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PLAYING FOR OUR PLANET • HOW SPORTS WIN FROM BEING SUSTAINABLE

PLAYING FOR OUR PLANET

HOW SPORTS WIN FROM
BEING SUSTAINABLE




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ABOUT THIS REPORT

Environmental leadership is an increasingly important issue for all sport stakeholders and major sport events. Environmentally conscious operations are no longer solely a focus of visionary thinking, but have become a vital operational and economic requirement for federations, teams, rights holders, host cities, leisure activities and partners linked to the sport movement. UEFA, WWF and the Green Sports Alliance have led



the development of a report which is designed to bring together good practices by key stakeholders of the sport movement: from federations, teams, fans, sporting goods manufacturers and venue operators, to sponsoring partners, environmental organisations and policymakers. Its main objective is to highlight innovative solutions which enhance the environmental and sustainable performance of sports.

FOREWORD



For quite some time sustainability was a foreign concept in the world of sport and just a decade ago it was still considered rather exotic by many in the industry. That is thankfully no longer the case today.

This good practice report highlights the commitment made by many sports to raise awareness of healthy and sustainable lifestyles and to take action against climate change. The activities showcased from around Europe show a great innovative spirit and demonstrate that sport can contribute to sustainable causes at all levels, from the grassroots to the professional game. Another important message from this report is that public institutions and the sports movement are united and playing together for our planet.

For the best part of two decades, UEFA has been cooperating with the Worldwide Fund for Nature and many local organisations to bring about a more sustainable approach to organising, playing and watching football. Large-scale events such as UEFA EUROs have raised awareness within the football community of the environmental impact football can have, but it is at the grassroots that the impact of climate change is felt on a day-to-day basis, which is why we have a responsibility towards all players and society as a whole to take action against environmental degradation.

It is true that going local and mobilising people involved in the grassroots game is a very efficient way to spread the sustainability message to our fans in Europe and beyond. But environmentally speaking, local and global concerns are closely and irremediably intertwined. It is also important to increase collaboration between different sports, and we are grateful to see many North American sports in particular sharing their insights on sustainable practices.

Sustainability is one of the most significant issues facing decision-makers and opinion leaders in sport as they prepare for the future. Professional football relies on large-scale facilities and intensive use of transport infrastructure. It is, however, vital that we plan international events in a way that protects the

environment and local communities. That means limiting our use of natural resources such as water, keeping the air clean, consuming less and more renewable energy, and recycling everything that can be given a new life. And above all, it means helping these principles trickle down from the top events to those organised at amateur and youth levels.

Sustainable sporting practices are also an excellent way to reduce costs and generate revenue. The roofs of today's stadiums and arenas are great surfaces on which to generate solar energy, while sourcing food locally is an efficient and cost-efficient way to stock stadium stalls. Making efficient use of public transport, and cycling or walking to training and matches, are two more smart, simple ways to reduce our sport's environmental footprint.

UEFA must continue to lead by example in this field and enlist the support of clubs, leagues, fans and local communities. Together with the European Union, the UNFCCC, the WWF, the Green Sports Alliance and individuals at all levels of the game, European football must help protect our planet and empower environmental and societal change.

Aleksander Čeferin
UEFA President



The European Union is a leader in tackling climate change and in promoting the circular economy. Sport certainly has a part to play in this. We have a duty to minimise the impact sport has on our environment, for the benefit of society as a whole.

When it comes to environmental sustainability, we should live by the Olympic ideal of Pierre de Coubertin that participating is everything. And if sport contributes to strengthening this sustainability, we can all be winners.

Climate change and environmental challenges are at the centre of public attention and at the top of policy makers' agendas across the world. Sport is not only an activity, nor simply entertainment; it is also an industry that is substantial and growing – as is its environmental footprint.

In its most recent EU Work Plan for Sport, the European Commission, together with Member States and stakeholders, has developed recommendations on major sport events, focusing on legacy aspects and social, economic and environmental sustainability.

This report looks at sustainability at all stages, from planning to completion and what happens long after major events have ended. With the recommendations drawn up, we need to act: addressing the challenges and highlighting the lessons to be learned, while promoting environmentally sustainable facilities, protecting the habitat, designing sustainable mobility, ticketing and catering systems, reducing waste, improving water treatment, and lowering greenhouse gas emissions.



Tackling the impact of sport on our environment is not only about the good consciences of all those involved. It is also about making a sound business case. Here, sport should also lead by example. We need a debate on how those organising major sport events can take the lead in protecting our planet, and how the sustainability agenda can be translated from visionary thinking to actions built on solid economic foundations. Sustainability is already an important consideration for major sport events, but that needs to be the case at grassroots level too, and in our daily habits linked to physical activity.

Preserving the world we live in is one of the most pressing challenges facing us today. Sport has an important contribution to make to this. Encouraging steps are being taken, but more action needs to follow. I hope that this report can be an inspiration to the entire sport family and those working with it.

Tibor Navracsics

Commissioner for Education,
Culture, Youth and Sport



When I see action being taken anywhere on sustainability, I am encouraged. I am especially delighted and hopeful when I see an industry or sector step up to take the lead, where leadership and action are so critical.

This is doubly so when I learn of initiatives in sport, like this report and the actions described in it, from the highest professional levels to the field around the corner where children give their all, in fun and earnest effort to emulate their heroes.

Imagine directing the passion and dedication evident so readily in sport to the cause of saving our planet. Many have imagined this and are indeed tapping this exciting opportunity, as described here by UEFA and WWF.

Our passion for sports has transformed the sport sector into a major economic force with enormous influence throughout the world. In fact, total global sports revenue is between USD 500 billion and USD 600 billion annually. Its influence is felt in many ways beyond money.

I encourage the sport sector to use its local and global influence to help address the greatest challenge of our time: climate change. Just like athletes need a strong foundation to compete at their very best, the planet is no different. We need the right conditions to maintain peak performance. For too long we have treated the planet as if we were in a sprint—using all our energy and resources in one short blast.

We must understand that, far from a sprint, we are, all together, in the longest of marathons. If we are to be successful, we must make a commitment to our own well-being and longevity.



The Paris Agreement of 2015 represents that commitment. It is one of the biggest multilateral accomplishments in UN history. Nations saw the value of being on the same team and working towards a common goal—to limit global average temperature rise of 1.5 to 2 degrees Celsius, to avoid the worst effects of climate change for present and future generations.

The Paris Agreement was signed and ratified by nation states, called Parties in the UN Climate Change process. However, it will take all our efforts, from across society, public and private, working for global climate action to go further, faster, together.

I applaud the farsighted, exciting climate action being undertaken in the sport sector and I applaud the cooperative effort that brought us this report. UN Climate change is also seeking ways to multiply efforts being taken by sports, identify new opportunities for climate action, and raise ambition. The result could be a new Platform for Sports and Climate Action launched in time for the UN Climate Change Conference, COP24, in Katowice, Poland, in December this year. You are all invited to help develop the platform.

Patricia Espinosa

Executive Secretary,
UN Climate Change

GREEN SPORTS ALLIANCE

On behalf of the Green Sports Alliance, our members, Board of Directors, and the stakeholders of a greening global sports movement, it is our distinct honour and privilege to support the development of this European report.

The sports industry is uniquely positioned to leverage its cultural and market influence to advance social and ecological stewardship at an unprecedented scale. This report is packed with case studies, better practices and name-recognition of leading sports organisations, teams, brands and venues. We hope it will inspire the world's most iconic, inspirational, and influential industry to embrace environmentally friendly actions and use the power of sport to engage fans and athletes throughout the world.

The Green Sports Alliance gathers the sports industry, private sector partners, public sector institutions, and the scientific community to develop resources, strategies, and solutions to PLAY GREENER™. These cooperative efforts have helped our movement encourage sports leagues, teams, venues, events, governing bodies, industry partners, athletes, and millions of fans to adopt ecologically sound practices. They are now embracing renewable energy, healthy food, recycling, composting, water efficiency, safer chemicals, and other environmentally responsible practices. In short, we are creating healthier communities where we live, work and play.

Sports industry partners have collectively saved millions of dollars by shifting to more efficient and intelligent operations. At the same time, the green sports movement has found cost-competitive and innovative solutions to our environmental challenges, while leading in sustainable initiatives.

There has never been a better time for the sports industry to take a leadership role to unite the world in restoring our planet. The ecological, social, and economic dangers posed by climate change not only threaten our industry, but the livelihood of all life on earth.

Sport is the great unifier. It transcends political, cultural, religious, and socio-economic barriers. The collective actions of our industry may be the game changer that helps us to survive our epic environmental challenges. We hope that this European report is another step to demonstrate how we can all win.

Europe has set the pace in confronting the global challenge of climate change with some of the world's highest environmental standards. The European Union is already recognised as a global leader of environmental action and sustainable development. We are pleased to highlight the work that has already been achieved and provide a gateway to further activate the sports greening movement.

The Green Sports Alliance looks forward to our continued collaboration with European sports stakeholders, further advancing implementation of the practices outlined in this report. The stakes are high and the time to act is now.

One team, one planet.



Scott Jenkins

Chair, Board of Directors
Green Sports Alliance



Justin Zeulner

Executive Director
Green Sports Alliance

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PREFACE



SPORT'S RESPONSIBILITY TO OUR PLANET

WWF

Jochem VERBERNE

Sydney 2000 Olympic medalist and Director, Global Partnerships, WWF International

NATURAL PARTNERS

Vanquishing high mountain cols in the Tour de France. Going the distance in Sweden's Vasaloppet cross country ski race. Conquering the icy face of the Eiger. Mastering the seas in the Volvo Ocean Race. All feats of daring, courage, skill and endurance. And all awe-inspiring examples of how we, as a species, are drawn to test our wit, will and strength in sporting endeavour in the natural environment.

In these sports, human beings and the natural world come together as competitors and partners, sometimes in teams, sometimes in sweet isolation. And in them, an athlete's relationship with the natural world is raw, passionate and physical. Body and spirit are pushed to the limit.

Nature and sport are inextricably connected, and nature's role and a competitor's response, often decisive in the outcome of an event.

Our greatest tournaments and events rely on energy, infrastructure and resources that are nature's bounty. We depend on it.

IMPACT AND RESPONSIBILITY

Our use of resources will impact both the environment and sport itself. Energy use alone is telling. While methodologies are not consistent, the carbon footprints – a proxy for impact on the global climate – of the London 2012 Olympic Games (3.3MtCO₂e)¹, the 2014 Brazilian Football World Cup (2.7MtCO₂e)² and the Rio 2016 Olympic Games (3.6MtCO₂e)³ are

1 <http://learninglegacy.independent.gov.uk/documents/pdfs/sustainability/5-london-2012-post-games-sustainability-report-interactive-12-12-12.pdf>

2 https://resources.fifa.com/mm/document/afsocial/environment/02/83/51/50/summaryofthe2014fwccarbonfootprint_neutral.pdf

3 <https://nachhaltigersport.files.wordpress.com/2016/04/carbon-footprint-management-report-rio-2016.pdf>



significant. Combined with spectator travel, land use change, facility construction, pitch irrigation, chemical treatment, catering and so on, sport's environmental impact is considerable.

WWF's Living Planet Index⁴ shows us that human activity and resource use have grown so dramatically since the mid-20th century that we are endangering key environmental systems. Global temperatures are more than one degree Celsius⁵ above pre-industrial averages, and 16 of the 17 warmest years on record have occurred since 2001.

These changes are partly caused by a sporting economy valued at approximately 1% of global GDP⁶. And in turn, they impact sport. Climate change threatens the viability of winter resorts while record-breaking heatwaves affect athlete health and performance at summer events. Deteriorating water quality in oceans, rivers and lakes is negatively affecting

sports like swimming, surfing, rowing, canoeing and sailing.

Sport both impacts and is dependent upon nature. And with impact and dependency comes responsibility.

SUSTAINABILITY INITIATIVES ACROSS THE SPORTS INDUSTRY

Sport's status as a beloved entertainment form has perhaps shielded it from the scrutiny felt by other economic sectors. But it is time now for sustainability to play a central role in sport.

In Europe, there are already many examples of good practice. European sporting mega-events are increasingly driving sustainable regeneration, as pioneered by London 2012's One Planet Olympics. Sporting innovation, such as cutting-edge technology in Formula E motor racing, is quickly being adopted in road vehicles.

4 http://wwf.panda.org/about_our_earth/all_publications/living_planet_index2/

5 <https://climate.nasa.gov/evidence/>

6 <https://www.atkearney.co.uk/communications-media-technology/winning-in-the-business-of-sports>

SPORT'S STATUS AS A BELOVED ENTERTAINMENT FORM HAS PERHAPS SHIELDED IT FROM THE SCRUTINY FELT BY OTHER ECONOMIC SECTORS. BUT IT IS TIME NOW FOR SUSTAINABILITY TO PLAY A CENTRAL ROLE IN SPORT.

PREFACE

Governing bodies in rowing, climbing and motorcycling are taking steps toward sustainability, organising awards and mobilising volunteers. Football teams are reducing their impact through solar panels, electric vehicles and vegan match-day menus.

The sport-specific ISO 20121⁷ sustainable event management standard, developed and pioneered at London 2012, and the Global Reporting Initiative's Event Operator Sector Supplement⁸, both provide platforms for sport to manage and report sustainability.

Sport is frequently behind best practice in corporate sustainability but the challenge is not only surmountable, it is an enormous opportunity. The Olympics are frequently described as the world's largest media event, with Rio 2016's audience estimated at 3.7 billion⁹. Sport's capacity to cross boundaries, bridge divides and inspire people is unique. Through it, not only can we bring businesses, governments and communities together to advance sustainability, we can also work with global media to communicate sustainability through sport and inspire billions of fans.

For WWF, this is an opportunity to reach audiences that extend far beyond our normal constituency. For sport, it is a change to develop a new dimension of aspiration and engagement that puts nature front and centre.

Setting off from Europe in October last year, the Volvo Ocean Race does just this. It has a UN Clean Seas 'Turn the Tide on Plastic'¹⁰ branded boat supported by media partner Sky Ocean Rescue and dedicated to ocean health, as well as an on-board ocean quality sampling programme.

PLAYING FOR OUR PLANET

At WWF, we have actively engaged with the sports sector for over two decades and have enjoyed a great variety of productive relationships with sports events, federations, clubs and teams.

We don't hesitate to campaign if sport is damaging the natural environment. We are currently doing this through our 'Together, Saving Our Shared Heritage' campaign¹¹ against the violation of the Western Caucasus World Heritage site at Sochi and the illegal expansion of the Bansko ski resort in the Pirin National Park, a World Heritage site in Bulgaria.

But when we see an opportunity for constructive and transformational partnership in support of nature and sustainability, we are quick to engage. Our contributions to bid plans for the London 2012 and Paris 2024 Olympics, have shaped what will be regarded as blueprints for future sustainable sporting mega-events. Our Clean Water alliance with FISA, the World Rowing Federation, has resulted in sector-leading environmental policies, including the first-ever sports federation pledge to do no harm in World Heritage sites. And through our ten-year partnership with UEFA, we have advised on sustainable event best practice and tournament bidding criteria, including for Euro 2020, and presented to UEFA staff sustainability champions.

