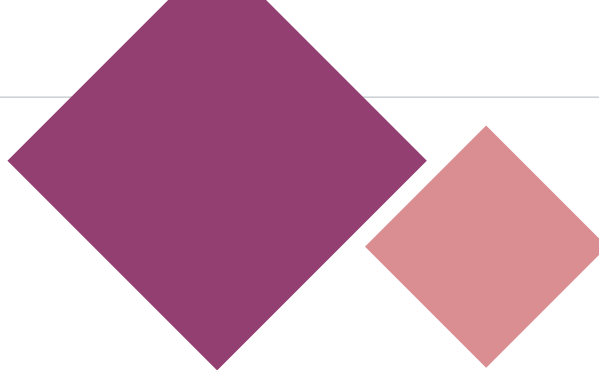


RAISING AWARENESS ON ENVIRONMENTAL SUSTAINABILITY IN FOOTBALL

EDUCATIONAL MODULES FOR MANAGERS AND
STAFF OF SPORT CLUBS



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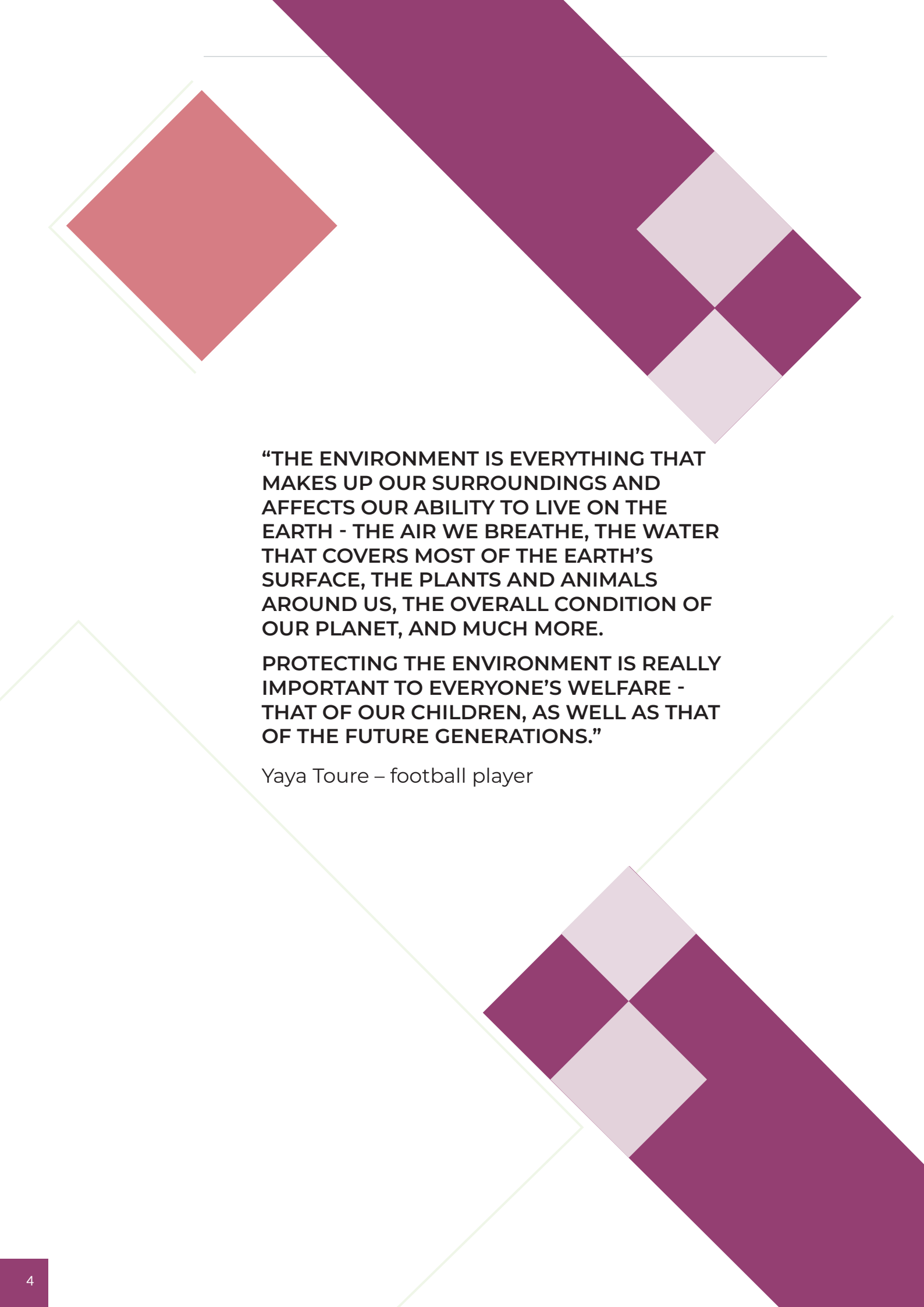
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The page features several large, abstract geometric shapes. A large purple shape is in the top right, a red diamond is in the top left, and a light green diamond is in the bottom left. In the bottom right, there is a complex shape made of overlapping purple and light purple diamonds. The text is centered in the middle of the page.

**“THE ENVIRONMENT IS EVERYTHING THAT
MAKES UP OUR SURROUNDINGS AND
AFFECTS OUR ABILITY TO LIVE ON THE
EARTH - THE AIR WE BREATHE, THE WATER
THAT COVERS MOST OF THE EARTH’S
SURFACE, THE PLANTS AND ANIMALS
AROUND US, THE OVERALL CONDITION OF
OUR PLANET, AND MUCH MORE.**

**PROTECTING THE ENVIRONMENT IS REALLY
IMPORTANT TO EVERYONE’S WELFARE -
THAT OF OUR CHILDREN, AS WELL AS THAT
OF THE FUTURE GENERATIONS.”**

Yaya Toure – football player



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LIST OF ACRONYMS:

- CH₄ - Methane
 - CO₂ - Carbon dioxide
 - CO₂e - Carbon dioxide equivalent
 - GHG - Greenhouse Gas Emissions
 - EU - European Union
 - NGO - Non Governmental Organisation
 - UN – United Nations
 - EC – European Commission
-



Introduction

WHY THIS MANUAL?

When we started working on the GreenCoach Erasmus + co-founded project idea, under which this manual has been developed, we took a thorough look into the world of sport to understand how much knowledge and understanding about environmental issues and their connection with their industry the main actors involved in it have.

Existing initiatives related to the environmental footprint in the sports industry mainly focus on large events and do not address the daily operation of sports organisations. Also, the solutions can be difficult to adapt to smaller or grassroots organisations. Furthermore, individual travel emissions related to players, fans, families and staff transportation are often neglected as they are more difficult to control and depend on individual values and the ethical behaviour of the users of the sports facilities.

So, within the framework of the project, we decided to work on practical solutions that could offer some possible tools and routes for the people that would like to have a real impact on the issue and that are involved in sport in various ways: event organizers, sport organizations, athletes, staff, coaches.

With respect to implementing systemic change in sports governance, some major challenges have been detected. Of course, since each club is unique, the challenges may differ from one

club to the other in terms of importance. Some of the foreseen challenges include time issues, a lack of interest at different organisational layers (managerial, staff, players, families, etc.), a lack of technical knowledge related to the measures that need to be implemented, organisational challenges and people management, communication barriers, lack of human and/or financial resources.

One of the outputs that we have been working on is this manual: a set of tools, ideas and information related with environmental and sustainability issues in the world of sports.

The manual, therefore, wants to be an answer to the challenges identified before in order to offer managers the necessary tools so that they are able to effectively put environmental measures into practice within their clubs. The environmental measures cover the issues of sports apparel, water and energy consumption, transportation and waste management.

The manual also contains some deeper information about a number of related issues, with related links. Our suggestion, in any case, is to use it as a base to provide some insights to the people participating in organized workshops, and provide space for further deepening on the topics when the people taking part are interested in knowing more about specific issues.

We wish you a good reading and hope this manual can be useful for you!

1. General Framework

1.1 THE “GREENCOACH” PROJECT

The project Greencoach is a 36 months project involving environmental organizations, formal and non formal education providers, and sport federations, with the aim to tackle the issue of environmental footprint of sport organisations by incorporating a monitoring benchmarking system and a better sustainability approach in their daily management of their actions.

To reach that, we worked on developing different tools:

- 🌐 An online user-friendly benchmarking and monitoring system to implement sustainability plans and decrease environmental footprint, with special focus on the engagement of players, spectators and staff in the use of more sustainable transport modes.
- 🌐 A quality seal that allows sport organisations to show their commitment to sustainability and incorporate it into their corporate image and communication strategy.
- 🌐 Two educational modules for different target groups.
- 🌐 An evidence-based study and an action plan for sports clubs to decrease their environmental footprint.

The primary target group of the project is the sports organisations, represented in the partnership through 5 National Football Associations, but also sportspeople, families, spectators and staff. The project builds capacities of these target groups through the education and training modules for promoting sustainable management in sports organisations. The consortium of eight partners connects Football Associations in five different countries (Belgium, Lithuania, Norway, France and Sweden) with non-profit and academic organisations based in Spain and Italy specialised in sustainability, education and youth empowerment.

As a result, we expect that Football Associations are getting new expertise and protocols to improve their internal governance on sustainability management, both on their daily management, and on the promotion among their users. It is expected that, with the time and the internalisation of the procedures, a snowball effect can be triggered and other sports organisations will replicate the actions. So, outside the partnership, the experience of the pilot Football Associations that are part of the consortium will set up examples for other sport organisations to use similar approaches and to incorporate sustainability strategies.

Sportspeople, families, fans, as well as staff of sport organizations get improved ethical values and codes of conduct related to environmental protection, especially on how to reduce their impacts when engaging in sport events. Moreover they develop more cross-cutting skills on environmental footprint management.

Environmental NGOs, local authorities, schools, and other local stakeholders from the four pilot countries benefit from the project by increasing their impacts and having local examples for citizenship engagement.



1.2 THE PARTNERSHIP

The GreenCoach partnership is composed of eight partners, connecting Football Associations based in five different countries (Belgium, France, Lithuania, Norway and Sweden) with non-profit and academic organisations based in Spain and Italy specialised in sustainability, education and youth empowerment.

Coordinator



ECOSERVEIS - SPAIN

Ecoserveis is a non-profit organisation specialised on environment and energy issues, working at the local and international level to promote sustainability since 1992.

Ecoserveis works at the intersection between environment and society in the fields of climate change, energy efficiency, energy saving, energy impact and environmental assessment to both provide solutions to interested stakeholders in the field of environmental protection and approach the scientific-technological field to society.

Ecoserveis has a wide experience working with

young people on educational and mentoring programs involving teachers, students and their parents, and improving employability through capacity building on sustainable energy knowledge and skills, as well as developing behavioural change programs targeting citizenship, employees, users of public buildings, and other specific targets.

The organization develops strategic plans for municipalities and regional governments in the field of sustainability, putting citizens in the center of the local planning.

Finally, Ecoserveis also performs research to understand the impacts of citizens' behaviour on the environment and viceversa how the environmental conditions affect humanity.

Technical Partners



TDM2000 INTERNATIONAL - ITALY

TDM 2000 International is a non-governmental, non-partisan, non-profit, independent organization founded in 2008 and committed to foster cooperation across Europe through a vivid network of youth organizations (currently 30 member organizations in 24 countries).

TDM 2000 International develops strategies to tackle issues affecting European youth, supporting

young people in achieving an active role in their community, developing creativity and innovation and gaining competences also useful to enter the labour market.

It creates links between young adults, policy makers, media and other stakeholders promoting the involvement of young people in the decision-making process underlining their key role for our societies.

It is specialized in developing non-formal education programs and learning methodologies in order to promote different topics such as human rights, no hate speech, gender issues, entrepreneurship, sports, intercultural dialogue, corporate social responsibility (CSR), conflict management, environment, social inclusion and others. It excels in training and coaching, project management, intercultural communication, fundraising and advocacy, lobbying and policy-making.



SANT'ANNA SCHOOL OF ADVANCED STUDIES (SSSA) - ITALY

Sant'Anna School of Advanced Studies is a reference both in Italy and abroad. The SSSA is part of the EUA (European University Association) as an "individual full member". The high level of research of the Sant'Anna School is recognized by international rankings: the "Times Higher Education" ranked the school as the best Italian University and among the best 10 young universities in the World in 2019. Within Sant'Anna School of Advanced Studies, the Institute of Management-IdM is active in the field of management in the context of private and public organizations as support to a renewed entrepreneurship, in a synergetic perspective, among business, institutions and research. IdM is the result of a

long-term cultural project with particular reference to the management of innovation, sustainability and healthcare.

Within the Institute of Management, the Sustainability Management Research Group-SuM has the mission to study and suggest new approaches to environmental management both in Italy and at the European level, supporting private and public organizations, firms and public Local Authorities. The actions of this project are carried out by the researchers of the area "Management of Sustainability". This research group has relevant experience obtained through the implementation of several EU projects within Erasmus + Sport, LIFE, MED and RFP.

Football Associations



NORWEGIAN FOOTBALL ASSOCIATION NORWAY

The Norwegian Football Association is the largest sports governing body in Norway, with a stated vision to provide “the joy of football, opportunities and challenges for all”. NFF’s objectives are: (1) To organise, lead and develop football in Norway; (2) To foster safe and positive environments for children and youth; (3) to develop robust and sustainable clubs and finally (4) To represent Norway internationally.

The association organises and is responsible for all

official football activities in Norway from grassroots to club and international elite level. With around 380000 active players, of which over 114000 are female, NFF arranges more than 330000 matches each season for the 30000 teams that make up our 1818 member clubs. The organisation has headquarters at Ullevaal Stadium in Oslo and 18 regional FA’s across the country.

NFF has a very strong role in society and has a potential to greatly impact the awareness and impact of sustainability through its activities. The UN SDG’s is part of their strategic focus in these years and is taking concrete steps and initiatives to leverage their position in this regard. Among their activities, the Domestic Cup competition, Tine Football School attended by over 70000 children every year, and the EAT MOVE SLEEP that promotes awareness and guidelines on healthy diet, activity levels and restitution.



ASSOCIATION DES CLUBS FRANCOPHONES DE FOOTBALL (ACFF) - BELGIUM

The A.C.F.F. (Association des Clubs Francophones de Football) is an association that manages the French speaking wing of the R.B.F.A. (Royal Belgian Football Federation). The aim of the organization is to organize and promote football in the French and German speaking part of Belgium.

One of those key activities consists in social projects that take into account the social responsibility of the organization. The mission of those projects is to promote, through football, values such as respect, fair play, inclusion, health, environment and education in our society. For the 2018-2019 season, 674 football clubs and 202021 members are affiliated to their organization. Those clubs play from the first national

amateur division to the last district level.

Currently, some projects that are ran by the A.C.F.F.: “Fair-Play Parents” (fair-play project), “Handifoot” (handicap inclusion project), “Everyone on the pitch” (refugee inclusion project) and “Complaints office” (against discrimination project), and “Backsafe Label”, with the aim to be sure that adults safely drive home their children after the match.

Moreover, they have an ongoing action proposed to clubs an “engagement” towards a “low carbon club”, with the development of an Excel calculator to quantify its carbon footprint and monitoring of actions to reduce his footprint with the help of collaborators of the A.C.F.F.



SWEDISH FOOTBALL ASSOCIATION (SFA) SWEDEN

The Swedish Football Association, founded in 1904, and its 24 regional associations is arranging all football competitions in Sweden. The clubs

are voting members at the annual meetings of the regional associations. The regional associations and the elite clubs are entitled to vote at the F.A.'s general meeting. Football is the largest sport in Sweden with 2,997 clubs with a total of more than 1 million members. Every third sport activity is football in Sweden.

The SFA is a partner in the Life TACKLE project, coordinated by the Sant'Anna School of Advanced Studies in Pisa. TACKLE aims at improving the environmental management of football matches and the overall level of awareness and attention towards environmental issues in the football sector, engaging its most relevant stakeholders – National Football Associations, Football Clubs, Stadiums managers and Supporters.



LITHUANIAN GRASSROOTS FOOTBALL ASSOCIATION (LGFA) -

The Lithuanian Grassroots Football Association is an associated member of the Lithuanian Football Federation and works in the same directions using a unified structure. The Association follows LFF strategy and general aim; to make football sport Nr. 1 in Lithuania. That is why grassroots association spreads the idea, that everybody and everyone can take part in football. Regardless age, gender, race, abilities, faith – everyone is welcomed to play, participate, organize or join the activities organized by the LGFA. To achieve this goal, the LGFA covers different areas organizing projects for kids (school games, festivals, kindergartens monthly challenges), people with disabilities (festivals, games), elder people – grandmothers, grandfathers (championships, camps) and various

other groups. The Lithuanian FA has more than 50 employees, Lithuanian grassroots football association – 5 full time employees (2 managers, accountant, director and the president).

While the Association is active since 2009, it never had a possibility to look deeper into a problem of CO2 emissions in the world and Lithuania through a grassroots football prism. The Association is aware of the problem and its environmental impact and this program would be a great start for it and football stakeholders. The LGFA believes that everyone should begin taking actions to pay public attention and show good examples on how football can be run together with the least possible environmental impact.



FRENCH FOOTBALL FEDERATION (FFF)

The French Football Federation is in charge of the organisation, development and promotion of the football within French territory. With more than 5 million football practitioners including 2.2 million registered players, the FFF is the first federation in the country. Beyond the organisation and management

of grassroots, amateur football and National French Teams, the FFF aims to promote French Football. Its action is relayed by more than 400,000 volunteers, 34,000 coaches, 17,000 clubs and millions of supporters. All these stakeholders contribute to offer the best conditions for practising football, while keeping rigorous issues related to sustainable development.

Regarding experience related to GreenCoach, the FFF has the Educative Federal Program which is an educational tool for clubs in order to increase awareness through sport & football values, which are Pleasure, Respect, Engagement, Tolerance and Solidarity. This tool is deployed in more than 6,000 clubs across France. Indeed, the FFF encourages clubs to set up actions for the environment protection and to reduce their ecological footprint. Moreover, there are 2 million euros dedicated to the clubs for adopting sustainable transport.

1.3 THE ERASMUS + PROGRAMME

Erasmus+ is the EU's programme aimed at supporting education, training, youth and sport in Europe. It provides opportunities for Europeans to study, train, gain experience, and volunteer abroad. Erasmus+ doesn't just focus on students. Merging seven prior programmes, it includes actions addressed to a wide variety of individuals and organisations.

Erasmus+ has opportunities for people of all ages, helping them to develop and share knowledge and experience at institutions and organisations in different countries. As already mentioned, Erasmus+ has among its targets a wide range of organisations, including universities, education and training providers, think-tanks, research organisations, and private businesses.

The aim of the Programme is to contribute to the Europe 2020 strategy for growth, jobs, social equity and inclusion, as well as the aims of ET 2020, the EU's strategic framework for education and training. Erasmus+ also aims to promote the

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sustainable development of its partners in the field of higher education, and contribute to achieving the objectives of the EU Youth Strategy.

Specific issues tackled by the programme include:

- ⊗ Reducing unemployment, especially among young people
- ⊗ Promoting adult learning, especially for new skills and skills required by the labour market
- ⊗ Encouraging young people to take part in European democracy
- ⊗ Supporting innovation, cooperation and reform
- ⊗ Reducing early school leaving
- ⊗ Promoting cooperation and mobility with the EU's partner countries

1.4 THE ERASMUS + SPORT ACTION

Among the different Key actions part of the Erasmus + Programme, there is one dedicated to Sport: this action offers the opportunity to develop, transfer and implement innovative practices in different areas relating to sport and physical activity between various organisations and actors in and outside sport.

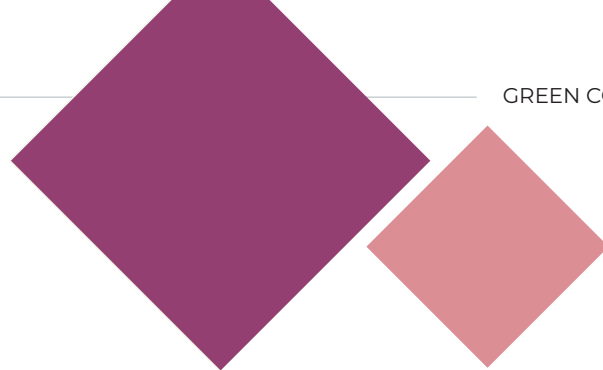
The type of consortium the action intends to promote and finance are the "Collaborative Partnerships" which are innovative projects aiming to:

- ⊗ Combat doping at grassroots level, notably in recreational environments such as amateur sport and fitness
- ⊗ Support prevention and raise awareness among stakeholders involved in the fight against match fixing
- ⊗ Support prevention, educational and innovative approaches to tackle violence, racism and intolerance in sport
- ⊗ Support the implementation of EU policy documents in the field of sport and other

relevant policy areas such as recommendations, guidelines, policy strategies, etc. (e.g. EU Physical Activity Guidelines, EU Guidelines on Dual Careers of Athletes, Principles on good governance in sport, etc.).

