the crisis resilience of the sport sector during and in the aftermath of the COVID-19 pandemic”*. Environmental dimensions of sport, promotion of gender equality, the protection of integrity and values prioritization of skills and qualifications in sport through best practice exchanges and knowledge building, increasing the proportion of women in leadership positions and coaching, promotion of equal conditions for all athletes and enhancing media coverage on women in sport were also included in action areas.

Going in line with the EU’s green transition, *“green sport”* is also the part of the plan as well as innovation and digitization in sport sector. Sustainable development has been in the agenda of EU sport policy since the beginning. In the White Paper for Sport of 2007, the Commission already encourages European sport organisations and sport event organizers to adopt environmental



objectives. More specifically, the document acknowledges the importance of green procurement, addressing greenhouse gas emissions, energy efficiency, waste disposal and the treatment of soil and water.

Overview of sports policy fields at EU level.³⁰



³⁰ Source: Mittag, J. & Naul, R. (2021), EU sports policy: assessment and possible ways forward, European Parliament, Research for CULT Committee – Policy Department for Structural and Cohesion Policies, Brussels; Last visited: 09.05.2023. https://www.europarl.europa.eu/cmsdata/237440/PE652-251_Study-EU-Sport-Policy.pdf

The European Commission sport initiatives

To support the different policy developments in the field of sport, the European Commission designed different program funding schemes and other initiatives.

- **Erasmus+** actions in the field of sport promote participation in sport and physical and voluntary activities. The 2021-2027 programme puts the focus on grassroots sport and the support of EU-wide actions. Erasmus+ actions give the opportunity to staff of sport organisations to improve their competences and qualifications and to acquire new skills through learning mobility.
- The [European Week of Sport](#) was launched in 2015 to improve awareness of the importance of an active lifestyle. A wide range of activities and events are organised across Europe every year in September to encourage people to #BeActive.
- [The EU Sport Forum](#) is the main platform for structured dialogue between the European Commission and sport stakeholders. The initiative seeks to build a future in sport through high-level dialogue between sport leaders, entrepreneurs, and other sport professionals³¹.
- Launched in 2018, the **SHARE initiative**'s main goal is to raise awareness on the role of sport and physical activity in the context of regional and local development.
- SHARE ensures sport is taken into account as part of policy and investment decision-making at European, national and regional levels³².
- The **#BeInclusive EU Sport Awards** reward the best projects that have successfully supported inclusion through sport. The initiative rewards projects that are best practice in the field of inclusion and non-discrimination.

International sport initiatives and stakeholders:

- UNESCO - [International Charter of Physical Education, Physical Activity and Sport](#)
- United Nations - [Sports for Climate Action Framework](#)
- [Olympic Charter](#)
- [Youth Ideas Labs 2022](#)
- [SHARE - Green transition and sport at all levels](#)
- [European Olympic Committees](#) – EOC the umbrella body for Europe's 50 NOCs committed to spreading Olympic values and inspiring sporty lifestyles.
- [ENGSO](#) (European Non-Governmental Sports Organisation)
- [International Sport Organization](#)

³¹ Source: Official European Commission web page; <https://sport.ec.europa.eu/initiatives/eu-sport-forum>, last visited 1.2.2023

³² Source: Official European Commission web page <https://sport.ec.europa.eu/policies/sport-and-economy/share-initiative>, last visited 1.2.2023

Good practice

The Sport4SD project is taking action to show how sport can contribute to all 17 Sustainable Development Goals and how young sports people can make a change for a better and more sustainable future.

The project recently organised a training course in Tokyo gathering young leaders from three continents: Europe, Asia, and Africa. Participants had the chance to develop their leadership and networking skills in the field of sustainable sport promotion.

“The SDGs are a powerful lever for development, and we have all the weapons to implement them.” – Thomas, young participant.

Source: youth-sport.net

Conclusion

The EU supports the idea that sport can improve general well-being, help overcome societal issues and provide economic benefits across Europe.

Sustainable development has been in the agenda of EU sport policy since the beginning. Several policy initiatives make recommendations on how to conduct sustainable planning when organising and hosting sport events.

For further exploration

- [How to conduct a sustainable sport event](#). Document with practical guidelines on how to implement measures regarding recycling, food waste, transport, green public procurement, energy and water consumption, and certification.
- [EU Sports policy: Going faster, aiming higher, reaching further](#)
- This podcast (5:35min), published by the European Parliament Research Service, offers a quick overview of the impact sport has on the EU economy.
- Browse through [SHARE's database of best practices](#) to get inspired by initiatives promoting sustainability in sport.
- Read the [SUSTAINABILITY THROUGH SPORT Implementing the Olympic Movement's Agenda 21](#) [here](#).
- Read through the [Overview](#) of Sustainable Solutions to Improve the Environmental Impacts of Mega Sporting Events.
- Sports & Environment: [17 eco-friendly initiatives](#).

Module 4

How Sports impact the environment

Authors	EINURD
General Objective of the module	The goal for this module is to expand the understanding of the connection between sports and the Environment. How the sports industry can improve and to look at what has been done so far and what we can learn from it.
Expected Results	This training module will broaden the learners view on how sports affect nature and see few solutions already done by other organizations and individuals. Not all the solutions will fit every organization, but some aspects of each example can be used to make all organizations better and more eco – friendly. That is the main aim is to deepen the knowledge of how sports affect the environment. Every small change on each level of the industry can have a ripple effect and change the practice permanently.
Keywords	Sports and Environment, Different sports have different problem, Learning from others action, adapting is key, No one thing will change everything, Together we can change
How to deliver the topic	<ol style="list-style-type: none"> Icebreaking activity (optional) 15 min Highly recommended if the group doesn't know each other very well to lift the group. This will help with the discussion part at the end. Presentation of the PowerPoint "How sports affect the environment, the good and the bad". 35 min Recommend stopping and talking about each question despite their difficulty level is not hard for people who know about the sports industry. The discussion of each part will help open the view of participants when they reflect on their own experiences. Discussions 40 min At the end of the PowerPoint there are discussion points for you to get participants to go over and discuss between them. This is important due to the learning opportunities created for participants to learn from each other. This is also relevant if participants are from different fields as their ideas could be adapted to other sports.
Materials needed	<ul style="list-style-type: none"> PDF Presentation - "How Sports impact the environment the good and the bad" (ANNEX IV - How Sports impact the environment the good and the bad). Laptop, Large screen/projector.
Recommendations for future trainers	This is a hard subject and quite broad, remember not to focus only on the bad but also look to take in the good practices of the participants as small as they might be. Some sports can't go full green or financial status to spend more on greener activities. Try to find some way however small and praise that as a step forward.

Introduction

With environmental awareness raising in the general population yet there has not been a lot of discussion about the effect of sports on the environment. Sports vary quite a lot from motor sports to chess and their impact is quite different but all of them have the power to address climate change and tackle sustainable development through inspiring, unifying and engaging millions of people. A lot of work is being done within the sports industry to address these issues that affect the environment yet there is still a long road until sports can be called green. There are a lot of obstacles and barriers along the way.

The information presented in this chapter aims to broaden your view and understanding of the impact of sports on the environment. This will look at the benefits of sports on the environment and also how it affects it badly. Each sport has its ups and down, how it affects the environment and putting all sports under the same hat and how they affect the environment is tricky. Motor sports for example affect the environment a lot more than at first glance then football but the equation isn't as simple as many believe. Sports enthusiasts often look at many sports and their connection to nature and relish in its beauty and fruitfulness and don't notice or understand how their activities can affect the environment.