Sport is certainly not the worst sector when it comes to environmental impact but there is still much to do. Sports organisations should aspire to and inspire best practice in corporate sustainability, creating robust policies and strategies, making public

commitments and assigning board level responsibility. And at WWF, we look forward to collaborating with many of you in Europe to accelerate sustainability in the sector.

As sporting men and women, it is in our nature to compete, to challenge, to win – but also to show respect, embody fair play and take responsibility. In and through our games, we should show nature and life on Earth the same regard we show each other, for that it is the essence of who we are and what we do.

We are as dependent upon nature's gifts as we are on our friends, family, fans and team-mates. And it is time that we truly started playing for our planet. ●

AT WWF, WE HAVE ACTIVELY ENGAGED WITH THE SPORTS SECTOR FOR OVER TWO DECADES AND HAVE ENJOYED A GREAT VARIETY OF PRODUCTIVE RELATIONSHIPS WITH SPORTS EVENTS, FEDERATIONS, CLUBS AND TEAMS.

7 <https://www.iso.org/iso-20121-sustainable-events.html>

8 <https://www.globalreporting.org/information/g4/sector-guidance/sector-guidance/event-organizers/Pages/default.aspx>

9 <http://www.bbc.co.uk/sport/olympics/37148372>

10 <https://www.volvooceanrace.com/en/teams/Turn-The-Tide-On-Plastic.html>

11 http://wwf.panda.org/wwf_news/press_releases/?321851/New-report-finds-ski-resort-construction-causing-irreversible-damage-to-Pirin-World-Heritage-site

PLAYING FOR OUR PLANET

HOW SPORTS WIN FROM BEING SUSTAINABLE

ONE OF THE MOST SIGNIFICANT QUESTIONS FACING SPORTS ORGANISATIONS IN TIMES OF CLIMATE CHANGE AND ENVIRONMENTAL CRISIS IS HOW TO REMAIN A TRUSTED PARTNER TO SOCIETY AND SUPPORT THE PATH TO HEALTHY LIFESTYLES WHILE, AT THE SAME TIME, PREPARING THE SPORTS INDUSTRY FOR THE FUTURE.

HOW SPORTS AND SOCIETY CAN PLAY TOGETHER



INSPIRE PURPOSEFUL CHANGE AND LASTING IMPACT

Climate change poses a risk to global society. Leveraging sports' power to engage people can be a game changer in promoting healthy lifestyles and taking action to combat climate change (SDG 13).



PUBLIC INSTITUTIONS ARE KEY

Local, national and international institutions can serve as effective platforms for mobilising the sports movement to take action.



SPORTS MATTER ACROSS ALL LEVELS

Sports at all levels in Europe, from small scale community projects to large scale major sport events, can contribute to and benefit from sustainability initiatives.



ENGAGE STRATEGIC PARTNERS

Sustainability is a team sport! Strategic partnerships can help organisations to develop integrated sustainability initiatives. Good practice and know-how need to be more widely disseminated.

WHY SPORTS WIN FROM BEING SUSTAINABLE



SHAPE YOUR FUTURE

Environmental impact is changing our planet and sport stakeholders are directly affected. Adaptation and risk mitigation are key for the sports industry.



BECOME A TRUSTED PARTNER

Being sustainable and purposeful is crucial for any sports organisation hoping to remain a trusted partner for local communities and global partners in the future.



GENERATE REVENUES AND REDUCE COSTS

The sports industry can benefit financially from being more sustainable. When integrated properly, sustainable practices can strengthen stakeholders' business operations and sponsorship opportunities.



DRIVE INNOVATION AND ENGAGEMENT

Sustainability solutions drive innovation in infrastructure/operations and serve as catalysts to drive engagement with athletes, fans, partners, youth and local communities.

TOWARDS A MORE SUSTAINABLE SPORTS INDUSTRY



LEAD BY EXAMPLE

Sports can only promote purposeful change if it leads by example. A focus on internal operations is therefore key.



ANCHOR SUSTAINABILITY IN SPORT GOVERNANCE

Environmental standards and sustainability requirements need to be formalised in governance to streamline efforts across all sports stakeholders.



ADOPT A COMPREHENSIVE APPROACH TO SUSTAINABILITY

Sustainability is measured across social, economic and environmental parameters. Only a holistic vision that embraces sustainability in its wider sense will give optimal results.



IMPLEMENT STANDARDISATION AND CERTIFICATION

Relevant standardisation and certification programmes exist to ensure implementation, measurement and quality control. They can only reach their full potential if they are widely known and applied in the sports industry.



PART
01

RE-THINKING SPORTS

FRENCH SPORT STAKEHOLDERS COMMIT TO SUSTAINABILITY

FRENCH MINISTRY OF SPORT

Morgane BIGOT
DE MOROGUES
& Maël BESSON

Sport and Sustainable
Development Mission
(MSDD), Ministry of
Sports, France.

The MSDD was set up
in 2009 and gathers
sport stakeholders in
sustainable development
activities, mobilising a
network of more than
3,500 organisations
at national and
international levels.



French public authorities have launched an ambitious environmental responsibility initiative aimed at international sporting events. They have signed a charter of 15 commitments and created innovative tools for stakeholders to reduce their carbon footprint. This approach is underpinned by practical action on the ground, in addition to the steps stakeholders take every day to reduce their impact. It is consolidated through a national ecological transition strategy for sustainable development.

Climate change and sustainable development are inescapable challenges for our modern society. Sport can and must be an essential vehicle of sustainable development because of the values it promotes and the number of stakeholders it involves. Sport must take practical steps to achieve its objectives. Today, every group involved in sport is focused on these issues, working on several fronts and taking various forms of action.

Our range of tools, our initiatives, and our defined responsibilities and roles for stakeholders help us maximise our impact and collectively contribute to a more sustainable sporting world.

ENVIRONMENTAL COMMITMENTS OF EVENT ORGANISERS

In addition to the entertainment that sports provide, major international

events play a special role in our country. They serve as a showcase for France and contribute to the country's international influence. By engaging the public and sparking their interest, these events promote social diversity and strengthen national solidarity. They are often models of organisation, and can permanently shape the attitudes and habits of spectators and partners, promoting positive social norms. Their impact and legacy can be significant and long-lasting.

However, major international sporting events can, like any other human activity, have negative effects on the environment. We should minimise this adverse impact, and even reverse it. This is the thinking behind the Charter of Environmentally Responsible Commitments for organisers of major sporting events. The Charter is part of an ambitious environmental responsibility initiative by the Ministry of Sports, and sets quantitative targets and specific indicators to take account of all aspects of sustainable development between now and 2020.

15 ENVIRONMENTAL COMMITMENTS



At least half of our food must be sustainable



Disabled access to sites open to the public



At least 80% of journeys made using active mobility, public transport or car-sharing



Initiatives at every sports event promoting accessibility for all



80% of purchases made using CSR selection criteria



100% acknowledgement for volunteers



25% cut in waste and **60% of waste** reused, recycled or recovered



At least one commitment given to supporting a good cause



100% respect for natural sites



At least one initiative devoted to promoting equal numbers of men and women in positions of responsibility



100% of energy and water consumption controlled and optimised



One identified person responsible for sustainable development within the organisation



Test at least one environmentally responsible innovation at events



At least one initiative or plan in place to raise awareness about sustainable development



At least one sportsperson nominated ambassador for environmental responsibility for the event or the sport in question

The commitments were developed in collaboration with WWF, allowing all stakeholders to take ownership of the tool. These people and groups are totally committed to meeting the 15 objectives for their organisation. They have committed to measuring and monitoring these objectives by creating a common assessment tool to ensure that it is done effectively and efficiently. The Charter, set up in 2017, has been signed by 24 organisers with others set to join in 2018. Public authorities are planning a new version of the Charter for other stakeholders, particularly for sport equipment manufacturers. This initiative could in time influence all stakeholders of the French sports industry.

OPTIMOUV HELPS MINIMISE THE SPORT SECTOR'S CARBON FOOTPRINT

The transport sector is a major producer of greenhouse gases. But with more than 3.5 million sport events each year, reducing travel is a real challenge. Public authorities know this, and are looking for a tool to minimise their journeys to sport events. This tool must meet three requirements: economic (lower transport costs), environmental (reduced greenhouse gas emissions) and human (less transport-related fatigue, better transport/ training time ratio). It also needs to meet two broad objectives: pooling clubs according

to location, while also defining the best places to hold competitions for the participating clubs.

The optimouv software tool was launched in 2016 to address these issues: it provides an innovative solution to cut greenhouse gas emissions generated from travel in the sport industry. The software combines team and site data into a pooling system with route calculations to reduce the distance travelled to sporting events. Optimouv has cut travel to sport events by at least 15%, without reducing the number of events. The tool is widely available, sparking international interest. The software, which is free, has been adopted by many sport organisers: it now has 250 users from 30 sport federations.

INSEP AT THE FOREFRONT OF SPORTING AND ENVIRONMENTAL INNOVATION

After a fire destroyed its previous aquatic centre, the French National Institute of Sport, Expertise, and Performance (INSEP) built new sport training facilities while also integrating high environmental quality standards.

The new Christine Caron Aquatic Centre was designed using innovative techniques, including new sustainable technologies such as ozone water treatment and the recovery of washing water from filters using reverse osmosis. It won a HQE



Sustainable Building Award for best environmental performance in the Public Building category, and has set the benchmark in environmental standards. The design of the aquatic centre is based on three principles: the building's ecological quality, energy optimisation, and water quality and control. The Caron Aquatic Centre has all the latest equipment and meets the highest standards for certification, comfort, health and energy efficiency.

OUR AMBITION

These initiatives result from a collaboration between the Ministry of Sports and key people and groups in the sporting world. By continuing to work closely with these stakeholders, we expect to promote brilliant ideas in environmental sustainability, and go beyond our targets for 2020. Together we are proving that sporting and environmental excellence go hand in hand. ●



WE EXPECT TO PROMOTE
BRILLIANT IDEAS IN
ENVIRONMENTAL
SUSTAINABILITY

FROM 'GREEN' SPORT TO SUSTAINABILITY

DAVID STUBBS

David
STUBBS

BSc (Hons) FCIEEM,
CEnv, Independent
Sustainability Expert
and former Head of
Sustainability, London
2012

David Stubbs is a leading authority on sustainability in sport and global mega-events. He has pioneered many of the key processes, methods and standards that have become sustainability best practice in the event sector.



This report is packed with an impressive range of high quality environmental initiatives taking place across sport in Europe. However, while these are individually admirable, few sports bodies beyond the International Olympic Committee (IOC), Olympic Games Organising Committees and federations like World Sailing can truly say they are tackling sustainability in full. Unless and until sustainability becomes integral to sport governance and administration, we will continue to see great environmental and social initiatives come and go.

Sport has to move from worthy but ad hoc greening and corporate social responsibility projects to anchoring with mainstream concerns. It has to fully embrace sustainability as a way of working.

The agenda for sustainable development has evolved massively over the last few decades, and now its core principles of integrity, inclusivity, stewardship, transparency and accountability resonate across the world and across all business sectors. Sport is no exception.

In recent years, sport governance has been buffeted by issues relating to corruption, match fixing, doping, human rights, gender equality and excessive costs. Sustainability can help address these issues. Any progressive sports organisation

TRULY SUSTAINABLE ORGANISATIONS ARE OPEN, DIVERSE AND INCLUSIVE. PEOPLE FROM DIFFERENT BACKGROUNDS, GENDERS AND ABILITIES WILL BRING NEW PERSPECTIVES AND IDEAS. HARNESSING AND EMPOWERING YOUR COLLECTIVE TALENT IS PROBABLY THE MOST TANGIBLE WAY OF SECURING THE OPPORTUNITIES AND BENEFITS OF ADOPTING SUSTAINABILITY.

will see the connection between its treatment of people, communities and the environment with its own long-term wellbeing and place in society.

All environmental and social initiatives must be seen in this context. They must be embedded in sport's core activities, not as nice-to-have add-ons that ignore sport's actual impacts. True sustainability offers real value, from cost savings and risk management to improved stakeholder relations and public credibility.

The following steps provide a pathway for any sport organisation to commit to sustainability, to engage meaningfully and to walk the talk. They draw upon our experience from the London 2012 Olympic and Paralympic Games, and emerging guidance from the IOC in its new series of 'Sustainability Essentials' guides for the Olympic Movement.

1. VISION AND VALUES

Sport is fundamentally based on values. It is important to reconnect with these and use them to plot to where you want to be and how you can use them to overcome the great challenges of our time as defined in the United Nations' Sustainable Development Goals.

2. LEADERSHIP COMMITMENT

Sustainability needs an enabling environment, and that is provided by effective leadership. It is not a one-off acknowledgement. It requires regular engagement in discussions, reviewing progress and advocating the approach. Leadership means being prepared to walk the talk by ensuring actions and decisions match the organisation's values and principles.

3. GOOD GOVERNANCE

Sport governance is under scrutiny like never before. Transparency, inclusivity and accountability are core

principles. They are also fundamental to sustainability and are prerequisites for integrating sustainability as a way of working and developing a sense of shared responsibility.

4. STAKEHOLDER ENGAGEMENT

Sustainability cannot be done in isolation. By definition it is an outward looking approach that actively seeks input from staff, volunteers, athletes, suppliers, sponsors, public agencies and local communities. This crucial interactive engagement will help shape your future direction and priorities.

5. MATERIALITY

This is about making sure what you do is relevant to your core activities, your impacts and what stakeholders feel is important. This is crucial for moving from green and CSR on the margins to a central, relevant sustainability approach.

6. DEFINING SCOPE

Be very clear both about what you are going to do and what you are not going to do. There are many worthy issues, but sustainability is only really meaningful if it relates to your own impacts, risks and opportunities.

ISO 20121:2012 IS THE 'GO TO' INTERNATIONAL SUSTAINABILITY STANDARD FOR THE SPORT AND EVENT SECTORS

7. SET CLEAR OBJECTIVES AND TARGETS

These need to be relevant to your vision and purpose. They should be related to the priority themes and risks you have identified. They must be realistic but also credible and ambitious.

8. MANAGEMENT SYSTEMS

Put in place a Sustainability Management System that integrates sustainability into your day-to-day work, in areas such as procurement and training. This will help define the policies and procedures needed to move your programme forward while identifying the resources needed for its implementation.

9. MEASURE AND EVALUATE PROGRESS

Be sure to monitor and record what you have done. This will feed back and improve your sustainability performance over time.

10. REPORT AND SHARE LEARNINGS

Communicating your sustainability programme is vital for building knowledge and understanding across the sport sector and further afield. The best sustainability communications and reports convey a sense of learning and openly share what challenges were encountered, what worked and, most importantly, what didn't work.