A particular focus has been put on projects that address grassroots sports. Collaborative Partnerships should promote the creation and development of European networks in the fields of sport. Erasmus+ will support the testing and development of new project formats and new forms of transnational cooperation in the field of sport that are likely to inspire the development, on a larger scale of initiatives supported with national funding schemes or other European funds, such as the European Structural and Investment Funds.

Collaborative Partnerships should also support the implementation of the European Week of Sport which is an initiative launched by the European Commission to promote sport and physical activities in the European Union, in the light of declining participation levels (following recent results from the



2013 Euro barometer). The European Week of Sport will evolve over the years and it is intended to be organised following a fixed calendar (2nd week of September) with an official opening, a flagship event and 3 to 5 focus days, each with a focus theme.

The Sport Collaborative Partnerships are open to any type of non-profit organisation and public bodies; depending on the objective of the project, they should involve an appropriate and diverse range of partners in order to benefit from different experiences, profiles and expertise and to produce relevant and high quality project results.

As a general rule, Collaborative Partnerships target the cooperation between organisations established in Programme Countries. However, organisations from Partner Countries can be involved in a Collaborative

Partnership, as partners (not as applicants), if their participation brings an essential added value to the project.

2. SPORT, ENVIRONMENT & EDUCATION



Lighting, watering and heating systems are also used in different sports; moreover, there are other sport-specific processes used to make the conditions optimal to practice them. All of this has a cost, when we look at what environmental impact there can be which is created by these activities.

Obviously, big sport events such as the Olympic Games or the Football World Cup, have a much higher impact than sport practiced at grassroots level. Nonetheless, it's important to raise awareness, understand the issues and try to work on common solutions at all different levels.

All contributions matter, and it's important that each single individual is making his/her part to support the reduction of environmental footprint inside and outside of our sport world. But to transform the single persons' actions into structural

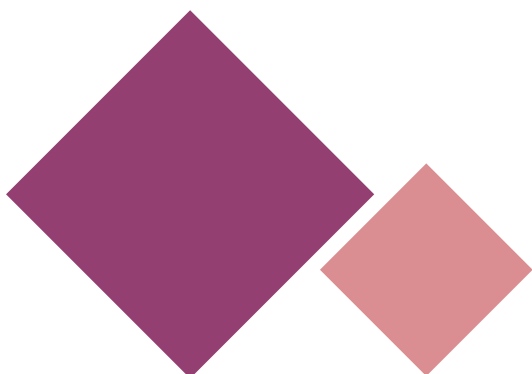
2.1 INTRODUCTION

The world of Sport, by its own definition, is tightly linked to nature and environment. With some sports this link is made more clear by the fact that they have to be practiced open air, under specific conditions: for example, skiing or cross country running would be impossible to be practiced without having an intact environment where to organize sport events. In other cases, the link is even more tight, because of the need for a healthy environment in order to practice them. It is the case, for example, of free climbing, surfing and most sports practiced in the open sea. But, besides this, every sport has a tight connection with the environment, and, in the same way, has a strong impact on it.

To practice any sport there is a need for different objects: shirts, balls, sticks, rackets, surfboards, kimonos, running shoes, helmets, and so on. The production of each of these items and of anything which rolls around the world of sport (terrains where it is practiced; stadiums; food consumed at sport events; etc.) has a price in terms of energy, water and other resources to be used in order to create them. Moreover, all of these items need to be disposed of in an optimal way when they stop being useful for their own goal, and that's also a huge challenge.

transformation, we need to act at the administrative level, making significant changes in the way in which our teams, clubs, federations and the world of sport as a whole, are managed. With this module we intend to provide information and practical resources for managers, coaches and staff of sport clubs and federations: people that are in charge of decisions within their organizations or can affect them and influence at the management level, or are in charge of providing educational activities to the users (players, fans, etc.). The other manual we developed, instead, is directed to players, athletes and fans of the sport clubs.

That said, both modules provide food for thought for sport organizations and sport event organizers, as to regular people: athletes, fans, and others that revolve around this world and can impact it with their actions and ideas. The main idea is that the activities and actions proposed in the two modules are adapted to the specific target audience: end users or event organisers.



2.2 WHAT ARE THE CHALLENGES?

As it's clear to understand, as much as sport brings very big benefits to everyone taking part and interest in it, it also generates several potential issues.

Such challenges might not be immediately clear, but can definitely contribute to increasing global environmental issues.

There are several aspects that should be taken into account when we think that we should understand and take care about the environmental impact generated by the sport activities.

In this manual we take care about 6 different areas, starting with a more general discussion about the footprint left by sport events and activities (Environmental Footprint), and ending with a focus on a particularly relevant topic (Plastic Consumption), because of its powerful impact in terms of waste management. The chapters and issues in which we dedicated space in this manual, therefore, are as following:

- ⊗ Environmental Footprint
- ⊗ Waste Management
- ⊗ Energy Consumption
- ⊗ Water Consumption
- ⊗ Sustainable Mobility
- ⊗ Plastic Consumption

2.3 SPORT, ENVIRONMENT AND EDUCATION

When it comes to solutions, we believe that one of the best ones is to work on education.

Raising awareness, providing knowledge and tools to better understand and react to the challenges and impact generated by sport on environmental issues, is one of the main ways to start a virtuous circle that can lead to really affect the problems and reduce their harm if not cancel it.

In previous actions, we have been seen that this is not something that immediately generates a benefit for the people and for the environment itself, as it might take time to digest information, process it and make it become a habit, but it surely provides a great answer to certain issues, even if it requires common effort and patience.

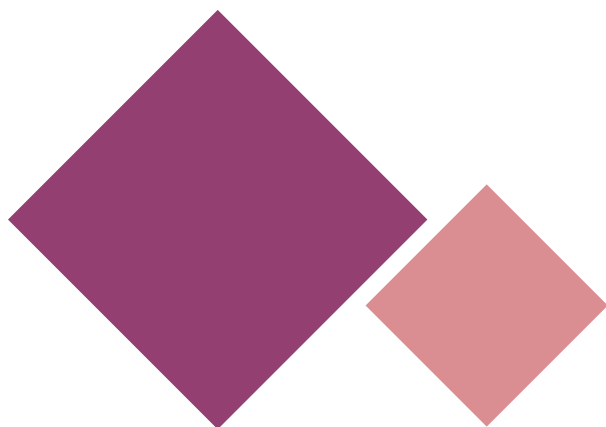
As such, in the activities that we have foreseen we combine the world of the people involved, including managers and staff of clubs and federations.

The education provided, therefore, is on the environmental challenges and solutions, and typically uses sport either as a metaphor or as a way to play together to better understand how the issues work in practice.

The way in which we approach the issues, is as follows:

- ⊗ Brainstorming on the issues and understanding how much aware about them the participants are;
- ⊗ Experiencing how the issues work in practice (with different activities, simulations, quizzes, etc.);
- ⊗ Reflecting on the experiences and what could we learn from them;
- ⊗ Understanding how this issues are reflected in the sport life of participants , their clubs, and in their everyday life;
- ⊗ Realize what can be done in their clubs to impact such issues at a structural level;
- ⊗ Eventually, plan common or single actions;
- ⊗ Evaluating the overall experience and the learning generated.

With this approach, based on the Kolb cycle of learning , we are able to tackle the issues and make sure that the participants



can get the most out of the experience. It is important to notice, that by our educational approach (as it will be better understood in the following subchapter) we aim at making participants think, realize what can be done, and reflect on what can be possibly done realistically by their clubs in order to enforce a change in the environmental footprint produced by them. We don't offer ready solutions, but stimulate reflection and confrontation, in order to come up with ideas that are in line with the possibilities, needs and will of each participating club. Therefore, we wish to stimulate reflection on practical solutions rather than just giving ideas that might not be tailored on the club itself. Moreover, we want to stimulate each club and federation to act as multipliers and offer activities to their athletes, to their coaches and to their fans, to provide them educational tools on how to address environmental challenges connected to their sport.

2.4 THE NON FORMAL EDUCATION APPROACH

Non formal education (NFE) can be defined as an educational structured methodology that privileges dynamic, creative and cooperative methods of learning (such as role-plays, simulation, drawing and group discussions) rather than a formal approach made with lectures and imposed learning paths.

It has to be distinct from Informal Learning (which, at times, could be incorporated within our programmes) as this is a kind of “accidental learning”, concerned with all the skills acquired in daily life in the frame of family, work, leisure and sport, without set objectives, motives or programmes, and it can be that there is no conscious intention to learn and not even to have the awareness that they are learning.

Non Formal Education, instead, it's conscious and voluntary and always structured with programmes, schedules, managed times, set objectives, and an evaluation cycle.

Typical features of a Non Formal Education programme are as follows:

- ⊕ Outside formal buildings. As opposed to formal programmes happening in schools or universities, typically these programmes can happen in various places, including nature, or, in our case, football/sport fields.
- ⊕ Non Hierarchical. The process of learning in NFE

foresees that trainers/facilitators are at the same level of the “students” or participants. Everyone can learn from each other and the trainer is more a guidance (providing also theoretical inputs and insights where necessary) than a teacher.

- ⊕ Voluntary. The activities within this frame are never obligatory but participants should be motivated to take part in it.
- ⊕ Safe Space. It's important to have a good building of the team in the beginning where everyone can feel safe and respected, as we will need the contribution of everyone without shame to express different opinions or fear of being wrong.
- ⊕ Structured with Precise Objectives. As mentioned, NFE is always set with a structure and every single activity has a set of objectives to reach by the end of it, which can be evaluated in the end.
- ⊕ Educational Aims. Although some activities might be very playful or funny, the fun itself should never be the ultimate goal of NFE activities, but just a drive to let participants enjoy their learning. All activities have ultimately the goal to produce a learning experience or be instrumental to make it as productive as possible (as per team building activities, for example).
- ⊕ Experiential. Non Formal Education privileges practice over theory. Participants are set to make

an experience (a simulation, a game of some kind, a brainstorming about a topic) and then to reflect upon it debriefing the experience with the coach/trainer and moving on to find solutions to issues identified, to be applied in their daily life and in systematic ways. Participants should always be invited to “Learn by doing”.

- ⊕ Stimulates Creativity and Participation. The workshops developed want to have participants using their creativity and imagination. The more the participants are stimulated to take part in discussions and work, the more the whole group will benefit from the knowledge and ideas of each other.
- ⊕ Learner Centred. The activities should always be focused on targeting the participants' needs, in terms of objectives, but also of their capacity and knowledge. Everything should be tailored to the group of participants for maximum impact.
- ⊕ Holistic Approach. While formal education typically privileges the raising of knowledge about theory and less about practice, NFE works to affect our actions in three dimensions of learning: Knowledge (or what you get with your brain), Skills (what you can do with your hands) and Attitudes (behaviours and values guided by our heart).
- ⊕ Cooperation vs Competition. Rather than trying to understand who is the best “student of the class”, our approach puts people in groups in order to cooperate towards community learning rather than indulge in checking who knows more about a given topic. The ultimate goal is learning, after all, so the fact that someone knows less should never be an obstacle. If someone knows a lot about a certain topic, he or she should be invited to share their experience with the others as much as possible.
- ⊕ Self-Assessment and No Marks or Diplomas. Nobody can judge the level of preparation reached by a participant in the field of the educational workshops developed. There should be instead, a process of evaluation comprising a self-assessment stimulation for participants to realize by themselves what they have been learning during the activities. For this reason, nobody can give any kind of votes or marks, or do any kind of exams.

NON FORMAL EDUCATION IS ALSO THE USE OF LEARNING METHODS AND THE ADOPTION OF SPECIFIC LEARNING OBJECTIVES:

- ⊕ Learning to learn
- ⊕ Learning individually and in a group
- ⊕ Putting the emphasis as much on the methods of learning as on the content
- ⊕ Putting into practise the knowledge and skills acquired
- ⊕ Developing the capacity to participate socially
- ⊕ Developing the ability to adapt
- ⊕ Developing the ability to take on responsibility individually and collectively
- ⊕ Developing the ability to set objectives and attain them
- ⊕ Learning to motivate oneself

3. WORKSHOPS ON ENVIRONMENTAL SUSTAINABILITY FOR STAFF & MANAGERS OF SPORT CLUBS



3.1 INTRODUCTION

The following is a collection of workshops that have been inspired and adapted by other manuals and previous activities run in the field of Non-Formal education, or designed from scratch for the project GreenCoach. The workshops are thought to involve managers, board and staff of sport clubs. All the workshops in the list are planned to be implemented with the following structure:

- 🌐 **WARM UP/ENERGIZER*** - it is usually implemented to help people to get to know each other, to increase the energy or the enthusiasm level of the group, encouraging team building or making people start thinking about a specific topic. Furthermore, it is demonstrated that a physical activity done before starting a reflection group could help participants to be more focused and to maintain concentration. Find a list of tools at section 3.2.
- 🌐 **INTRODUCTION**** - All the people involved in the activity will start getting into the topic with a debate, a brainstorming or a conversation led by the facilitator in a non-formal environment. In case you already had the chance to talk with the beneficiaries about the specific topics of the workshop this part could be skipped and the main activity could be implemented without an introduction.

- 🌐 **MAIN ACTIVITY** - A physical activity with a specific aim.
- 🌐 **DEBRIEFING** - A debate led by the facilitator with the aim to make the participants reflect about their feelings and the meaning of the activity previously done.
- 🌐 **FINAL EVALUATION** - A phase where the participants are asked to assess the entire workshop, useful for educators and facilitators to better understand strengths and weaknesses of the workshop proposed. Find a list of tools at 3.4.

The structure proposed could be changed and adapted according to the specific needs of the participants and considering the final aim the facilitators would like to achieve. In the first part of the description of the workshop, the "Difficulty Level" refers to the abilities needed by the participants to successfully complete the workshop.

PLEASE NOTE: All the activities should be implemented in accordance with the provisions set at national level and the rules laid down by the sport federations, in order to avoid and slow the spread of the Coronavirus Disease 2019 (COVID-19). The existing general recommendations should be taken into account when realizing the workshops.

3.2 SUGGESTED WARM-UPS/ENERGIZERS

The following is a collection of workshops that have been inspired and adapted by other manuals and previous activities run in the field of Non-Formal education, or designed from scratch for the project GreenCoach. The workshops are thought to involve sports practitioners. All the workshops in the list are planned to be implemented with the following structure:

1. TITLE: EVOLUTION

GOAL: To increase energy of a group, mix it up a bit and offer some friendly competition

TIME: At least 5 minutes

TOOLS FOR METHODS/CONDITIONS: A spacious room/open space

RULES: It is simply a rock-paper-scissors tournament framework. Everyone starts at the lowest level (fish), but when someone wins a game of rock-paper-scissors immediately evolves to the next level. Out of each game there is a winner who evolves up a level and a loser who devolves back a level. Participants can only play rock-paper-scissors against those who are at the same evolutionary level as them – there is a pose/action/noise to indicate which level others are at. Therefore, every participant can find more competitors by checking if they're doing the same thing.

THE EVOLUTIONARY CHAIN:

- 🐟 **FISH** – imitate swimming
- 🐭 **MOUSE** – imitate whiskers of a mouse with finger gestures
- 🐒 **MONKEY** – imitate voice and movements of a monkey
- 👤 **HUMAN** – the game is won

RECOMMENDATIONS: The facilitator can encourage participants to move around at a fast pace so everyone gets to move up and down the evolutionary ladder a few times. Because of the evolution/devolution process, nobody can play just with their friends as, one way or another, their friends will quickly no longer be at the same level. It is always possible to use more levels on an evolutionary chain or lose some.

2. TITLE: MOVE THE ROPE

GOAL: To recall names of participants, make them work as a team and create good atmosphere

TIME: 5-10 minutes (depends on a number of participants)

TOOLS FOR METHODS/CONDITIONS: Rope/hula-hoop, piece of fabric/scarf

RULES: Participants stand in a circle holding a rope in their hands. Scarf is attached to the rope. When the facilitator says a name of one of the participants they all have to move the rope, so that the scarf arrives to that participant whose name was just mentioned. Everyone is allowed to use only forefinger to move the rope. The point of the game is to move the rope as fast as possible and repeat as many names as possible.

RECOMMENDATIONS: This activity can be made more challenging by making a participant who is holding a rope with a scarf at a time say a name of someone who is standing on a completely opposite side. Alternatively, one participant can say a name of another participant who is standing by. If the participants know already the names of all the members of the group, the day and month of birth could be used instead of names.

3. TITLE: NAME ROULETTE

TYPE: Icebreaker, introduction

GOAL: To get to know each other better and more of things everyone likes

TIME: About 20-30 min

TOOLS FOR METHODS/CONDITIONS: None

RULES: Everyone stands in a circle close to each other. The game starts with one person telling his/her name, and an adjective that could describe himself/herself starting with the first letter of their names. Then another person continues in the same manner, but before starting with his/her name and adjective she/he has to repeat all the names and adjectives already said by the others.

RECOMMENDATIONS: This method can be used more than once, even periodically, before or after other activities. To encourage participants, the facilitator could start the activity.

4. TITLE: HUMAN KNOT

GOAL: To make participants work together in order to find a solution for a problem

TIME: 5-30 minutes (depends on a number of participants)

TOOLS FOR METHODS/CONDITIONS: None

RULES: Participants stand in a circle shoulder to shoulder. Then they are asked to close their eyes, slowly move towards the centre of the circle and find a hand across that circle.

Eventually every hand should have a pair. When everyone is paired they can open their eyes and see the situation. The main task of this activity is to try untie the human knot without letting go off any hands and everyone should end up standing in a circle connected by hands like in the beginning.

RECOMMENDATIONS: Best and more difficult knots are made when participants aim for hands which at first are as far from them as possible. Also, to increase the difficulty level some of the participants could be either blindfolded or asked to be completely silent in general.

5. TITLE: GET THE FLOW

GOAL: To increase the energy of participants

TIME: 10 minutes

TOOLS FOR METHODS/CONDITIONS: A spacious room

RULES: Participants stand randomly in a room and the facilitator prepares to give different signals to them to indicate what they'll all have to do. When the facilitator claps once participants take one step; two-time-clap means participants jump up; three-time-clap make them kneel down; when the facilitator whistles everybody has to make their own noise and open their arms.

RECOMMENDATIONS: Signals as well as their meanings that are given to a group can vary. It is important to practice once or twice every movement everybody will have to make after the agreed signal before really going into the game.

6. TITLE: NINJA

GOAL: To create positive energy and break the ice in the group

TIME: 5-20 minutes (depends on a size of a group)

TOOLS FOR METHODS/CONDITIONS: None

RULES: Participants stand in a circle and the facilitator starts the game by putting his/her hands in front pointing at someone in the group and saying Hi; the participant who was pointed at should move his hands up by saying Ha; the two participants standing next to the one holding the hands up should 'slay' him by saying Ho. The participant who said Ha should continue the game by pointing at someone else in the circle again and saying Hi. The game continues like this until someone makes a mistake or takes too long to respond. When this happens that person is eliminated from the game and it continues until there are 3 people left.

RECOMMENDATIONS: At the beginning of the game the facilitators should demonstrate how it is played, so others will catch the idea and learn faster. Nobody should be eliminated from the game at the very beginning as it takes a little time to get used to it. If the game gets too slow, the facilitators should encourage participants to move faster because only then it gets interesting and even funnier.

