

RESEARCH REPORT

This Research Report is the collective output of
the City, Green, Go! project consortium.

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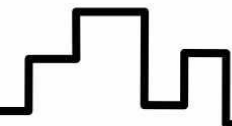
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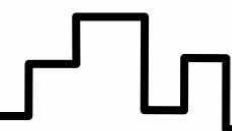
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Introduction

As urban populations around the world continue to grow, the push to transform our cities into greener, more sustainable and healthier is gaining momentum. Sports are a feature of the urban context that is highly relevant to the environment and sustainability transition.

Many athletic sport events require large amounts of urban green space, and organisers can use this as an opportunity to promote sustainable practices, improving the environmental benefit of these events. For example, organisers can implement measures such as using locally-sourced food and drinks, recycling and reducing waste, and encouraging participants and spectators to use environmentally-friendly methods of transportation.

In the framework of the City, Green, Go! project, the participating organisations decided to make a collection of good practices that are:

- promoting physical activity;
- taking place in urban settings;
- spreading environmental messages.

By raising awareness about environmental issues and promoting eco-friendly practices, citizens and athletes can inspire their communities and followers to take action. Additionally, sports organisations can partner with environmental organisations to support conservation efforts and raise funds for environmental causes. Such partnerships can help to protect natural habitats and support efforts to restore ecosystems that have been damaged by human activities.

The assessment of environmental sustainability in sports practices has become increasingly important in recent years, particularly in terms of environmental regeneration and conservation. With the growing recognition of the impact of human activity on the planet, the sports industry must consider how its practices can contribute to the regeneration and conservation of the natural environment. This involves assessing the impact of activities such as building and maintaining sports facilities, hosting events, and travelling associated with sporting activities. The scope of assessing environmental sustainability in sports practices includes designing practices and infrastructure that minimise waste and conserve energy, adopting environmentally friendly practices, and promoting awareness and education on environmental issues among communities and stakeholders.

Eco-friendly sports practices can contribute to mitigating climate change and protecting the environment. Many sports events and facilities consume significant amounts of energy and emit carbon dioxide and other greenhouse gases. Adopting eco-friendly practices such as using renewable energy sources, reducing waste and promoting public transport can help to reduce the carbon footprint of these events and facilities.



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Eco-friendly sports practices not only reduce the impact of sports on the environment but can also have a positive impact on the communities where the events take place. For example, promoting cycling and walking to sports events can improve public health and reduce traffic congestion. Additionally, adopting sustainable practices can help to inspire and educate people on the importance of protecting the environment and reducing their carbon footprint. By promoting sustainable sports practices, the world of sports can help to lead the way towards a more sustainable future.

In conclusion, sports practices can serve as platforms for promoting environmental protection and regeneration. Promoting eco-friendly practices, raising awareness about environmental issues, and partnering with environmental organisations, municipalities, athletes, sports organisations and other actors in civil society can contribute to the preservation of the planet and ensure a sustainable future for generations to come.

Scope of the Analysis

The analysis of sport practices aims to assess sports initiatives as 'nature-based solutions'. Nature-based solutions are defined as "actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits" (IUCN, 2016; IUCN, 2020). The IUCN Global Standard for Nature-based Solutions comprises a series of criteria that have been used as guiding principles for framing the template for the collection of eco-friendly sporting good practices. Namely,

1. NbS effectively address societal challenges;
2. design of NbS is informed by scale;
3. NbS result in a net gain to biodiversity and ecosystem integrity;
4. NbS are economically viable;
5. NbS are based on inclusive transparent and empowering governance processes;
6. NbS equitably balance trade-offs between the achievement of their primary goals and the continued provision of multiple benefits;
7. NbS are managed adaptively, based on evidence; and
8. NbS are sustainable and mainstreamed within an appropriate jurisdictional context.

In conclusion, **the scope of the analysis is to help the grassroots sports community in urban settings to better understand its relationship with nature and inspire it to take concrete actions to address today's immense environmental challenges.**

SELECTION CRITERIA

In today's world, we are witnessing increasing concerns about the impact of human activities on the environment. One particular area that has come under scrutiny is sports and recreation. As popular as they are, many of these activities can have a significant impact on the environment, from pollution and resource depletion to habitat destruction and biodiversity loss. Consequently, there is a growing emphasis on adopting eco-friendly sporting practices.

However, it is not enough to merely label any activity eco-friendly without properly exploring its environmental impact. In this section, we will describe the selection process that has been followed when selecting City, Green, Go! good practices.

The most important selection criteria have been phrased as follows. City, Green, Go! good practices:

1. promote physical activity;

2. take place in urban environment;
3. spreads environmental messages.

Spreading environmental messages has been connected with the concept of Nature-based Solutions and its main definitions. Environmental conservation and regeneration in sports projects formed an overriding aspect since the magnitude of multiple environmental crises calls for a crucial change of course, especially in urban space planning. Environmental conservation and regeneration not only address climate change, loss of biodiversity, and pollution but also economic and social benefits, including protecting the health and well-being of all life on Earth.

By assessing the sporting practices against the definitions below, we could identify good practices that are genuinely sustainable and environmentally friendly. Some definitions are better detailed to emphasise and prioritise the importance of conserving and regenerating the environment of the space dedicated to sports practices and projects.

The selection process has been based on the main criterion, whether the sport practice is consciously reflecting on one or more of the definitions below.

Biodiversity: promoting biodiversity through the use of green spaces and nature integration can help support ecosystem health and resilience. To assess this criterion, consider the biodiversity value of the project's green spaces and the associated benefits for ecosystem health.

Habitat diversity: referring to the type, number and spatial arrangement of habitats within the urban area, as well as the structural complexity of habitats. Therefore, landscapes with diverse habitat types can support greater overall biodiversity (Tews et al., 2004).

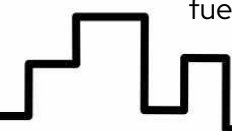
Native species: those having a long evolutionary history in a particular location and then special relationships with the surrounding environment. As a result, urban green spaces with more native plants tend to support greater biodiversity (Threlfall et al., 2017).

Connections. features that facilitate the movement of plants or animals across the landscape. Connectivity is one of the most important features for preserving urban wildlife populations (Beninde et al., 2015).