We will go over some real-world situations that affect the sports industry today and look at examples of how they are being dealt with by current sports organizations. We will also cover previous work of organizations that have gotten positive feedback and has been implemented as common practice in the sports industry.

We will also look at how sports are positively impacting the environment, as with most things there are always two sides to everything and many things in the sports industry are positive for the environment and shouldn't be overlooked despite many things that need to be done better to impact sports in general in a positive environmentally friendly way.

Environmental awareness has risen significantly in the last few decades with large organizations that are transnational taking a stand to protect the environment we have. This affects the older generations but specifically young people and their future generations. Current studies have shown that 1 billion young men and women in Asia, Africa, Latin America and the Caribbean are affected by climate change. This problem is pressing matter as harsher and more extreme weather conditions are going over the world and the most affected are the underdeveloped countries as their houses and their food security are at stake. The last few years there have been more extreme weather conditions and they have not shown any signs of slowing down. The last decade over 10 million Africans have had to leave their homes due to climate change making their residence inhabitable. The younger generation is connecting with that as 89% of youth believe that young people can affect environmental change to the better with their actions. This survey done by the UN of young people shows there is motivation to change the current status quo on many levels.³³ With this motivation it is also needed for guidance on how to change the current ecological problems we have facing us today. There is no one solution to the problem but many, and going greener in the sports is just one step towards a more sustainable future.

The market is saying the same thing as the youth today and more and more people are aware of the problems that we face and have it as their aim to go greener in their consumption. It shows that it is beneficial for large corporations to also go greener to appeal to a bigger marketing share. It is Important to talk about the economic benefits for companies and organizations to go greener since the consumer is thinking more environmentally friendly.

As companies are ran with profit in their mind it is becoming more appealing to spend more to make

³³ <https://www.un.org/youthenvoy/environment-climate-change/>

the product, they produce green to appeal to the market. Mastercard did a survey about the consumption and spending of their normal customer all over the world, 54% said it was important to them that they are reducing their carbon footprint with their purchases. 62% of the people surveyed also believed that companies should be more sustainable and eco-friendlier in their practices. This gives a clear view of the average consumer is more aware of their environment and their ability to affect the future and with that companies and organizations must adapt to the growing awareness of sustainable future.³⁴

Negative impact of sports on the environment

With the raising of the awareness of youth around the world as well as the average consumer around the world starting to think more and more about the environment, companies are beginning to adapt to some level. Some have turned into extra marketing of the Eco – friendly progress they go through or have certified credentials from local governments to show their efforts to be more sustainable.

With these progresses also some sports facilities started to think more and more about the environment and also the awareness in the sports community of how the sport affect the environment is now becoming well known.

The UN addressed this issue in February 2022 with a new initiative “*Addressing Climate change Through Sports*”. The key message from the initiative is that **sports play a pivotal role** in the solutions both from lowering their own admissions and promoting sustainable and eco – friendly ways of life.

Despite the efforts, it is hard to measure sports carbon footprint as so many factors come into the equation. First thing is that sports in general are quite different and putting them all on the same level is hard. Comparing motor sports and motor water sports on both professional and amateur level, cannot be compared to hiking in terms of carbon footprint.

The fact that the carbon footprint is smaller in hiking, does not mean that there aren't ways to be more eco – friendly and help in combating climate change. With the climate change, the sports that are eco – friendlier in nature have been affected by it, with rising heat in many countries snow sports have been harder to engage in and water breaks have been put in place in long lasting field games due to extreme heat in the summer months that were not necessary until now.

Sport can also put together big crowds with large global events such as the World Cup in football and Olympics. With these large celebrations comes a large crowd that can increase the carbon footprint of that event in many ways; during the 2016 Rio Olympics it is estimated that 3,6 million tons of carbon dioxide were produced and during the world cup in Russia approximately 2.16 million tons were released into the atmosphere. This does not only happen with such big events but also with smaller events as many youth and local tournaments in each country often require long travels with large groups. That means in the bigger picture these local and youth tournaments are as big or even bigger a problem as summing up all of these smaller events and country or region level, they are more often with a lot more participants than the highest level of sports is played, resulting in a final higher carbon footprint.³⁵

³⁴ <https://www.mastercard.com/news/insights/2021/consumer-attitudes-environment>

³⁵ <https://www.un.org/development/desa/dspd/2022/02/addressing-climate-change-through-sport/#:~:text=In%20a%20cyclical%20manner%2C%20the,having%20disruptive%20consequences%20on%20sport.>

Positive impact of sports on the environment

With all the negative impacts that sport has on the environment it is also necessary to look at the positives that sports bring in general. As stated before, there are many different sports and as for the negative impacts, some sports can have more positive impact than others on the environment.

Sailsofchange.org claims outdoor sports research has shown that they increase the connection between people and nature and make people caring more about conservation of it. This link is not a given in our society today due to large cities often not providing the opportunity for it due to lack of green areas within cities. This can be a key factor in environmental awareness and motivation for the public to participate in eco – friendly activities. COVID 19 forced people to stay in their local areas and do activities connected to their surroundings which helped with more environmental awareness in their local communities. News spread over the world that rivers inside cities were getting cleaner and prospering, giving a boost to the environmental awareness of local communities of their surroundings.³⁶

Though improvements have been made in the sports industry in the last few years with more awareness and connection to nature, there is still a lot to be done to be more sustainable and eco – friendly. The seriousness of the problem is something well-known by now and year-by-year it becomes more visible to large communities (i.e.: large portions of people had to relocate due to the climate change). With this development each year will be worse and worse for a large portion of the population and the necessity for change will be bigger than ever.

Good Practices

Climate change is not a problem any industry, government or transnational organization can change the course of. It needs to be a combination and cooperation between all of them to tip the scales on how our future will be moulded. There have been movements for some time where both small and big organizations in the sports industry have taken steps to become more eco – friendly. It is important to look at each step to learn and understand what can be done to contribute to a more sustainable future.

International level

Olympics

The International Olympic Committee has developed a Sustainable Strategy that aims that the Olympics in 2030 would be carbon negative. This is a big step specially looking at the previous record of approx. 3,6 million tons of carbon dioxide connected to the Olympics. This can be seen already in their action in summer Olympics 2020 in Tokyo where the famous Olympic village was for the first time made by 60% of pre – existing buildings. Despite the Tokyo Olympics taking steps towards their goal of the 2030 Olympics being carbon negative, it was just a step and there is a long road for them after the amount of carbon dioxide released into the atmosphere during the games.³⁷

United Nations

UNFCCC (United Nations Framework Convention on Climate Change) and leading sport entities.

³⁶ <https://www.sailsofchange.org/sports-and-nature-on-the-same-team/#:~:text=Sports%20and%20nature%20are%20intrinsically,our%20desire%20to%20protect%20it.>

³⁷ <https://www.un.org/development/desa/dspd/2022/02/addressing-climate-change-through-sport/>

launched the framework “The UN’s Sport for Climate Action Framework” in 2016. It aims to encourage sports organizations to help reach the Paris agreement goals to be climate neutral by 2050. At COP26 there was a focus on the sports organizations with numerous climate change and sport focused events. They got a lot of high-level speakers to speak on the connection between sports and climate change. It focused both on sports broadcasting's role in bringing up environmental awareness and the connection between youth sports and climate actions.³⁸

National level

Every nation has a different emphasis on what needs to be done and each sport does as well. Follows a few examples from across the world to give an idea of what can be done and how they were done by these organizations. Their solution to one problem is not the solution to each problem, but it is important to look at how others have done it to understand how it can be implemented in other surroundings.