3.2 WORKSHOPS

TABLE OF WORKSHOPS

NAME	LEVEL OF DIFFICULTY 1-5	WASTE MANAGEMENT	WATER CONSUMPTION	ENERGY CONSUMPTION	SUSTAINABLE MOBILITY	PLASTIC CONSUMPTION	ENVIRONMENTAL FOOTPRINT	PAGE
Re-Basket: Recycling awareness empowered	●●●○○							26
Life in plastic... is it fantastic?"	●●●○○							30
Chicken Sandwich	●●●○○							36
Electri-City	●●●●○							42
Re-word, Re-ward, Re-world	●●●○○							46
Stairway to Green Heaven	●●●○○							50
Sustainable Mobility Scanner	●●●○○							56
Timeline of Decomposition	●●●○○							60
Water Playmakers	●●●○○							64

EXPLANATION OF THE WORKSHOPS TEMPLATE

- TITLE:** The name of the workshop described.
- TOPICS:** List of which topics (following the list of topics included in the manual) are discussed in the workshop.
- DIFFICULTY LEVEL:** The level of complexity of the exercise compared to the level of knowledge and awareness of the participants.
- ACTIVITY TYPE:** Static, Dynamic or Movement activity, including methods used (brainstorming, simulation, etc.)
- TARGET GROUP:** To whom is directed the workshop, or to whom is most suitable to direct it.
- GROUP SIZE:** Suggested number of participants to implement the activity as planned.
- TIME:** Suggested duration of the activity.
- VENUE:** What kind of space is needed to implement the activity.
- STAFF INVOLVED:** How many facilitators, trainers and/or other staff are needed to run the activity.
- LANGUAGE:** In which language the activity should be ran.
- MATERIALS:** What kind of materials are needed to run the activity (i.e. balls, pens, markers, papers, etc.)
- OBJECTIVES:** With what aims the activity is done; what is the activity aiming to reach
- OVERVIEW:** General description of the activity.
- ACTIVITY:** Detailed description of the activity plan.



WORKSHOP: “RE-BASKET: RECYCLING AWARENESS EMPOWERED”**“R.E.U.S.E. - RECYCLING EMPOWERMENT TO UPHOLD SUSTAINABILITY FOR THE ENVIRONMENT”**

TOPICS: Waste Management; Plastic consumption

DIFFICULTY LEVEL: ●●●○○

ACTIVITY TYPE: Static (brainstorming, debates, debriefing) - Movement

TARGET GROUP: Staff and managers of sport clubs

GROUP SIZE: 15/20 people

TIME: 1 hour

VENUE: Hall, Working Room

STAFF INVOLVED: 2 Facilitators + (optional) 1 helping staff

LANGUAGE: All the activities will be implemented using the beneficiaries' mother tongue to guarantee the effectiveness of the workshop

MATERIALS: Brochures, stickers, leaflets, roll-up, signature list, pens, flipcharts, balls, flag, deck of cards, carton boxes/small bags, adhesive tape, pencils, whistles

OBJECTIVES:

- 🌐 To promote sense of responsibility towards an effective recycling and separating waste management
- 🌐 To raise awareness on the importance and positive impact of the separate collection of rubbish
- 🌐 To find ideas to enforce better recycling strategies in their sport clubs

OVERVIEW: The activity is planned to give the opportunity to the participants to realize the importance of the separate collection of waste, to understand how important it is to know the exact rules and pass them to other people within our clubs, to stress the impact of our everyday actions on the environment and to find out how to improve a correct behaviour of the uses of our clubs. Some other collateral skills will be treated with the workshop such as team work and decision making, leadership, sportsmanship.

ACTIVITY

1. INTRODUCTION/BRAINSTORMING

The activity will start with the facilitators and the participants all gathered in a circle, in a comfortable environment. The facilitator will start the introductory conversation with a brainstorming answer to a question to the participants: "Think for a second about environmental protection, what is the first word coming to your mind?" All the words/concepts are written on flipcharts/blackboard. After a short discussion the facilitator leads the participants to a definition, mentioning also an official one:

"Any activity to maintain or restore the quality of environmental media through preventing the emission of pollutants or reducing the presence of polluting substances in environmental media. It may consist of: a) changes in characteristics of goods or services; b) changes in consumption patterns; c) changes in production techniques d) treatment or disposal of residuals in separate environmental protection facilities; e) recycling; f) prevention of degradation of the landscape and ecosystem".

Source: Glossary of Environment Statistics, Studies in Methods, Series F, No. 67, United Nations, New York, 1997.

Time: 10 minutes

2. WARM UP/ENERGIZER*

Time: 5 minutes

3. MAIN ACTIVITY

After the introductory part and the warm up the participants will be divided in groups of five people each* for the realization of the main activity.

The facilitator(s) will have to arrange in advance a set of 5 boxes (or a number depending on the different kind of garbage that can be differentiated in your local community)**: every box represents one category of the separate collection of rubbish***.



Every group of five will stand in a line. Once the facilitator gives the start with the whistle the first participant of the first team has to pick a card randomly from a deck he/she will be holding. In the cards there will be images of several objects of everyday life; the participant will have to decide as soon as possible in which category of the separate collection of waste it should go when useless and broken; once decided he/she will run to the set of boxes and give the answer according to his/her decision, by dropping the card in the box representing his/her choice. After finishing, the second player will start the same game and so on till the last player of the group. In case, multiple rounds can be made, depending also on how many teams are available. The team will get one point for every correct answer given, which will be revealed in the end only (as the same cards might go to different groups).

The exercise will be repeated for the remaining groups. Score will then be unveiled and the correct answers will be given.

Time: 20 minutes

4. DEBRIEFING

The activity will be closed with a debriefing to gather the overall feelings of the participants regarding the activity. You may use the following questions:

- ⊗ How hard was it to find an answer in your group?
- ⊗ Do you think your group has a good knowledge of the rules for a correct separate collection of waste?
- ⊗ What about people in our community, and in our sport club? Do they know and follow the rules about separate waste?
- ⊗ Do you think it is always easy to follow them? Are they clear for everyone?
- ⊗ How do you evaluate the strategies for collection of separate waste implemented in your sport club? What is happening?
- ⊗ Do you think it should be improved? How?
- ⊗ Is there any material in particular that is poorly managed and there should be strategies to deal with it differently?
- ⊗ Is it possible to think about reduction of use of such materials rather than just management? How?

Give to each group a flipchart to take note about ideas created during their brainstorming and let them discuss it in the plenary after finishing.

Mention also some additional good practices already existing concerning separate collection and recycle of waste.

Time: 20/25 minutes

5. FINAL EVALUATION

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Time: 5 minutes

TIPS FOR FACILITATORS

* Put on the ground five pens, five pencils, five glues, five markers, five scotch tape rolls; ask all the participants to grab one item and to find the other player with the same items

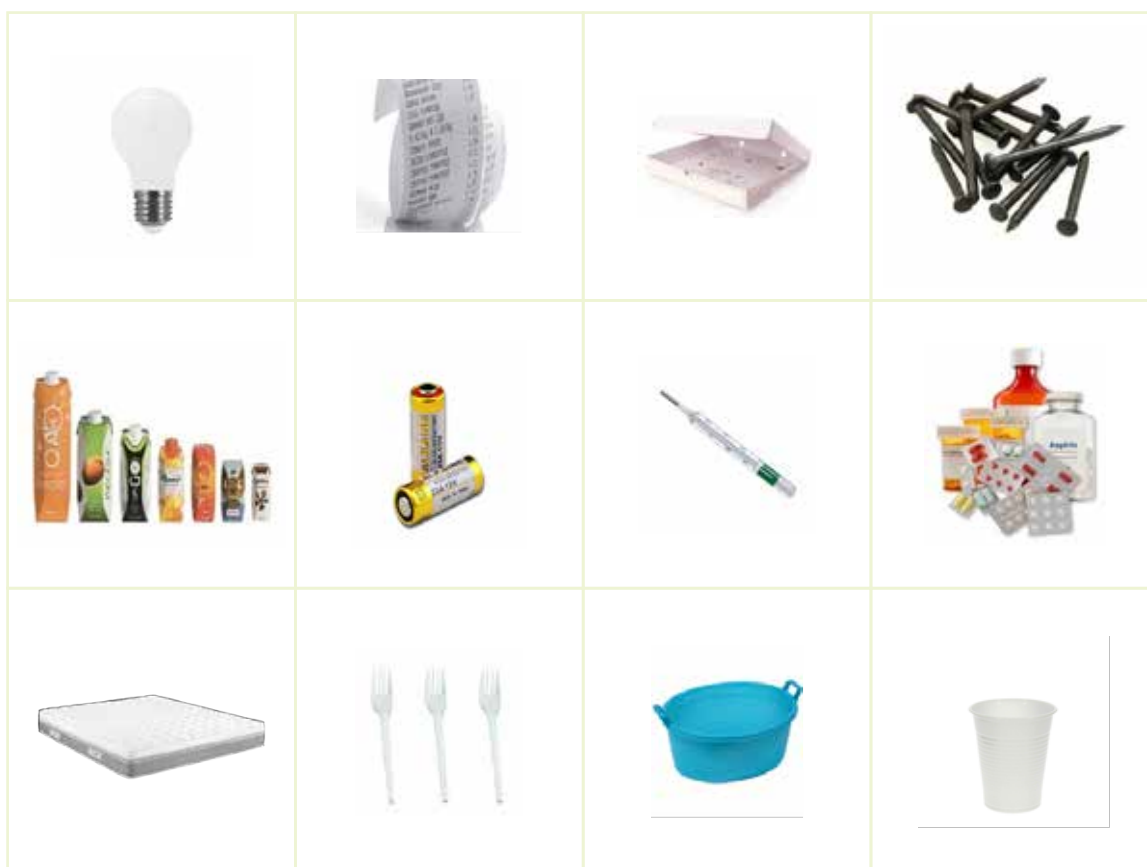
** The set where the session will take place should be prepared before starting the activity

*** Use your creativity to create the containers to put on the cards for the activity of guessing where the separated garbage should go. They can be box with signs, different colours, real trash bins, bags of different colours, etc

**** The categories of the separate collection of rubbish have to be in accordance with the local regulations where the workshop is implemented and where the beneficiaries live.

- ⊗ Make sure you know the correct answer for the category of the separate collection of waste related to each item in the cards
- ⊗ You can create your own deck of cards or add new item to the ones already provided
- ⊗ Be sure you know enough info on the impact of separate collection of waste to finalize the debriefing (look for some good practices in your country)
- ⊗ The session could be used for any sport club
- ⊗ It is suggested at the end of the workshop to distribute to each participant materials regarding reduction and recycling of waste materials and existing strategies by different companies

Deck of Example Cards:



WORKSHOP



“LIFE IN PLASTIC... IS IT FANTASTIC?”

TOPICS: Plastic consumption

DIFFICULTY LEVEL: ●●●○○

ACTIVITY TYPE: Static (Quiz+Debate)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Up to 30 people

TIME: 80-90 minutes

VENUE: Hall/working room

STAFF INVOLVED: 1-2 Facilitators + 1 helping staff (optional)

LANGUAGE: All the activities will be implemented using the beneficiaries' mother tongue to guarantee the effectiveness of the workshop

MATERIALS: Signature list, pictures of plastic items for the division in groups, tape, list of questions, list of statements for the “where do you stand”, whiteboard/flipchart board with flipcharts, possibly computer with projector

OBJECTIVES:

- ⊕ To raise awareness on the impact of plastic use in general and specifically in sport environment
- ⊕ To check and reflect on how much participants actually know on the impact of plastic consumption
- ⊕ To explore together opinions on the myths of plastic use
- ⊕ To think about possible strategies that can be implemented to reduce the use of plastic in the sport clubs and daily life, and/or to find suitable alternatives

OVERVIEW: The activity wants to make participants aware of what single use plastic consumption can cause and how impactful it can be, reflecting upon possible actions to do in order to reduce our personal impact. The session will be divided in four different steps:

1. Energizer/Group Division
2. Introduction
3. Catch the flag game
4. Where do you stand
5. Debriefing/Reflecting about solutions/collateral skills will be treated with the workshop such as team work, decision making, leadership, sportsmanship

ACTIVITY

1. ENERGIZER/GROUP DIVISION

Time: 5/10 minutes

The trainers/facilitators prepare in advance a set of images printed on small papers. The images have to represent up to six different plastic items (i.e. bottle, container, flask, plate, cup, lunchbox) and should be in equal numbers, and a total of the participants' number. For example, if there are 18 participants, a total of 3 copies of each of the six items is needed; if there are 15 participants, it's possible to use just 5 images, with 3 copies each).

The participants stand in a circle and turn their backs to the trainers/facilitators. The facilitators stick on their back the papers, using the sticky tape/paper tape. After that, the participants will have to keep running around, and, silently, find out who has their same symbol stuck on the back, and, when they find out, they have to run together to find the other components of the same group. Important to remind that, during this procedure they cannot talk to each other, but they can use gestures and eventually also show to others that they have the same symbol.

After they finish, you can divide them, putting together some groups in order to have in the end two or three groups of equal number of participants. In case you don't have this possibility, one participant will stand back in one group working as a "substitution".

A possible variation of the exercise is instead that they have to form groups having one person with each type of object forming a group comprising them all.

2. INTRODUCTION

Time: 5-10 minutes

Start by asking some questions to the participants, such as:

- Do they know from which material the items they had drawn on their back are made?
- Do they use them regularly in and out of the sport environment?
- Do they think they have an important impact in terms of environment?

3. QUIZ GAME

Time: 20 minutes

Each of the group receives a set of cards with written: A, B, C, D, True, False. These cards represent the answers that can be given to the questions that will be posed to them.

Then the main trainer/facilitator reads with loud voice one of the questions from the list; if there's availability of a projector, it's a good idea to write down the questions (and answers) in a power point, so that they are visible to all participants. The participants have a short time to talk within their team and agree upon a common answer. The trainer/facilitator then calls upon the teams to provide their answer and they have to show the card with the one they have chosen. If they answer correctly, their team gets one point.

You can keep a scoreboard with the points with a whiteboard or such. Also, you can add other elements such as giving more points for certain answers (like the last ones, to add some hype to the competition) and provide a certain prize for the winners.

4. WHERE DO YOU STAND

Time: 20-25 minutes

The participants stay standing in the room. The room is previously divided, possibly with a line of paper tape on the ground, in two sectors: one has on the wall a sign previously stuck with “I agree”, the other one “I disagree”.

The facilitator reads out loud a statement about plastic consumption and its impact in the environment (see list below), possibly showing it with the projector so everyone has it visible. The participants, singularly, will have to move according to the fact if they, personally, agree, disagree or are not sure about their position on the statement. If they are not sure or they have some controversial position, they should stay in the middle.

After each participant has moved to the spot that represents his/her position, the facilitator leads a discussion/debate about why did they choose that position, asking to some participants to explain their decision. The trainer/facilitator needs to make sure that each of the position has at least one representative explaining their choice, and can give the chance to people to respond and react at any time by raising their hand.

In case someone changes their mind, they can also move to the new position, and explain why.

5. DEBRIEFING

Time: 15-20 minutes

During the debriefing part, the facilitator will gather the participant to sit down around in a circle and will ask different questions on their experience:

- ⊗ How did you like the activity? Which part was the most interesting for you?
- ⊗ Did you learn something that you didn't know before? What?
- ⊗ Are there any questions that still you think did not have an answer?
- ⊗ Have you ever thought before about how impactful the use of plastic items can be for our environment?
- ⊗ Do you think that, in our sporting environment, we use a lot of plastic? For what?
- ⊗ Do you think we should work to reduce this use, or to change some habits? What do you think we could do?
- ⊗ Is there anything you are already doing in your clubs? Is there any good practice you heard from somewhere else that could be replicated?
- ⊗ What do you think could be done at structural level from your club?

6. FINAL EVALUATION

Time: 5 minutes

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II of this manual

HANDOUTS

QUIZ GAME

QUESTIONS	ANSWERS
When plastic was first introduced it was supposed to be an environmentally friendly material. True or False?	True. Early plastics were created as manmade alternatives to ivory and tortoiseshell. The creator of the plastic bag, Sten Gustaf Thulin, also hoped its widespread use would stop forests being cut down for paper bags.
Which of these items contain plastic? A. Shirts B. Carpets C. Food D. All of the above	D - Plastic is everywhere: fibres to make up clothes and carpets, inks to dye them, plastic thrown and getting back in the food chain. It's fundamental to recycle what we can, although some things are difficult to recycle.
What are plastics made of? A. Coal B. Petroleum and Natural Gas C. Limestone	B – Plastics are mainly made from leftovers of the refinery industry. Some plastics are made from the same natural gas that is thrown into a disposable bottle instead of being used (for example) for house heating.
99% of plastic in our oceans has come from plastic that is used on land. True or False?	False. 80 per cent of plastic entering the ocean comes from land-based sources. The remaining 20 per cent comes from lost and discarded fishing gear, throwing rubbish into the sea, and lost cargo during storms.
Almost all seabirds are swallowing pieces of plastic waste. True or false?	False. A 2015 study estimated that 90 per cent of all seabirds today have eaten plastic of some kind and this figure is likely to rise to 99 per cent by 2050. Birds are attracted to brightly coloured plastics, which they can mistake for food.
Since 1950, over one ton of plastic has been produced for every person live today. True or False?	True. 7.8 billion tonnes between 1950 and 2015, with one tonne being the weight of over 30,000 1.5 litre plastic bottles. If all the plastic produced since 1950 had been used to make 1.5 litre plastic bottles, the total production would have stretched to 239 trillion plastic bottles. Laid end-to-end, this is enough to encircle planet Earth nearly 2 million times.

The Great Pacific Garbage Patch, an area in the Pacific Ocean where plastic is collected by ocean currents, is visible from space. True or False?	Although larger items do collect in the Great Pacific Garbage Patch, its name is slightly misleading. Most of the plastic collecting in the middle of the Pacific Ocean is made up of plastic broken up into tiny particles so it is more like a soup than a garbage patch.
What percentage of plastic is recycled every year? A. Less than 10% B. Around 10-15% C. Around 20% D. More than 20%	C - While only 9 per cent of all the 8.3 billion tonnes of plastic ever created has been recycled, current estimates are that 20 per cent of plastic is currently recycled globally.
All types of plastic collected in municipal programs get actually recycled. True or False?	False. Often, it's just to avoid confusion and separating them, then another sorting facility will re-separate them.
If a plastic container or package is stamped with a number in a small recycling triangle, it can be recycled. True or False?	No. The numbers indicate which type of plastic resins the item is made of. Materials such as polystyrene foam or PVC require high quantities to be profitably recycled, therefore most programs exclude them.
From which of these elements is possible to produce plastic? A. Beef bones B. Potatoes C. Beer D. Tomatoes	B - Nowadays there are a lot of possibilities to make bio-plastic which comes from (for example) potatoes, corn or sugar cane.
By what year the EU has planned the complete banishing of single-use plastic? A. By 2019 B. By 2021 C. By 2025 D. By 2030	B – 560 MEPs voted in favour of the agreement with EU ministers, 35 against and 28 abstained, on 27th March 2019. The single-use plastic products banned in EU by 2021 include plastic plates, cups, cutlery and more. Member States will have to achieve a 90% collection target for plastic bottles by 2029, and plastic bottles will have to contain at least 25% of recycled content by 2025 and 30% by 2030.
How big are microplastics? A. Smaller than 5mm B. 5-10mm C. 1-10 cm D. Bigger than 10cm	A - Microplastics are small plastic pieces less than five millimetres long which can be harmful to our ocean and aquatic life. Invisible contaminants have been found in water and wastewater ranging in size from five to 20 microns, where they can escape conventional treatment works.

STATEMENTS FOR “WHERE DO YOU STAND”

I SEE PLASTIC POLLUTION IN THE AREA WHERE I LIVE

WE SHOULD BAN THE USE OF PLASTIC BOTTLES IN OUR SPORT CLUB.

PLASTIC BOTTLES ARE MORE SUSTAINABLE THAN GLASS.

MICROPLASTICS ARE A PROBLEM ALSO FOR PEOPLE, NOT ONLY FOR ANIMALS SUCH AS DOLPHINS.

THE GOVERNMENT SHOULD MAKE LAWS TO STOP THE USE OF SINGLE USE PLASTIC.

SEPARATELY COLLECTING PLASTIC RUBBISH IS VERY IMPORTANT ALSO FOR THE ECONOMY.

WE SHOULD BE PAID FOR RECYCLING OUR PLASTIC RUBBISH.

WE SHOULD TAKE CARE OF THE ENVIRONMENT AND RECYCLE ALL THE PLASTIC WE DO USE.

RECYCLING YOUR PLASTIC WASTE IS IMPORTANT.

IN OUR SPORT CLUB WE SHOULD ENFORCE STRICT RULES (SUCH AS PUTTING FINES) FOR RESPECTING THE RECYCLING OF PLASTIC.

I AM WORRIED THAT PLASTIC WASTE COULD GET IN THE AREAS WHERE I LIVE IN, AS WELL AS NEARBY RIVERS AND SEA.

ALL CITIZENS SHOULD TAKE PART IN COLLECTION OF PLASTIC AND OTHER GARBAGE IN ENVIRONMENTAL AREAS OF WHERE THEY LIVE TO KEEP IT CLEAN.