A final reminder: sustainability always comes back to people. It is about how we ensure health and wellbeing, quality of life and a safe and stimulating environment to live, work and enjoy. Sport touches upon all these aspects and is therefore a hugely important vehicle to take this vital agenda forward, in Europe and worldwide. ●

THE ENVIRONMENTAL IMPACT OF MEGA EVENTS

Prof. Dr. Holger
PREUSS

Holger Preuss is Professor of Sport Economics and Sport Sociology at the Johannes Gutenberg-University in Mainz, Germany and he is a member of the IOC Sustainability and Legacy Commission



The challenge for cities and nations hosting mega events is to find ways to improve their performance, not only in economic and social terms, but also in terms of the environment. The London 2012 Olympic Games showcased many successful sustainability initiatives. However; the Olympic Games in Sochi 2014 and Pyeongchang 2018, as well as the upcoming FIFA Football World Cup Qatar 2022, have not demonstrated as much interest in such initiatives. Mega events mobilise considerable resources in the short term, but often leave long-term consequences. Event organisers, including rights holders, need to address their environmental footprint in order to contribute to a green legacy.

THE CURRENT STATE OF PLAY

Scholarly literature on the environmental legacy of sport events is scarce but growing, indicating the relevance and urgency of addressing legacy through a more comprehensive approach. The Sydney 2000 Olympic Games, widely perceived as the first 'Green Games', led to many publications, notably the collection edited by Cashman and Hughes who give detailed information on the environmental challenges and outcome of the Sydney 2000 Olympics. It was much later that Kaplanidou focused on the environment and its contribution to increasing the quality of life.

THE LEGACY FRAMEWORK

Organising a mega event can have a lasting impact on cities and their residents. The structure of a city is subject to change before, during and after the event. We can distinguish six 'structural changes' that contribute to the overall legacy of such an event (blue circles in Fig. 1). Two of these apply to urban spaces, and four apply to their people.

Once a host starts planning to bid for a mega event, a legacy vision must be developed which considers the population and environmental

organisations. The figure below shows the requirements that must be met for such events. All of them pose potential threats for long-term environmental performance. To better establish a green economy, often, additional measures must be taken to modify the event based on structural

changes (e.g. the post-games use of a venue). Lastly, hosts may sometimes partake in projects not inherent in their obligations when hosting the event. This can be a larger and more modern airport (Olympics Athens 2004), taking power lines underground (Olympics Sydney 2000) or cleaning a river

(Olympics Seoul 1988), to name a few. While 'environment enhancement' is the most relevant structural change, all six structural changes have potential impacts on the environment.

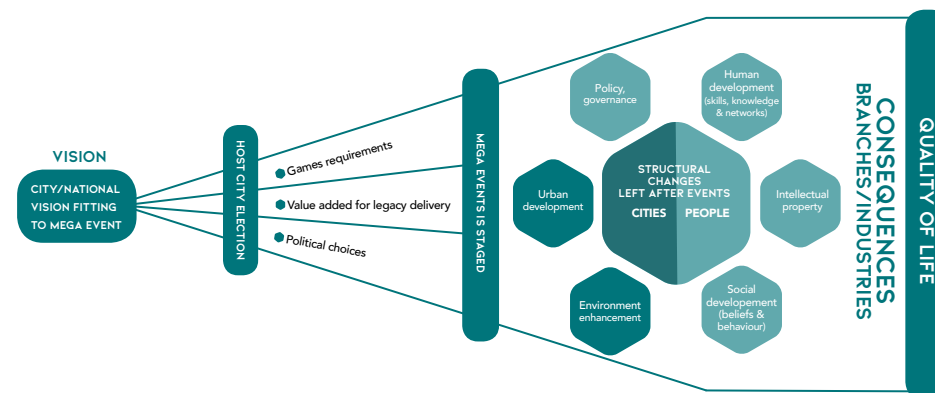


Figure 1: Overall Legacy Framework (source: own elaboration)

SPACE

1) Urban development

This includes any development in the infrastructure of the host city, including construction and mobility systems. Many developments in systems, such as water, sanitation, power supply and solid waste disposal, are directly linked to the environment. Advanced urban services and infrastructure such as smart city grids and smart buildings can also improve the environmental quality of a city.

Cities often improve their transport networks and set up light rail and traffic control systems to reduce emissions. During the Beijing 2008 Olympics, the city changed to low emission heating and relocated polluting industries to the city's outskirts.

All these changes are usually observed closely by environmental watchdog organisations such as Greenpeace, and by media outlets reporting on environmental damage caused by mega events. Last-minute time pressure and cost overruns are dangerous as they often mean that environmental obligations are relaxed or even overlooked.

2) Environmental enhancement

This structural change leads to improvements in air and water quality, due to low-carbon technologies or a reduced carbon footprint. The city creates green space by planting trees, producing oxygen and reducing fine dust. Cleaning former industrial land and creating living spaces for animals increases biodiversity. Further, if a host can introduce recycling and minimise waste, less resources are used.

There are many potential benefits of these environmental enhancements. Many cities have built energy efficient and eco-friendly buildings and venues for the Olympic Games (e.g. Lillehammer 1994, Beijing 2008, Youth Olympic Games Innsbruck 2012), some cities have also installed solar panels (Sydney 2000). Beijing reduced its greenhouse gas emissions by introducing Bus Rapid Transit (BRT), with a fleet of 4,000 buses powered by natural gas. In London, the waterway network was regenerated, a wastewater treatment facility was built and a large amount of water was conserved. Whether Rio de Janeiro 2016 or Beijing 2008 achieved better water quality at rowing sites and harbours is open to debate, but at least efforts were made to improve the situation.

MEGA EVENTS MOBILISE CONSIDERABLE RESOURCES IN THE SHORT TERM, BUT OFTEN LEAVE LONGTERM CONSEQUENCES. EVENT ORGANISERS, INCLUDING RIGHTS HOLDERS, NEED TO ADDRESS THEIR ENVIRONMENTAL FOOTPRINT IN ORDER TO CONTRIBUTE TO A GREEN LEGACY.

PEOPLE

3) Policies, Governance

This applies to regulatory changes through the introduction of binding guidelines and policies, which can lead to better governance and new organisational structures. It can also be the establishment of quality and certification seals, quality control processes, regulations in construction, protection of human rights, laws protecting the environment and species and more. Examples include the quality charter for sport events (Vancouver 2010) or sustainable food policies from the London 2012 Games.

4) Human development

Mega events have the power to change individuals in three ways. Individuals can learn new skills and they can attain new knowledge. Best practices at highly recognised events can be educational tools, such as in Vancouver 2010 where the Inuit illustrated how they used

to live their lives in harmony with the natural world. Thirdly, participants and organisers can establish new contacts and build networks. During the bidding and preparation for the event, the organisers interact with environmental organisations such as in Pyeongchang. Before a forest gets cut for a skiing slope, it is in the host's interest to meet the organisation's expectations and to avoid overly critical media coverage. A working relationship develops and often grows during this time.

5) Intellectual Property

This structural change represents the room for much innovation and creation while hosting the Olympic Games. Inventions can be related to environmental enhancements such as new cooling technologies for stadiums (FIFA WC Qatar 2022) or lawn heating. For the London 2012 Games, the new ISO 20121 standard was developed to help organisations improve the sustainability of an event. The standard has since been adopted widely across the world.

6) Social development

This structural change expands on the importance of changing attendees', organisers' and stakeholders' beliefs for the better. The change of someone's mind means that one thinks differently about a certain topic. Conversely, a change in habits is often based on a change of a belief. The Olympic Games can change a habit like using public transportation when it's readily available. This habit can be used as a catalyst to shape broader beliefs about environmental protection.

It's clear now that structural changes have consequences. In other words, a structural change has the ability to stimulate new activities. This is the philosophy behind how mega events can push the host destination towards a greener economy. ●



PART
02

ENVIRONMENTAL
LEADERSHIP

WHERE ATHLETICS GETS ITS GREEN INSPIRATION

EUROPEAN ATHLETICS

Phil
MINSHULL

Editorial Consultant for
European Athletics

Phil Minshull works with European Athletics and a number of other sports federations and events, advising them on editorial content particularly with regard to promoting their environmental and social responsibility policies and practices.



Every stakeholder in the sports world has a responsibility towards environmental sustainability. European Athletics takes this responsibility very seriously, instituting good practices in sustainability through the Green Inspiration brand. Since its creation in 2013, Green Inspiration has harmonised efforts across federations, institutions, organisations and individuals to emphasise sustainability.

WHY WE CREATED GREEN INSPIRATION

Green Inspiration was created to help athletics federations and event organisers implement environmental initiatives and engage the public in predominantly locally focused projects (although some initiatives have a national or continental reach).

Over the last four years, European Athletics has worked closely with its 51 member federations to develop best practices for environmental issues. Although some of our members already had sustainability programmes and initiatives in place, many more have since embraced these concepts in their domestic and international functions and the competitions they stage.

SUSTAINABILITY GOALS IN ACTION ACROSS EUROPE

European Athletics believes committing to sustainability can boost public image, improve relations with image-conscious sponsors and other stakeholders, and reduce costs

through efficiency savings. We have made it a priority to communicate this to our member federations.

At the European Athletics head office in Lausanne, we implemented our own internal sustainability charter entitled 'Our Green Lifestyle.' This charter is aimed at improving resource conservation, reducing environmental waste and setting a good example for other stakeholders.

Another way European Athletics reinforces sustainability goals and best practices is through the easy-to-follow eight-step guide for sustainable event planning.

The guide advises hosts at every step of the process, from assembling the sustainability team to methods of communicating the results of the events. It also advises on specific practices like how to increase use of public transport and selecting venues for the event while keeping the interests of the local community in mind.

EUROPEAN ATHLETICS EIGHT-STEP GUIDE FOR SUSTAINABLE EVENTS FOCUSES ON THREE AREAS:



PEOPLE

Provide a healthy and safe environment, respect human rights, respect diversity, be culturally sensitive and encourage community involvement.



PLANET

Practice waste reduction, reuse and recycle, be water and energy efficient use ecofriendly transportation.



PROFIT

Save money through increased efficiency, use responsible procurement, invest in the local economy, and boost innovation.



THE BYDGOSZCZ 2017 EUROPEAN ATHLETICS U23 CHAMPIONSHIPS

The Bydgoszcz championships included several projects that cut unnecessary emissions and promoted sustainability. The Polish organisers encouraged people to take public transport or cycle to the stadium, giving half-price tickets to those arriving on bicycles. Recycling was also important in the planning of these championships. EKOBUS, a mobile laboratory equipped with state-of-the-art research facilities, visited the event to encourage guests to develop good waste management practices such as waste segregation and conscious shopping and waste disposal, teaching spectators that waste can also be used as a source of energy.

Each host of a European Athletics major competition in 2017 put sustainability initiatives and practices at the core of their initial bidding documents. Once awarded the event, they fulfilled these commitments during the staging.

**LOOKING AHEAD,
GREEN INSPIRATION
AIMS TO IMPROVE ON
THE PRACTICES. AS
THERE IS STILL MUCH
MORE WORK TO BE
DONE IN MANY AREAS
ACROSS EUROPE.**

THE BELGRADE 2017 EUROPEAN ATHLETICS INDOOR CHAMPIONSHIPS

In line with the 17 global goals set out in the United Nations' 2030 Agenda for Sustainable Development, the local organising committee for the Belgrade 2017 Indoor Championships joined the sustainable drive initiated by ENGSO Youth (European Non-Governmental Sports Organisation).



Volunteers recruited for championships could take part in the 'Jump 2 Score Green' educational project organised in the competition venue for the championships, the Kombank Arena. The volunteers learned about the values, actions and possibilities for environmental conservation related to sport and how local sport clubs themselves can promote sustainability and good practices.

The Belgrade championships also had a strong theme of social inclusion and responsibility. A group of ten Italian refugees took part in the "Refugee ScART" humanitarian aid project, creating art from recycled scrap metal for the media welcome bags. The programme allowed these immigrants who had landed in Italy to give back to the society that welcomed them, as well as gain some income.

Member federations and potential bidders now understand that provisions for sustainability and good practice are needed for a successful bid.

THE 2017 SPAR EUROPEAN CROSS-COUNTRY CHAMPIONSHIPS

The Slovak town of Samorin proposed the state-of-the-art x-bionic@ sphere as a venue in their bid for the European Cross-Country Championships, making the case that the championships would be the greenest since the event began in 1994. This was a determining factor in the choice of Samorin to host the 2017 event. As well as being a modern sporting facility frequented by athletes from across the globe, and one of Slovakia's main Olympic training centres, the x-bionic@ sphere prides itself on its sustainability credentials. The sphere uses green electric power from its on-site biogas power plant to power many of the venue's facilities. A cogeneration unit based on natural gas covers the demand for heat within the venue. The venue also uses thermal water pumped from a well 1,400 metres below ground to provide heat.

FUTURE CHAMPIONSHIPS

The 2018 SPAR European Cross-Country Championships will be hosted by Tilburg and, in conjunction with European Athletics, the Dutch city has been very active setting its sustainability goals.

The goals include both reducing waste and improving waste management. Extensive recycling methods will be used before and during the championships, and all event promotion will be digital.

Another important target for the Tilburg local organising committee is to reduce carbon emissions. The event venue was deliberately chosen so that all the competitors and officials can walk there from their hotels. Spectators will be encouraged to use bikes. Discounts will be available to further ease guest access to public transport and bike rentals.

Under its Green Inspiration brand, European Athletics can look back on four years of steady improvement in applying sustainability policies and implementing good practices. Looking ahead, Green Inspiration aims to improve on the practices, as there is still much more work to be done in many areas across Europe. ●

SOCIALLY RESPONSIBLE AND SUSTAINABLE FOOTBALL AT EURO 2016

UEFA

Patrick
GASSERHead of Football and
Social Responsibility (FSR)
at UEFA

Patrick heads UEFA's Football and Social Responsibility (FSR) Unit, with the objective of making UEFA's activities more socially responsible and sustainable. Before joining UEFA in 1999, he worked for thirteen years at the International Committee of the Red Cross (ICRC).



UEFA recognises its responsibility to make major football events socially, environmentally and economically sustainable. Seven years after social responsibility and sustainability were first included in the bidding procedure for a UEFA flagship tournament, these principles were fully integrated for the first time as France hosted UEFA EURO 2016. The results exceeded expectations thanks to a rigorous approach and exhaustive efforts from all those involved, including UEFA's internal teams, host cities and tournament spectators.

It is a huge challenge to organise an event on the scale of UEFA EURO 2016 in a sustainable way. It is also an excellent opportunity to show leadership in socially responsible and sustainable sports event management, and to raise awareness of such issues amongst all stakeholders.

The EURO 2016 social responsibility and sustainability policy, its statement of purpose and values, and the ambition for ISO 20121 certification, were the foundations for UEFA's efforts in making its flagship international event more sustainable than ever before. A credible approach would have been impossible without full accountability regarding the impact of the event. The sector disclosures for event organisers in the G4 Sustainability Reporting Guidelines provided comparable indicators for the most significant externalities.