Water Conservation: conserving water through the use of rainwater harvesting and efficient irrigation systems can help reduce water usage and associated energy use. To assess this criterion, consider the amount of water used by the sport project and the proportion that is conserved through these practices.

Special resources: unique habitat features in the landscape, such as large trees, wetlands and open water. Water is necessary for nearly all species, and large trees can have disproportionate impacts on both ecological function and people's experience of a place (Cox et al., 2019)

Renewable Energy: utilizing renewable energy sources, such as solar, wind, or geothermal energy, can have a significant positive impact on the environment by reducing reliance on fossil fuels and lowering greenhouse gas emissions. To assess this criterion, consider the proportion



of the project's energy that is sourced from renewable sources and the carbon emissions that are avoided as a result.

Energy Efficiency: incorporating energy-efficient technology and design practices into a sports project can help reduce energy consumption and associated greenhouse gas emissions. To assess this criterion, consider the efficiency of the project's lighting, heating, and cooling systems, as well as any energy-saving features such as motion sensors and timers.

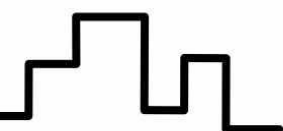
Waste Reduction: implementing waste reduction practices, such as recycling and composting, can help minimise the amount of waste generated by a sports project and promote circularity. To assess this criterion, consider the amount of waste generated by the project and the proportion that is diverted from landfills through recycling or composting.

Sustainable Materials: using sustainable materials, such as recycled or natural materials, can help reduce the environmental impact of a sports project by reducing resource use and waste. To assess this criterion, consider the proportion of sustainable materials used in the project and the environmental benefits of their use.

Social Equity: promoting social equity through access to sports facilities and inclusive programming can help support community health and well-being. To assess this criterion, consider the extent to which the project is accessible and inclusive to all members of the community, and the associated benefits for social equity.

Health and Wellness: promoting health and wellness through access to physical activity and healthy food options can have positive impacts on individual and community health. To assess this criterion, consider the health benefit associated with physical activity and healthy food options promoted by the project.

Education and Outreach: promoting education and outreach initiatives, such as environmental education programming and community engagement, can help raise awareness about sustainability and climate change mitigation. To assess this criterion, consider the number of people engaged and their relative community awareness associated with educational and outreach opportunities provided by the project.





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ISCA International Sport and Culture Association

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Good Practice Collection Process

Collecting good initiatives and examples is a fundamental step in identifying and sharing successful practices for promoting eco-friendly sporting activities in urban environments. These chapters briefly describe the process of collecting examples of eco-friendly sport practices from different perspectives, with the aim of inspiring and disseminating effective approaches.

The first step in the collection process was to make members of the City, Green, Go! consortium familiar with the key definitions and concept of nature based solutions in the sport context. After identifying the key definitions a template¹ for the good practice collection has been developed by ISINNOVA and agreed with the Consortium to guide the selection of good practices.

In order to ensure a comprehensive collection, it was essential to consider different perspectives, including the geographical scope of the initiatives (international/ national/local), the level of sports initiatives (top sport related/ sport for all related) the type of the coordinating organisation (local government/ sport organisation/ other).

By examining different perspectives, a wide range of successful initiatives have been showcased, providing valuable insights and inspiration for others.

The collection process involved extensive desk research and exchange with partner organisations and other stakeholders (mainly sport organisations) related to the consortium members.

Information has been collected through a variety of methods, such as accessing existing documentation, conducting stakeholder interviews, and using online resources. Direct contact with involved organisations or individuals provided deeper insights.

Stakeholder engagement was a crucial aspect of the mapping process. This involved contacting organisations, initiatives or individuals and explaining the purpose and benefits of their participation. Clear and effective communication channels, such as emails, telephone calls or online meetings, have been established to facilitate the exchange of information. Templates have been provided to collect structured information and ensure consistency across the examples collected.

Once engaged, stakeholders were asked to provide detailed descriptions of their practices, including objectives, environmental impacts and any outcomes and benefits. Supporting materials such as documents, images or links were also requested to enhance the understanding and visualisation of the practices.

Once the information has been collected, a review and evaluation process undertook. The information provided in the good practice template was assessed against the pre-defined

¹ See template in ANNEX II

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definitions to identify any shortcomings or misinterpretation of the elements of the template by the respondents.

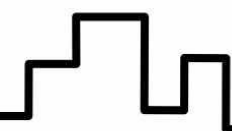
As result of the good practice collection process 19 initiatives have been identified.

Challenges arose during the collection process. Some organisations or individuals did not respond or provide complete information, thus preventing the inclusion of potentially valuable practices. In such cases, follow-up communication attempts were made to emphasise the importance of their contribution. Difficulties have also arisen in adapting or standardising the examples collected, especially when dealing with diverse projects. Flexibility and adaptability are key to overcoming these challenges.

CITY, GREEN, GO! ECO-FRIENDLY SPORTING PRACTICES

Many of the collected initiatives involve events organizing bodies, sports clubs and federations implementing more sustainable practices and raising environmental awareness among participants. Some focus on reuse, recycling and waste reduction while others encourage renewable energy use, sustainable transportation and access for vulnerable groups. Using sport as a vehicle, the following practices demonstrate how physical activity can be combined with sustainable development goals to create healthier and more environmentally conscious communities:

1. Angers, ecological and sporty city - Promotes all forms of sport and considers environmental aspects. Has developed sports facilities, organizes mass events, and seeks to reduce environmental impact.
2. The opening of the wharf in Budapest - Gradually gives back a section of the wharf to residents of Budapest to do sports in a car-free environment.
3. European School Sport Day - Promotes physical activity in schools. The 2022 edition focused on "Going Green" and provided toolkits for sustainable sporting events.
4. Organization of running events in Budapest - Regulates organization of large-scale running events in Budapest to uphold environmentally friendly practices.
5. Eco-friendly Hikes by Budapest Association - Organizes hiking trips in Budapest to raise environmental awareness and provide physical activity. Participants collect trash during the hikes.
6. Danube Regatta - Rowing and dragon boating competition in Hungary that promotes healthy lifestyle and uses the Danube River. The 2022 edition focused on sustainability and urban sports.
7. Green Inspiration - Involves the public in sustainability activities linked to athletics events. Examples include reducing energy use, offsetting carbon emissions, and managing waste.
8. Football Ecology France - Supports football players in ecological transition. Uses football to raise awareness of environmental issues and sustainable transport.