Forest Green Rovers - The World Greenest Football club

Forest Green Rovers were the first and only professional football club to be coined the World Greenest Football club in the world according to FIFA. It is one of the pillars of the club to spread awareness and consciousness on the environment. This requires different thinking and a different structure of thinking from the normal model of setup of sports clubs. They have tracked their carbon footprint for a decade to understand where their emission of CO₂ is coming from and their actions have changed their carbon footprint drastically in only a few years, but it has a lot to do with the motivation the club has towards the environment. They have changed all the energy supply to solar panels, batteries running on solar power and all extra electricity comes from “*Ecotricity*”³⁹ that is providing 100% renewable electricity and carbon neutral gas.

With being a competitive professional club there is a lot of travelling between places to compete in their sport. Forest Green Rovers FC have taken the step to try to have all their travel with EV Minibuses both for academy players and first team. Unfortunately, that is not always possible in the time frame offered or availability of charging. They also offer coaches for fans travelling with the team to reach faraway places to lower the emission of each fan going to their games. It is a part of the actions to also lower emissions of their fans.

During 2020-2021 there were no emissions due to COVID 19 pandemic and fans were not allowed in the stadium. They could only track the carbon footprint of home games due to difficulty of calculating it in away games. They cut a lot of the emission from their fans with cycle parking and EV chargers on site for electric cars. They also used *park & ride* which is when there is a meeting area for the fans to park closer to their house and an EV bus picks them up and brings them to the stadium. This is a lot more work for the club and more costs, but it does lower emissions from each fan quite significantly.

This is not the only way they lower emissions from each fan as the club is a vegan club. They use local food services and international brands like *Quorn and Oatly* in food supply both for fans and members of the club. All their packaging, cups and bottles are recyclable, and they wash each container and use it again if possible. This is done to lower food waste and trash. They have cut plastic in other areas as well in the operation.

³⁸ <https://www.un.org/development/desa/dspd/2022/02/addressing-climate-change-through-sport/#:~:text=In%20a%20cyclical%20manner%2C%20the,having%20disruptive%20consequences%20on%20sport>

³⁹ Ecotricity is electricity that is from 100% renewable electricity

They signed the statement at the UN to lower their emission by 2030 by 50% and have put out a plan for upcoming actions to reach set goals. Despite being the greenest professional club in football they know they can still do better.

It is interesting to see how much work they have put in to be eco – friendly and which ways they have taken so the club, fans and stadium affect the environment the least.⁴⁰

Las Vegas golf courses

It can be argued that since the terrain of Las Vegas is a desert, there should be no golf courses in that area, but today we have snow-covered indoor tracks in the Middle East and large indoor football pitches in Iceland for year-round play.

The biggest problem coming from the golf courses in Nevada (which is where Las Vegas is located) is water shortages. The average golf course in Las Vegas uses 893.357 million litres of drinkable water each year on its courses. This number is too big to fathom if put in perspective that there are approximately 55 golf courses open in Las Vegas in 2022 with that number quite often. This mean that actions are needed to keep them open and use less water as they currently count for 6% off all water usage in Las Vegas. Almost all water used by residents, or 60 per cent, is recycled, just as almost all water used within Las Vegas is recycled and returned to Lake Mead, which is Las Vegas' water resource. This however is not possible for the golf courses in the same scale as most of the water is lost in irrigation or water evaporation. They had to find a way to conserve the water costs to be able to still run. They have changed over 3,6 square km of the golf courses to artificial grass which saves about 9 times of yearly golf course usage of water.⁴¹ This measurement might not have been done in the hope of being eco – friendly or going greener but the effects of it are positive. This will maybe not be a permanent solution for the golf courses of Las Vegas, but their methodology can be used in golf courses where the climate is more friendly to golfers to reduce water costs of golf.

Plogging

Plogging is an activity that consists in jogging and picking up trash at the same time. The word plogging comes from the word “*Plogga*” in Swedish. It wasn't until 2016 where the first city hosted and organised plogging event which was held in Sweden in 2016. It has many different variations as it has been done while skiing, running, walking, hiking etc. The founder of Plogging comes from a man named Erik Ahlstrom. When he moved back to Stockholm, he noticed how dirty Stockholm had become. He did not like the progression it was taking of how much litter was on the streets and wanted to do something as there was no action being done and the litter was for weeks on and not picked up. He started picking up the trash he saw in his way and notice how good it felt to clean up even though it was just a small place at a time. He felt that plogging was the needed change of attitude towards nature and activities. Currently there are over 3 million people signed up as “*ploggers*” and over 20.000 people *plogg* every day in over 100 different countries. This number is probably more due to a lot of people not advertising it or signing up on a site to do it.⁴²

This movement has been spreading more and more with world leaders taking part in “plogging” in their countries. Guðni Th. Jóhannsson current president of Iceland talks about his plogging experience as he has been a plogger for many years now. He talks about the gratification of seeing instant results

⁴⁰ <https://www.fgr.co.uk/another-way>

⁴¹ <https://www.reviewjournal.com/news/politics-and-government/clark-county/new-golf-courses-cant-use-colorado-river-water-las-vegas-board-says-2470511/>

⁴² <https://www.plogging.org/what-is-plogging>

as nearby environment of him gets cleaner and better. To fix all the current problems facing our planet can feel overwhelming, impossible and draining it is good to see instant results of the work done. He wants to lead by an example as being the head of state in Iceland it is good to promote something that will help Iceland prosper and hopefully encourage more to join in “plogging”. He talks about people in his position as he doesn’t feel that one more conference or summit will change the course of our problems, but it feels so good to go out and do something and see instant results from his action. The small action that are taken with plogging can lead to something larger if awareness and participation from the public rises.⁴³

Conclusion

These three examples given in this chapter are an example of how the sports industry is combatting their effect on the environment. With Forest Rover Green FC which has its goal to be more economically friendly to Las Vegas golf courses which had to adapt to the current climate of the situation. Something can be learnt from each and the examples can be applied to all sports at every level. The main objective of these is that they acknowledge the problem at hand and take action to prevent further harm. Forest Green Rovers FC aren’t changing every football club in the United Kingdom but they can be a positive example for others; the action they have taken has built a model for other clubs to take if there is willingness on their part to take the necessary steps. Plogging is also a good way to look at how the adaptation of a sport, jogging, can make it into a greener sport with the same physical activity. It can be argued that plogging gives also a mental boost as the feel of accomplishment comes with seeing the cleared area of trash after the jog.