Reducing the event's environmental impact was just one aspect of UEFA's approach to social responsibility and sustainability. Each of the organisational domains involved in the tournament (including



**UEFA EMBRACES
THE CHALLENGE TO
CONTINUE MAKING ITS
FLAGSHIP EVENTS EVEN
MORE SUSTAINABLE.**

transport, logistics, lighting, catering, merchandising and broadcasting) have a wide range of direct and indirect environmental impacts in terms of air pollution, consumption of natural resources and contribution to climate change.

These are challenges that UEFA takes seriously. UEFA has committed to reducing its environmental impact by taking a realistic step-by-step approach, with the objective of continuously improving its environmental performance.

FROM DIALOGUE TO ACTION

After UEFA included a social responsibility and sustainability chapter in its bidding criteria for the EURO 2016 tournament, it defined eight priorities to streamline the sustainability policy in accordance with the principles of ISO 20121 for Sustainable Events. Four of these priorities focused specifically on the environment. Strong collaboration and commitment from UEFA's internal teams, partner organisations, stakeholders, cities and volunteers helped ensure success.

EIGHT SOCIAL, ECONOMIC AND ENVIRONMENTAL PRIORITIES



TOTAL FOOTBALL, TOTAL ACCESS!

1,685 wheelchair user places and **1,111 easy-access seats** close to amenities
916 additional wheelchair spaces were constructed thanks to UEFA EURO 2016 and a further **32 were renovated** (legacies of tournament)



TOBACCO-FREE TOURNAMENT

13,964 yellow and red cards given to fans and staff for failing to respect the tobacco-free policy
All **10 venues** declared tobacco-free



ANTI-DISCRIMINATION MATCH MONITORING

8 suspected incidents of racism/discrimination or misconduct reported
2 national associations sanctioned



FAN EMBASSIES

19 out of the **24 teams** were represented by a fan embassy



PUBLIC TRANSPORT AND MOBILITY

517,000 tonnes of CO2 equivalent due to transport of teams and spectators
150,000 additional seats on public transport for journeys to stadiums



WASTE MANAGEMENT

38% of waste recycled in functional areas (1,542 tonnes)
10 tonnes of prepared food, including **50,000 sandwiches**, and raw products donated to NGOs



ENERGY AND WATER OPTIMISATION

30,000 litres of fuel saved in generators by improving the service level for domestic power
3 stadiums purchased certified renewable electricity



RESPONSIBLE SOURCING OF PRODUCTS AND SERVICES

100% of contracts and licensing agreements include mandatory compliance with ten UN Global Compact principles and ILO declaration
71% of items produced in Europe;
51% of sourcing budget spent on items produced in Europe



REDUCING CARBON EMISSIONS

UEFA worked with Climate Friendly during the 2015/16 season to measure and offset its carbon emissions. UEFA's investment in gold standard carbon credits for the Prony and Kafeate wind farm project brought renewable electricity to remote villages in New Caledonia. This sustainability programme was expanded to tell UEFA EURO 2016 spectators and teams how they could offset their carbon travel emissions.

Fans travelling to France for the tournament were encouraged to use the award-winning eco-calculator, which was made easily available as an app. This helped them measure, compare and offset the environmental impact of the different types of transportation to the tournament. Unfortunately, the eco-calculator did not achieve the desired impact: there was a lack of engagement from fans and spectators, with only a few taking the carbon compensation option.

All 24 teams competing in UEFA EURO 2016 got on board the environmental programme. UEFA also offset its own emissions. The combined efforts of the teams, the spectators and UEFA made EURO 2016 one of the most sustainable large-scale sporting events yet, resulting in a total of 35,000 tonnes of offset CO₂.

WASTE MANAGEMENT

A circular economy approach helped reduce the amount of waste generated, reuse materials where possible, and eventually recycle. One highlight was the "Foot for Food" initiative where food surpluses were redistributed through the Banque Alimentaire network at all ten venues in France, as well as at the International Broadcast Centre (IBC) in Paris – while fully respecting health rules. More than 37,000 sandwiches were redistributed to various NGOs.

**EURO 2016:
THE OUTCOME**

It will take time to really see the social responsibility and sustainability impact of EURO 2016 in France, but it may be visible at future major international sports events, such as the 2019 FIFA Women's World Cup, the 2023 Rugby World Cup or the 2024 Paris Olympic Games.

The lessons learned will be valuable as we look ahead to UEFA EURO 2020, allowing us to repeat what worked well and improve on things where necessary. New initiatives in UEFA EURO 2020 such as smart mobility and free public transport for match ticket holders will lower greenhouse gas emissions and contribute to the Sustainability Development Goal (SDG) 13.



EURO 2016 was not only a celebration of sporting excellence, but also a benchmark for social responsibility and sustainability initiatives for the football world. However, despite achieving many of the measurable objectives set by project leaders, there is room for further improvement. UEFA embraces the chance to make its flagship events even more sustainable. ●

FOR MORE DETAILS, SEE:

- **UEFA EURO 2016** social responsibility and sustainability post-event report
- **UEFA EURO 2016** social responsibility and sustainability one-year-to-go report 2015

**STRONG
COLLABORATION
AND COMMITMENT
FROM UEFA'S INTERNAL
TEAMS, PARTNER
ORGANISATIONS,
STAKEHOLDERS, CITIES
AND VOLUNTEERS
ENSURED SUCCESS
IN ALL AREAS.**

KEEPING GOLF GREEN ON AND OFF THE COURSE

R&A/GOLF ENVIRONMENT ORGANISATION

Steve ISAAC

Director of Sustainability
at The R&A

Jonathan SMITH

Director of the GEO
Foundation

The R&A organises the Open and jointly governs the sport of golf worldwide, except for the USA and Mexico. The GEO Foundation is an international non-profit association dedicated to sustainability in and through golf.



Golf is enjoyed around the world, with 60 million golfers playing on more than 33,000 golf courses, and media coverage of major championships reaching hundreds of millions of homes. As a relatively large land-user, golf has a responsibility to play its part in a more sustainable, resource-efficient future. Golf courses worldwide must see what they can do to become environmentally sustainable. As sustainability concerns and expectations rise across the world, the golf community is well positioned to contribute to the welfare of nature and communities.

ACTION FOR SUSTAINABILITY

Golf embraces the three economic, social and environmental pillars of sustainability. It contributes to economies directly through taxes and employment, securing jobs for thousands of people in manufacturing, facility development and management, tourism, and the supply chains associated with these activities.

In 2016, the World Golf Foundation (WGF) launched the Golf & Health Project, an initiative promoting academic research on how the game can positively impact people's lives. Key benefits include raising life expectancy and quality of life, as well as improving physical and mental well-being. Golf can lower the risk of more than 40 major chronic diseases and has a positive impact on cholesterol, body composition, metabolism and longevity.

Golf also continues to safeguard the environment by conserving green spaces and managing ecosystems. For example, the Golf Environment Organisation (GEO) Foundation has helped the sport develop a credible



**STANDARDS,
TECHNOLOGY AND
CERTIFICATION ARE
HELPING DRIVE
PERFORMANCE AND
SHAPE A MORE
POSITIVE WORLD VIEW
OF SUSTAINABLE GOLF.
WHICH IS VITAL TO THE
CONTINUED GROWTH
AND PROSPERITY OF
THE SPORT.**

and practical sustainability system for golf course and facility operations, new developments and tournament staging.

Support for this work has come from a wide range of industry and external stakeholders, and most significantly from The R&A (golf's governing body outside the US and Mexico); the European Tour (the organisation which operates the three leading men's professional golf tours in Europe) and a European Golf Association.

The key components of golf's sustainability system are:

Voluntary Sustainability Standards (Vss)

Golf's voluntary sustainability standards are collaboratively developed according to ISEAL Codes of Practice, and are reviewed at regular intervals. The standards apply to new golf developments, facility operations and tournament staging, and span all key elements of golf's Sustainability Agenda (Nature, Resources and Community).

So far, golf is the only sport represented in the ISEAL community of leading sustainability systems. "By following our standard-setting code, we are showing a commitment to transparency and ensuring that the standard has positive social and environmental impacts." Martyn Cole, ISEAL Alliance Credibility Manager.



ABOUT GEO

The Golf Environment Organisation (GEO) Foundation is an international not-for-profit dedicated to advancing sustainability in and through golf. Building on extensive collaborative research and development, GEO has produced the only golf-specific standards, assurance and certification scheme. Accredited by the International Social and Environmental Accreditation and Labelling (ISEAL) Alliance, the system meets the very highest standards of rigour, credibility and transparency; one of only 26 global systems to be part of ISEAL and the only sports-based system. Building on programme uptake in over 100 countries, the scheme is now being adopted and promoted by an increasing number of national golf association partners.

OnCourse® Technology Platform

OnCourse® is a modern, multi-functional online platform that lets grassroots facilities:

- access the latest best practices, guidance and resources
- record, analyse and track their performance
- share and promote their activities and highlights
- gain credible recognition through accredited third-party certification.

OnCourse® also tracks and stores all facility and industry KPIs to create a database of reportable sustainability metrics for golf – locally, nationally and internationally. OnCourse® also produces sustainability highlights, which showcase ambitious sustainability projects and initiatives coming out of grass roots facilities:

Bogogno Golf Resort, Italy

Many courses have committed to sustainable and renewable energy, but none more so than the Bogogno Golf Resort in Italy. The course, which is a European Tour Qualifying School venue, installed an 8.14 kW photovoltaic solar system on its roof in 2014. Staff also added charging points for customer's electric cars and added three hybrid mowers to their team, which have reduced diesel consumption by 6,000 litres per year since 2014.

BY FOSTERING NATURE, CONSERVING RESOURCES AND SUPPORTING COMMUNITIES, GOLF CAN STRENGTHEN ITS FUTURE AND MAKE A POSITIVE IMPACT.

Minthis Hills Golf Club, Cyprus

This Minthis Hills course in Cyprus has been a pioneer in water conservation. The irrigation system was completely revamped in 2007 to include a reservoir with high density linings to collect rainwater and pump it into the new irrigation lake. Concrete storm drains were added to various structures to harvest rainfall. Sprinklers were re-calibrated to avoid wasting water on native areas. In addition to the improvements to the irrigation system, the fairways and roughs were completely re-seeded in 2009 with drought-tolerant Bermuda grass. Minthis Hills also uses greywater from sinks, showers and washing machines in the nearby town of Paphos. By the end of 2017, a €1.2 million investment provided greywater for the entire course. Minthis Hills aims to treat its sewage on-site in 2018 and use its own greywater.

Centro Nacional De Golf, Spain

The Centro Nacional De Golf resort in Spain is a brilliant example of how to repurpose land. The current course sits on what used to be a landfill on the outskirts of Madrid. The ecologically rich space provides healthy recreation and employment to hundreds of local people. The course prides itself on preserving a natural space under the constant pressure of development.



BY FOLLOWING OUR STANDARD-SETTING CODE, WE ARE SHOWING A COMMITMENT TO TRANSPARENCY AND ENSURING THAT THE STANDARD HAS POSITIVE SOCIAL AND ENVIRONMENTAL IMPACTS.” MARTYN COLE, ISEAL ALLIANCE CREDIBILITY MANAGER.

GEO Certified®

GEO certification is a third party verified certification scheme for golf facilities, new developments and tournaments. It's based on detailed policies and procedures and in line with ISEAL Codes for Assurance and Monitoring and Evaluation of Impacts. The system draws upon knowledge provided by a range of research bodies and sources.

EARLY RESULTS

- OnCourse® programmes now active in over 100 countries.
- Over 1,500 grassroots facilities already engaged.
- Twelve leading golfing nations partnering to regionalise and promote the platform.
- 25 leading golf developments engaged, with The R&A's Equipment Test Centre, the Allan Robertson House, being the first in the UK to successfully complete the OnCourse® Developments programme and achieve GEO Certified® Development status.
- Major professional tours and tournaments engaged, led by The R&A's GreenLinks programme for The Open, the European Tour and Ryder Cup GreenDrive, and the 2019 Solheim Cup.
- International Golf Federation utilizing programmes around golf's

involvement in the Olympics, as part of contribution to International Olympic Committee Sustainability Strategy.

- A European Golf Association (EGA) project bringing national golf federations in Europe together on sustainability has resulted in a growing number of mature and emerging golfing federations coming together around common strategy and solutions, including Belgium, England, Finland, Iceland, Italy, Malta, the Netherlands, Portugal, Scotland, Serbia, Sweden and Switzerland.

Golf's ambition is to be a credible leader in sustainable sport and business, universally valued for its 'net positive' impact on nature and communities. Standards, technology and certification are helping drive performance and form a more positive world view of sustainable golf, which is vital to the continued growth and prosperity of the sport. ●

CHAMPIONING SUSTAINABLE INNOVATION AT ROLAND GARROS

THE FRENCH TENNIS FEDERATION
(FÉDÉRATION FRANÇAISE DE TENNIS – FFT)

Viviane
FRAISSE

Head of Sustainable
Development at
Roland Garros

Viviane has been Head of Sustainable Development at Roland Garros since 2012. She works on the FFT's social responsibility strategy and actions, and manages the ISO 20121 certification process for Roland Garros.



For a decade, the French Tennis Federation (FFT) has implemented a robust sustainable development policy that is integral to its day-to-day operations. The policy has widened in scope over the years to embrace the three economic, social and environmental pillars of sustainability. Today, the Federation has many initiatives in place to promote social cohesion, health and wellbeing, and environmental responsibility. It has also made its flagship event, the French Open — otherwise known as the Roland-Garros tournament — a true champion of sustainability.

46 PLAYING FOR
OUR PLANET

In 2014, the French Open became the first French sport tournament to receive the ISO 20121 certification for sustainable events, and the first event to ever receive the certification after the London 2012 Olympic Games. This certification was renewed in 2017.

On 12 January 2017, France's Grand Slam event reaffirmed its commitment to sustainability by joining more than 20 of the largest sporting events in France in a shared commitment to deliver environmentally responsible and sustainable sporting events with the signing of a national Charter developed by the French Ministry of Sport in partnership with WWF France.

ENGIE PROVIDES 100% RENEWABLE ENERGY FOR ROLAND-GARROS

Since 2015, ENGIE is Roland Garros's partner in Energy and Sustainable Development. ENGIE supports the tournament's sustainable development initiatives and works to make the French Open a model event in terms of eco-responsibility.

ENGIE's AlpeEnergie1 offer provides the FFT with 100% renewable green energy for all of its stadiums, including the CNE, Jean-Bouin and Roland-Garros stadium. This collaboration guarantees a three-year supply of electricity from 100% renewable sources, mainly hydro and solar power.