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9. Football for the Goals - Norwegian initiative that uses football to promote UN's Sustainable Development Goals and sustainability within the football industry.
10. Forever Green - Real Betis initiative that leverages football to combat climate change. Undertakes sustainability actions to reduce carbon emissions and educate youth.
11. Green Inspiration I - Renewable energy and education - Encourages use of renewable energy, carbon offsetting, eco-certified materials, and sustainable food choices at athletics events.
12. Green Inspiration II - Social equity - Seeks to build diversity and inclusion across athletics operations and events.
13. Green Inspiration III - Health and wellness - Develops healthy habits and environmental awareness among school children through athletics events.
14. Green Inspiration IV - Energy efficiency and waste reduction - Focuses on managing and mitigating environmental impacts through strategies around travel, carbon emissions, waste, and resource consumption.
15. Hope Sports - Uses sport as a tool for positive social change and sustainable lifestyle adoption among refugees and vulnerable groups.
16. Olympic and Paralympic Games Paris 2024 - Aims to be a sustainable and inclusive event with a focus on reducing carbon footprint, promoting gender equality and accessibility for people with disabilities.
17. Plogging World - Combines physical activity and environmental conservation by encouraging runners to collect litter during their runs.
18. Rails to Trails - Transforms unused railroad corridors into multi use trails to build healthier places for healthier people. Promotes active lifestyles and social inclusion.
19. WTA 250 Strasbourg - First French eco-responsible tennis tournament that promotes environmental commitments, gender equality and inclusion.

By integrating sustainability into sport, these initiatives aim to inspire active, environmentally conscious and socially inclusive communities. In the following chapter, we will analyse sport organisations are implementing sustainable strategies around the selection criteria previously defined.

Principles for Environmental Conservation and Regeneration in Sport Events

Several initiatives collected in the framework of the City, Green, Go! project² demonstrate how sport projects can be adopted to enhance environmental conservation and regeneration in urban environments. Based on the good practices collected, key principles for improving critical aspects have been identified to guide the transition process of sport events and initiatives as an opportunity to create Nature-based Solutions.

BIODIVERSITY

Integrating green spaces: Incorporate green spaces and native plants in and around sports facilities, and avoid harmful practices, as seen in the Football for the Goals pilot project and the Forever Green sustainability action by Real Betis in Spain. These initiatives demonstrate the potential of sports venues to become hubs for promoting biodiversity and environmental conservation.

Restoring ecosystems: Invest in reforestation and habitat restoration projects, like Forever Green's initiatives in Spain. Reforestation can create new habitats for various species and support overall biodiversity.

Promoting cleaner environments: Encourage clean-up efforts to reduce pollution and protect ecosystems, as seen in Plogging World and Real Betis' Guadalquivir River project. Cleaner environments promote ecosystem health and balance.

Repurposing infrastructure: Transform disused infrastructure into ecological corridors, as in the Rails to Trails project. This improves habitat connectivity and fosters diverse plant growth, contributing to biodiversity.

Urban greening: Cultivate urban green spaces, like orchards in Seville supported by Forever Green. These spaces provide habitats for insects, birds, and other animals, attracting pollinators and contributing to biodiversity.

Conserving local biodiversity: Preserve and integrate local biodiversity into projects, as illustrated by the Paris 2024 Olympic and Paralympic Games. The Olympic Village includes five native habitat types and planting guidelines for native species.

Community involvement: Engage local communities in environmental initiatives, such as tree planting and clean-up activities. This fosters a sense of ownership and responsibility for protecting biodiversity and the environment.

² City, Green, Go! Best practice collection



WATER CONSERVATION

Promoting Tap Water Use: The European School Sport Day® endorses the consumption of tap water, reducing the need for bottled water and the waste it generates. By providing safe and clean drinking water, sports events can encourage the use of refillable bottles.

Water Stations and Re-cup Systems: During the European Universities Games - Coimbra 2018 and the Budapest running events, water stations were set up for refilling personal containers, and a re-cup system was implemented. These measures decrease the use of single-use plastics while ensuring hydration for participants.

Water-Saving Technologies and Practices: The Paris 2024 Olympic and Paralympic Games plan to implement water-saving technologies like low-flow toilets and efficient irrigation systems, and to recycle water through rainwater harvesting and greywater reuse. This showcases the integration of advanced technologies for water conservation in large-scale events.

Water-conscious Behaviour: Initiatives like the Football for the Goals pilot in Norway educate communities about responsible water use. By raising awareness and promoting water-conscious behaviour, sports projects can influence broader societal attitudes towards water conservation.

Environmental Stewardship: Programs like Plogging World and Rails to Trails indirectly contribute to water conservation by reducing pollution and soil erosion, thereby maintaining the quality of water resources.

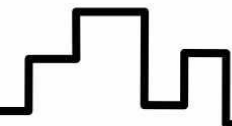
Sustainable Infrastructure: The Green Inspiration Programme for the Paris 2024 Olympics and the Forever Green initiative by Real Betis integrate ecological design elements like rain gardens and green roofs into their infrastructure. These provide resources for local species and promote water recycling, demonstrating how sports facilities can be designed for sustainability.

RENEWABLE ENERGY

Pursue green certifications: Encouraging clubs and organizations to obtain green certifications, such as the Eco-Lighthouse certification in Norway, can help to set high standards of sustainability and incentivize the adoption of renewable energy sources.

Offset carbon emissions: Initiatives that promote carbon offsetting, such as tree planting, can help sports projects to become more environmentally responsible and raise awareness about the importance of renewable energy.

On-site renewable energy production: The X-BIONIC® SPHERE example demonstrates the benefits of producing green energy on-site, using a biogas power plant and cogeneration unit based on natural gas to power the facility. This approach can significantly reduce the environmental impact of sports projects.



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Utilise natural resources: The use of mineral thermal water at the X-BIONIC® SPHERE is an innovative way to generate heat from a natural and sustainable source, showcasing how sports projects can leverage local resources to reduce their reliance on traditional energy sources.