TIPS FOR FACILITATORS

- * Make sure that the groups are made of equal numbers of people
- ** If you don't have a screen, you can simply read out loud questions and statements, making sure everyone understands
- ***If you don't have a big space, you can ask to raise a green, yellow or red card to state their position (for the “where do you stand”)
- **** Be sure to prepare in advance all the items and lists you need to implement the activity.
- ***** Check the questions and answers to the questions in advance, as they might be adapted to your local reality.

PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC:

- 🌐 Test to check how much microplastic you contribute to produce: <https://www.merckgroup.com/en/microplasticme/>
- 🌐 Check articles on <https://earth911.com/>

WORKSHOP



TOPICS: Food Waste

DIFFICULTY LEVEL: ●●●○○

ACTIVITY TYPE: Static (brainstorming, working in groups, debates, debriefing)

TARGET GROUP: Athletes, sportsmen, football players, youngsters - 18/35 years' old

GROUP SIZE: Maximum 20/25 people

TIME: 1:15 hour

VENUE: Staff & Managers of Sport Clubs

STAFF INVOLVED: 1 trainer

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At local level we strongly suggest mother tongue to guarantee the effectiveness of the workshop

MATERIALS: : "chicken club sandwich" and cards on the handouts page, pens, paper

OBJECTIVES:

to explore the links between food and sustainability;
to learn about some of the food-related threats to the environment and human health;
to reflect on eating and purchasing practices.

OVERVIEW: Using information cards, participants analyse the environmental impact of a shop-bought chicken sandwich.

The session will be divided in three different steps:

1. Main activity
2. Debriefing
3. Final evaluation.

ACTIVITY

1. . MAIN ACTIVITY

Time: 30 minutes

1. Divide participants into groups of 4-6 people. Hand out sets of 11 cards to each small group, and a copy of the “chicken sandwich” page.
2. Ask participants to distribute the cards among members of their group. It does not matter if some people have more cards.
3. For the first few minutes, ask them to read the cards they have received, and study the ingredients listed on the “chicken sandwich” handout. In silence, participants should place any cards which might be relevant to the chicken sandwich around the sheet. When they have finished, they should look at the cards placed by other people in their group.
4. After about 5 minutes of silently placing cards and reading those placed by others, ask participants to discuss the following questions in their groups:
 - ⊗ were you surprised by how many of the cards were relevant to the chicken sandwich?
 - ⊗ would any of these cards put you off eating this sandwich (or put you off eating something with similar ingredients)?
 - ⊗ which was the most shocking or surprising card?
5. Give them 20-30 minutes to discuss the cards, then invite groups back for brief presentations. As the groups have been discussing different cards, they will need to read out any relevant cards for other groups.
6. After the presentations, debrief this part of the activity (see below).

Part 2

Ask the participants to discuss either what food they offer in their stadium/sport center or either what they offer when they cater for their athletes or guests from other teams.

Display this 10 questions:

- ⊗ Where is your food from? Do you know if it travelled far to get to you?
- ⊗ Is the food nutritious, good for health?
- ⊗ Is there any packaging? Is the packaging recyclable?
- ⊗ Do you know how the food was made? Was a lot of machinery used?
- ⊗ Were any pesticides or other chemicals used in producing it?
- ⊗ Was any waste produced in making this food?
- ⊗ Are there any other costs to the environment in the production of this food?
- ⊗ What proportion of the price of this food went to those who made it (or grew it)?
- ⊗ Who else made money out of this food?
- ⊗ Are there other foods or other methods of production which would have a better impact on the environment?
- ⊗ What reasons made you decide to choose this food? Economical, Practical...
- ⊗ Ask participants to answer the questions on their own, using their own sport organization's experience. If they cannot answer any of the questions, they should write “not known”.
- ⊗ Give them a few minutes for this exercise, then use some of the questions in the second debriefing (see below).

Time: 10 minutes

2. DEBRIEFING

Time: 20 minutes

**Once the main activity is finalized, ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

Part 1

- ⊗ How do you feel at the end of this activity?
- ⊗ Are you surprised by how little we tend to know about the food we eat?
- ⊗ Do you think that we should know more? Why, or why not?
- ⊗ Have your opinions changed from the beginning of the activity?
- ⊗ Will you make any changes in your own eating habits?
- ⊗ What could we do as a group or community to address some of the problems discussed today?

Part 2

- ⊗ Could anyone answer all the questions?
 - ⊗ Could anyone answer any of them? Do you think the questions are important? Why, or why not?
 - ⊗ Which ones are most important? Would the answer to any of them make a difference to whether you?
 - ⊗ Will go on using that food, selling it in your premises or offering it?
- Discuss some of the answers participants wrote down.

3. FINAL EVALUATION

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

Time: 5 minutes

Tips for facilitators

*If you stick the handout onto a large piece of flip chart paper, and give the groups some sticky tape, they could stick their cards around the sandwich, creating a visual collage. Before the sharing, groups could then look at the results of the other groups.

**Some participants may be a little resistant to the “bad” news about favourite foods contained on the cards, e.g. the information about the meat industry. The purpose of the activity is not necessarily to make everyone change their eating habits! It is to open participants' minds to the fact that choices related to what food to offer do have consequences, and to encourage them to be more thoughtful and aware of these consequences when planning their strategies.

PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC: HANDOUT FOR PART 1: FOOD SUSTAINABILITY CARDS

THE WORLD PRODUCES NEARLY 300 MILLION TONNES OF PLASTIC EVERY YEAR, HALF OF WHICH IS FOR SINGLE USE. MORE THAN 8 MILLION TONNES OF PLASTIC ARE DUMPED INTO OUR OCEANS EVERY YEAR. IF THIS CONTINUES, THERE WILL BE MORE PLASTIC THAN FISH IN THE OCEAN BY 2050.

THERE ARE ALREADY MORE THAN 5 TRILLION PIECES OF PLASTIC IN THE WORLD'S OCEANS, MOST OF THEM MICROPLASTICS. THESE TINY BROKEN-DOWN PIECES OF PLASTIC LOOK LIKE FOOD TO FISH: THEY CAN END UP KILLING THE FISH, OR A BIRD WHICH EATS THE FISH. SOME HAVE BEEN FOUND IN FISH EATEN BY HUMANS.

BETWEEN A THIRD AND A HALF OF ALL FOOD PRODUCED AROUND THE WORLD IS LOST OR WASTED. THIS IS ABOUT 2 BILLION TONNES OF FOOD. IN THE EU, FOOD WASTE IS EXPECTED TO RISE TO ABOUT 126 MILLION TONNES A YEAR BY 2020.

THE AVERAGE WESTERN DIET HAS HIGH LEVELS OF MEAT, FAT AND SUGAR, WHICH CARRIES RISKS FOR INDIVIDUAL HEALTH, AND FOR THE HEALTH SYSTEM. OBESITY, TYPE 2 DIABETES, HYPERTENSION, OSTEOARTHRITIS, AND CANCER ARE WIDESPREAD DIET-RELATED DISEASES.

RECENT DECADES HAVE SEEN A TREND TOWARDS LESS SUSTAINABLE AND LESS HEALTHY DIETS. FOR THE FIRST TIME IN HISTORY, THE WORLD HAS AS MANY OVERWEIGHT PEOPLE AS UNDERNOURISHED PEOPLE.

MORE THAN 85% OF THE WORLD'S FISHERIES ARE EITHER BEYOND, OR UP TO SAFE BIOLOGICAL LIMITS. THE POPULATIONS OF SEVERAL FISH POPULATIONS (SUCH AS ATLANTIC BLUEFIN TUNA) HAVE SHRUNK TO THE POINT WHERE THEIR SURVIVAL AS A SPECIES IS THREATENED.

GREENHOUSE GAS EMISSIONS RELATING TO THE FOOD WE EAT ARE PARTLY A RESULT OF TRANSPORT COSTS, BUT MOSTLY A RESULT OF THE WAY THE FOOD IS PRODUCED – E.G. BY INDUSTRIAL METHODS OR BY HAND, IN HEATED GREENHOUSES OR IN OPEN FIELDS, ON EXISTING LAND, OR LAND CLEARED FROM FOREST.

MANY COUNTRIES IN THE DEVELOPING WORLD HAVE DEALS WITH RICH DONOR COUNTRIES THAT FORCE SMALL FARMERS TO SHIFT TO INDUSTRIAL FARMING METHODS. THESE ARRANGEMENTS TELL THE FARMERS WHAT TO PLANT: MOSTLY CROPS FOR FAR-OFF MARKETS INSTEAD OF LOCAL CROPS TO FEED PEOPLE AT HOME.

AGRICULTURE IS ONE OF THE BIGGEST THREATS TO A HEALTHY ENVIRONMENT. IT USES MOST OF OUR AVAILABLE FRESHWATER, AND ABOUT 20 000-50 000 SQUARE KILOMETRES OF POTENTIALLY PRODUCTIVE LAND IS LOST ANNUALLY THROUGH UNSUSTAINABLE FARMING METHODS RESULTING IN SOIL EROSION AND DEGRADATION.

A TYPICAL MEAT EATER'S DIET REQUIRES UP TO 2.5 TIMES THE AMOUNT OF LAND COMPARED TO A VEGETARIAN DIET AND FIVE TIMES THAT OF A VEGAN DIET.

A TYPICAL MEAT EATER'S DIET REQUIRES UP TO 2.5 TIMES THE AMOUNT OF LAND COMPARED TO A VEGETARIAN DIET AND FIVE TIMES THAT OF A VEGAN DIET.

A FARMER CAN FEED UP TO 30 PEOPLE THROUGHOUT THE YEAR WITH VEGETABLES, FRUITS, CEREALS AND VEGETABLE FATS ON 1 HECTARE OF LAND. IF THE SAME AREA IS USED FOR THE PRODUCTION OF EGGS, MILK AND/OR MEAT THE NUMBER OF PEOPLE FED IS ABOUT 5-10.

THE MEAT INDUSTRY ACCOUNTS FOR 14% OF GREENHOUSE GAS EMISSIONS WORLDWIDE, WHICH IS ROUGHLY EQUIVALENT TO ALL EMISSIONS FROM TRANSPORT.

THE CATTLE INDUSTRY IS RESPONSIBLE FOR UP TO 80% OF AMAZON DEFORESTATION. THE AMAZON IS HOME TO AT LEAST 10% OF THE WORLD'S KNOWN BIODIVERSITY AND PLAYS AN ESSENTIAL ROLE IN REGULATION OF THE PLANET'S CLIMATE.

LIVESTOCK IS THE MOST SIGNIFICANT CONTRIBUTOR TO NITROGEN AND PHOSPHORUS POLLUTION OF STREAMS, RIVERS AND COASTAL WATERS WORLDWIDE.

FOUR MULTINATIONAL CORPORATIONS CONTROL BETWEEN 75-90% OF THE GLOBAL GRAIN TRADE. CORPORATIONS ARE EXERTING INCREASING PRESSURE ON FARMERS, MAKING THEM GROW CROPS WHICH CAN BE EASILY TRADED, LIKE CORN AND SOY, INSTEAD OF NATIVE CROPS.

SIX ENORMOUS AGRIBUSINESS COMPANIES CONTROL NEARLY 70% OF THE WORLD'S SEED MARKET. THE SAME COMPANIES CONTROL ALL THE GENETICALLY MODIFIED (GM) CROPS, WHOSE EFFECTS ON THE ENVIRONMENT – AND ON HUMANS – ARE LARGELY UNTESTED. AGAIN, THESE 6 COMPANIES ARE THE LARGEST GLOBAL MANUFACTURERS OF PESTICIDES.

MANY OF THE FOODS WE EAT EVERY DAY ARE SPRAYED WITH PESTICIDES BEFORE THEY LAND ON OUR TABLES. THERE ARE A GROWING NUMBER OF STUDIES THAT HAVE LINKED CERTAIN PESTICIDES WITH INCREASED CANCER RISK AND WITH DISEASES SUCH AS PARKINSON'S AND ALZHEIMER'S.

AT EVERY STEP OF THE FOOD CYCLE, 30-40% OF ALL FOOD IS WASTED. EACH YEAR, A LARGE PROPORTION OF THE FOOD PRODUCED IN DEVELOPING COUNTRIES NEVER MAKES IT TO MARKET. CONSUMERS IN RICH COUNTRIES WASTE AS MUCH FOOD AS THE ENTIRE NET FOOD PRODUCTION OF SUB-SAHARAN AFRICA.

FOR CENTURIES, PEASANT FARMERS HAVE ALWAYS PUT ASIDE A SMALL PORTION OF THEIR CROP AS THE FOLLOWING YEAR'S SEED. NOW, LARGE MULTINATIONAL CORPORATIONS OFTEN PREVENT FARMERS FROM SAVING SEEDS, FORCING THEM TO BUY NEW SEEDS FOR EVERY PLANTING SEASON.

FACTORY FARMS NOW ACCOUNT FOR 72% OF POULTRY PRODUCTION, 43% OF EGG PRODUCTION, AND 55% OF PORK PRODUCTION WORLDWIDE. FACTORY FARMS CONTRIBUTE TO AIR POLLUTION BY RELEASING COMPOUNDS SUCH AS HYDROGEN SULPHIDE, AMMONIA AND METHANE.

FACTORY FARMS NORMALLY STORE ANIMAL WASTE IN HUGE, OPEN-AIR LAGOONS, OFTEN AS BIG AS SEVERAL FOOTBALL FIELDS, WHICH ARE PRONE TO LEAKS AND SPILLS. IN 2011, AN ILLINOIS HOG FARM SPILLED 200 000 GALLONS OF MANURE INTO A CREEK, KILLING OVER 110 000 FISH.

LAND CLEARING IN BRAZIL TO GROW CHICKEN FEED IS RESPONSIBLE FOR THE DESTRUCTION OF ABOUT 3 MILLION ACRES OF RAINFOREST. LAND CLEARING TO GROW SOYBEANS IN THE AMAZON RAINFOREST IS RESPONSIBLE FOR CLEARING OVER 100 MILLION HECTARES OF FOREST, DESTROYING SOIL FERTILITY, THREATENING BIODIVERSITY, POLLUTING FRESHWATER AND DISPLACING COMMUNITIES.

The following websites served as sources for the food sustainability cards:

- ⊗ www.greenpeace.org/usa/sustainable-agriculture/issues/corporate-control
- ⊗ <http://worldinfo.org>
- ⊗ www.onegreenplanet.org
- ⊗ www.plasticoceans.org/the-facts
- ⊗ www.dosomething.org
- ⊗ <http://ec.europa.eu/environment/archives/eussd/food.htm>
- ⊗ www.worldwildlife.org/threats/overfishing
- ⊗ www.vegsoc.org/saveland



WORKSHOP



“ELECTRI-CITY”

TOPICS: Energy Consumption

DIFFICULTY LEVEL: ●●●●○

ACTIVITY TYPE: Static (working in groups, simulation, presentation, debriefing)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/25 people

TIME: 1:20 hour

VENUE: Working Room/Space

STAFF INVOLVED: 1 trainer

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At the local level we strongly suggest mother tongue to guarantee the effectiveness of the workshop

MATERIALS: Printed handouts, A4 sheets of paper, pens, markers

OBJECTIVES:

- 🌐 To explore and understand how to organize energy consumption
- 🌐 To foster individuals and clubs to reduce energy consumption and create new policies
- 🌐 To reflect and find solutions to reduce environmental impact tied to energy consumption

OVERVIEW: The participants will explore how to create a city and its energy system and the environmental impact linked to their choices through a simulation game. The session will be divided in four different steps:

1. Introduction/Brainstorming
2. Main activity
3. Debriefing
4. Final evaluation

ACTIVITY

1. . INTRODUCTION/BRAINSTORMING

Time: 25 minutes

1. In the beginning they will be divided in groups of 4/6 people to build their own cities of 100 000 inhabitants.
2. They will get an amount of 100 000 € to build it. Imagine building your city and you can decide all the things you would like to put in according to your budget. Costs and consumptions/ supplies have to be decided in advance by the facilitator making it challenging for the participants to have all available services with a decent energy supply. Additional building or plants can be added.

BUILDING / SERVICE	COST	CONSUMPTION
City Hall		
School		
Bank		
Training Centre		
Stadium		
Hospital		
Pharmacy		
ENERGY SUPPLIERS		
Nuclear power plant		
Carbon power plant		
Solar panels power plant		
Hydroelectric power plant		

2. MAIN ACTIVITY

Time: 30 minutes

3. Then you'll tell them that each energy source they have chosen has a different environmental impact and you give them the impact that each of their sources of energy has. Also this impact has to be provided and declined in terms of level of impact on the environment from 1 to 5 or with explanations.

ENERGY SUPPLIERS	ENVIRONMENTAL IMPACT
Nuclear power plant	
Carbon power plant	
Solar panels power plant	
Hydroelectric power plant	

4. They get 20 minutes. They have to gather and try to find a solution to reduce the environmental impact in order to buy filters that the trainer show them.

5. They present their solutions and then the best 3 solutions will be voted by the participants and will get as prizes for that additional funds to install their solutions. The funds have to be decided in advance by the trainers.

1st prize:

2nd prize:

3rd prize:

6. You provide the winners objects to improve the source of energy they have chosen and reduce the impact with the related costs.

OBJECT OF IMPROVEMENT	COST
Filter	
Security System	
Other	
Other	

3. DEBRIEFING

Time: 20 minutes

Once the main activity will be finalized ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- ⊗ Did you enjoy the activity?
- ⊗ What was the most surprising thing in the activity for you?
- ⊗ Are you satisfied with your result?
- ⊗ How much do you think your city is sustainable? Do you think it can manage to last with such policy on a long-term perspective?
- ⊗ Why did you choose exactly that kind of source of energy? Was it because of the budget or for other reasons?
- ⊗ How difficult is it to make decisions on how to manage the energetic consumption of a sport complex? What structures to add
- ⊗ What should we take in consideration when making such decisions?
- ⊗ Do you know what is the main source of energy in your city/town your training center? When was it implemented and why it was chosen?
- ⊗ Are you already implementing or do you think you can do something on the energy consumption policy of your sport complex? If yes, what?
- ⊗ Would it be difficult to pass to cleaner and sustainable forms of energy in your training center? Why?

4. FINAL EVALUATION

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

Time: 5 minutes

TIPS FOR FACILITATORS

Publications / Materials to deepen the topic:

WORKSHOP



“RE-WORD, RE-WARD, RE-WORLD”

TOPICS: Waste Management

DIFFICULTY LEVEL: ●●●○○

ACTIVITY TYPE: Static (Practical activity, working in groups, presentation, input from trainer) - Movement (only in the first part – Introduction/Brainstorming)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/25 people

TIME: 2 hour

VENUE: Working Room/Space

STAFF INVOLVED: 1 trainer, 1 support staff

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At the local level we strongly suggest our mother tongue to guarantee the effectiveness of the workshop

MATERIALS: : Signature list, flipcharts, markers, whiteboard, packages of milk in tetrapak, scotch tape, scissors, staplers

OBJECTIVES:

- 🌐 To discover through practical activities how to recycle and reuse materials
- 🌐 To find solutions on how to reuse some materials for training and for the clubs
- 🌐 To raise awareness on the importance of reduce waste and recycle

OVERVIEW: The activity is planned to reflect on reduce, reuse and recycle materials. It is a practical activity where participants will need to process and create something out of recycled materials. The session will be divided in four different steps:

1. Introduction/Brainstorming
2. Main activity
3. Debriefing
4. Final evaluation

ACTIVITY

1. . INTRODUCTION/BRAINSTORMING

Time: 20 minutes

1. Prepare 3 different flipcharts with three different concepts written vertically, in the middle, in big letters: where REUSE, REDUCE and RECYCLE.
2. Divide the participants into 3 different teams, each of which getting a flipchart. The participants will have to write a word which is connected to that concept for each of the letters of the main word. The new words have to contain the letters like in a crossword puzzle.
3. After creating the new words connected to the main concept, participants have to come up (without using google or other search engines) with a definition of their concept, and how is it connected with their work in their sport team/center
4. Once finished all the word puzzles, each group will have to present their work in plenary to the others.

2. . MAIN ACTIVITY

Time: 30 minutes

5. You'll need to divide participants in little groups from 4 to 6 people. Before the splitting, explain the activity to them.
6. Each group will get the same resources: a tetra pak milk package, scissors, scotch tape and a stapler
7. From these resources you tell them they need to create a wallet and you show them one ready. You let them touch it, check it to provide them a clear objective and then you tell them they need to recreate it. So they will need to think about the process and try to recreate the wallet with the resources you gave them.
8. You check the results of each group.
9. After that you show them the instructions to reproduce it (<https://www.pinterest.it/pin/443393525803563104/>)

3. DEBRIEFING

Time: 20 minutes

Once the main activity is finalized, ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- 🌐 Did you enjoy the activity?
- 🌐 What was the most surprising thing in the activity for you?
- 🌐 How was the process to recreate and reuse the materials you got?
- 🌐 Have you ever thought about how much items you use in your sport club that could be reused in different ways instead of trashing them? Can you list them?
- 🌐 Is your club reusing something? Do they have any policy to reduce waste rather than just recycling materials?