⁴³ <https://www.cleanupnews.org/home/plogging-with-president-guni-th-ihannesson>

Module 5

How to plan and deliver sport activities and events in harmony with the environment

Authors	KMOP
Objective of the module	This Module aims to support future facilitators during the preparatory phase of a sports activity or event. Specifically aims to provide information, tips and ideas on how to take care of a) the site and venue, b) the commute to the venue, c) food and beverages, d) energy and waste management, e) the funding and the supply chain and f) the dissemination of the event in line with a sustainable and green mindset. The Module of the training program comprises both theoretical (i.e., concepts and ideas) and practical (e.g., examples, quizzes) parts about: recommendations and ideas on how to organise and implement sustainable sports events to raise awareness about the environment and provide an example of reduced events' ecological footprint.
Expected Results	By the end of this Module, you should be able to <ol style="list-style-type: none"> 1. Develop an action plan for the sustainability of your sports events. 2. Determine whether your pre-existing action plan consists of green elements. 3. Apply green measures for the minimization of your event's footprint on the planet. 4. Give original examples of how you could tailor the recommended ideas to your context. 5. List sustainable ideas per core organisational aspect of an event.
Keywords	Sustainability; Sports event; Footprint; Organisation; Venue; Transportation; Food; Waste management; Supply Chain; Dissemination.
How to deliver the topic	<p>Topics/activities (description and duration):</p> <ol style="list-style-type: none"> 1. Welcoming and introduction (around 20 min): Inform the learners about the context of the topics which is recommendations and ideas on how to organise and implement sustainable sports events to raise awareness about the environment and provide an example of reduced events' ecological footprint. 2. Follow the structure and topics of the presentation and learning text (see below, around 60'): You can first make an activity with the learners and discuss with them what they can suggest to do to make a greener sport activity (see p. 5 of the pdf). Then follow the content and feel free to adjust it to your audience's needs. 3. Debriefing (around 30 min): Make open discussion about the topic with the learners. You could ask the learners questions such as:

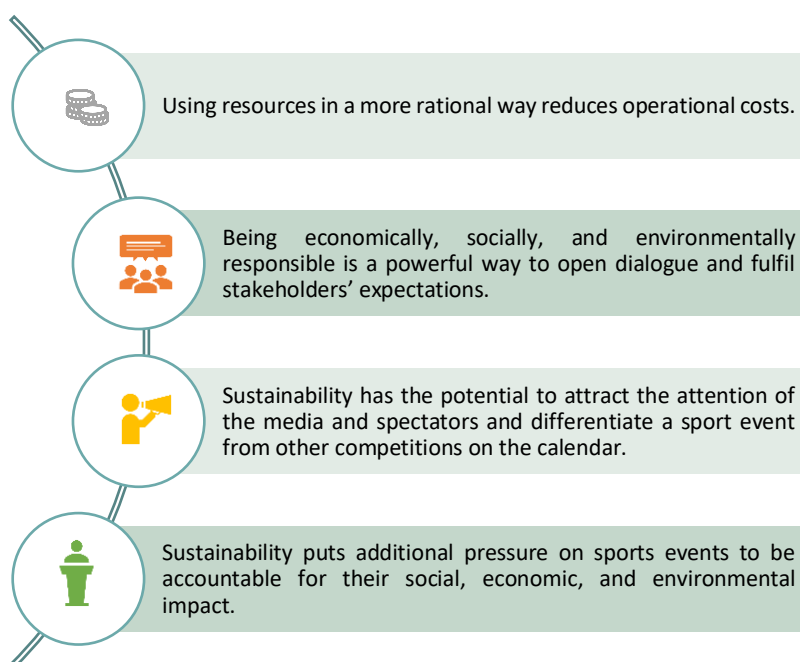


	<ul style="list-style-type: none">• Now that you have better understanding, how would you organise a similar sport activity in your context?• Which challenges should you think about?• How would you prevent them?• Do you have any other feedback about this session?
Materials needed	<ul style="list-style-type: none">• Learning material on “How to plan and deliver sport activities in harmony with the environment”.• PDF Presentation - “How to plan and deliver sport activities in harmony with the environment” (ANNEX V - How to plan and deliver sport activities in harmony with the environment)• Projector, flipchart, laptop
Recommendations for future trainers	<p>Be flexible according to your target group and audience.</p> <p>Follow the presentation and add additional material to your training that you find useful and relevant to the topic.</p>

Introduction

Sport holds a special position in modern lifestyles, with millions of people around the globe watching or participating in their favourite sports. Ironically, despite its benefits on a personal and social level, sports can also deteriorate the environment. Air pollution, mostly from transportation and tailgating, heaps of trash and food waste and improper waste disposal, energy consumption to power the venues, water consumption for toilets and for the irrigation of the fields and nearby areas are only some examples of the impact that sports events have on the planet, considering these, sustainability and green measures are necessary concepts when stakeholders plan and deliver sports activities and events.

Sustainability is about more than just being “green”; it is about achieving excellence, doing things more efficiently and creating a positive impact. To act sustainably is to be responsible, forward-thinking, conscientious, and self-aware. A sports event that visions sustainability is an inspirational event that requires financial, natural and human resources rationally and efficiently. It contributes to the development of the economy and tourism, is an effective branding tool for event owners, organisers and hosts, and brings both environmental and social benefits.



Sustainability is a way of working; it is not an add-on. The best way to make a sports event sustainable is simply to make social, economic and environmental responsibility the normal way of doing things. Thus, the common trap of running sustainability actions separated from the core business of organising sports events must be meticulously avoided⁴⁴.

Nowadays it constitutes an industry standard to integrate sustainability into major sporting events—from the Summer and Winter Olympics, Paralympics, and Special Olympics World Games, to the Championships and All-Star Games of major professional leagues⁴⁵. The core aim of this module is to equip you as much as possible with the necessary tools to follow this notion while planning and delivering your sports activities and/or local/national events.

⁴⁴ AISTS Mastering Sport (2014). Sustainable Sport and Events Quick Start Guide. Climate Action.

https://www.climateaction.org/images/uploads/documents/sset_quick_start_version_2014.pdf

⁴⁵ Environmental and Sports advisory council of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (2016, July 1st). *Appraisal and Recommendations for Action: Sport Events - Catalysts for Sustainable Development*

https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Tourismus_Sport/beirat_umwelt_sport_stellungnahmen_handlungsempfehlungen_en_bf.pdf

Graph 1: Benefits of sustainability in sports events

Let's think!

What is the most recent sustainable event you have participated in? What elements made it "sustainable"?

Sustainable and green sports events

Sustainability is a process, not a status; in fact, most aspects of the sports sector may never reach a point of true environmental sustainability. Consequently, environmental sustainability is understood as a commitment to consistent progress toward Sustainable Development Goals (SDGs) by reducing the carbon footprint and engaging meaningfully in the sports sector's ongoing efforts to mitigate environmental risks, especially the ones of sports events. This unit will equip you with tips and guidelines you can consider applying when working on funding, venue and supplies selection, transportation options, and your event communication. Keep in mind that these ideas are intended to get you started, so the lists are not extensive. More toolkits and useful information can be found at the end of this module (See Additional Resources).

Getting started

Before getting deeper into your organisational plan, it is wise to know and understand the value of promoting a sustainable event; the "whys" that will lead your decisions and actions. These "whys" can be available to you by examining the connections between a) your stakeholders' interests/expectations, b) the major sustainability issues related to your sport and your event, and c) the relevant risks and opportunities⁴⁶.

Engaging **stakeholders** (i.e., individuals or groups that have an interest in any decision or operation related to your event, like local authorities, sponsors, athletes, media, NGOs, and suppliers) in a two-way conversation and an open dialogue constitute one of the most effective ways of preventing setbacks by collaborating with them, establishing a common ground and creating solutions. So, list the stakeholders that a) influence the way you manage your event, b) have significant expertise to share, and c) are most likely to be affected by your actions, listen to them, integrate their comments in your action plan and publicly acknowledge their contribution. For the identification of the **sustainability issues** related to the potential economic, environmental and social impact of your event, you are encouraged to.