BEE-KEEPING TO PROMOTE BIODIVERSITY

The FFT, in collaboration with the ENGIE Foundation, has introduced permanent bee hives to the roof of the Club des Loges building at Roland-Garros. More than 360,000 bees are foraging on the roof of the club, and Roland Garros supplies its own honey.



47 PLAYING FOR
OUR PLANET

ECO-MOBILITY

Roland-Garros runs a promotional campaign to educate spectators on environmentally friendly transport options. Between 2010 and 2016, these initiatives had a direct and measurable impact:

- ▶ 11.1% increase in spectators using public transport
- ▶ 21% decrease in spectators using a personal car
- ▶ 2.7% increase in spectators walking or cycling

Roland-Garros has developed innovative tools to make it even easier for fans and spectators to minimise their carbon footprint. The Roland-Garros car-pooling website reduces the number of cars traveling to the event. The tournament has also developed a transportation 'eco-calculator' that helps spectators choose the most environmentally-friendly way of getting to the event.

TACKLING WASTE

Roland-Garros recognises major events' duty to tackle the waste problem. Thanks to an effective waste sorting system, 142 tons of waste was recycled in the 2016 event. For six years, the tournament has targeted the wider public through 'Green Teams' that wander the stadiums to teach spectators about recycling, low-impact transportation, and sustainability. Spectators are also given Ecocup reusable cups to cut out single-use cups, a simple strategy that has also led to economic savings. These may seem like simple measures, but with almost 500,000 spectators in attendance at the 2017 tournament and millions tuning in world-wide, the tournament is committed to providing a national and worldwide platform for promoting sustainability in sports.

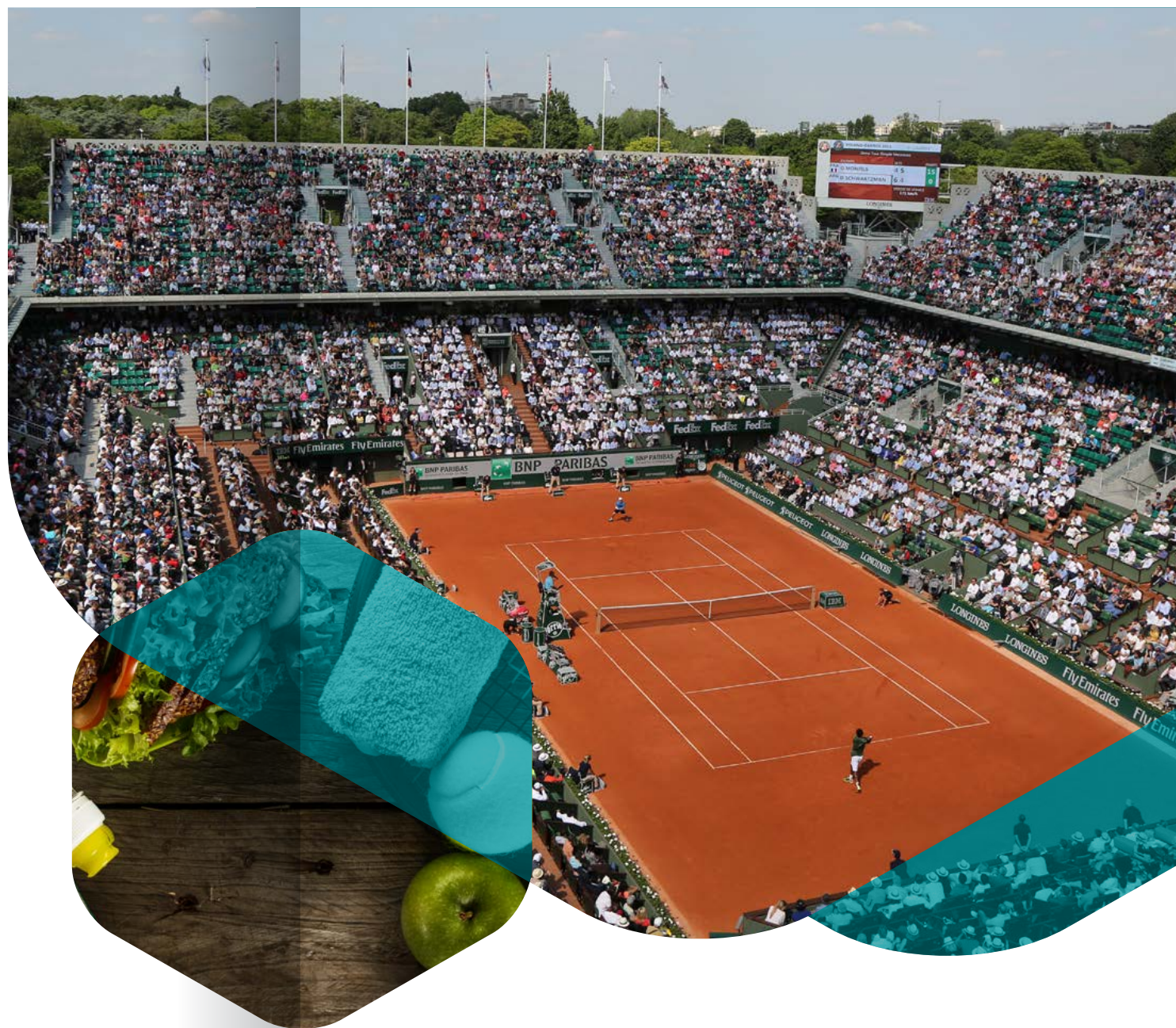
Minimising food waste is also a priority. For the third year in a row, the FFT, in collaboration with the Paris City Hall, supports the fight against food waste organised by the anti-food waste association 'Le Chânon Manquant' and sponsored by Gaël Monfils. In 2016, 15,000 meals were distributed to charities working with people living in conditions of poverty in Paris. This programme could not exist without the active participation of tournament caterers Potel et Chabot et Fauchon, and food service company Sodexo, who redistribute their food surplus where possible.

SUSTAINABLE FOOD

In partnership with Yann Arthus-Bertrand's Goodplanet Foundation, the FFT works with all of the tournament's food suppliers and caterers on a three-year sustainable food plan. The aim is to provide the tournament's audiences with more sustainable produce that is organic, seasonal, and from short distribution channels.

ROLAND GARROS: A FOCUS ON PRESTIGE, INNOVATION AND SUSTAINABILITY

Roland Garros believes its commitment to sustainability will help build on the tournament's legendary history. During the 2018 event, Roland-Garros will celebrate its 'Sustainable Development Day' in partnership with ENGIE on 5 June. With continuous support from stakeholders, partners, athletes and spectators, Roland Garros will continue to be a champion of sustainable sports. ●



LAUNCHING SAILING'S SUSTAINABILITY STRATEGY

WORLD SAILING

Dan
READING

Sustainability Programme
Manager, World Sailing

Dan Reading manages World Sailing's sustainability programme. He has worked as Sustainability Manager at the London 2012 Olympics and helped seven organisations become certified to ISO 20121. He is also a Chartered Environmentalist and full member of the Institute of Environmental Management and Assessment.



World Sailing, the international governing body for the sport, has created a sustainability strategy that sets clear targets and objectives across all three pillars of sustainability: economic, environmental and social. A comprehensive consultation process was carried out to develop a strategy that could be implemented worldwide by all of World Sailing's members in 146 countries.

SETTING SUSTAINABILITY GOALS

Our starting point for drawing up our strategy was to set up a sustainability commission with key individuals including professional sailors, industry experts and sustainability practitioners. Eight people were selected from around the world, and they convened for two days to agree on where World Sailing would focus its efforts.

The first issue was to identify World Sailing's sphere of influence. It became apparent very quickly that the subject area was extremely broad and there were huge opportunities in many areas. Secondly, overall objectives were agreed on for the strategy. The individual targets then followed. A total of 59 targets were set and they were bunched into six operational areas of World Sailing such as events and training.

WORLD SAILING'S NEW STRATEGY IS DESIGNED TO BRING TOGETHER SPORT, TECHNOLOGY AND NATURE.

CHOOSING A COMMON FRAMEWORK

Stakeholders were able to understand the different areas of opportunity by cross-referencing World Sailing's sustainability targets to the United Nation's Sustainable Development Goals (SDGs). For many people, sustainability just means the environment. However, many KPIs which relate to the UN SDGs included important targets for gender equality, participation, community outreach and so on. In total, World Sailing's targets contribute to 14 of the 17 SDGs. To complement the UN SDGs, the overall timeframe was matched at 2030; while some of the long-term targets were for 2030 there were plenty of earlier deadlines.

UNITING THE SPORT

Throughout the consultation process, it was clear there was a lot of support for the programme. While some targets were a little ambitious in terms of implementation timeframes, there were nonetheless many useful initiatives and tools that World Sailing could pursue easily. World Sailing did not reinvent the wheel: there were already many established national initiatives. And during the consultation, a number of sustainability professionals who also happened to be sailors got in touch to offer their services.

There were some understandable concerns that some targets would

result in higher equipment costs and affect participation. These were taken into account as one of the strategy's aims was to ensure participation costs stayed low. In total, over 70 countries responded as well as a mix of equipment manufacturers and officials in the sport.

RECOGNITION

Once the strategy was written, World Sailing went about achieving its first target: to become the first International sports federation to become ISO 20121 certified. This was an ambition which would also act as a starting framework for further sustainability work specifically related to events. Certification was achieved in January 2018 and World Sailing is audited every six months to ensure continual improvement. ●

PROTECTING FRESHWATER ECOSYSTEMS

FISA WORLD ROWING

Jean-Christophe
ROLLAND

FISA President

Jean-Christophe became President of FISA in 2014. He is an Olympic Gold Medallist in rowing and a member of the IOC Sustainability and Legacy Committee.



At World Rowing, we believe we have a responsibility to respect the freshwater resources that our sport depends on so heavily. Applying environmentally sustainable practice to water use and management has become a fundamental priority in our operations, and our rowers have welcomed the opportunity to actively contribute to our Clean Water movement.

CLEANING UP OUR WATERS

For the 1.1 billion people who currently have no access to safe, drinking water, and the 4 billion for whom WWF predicts it will be a scarcity by 2050, the effective management of freshwater resources is urgent. Most bodies of water are already under pressure from many different uses: whether by flora, fauna, industry, agriculture, for drinking water or by those who like to row.

Rowing is a water sport, entirely dependent on an adequate supply of safe water, and so rowers have good reason to be part of the "Clean Water movement". On the one hand, our sport depends on it; on the other, we cannot be selfish in its use. As a sports federation, FISA believes that we have a responsibility to apply environmentally sustainable practices in the use and management of water for our sport. Beyond this, we must also reach out through our communities to encourage others to do the same. Sport can use its brand to influence people and FISA has decided not to just take part in the debate, but to take a leadership position.

JOINING FORCES WITH WWF

World Rowing's partnership with WWF started in 2011. We wanted to draw on expert advice to support our commitment to clean water and help engage global audiences beyond sport. With more than five million supporters and a network active in more than 100 countries across all continents, WWF runs about 1,300 projects around the world in support of its mission to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature. Working to protect freshwater ecosystems and improve water access, efficiency and allocation for people and the environment is one of WWF's main priorities; showing significant overlap with our mission and the reason behind our partnership.

The partnership is based on a sharing of skills and opportunities across the two organisations. World Rowing gets help to ensure its policies, operations and events minimise their impact on the planet, and WWF gets to use rowing events and athletes to reach new audiences with freshwater conservation messages and demonstrate how other sports can become more sustainable.

Through the relationship, WWF experts and World Rowing's Environmental Working Group revised and evaluated World Rowing's Environmental



Sustainability Policy & Guidelines, and improved the criteria used in the bidding and evaluation process at all World Rowing events. Good practice guidelines for the boathouse have been developed to help local clubs minimise their impact on the bodies of water they depend on.

Furthermore, WWF has used World Rowing's global communication platforms to reinforce key WWF fresh water messages and raise awareness. Both organisations have enabled local activation initiatives at elite rowing events by collaborating with local WWF offices and Local Organising Committees.

A number of European WWF offices have taken advantage of this opportunity at recent events, including World Rowing Cup events in Poznan, Belgrade, Bled and Lucerne. Typically, the activation is based around an information tent with interactive displays, giveaways and appearances by the WWF Panda.

STEPPING UP EFFORTS TO PROTECT OUR PLANET

This year, World Rowing became the first international sports federation to support WWF's 'Together, Saving Our Shared Heritage' campaign to help protect natural World Heritage sites around the world – the 'crown jewels' of conservation. In January 2018, World Rowing made a formal pledge to the UNESCO World Heritage Centre that it would ensure that its rowing events and operations would cause no harm to natural World Heritage sites

In another exciting development for the partnership, World Rowing committed to engage the rowing community to raise funds for a unique global conservation project. WWF, World Rowing and IHE Delft, the UNESCO institute for water education, have come together to design and develop an education and conservation centre on the Kafue River in Zambia, part of the Zambezi basin global priority freshwater area for WWF. This project aims to create a multi-purpose facility for water management research and education on the river, while also developing rowing in southern Africa. Through this project, the global rowing community are making a genuine difference to water management in the region.

The World Rowing-WWF partnership is a powerful match, sending rowers and spectators a message about the need for sustainably-managed freshwater resources. The partnership has inspired rowers, national federations, rowing clubs and the public to work towards safeguarding their local freshwater environments. WWF's support and expertise helps to facilitate World Rowing's sustainability activities and reinforces the federation's positive image. ●

THE COUNTRIES AND CITIES CHAMPIONING SUSTAINABILITY

LONDON & PARTNERS

Iain
EDMONDSON

Head of Major Events
at London & Partners.

London & Partners is a member organisation of the International Association of Event Hosts (IAEH). IAEH exists for representatives of international destinations to collaborate together to generate the best possible value from hosting major sporting and cultural events.



Hosting a major sporting event is not only a privilege but a responsibility. A responsibility to entertain the spectators, support the athletes and uphold the integrity of the sport. The International Association of Event Hosts also recognises hosts' responsibility to manage the environmental impact of such events.

The first priority for any host city hoping to reduce the environmental impact of its event is to create an action plan that engages all the major people and organisations concerned. A commitment to greening the event can have many positive effects for the city, notably by creating a sustainable legacy, raising attendee awareness and inspiring change.

Running a sustainable event also helps save another type of green: money. Green choices translate into lower water and energy bills, and alleviate waste disposal costs. If communicated effectively, visitors will save money when applying these sustainability lessons to their own lives once they leave the event. It might include more carpooling, adjusting thermostats or switching to energy efficient lights.



Green events also benefit local communities: they will have new infrastructure and see boosts to local businesses from visitors. The key to this, and doing it sustainably, is long term infrastructure. For example, instead of simply diverting waste, authorities could construct a composting or recycling centre. Instead of building stadia for one-time use only, they could consider local clubs and programmes that could use the facility in the future.

PLANNING

Identifying stakeholders is an integral part of the planning process. The key stakeholders are the venue owners, the local government and regional tourism operators. Other important groups, frequently overlooked, include the local community, media and broadcasters.