Commit to renewable energy goals: Setting ambitious targets, such as the Paris 2024 Olympic and Paralympic Games' aim to be powered by 100% renewable energy, can inspire other sports projects to prioritize renewable energy and make meaningful progress towards sustainability.

Invest in renewable energy infrastructure: Projects like the WTA 250 Strasbourg and Angers IcePark demonstrate the value of investing in solar panels and other renewable energy technologies to reduce energy consumption during events and contribute to long-term sustainability.

Implement energy-saving measures: The Football Ecology France focuses on renovating and maintaining infrastructures in collaboration with local authorities while emphasizing the use of renewable energies and energy-saving measures. This approach showcases the integration of renewable energy sources in football infrastructure.

ENERGY EFFICIENCY

Reduce carbon emissions: Projects like the opening of the wharf in Budapest and the Football for the Goals pilot focus on minimizing carbon emissions through efficient stadium operations and optimized transport logistics.

Promote environmentally friendly transport: Events like the running events in Budapest and the European Universities Games in Coimbra encourage the use of sustainable transport alternatives like cycling, walking, and public transport to reduce air pollution and energy consumption.

Implement bicycle-sharing programs: The European Universities Games in Coimbra used donated bicycles and piloted a bicycle-sharing project called Ucicletas, allowing staff and participants to travel in an eco-friendly manner.

Incentivize public transport and cycling: The European Athletics U23 Championships in Bydgoszcz offered discounted event tickets to individuals using public transport or cycling to the stadium, encouraging sustainable transport choices and reducing the environmental impact of the event.

Educate on waste management: Initiatives like EKOBUS aim to develop good waste management practices and build awareness of waste as a potential energy source, promoting efficient resource usage.

Adopt energy-efficient technologies: The Olympic and Paralympic Games Paris 2024 plan to implement LED lighting, efficient HVAC systems, and energy-efficient equipment to minimize overall energy demand.



Monitoring side benefit: Initiatives like the HunAIRy project in Budapest promote environmentally friendly means of transport and establish new air pollution measurement stations, contributing to improved air quality. The organization of running events in Budapest, for example, leads to a decrease in air pollution measurement values.

Small behavioural changes: The European School Sport Day (ESSD) Going Green Toolkit advises partners to use the school environment to raise awareness and encourages actions such as switching off lights when not in use. This simple practice can significantly reduce energy consumption.

WASTE REDUCTION

Leave No Trace principles: Encourage trail users and event participants to practice "Leave No Trace" principles, thereby promoting responsible waste disposal and minimization.

Waste management and recycling: Implement selective waste management systems, provide recycling stations, and promote up-cycling initiatives like Operation New Balls and recycling of tournament tarpaulins. Moreover,

Reduction of single-use plastics: Ban single-use plastics, provide reusable water bottles and encourage their use through filling stations, and promote biodegradable products, like the European Athletics U23 Championships in Tampere and the Olympic and Paralympic Games Paris 2024.

Promote responsible purchasing: Encourage local and responsible purchasing for catering and equipment, and collaborate with service providers and suppliers to reduce waste in the supply chain.

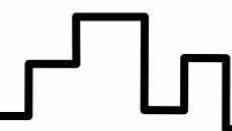
Sustainable food practices: Offer healthy, organic, local, seasonal, and less meaty food options, and manage food waste through composting initiatives like RecyBio.

Zero waste strategies: Integrate zero waste goals into event planning, such as the Olympic and Paralympic Games Paris 2024, and collaborate with local authorities to promote waste reduction efforts.

Community engagement: Involve local communities in waste reduction programs, like the Tidy City campaign, and foster a culture of responsible waste disposal through initiatives like Plogging World.

SUSTAINABLE MATERIALS

Reuse and recycle equipment: As demonstrated by the Budapest wharf project, encouraging individuals to use their own equipment or repurposing existing resources can reduce waste and



promote sustainability. Likewise, creating medals from reused materials for running events showcases the potential for recycling in sports.

Use bio-degradable or eco-friendly materials: The Budapest Association for International Sports utilized biodegradable materials for trash collection during eco-friendly hikes. Similarly, WTA 250 Strasbourg opted for reusable cups and eco-designed tableware, minimizing single-use plastics.

Encourage local sourcing and short supply chains: European Universities Games - Coimbra 2018 and Olympic and Paralympic Games Paris 2024 prioritized local suppliers, reducing transport emissions and supporting local economies.

Implement sustainable procurement policies: Hope Sports and Real Betis' Forever Green program both emphasized the importance of selecting suppliers and partners based on ethical, sustainable, and environmental criteria.

Innovate with sustainable materials: Norwegian Football Federation aims to replace artificial turf pitches with environmentally friendly alternatives by 2030, while Rebond focuses on producing bio-sourced, ethically manufactured artistic balloons.

Promote sustainable infrastructure: Real Betis and the city of Angers are committed to developing sustainable sports complexes and promoting the use of sustainable materials in sporting events.

Repurpose existing infrastructure: Rails to Trails transforms disused railways into green trails, enhancing local ecosystems and promoting biodiversity.

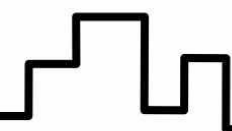
SOCIAL EQUITY

Create inclusive events: European School Sport Day (ESSD) and eco-friendly hikes by the Budapest Association for International Sports promote inclusivity by welcoming participants regardless of origin, religion, economic, or social status.

Promote social cohesion: The opening of the wharf in Budapest and organization of running events in Budapest encourage a sense of common belonging among participants, fostering social cohesion.

Integrate social responsibility: European Universities Games - Coimbra 2018 and Olympic and Paralympic Games Paris 2024 emphasize social responsibility by engaging with underrepresented communities and providing employment and training opportunities for disadvantaged groups.

Use sports for social change: Football for the Goals and Football Ecology France (FEF) use football as a tool to promote social cohesion, inclusion, gender equality, and address discrimination and marginalization.



Support community-led initiatives: CAP FOR HANDICAP, Refugee ScART, and BECOME A SUPERHERO! are examples of initiatives that empower communities to help those in need, promote recycling, and support disabled individuals.