4. WHAT TO DO WITH...?

Time: 30 minutes

Ask participants to think about what their club could do with the following elements when they need to be changed:

- ⊗ Football jerseys
- ⊗ Football shorts
- ⊗ Balls
- ⊗ Football boots
- ⊗ Sport bags
- ⊗ Football training materials (cones, etc.)
- ⊗ Anything else?

Also ask them what they could do in order to encourage their athletes to keep all items in good shape to avoid need to change them, as well as to encourage them not to just trash their equipment as much as possible.

To facilitate this part, let them work again in the groups in which they created the wallets from the tetrapak and make a list and plan.

5. FINAL EVALUATION

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

Time: 5 minutes

TIPS FOR FACILITATORS

Publications / Materials to deepen the topic:



WORKSHOP



“STAIRWAY TO GREEN HEAVEN”

TOPICS: Environmental Footprint/General

DIFFICULTY LEVEL: ●●●●○

ACTIVITY TYPE: Movement (Energizer) – Static (Group work, Online TEST, Presentation, Individual Reflection, Debate)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/24 people, ideally a number dividable by two or three

TIME: 90 minutes

VENUE: Working Room/Space

STAFF INVOLVED: 1-2 Facilitators

LANGUAGE: All the activities will be implemented using the beneficiaries' mother tongue to guarantee the effectiveness of the workshop

MATERIALS: Signature list, images and pictures printed of different situations which represents environment, whiteboard/flipchart board with flipcharts, smartphones with internet data.

OBJECTIVES:

- 🌐 To explore and discover the environmental footprints of individuals and sport clubs
- 🌐 To raise awareness on environmental consciousness in the field of sport
- 🌐 To identify solutions to decrease environmental footprint of sport clubs

OVERVIEW: This sessions of work will be dedicated to environmental footprint as a general topic and to introduce participants to the topic and reflect about their footprints as individuals and the environmental footprint that can be generated by their sport clubs, and how to work on reducing it. The session will be divided in four different steps:

1. Energizer
2. Introduction
3. What's my environmental footprint?
4. Ladder of solutions
5. Debriefing/Reflecting about solutions

ACTIVITY

1. ENERGIZER

Time: 5/10 minutes

2. INTRODUCTION

Time: 25 minutes

1. You divide participants in little groups of 4/6 people.
2. ***You introduce by telling participant they will have the chance to check about their own environmental footprint. Provide to the participants the link of a test where they can calculate their own footprint. Here is the link: <https://www.footprintcalculator.org/>. They will then proceed in working on it individually with their own phones/tablets/laptops.
3. Once they calculate their test you let them share their results within the group and comment it, trying especially to understand what are the biggest causes of the results.

3. CONNECTING THE DOTS

Time: 25 minutes

4. When they're finished, show and give to each group of participants different images representing different things connected to the environment. *
1. Each group will have the task to choose images that can answer to 3 different questions:
 - Which image represents the biggest environmental issue?
 - Which image is the most connected environmental issue connected with sport/football?
 - Which image you find the most connected to your sport club and its relationship with the environment?
2. You give them 15 minutes in the groups to discuss and make their choices.
3. Each participant can make a picture of the choices they make in order to remember them.
4. Create new groups with at least one participant from each of the previous groups, so that they can further present to each other and present their choices, explaining why they feel so in connection with football, environment, and their clubs. Invite them to reflect about main environmental footprint their club is dealing with.

4. LADDER OF SOLUTIONS

Time: 25 minutes

5. You will do another activity where they will have to answer to this question from the perspective of their football club:

****WHAT CAN WE DO TO IMPROVE OR REDUCE THE ENVIRONMENTAL FOOTPRINT OF OUR SPORT CLUBS?

The groups of participants will have then to find answers that can be applied in short and long term:

- a) TOMORROW
- b) IN ONE WEEK
- c) IN ONE MONTH
- d) IN ONE YEAR

6. Each group reflect based on the issues they identified, and they then share their ideas with the plenary.

5. DEBRIEFING

Time: 15/20 minutes

*****Once the main activity is finalized, ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- ⊗ Did you enjoy the activity?
- ⊗ What was the most surprising thing in the activity for you?
- ⊗ What have been the best solutions proposed?
- ⊗ Do you think the solutions thought are achievable in reality? Why?
- ⊗ Is your club doing anything to reduce their environmental footprint?
- ⊗ What would you suggest to your club to reduce the environmental footprint?
- ⊗ What would you do in your circle of friends and your family to reduce your environmental footprint?
- ⊗ Do you think it's only about governance or also players and fans should do something?
- ⊗ What other actors can support the reduction of environmental footprint of a football club? How?

6. FINAL EVALUATION

Time: 5 minutes

*Be sure to print the picture in advance, in case you can also download and print some others you may consider more suitable for your group.

**You can print the grid we provide you, draw it yourself or let it be drawn by the participants.

***Remember in advance your participants to bring their phones or be sure you do have a laptop or other phones to take the test, be supportive on this part and check that everyone has a device or anyway did the test.

****You can draw in advance the question and the 4 different square solutions grid and write meanwhile the participants share their opinion. You can also call the participants to write down and share their solution on the board.

*****Remember that in the debriefing you can add questions which you can consider more suitable or which come in your mind and you think they could be stimulating the debate among participants.

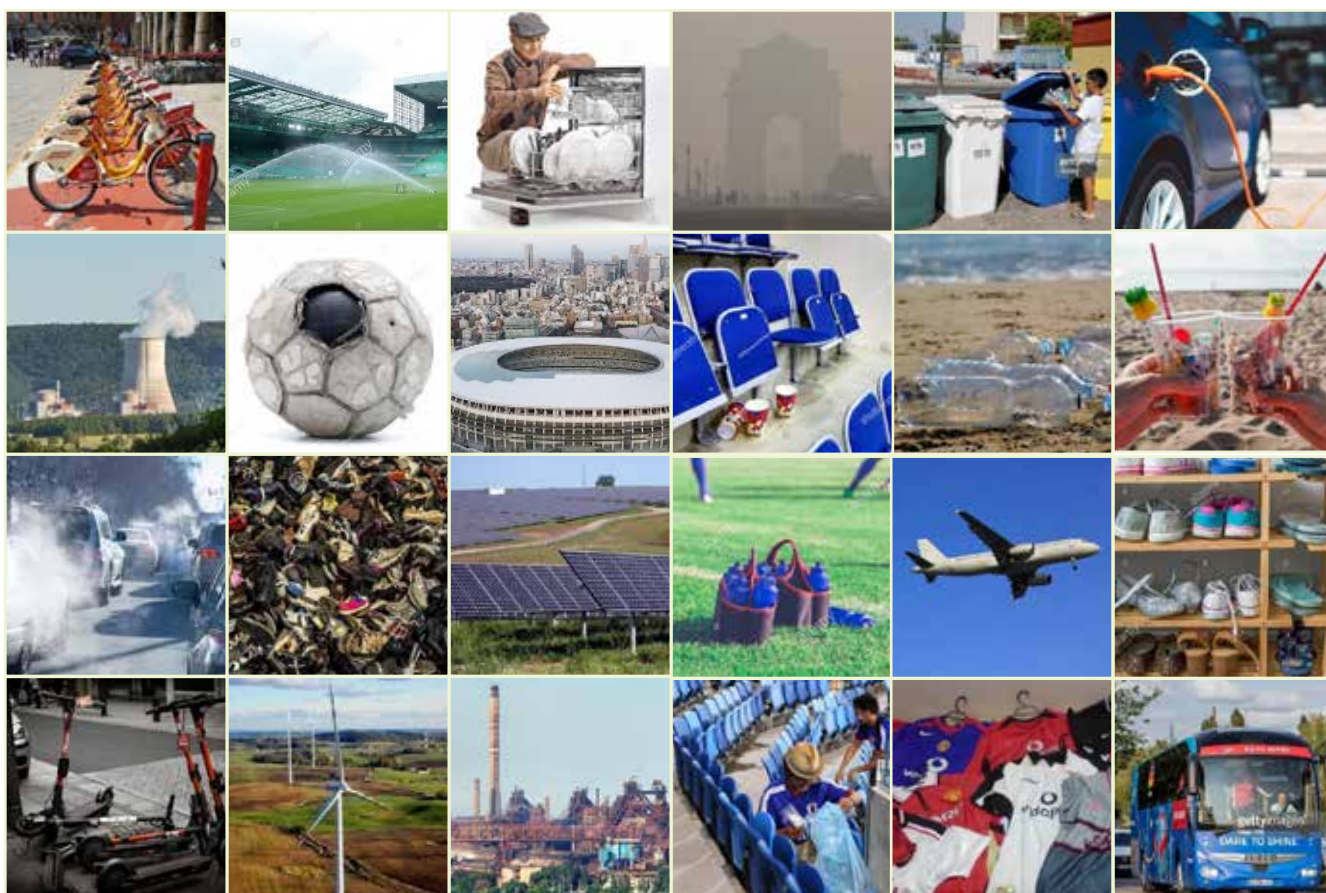
PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC:

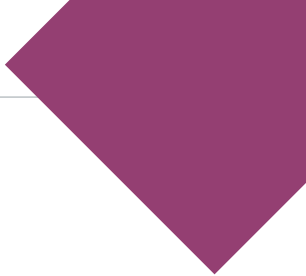
- ⊗ You can find more publications/educational resources/data and case studies on environmental footprint: <https://www.footprintnetwork.org/resources/publications/>

HANDOUT 1 – GRID

WHICH IMAGE REPRESENTS THE BIGGER ISSUE?	WHICH IMAGE IS IT MOST RELATED TO YOU?
WHICH IMAGE IS IT THE LEAST RELATED TO YOU?	WHICH IMAGE REPRESENTS THE MOST ETHICAL BEHAVIOR TOWARDS THE ENVIRONMENT?

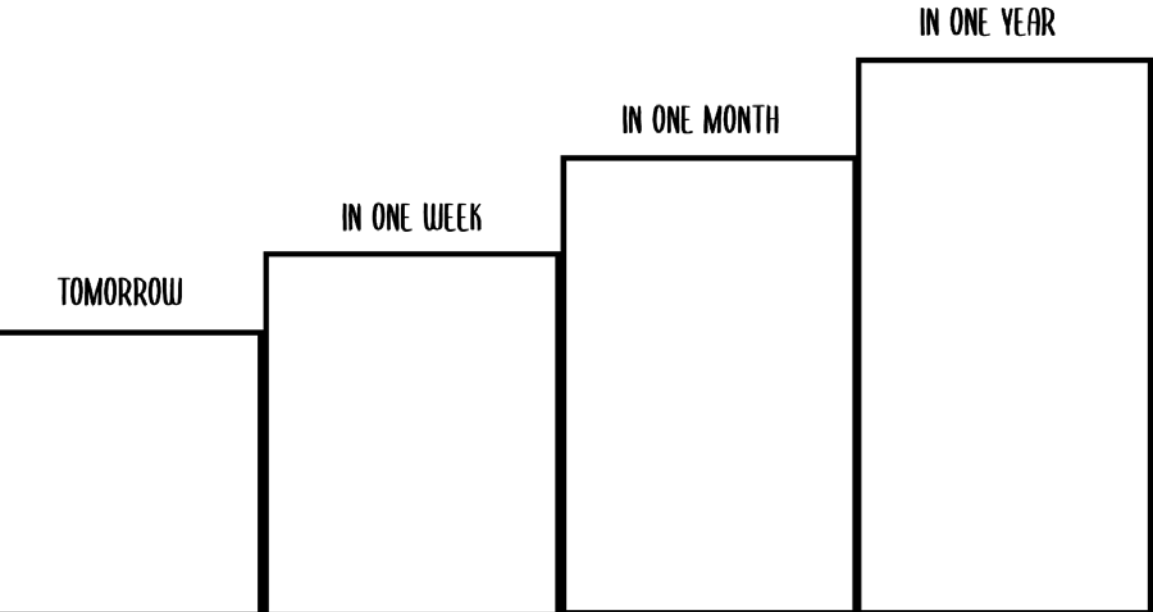
IMAGES EXAMPLES





HANDOUT: LADDER OF SOLUTIONS

WHAT STRATEGIES/IDEAS CAN WE USE TO IMPROVE OR REDUCE THE ENVIRONMENTAL FOOTPRINT OF OUR SPORT CLUB?





WORKSHOP

“SUSTAINABLE MOBILITY SCANNER”

TOPICS: Sustainable mobility

DIFFICULTY LEVEL: ●●●○○

ACTIVITY TYPE: Static (individual reflection, where do you stand, testing, work in couples, debriefing) - Movement (in the first part of where do you stand)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/25 people

TIME: 1:20 hour

VENUE: : Working Room/Space

STAFF INVOLVED: 1 trainer, 1 Facilitator/Support Staff

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At the local level we strongly suggest mother tongue to guarantee the effectiveness of the workshop

MATERIALS: *A4 or A5 papers, pens, questionnaire printed, board, handout

OBJECTIVES:

- 🌐 To identify what are the mobility habits of individuals (athletes, staff, fans) and sport clubs for trainings and matches
- 🌐 To raise awareness on the environmental impact of the mobility adopted to attend trainings and matches
- 🌐 To reflect and create solutions on sustainable mobility, such as policies for clubs and sport events

OVERVIEW: The activity is planned to reflect about sustainable mobility for athletes, managers, fans and clubs and try to find solutions to turn mobility policies more sustainable for individuals and for clubs. The session will be divided in four different steps:

1. Introduction/Brainstorming
2. Main activity
3. Debriefing
4. Final evaluation

ACTIVITY

1. . INTRODUCTION/BRAINSTORMING

Time: 30 minutes

HOW MUCH DISTANT CAN I GO?

1. On the floor, in advance, trace a line long like the room, or enough to accommodate most people present, with a stripe of paper-tape
2. Explain the participants that one end of the tape represents the 0 and the other one the maximum number, usually set for these questions on 20. You will read a list of questions and participants should move on the line according to the distance they think applies for them for that specific question

* Here is a possible list of questions:

- a) How many km can you make during a training session?
 - b) How many km can you make during a football match?
 - c) How many km do you usually make by foot daily?
 - d) How many km would you cover by foot to reach your destination?
 - e) How many km do you usually cover with your car to reach your destination?
- 3) After each question you wait for every participant to move in the line and then you ask some of them to share. **In each question remember to let them restart from the point 0!**
 - 4) Once done, you invite them to reflect on that and you can pass to the second activity

2. MAIN ACTIVITY

Time: 30 minutes

SUSTAINABLE MOBILITY SKILLS

1. You will provide each participant a test with different questions to reflect upon.

List of questions:

A. PERSONAL

- ⊗ During your everyday life, which means of transport you use the most in the city?
- ⊗ During your everyday life, which means of transport you use the most to go out of town?
- ⊗ When you go for holidays do you use mostly plane/train/bus/car?

B. YOU & YOUR SPORT

- ⊗ How many times per week you go to your sport center/stadium/pitch?
- ⊗ How many times you go by walk?
- ⊗ How many times you go by bike?
- ⊗ How many times you go by bus?
- ⊗ How many times you go by car?
- ⊗ Do you ever organize going with a single car with more people or each person goes with own car?

C. ABOUT YOUR SPORT CLUB

- ⚽ When you go to a match is your club organizing just one bus for all the team to move or each person goes independently?
 - ⚽ When you play a transfer match is your club organizing to move mostly by bus, train or plane?
 - ⚽ Does your sport club have any policy towards sustainable mobility of athletes? (i.e. free bus tickets, electric cars for players, etc.)
 - ⚽ Does your sport club have any policy towards sustainable mobility of fans? (i.e. website to organize shared transport, free drink/snack showing the bus ticket, awareness campaigns, etc.)
1. Participants need to answer the questions and then they are divided in pairs in order to share the results with someone else
 2. Straight after you can move on to the next part of the activity.
 3. ***You show them a diagram of skills like Pro Evolution Soccer or FIFA which is divided in 5 different factors on what they consider more when they move. The five factors are:
 - Time
 - Distance
 - Money
 - Environmental impact
 - Easy/Comfortable/Accessible
 4. You can print the diagram or either draw it and tell your participants to reproduce it.
 5. To do the diagram they need to place a dot on the edge if they think that factor is more important or centre oriented in case they think that factor is not much important for them
 6. After the dots are made, tell them to connect the dots with lines and they are going to have their personal diagram.
 7. Straight after, tell them to share it in groups of four (you can put together two of the previous couples) for 5/10 minutes and ask them to create one diagram which is ideal for the four of them for their sport club in terms of organizing their movement habits.
 8. Once done, you call them back in a circle and you start the debriefing.

3.DEBRIEFING

Time: 20 minutes

***Once the main activity will be finalized ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- ⚽ Did you enjoy the activity?
- ⚽ What was the most surprising thing in the activity for you?
- ⚽ Have you ever thought to consider your mobility impact and the mobility impact of the people around your sport activities?
- ⚽ Is your club following any particular policy for sustainable mobility? If yes, what?
- ⚽ Have you ever talked with your club about this matter?
- ⚽ How would you improve the mobility of your club?
- ⚽ How do you think mobility for sports event can be improved?
- ⚽ What is the biggest weakness in your mobility habits?
- ⚽ Have you ever spoke about it in your family or among your friends?
- ⚽ What should be done to promote and foster people to choose sustainable mobility?

At the end of the debate you can show the participants a list of different means and their impact in the environment.

4. FINAL EVALUATION

Time: 5 minutes

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

TIPS FOR FACILITATORS

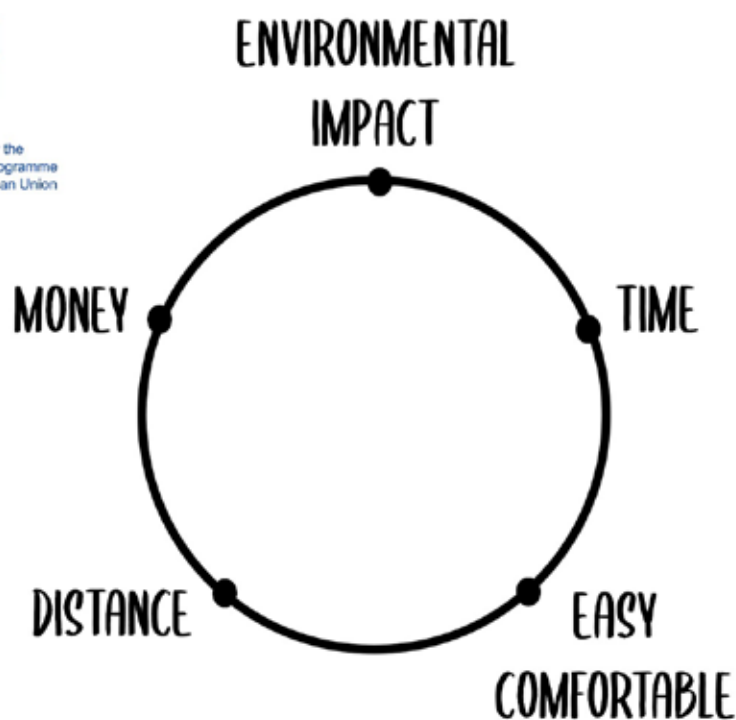
*Remember to print or draw all the things needed in advance before the session starts.

**If any further question comes in your mind and you think it's worth to make it add it, the where do you stand it's an activity which depends a lot on the participants and on the questions you make them, try to stimulate the debate.

*** You can decide to let participants draw their diagram which is more involving. Instead, if you do have short time you can print the handout we provide here.

****You can add any question to the debriefing that for you may be relevant in the debate.

PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC:



WORKSHOP



“TIMELINE OF DECOMPOSITION”

TOPICS: Waste Management

DIFFICULTY LEVEL: ●●○○○

ACTIVITY TYPE: Static (group work, presentation, debate, debriefing)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/25 people

TIME: 40-55 minutes

VENUE: Working Room/Space

STAFF INVOLVED: 1 trainer, 1 facilitator/staff

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At local level we strongly suggest mother tongue to guarantee the effectiveness of the workshop.