The next phase of the planning process is assessing the environmental impact and determining the scope. It's impossible to address every environmental issue, so stakeholders need to focus on the ones they can control.

Finally, it's time to plan. A good plan will include an overview of the event, potential environmental impacts, objectives and ways to measure success. Plans should also promote a legacy - so thinking long term is essential.

**GREEN CHOICES
TRANSLATE INTO
LOWER WATER AND
ENERGY BILLS, AND
ALLEVIATE WASTE
DISPOSAL COSTS.**



**BEFORE, DURING AND AFTER
THE EVENT**

- Before the event, the main aim is to implement the action plan. This includes communicating successes and monitoring shortcomings.
- During the event, engage visitors through signage and announcements. Draw as much attention as possible to the hard work that has been done!

Organisers should also collect key data to measure their success.

- After the event, review the plan and receive feedback. Be sure to provide feedback to the stakeholders as well. Finally, communicate the result while assessing and promoting the legacy of the event.

**LONDON & PARTNERS' IAIN EDMONDSON TALKS ABOUT
ATTRACTING AND PLANNING SUSTAINABLE EVENTS IN LONDON****How long has London & Partners had a Major Events team?**

The team was set up just over a decade ago, after London won the bid for the 2012 Olympics. Sporting events have always been at the heart of the team's operations, and we're proud of our achievements in attracting some of the world's biggest sporting events.

What are the potentially adverse effects of major events on the environment?

We're always conscious of the potentially negative impact of major events on the environment. But there's a big difference between being conscious of these effects and proactively addressing the issues.

As an economic development organisation, we try to capitalise on the positive impacts that major events can have on the city. Venues,

stadium owners and local authorities are often more closely aligned with environmental issues. We feel that there is room for event organisers to engage more with greening initiatives and to further integrate sustainability into their agenda.

Are you seeing an increased focus on the environmental impact for event hosts?

As hosts, we're always looking to build on previous successes, and environmental success is no exception. We recently released a report on the impact of the London 2017 IAAF World Championships, which includes an environmental assessment highlighting achievements and improvement areas. Waste management, sustainable transport and food supply are always high on the agenda. In

the 2017 championships, we had a 63% recycling rate by weight and 100% diversion from landfill. Less than 10% of the spectators used a car, motorcycle, taxi or plane, with an estimated one million visitors using public transport. The Co-op partnership also ensured 100% sustainable British catering, while Stadium Island kiosks promoted their eco-label accreditation.

Can sporting events help raise public awareness of sustainability issues?

Yes. Events increasingly encourage spectators to make sustainable choices, whether that be through waste management, sustainably-sourced food or transport. During the 2017 IAAF World Championships, 59% of fans used reusable water bottles at the venue's refill stations. Simple strategies can often have a big impact on awareness.

**AS HOSTS, WE'RE
ALWAYS LOOKING TO
BUILD ON PREVIOUS
SUCCESSSES, AND
ENVIRONMENTAL
SUCCESS IS NO
EXCEPTION.****Can greening efforts be an added value to market a city as a potential destination?**

In the bid and preparation for the London 2012 Olympics, we saw sustainability as an area of opportunity and strength. The event left a lasting social, economic and environmental legacy and set a benchmark for other major events. The International Standard ISO 20121, which specifies the requirements for an Event Sustainability Management System,

was essentially born out of the 2012 games. Since the 2012 Games the city government has made further improvements to how it manages sustainability, embedding good practice at a more local level. Hosts have a responsibility to ensure cities are better off after the event, and a wider responsibility to reduce the event's environmental impact. Regardless of the type of event in the future, that should be the precedent. ●

PUTTING SUSTAINABILITY AT THE HEART OF THE SPORTING GOODS INDUSTRY

FESI

Jérôme
PERO

FESI Secretary General

Jérôme Pero joined FESI in 2007, becoming Public Policy Director in 2015. He is also a member of the European Commission's Advisory Board to improve economic and policy knowledge in the field of sport-related industries. As FESI Secretary General, Mr Pero oversees advocacy planning and strategy, and coordinates the activities of working committees, including the Committee for Sustainability.



The Federation of the European Sporting Goods Industry (FESI) and its members have made sustainability one of the core values of their work. Sporting goods today are designed, produced and distributed with a sustainable economy in mind. FESI is committed to promoting sustainability through a number of initiatives aimed at fair and responsible supply chain and design processes.

FESI was founded in 1960 and represents the interests of about 1,800 sporting goods manufacturers through its 11 national sporting goods industry federations and its directly affiliated member companies. About three-quarters of FESI's membership is made up of small and medium-sized

enterprises. Over 650,000 people work in the European sporting goods industry, which has an annual turnover of some €66 billion.

FESI is actively engaged in supporting a sustainable sporting goods industry. We encourage exchanges of environmental best practices and knowledge between different stakeholders including brands, retailers, national associations and special groupings. Most of these are launched through FESI's corporate social responsibility committee. We are serious about sustainability, not just through our own initiatives but also through the work of our members, who understand the growing relevance of promoting a sustainable economy and world.

CROSS INDUSTRY AGREEMENT TO STOP MICROPLASTICS

FESI works with other organisations to build coordinated approaches to various fragmented sustainability initiatives. One of these initiatives is the Cross Industry Agreement to prevent

TECHNOLOGY PLAYS A CRUCIAL ROLE IN OUR INDUSTRY, ALLOWING US TO SERVE ATHLETES WHILE RESPONDING TO CONSUMER TRENDS AND EXPECTATIONS.

the release of microplastics into the sea when synthetic textiles are washed.

If microplastics enter the ecosystem, they pose a serious risk to human and animal health. The Cross Industry Agreement commits the signatories to identify and quantify the types of microplastic present in water and in the environment. It has three goals:

- ▶ to share knowledge and define common research priorities;
- ▶ to fill knowledge gaps and advise on mid and long-term measures;
- ▶ and, to support and participate in industrial research activities aimed at addressing this global problem that can potentially affect billions of people worldwide.

In the first half of 2018, FESI and the other associations will map ongoing research and discuss potential cross-industry collaborations. By the end of 2018, we aim to present the European Commission with a proposal on how

to identify and quantify sources of microplastic pollution.

INDUSTRY'S PRIORITIES FOR A SUSTAINABLE FUTURE

The sporting goods industry has a long history of resource efficient solutions. It continues to invest in innovative solutions to sustainability. Indeed, technology plays a crucial role in our industry, allowing us to serve athletes while responding to consumer trends and expectations. Innovation and performance are at the core of product design: we prioritise environmental issues, with new, sustainable design processes. Resource efficiency is now an intrinsic component of innovative product design, notably with production methods that reduce waste.

The sporting goods industry also has a solid record of involvement with stakeholder platforms like the International Labour Organisation (ILO) and the Organisation for Economic Co-operation and Development (OECD). The industry is actively engaged in many public, private and national initiatives such as the Sustainable Apparel Coalition (SAC), Ethical Trading Initiative, the Fair Labour Association

(FLA), The Fair Wear Foundation, the Better Cotton Initiative (BCI) and Zero Discharge of Hazardous Chemicals (ZDHC), just to name a few.

In addition, most sporting goods companies have private compliance initiatives to audit the social performance of their suppliers and foresee and mitigate labour rights violations in their supply chains. The industry works hard to address these challenges and identify adverse human rights impacts in their supply chains.

The industry has come a long way, but there is still room for countless more sustainability initiatives. We at FESI are actively pushing these new initiatives. One example is the collaboration between the German Federal Association of Sport Article Industry (BSI) and Kuratorium Sport & Natur, an organisation that promotes sports while protecting natural habitats. The European Outdoor Group, another FESI member, founded the European Outdoor Conservation Association (EOCA), which funds grassroots projects aimed at making a tangible difference to threatened species and habitats.



A SPACE FOR INNOVATION

SPORT ENTERTAINMENT'S POWER TO SAVE OUR OCEANS

SKY

Fiona
BALLHead of Responsible
Business, Sky

Fiona Ball is Head of Responsible Business at Sky, Europe's leading media and communications company. She leads the Group's work on the environment (from reducing the company's impact on the environment to ensuring its product and services are sustainable), child safety, access services and responsible sourcing.



At Sky, we believe that what we do goes beyond the confines of our business operations. We strive to be a responsible business and produce lasting and purposeful change. Ten years ago, Sky became the world's first carbon neutral media company. Sky Rainforest Rescue, launched in 2009, raised more than £9 million to help keep the Amazon rainforest standing. With Sky Ocean Rescue (SOR), we are tackling one of our planet's greatest environmental challenges today: ocean plastics.

Every minute, the equivalent of a rubbish truck load of plastic goes in to our oceans. It never decomposes and will remain there forever. If nothing changes, by 2050 the plastic in the ocean could weigh more than all the fish.

Launched on January 24, 2017, Sky Ocean Rescue is shining a light on ocean health. At the 2017 Our Oceans Conference in Malta, we committed to three initiatives for the good of our oceans:

- Transform business operations to become single-use plastic free by 2020;
- Launch a £25 million 5-year innovation fund to invest in innovation, technology and new ideas;
- Partner with WWF to safeguard over 400,000km² of Marine Protected Areas across Europe's oceans.



ACTIVATING OUR SPORTS AND ENTERTAINMENT PLATFORMS TO ACHIEVE LASTING CHANGE

At Sky we deeply believe in our actions and the shared responsibility of businesses to lead by example. By removing throwaway plastic water bottles and providing every employee with a refillable bottle, we have saved approximately 450,000 plastic bottles in a year.

However, our ability to engage directly with our audiences provides us with a unique opportunity to leverage their passion for sport and entertainment to help protect and safeguard the things we care about. Thanks to our extensive coverage across all digital outputs, including social media, we are engaging with millions of sports fans worldwide to raise awareness of the dire health of our oceans, inspiring people to make small everyday changes that collectively make a huge difference.

SKY: OFFICIAL RACE TEAM AND MEDIA PARTNER OF 'TURN THE TIDE ON PLASTIC'

As part of our commitment to use our experience in innovation, entrepreneurship and harnessing capital to help reduce the amount of plastic waste in the ocean, Sky has partnered with Turn the Tide on Plastic, a team competing in the round-the-world Volvo Ocean Race. The team is also a partner for the UN Environment's 'Clean Seas' campaign. This collaboration took the campaign and its message to over 3 million race visitors in 12 countries, and millions more around the world.

Led by the race's only female skipper, veteran British sailor Dee Caffari MBE, Turn the Tide on Plastic uses on-board data gathering equipment to measure water quality and composition, as well as micro-plastics in some of the world's most remote oceans.

CAPITALISING ON SPORT'S UNIVERSAL REACH: THE KIA OVAL TEST

Sky has partnered with many high-profile sporting events to raise awareness of ocean health in audiences worldwide. In July 2017, Sky teamed up with the KIA Oval to help the world-famous cricket ground reduce the amount of single-use plastic consumed during the 100th historic Test.

20,000 reusable branded water bottles were distributed to fans, hospitality, VIP and media

20 SOR branded free water points were set up throughout the venue

60% less plastic bottles were sold compared to the same event last year

On air, the Sky Sports Cricket channel dedicated parts of its test coverage to highlighting the impact plastic is having on our oceans by showing Sky News reports on the issue. Sky Ocean Rescue became an editorial focus and backdrop to the coverage, with 8.2 million viewers reached across all of Sky's news and sport channels.

THE POWER OF SPORT ENTERTAINMENT TO INSPIRE CHANGE

As one of the biggest entertainment and media companies operating in the sport world, Sky knows it has the power to inspire real change. Our strong social media presence has been a true driving force in the Ocean Rescue campaign. We have made nine million people aware of the issues of ocean health and engaged over six million social media users.

Twitter content posted by @SkySportCricket during the KIA Oval campaign gained an impressive 2.5 million impressions and 250K video views. Dedicated journalists provided daily SOR branded Facebook lives from the event, averaging 50K views each. The hero video illustrating the amount of rubbish dumped in the ocean in the time it takes for England to bowl one over reached 120k social media users.

Sky celebrated one year of Ocean Rescue with the #PassOnPlastic social media campaign, encouraging people worldwide to let us know how they're passing on single-use plastic and educating audiences on how small changes can make a big difference to our planet. The campaign reached over 148 million people worldwide with many high-profile faces from the world of sport and entertainment supporting the campaign

Sky recognises the tough decisions and complex challenges ahead in the fight to rescue our ocean. We will continue to engage our broadcast partners, CTV, Hawkeye, Telegenic and Broadcast RF, who have already bought all their staff reusable water bottles and insulated mugs. We want to continue our strong history of taking the lead on environmental issues, inspiring viewers and sports fans worldwide to take small steps that can make a real difference.

TAKING OCEAN RESCUE TO TRACKS, FIELDS AND ARENAS

Our latest Ocean Rescue initiatives include partnerships with the Aprilia Racing Team at the MotoGP weekend in Misano, and activation at the Leipzig handball arena in Germany. From cricket to motorsport to handball, Sky recognises how sport's unprecedented universal reach provides a valuable platform for mobilising fans, spectators, athletes and stakeholders to take action on ocean health. We are now looking to extend our initiatives in 2018 to other major sporting events to inspire even more impactful change among sport audiences worldwide. ●

AS ONE OF
THE BIGGEST
ENTERTAINMENT AND
MEDIA COMPANIES
OPERATING IN THE
SPORT WORLD, SKY
KNOWS IT HAS THE
POWER TO INSPIRE
REAL CHANGE.



PIONEERING SOLUTIONS FOR MODERN STADIUMS

FENWICK IRIBARREN

Mark FENWICK

Senior Partner at Fenwick
Iribarren Architects

Mark Fenwick and Javier Iribarren lead one of the world's most active boutique sports design architect firms. It has been awarded three of the eight stadiums to be built for the Qatar 2022 World Cup.

FENWICK IRIBARREN ARCHITECTS

Major sport venues are the modern era's cathedrals. They are focal points for the hopes and dreams of multitudes, and iconic landmarks for their communities and cities. But they can also be expensive, resource-intensive constructions that blight the neighbourhood. It is particularly the case for the Olympics, where stadiums can fall into disuse after the event. This cycle leaves an ugly legacy in local communities and host cities. But there are alternatives. At Fenwick Iribarren Architects, we are pioneering a new way, that is both sustainable and environmentally conscious for hosts and rights owners.

At Fenwick Iribarren Architects, we want every stadium we build to be a catalyst for the local community. If stadiums are modern cathedrals, places of passion and devotion in sport, then they need to service and further the community.

Our design for the RCD Espanyol stadium in Barcelona's Cornellà district embraced sustainability. It is an economically sustainable stadium built for just over 1,500€ per seat in an era where some stadium constructions are sending clubs into bankruptcy.

We planned the stadium with sustainability in mind. We built a system to massively reduce water consumption, the largest solar panel farm on the roof of a building in Europe, and tinted glass facades allowing daylight to enter and reduce energy consumption within. We only used locally produced materials, with a low carbon footprint.