Ensure accessibility and address inequities: Rails to Trails (RTC) addresses historical inequities in trail access by engaging with underserved communities and working to reduce health, economic, and mobility challenges.

Promote gender equality: Forever Green - Real Betis actively supports their female football team, promoting visibility and gender equality in sports.

Encourage community involvement: Plogging World and Angers' Sport Truck engage local communities in inclusive, accessible activities that benefit all members, regardless of age, fitness level, or socioeconomic background.

HEALTH AND WELLNESS

Promote physical activity: Encourage participation in various sports, such as running, football, hiking, and rowing, to help improve cardiovascular fitness, muscle strength, and flexibility. Examples include the European School Sport Day (ESSD), Budapest Association for International Sports, and Danube Regatta Rowing and Urban Sports Festival.

Facilitate social interaction: Organize events that bring people together to engage in sports and build connections, fostering mental health and well-being. The European Universities Games and Kids Athletics Project are prime examples of such initiatives.

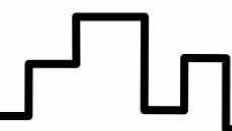
Address environmental concerns: Encourage eco-friendly practices, like walking or cycling to events, and provide green spaces for sports activities. Initiatives like GO Belgrade 2017 and Forever Green - Real Betis demonstrate this approach.

Ensure safety and comfort: Offer shaded areas, access to drinking water, and other facilities to protect participants from heat and solar radiation. The opening of the wharf in Budapest and various running events in Budapest exemplify this practice.

Promote healthy nutrition: Educate participants on the importance of proper nutrition and provide healthy food options at events. INFORMACIBO, WTA 250 Strasbourg, and Olympic and Paralympic Games Paris 2024 have all incorporated this element.

Integrate environmental stewardship: Combine sports activities with environmental conservation efforts, such as Plogging World and Rails to Trails, to enhance participants' sense of purpose and well-being.

Encourage volunteering: Facilitate opportunities for individuals to volunteer in sports-related initiatives, fostering a sense of community and contributing to overall well-being, as seen in the UC Transforma program.



Support mental health: Provide psychological and psychiatric support services to participants, as demonstrated by the University of Coimbra.

EDUCATION AND OUTREACH

Gamification of Learning: Many initiatives use games or interactive activities to educate participants about sustainability. The "Going Green ESSD" implemented educational programs in a gamified way, making learning engaging and fun. Similarly, the Danube Regatta Rowing and Urban Sports Festival 2022 included sustainability awareness-raising games.

Involvement of Stakeholders: Collaboration between different actors and stakeholders is essential. The ESSD team, for instance, focused on building partnerships between various stakeholders in the sport and physical activity sector.

Hands-On Experience: 'Eco-friendly Hikes' by the Budapest Association for International Sports provided participants with opportunities to learn about their natural environment directly. Similarly, 'Plogging World - Multi City' showed how involving communities in tangible actions makes learning impactful.

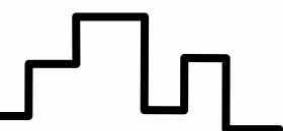
Integration of Education into Regular Activities: Many initiatives integrated sustainability education into their regular activities. The Football for the Goals (Norwegians' pilot) leveraged the popularity of football to educate about sustainable development.

Use of Role Models: High-profile athletes can be influential in promoting sustainability. The 'School with the Champion' program involved Olympic and Paralympic athletes to share their stories and promote respect for others and dedication in sport.

Focus on Youth: Children and young people are often the target of these initiatives. The 'Palestra Ambientale' initiative engaged young children in learning about nature.

Sustainable Practices at Events: Several initiatives emphasised the importance of implementing sustainable practices at sporting events themselves, such as the use of more sustainable options by caterers during the ESSD events.

Awareness Campaigns: Many initiatives used campaigns to raise awareness about healthy behaviours and eco-friendly lifestyles, such as the Olympic and Paralympic Games Paris 2024.



Recommendations for Sports Stakeholders

Sports organisations and grassroots sport event organisers have a unique opportunity to contribute to environmental conservation and regeneration. By implementing eco-friendly sport practices, they can significantly reduce their environmental footprint while setting a positive example for participants, fans, athletes and other stakeholders. Here are some recommendations on how sport organisations, grassroots associations, communities and other stakeholders can implement environmental conservation and regeneration through their sport practices.

Organisations can improve **biodiversity protection and enhancement** by:

- Hosting tree planting events and engaging athletes and fans in the process.
- Educating participants on native species and their importance to local ecosystems.
- Creating urban green spaces or supporting local reforestation projects.
- Avoiding harmful practices that could damage local habitats or species.

Sports organisations can promote **water conservation** by:

- Encouraging drinking of tap water wherever possible.
- Implementing efficient irrigation systems for sports grounds.
- Educating participants and spectators about responsible water use.
- Working with local authorities or water companies to set up water stations at events.

Efforts towards **renewable energy and energy efficiency** can include:

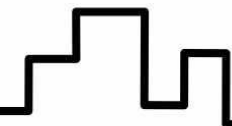
- Using renewable energy sources to power facilities or events.
- Implementing energy-saving measures such as LED lighting, efficient HVAC systems, and optimised logistics.
- Encouraging energy-efficient behaviours among participants, such as switching off lights and equipment when not in use.

Waste reduction and the use of **sustainable materials** can be promoted by:

- Encouraging recycling and composting at events.
- Banning single-use plastics and offering reusable alternatives.
- Using sustainable and ethically sourced materials for equipment and facilities.
- Educating participants and spectators about waste management and responsible consumption.

Sports organisations and grassroots sport event organisers can promote **social equity and inclusion** by:

- Ensuring events are accessible and beneficial to all, regardless of age, fitness level, or socio-economic background.
- Providing employment and training opportunities for disadvantaged groups.
- Working with partner organisations that promote social equity and inclusion.



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Promotion of **health and wellness** can be achieved by:

- Encouraging active and healthy lifestyles through sports.
- Providing healthy food and beverage options at events.
- Promoting physical activity, both during events and in daily life.

Education and outreach can be enhanced by:

- Providing educational campaigns to raise awareness of healthy behaviours and eco-friendly lifestyles.
- Leveraging the popularity of sports to educate players, coaches, and fans about environmental issues.
- Using sports-themed campaigns, workshops, and events to spread messages and inspire action.