MATERIALS: Scotch tape or chalk, whiteboard with flipcharts, markers, scissors, glue, scissors, glue

OBJECTIVES:

- 🌐 To discover time of decay of the different waste we produce in our daily life
- 🌐 To introduce the topic of reduce, recycling, reuse and raise awareness on individuals
- 🌐 To debate on habits and behaviours to be addressed with different kind of waste

OVERVIEW: This session has been designed in order to introduce the topic of reduce, reuse & recycle by exploring time of decomposition of different waste and discuss about different connected habits. The session will be divided in three different steps:

1. Main activity
2. Debriefing
3. Final evaluation

ACTIVITY

1. MAIN ACTIVITY

Time: 20 minutes

1. Print out the names of the elements in the table in the handout or find pics for each of them.
2. Prepare a number of papers with the printed "timeline of decomposition" from 1 week to 1000 years, or use a flipchart
3. Divide participants in different groups of 4-5 people and you provide them the list of objects. As a group they decide where to place objects according to how much time it takes for that object to get decomposed in the environment. They need to stick the names of the objects on the timeline paper they have. *
4. You can give around 15 minutes to let them place the objects/waste on the timeline.
5. Once finished, you can ask each group to explain their list. Other groups can object on the positions of the objects and can convince others to change. They have 10 minutes for this debate.
6. At the end you show the real time of decomposition of every object on the board.
7. You can start straight the debriefing.

2. DEBRIEFING

Time: 20 minutes

**Once the main activity will be finalized ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- ⊗ Did you enjoy the activity?
- ⊗ What was the most surprising thing in the activity for you?
- ⊗ Did you expect such a long time to decompose for some waste?
- ⊗ Which object surprised you the most according to time of decomposition?
- ⊗ What is the object that you waste more in your sport club? Which one has the biggest impact?
- ⊗ Do you think here in your club there is use of any of the listed objects? How would you reduce the consumption of it?
- ⊗ How would you support and promote a more ethical behavior towards this issue with your players and staff?
- ⊗ Do you think you can create something like a campaign to raise awareness on time of decomposition?

3. FINAL EVALUATION

Time: 5 minutes

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

TIPS FOR FACILITATORS

*Remember to ban participants from using phones or other devices to look for the correct answers. They need to place the objects based on their perceptions and ideas.

** Remember that these questions of the debriefing are there as a base but you can add any according to your feeling and the group of people you do work with.

PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC:

http://storage.neic.org/event/docs/1129/how_long_does_it_take_garbage_to_decompose.pdf

HANDOUTS

OBJECTS	TIME OF DECAY
Glass Bottle	1 million years
Monofilament Fishing Line	600 years
Plastic Beverage Bottles	450 years
Disposable Diapers	450 years
Aluminium Can	80-200 years
Foamed Plastic Buoy	80 years
Foamed Plastic Cups	50 years

OBJECTS	TIME OF DECAY
Rubber-Boot Sole	50-80 years
Tin Cans	50 years
Leather	50 years
Nylon Fabric	30-40 years
Plastic Film Container	20-30 years
Plastic Bag	10-20 years
Cigarette Butt	1-5 years

OBJECTS	TIME OF DECAY
Wool Sock	1-5 years
Plywood	1-3 years
Waxed Milk Carton	3 months
Apple Core	2 months
Newspaper	6 weeks
Orange or Banana Peel	2-5 weeks

TIMELINE OF DECOMPOSITION



WORKSHOP



“WATER PLAYMAKERS”

TOPICS: Water Consumption

DIFFICULTY LEVEL: ●●○○○

ACTIVITY TYPE: Static (individual reflection, debate) - Movement (the main activity of football game)

TARGET GROUP: Staff & Managers of Sport Clubs

GROUP SIZE: Maximum 20/25 people

TIME: 1:15 hour

VENUE: : Football field or big area where they can play and work in groups

STAFF INVOLVED: 1 trainer

LANGUAGE: All the activities will be implemented using the most suitable and comfortable language for the group of beneficiaries'. At the local level we strongly suggest our mother tongue to guarantee the effectiveness of the workshop.

MATERIALS: A4 sheets of papers, pens, paper cups, water, football ball, whistle, list of objects connected to water consumption (handouts 1)

OBJECTIVES:

- ⊕ To raise awareness on water consumption in daily life and in the life of a sport club
- ⊕ To debate and explore what are the solutions to change wrong habits and how to also improve governance on water consumption in the structures hosting sport events or training centres;
- ⊕ To reflect on good practices can be implemented realistically to improve water consumption in sport clubs.

OVERVIEW: The activity is planned to give the opportunity to the participants to realize the importance of checking and controlling habits on water consumption both as athletes and sport managers. The session will be divided in four different steps:

1. Introduction/Brainstorming
2. Main activity
3. Debriefing
4. Final evaluation

ACTIVITY

INTRODUCTION

Tell the participants we are going to play a football game today and then discuss about management of the club. Don't anticipate anything else if possible.

1. MAIN ACTIVITY

Time: 20 minutes

- ⚽ The activity will start with the trainer and the participants all gathered in a circle, in a comfortable environment.
- ⚽ Divide the participants in 2 teams (be careful to create 2 teams which are as much as possible balanced) In the piece of paper, they can write the 9 objects/habits in order.
- ⚽ Each player is holding a cup completely full of water. They have also to choose a "playmaker", which will hold two full cups, one in each hand **
- ⚽ They play 10 minutes' football match with one particular rule: if the playmaker scores a goal, it counts for 2..
- ⚽ At the end of the match you check the score. You take each paper cup and check which team managed to keep as much water as possible in the cups without spilling it. The team with more water will get 5 extra goals.

2. DEBRIEFING

Time: 20 minutes

Once the main activity is finalized, ask the participants to gather again in a circle to start the debriefing. To implement the activity and stimulate the debate you can use the following questions:

- ⚽ Did you enjoy the activity?
- ⚽ What was the most surprising thing in the activity for you?
- ⚽ How did you feel with the water cups? Were you concerned or scared to pass the ball or spill water by passing the ball?
- ⚽ You have just seen the team who saved more water was the winning team. Do you think that also in real life this positive behaviour and action would turn you into a winner?
- ⚽ Do you think in real life we take care about water consumption or not?
- ⚽ Do we take care about the water consumptions of our sport club? How?
- ⚽ In which way we can reduce the water footprint of our club? What is impacting the most?
- ⚽ Is it a priority for your club? Have you thought about it? Have you ever discussed it?
- ⚽ What strategies can we follow to have less water waste? What can we do to invite our players and staff to do the same?

***At the end of the debriefing you can give them information about the objects contained in the table below and water consumption created by these objects, making them reflect if they are connected anyhow with their sport club.

3. CALL TO ACTION

Based on what they discussed and after seeing the impact of water consumption, the participants are gathered back in their teams, or in small teams, and they write down what they could implement to improve the management of water consumption in their clubs.

4. FINAL EVALUATION

The participants will be requested to evaluate the workshop using a specific tool of Non-formal education

Find a list of tools in the ANNEX II

TIPS FOR FACILITATORS

**In case you feel the need you can decide more than 1 play maker for each team by enhancing the number of water cups.

***In the list of 9 objects you can add more or new ones with different water waste.



HANDOUT 1

WATER FOOTPRINT ON PRODUCTION AND IN OUR DAILY HABITS

You can print the object/habit and then on another paper the amount of water consumed. The participants will have to match them. Decide by yourself and according to your resources how big to print it and if you need to print it.

OBJECT / HABIT	WATER FOOTPRINT	SOURCE
Shower of 5 minutes	25 litres of water	Harvard University
1Kg of Beef meat	15 500 litres of water	The Guardian
1 t-shirt	2 700 litres of water	WWF
Football field	average 100 000 litres of water per day	The Economic Times
1 Pizza	1 239 litres of water	The Guardian
1 football shoes	8 543,67 litres of water	The 7 percent
SMART Phone	904,50 litre of water	Water footprint calculator
1 pint of beer	168 litres of water	The Guardian
Produce a new car	147 631,06 litres of water	Automobile world

PUBLICATIONS / MATERIALS TO DEEPEN THE TOPIC:

<https://www.watercalculator.org/>

3.4 SUGGESTED TOOLS FOR THE FINAL EVALUATION

As already explained, the final evaluation is a phase where the participants are asked to assess the entire workshop, their feedback is useful for educators and facilitators to better understand strengths and weaknesses of the activities proposed. You can use the tools proposed or create your own.

1. THE PENALTY AREA

Instructions:

- ⊗ Draw the penalty area of a football pitch on a flipchart
- ⊗ Give a pen/pencil to each participant
- ⊗ Tell them that the evaluation of the effectiveness of the workshop will consist in drawing a dot in the penalty area, the closest they put their dot to the goal post, the more effective they think the workshop was. (inside the goal post 100% - in the middle of the area 50% - on the line of the area 10% - outside the penalty area 0%).

2. "GOALS"

Instructions:

- ⊗ The exercise could be implemented for the workshop implemented in the football pitch
- ⊗ Give a ball to each participant
- ⊗ Create five small "Goals" with plastic cones
- ⊗ Assign a number from one to five to each goal
- ⊗ Explain the participants after each one of your statements they evaluate the specific elements on a scale from one to five kicking the ball towards the related goal (1 is insufficient - 5 is very positive)

You can create your own statements, such as:

- ⊗ dynamic
- ⊗ personal contribution
- ⊗ general effectiveness
- ⊗ engagement
- ⊗ topics covered
- ⊗ flow of the structure
- ⊗ facilitation
- ⊗ etc.

3. KICK IT!

Instructions:

- ⊗ General evaluation
- ⊗ The exercise could be implemented for the

workshop implemented in the football pitch

- ⊗ Give a ball to each participant
- ⊗ Ask everybody to stand inside the penalty area
- ⊗ Ask to kick the ball to evaluate the general effectiveness of the workshop
- ⊗ The rule is to kick the ball inside the goal post in case they are satisfied, close to it if not completely, as far as they kick the ball from the goal post the more dissatisfied they are.

4. SMILE

Instructions:

- ⊗ Give a pen and a card with this drawing to each participant
- ⊗ Ask them to write a word in every hexagon to describe how they feel after the workshop

5. BALL PUZZLE

Instructions:

- ⊗ The same evaluation process done in the previous activity could be done with a real ball, asking every participant to write a single word in one hexagon of the same ball

6. TACTICAL SYSTEM

Instructions:

- ⊗ Draw a football pitch on a flipchart
- ⊗ Give a pen to each participant
- ⊗ Tell them to draw themselves in the pitch, like in tactical system pre-match, to represent their experience during the workshop and to explain why they have that position. (i.e. playmaker because I supported the others or outside the field because I have just watched and I did not give any contribution, etc.)

7. GOAL, RED CARD OR YELLOW CARD?

Instructions:

- ⊗ Take three flipcharts/papers: one red, one yellow, one white; on the white one draw a goal post
- ⊗ Give a pen to each participant
- ⊗ Tell them they have to write a comment on each one of three papers, the red paper represents a "red card" they should write on it the things that did not work or the ones they did not like; "yellow card": they should write on it suggestions for things that could be improved; "Goal post": the elements they liked and enjoyed the most.



4. A DEEPER INSIGHT ON THE TOPICS OF THE WORKSHOPS



4.1 ENVIRONMENTAL FOOTPRINT

Since climate change and environmental sustainability became core topics and a priority in the agenda of many countries and in the life of many people, there is an increased interest in measuring and reducing our negative impact on the environment. One of the most difficult questions to be answered is HOW TO MEASURE environmental burdens, in order to set a strategy to effectively reduce our negative impact.

Recently, researchers, organizations, policy-makers, and scientists are putting efforts to develop concepts and metrics measuring environmental sustainability. Among all concepts and metrics developed, environmental footprints are gaining increasing popularity and play a relevant role in sustainability evaluation and research.

Environmental footprints are quantitative measures showing the appropriation of natural resources by humans. Environmental footprints quantify resource use and/or emissions; basically they are indicators of our pressure on the earth system.

Many have emerged over the past two decades: well-known examples include the carbon, water and ecological footprints, but the environmental footprint family also includes the land, nitrogen, phosphorus, material, biodiversity, chemical and ozone footprints. Footprints have become essential for researchers, policy-makers, and the general public who want to analyse the impact

generated on the environment. Over the past years, carbon footprint has been used as an environmental protection indicator almost exclusively. Evaluations have moved to include a variety of other footprints; however, there is no generally accepted footprint or footprint family that represents the overall impact on the environment.

In a JRC-led article leading global scientists bring existing environmental footprints into a single environmental footprint family that can be used to more accurately assess, and identify ways to ensure local and planetary environmental sustainability. They show how the combined environmental footprints relate to the nine planetary boundaries (the safe limits for the Earth

system's most critical processes), the Sustainable Development Goals and the Water-Energy-Food-Ecosystem nexus. This environmental footprint family provides a comprehensive and flexible framework for measuring the pressures of individual and community human activities on a range of aspects of the environment, and helps identify potential measures to reduce them (diet shift, food waste reduction, changing the composition of the energy mix, etc.). The paper is based on a recent JRC-organised workshop that brought together 23 leading experts from 17 different institutions around the world to systematise the many existing environmental footprint indicators within a coherent framework.

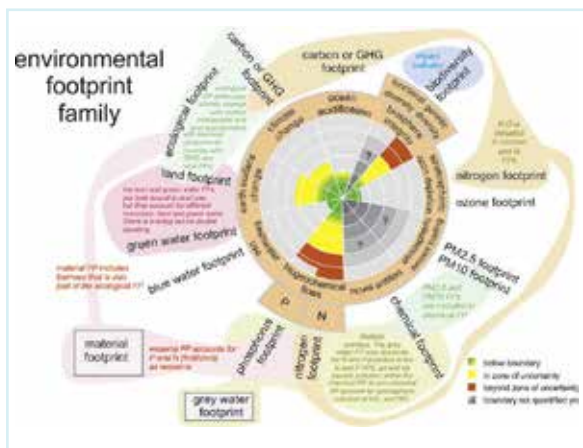


Image: Linear representation of the DPSIR framework (drivers, pressure, state, impact and response) and its theoretical relationship with environmental footprints and impact indicators. OECD - Environmental Indicators – Development, Measurement and Use. Source: Report Organisation of Economic Co-operation and Development (2003)

By integrating different footprints into a single coherent and flexible framework, the Environmental Footprint Family facilitates a more comprehensive understanding of environmental issues, policy formulation and assessment of trade-offs between different environmental concerns.

Back in 2009, a group of earth system and environmental scientists from the Stockholm Resilience Centre defined nine planetary boundaries that mark the safe operating zone for the earth system. These include climate change, biodiversity integrity, biogeochemical flows, ocean acidification, earth surface change, freshwater, ozone depletion, atmospheric aerosols and chemical pollution. Environmental footprint indicators can be used to identify the extent to which different processes and societies contribute to reaching or exceeding planetary boundaries, from local to global levels. The carbon, water, ecological, land, nitrogen, phosphorus, PM2.5 and PM10, ozone, and biodiversity footprints provide information on eight of the nine planetary boundaries. Chemical pollution could be proposed as another planetary boundary, for which the chemical footprint can be a relevant indicator.

An interesting and useful tool has been created

by a group of researchers of the Norwegian University of Science and Technology and the Yale University Centre for Industrial Ecology. The Environmental Footprints web-page collects data from multiple international databases and enables users to extract environmental information of countries and regions - <https://environmentalfootprints.org/eu-regional>

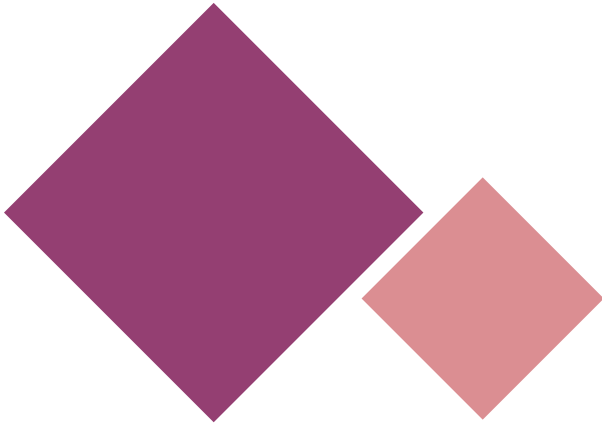
Sports and in particular the most important sport events, contribute to generate a negative impact on the environment, leaving a deep environmental footprint that is difficult to erase, with the almost always hurried construction of infrastructures (stadiums, sports halls, complexes, etc.) and the environmental impact of the spectators. Whilst the footprint is hard to determine quantitatively over an extended period of time, we can evaluate the carbon footprint, that translates the effect of different types of greenhouse gases into tons of CO₂ emissions equivalent to the same global-warming potential.

Of course, carbon footprint only takes into account the impact on climate change, neglecting other environmental impacts, but it's still a relevant indicator to take into account.

As stated by the Solar Impulse Foundation, "according to official figures, the FIFA World Cups in South Africa (2010) and Brazil (2014) generated close to 2.8 million tons of CO₂e each and the 2016 Olympic Games in Rio generated 4.5 million tons of CO₂e. Combined, these 3 events generated emissions equivalent to burning 11 billion pounds of coal". These 3 events generated emissions equivalent to that of the 3 million people living in Lithuania in 2016.

According to the estimates Collins et al. (2007), during big sporting events, the impact is seven times higher than normal, considering journeys, the creation of rubbish and the consumption of energy, food and water all spiral. To give some more examples of how big sport events influence the environment, in the London marathon in 2019 runners left behind 350.000 plastic bottles scattered along the city's roads. Some big events also contaminate the air as happens in motorcycling, Formula 1 and the Dakar Rally; this last competition, in which more than 340 vehicles and 3 500 people take part, damages the dunes of the deserts it crosses and generates 100 tons of waste.

"Sport has the power to change the world", Nelson Mandela said in his famous speech at the first Laureus World Sports Awards in Monaco in 2000. Sport has indeed played a major role throughout history, safeguarding peace and uniting people. Now, as humanity faces a climate crisis, sport must once again rise up to the occasion. Sport



in general, and major sport events in particular, have a special role to play in promoting and supporting sustainability. Building venues and infrastructure, gathering hundreds of thousands of people from all corners of the globe, accommodating and feeding them has an inherent environmental impact.

While the link between protection of the environment and sport events is not new, the issue has become crucial to most sport organizations recently. Some have even put sustainability at the top of their agenda, such as Paris 2024 and its ambitious target: becoming “the Greenest Games Ever”.

with a focus on a particularly relevant topic (Plastic Consumption), because of its powerful impact in terms of waste management. The chapters and issues in which we dedicated space in this manual, therefore, are as following:

4.2 WASTE MANAGEMENT

In Europe, we currently use 16 tonnes of material per person per year, of which 6 tonnes become waste. Although the management of that waste continues to improve in the EU, the European economy currently still loses a significant amount of potential 'secondary raw materials' such as metals, wood, glass, paper, plastics present waste streams. In 2010, total waste production in the EU amounted to 2,5 billion tons. From this total only a limited (albeit increasing) share (36%) was recycled, with the rest was landfilled or burned, of which some 600 million tons could be recycled or reused.

The management of urban waste, based on recycling, is difficult since: (1) is an expensive practice and (2) it is difficult for municipalities to be able to treat the actual whole generated amounts. This implies that there's a need to reduce the production of waste, and to modify the products' production cycle with a circular economy model, based on three pillars: Reducing, Reusing and Recycling.

REDUCING is a long-term strategy that consists in limiting the production of certain waste materials (for example single-use plastic) and can start from the initiative of a single person, of a community or a specific policy or strategy.

REUSING is the practice of using an item again instead of trashing it, for example repairing it where necessary to use it again, or giving it a new function different from the one originally planned (upcycling), thus enlarging its useful life and avoiding the generation of additional waste.

RECYCLING is the process of transformation of waste in new resources using treatments of diverse complexity.

With this said, it's important to specify that in European Union countries **more than 2,5 billion tons of waste** are produced every year, which is about 5 thousand tons of waste per capita in a year. The economic model currently used, largely responsible for this excess, is the linear model "**take-make-dispose**", meaning buying an item, using it and trashing it. This model relies on the exploitation of large quantities of resources and energy, although there have been several attempts to limit the environmental impact produced by reducing the resources and fossil energy used for

production.

The European Parliament imposed specific measures to change the paradigm, including avoiding that companies would purposefully produce items with a programmed short life-span in order to force users to buy new ones. The most desirable action is therefore a **shift from the linear production model to the circular model** in each and every phase of a product life (design, production, consumption, final disposal), limiting the use of materials and energy as much as possible and avoiding the production of waste with prevention measures. Such an economic model is designed to self-regenerate, by planning the reusing of materials in following productive cycles and maximizing the reduction of waste.