However, one of its best features is that it has become a true community catalyst. The building interacts with

the people around the stadium, the landscape provides public realm space for the people of Cornellà, and the stadium offers space for local clubs, families and businesses. The stadium was named Best Sports Venue of the Year at the 2010 Stadium Business Awards.

THE BIG IDEA

Major events are an amazing opportunity for hosts to showcase why they were chosen. With millions of eyes on their city for just a short time, they often feel the need to make massive expenditures. If this is done without proper planning, it can have hugely adverse effects on a local economy. This was evident for the Olympic Games in Athens and Rio as well as for the FIFA World Cup in South Africa and Brazil.

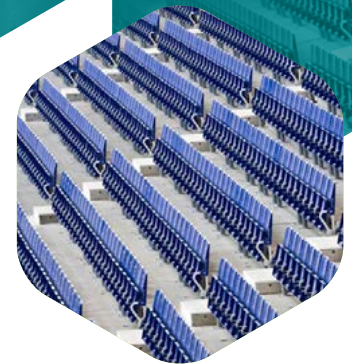
Even if hosts can fund the construction, they more often than not erect structures that are severely

underused once the event has left the host city. These white elephants leave a negative legacy, especially in poorer communities where the money is severely needed elsewhere.

Fenwick Iribarren Architects, assisted by Schlaich Bergermann and Partners as structural engineers, and Hilson Moran as mechanical, electrical, and plumbing (MEP) engineers, have developed a unique scheme to resolve the legacy of the event. It is a truly ecological and economically sustainable solution.

CREATING AN ECO-FRIENDLY STADIUM

It is not enough to simply consider what goes on inside a venue. Reducing dependence on non-renewable energy, striving for zero waste and conserving water at a



**WE ONLY USED
LOCALLY PRODUCED
MATERIALS, WITH
A LOW CARBON
FOOTPRINT.**



venue are all noble causes, but we can think bigger.

We also think about the location where the stadium is built. Sometimes, we even question whether a stadium should stay where it is built. We design stadiums that are not only easier to maintain, more sustainable and cheaper, but can also be transported wherever they are needed most.

There is clearly room for huge ecological and economical savings in temporary structures. Whether it cuts the environmental burden of transport by moving the stadium to the fans, reduces the financial and ecological costs of construction or limits urban sprawl, transportable stadiums have a lot of potential.

OUR DESIGN

Transportable stadiums are not a new idea. Travelling circuses follow the same principles. The beauty of it is the ability to move to where the

opportunity is and thus where the money is. They can also leave the land untouched, allowing it to be repurposed for the local community.

Transportable stadiums reduce the environmental impact and employ sustainable practices as well.

These temporary venues conserve resources while avoiding unnecessary foundation and façade construction. The assembly of the stadium produces far less carbon emissions than a normal build.

This was our starting point when we looked for a strategy to develop ideas for a stadium that could be relocated, moved or even restructured in much smaller building types. We started with the invention that has made shipping costs almost obsolete in modern society: shipping containers.

Everything from shops to skyboxes and toilets are carried in shipping containers. This minimises surface area, and directly reduces energy

expended. The use of water is also drastically reduced as no portion of the construction requires water. While reducing the unnecessary frills in the façade of the stadium, the cost is approximated at about half that of a permanent stadium that size.

LEGACY

The ultimate legacy is that the land is available again once the stadium has served its purpose. The stadium is packed up and either moved to its next home or sold off piece by piece to be incorporated into smaller constructions. While property values continue to rise, the land is free for something else - or even left as open space.

FROM IDEA TO REALITY

All three of the stadiums that Fenwick Iribarren Architects have been awarded for the 2022 FIFA World Cup Qatar will be deconstructed after the event in some way. The purpose is to serve

TRANSPORTABLE STADIUMS REDUCE THE ENVIRONMENTAL IMPACT AND EMPLOY SUSTAINABLE PRACTICES AS WELL.

the local community as well as soften the ecological and economic impacts mentioned above.

The plans for the Ras Abu Aboud Stadium are the most ambitious. It will be completely dismantled and repurposed after the tournament. The shipping container-based design will allow for the parts to be used in other sporting and non-sporting projects across the world, creating a new standard in sustainability. Minimising construction costs and

ensuring regular future use are the keys to making a sustainable new stadium.

Dismantling the stadium will make space for a waterfront development for the local community. It can be an example for the next generation of stadium developers and tournament planners. ●

CUTTING COSTS AND CARBON FOOTPRINTS AT THE MERCEDES-BENZ ARENA

AEG

Sunny
SOHRABIANManager of Environmental
Sustainability Programmes
and Initiatives

Sunny works with AEG's worldwide portfolio of venues, festivals, sports teams, and other operations to measure and reduce the company's environmental impact and to implement new environmental initiatives. Sunny oversees AEG's corporate sustainability communications, including the production of AEG's annual sustainability report.



AEG's Mercedes-Benz Arena in Berlin is home to the seven-time DEL Champions, Eisbären Berlin. It hosted 142 events and nearly 1.2 million guests in 2017, and made environmental sustainability a priority when it first opened in 2008.

OPERATIONAL EFFICIENCY: A LONG-TERM PRIORITY

In 2013, the Mercedes-Benz Arena in Berlin worked with its sponsor, founding partner and energy supplier, GASAG, to install a natural gas-powered cogeneration plant on its roof to reduce its greenhouse gas emissions and boost its energy efficiency. The plant produces 90% of the facility's energy and heat needs, and has shaved the peak energy load by about 400 kW. It is cutting Mercedes-Benz Arena's GHG emissions by an estimated 570 metric tonnes annually, which is equivalent to taking about 120 vehicles off the road. The plant has also strengthened the Arena's relationship with GASAG, and opened the door to more potential GHG-reducing projects.

One of these projects was the installation of new absorption chillers between 2015 and 2017. By replacing the three existing compression chillers

WORKING WITH GASAG, THE ARENA FOUND A WAY TO BE SUPPLIED WITH CLIMATE NEUTRAL ENERGY WITHOUT RAISING ENERGY COSTS.

that provide cooling for the ice surface in the arena, the venue reduced its energy load by 40%.

DRIVING BUSINESS VALUE THROUGH SUSTAINABILITY

As of January 2018, the Mercedes-Benz Arena bought Renewable Energy Credits (RECs) to zero out the carbon emissions associated with its purchases of electric power. The arena's energy is sourced through hydroelectric plants in northern Europe and is certified with the RenewablePlus label by TÜV Rheinland. Natural gas emissions will be offset with ÖkoPlus credits to support a hydroelectricity project in Malana, India.

Both measures will further reduce the Arena's carbon footprint. Working with GASAG, the arena found a way to be supplied with climate neutral energy without raising energy costs.

In addition to going carbon-free in 2018, the arena has pushed other

sustainability initiatives in recent years. As part of its Earth Month activities in 2016, it partnered with a local non-profit organisation, City Bees e.V., to install two bee colonies on its roof. The colonies are cared for regularly by an expert beekeeper and any harvested honey produced by the bees is packaged and given to staff members and partners.

Director of Human Resources Astrid Grimlitz says the Arena recognises the impact pollution can have on the environment, including the bee population. "We are worried about the worldwide decline of bee colonies. With the great variety of trees and plants around our venue and the proximity of the river, our roof offers ideal conditions for bee cultivation," she says.

COMMUNITY ENGAGEMENT

While the Mercedes-Benz Arena focuses heavily on operational efficiency, it also communicates these projects to the public and to engage its guests. The team is always looking for ways to raise sustainability awareness amongst the millions of spectators who visit every year, from features like GASAG Energy World, to showing visitors their own body heat with a thermal camera, or even celebrating annual environmental campaigns like Earth Hour.

Mercedes-Benz Arena and Mercedes Platz are a part of parent company AEG's global network of sports and entertainment venues which includes the O2 Arena in London and Stockholm Live. In 2016, AEG updated its 2020 Environmental Goals to include a science-based target for GHG emissions reduction and a 70% waste diversion minimum across its global operations.

Michael Hapka, the General Manager of the Mercedes-Benz Arena, says the team is always seeking to improve. "We will continue to explore ways to further reduce our environmental footprint," he says. ●

**THE TEAM IS ALWAYS
LOOKING FOR WAYS TO
RAISE SUSTAINABILITY
AWARENESS AMONGST
THE MILLIONS OF
SPECTATORS WHO VISIT
EVERY YEAR.**

ON TRACK FOR SUSTAINABILITY

KISS MUGELLO

Paolo
POLI

Managing Director,
Mugello Circuit

Since 2009, Paolo is Managing Director of the Mugello Circuit (property of Ferrari S.p.A). Under his leadership, the circuit has achieved some of the best environmental and safety awards for the motorsport sector.

KISS Mugello
Kiss the planet

Environmental protection is a challenge for all major sporting event organisers, but particularly in motorsport where air pollution, waste management and power management can be major concerns.

The exceptional location of the Mugello circuit, nestled in the Tuscan hills, prompted organisers and stakeholders to engage in a sustainability programme to preserve the beauty of the track's surroundings, safeguard its resources and manage the waste generated by events.

TAKING THE LEAD ON SUSTAINABILITY

The Mugello circuit was built with sustainability in mind. The track boasts a 252 kWp photovoltaic plant which accounts for 20% of the circuit's energetic needs. The main grandstand has an eco-active and antibacterial ceramic coating that can degrade air pollutants. After motor sport's governing

body, the Federation Internationale de l'Automobile (FIA), audited procedures at the Mugello Circuit, it became the first motor racing track to be awarded the highest level of accreditation – Achievement of Excellence – in the FIA's Sustainability Programme.

The FIA Sustainability Programme helps motorsport stakeholders worldwide calculate and improve their environmental performance. The programme's clear environmental management guidelines give stakeholders a framework to measure their activities.

KISS Mugello began its journey at the 2013 MotoGP Italian Grand Prix with the support of Yamaha Motor Racing, Mugello Circuit and the FIM (Fédération Internationale de Motocyclisme), in agreement with DORNA (international promoter of MotoGP) and IRTA (International Road Racing Teams Association). The programme takes environmental sustainability further by encouraging the wider motorcycling community, from riders to spectators, to take action on sustainability.

ENGAGING TEAMS, INSPIRING SPECTATORS

In 2017 KISS Mugello implemented a range of strategies to engage not only teams and riders, but also fans and spectators, in sustainability initiatives:

- Information desks were placed inside the paddock and audience areas to raise awareness of sustainability.
- A waste sorting guide printed with bio-based ink on 100% recycled paper was given to spectators and operators.
- A total of 20,000 recycling kits containing biodegradable and compostable bags were distributed.
- Used motor oil, cooking oil and battery collection points were set up.
- 120 drinking fountains were placed in the circuit to reduce plastic waste.

To generate interest online, pictures of spectators, guests and VIPs with promotional banners were shared on KISS Mugello's social media channels to encourage fans to take action on sustainability. The programme's promoters, supporters and partners have a combined social media reach of over 30 million potential users, making it a powerful platform for raising awareness. Social media

promoted the sustainable mobility plan and encouraged spectators to use public transport or carpooling to get to the circuit.

GETTING THE INDUSTRY ON BOARD

KISS Mugello has had a huge impact in the motorcycling world and beyond, inspiring other important events such as the US Grand Prix with KISS COTA (Circuit of the Americas), the Aragon Grand Prix with KISS MotorLand, the Catalunya Grand Prix with KISS Barcelona, and finally the Grand Prix of San Marino and Riviera di Rimini with KISS Misano.

Other motorsport disciplines have also got on board, including

speedway with KISS Tampere, trial with KISS Andorra, and enduro with KISS Navarra. The KISS programmes are part of the FIM Ride Green Programme.

ACHIEVEMENTS

The KISS Mugello programme went even further in 2017, recycling more waste and collecting more food surplus than ever before.

Its goal is to build on these achievements and leave a lasting environmental and social legacy. By safeguarding the outstanding natural beauty of the Mugello circuit's environment, the programme is inspiring key stakeholders from the entire motorsport industry. ●

RECYCLING MORE WASTE & COLLECTING MORE FOOD



FOOTBALL BEYOND THE FLOODLIGHTS

VFL WOLFSBURG

Nico
BRISKORN

Head of Corporate Social
Responsibility (CSR) at VfL
Wolfsburg

Nico oversees the development and strategic implementation of 'Moving Together', VfL Wolfsburg's Corporate Social Responsibility initiative, as well as the preparation and publication of VfL Wolfsburg's sustainability report. He is a member of the DFL Foundation's Working Group for Corporate Social Responsibility and the European Club Association's CSR Task Force.



Football needs sustainability. Sustainability, both social and environmental, is the key to long-term success in the game, and more clubs should embrace the principle.

Sustainability is a core value of VfL Wolfsburg's culture, with the German Bundesliga club setting ambitious targets to meet its environmental and social responsibilities. VfL Wolfsburg aims to go even further, encouraging others to join its sustainability mission: partners, suppliers and sponsors, not to mention fans. In 2012, VfL Wolfsburg became the first ever football club to publish a GRI-certified sustainability report, and by the time of its 2016 Sustainability Report, the club had already conducted a major stakeholder dialogue on the issue.

Modern football business models aim to hit three targets: optimal conditions for players, a thrilling stadium experience for fans, and the lowest possible impact on the environment.

For VfL Wolfsburg, this means that the efficient use of resources is just as important as scoring on the pitch.

VFL WOLFSBURG'S ECOLOGICAL FOOTPRINT

Sporting facilities consume resources and produce greenhouse gases. When teams, their support staff and fans travel, they also have an environmental impact. To address these challenges, VfL Wolfsburg has integrated five key guidelines into its corporate philosophy to ensure that environmental protection can become a viable part of everyday work.

There have been actions both big and small. The entire Volkswagen Arena football stadium, the office and the youth development centre have been using 100% green electricity since 2011. The club has switched to recycled paper. It uses motion detectors in the stadium instead of continuous lighting. It pays emission compensation for the shipping of fan merchandise. And it waters the training grounds with grey water from the nearby Mittelland Canal. Fans are also given an ecological "Tüte" bag made of recycled, unbleached and



WE WANT TO SET A HOLISTIC EXAMPLE IN OUR APPROACH TO SUSTAINABILITY. PROTECTING THE ENVIRONMENT AND THE CLIMATE HAS BEEN AN IMPORTANT PRIORITY FOR US FOR MANY YEARS. TOGETHER WITH OFFICE EMPLOYEES, WE REGULARLY ASSESS THE POTENTIAL FOR IMPROVEMENT IN VARIOUS AREAS AND SET AMBITIOUS GOALS FOR THE FUTURE

Tim Schumacher, Managing Director,
VfL Wolfsburg



compostable paper instead of a plastic bag in the fan shop.

Efficiency is crucial in making improvements. In addition to reducing carbon emissions by 25% by 2018, a figure determined every two years in a comprehensive analysis of the club's carbon footprint, the share of sustainable merchandising products will be raised.