Graph 2: Aspects of consideration

- Think about the goals of your event and the main activities required.
- Ask yourself and your team about the necessary resources, the venue, the transportation, the waste management afterwards, the economic value and its distribution, and the impact on the host community.
- Then, share your ideas and get feedback from the relevant stakeholders you have already engaged in your event.

⁴⁶ AISTS Mastering Sport (2014). *Sustainable Sport and Events Quick Start Guide*. Climate Action. https://www.climateaction.org/images/uploads/documents/sset_quick_start_version_2014.pdf

Finally, you have to assess the potential sustainability **risks and opportunities** related to the operation of your event/activities which can be:



Graph 3: Risks and opportunities in sustainability

Source of pictures: [Unsplash](https://unsplash.com)

Green recommendations on key event aspects

After mapping your stakeholders, your needs, challenges and opportunities, you should have an idea of how to approach your event. This section aims to provide you with green recommendations⁴⁷ for key aspects of an event (See Graph: List of key organisational aspects). Try to keep in mind that the lists below are not exhaustive and you may have to adapt the ideas to best suit your sports event.

⁴⁷ The ideas were inspired by:

- AISTS Mastering Sport (2014). *Sustainable Sport and Events Quick Start Guide*. Climate Action. https://www.climateaction.org/images/uploads/documents/sset_quick_start_version_2014.pdf
- AISTS Mastering Sport (2008). *Sustainable Sport and Event Toolkit (SSET)*. World of Olympic Cities. <https://www.olympiccities.org/sustainable-sports-and-events-sse-toolkit/>
- Croyde Ocean Events, Plastic Free North Devon & The Pickwell Foundation (2019). PLASTIC FREE SPORTS
- EVENT TOOLKIT. Croyde Ocean. <https://croydeocean.co.uk/wp-content/uploads/2019/02/CroydeOceanandPlasticFreeNDEventsPack.pdf>



Graph 4: List of key organisational aspects

Site and Venue

- Choose existing sites and venues where possible.
- Implement a no-smoking policy.
- Use biodegradable cleaning products.
- Limit the use of vehicles on-site by securing safe parking lots nearby.
- Reduce and prevent noise through signage, respect by-laws, training and inspections.
- Respect local culture and heritage and avoid using spaces with environmentally sensitive ecosystems.
- While picking the venue ask yourself:
 - Is it centrally located? Athletes, officials and spectators should have short and/or convenient commuting distances.
 - Is it serviced by accessible public transportation?
 - Is it safe and secure for participants, organisers, employees and the community?
 - Is it accessible to all participants (e.g., wheelchair accessible)?
 - Is the necessary venue and equipment already in place?
 - Is there evidence of a sustainability policy in place and use?

Promising practice: *Triathlon International Vallée de Joux*

The Triathlon International Vallée de Joux is held in Switzerland during the summer. The race site was chosen in an effort to minimize landscape changes and to maximise the use of existing infrastructure. The swimming and running races were held without signage. Biodegradable products were used to paint signage at the cycling tour. In order to ensure the safety and cleanliness of the venue, race regulation stipulated that athletes who littered would be disqualified. Toilets access to persons with disabilities was available throughout the site.

Quiz

In the 2019 London Marathon, more than 35,000 plastic bottles were used by the athletes and left on the ground. Which of the following constitutes the most sustainable and convenient alternative?

Replace the plastic bottles with bottles from recycled plastic material.

Replace the plastic bottles with edible seaweed capsules.

Recommend athletes bring their reusable steel water bottles.

Replace the plastic bottles with paper cups.

Correct answer: **B.** Seaweed-based edible gel capsules containing water are 100% biodegradable and decompose in just six weeks, while plastic bottles take about 450 years. With this innovation, athletes no longer have to worry about throwing plastic bottles on the floor or in a bin, which helps to the social awareness of preserving our planet.

Transportation

- Provide spectators and athletes with information, guidelines, education and incentives to use public transportation services.
- Liaise with the local public transportation authorities to ensure sufficient, affordable and effective modes of public transportation.
- Provide information and maps of paths and cycle routes.
- Offer supervised bike parking or put in place a bike lending initiative during the event.
- Use low-emission shuttle vehicles, hybrid and electric cars during your team's transportation.

Food and Beverages

- Promote and support healthy diets with healthy and low-impact choices (e.g., fruits, vegetables, grains, and other fresh, low-sugar, low-sodium, trans-fat-free, and unprocessed food).
- Remember to provide safe drinking water at all event sites and venues by equipping the venue with water-saver taps.
- Respect athletes' special dietary requirements.
- Source from fair-trade, organic, seasonal, local and regional sources as much as possible.
- Distribute food with biodegradable, recyclable and/ or minimum packaging.
- Provide compostable or collapsible cups instead of plastic ones.

Energy and Waste management

- Operate site and venue lighting, cooling and heating optimally.



- Reduce water usage and use water from renewable sources.
- Include stormwater capture and reuse; low-flow toilets and no-flow urinals.
- Buy what you absolutely need.
- Consider what you provide to competitors and whether it can be replaced by plastic-free alternatives. One option is to provide a practical item (e.g., reusable water bottles) for competitors to take away, rather than an object for display (e.g., a medal).
- Waste that cannot be avoided should be reused, recycled or sent for composting.
- Keep the site and venue litter-free through efficient use and placement of garbage and recycling bins.
- Prepare stickers to aid the visibility of the separate waste and recycling bins.
- Donate clothing and equipment to local sports, community organisations, or second-hand shops.
- Ask caterers to donate unused food to local shelters.

Quiz

Which of the following food options produces the highest carbon footprint?

Beef

Chicken

Pork

Cheese

Tomato

Correct answer: A. Beef has the highest carbon footprint of any food. This is because of what is required to raise and farm cattle. Animals used for beef production require a tremendous amount of feed, which must be grown on their own. They also produce an extremely high amount of methane. Read more about the foods that are bad for the environment [here](#) and by watching the following short videos: 1) [Food eco-footprint](#), 2) [What's Your Food Footprint?](#)

Funding and Supply chain

- Seek sponsors with the commitment and capability to help achieve sustainable sport event (e.g., low waste and low carbon solutions, ethical sourcing and sustainable operations).
- Identify organisations in your community that are working on climate action to find opportunities for collaboration.
- Make sure that your suppliers conform to national/European codes of conduct (the EU Code of Conduct on Responsible Food Business and Marketing Practices can be found [here](#)).
- Use local organisations for temporary jobs, volunteers and contractors and ensure a fair wage system.
- Collaborate with local enterprises and those that support diversity and people with diverse backgrounds.
- Discuss with your sponsors how best to ensure a plastic-free and sustainable vision is maintained while still promoting their businesses.

Communication and Dissemination

- Choose a few focused messages and use them throughout the event. Be careful not to “[greenwash](#)”, by overusing terms and images that are not accurate or overselling an organisation’s environmental practices.
- Implement electronic systems for event registration, communications, finances, and certificates of attendance where possible.
- For the evaluation process, create QR codes that will lead to online evaluation tools (e.g., Google Forms) and will be available in certain spots in the venue.
- Avoid unnecessary paper, flyers, and mail-outs.