Circular economy is a production model that implies sharing, borrowing, repairing, reconditioning and recycling materials and products that have to be as long-lasting as possible. When the product ends its original function, the materials from which it's composed are reintroduced in the economic cycle, where possible, by reusing or recycling its components. The criteria of a circular economy are 5:

1. Designing products in a way in which they can be easily repaired, that means the products should be easily unbuilt and restructured, avoiding parts which are melted together.
2. Products must be versatile, adaptable to the change of external conditions without becoming obsolete as its parts are not possible to substitute. According to Eurobarometer, 77% of consumers would prefer the option to repair a broken object instead of substituting it.
3. Changing energy sources used in favour of renewable sources.
4. Using an ecosystemic approach, thinking about the entire system and the cause-effect principles between all different components of production.
5. Aiming at reusable materials, using quality recycled ones.

Recycling implies a combination of strategies and methodologies to collect useful materials instead of processing them in the waste disposal sites. In this way waste can be prevented and the sustainability of the production cycle improved (by reducing usage of raw materials and

energy, as well as GHG emissions). Moreover, it's important to stimulate the usage of bio-materials during the production of items as it will make the disposal a natural process, and promote a continuous separate collection of materials as this represents the first step to reduce the costs of treatment to recycle them.

Among all materials, plastic needs a special focus, as it's used also for the packaging of many items. Initially, the plastic gathered was only bottles and containers of different kinds, but now many other plastic items and their wrapping can be recycled.

Image source: The EU circular economy and its relevance to metal recycling

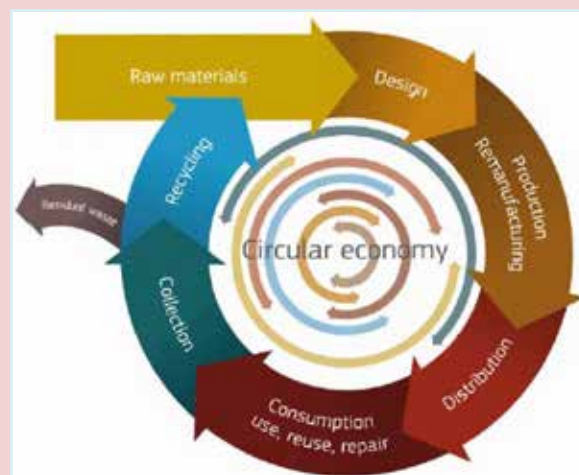
Other materials, like **paper**, are way easier to recycle, since cellulose can be re-processed several times and up to 95% of its fibre can become new paper, helping to save energy, water and wood.

Iron and other **metals**, although in a smaller percentage, can also be easy to recycle. Depending on their specific characteristics (hardness, softness, resistance), there are multiple methods to separate metals, for instance cans or containers.

Another material often collected is **glass**, which, due to its specific nature, can be recycled an infinite number of times saving energy and raw materials. Glass is commonly used for food, drinks or cosmetic containers in different industries. Data from 2009 states that the collection of this material is over 90% in most European countries, with Austria, Belgium, Netherlands and Sweden at the top, while Greece and Cyprus still have to improve on this matter.

Organic waste is especially important because if not recycled it is an active agent in the creation of landfill gas, a by-product of the decomposition of organic material in landfills. Landfill Gas composition is (roughly) 50% CH₄ (methane), 50% CO₂ and a small amount of non-methane organic compounds. As a GHG, methane is 28 to 36 times more effective than CO₂ at trapping heat in the atmosphere over a 100-year period. Organic waste is composed of food waste as well as by any natural waste caused by maintenance of fields, pitches, parks and such. It can be used to produce fertilizers and biogas.

To effectively manage the waste, there is a need



for investments in adequate recycling factories. Otherwise the only available solutions are the disposal of waste material in dumps (with a large waste of materials and possible damages caused to the land used) or in incineration plants, which can produce energy but require an adequate management of emissions of different air pollutants. Europe has the objective to reach 65% of urban waste processed with a recycling system by 2030, a goal which would make dumps almost disappear.

The link between nature and sport, itself, is very important, and sport structures, activities and events have to take care of the impact that they can have in these terms. So, how is it possible to have a better management of the waste production and processing within the sport industry? There are several answers.

First of all, it is important to raise the awareness of athletes, staff and supporters about the need to practice the separate collection of garbage.

As for materials used, the first passage is to practice the principle of reducing the consume, for example by using second hand sport gears creating a virtuous circle of exchange and reusing of boots, balls and even larger items used in the pitches that are not used anymore by some sport clubs of higher leagues, but that could be used by other ones.

In big sport events with massive participation, we can see that there is a large use of wrappings that are made of materials difficult to recycle (i.e. cellophane, polystyrene) used for food, merchandising or drinks. Moreover, certain items are often overproduced (e.g. promotional

material) generating additional waste.

Therefore, it is important to reduce the use of such materials in favour of more sustainable ones, as well as suggesting more responsible manners, such as the usage of personal water bottles. Also, dedicated policies, behavioural change campaigns and the availability of vegetarian options can be a way to tackle waste generation and GHG emissions. Vegan and vegetarian options are considered important since in general they have a lower environmental footprint than meat products. As such, a good practice can be offering vegan and vegetarian snack options at sport events.

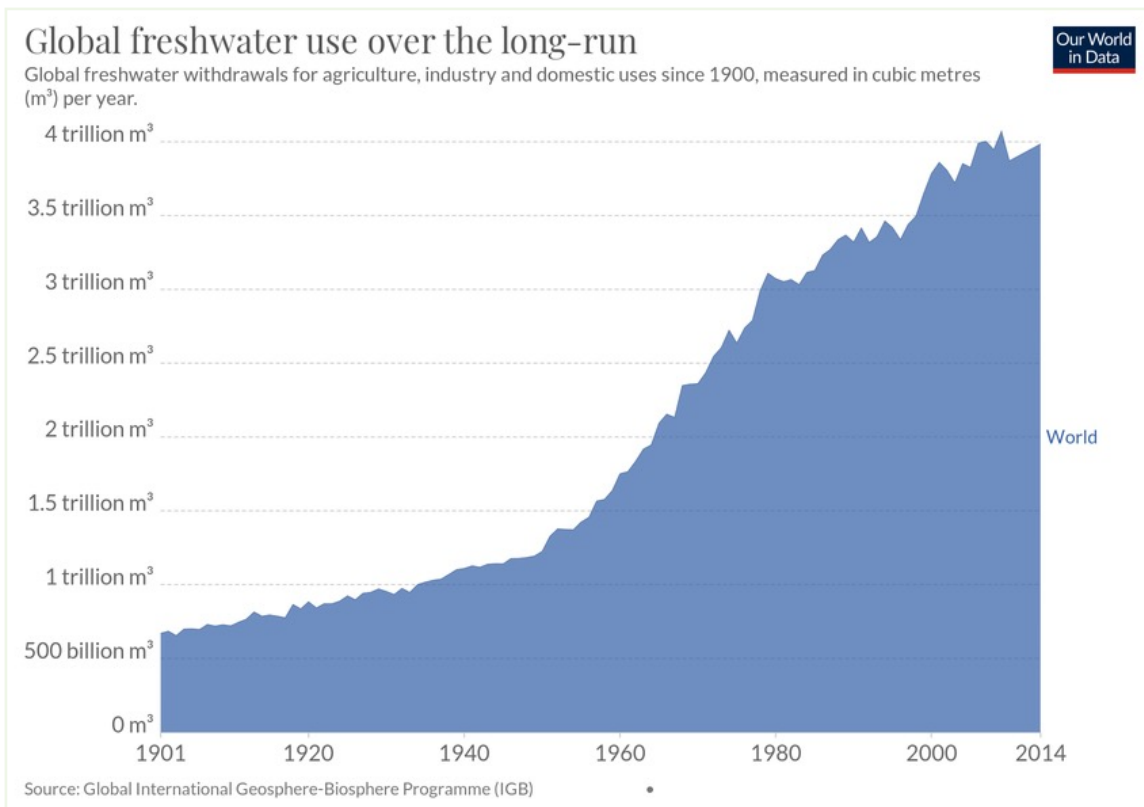
When it comes to sporting clothes, the ones made of recycled polyester are very good both for their resistance and flexibility, as well as for the energy and water consumption saved in their production. Moreover, for other gear (boots, tennis balls, bicycle tyres), it's important to recycle and transform them into new gear rather than simply trash them.

For example, an old pair of boots can be renewed into completely new boots. In 2015, European Commission and Adidas financed a project called "Sport Infinity", where they set up a research team to create new boots by recycling used sport gear and other waste from other fields. In this way, it's possible to create "eternal" sport products, abandoning the custom to trash old football boots. In addition, from the correct management of used sport shoes, with a separation procedure, it's possible to obtain a material used for the pavements of running tracks or children playgrounds. With 40 to 60 pairs of shoes, it's possible to realize a square meter of material.

4.3 WATER CONSUMPTION

There are two ways in which we can classify our water use. The first type is in-stream use, which includes hydroelectric power, boating and swimming, for example. While in-stream activities do not use up the water, they can degrade the water quality through pollution. The other type of water use is the withdrawal of water, which includes household and industry uses, irrigation, livestock watering and cooling of thermal and nuclear power plants. Most withdrawals are water consumptions, meaning that the activity uses the water and does not return it to the source.

The amount of water that is taken (or withdrawn) from the source is called the water intake, and the amount that is returned is called the water discharge. The difference between the water intake and the water discharge is the amount consumed.



Water intake Water discharge = Consumption

The total amount of water that is used is called the gross water use. The difference between the gross water use and the water intake is equal to the amount of water that is recirculated. The recirculated amount is expressed as a recycling rate and is a good indicator of water efficiency



Gross water use Water intake = Amount recirculated (or recycling rate)

To maintain sustainable levels of water resources, rates of water withdrawals must be below rates of freshwater replenishment. 'Renewable internal freshwater flows' refer to internal renewable resources (internal river flows and groundwater from rainfall) in the country. Renewable internal flows are therefore an important indicator of water security or scarcity. If rates of freshwater withdrawal begin to exceed the renewable flows, resources begin to decline.

The overall use of water resources can be considered sustainable in the long-term in most of Europe. However, specific regions may face problems associated with water scarcity; this is the case particularly in parts of southern Europe, where it is likely that efficiency gains in agricultural water use (as well as other uses) will need to be achieved in order to prevent seasonal

water shortages. Regions associated with low rainfall, high population density, or intensive agricultural or industrial activity may also face sustainability issues in the coming years, which could be exacerbated by climate change impacts on water availability and water management practices.

Image source: European Commission

At the European scale, the households and the manufacturing industry are both important users of water. However, their relative share varies a lot among European countries: while in the Netherlands, Sweden and Belgium there is a clear dominance of water use by the manufacturing industry, the share is almost equal in Bulgaria, Germany, and Croatia. In contrast, in countries with a dominance of the service sector and less industry, the water use by households outweighs the use by manufacturing by far.

Water is essential for life, it is an indispensable resource



for the economy, and also plays a fundamental role in the climate regulation cycle. This is why the EU's water policy over the past 30 years is focused on the protection of water resources. The last complete policy overview is provided in a document titled the 'Blueprint to safeguard Europe's water resources' (2012) which aims at ensuring that good quality water, of sufficient quantity, is available for all legitimate uses. Some more recent insight is offered by the fifth implementation report (2019) of the Water Framework Directive (2000), the central piece of environmental legislation concerning European waters.

Few things are more essential to sports venues than water. Without it, green fields would turn brown, rinks would have no ice and pools would be empty. Showers, toilets and kitchens wouldn't function. The games simply could not go on.

Consumption of water resources at major sporting events is another area of great environmental concern. Similar to energy use, millions of gallons of the precious commodity are consumed at major sporting events for drinking, showering, watering the playing surface and flushing toilets. Major sporting organizations are currently adopting innovative measures to conserve water. Such measures include incorporating rainwater harvesting systems in the design of sports facilities. Due to their massive size, major sporting venues are ideal places for incorporating rainwater harvesting technologies. Rainwater can be harvested through the roof and then stored in underground storage facilities for future use. The rainwater can then be utilized for showering, flushing toilets, washing laundry, as well as in fire prevention systems. Some virtuous example of rainwater use in sports are:

- "The Rugby World Cup 2006 utilized rainwater harvesting systems, as well as using water-free urinals in the men's toilets. The rainwater was collected on the roof of the stadium and stored in a cistern system",
- The Tokyo Dome in Japan is another sports facility that incorporates exhaustive rainwater collection systems.

So with drought conditions gripping parts of the country, teams and stadium operators in the U.S. have increased their water conservation efforts to help their bottom lines and public images. In many cases, teams have installed off-the-shelf products like low-flush toilets and sensor-activated faucets that can save millions of litres of water during a season. They are also using technological solutions, like underground sensors that transmit data about fields' moisture levels via wireless networks to help venue managers decide when to turn sprinklers on or off.

4.4 ENERGY CONSUMPTION

Using natural resources and energy more efficiently and reducing greenhouse gas emissions, a phenomenon responsible for climate change or other harmful impacts on the environment, is a priority to consume and produce sustainably.

In Europe, energy processes caused 78% of the total emissions of EU countries in 2015. 55% of the total emissions of EU countries are from the transport, construction, agriculture and waste sectors. The decrease that occurred can be attributed to less use of coal-derived fuels and a greater reliance on renewable sources for energy production. The European Commission has proposed to increase the intensity of emission reduction from 2021.

Meeting energy demand, limiting emissions and, above all, the role of renewable sources has collaborated in minimizing energy imports, in addition to the drive towards greater energy efficiency. The most concrete perceived risk is that decarbonisation objectives will be difficult to reconcile with the demands of the market itself in terms of return on investment. However, it must be taken into account that global warming will increase global demand for electricity by 2050 due to consumption for cooling, not just increase due to income and population growth.

Limiting the average temperature increase by 1.5 degrees would require an 80% decrease in the use of coal worldwide in electricity generation from 2010 to 2030, according to the 2015 Paris Climate Agreement. In particular, in Europe and Western economies, the city system is responsible for 75% of total energy consumption as well as 80% of air pollution.

The production of electricity involves the consumption of large amounts of environmental resources; moreover, the most widely used energy sources are fossil fuels (coal and oil) which, together with other pollutants and toxic agents (nitrogen and sulphur oxides, aromatic hydrocarbons, fine dust, heavy metals) have significant consequences in terms of environmental impact and human health. In fact, they imply the emission of carbon dioxide into the atmosphere, a waste product of the combustion processes required for the functioning of the power plants, and other particulates, i.e. substances and powders diffused into the air, of different dangerousness depending on the fuel and technologies used.

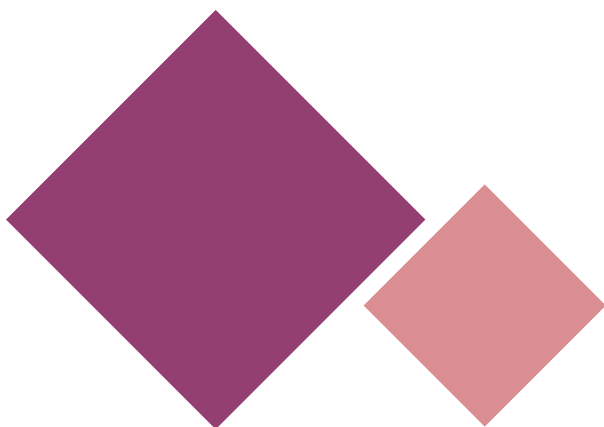
Other variant to fossil fuels, non-renewable sources - and therefore destined to be exhausted, there would be the nuclear whose immediate polluting impact is minimal but the radioactive waste needs storage operations until the weakening

of their radioactivity, residues that are maintained for millions of years in addition to the danger of accidental dispersion of the radioactive range of the plants.

On February 16, 2005, the governments of the majority of countries signed the Kyoto Protocol, the international treaty by which they undertook to reduce emissions of carbon dioxide and other greenhouse gases in the period between 2008 and 2012. In this period of time in Europe there has been an increase in consumption of 13% but a decrease in emissions of 4% thanks to the use of cleaner and renewable sources. The USA, the main producer of greenhouse gases in the world, not adhering to the Protocol, had a 20% increase in emissions.

Europe aims to reduce emissions to zero by 2050. These emissions intensify the greenhouse effect and the warming of the Earth: a natural mechanism that led to life on Earth but that in the exponential increase of greenhouse gases due to human activities, including energy production, urban traffic and industrial activities leads to disastrous consequences. Specifically, renewable energies are:

- ⊗ Wind energy that exploits wind currents to produce electrical and mechanical energy, used by institutions and organizations or homes for private use and farms; solar energy used to produce electricity and heat through photovoltaic and solar thermal systems for hot water heating, space heating or lighting;
- ⊗ Geothermal energy that harnesses the earth's heat from the earth's surface or from rocks or underground water supplies to convert it into electricity for use in private buildings and more broadly for commercial buildings and greenhouses;
- ⊗ Biomass energy that comes from animal or plant organic residues and biodegradable municipal and industrial waste for the production of thermal and electrical energy in special facilities and are used by manufacturing industries and transportation companies to produce electricity and power their vehicles;
- ⊗ Hydroelectric energy that harnesses the kinetic energy of water and transforms it into electricity using dams and power plants with storage facilities;
- ⊗ Oceanic energy that uses wave motion and the movement of currents and tides, as well as a form of thermal energy derived from the heating of water by the sun.



However, despite the progress, there is a strong disparity in consumption between the various nations of the earth and an imbalance between the energy consumption of North and South of the world: a quarter of the world's population in industrialized countries spend three quarters of the energy produced on the planet and the countries that consume less are the most populated and poor. If the energy needs of these countries are expected to increase, it will be necessary for the other countries to consume less.

In order to implement a sustainable behaviour, the pillars are in fact energy saving and energy efficiency, that is, the increase of the efficiency with which it is used, achievable through technological interventions at various levels: in homes through insulation, in industrial processes, reduction of losses in conversion processes, increase yield of energy transmission in lighting systems, reduction of the use of the car in favour of the use of public transport; it is necessary above all to adopt renewable sources as the first choice, environmentally clean and spontaneously recovering, obviously respecting the time required by nature.

Sport has an indissoluble bond with the environment, whether it takes place outdoors or indoors. In addition to encouraging the practice of sports

as much as possible outdoors, in the latter case environmental measures and criteria are necessary in the construction and management of sports facilities, in order to avoid waste of energy and water and limit the use of polluting means of transport for the movement of athletes, preferring public transport. Calculating the ecological footprint of the 2010 World Cup in South Africa, 2.8 million tons of CO₂ were calculated. The calculation includes the travel of the players, the construction of the facilities, the energy used in the stadiums, hotel stays and the travel of fans.

The solutions are to reduce and offset the carbon footprint from transport, materials and services, to focus on water saving and to further reduce the problems that arise during the construction of sports venues by opting for sustainable redevelopment of sports buildings.

Compared to other buildings, sports buildings are characterized by higher energy consumption and this is related to several reasons. They are structures that, if equipped with swimming pools, must ensure the climatic balance of the tanks and environments. They often host refreshment areas, bars and conservation areas that have their own energy consumption and must be properly air-conditioned, as well as gyms. In fact, sports facilities are generally made up of several environments with different purposes: swimming pools, gyms, locker rooms, indoor courts, refreshment areas. The optimization of energy management must be carried out by maintaining both the proper functioning of the systems and the ideal thermo-hygrometric conditions.

Sport centres often have a very high energy consumption, especially if they have different facilities (pools, bars, restaurants), each requiring an adequate climate, which generates a high consumption of electricity. Sport machines, generators for hot water, and heating of pitches are just some of the other factors that might affect the high consumption of energy. For instance, it has been estimated that the energy savings achievable by adopting in sports centres procedures and solutions already available is very high: 30% reduction in consumption, in the case of swimming pools consumption alone could even be halved.

First of all, in sports facilities it is essential to start from an energy diagnosis to identify the actions or plant solutions to be implemented. You can act in three main directions

1. intervene on the insulation of the envelope and the heat exchange surfaces, with the insulation of walls and roofs, the replacement of windows



and doors, the installation of sunscreens and the use of isothermal sheets for the cover of swimming pools, which limits the evaporation of water.

2. replace old thermal energy production systems with more efficient systems;
3. self-production of energy with renewable sources, making revamping interventions to optimize the consumption of the lighting system in indoor and outdoor spaces. Some technologies make it possible to significantly reduce energy consumption, such as cogeneration: a system of simultaneous production of thermal energy and electricity that would allow energy savings of 30% compared to production.