In conclusion, sports organisations and grassroots sport event organisers can play a significant role in promoting environmental conservation and regeneration. By implementing these recommendations, they can contribute to the global effort to protect our planet and promote sustainable development.

The Transformative Journey Toward Nature-Based Sport Projects

The role of sports in society extends beyond providing entertainment and promoting physical fitness. Sports organisations, clubs, tournaments, and athletes can play a pivotal role in promoting sustainable practices, raising environmental awareness, and driving social change. However, the path to integrating sustainable sports practices is filled with both challenges and opportunities and requires the concerted effort of various stakeholders.

CHALLENGES IN IMPLEMENTING SUSTAINABLE SPORTS PRACTICES

One of the significant challenges in integrating sustainability into sports is the diversity of sports activities and the associated variability in their environmental impacts. From individual sports like running and hiking to team events like football and rowing, the environmental footprints can vary widely. This requires tailored strategies and approaches to address the specific environmental impacts of each sport.

There may also be resistance from stakeholders, including athletes, fans, and sponsors, who may perceive sustainability initiatives as a distraction from the primary focus of sports. Changing long-established practices and behaviours can be difficult and may require significant effort to overcome inertia and resistance to change.

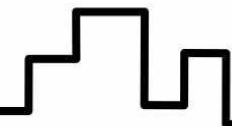
Economic constraints can also pose a significant challenge. Implementing sustainable practices often requires upfront investment, for instance, in greener infrastructure or more sustainable materials. While these investments can result in long-term cost savings and benefits, the initial costs can be a barrier, particularly for smaller clubs and organisations.

Finally, there can be challenges related to knowledge and expertise. Sports organisations may lack the necessary knowledge to implement sustainable practices or to measure and evaluate their impact. This can be overcome by collaboration with environmental experts, research institutions, and non-profit organisations.

OPPORTUNITIES FOR SUSTAINABLE SPORTS PRACTICES

Despite these challenges, there is a wealth of opportunities for integrating sustainability into sports. By implementing sustainable practices, sports organisations can reduce their environmental impact, enhance their reputations, attract environmentally conscious sponsors and fans, and contribute to wider societal goals of sustainability.

Sports events and organisations can serve as influential platforms for raising environmental awareness. By showcasing sustainable practices, they can educate large numbers of people



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about the importance of sustainability, inspire them to adopt more sustainable behaviours, and contribute to a broader cultural shift towards sustainability.

In addition, sports organisations can leverage their influence to drive change in the wider sports industry. This can include advocating for more sustainable practices among governing bodies and sponsors, collaborating with other organisations to share best practices, and using their purchasing power to support environmentally responsible businesses.

Furthermore, sustainable sports practices can also bring about social and economic benefits. For example, the promotion of physical activity can contribute to improved public health outcomes, while the use of local suppliers and sustainable materials can support local economies and promote social equity.

THE NEED FOR COLLABORATION

The successful implementation of sustainable sports practices requires the involvement of a wide range of stakeholders. Sports organisations and clubs are at the forefront of this effort, but they cannot achieve sustainability alone.

Athletes, as influential figures, can play a key role in promoting sustainable practices and raising environmental awareness among fans and the wider public. Fans, for their part, can support sustainable sports by participating in eco-friendly activities, such as carpooling to games, recycling at sports venues, and supporting teams and athletes that embrace sustainability.

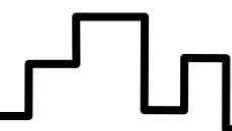
Sponsors and businesses can contribute by supporting sustainable sports events and organisations, offering eco-friendly products and services, and promoting sustainability in their marketing efforts. Local communities can also play a crucial role by supporting local sports clubs in their sustainability efforts and by utilising and maintaining sustainable sports facilities.

Government bodies and policymakers can facilitate sustainable sports by providing regulatory support, funding, and incentives for sustainable practices. They can also play a role in promoting sustainability education and awareness among the public.

Research institutions and non-profit organisations can contribute their expertise to help sports organisations understand and reduce their environmental impact, develop effective sustainability strategies, and evaluate their progress.

Achieving sustainability in sports is a complex challenge that requires a collaborative approach. Sports organisations need to work together with other stakeholders, including athletes, fans, businesses, government bodies, and non-profit organisations, to drive systemic change in the sports industry.

Collaboration can take various forms, from sharing best practices and conducting joint sustainability projects to advocacy and joint marketing campaigns. By working together,



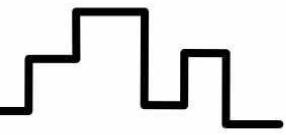
stakeholders can leverage their combined resources, expertise, and influence to make a greater impact.

THE POTENTIAL SOCIAL, ECONOMIC, AND ENVIRONMENTAL BENEFITS

The integration of sustainable practices into sports can bring about numerous social, economic, and environmental benefits. These include improved public health outcomes due to increased physical activity, economic development through the creation of green jobs and the promotion of local businesses and enhanced social cohesion and equity through inclusive and accessible sports programs.

From an environmental perspective, sustainable sports practices can contribute to the conservation of biodiversity, the reduction of greenhouse gas emissions, waste minimization, and the promotion of renewable energy and resource efficiency.

In conclusion, while integrating sustainability into sports presents challenges, it also offers significant opportunities. By embracing sustainability and working collaboratively with various stakeholders, sports organisations can make a meaningful contribution to the global effort to combat climate change and build a more sustainable future.



Conclusions

This report presents a comprehensive analysis of the role of sport in promoting sustainable practices in urban environments, with a focus on environmental protection and regeneration. It explores the potential of sport as a platform for communicating environmental messages, promoting physical activity and implementing nature-based solutions.

Key findings highlight that sports organisations can make a significant contribution to environmental protection and regeneration by implementing measures such as locally sourced food and drink, recycling and reducing waste, and promoting green transport. The report emphasises that such practices not only minimise the environmental impact of sport, but also provide significant benefits to communities, such as improved public health and reduced traffic congestion.