Conclusion

In the last decades, environmental issues have become part of modern agendas and policies reflecting the urgency of taking decisive action to minimise our footprint on the planet. Sports have been recognised as one of the central areas where sustainability is not only challenged but also perpetuated. For sports events and activities to become an opportunity for change, considerable shifts should be made in how we plan them from the very beginning. In the foremost stage of analysing our previous practices, our needs and our upcoming challenges key stakeholders should be present to share their experiences and views implying that this organisational green process is not a solitary and linear road. Instead, it is a circular path which contains their input, our actions and their feedback.

“Sustainability is a political choice, not a technical one. It’s not a question of whether we can be sustainable, but whether we choose to be.” (Gary Lawrence)

Module 5 - Additional resources for reading

1. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH (2018). Guide – Sustainable Event Management . <https://reporting.giz.de/wp-content/uploads/sites/8/2019/03/GIZ-Guide-to-Sustainable-Event-Management.pdf>
2. Dubrikow, K., M., Jaeckel, U, Schmidt-Räntsch, A., Eggers, H., H. & Huth, D. (2015). Guidelines for the Sustainable Organisation of Events. https://www.umweltbundesamt.de/sites/default/files/medien/376/publikationen/guidelines_for_the_sustainable_organisation_of_events_bf.pdf
3. Mager, A., Niederdrenk, N., Schmidt-Räntsch, A., Bölke, M., Böther, S., Huckestein, B., Huth, D., Johannsen, L., Takramah, G., Wisniewski, C. (2020). Guidelines on Sustainable Event Organisation. <https://www.bmu.de/en/service/publications/>
4. The International Centre (n.d.) Sustainable Event Guide for the Socially Minded Planner. https://www.internationalcentre.com/site_Files/Content/Resources/Corporate-Social-Responsibility/TIC-Sustainable-Event-Guide_ART7---Spreads.pdf

Module 6

Potential of sport sector to raise awareness of the importance of green sport practices.

Authors	APGA
Objective of the module	Introduction to building the capacity of sport as a tool to raise awareness about environment and organizing sport activities and events in environmentally friendly way. This training module aims to build the capacity of sport organisations and promote sport activities and events with an environmentally friendly approach. More specifically, sport operators, namely sport officials and coaches, will be introduced to the possibilities of sport to act in an environmentally friendly way and thus raising awareness on environmental issues.
Expected Results	Empowering sport organizations to act in environmentally friendly way. The learners, after successfully completing this module will: <ul style="list-style-type: none"> • understand possible role of sport in correlation to environment. • gain knowledge on possible solutions to be incorporated into their programs and activities. • understand the benefits of strong cooperation between sport and protection of environment. • better conceive the importance of community-based organisations' role in the decision-making field • gain more awareness on environmental issues.
Keywords	Environment preservation, Sport and environment, Empowerment of sport operators, Environmental Awareness
How to deliver the topic	<ol style="list-style-type: none"> 1. Icebreaking activity – optional (20 min) To create a good atmosphere, especially if the participants do not know each other, start with icebreaking activities. 2. Welcoming and introduction (around 20 min): Inform the learners about the context of the topics. 3. Follow the structure and topics of the presentation and learning text (see below, around 60'): Throughout the presentation keep participants active involving them in discussion on topics as you go. If needed, adjust discussion to participants' interest. Form small groups and do brainstorming on aspects of the topics (see presentation pdf) 4. Resume (around 30 min): Discus about lesson learnt, form small groups and do brainstorming on what potentials of sport regarding environment they see and how to implement them.



Materials needed	<ul style="list-style-type: none">• Learning Materials “Potential of sport sector to raise awareness of the importance of green sport practices”.• PDF Presentation – “Potential of sport sector to raise awareness of the importance of green sport practices” (ANNEX VI - Potential of sport sector to raise awareness of the importance of green sport practices).• Projector, flipchart, laptop.
Recommendations for future trainers	Be flexible according to your target group and audience. Follow the presentation and add additional material to your training that you find useful and relevant to the topic.

Introduction

Sport, nature conservation and environmental protection are of immense significance for the future development of society. The common goal of sport organisers/operators, national, regional and local authorities as well as the sport industry must be to plan and execute events such that they contribute to an economically, ecologically and socially sustainable development across generations, both in urban and rural areas, regardless of scope of the activity or event.⁴⁸

Sport is an activity that enriches the quality of an individual's life, and due to its effects, it has a significant impact on society. Sport has enormous potential to bring people together and to reach everyone, regardless of age or social affiliation.

Like any human activity, sport takes place in a physical environment. This means that sport also affects this environment. For some time now, the sports community has been aware of the relationship between environment and sport. Sport is also increasingly aware of the necessity of involvement and action in preserving the environment.

The UN Sports for Climate Action Framework states:

“Sports impact on our climate is complex and can be difficult to measure depending on the size of the organisation and/or event. However, most sports organisations and fans would now acknowledge that sport’s contribution to climate change – through associated travel, energy use, construction, catering, and so on – is considerable. Moreover, sports’ global interest for billions of fans, and the media coverage generated in response, provide a strong platform for the sport sector to play an exemplary role in meeting the challenge of climate change, and inspire and engage large audiences to do the same.”⁴⁹

Sport and sustainable development goals (SDG)

In 2015, all the countries in the United Nations adopted the 2030 Agenda for Sustainable Development. It sets out 17 Goals, which include 169 targets⁵⁰.

The Sustainable Development Goals (SDGs) aim to transform our world. They are a call to action to end poverty and inequality, protect the planet, and ensure that all people enjoy health, justice and prosperity. It is critical that no one is left behind.

⁴⁸ BMUB Environment and Sports” Advisory Council, Appraisal and Recommendations for Action, Sport Events – Catalysts for Sustainable Development, 2016

⁴⁹ United Nations, Sports for Climate Action Framework, ver. 02.0,

⁵⁰ UN, <https://sdgs.un.org/goals>



SUSTAINABLE DEVELOPMENT GOALS



Source: UN, <https://sdgs.un.org/goals>

Sport contribution to SDGs

Sports has the unique ability to address multiple United Nations Sustainable Development Goals (SDGs) at once. It is recognized that sport has the key contribution to the realisation of development and peace, particularly in its promotion of tolerance and respect, the empowerment of women and young people and other individuals and communities as well. Sports can play a significant role in contributing to the achievement of by promoting health, well-being, social inclusion, gender equality, education, reduction of inequalities and sustainable development⁵¹. Some potential areas where sports can contribute to the SDGs include:

1. Health and well-being (SDG 3): Sports can promote physical activity and healthy lifestyles, reducing the risk of chronic diseases such as diabetes, heart disease, and obesity.
2. Gender equality (SDG 5): Sports can promote gender equality by providing opportunities for girls and women to participate in sports and breaking down gender stereotypes.
3. Quality education (SDG 4): Sports can be used as a tool for education, teaching life skills such as teamwork, leadership, and communication, and promoting school attendance and engagement.
4. Sustainable development (SDG 11): Sports can contribute to sustainable development by promoting sustainable practices in sport, such as the use of renewable energy sources, sustainable transportation, and green infrastructure.
5. Social inclusion (SDG 10): Sports can bring people together and promote social inclusion by creating opportunities for individuals from different backgrounds to participate in sports and build relationships based on shared interests.
6. Peace and justice (SDG 16): Sports can be used as a tool for conflict resolution and promoting peace and justice by bringing communities together, building trust, and promoting dialogue and understanding.