As far as lighting is concerned, led technology is now very widespread and guarantees very important savings, while for the electricity consumed by hairdryers, the only real item of variable expenditure, it is possible to intervene by means of time devices, whether they are paid or not. Specifically, with regard to swimming pools, the presence of the pool, which is heated to a temperature certainly higher than that of the surrounding environment, generates savings on other areas. What has the greatest impact is the cost of heating the air. From this fact we can deduce a universal solution: it is necessary to design the heating correctly.

Finally, the need to keep under control air parameters such as humidity, temperature, speed and purity within the environments, is easily achieved through the use of Air Treatment Unit equipment, which through heat exchangers, usually finned tubes, air / water type, allow, through various steps, to change the parameters of temperature and humidity of the air. It allows to operate on winter and summer air conditioning as well as acting also as a dehumidifier and that has inside the recuperator, an air recovery fan that uses the air taken from the environment in order to pre-heat (in winter) or pre-cool (in summer), or condensing the moisture in the air in order to cool it in summer.



4.5 SUSTAINABLE MOBILITY

When breaking down the contribution of different sectors and processes to global carbon emissions, transport clearly emerges as one of the most responsible sectors. In 2016, the combination of road transport, aviation and shipping represented 16.2% of the around 50 billion tonnes of greenhouse gases emitted in the world .

Burning fossil fuels like gasoline and diesel releases carbon dioxide (CO₂), a greenhouse gas (GHG), into the atmosphere. The build-up of carbon dioxide and other greenhouse gases like methane (CH₄), nitrous oxide (N₂O) and hydrofluorocarbons (HFCs) is causing the Earth's atmosphere to warm, resulting in changes to the climate we are already starting to see today. Between 1990 and 2018, GHG emissions in the transportation sector increased more in absolute terms than any other sector. Transportation is one of the main contributors to CO₂ emissions in the world. Effective mitigation of global climate change requires action in these sectors for which technology change options exist or are being developed.

In Europe in 2017, 27 % of total EU-28 greenhouse gas emissions came from the transport sector (22 % if international aviation and maritime emissions are excluded). CO₂ emissions from transport increased by 2.2% in just one year, compared with 2016. Emissions from transport in 2017 (excluding international shipping) were 28 % above 1990 levels, despite a decline between 2008 and 2013. International aviation was responsible for the largest percentage increase in greenhouse gas emissions over 1990 levels (+129%), followed by international shipping (+32%) and road transport (+23%). However, European Economic Area estimates show that emissions from transport (including aviation) decreased by 0.7% in 2018 .

Europe's answer to the emission reduction challenge in the transport sector is an irreversible shift to low-emission mobility. By mid-century, greenhouse gas emissions from transport will need to be at least 60% lower than in 1990 and be firmly on the path towards zero. Emissions of air pollutants from transport that harm our health need to be drastically reduced without delay .

The strategy integrates a broader set of measures to support Europe's transition to a low-carbon economy and supports jobs, growth, investment and innovation. The EU Commission identifies three priority areas for action:

1. Increasing the efficiency of the transport system by making the most of digital technologies, smart pricing and further encouraging the shift to lower emission transport modes.
2. Speeding up the deployment of low-emission alternative energy for transport, such as advanced biofuels, electricity, hydrogen and renewable synthetic fuels and removing obstacles to the electrification of transport.
3. Moving towards zero-emission vehicles. While further improvements to the internal combustion engine will be needed, Europe needs to accelerate the transition towards low- and zero-emission vehicles.



Image source: How green (apart from the obvious) is football? The Euros may be a sporting triumph - but they're an eco-disaster

Cities and local authorities will play a crucial role in delivering this strategy. They are already implementing incentives for low-emission alternative energies and vehicles, encouraging active travel (cycling and walking), public transport and bicycle and car-sharing/pooling schemes to reduce congestion and pollution.

The need for measuring the CO₂ emissions generated by transportation practices in the sport industry has raised the attention of both practitioners and researchers. Also, sport organizations and events have made efforts to develop sustainability mechanisms that can assess sport consumers' ecological impact.

Recent studies have highlighted that the focus should be given on the environmental impact of the transportation of participants towards sport events. The transportation impacts of sport events consumers have been identified as severe because major-scale and mass-participant sport events can attract an average of 80,000 spectators . The most substantial impact on the environment during sport events comes from the CO₂ generated by spectators' traveling behaviours. A recent study found that most spectators travel more than 130 kilometres by using single occupant vehicles. The traveling habits of spectators have shown that each individual generates 8 tons of CO₂ emissions every time they use their cars to attend a sport event. Therefore, the development of a mechanism that could control and reduce the generation of CO₂ can be a crucial tool for collegiate football events. However, there is still a lack of knowledge of how sport organizations can implement sustainable mobility plans to decrease the environmental impacts of sport events. The findings can assist urban sustainable planning and development in cities and events where private transportation is currently required due to the vast distances and the lack of infrastructure and alternative transportation options. For example, cities can promote carpooling practices by developing a car-sharing infrastructure working for a specific city radius. Also, government officials can encourage walking and bicycling by creating pedestrian and bike lanes across the streets and highways.



- ⊗ The International Olympic Committee placed mobility within its 5 focus areas in its Sustainability Strategy 2030, encouraging the adoption of sustainable mobility solutions for moving people and goods. Ahead of EURO 2016, UEFA released a 'Sustainability Tips and Tricks' guide for its staff providing advice on business trips, every day commuting and driving more efficiently.
- ⊗ Amsterdam Arena has set up a Mobility Portal to provide transportation information to fans. Every travel option has a CO₂ label, helping the traveller spot the greenest option. It also offers discounted train tickets to fans to reduce car usage. The German Football Association has required that almost every match ticket to Bundesliga and 2nd Bundesliga entitles the holder with a free return journey on public transportation.

4.6 PLASTIC CONSUMPTION

Plastics are a wide range of synthetic or semi-synthetic organic compounds that are malleable and so can be moulded into solid objects. Plastics are typically organic polymers of high molecular mass and often contain other substances. They are usually synthetic, most commonly derived from petrochemicals.

The first synthetic plastic — Bakelite — was produced in 1907, marking the beginning of the global plastics industry. However, rapid growth in global plastic production was not realized until the 1950s. In 1950 the world produced only 2 million tonnes per year. Over the next 65 years, annual production of plastics increased nearly 200-fold to 381 million tonnes in 2015. For context, this is roughly equivalent to the mass of two-thirds of the world population. By 2015 the world had produced 7.8 billion tonnes of plastic — more than one tonne of plastic for every person alive today.

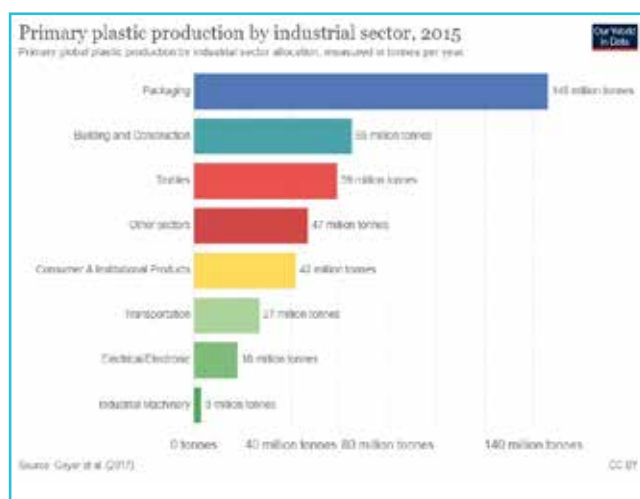


Image source: our world in data. Primary plastic production by the industrial sector.

Plastics have also revolutionised sports in recent years. From the tracks on which Olympic athletes pursue new records to the shoes, clothing and safety equipment they wear and the stadiums they perform in, modern sports rely on plastics. Plastic materials are used in almost all ball games. Thanks to plastics, football for instance has become faster and more technical than ever. Modern ball production relies on the thermal bonding of a polyurethane layer on a seamless glued surface, which delivers excellent responsiveness and ball contact sensitivity, a predictable trajectory, substantially reduced water uptake, and maximum abrasion resistance. In

addition, referees' whistles, goal nets, corner flags, shin pads, football boots and jerseys are all made with plastics.

The use of plastic products is particularly evident in sport stadiums. Some clubs already provide reusable drinking cups, but Friends of the Earth says there needs to be a nation-wide ban of single-use plastics products in sports arenas. A survey done for the charity says 84% of football fans agree that clubs should make sure reusable or returnable cups are used in their stadiums. They say the use of plastic bags, straws, stirrers, sauce sachets, mini milk cartons and cutlery by fans at football matches all add to the problem of plastic waste.

Some examples of football club/ federations actions against plastic are:

- ⚽ Premier League champions Manchester City already have a scheme in their stadium, where the cups they provide can be used 100 times and can be fully recycled at the end of their life.
- ⚽ Tottenham Hotspur trialled a reusable cup scheme for some of their matches.
- ⚽ The reusable cups leftover from the 2018 Fifa World Cup were recycled into an artificial pitch next to the Fisht Olympic Stadium in Sochi, Russia.

Major sporting events can generate up to 750,000 plastic bottles apiece, so the pressure is on to clean up the industry and use sport's global reach to raise awareness among fans. From global sports bodies pledging to cut back on plastic to joggers picking up rubbish as they run, athletes, sports enthusiasts and clubs are joining forces to tackle the tidal wave of plastic pollution that is poisoning the world's oceans. As the head of the UN Environment, Erik Solheim says, "The environment and sports are more closely connected than people think. If we don't have a healthy environment, then sports will not thrive".

Plastic pollution has become one of the most pressing environmental issues, as rapidly increasing production of disposable plastic products overwhelms the world's ability to deal with them. Plastic pollution is most visible in some Asian and African nations, where garbage collection systems are often inefficient or non-existent. But also many high-income countries, especially those with low recycling rates, face troubles in properly collecting discarded plastics. Plastic trash

has become so ubiquitous it has prompted efforts to write a global treaty negotiated by the United Nations.

Plastic pollution causes harm to humans, animals and plants through toxic pollutants. It can take hundreds or even thousands of years for plastic to break down so the environmental damage is long-lasting. It affects all organisms in the food chain from tiny species like plankton through to whales. Toxins work their way up the food chain when plastic is ingested and can even be present in the fish people eat.



Image source: Circular Economy: European Commission Strategy for Plastics

The main options available for the management of plastic waste are three:

1. Waste incineration has the largest climate impact of the three options. Based on projections from the World Energy Council, if plastics production and incineration increase as expected, greenhouse gas emissions will increase to 49 million metric tons by 2030 and 91 million metric tons by 2050. The climate impact isn't the only concern, since incineration facilities are disproportionately built near communities of colour and low-income populations. Burning waste can release thousands of pollutants, posing at risk of exposure the incinerator workers and people living near the facilities.
2. Landfilling, when correctly managed, has a much lower climate impact than incineration. In an uncontrolled landfill where different kinds of waste sources are collected together, the fermentation of organic material can create pockets of methane which can cause bonfires, releasing all the CO₂ from the combustion of plastic waste. Landfills can also be associated with other environmental injustices, such as leakages of hazardous materials in the soil, air or nearby water sources.
3. Recycling is a different beast with an entirely different set of problems. Compared to the low costs of virgin materials, recycled plastics are produced at a high cost for a low commercial value. This makes recycling profitable only rarely, and requires considerable government subsidies. Research from the Ellen MacArthur Foundation suggests that only 2% of plastics are recycled into products with the same function. Another 8% are "downcycled" to something of lower quality. The rest is landfilled, leaked into the environment, or incinerated.

As discussed in the chapter about waste management, the reduction in the production and consumption of plastic materials should be the priority of every policy at local, national and international level. In this way, the stress on the waste management system would be reduced to the minimum, decreasing its overall social and environmental impact.

Action on plastics was identified as a priority in the EU Circular Economy Action Plan, to help European businesses and consumers to use



Image source: Circular Economy; European Commission Strategy for Plastics

resources in a more sustainable way.

The first-ever European Strategy for Plastics in a Circular Economy adopted on January 2018 will transform the way plastic products are designed, used, produced and recycled in the EU.

Better design of plastic products, higher plastic waste recycling rates, more and better quality recycles will help boost the market for recycled plastics. It will deliver greater added value for a more competitive and resilient plastics industry. The strategy is part of Europe's transition towards a circular economy, and will also contribute to reaching the Sustainable Development Goals, the global climate commitments and the EU's industrial policy objectives. The strategy will help protect the environment, reduce marine litter, GHG emissions and our dependence on imported fossil fuels. It will support more sustainable and safer consumption and production patterns for plastics.

However, the risk of a rebound effect within end-users is high. "Green" alternatives to plastics, such as corn or wooden bioplastics, might blur the eyes of consumers making them believe those products have no environmental impact at all and can be produced, used and disposed of at will. This view does not take into account the need of land for intensive agriculture, which is highly damaging, and of infrastructure to decompose the polymers, which is almost non-existent nowadays. If not enough stress is placed on the necessity to reduce plastic products, no matter how "green" they are, the plastics consumption might not only decrease more slowly but even increase in

future years.

On the 21st of May 2020, the Council of the EU adopted the ambitious measures proposed by the Commission to tackle marine litter coming from the 10 single-use plastic products most often found on European beaches, as well as abandoned fishing gear and Oxo-degradable plastics, which fragment into microplastics and spread in the environment . The new rules are proportionate and tailored to get the best results. This means different measures will be applied to different products. The new rules will introduce:

1. 1. A ban on selected single-use products made of plastic for which alternatives exist on the market: cotton bud sticks, cutlery, plates, straws, stirrers, sticks for balloons, as well as cups, food and beverage containers made of expanded polystyrene and on all products made of Oxo-degradable plastic.
2. 2. Measures to reduce consumption of food containers and beverage cups made of plastic and specific marking and labelling of certain products.
3. 3. Extended Producer Responsibility schemes covering the cost to clean-up litter, applied to products such as tobacco filters and fishing gear.
4. 4. A 90% separate collection target for plastic bottles by 2029 (77% by 2025) and the introduction of design requirements to connect caps to bottles, as well as a target to incorporate 25% of recycled plastic in PET bottles as from 2025 and 30% in all plastic bottles as from 2030.



Image source: European Commission. EURACTIV Energy & Environment

5. CONCLUSIONS

The link between Sport and Environment is an unbreakable one. It is very important, therefore, to understand how much Sport activities (especially professional ones attracting massive amounts of fans) are impacting the environment, in which ways they can be dangerous for it and how to reduce, or better prevent, possible hazards and damages.

In that sense, it is obvious how the role of the Sport Industry and Governance (with the strategies designed by political decision makers, international committees, sport federations and sport clubs) is crucial, as they are the ones that can affect the environmental impact created by sport activities in a systematic way. Their decisions can be implemented not only on a daily basis but also with a long-term perspective. However, the task is equally challenging: in some cases, the human and financial resources might be there, but the major difficulty lies in keeping interests high all along the process. In other cases, a lack of technical knowledge might lead to not knowing how to specifically implement the measures, or how to assess the outputs.

With this guideline, we hope to have provided clarification about an effective strategy to follow from a policy and governance perspective. Our manual is a tool to provide insight into the policies and strategies that catalyse individual behavioural change, ultimately leading to a more conscious attitude towards the environment in the sportive field and in everyday life. In this sense, through our activities, sports managers can learn what environmental policies and strategies they need to implement in order to lead their clubs towards systemic change. These guidelines also cover good practices as well as major challenges to address. A common effort is the only way to travel towards a more sustainable sport world, and we truly hope our educational manual can provide useful support in this direction.

Environmental Footprints

Note for the reader: the following links are references that were used for the production of this module. The reader should note that links are in English and Italian. The authors kept it this way in order to correctly reference the original source where the information is taken.

USEFUL LINKS & REFERENCES

- 🌐 The Environmental Footprint Family - bringing clarity to the crowded field of footprint studies | EU Science Hub
- 🌐 Environmental Footprints Explorers
- 🌐 Sustainability in sports and initiative examples
- 🌐 Faster, Higher, Stronger... Greener? How sports events are joining the sustainability challenge
- 🌐 Environmental footprint family to address local to planetary sustainability and deliver on the SDGs

Plastic Consumption

- 🌐 Circular Economy: new rules on single-use plastics
- 🌐 All our charts on Plastic Pollution
- 🌐 Sport and Leisure
- 🌐 Plastic ban: Football stadiums urged to ban plastic cups - CBBC Newsround
- 🌐 Up for the cup? Football clubs urged to move to returnable drinks containers
- 🌐 10 ways the world of sport is tackling plastic pollution.
- 🌐 Plastic pollution facts and information
- 🌐 Environment and waste
- 🌐 Waste and recycling
- 🌐 First circular economy action plan

Sustainable Mobility

- 🌐 Greenhouse gas emissions
- 🌐 Carbon Pollution from Transportation | US EPA
- 🌐 Greenhouse gas emissions from transport in Europe — European Environment Agency.
- 🌐 Transport — European Environment Agency
- 🌐 Total greenhouse gas emission trends and projections in Europe
- 🌐 Transport emissions | Climate Action.
- 🌐 (PDF) Carbon Dioxide Emissions Research and Sustainable Transportation in the Sports Industry
- 🌐 SPORT AND THE ENVIRONMENT
- 🌐 Transforming our world: the 2030 Agenda for Sustainable Development | Department of Economic and Social Affairs
- 🌐 The Role of Sport in Achieving the Sustainable Development Goals | United Nations
- 🌐 IOC Sustainability Strategy

Energy Consumption

- 🌐 ENERGY AND CLIMATE CHANGE: EUROPE
- 🌐 The Paris Agreement - Italian
- 🌐 Capitolo 1 – Città, Densità, Sostenibilità
- 🌐 Energia: il problema dei problemi
- 🌐 Impronta ecologica
- 🌐 Clima, a rischio 600 miliardi con elettricità dal carbone - Ambiente & Energia
- 🌐 Le relazioni tra lo sport e la sostenibilità ambientale
- 🌐 Guida all'efficienza energetica nei centri sportivi.
- 🌐 L'efficienza energetica favorisce la ripresa del settore sportivo e l'ambiente
- 🌐 Inquinamento sul pianeta: anche l'energia elettrica inquina
- 🌐 Energie Rinnovabili: meglio per il Pianeta e per le nostre Tasche
- 🌐 L'impatto energetico delle attività dell'uomo sul pianeta
- 🌐 Energie rinnovabili e sostenibili per il nostro futuro
- 🌐 Elettricità, il clima anomalo fa crollare i consumi a gennaio
- 🌐 Riscaldamento globale e domanda di energia
- 🌐 Il Green Deal europeo, il Piano di investimenti per un'Europa sostenibile e il Fondo per la transizione giusta
- 🌐 Che cosa sono le energie rinnovabili?
- 🌐 Coni e Earth Day Italia insieme per uno sport sano e sostenibile
- 🌐 I costi energetici di una piscina
- 🌐 "UTA": UNITA' DI TRATTAMENTO ARIA

Water Consumption

- 🌐 Water Consumption — Safe Drinking Water Foundation.
- 🌐 Other Uses and Types of Water | Healthy Water
- 🌐 How We Use Water | US EPA
- 🌐 What's the Difference Between Water Use and Water Consumption?
- 🌐 Use of freshwater resources — European Environment Agency
- 🌐 Use of freshwater resources in Europe — European Environment Agency
- 🌐 Water resources across Europe—confronting water scarcity and drought
- 🌐 Water - Environment.
- 🌐 Water policy in the European Union - Environment - European
- 🌐 Water Waste: Going, Going ...
- 🌐 El deporte como herramienta para el

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- ⊗ Economia circolare: definizione, importanza e vantaggi | Attualità | Parlamento europeo
- ⊗ Riciclaggio dei rifiuti
- ⊗ Gli impatti del Covid19 sui rifiuti: il settore perderà almeno 1 miliardo di euro
- ⊗ White book of sports
- ⊗ Dalle bottiglie di plastica riciclate nascono nuove maglie da calcio
- ⊗ Esempi concreti di riuso di materiali di riciclo, a partire dal Juventus Stadium
- ⊗ Economia Circolare
- ⊗ Consulenza Ambientale – TuttoAmbiente.it
- ⊗ Gestione dei rifiuti: per Althesys i termovalorizzatori sono ancora necessari, e manca una strategia nazionale.
- ⊗ Riciclare (e basta) i rifiuti, siamo sicuri che sia ancora una buona idea?
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For more information and references, you can consult our website
<http://greencoacherasmus.eu>