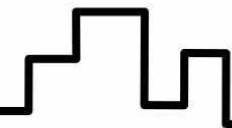
In the context of urban regeneration, sport can drive urban planning projects, providing opportunities for environmental conservation and using nature's solutions for healthier, more resilient cities. The analysis uses the International Union for Conservation of Nature's (IUCN) Global Standard for Nature-based Solutions to evaluate sport initiatives, highlighting their potential role in addressing societal challenges while providing benefits for human well-being and biodiversity.

The report also presents a collection of 'good practices' from diverse sports projects around the world, demonstrating how these initiatives effectively address societal challenges, promote biodiversity, conserve water, reduce waste and use sustainable materials. From promoting biodiversity through urban greening and ecosystem restoration, to saving water through efficient irrigation systems, these initiatives demonstrate the potential of sports venues and events to become hubs for environmental conservation.

The report also highlights the importance of renewable energy and energy efficiency in sport. By adopting renewable energy sources, sports events and facilities can significantly reduce their energy consumption and carbon emissions. Similarly, by implementing waste reduction practices and using sustainable materials, sports organisations can promote circularity and reduce their environmental footprint.

In terms of social justice, the report highlights how sport can promote inclusivity and social cohesion. Sports events and organisations can provide employment and training opportunities for disadvantaged groups, ensuring access for all regardless of age, fitness level or socio-economic background. They can also promote health and well-being through physical activity and healthy eating and enhance education and outreach through environmental awareness campaigns.

The report acknowledges the challenges of implementing sustainable sport practices, such as the diversity of sport activities and their different environmental impacts, stakeholder resistance, economic constraints and lack of necessary knowledge and expertise. However, it



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also recognises the wealth of opportunities for integrating sustainability into sport. By working with different stakeholders, including athletes, fans, businesses, governments and non-profit organisations, sport organisations can drive systemic change in the sport industry and contribute to global efforts to combat climate change and build a more sustainable future.

In conclusion, the report underlines the crucial role of sport in promoting environmental conservation and regeneration, and its enormous potential to lead the way to a sustainable future. It makes a compelling case for integrating sustainable practices into sport and provides valuable insights and recommendations for sport stakeholders to contribute to environmental conservation and urban regeneration.



Annex I: Definition of key terms

- **Active mobility.** A form of transport of people and sometimes goods that only uses human physical activity for locomotion. It includes walking, cycling, running and skateboarding among others.
- **Biodiversity.** The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems (UN, 1992, p. 3).
- **Conservation status.** Category of threat to, and the likelihood of, the continued existence of a species or ecosystem.
- **Direct impact.** An outcome directly attributable to a defined action or project activity; often also called a primary impact (BBOP, 2012, p. 14).
- **Eco-friendly.** Not harmful to the natural environment.
- **Ecology.** The branch of biology deals with the relations of organisms to one another and to their physical surroundings. It includes the study of the distribution and abundance of organisms, how their populations function and the structure and function of ecosystems.
- **Ecosystem.** A dynamic complex of plant, animal, and microorganism communities and their non-living environment interacting as a functional unit (UN, 1992, p. 3).
- **Ecosystem services.** The benefits people obtain from ecosystems. These include provisioning services such as food, water, timber, and fibre; regulating services that affect climate, floods, disease, wastes, and water quality; cultural services that provide recreational, aesthetic, and spiritual benefits; and supporting services such as soil formation, photosynthesis, and nutrient cycling (BBOP, 2012, pp. 15–16).
- **Environmental regeneration.** The process of restoring degraded, damaged or polluted natural environments and ecosystems to their original or healthier states.
- **Event owner.** The rights holder of a sports event, typically a sport governing body but can also be commercial organisations and public bodies.
- **Federation.** A union of (non-governmental) sports associations at national or international level administering and organising a particular sport, namely through competitions, and setting the rules for that sport.
- **Flagship species.** A species that acts as an icon or symbol for a particular habitat, issue, campaign or environmental cause.

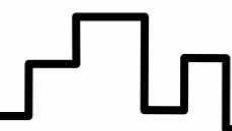


- **Grassroots sport.** Organised sport practised at the local level by amateur sportspeople, and sport for all³.
- **Habitat fragmentation.** The disruption and spatial and functional break-up of extensive habitats into isolated and small patches, interspersed with other habitats. Habitat fragments can only support small populations of fauna, which are more vulnerable to extinction. The patches may not even be habitable by species occupying the original undivided habitat. Fragmentation often prevents species migrating between populations and is therefore expected to lead to losses of species diversity in the longer term (CBD 2008: Biodiversity Glossary).
- **Habitat.** The place or type of site where an organism or population of a species naturally occurs (UN, 1992, p. 4).
- **Habitat degradation.** The diminishment of habitat quality, which results in a reduced ability to support flora and fauna species. Human activities leading to habitat degradation include polluting activities and the introduction of invasive species. Adverse effects can become immediately noticeable, but can also have a cumulative nature. Biodiversity will eventually be lost if habitats become degraded to an extent that species can no longer survive (CBD 2008: Biodiversity Glossary).
- **Important areas for biodiversity.** Areas recognised to be important for the conservation of particular wild species and their habitats, ecosystems, ecological processes, and/or for maintaining priority ecosystem services.
- **Indirect impact.** Impact triggered in response to the presence of the project, rather than being directly caused by the project's own operations, often produced away from or as a result of a complex pathway; sometimes called secondary or induced impacts (BBOP, 2012, pp. 23–24).
- **Invasive alien species.** Invasive alien species (IAS) are species whose introduction and/or spread outside their natural past or present distribution threaten biological diversity (Convention on Biological Diversity, 1992).
- **Modified habitats.** Areas that may contain a large proportion of plant and/or animal species of nonnative origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition (IFC, 2012, p. 3).
- **Natural habitats.** Areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition (IFC, 2012, p. 3).