Sports can also have significant environmental potentials for contributing to the SDGs, particularly SDG 13, which aims to combat climate change and its impacts. Some potential areas where sports can

⁵¹ SDG Fund, The Contribution of Sports to the Achievement of the Sustainable Development Goals, 2018

contribute to environmental sustainability include:

1. **Green infrastructure:** Sports facilities can be designed and built using sustainable materials and practices, incorporating green roofs, renewable energy sources, rainwater harvesting systems, and other environmentally friendly features.
2. **Sustainable transportation:** Sporting events can promote sustainable transportation options such as cycling, walking, or public transit to reduce carbon emissions and air pollution.
3. **Waste reduction:** Sporting events can reduce waste by promoting recycling and composting, reducing single-use plastics, and encouraging fans to bring reusable water bottles.
4. **Energy efficiency:** Sports facilities can implement energy-efficient lighting and heating systems, as well as installing energy management systems to monitor and reduce energy consumption.
5. **Conservation and restoration:** Sporting organizations can contribute to environmental conservation and restoration efforts by promoting environmental awareness and education, supporting conservation projects, and creating sustainable partnerships with local communities.
6. **Green innovation:** Sports can encourage green innovation by promoting research and development of new technologies and materials that can reduce the environmental impact of sports events and facilities.

To achieve sustainable development through sports, it is essential that various stakeholders, including private sector, government, NGOs, health and education institutions, and others, collaborate and form partnerships at the local, national, and international levels. By working together, these stakeholders can develop more holistic approaches to address the complex challenges facing society today.

Sport organizations, authorities, and other stakeholders must also develop sustainability strategies in a participatory process focusing on key elements such as sustainable practices, community engagement, and inclusivity. These strategies can help to create a more sustainable and equitable sports environment that benefits everyone involved, including athletes, fans, and the wider community.

In summary, creating policies that incentivize and encourage collaborations and partnerships between stakeholders, leveraging the unique strengths of each group, and developing sustainability strategies in a participatory process are all crucial steps in accelerating progress towards sustainable development through sports⁵².

Sport organizations, authorities and other stakeholders are required to develop sustainability strategies in a participatory process focusing on the following key elements of the process⁵³:

- Gathering information on national and regional regulations.
- Adhering to ecological, economic and social standards.
- Stimulating social integration and sustainable city, district and regional development.
- Generating models on national and international levels.
- Advertising sustainability models in and through sport.
- Making sport more accessible to all people, particularly children and adolescents and persons with disabilities.

⁵² SDG Fund, The Contribution of Sports to the Achievement of the Sustainable Development Goals, 2018

⁵³ BMUB Environment and Sports" Advisory Council, Appraisal and Recommendations for Action, Sport Events – Catalysts for Sustainable Development, 2016

Sport environmental initiatives

We need to realise that sport has a large negative impact on the environment and nature, and that everyone has their place and role in taking action, regardless of whether it is on a macro or micro level.

Sports organisations, as presented in previous modules, have an important role to play in protecting the environment and promoting sustainability. Here are some examples of sport environmental initiatives:

Already in 1992, the **International Olympic Committee** adopted the declaration Olympic movement agenda 21, sport for sustainable development, with which it adopted the directions of the Olympic movement in relation to the development of society, sustainable development and preservation of the environment. Later, it adopted a series of guidelines, instructions and initiatives for the implementation of the adopted agenda (1997 Manual on Sport and the Environment, 2005 Sustainability Through Sport, Implementing the Olympic Movement's Agenda 21, The IOC Sustainability Strategy⁵⁴).

At the United Nations climate change conference in Paris, COP 21, they adopted a declaration for our global response to climate change, which also includes measures in the field of sports, **Sports for Climate Action**⁵⁵. Numerous initiatives were also adopted at the level of various umbrella sports organisations.

Sport and Sustainability International (SandSI) was founded to leverage the influence of sport to advance on the UN Sustainable Development Goals. With 232 members from 55 countries, the organisation engages in concrete actions to enhance sport events, venue design, and operations, influence the sports industry's supply chain, and mobilise fans and athletes in support of sustainable, healthy and just communities.

Eco-conscious partnerships and initiatives are being put in place for the **2024 Paris Olympics** as organisers aim to cut the Games' carbon emissions by 50%.

UEFA, through its "Football Sustainability Strategy 2030", wants to inspire, activate and accelerate collective action to respect human rights and the environment within the context of European football. In line with the UN Race to Zero campaign, UEFA has committed to the goal of cutting greenhouse gas emissions by 50%.

European Commission with "Green Deal"⁵⁶ initiative and UEFA launched a joint campaign promoting climate action supporting a common aim to raise public awareness about Europe's climate and energy priorities.

FIA, international auto-mobile federation, launched FIA environmental strategy 2020-2030⁵⁷

Overall, sport environmental initiatives are gaining momentum and have the potential to make a significant impact in reducing the environmental impact of sports and promoting sustainability. From promoting eco-friendly practices at sports events and venues, to encouraging athletes and fans to adopt more sustainable behaviours, sport organizations and stakeholders are taking proactive steps towards reducing their environmental footprint.

⁵⁴ <https://olympics.com/ioc/sustainability>

⁵⁵ Sports for Climate Action (<https://unfccc.int/climate-action/sectoral-engagement/sports-for-climate-action>)

⁵⁶ A European Green Deal, https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en

⁵⁷ FIA environmental strategy 2020-2030 <https://www.fia.com/multimedia/publication/fia-environmental-strategy-2020-2030>

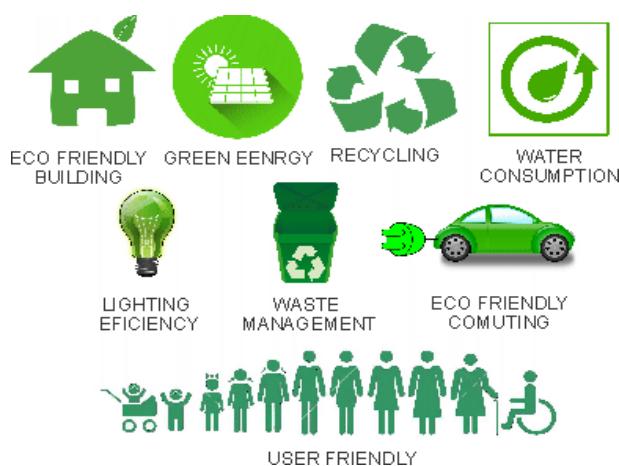
In addition to these efforts, many athletes and fans have also become more environmentally conscious, advocating for sustainability both on and off the field. Athletes have spoken out about the impact of climate change on their sports.

By continuing to develop and implement environmental initiatives in sports, stakeholders can reduce the industry's impact on the environment and promote a more sustainable future. This can not only benefit the environment, but also improve the health and well-being of athletes and fans alike.

Potentials of sport on environment preservation

Environmentally friendly planning of sports infrastructure

The SDG9 is: “Build resilient infrastructure, promote sustainable industrialization and foster innovation”. along with SDG11: “Make cities and human settlements inclusive, safe, resilient, and sustainable”, reminds us that sport is an intrinsic part of its environment, and in particular, facilities such as stadiums, gyms and arenas. Because sport has a real impact on the environment, it is important for sport facilities to be sustainably designed⁵⁸.



What can we do?

Environmentally friendly planning of sports infrastructure involves considering the environmental impact of building and maintaining sports facilities. This includes the selection of the site, design, construction, and maintenance of sports infrastructure. Below are some of the ways that sports infrastructure can be planned to be more environmentally friendly:

1. Site selection: The location of sports infrastructure can have a significant impact on the environment. The selection of sites should consider factors such as the impact on wildlife, vegetation, and natural habitats. Sports facilities should avoid areas of high conservation value, areas that are at risk of flooding, or areas that have a high potential for erosion.
2. Sustainable design: Sports infrastructure should be designed with sustainability in mind. This includes the use of sustainable building materials, such as recycled and locally sourced

⁵⁸ Sport en Commun, Sport facilities and the environmental challenge (<https://sportencommun.org/en/actualite/sport-facilities-and-the-environmental-challenge/>)

materials. Energy-efficient design elements such as the use of natural light, solar panels, and rainwater harvesting systems can also reduce the environmental impact.

3. **Green landscaping:** The landscaping around sports facilities can have a significant impact on the environment. The use of native plants and trees can provide habitat for wildlife and promote biodiversity. The use of green roofs, vertical gardens, and other forms of green infrastructure can also reduce the environmental impact.
4. **Water management:** Sports facilities require a significant amount of water for irrigation and other uses. The use of water-efficient technologies, such as low-flow toilets and showers, rainwater harvesting, and greywater reuse, can reduce water consumption and conserve resources.
5. **Waste management:** Sports facilities generate a significant amount of waste, including plastic bottles, food waste, and other materials. The use of recycling and composting programs can reduce waste and promote sustainability.

Overall, environmentally friendly planning of sports infrastructure involves considering the environmental impact of building and maintaining sports facilities and taking steps to reduce that impact. By implementing sustainable design practices, such as site selection, green landscaping, water and waste management, sports facilities can reduce their environmental impact and promote sustainability.

When planning sports infrastructure, sport operators and clubs should take an active role in advocating for approaches that are in harmony with the protection of nature. This can include considering the use of sustainable materials in construction, utilizing renewable energy sources, and implementing water conservation and waste reduction strategies. Additionally, incorporating green spaces and natural features into sports facilities can promote environmental sustainability while providing opportunities for outdoor recreation and education. By prioritizing environmentally friendly planning, sports organizations can contribute to the preservation of the environment while also promoting healthy and sustainable lifestyles.

Sports infrastructure in nature, countryside environment

Carrying out sports and recreation in nature is mostly not problematic, however, some factors should be noted:

- **Intensity and type of sport and the resilience of the natural area being used.**

In principle, the use of nature for the purposes of sport should stop at the point where the type of activity concerned considerably affects or damages nature or the rural landscape.

In order to reduce the damage to vulnerable areas early on and at the same time fulfil the task of providing for recreation, nature conservation bodies and representatives of sport should be more involved in the planning.

- **Distance and traffic connection of sports areas in nature**

People who pursue recreational sports activities in nature and the countryside mainly come from the towns. Both recreational traffic and the activities themselves can cause considerable damage to the environment. Thus, sports areas in nature should be located in accessible locations, so that access does not require additional traffic arrangements and increases the use of transport (car).

- **Organizing activities in nature**

One way to promote green sport is to obligate all sports operators to organize their events and programs in a way that is compatible with nature and the environment. This can include taking measures to reduce waste, minimize carbon emissions, and avoid disrupting natural habitats.

Another important step is to systematically inform and educate people practicing sport about the possibilities for pursuing activities without negatively impacting nature or the environment. This can include providing guidance on eco-friendly equipment and practices, promoting responsible outdoor behavior, and encouraging participation in conservation efforts.

Sport infrastructure in built-up areas

When it comes to providing residents with sports facilities, this means that adequate and attractive opportunities for sports, games and physical activities for all age groups must be created or preserved in the vicinity of their homes. The aim should be to set up residential structures that put less pressure on people to be mobile.

When planning built sports facilities, it is necessary to take into account:

- **Sustainability, long term planning**

The number of inhabitants in cities is constantly increasing. When planning sports facilities, it is therefore necessary to anticipate the growth of the population and thus the greater need for such facilities. Although it may seem that over-sizing is an unnecessary expense, in the long term, such an investment makes perfect sense, in fact it is necessary and justified.

- **Compliance with ecological standards**

In practice, every, even the smallest sport event has to face the fact of waste production and the problem of littering¹⁴.

When planning, it is necessary to consider a wide range of ecological measures that can contribute to the preservation of the environment and nature. Questions we ask ourselves:

- Water usage: How much drinking water is used and for what? Is it used to water the grass and flush the toilets? Wouldn't a rainwater collection tank be a profitable investment? Are water-saving systems installed (toilets, taps, showers, etc...)
- **Electricity consumption, use of renewable energy:** Are there energy-consuming devices such as old monitors, refrigerators, or heaters that are constantly on in the buildings? What kind of insulation does the building have? Is the roof well sealed? How much electricity does the lighting use – inside the facility and outside on the playground? Is energy saving light bulbs used? How about air conditioning (passive buildings do not need air conditioning!). Does it make sense to install a solar power plant?

Key messages

With the planned, environmentally friendly placement of sports facilities in the space and construction in compliance with the highest ecological standards, sport can significantly contribute to the preservation of nature and the environment.

By following green agenda, sport can reduce its impact on environment reducing consumption of water and electricity, reducing waste and CO₂ pollution.

Sport can influence wider population and raise awareness on environment issues by promoting eco-friendly use of natural resources, recycling and sustainable behavior.

- **Waste management:** Ensure sustainable sourcing of goods and services! Provide reusable materials on all levels! Ensure waste separation! Recycle!

Green Sport at sport club level

At sport club level, one of the first measures that can be taken to promote green sport is to create guidelines that include components for protecting the environment and nature. Concrete instructions, measures, and programs can then be delivered through these guidelines. Sport clubs represent the foundation of the entire structure of sports, and therefore have the power to influence individuals at the very beginning of their involvement in sports, forming correct patterns of behaviours and attitudes towards the environment and nature.

Sport clubs can also have a significant influence in the local and wider environment, bringing together and representing a large number of people, and thus giving them the opportunity to influence local and wider politics to adopt appropriate policies and measures. This can lead to the adoption of environmentally-friendly policies and practices in sports facilities, events, and activities.

Furthermore, major sports organizations such as the IOC, UEFA, and FIA are providing opportunities for sports clubs to actively participate in promoting sustainability and environmental protection. While outdoor activities are more popular among Europeans, sport clubs can still make significant contributions towards promoting green sport by implementing measures to reduce their impact on the environment. By doing so, sport clubs can help raise awareness among individuals and communities about the importance of sustainable practices and behaviours in sports and beyond.

Conclusion

Nelson Mandela once said, *"Sport has the power to change the world. It has the power to inspire. It has the power to unite people in a way that little else does."*

His words have been proven true as sport has become recognized as an important enabler of sustainable development. The Sustainable Development Goals were established as a plan of action for people, planet, and prosperity, and the Declaration on the 2030 Agenda for Sustainable Development acknowledged that **sport has a crucial role to play in promoting sustainable development**. Sport can promote tolerance and respect, contribute to the empowerment of women and young people, and support health, education, and social inclusion objectives.

Since the adoption of the Sustainable Development Goals, many umbrella sport organizations and major sports organizations have actively implemented sustainable practices. However, there is still room for basic sport organizations to engage and contribute towards promoting sustainable practices and behaviours. Sport has proven to be one of the most effective tools for involving masses, raising awareness on various issues, and contributing to a better future society.

The potential for sports to drive positive change is limitless, and it is up to all of us to harness this power and work towards a more sustainable and inclusive future.

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ANNEXES