³ <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32013R1288&from=hu>

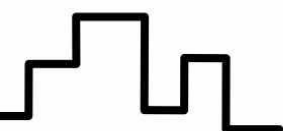


- **Net gain of biodiversity or net positive impact for biodiversity.** A target for a development project in which the impacts on biodiversity caused by the project are balanced or outweighed by measures taken to avoid and minimise the project's impacts, to undertake on-site restoration, and finally to offset the residual impacts, so that no loss remains. Where the gain exceeds the loss, the terms 'net gain' or 'net positive impact' may be used instead of 'no net loss' (BBOP, 2012, p. 29).
- **No net loss of biodiversity.** The point at which the project-related impacts on biodiversity are balanced by measures taken to avoid and minimise the project's impacts, to undertake on-site restoration, and finally to offset significant residual impacts, if any, on an appropriate geographic scale (BBOP, 2012, p. 30).
- **Physical activity.** Any bodily movement produced by skeletal muscles that requires energy expenditure, including activities such as walking, running, swimming, and cycling.
- **Positive outcome for biodiversity.** In the context of this document, going beyond mitigating the impacts of a sporting event so that there is no lasting harm, and taking additional steps (not necessarily linked to the event's impacts) to support biodiversity conservation in the host area and further afield, into the future (also referred to as 'leaving a positive legacy for biodiversity').
- **Protected area.** A clearly defined geographical space, recognised, dedicated, and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values (Dudley, 2008, p. ii).
- **Rain gardens.** Small depressions with native plantings designed to catch and infiltrate rainwater.
- **Restoration.** The return of an ecosystem or habitat to its original community structure, natural complement of species, and natural functions (CBD, 2008, Biodiversity Glossary).
- **Semi-natural.** Habitats and/or landscapes have been modified by human influence but retain many natural features. See also modified habitats.
- **Significant impact.** An impact that is outside the limit of acceptance or may result in non-compliance with accepted environmental quality standards, thresholds, or targets.
- **Specialist species.** Species adapted to a narrow set of environmental conditions, including limited habitat types or food resources.
- **Sponsor/sponsorship.** Sponsorship is a cash and/or value-in-kind (VIK) fee paid to a sports organisation by a business or organisation in return for the right to associate a brand/location with the sports event.



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- **Sustainability.** The ability to maintain a certain level or rate of activity, consumption, or output over time without causing significant harm to the environment or depleting natural resources.
- **Threatened species.** Species categorised as Critically Endangered, Endangered, or Vulnerable by The IUCN Red List of Threatened Species™. The Red List is widely recognised as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species (IUCN Red List of Threatened Species™).
- **Urban settings.** Environments characterised by a high population density, commercial and residential buildings, and various forms of transportation and infrastructure.
- **Wildlife.** Living, non-domesticated animals and plants (fauna and flora).



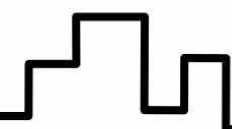
Annex II: Template Good practices collection

Sports practices description	
Name of the initiative	
Short summary of the initiative	<i>Including website, pictures, country, and contacts</i>
Promoted physical activity	<p><i>Examples:</i></p> <ul style="list-style-type: none"> ● <i>Ball sports - Football (soccer), basketball, baseball, cricket, tennis, volleyball, golf, rugby, handball, and squash, among others.</i> ● <i>Aquatic sports - Swimming, diving, water polo, synchronized swimming, windsurfing, rowing, canoeing, sailing, and rafting, among others.</i> ● <i>Combat sports - Wrestling, boxing, mixed martial arts, Judo, Karate, Taekwondo, and fencing, among others.</i> ● <i>Extreme sports - Surfing, skateboarding, snowboarding, bungee jumping, rock climbing, skydiving, and parkour, among others.</i> ● <i>Athletics - Running, jumping, throwing, weightlifting, powerlifting, cycling, triathlon, and decathlon, among others.</i> ● <i>Gymnastics - Artistic gymnastics, rhythmic gymnastics, trampoline, and tumbling, among others.</i> ● <i>Winter sports - Ice hockey, figure skating, speed skating, curling, skiing, and snowshoeing, among others.</i> ● <i>Equestrian sports - Dressage, show jumping, polo, racing, among others.</i>
Size	<i>Sqm when possible or n° of participants</i>
Promoting Body	<i>Organisation promoting and supporting also financially the initiative.</i>
Governance Structure	<i>It refers to the formal system of rules, roles, and responsibilities by which the project is managed and monitored.</i>



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Management System	<i>It encompasses planning, organising, controlling, and monitoring activities to implement the project effectively and efficiently, also in terms of environmental sustainability.</i>
Economic Viability	<i>It refers to the ability of the project to generate sufficient revenue or profit to cover all of its costs and provide a return on investment when necessary. It is an important factor in determining the sustainability and long-term success of the project.</i>
Environmental Impact	<i>It refers to the effects of the project on the natural environment, including pollution, resource depletion, and other factors that can affect ecosystems and biodiversity.</i>
Health benefit	<i>It refers to the positive effects that the project can have on an individual's physical or mental well-being, including improvements in fitness, reduced risk of disease, and improved quality of life.</i>
Social Inclusion and Accessibility	<i>It refers to the possibilities of individuals from diverse backgrounds to participate and access the project. This includes removing barriers to participation and ensuring that everyone has equal access to resources and opportunities.</i>



Annex III: Research channels

Target: Municipality (as priority), sports organisations (like Federation, League), NGOs working on environment, sports and health topics, organisations managing sports events and infrastructure.

Possible sources:

- https://sustainability.sport/search-results/?_sft_category=case-study&_sft_geograph=europe&_sft_sdg=11
- <https://movementspaces.isca.org/collection/>
- <https://www.fitbackeurope.eu/en-us/fitness-map>
- <https://www.isca.org/health-collection>

Assessment guide: https://unfccc.int/climate-action/sectoral-engagement/sports-for-climate-action?gclid=CjwKCAjw0N6hBhAUEiwAXab-Tc66AfEjiqL5IDAYJHwcMPi9UyLCyThFY5KEhUr28uNKKDVZ-jTB2RoCfY0QAvD_BwE

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City, Green, Go! is a 2-year-long project, financed by the Erasmus+ program, that aims to promote health-enhancing physical activities in urban settings, while encouraging citizens to live an environmentally conscious life.

City, Green, Go! will tap into the opportunities that urban settings provide relevant stakeholders – sports and environmental organizations, local authorities and companies – with a Directory to increase the sport and PA levels and the environmental awareness of the urban population.

www.citygreengo.eu



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Citizenship

Sport serving society



Sport et
Citoyenneté

Le Sport au service de la société