There are two particular examples of how VfL Wolfsburg's innovation plays a crucial role in its sustainability:

LED PITCH LIGHTING SHINES ON ENVIRONMENTAL PROTECTION

VfL Wolfsburg is the first German football club to use connected LED pitch lighting from Philips Lighting for its stadium. The conversion was part of a five-year roadmap in which the whole club was converted to LED. The process took about 4,000 hours, during which 216 LED floodlights were installed and 16 km of cables were laid. The lifetime of LED lamps is 50,000 hours, compared to 3,000 hours for conventional lamps. The lights can also be switched on and off quickly and dimmed, which saves energy and brings further environmental advantages. LED lights also attract and kill fewer insects. The Volkswagen Arena is also the first Bundesliga stadium to fully convert its floodlights to Philips LED technology.

UPCYCLING MAKES ZERO WASTE POSSIBLE

The club's own upcycling collection, Wölfe RE // designed, is based on the earliest VfL Wolfsburg football shirts. From reversible bags to shirts and tops, each piece of clothing is unique and hand-made by disabled people from Lebenshilfe Wolfsburg. By using old clothing and materials to create new products, VfL Wolfsburg expects that as little as possible is thrown away. Creativity and enthusiasm have transformed old football strips into new clothes, rucksacks, jackets and a great deal more.

LEADING THE WAY FOR THE BUNDESLIGA

The club's achievements were acknowledged in a recent study by the Institute of Market-Environment-Society (Imug institute): VfL Wolfsburg occupies the top position amongst Bundesliga clubs in 13 out of 15 categories. With a sustainability index of 93.5 points, the club won the German Sustainability Championship by a wide margin and is the most sustainable German Football Club. ●

EVEN SMALL DETAILS, WHEN RIGOROUSLY IMPLEMENTED, CAN BRING ENORMOUS EFFICIENCY IMPROVEMENTS. WE AIM TO HARNESS THESE EFFECTS

Maik Rummel, Head of Facility
Management, VfL Wolfsburg

AN INDUSTRY LEADER IN SUSTAINABLE BROADCASTING

BBC SPORT

Jeremy
MATHIEU

Sustainability advisor,
BBC

Jeremy helps TV production teams to reduce their environmental impact, editorial teams to engage audiences on sustainability issues, and international film and TV communities to access albert UK's tools and experiences in building a more sustainable TV industry.

BBC SPORT

Major sporting events take a heavy toll on our environment, putting a strain on local water supplies, energy sources and transport networks. But how often are the adverse environmental impacts of event broadcasting taken into consideration? An average 13 tons of CO2 is emitted for each hour of TV content produced in the UK, meaning that broadcasters are under increasing pressure to propose innovative solutions to make their coverage 'greener'. As an established industry leader in sustainable television production, the BBC believes broadcasters shouldn't be exempt from the conversation on sustainable practices in sports.

In 2017, BBC Sport brought the action from Wimbledon 2017, Sport Personality of the Year, the World Track Cycling Championships and the Aquatics World Championships live to our screens using Albert-certified production methods. This means everyone involved, from cast to kitchen staff, took steps to mitigate their impact on the environment.

EMPOWERING THE BROADCASTING INDUSTRY

Albert is a collaborative project governed by the British Academy of Film and Television Arts (BAFTA) that enables broadcasters to take action on environmental sustainability. Over the past seven years, the BBC has been actively developing tools now at the centre of the Albert scheme. These include the TV industry's best-known carbon footprint calculator, which has become a mandatory component of the commissioning process for both the BBC and Sky.



Albert also offers a certification programme based on an online points scoring scheme that rewards productions for implementing sustainable production techniques. This helps us embed best practice and standardise the approach to sustainability across the sector. Productions with the Albert Certification can add the logo to their credits end board so their efforts may be recognised.

Over 2,000 users from 300 companies are signed up to use the Albert Certification tools, meaning they have access to innovative ideas to help them adopt best practice. Albert's values are based on the three pillars of reducing the industry's carbon footprint, disseminating best practice in sustainable TV production and sharing values with all stakeholders. The programme is now available internationally through the albert UK consortium.

'GREENING' EVENT COVERAGE

How can broadcasters go about implementing this best practice? Albert provides a comprehensive list of tips and tricks covering everything

from transport to waste management to energy consumption. These range from simple tasks such as maintaining vehicles in optimum condition to keep them running at the highest efficiency, to more innovative strategies such as replacing shots taken from helicopters with shots taken from lightweight drones or using solar-powered golf carts and bicycles to get around on locations.

Getting the entire crew on board is also a priority, and the BBC is offering training to its staff on climate change and sustainability solutions. This is a key priority as we increase our ambition and commitment to sustainability.

THE BBC'S AMBITION

A specific Sustainability Strategy has been set out to focus on building awareness and skills, measuring impact, embedding best practice through the certification standard and engaging a wider range of stakeholders to promote more impactful change.

We have also set ambitious targets to lower our carbon footprint further in 2018. Not only will coverage of the Commonwealth Games and the Winter Olympics receive the Albert accreditation, but a home broadcasting base will be set in Salford rather than in Australia or Korea, enabling us to dramatically cut down on location based team sizes and carbon emissions.

We are proud to be at the forefront of the greening agenda in TV production, and some of our key achievements have been in sport broadcasting. Our goal, in a world often more focused on the green of a pitch than greening initiatives, is to do our part to make environmental sustainability a top priority for the sport industry. ●



ALBERT IS A COLLABORATIVE PROJECT GOVERNED BY THE BRITISH ACADEMY OF FILM AND TELEVISION ARTS (BAFTA) THAT ENABLES BROADCASTERS TO TAKE ACTION ON ENVIRONMENTAL SUSTAINABILITY.

HOW WE DROVE THE ISO STANDARD FOR EVENT SUSTAINABILITY

FORMULA E

Julia
PALLÉ

Sustainability manager at
the FIA Formula E Cham-
pionship

Julia Pallé is the sustainability manager at the FIA Formula E Championship, the Electric Street Racing series. She specialises in reducing the carbon footprint of the Championship and ensuring that they leave a positive impact on the cities they visit. Formula E is the first sport that inherently promotes sustainability, offering a solution to air quality issues in city centres.



The Formula E Visa London ePrix that took place in London's Battersea Park in July 2016 was more than just a sporting event, it was also the first Formula E event to implement the global standard for event sustainability, ISO 20121. This is a management system standard designed to help organisations in the events industry improve the sustainability of their activities, products and services. ISO 20121 outlines the building blocks of a management system that will help any event-related organisation become financially successful, more socially responsible, and reduce its environmental footprint.

Formula E aims to become a global leader in innovative entertainment, bringing electric street racing to city centres and finding solutions for climate change through a fusion of technology, sustainability and digital channels.

Electric street racing series epitomises sustainability. The Formula E Championship strives to be a sustainability leader and to further embed sustainability. We considered the social, economic and environmental impact of the 2016 Visa London ePrix at every stage of the event planning and management process, creating a culture of sustainability and showing continual improvement, not simply working through a checklist. The values of honesty, transparency, openness and trust are enshrined in the Formula E working culture.

Formula E has three main objectives: To reduce the overall CO2 emissions by 20% between the Formula E 2016 Visa London ePrix and the end of Season Six in 2020.

WALKING AROUND THE SITE, YOU CAN SEE THEY HAVE A LOT OF SOLAR PANELS. THEY ALSO POWER A LARGE AREA, WHICH IS IMPRESSIVE

To leave a long-lasting positive heritage on sustainability by implementing at least one Legacy initiative at each hosting city, from the 2016 Visa London ePrix Season Two onwards.

To improve communication with internal and external stakeholders, such as the Battersea Park and Wandsworth local community.

At the Formula E Visa London ePrix, we ensured sustainability principles applied across the event organisation:

- Formula E offered sustainable food options in the eVillage: vegetarian and vegan meals, locally sourced food, organic ingredients, biodegradable packaging, fair trade products, food that's in season and homemade meals.
- The eVillage food vendors completely offset their emissions via eForest projects in the UK.
- The cars used Formula E Glycerine Fuel, which is a revolutionary zero-emission fuel used for charging the cars at each and every single race.



- The event provided solar-powered charging points to the public.
- The FIA Formula E 2016 Visa London ePrix carbon footprint was entirely offset thanks to the partnership with multinational energy company Enel.

'ONE DROP' and the 'Prince Albert II of Monaco Foundation' are the Official International Foundation Partners to the FIA Formula E Championship. The proceeds raised from a live auction at the Gala Dinner were donated to these foundations. Since Season one, \$1.2 million was raised for a project in Guatemala, changing 37,000 people's lives through clean water access and sustainable living conditions.

STAKEHOLDER ENGAGEMENT

As part of its implementation of ISO 20121, Formula E created an online engagement programme. This let suppliers, sponsors, staff and the general public see feedback and ask questions about our sustainability policy, key issues, objectives, targets and the scope within which these activities will be applicable. Formula E worked with Julius Baer, TAG Heuer and LEED Screen Supplier to ensure sustainability targets were met. Spectators were quick to notice the organisers' commitment to progressive sustainability.

The electric street racing series measures and reports on its carbon emissions for every race in its Life Cycle Assessment, ensuring that all carbon emissions from the 2016 Visa London ePrix are offset. The future will involve pushing the boundaries of innovation and technology in order to create a more sustainable sporting and entertainment event series, leaving a legacy behind at each event that takes place.

Formula E plans to implement ISO 20121 by considering the social, economic and environmental impact of its events. The plan is to grow the scope of the programme, improving all three aspects of sustainability in the planning, event, and post-event stages of its races by certifying the entire FIA Formula E championship with ISO 20121. ●

**BECAUSE THERE IS
LESS POLLUTION AND
NOISE FROM THE CARS,
WE CAN WATCH RACING
IN THE CENTRE OF
A CITY, WHICH IS
REALLY UNUSUAL**

THE NORTH FACE: EXTENDING THE LIFECYCLE OF APPAREL AND FOOTWEAR

VF CORPORATION

Julian LINGS

Sustainability Manager,
The North Face,
Europe, Middle
East and Africa.

Julian is the Sustainability Manager for The North Face in the EMEA region, responsible for driving product environmental responsibility, as well as the brand's focus on conservation and outdoor participation.



From scaling the highest peak to scoring the winning goal, since its beginnings the sport industry has shaped, and been shaped by, the global apparel and footwear industry. At VF, sustainable improvements are the norm, not the exception. We embrace our responsibility to help lead the industry toward a more sustainable future.

The global apparel market is valued at \$3 trillion, and accounts for 2% of the world's gross domestic product (GDP). Almost 75% of the world's fashion market is concentrated in just four key markets; Europe, the US, China and Japan. Unfortunately, the clothing and textile industry is one of the most resource intensive and pollution inducing industries in the world. In Europe alone, 3.1 million tonnes of textile waste is sent to landfills or incinerators each year. That's nearly 7kg of textiles per person. Up to 95% of the textiles that are landfilled each year could be recycled. In a world of increasingly scarce finite resources, the need to address these challenges is immediate.

As a leading activewear and outdoor sports gear brand, The North Face takes this issue very seriously. The brand's heritage is built on a love for exploring the outdoors, and we are just as passionate about protecting it.

**THE BRAND'S
HERITAGE IS BUILT ON
A LOVE FOR EXPLORING
THE OUTDOORS, AND
WE ARE JUST AS
PASSIONATE ABOUT
PROTECTING IT.**

We're committed to creating responsible products – both in how we design them, and how long they last. Designing durable, high-quality products, using resources efficiently, sourcing materials ethically, and reducing waste, are all important parts of our overall stewardship of the environment. However, we know the problem of clothes going to landfill is getting increasingly more severe, and we want to do our part to solve this challenge.

We cannot stop people from growing out of their clothes, wearing through them or deciding that it's time for something new. However, we can help prevent worn clothes from ending up in landfills. Our "Clothes the Loop" programme allows consumers to drop off their unwanted clothing and footwear at The North Face retail and outlet stores. It doesn't matter what condition the clothes are in or what brand they are. The items dropped in our collection bins are sent to

a recycling centre where they are carefully sorted based on over 300 categories. They are then repurposed for reuse to extend their life or recycled into raw materials for use in products like insulation and carpet padding.

Clothes the Loop grew out of our commitment to reducing the environmental impact of our products at all stages of their life cycle, even those stages out of our direct control. Through the programme we hope to teach customers to think about the lifecycle of their purchases and how they can take simple steps to help protect our environment. Since we started Clothes the Loop in 2013, we've expanded the programme to over 150 stores in eight countries around the world. People have brought in over 30,000kg of clothing and footwear to The North Face across the world to be recycled and kept out of landfills. ●



**TOGETHER WE CAN
HELP PROTECT OUR
ENVIRONMENT,
AND OUR OUTDOOR
PLAYGROUNDS, SO WE
KEEP EXPLORING FOR
GENERATIONS TO COME.**

'TURNING THE TIDE' ON PLASTIC

VOLVO OCEAN RACE

Robin
CLEGG

Sustainability Communications
Manager for the Volvo
Ocean Race

Robin Clegg, Sustainability Communications Manager for the Volvo Ocean Race. Robin heads up global communications for the Volvo Ocean Race sustainability programme both internally, with partner organisations and key stakeholders, and with external media across a range of platforms. Robin communicates the need to eradicate single-use plastics, the move to a more sustainable future and the race's positive impacts and lasting legacy to help achieve these goals.



More than one million single-use plastic bottles are sold every minute globally. Scientists estimate that by 2050 there will be more plastic in the ocean than fish. By visiting a range of iconic cities, Volvo Ocean Race provides a powerful and unique global platform to explore the issues and solutions to this crisis.

Crossing some of the most remote oceans on earth, the seven teams competing in the 2017-18 edition of the Volvo Ocean Race have experienced the impacts of plastic pollution on the health of our oceans first-hand. We know we share the responsibility of cleaning up our oceans. That's why we have developed a sustainability programme.

CREATING A WORLDWIDE LEGACY THROUGH THE VOLVO OCEAN RACE

In collaboration with Founding Principal Sustainability Partner 11th Hour Racing, Principal Partner the Mirpuri Foundation, and our other main partners, Volvo, AkzoNobel, Bluewater, Stena Recycling and Ocean Family Foundation, Volvo Ocean Race has developed a robust Sustainability Programme. The programme is aligned to the Sustainable Development Goal number 14 Life Below Water and consists of three strategic tiers which aim to educate, innovate and leave a lasting legacy. By maximising our impact at host cities, minimising the footprint of our Race Villages and providing inspiration, we aim to play a part in offering solutions to this ocean crisis.

Interactive and immersive sustainability initiatives in our Race Villages educate and inspire some of the three million visitors, over the course of the race, to make changes in their own lives to

reduce their use of plastics. Visitors are also given the opportunity to sign the United Nations Environment's Clean Seas pledge.

By doing something as simple as installing water bottle refill stations, we can dramatically reduce dependency on single-use plastics. At our most recent stopover in Hong Kong, the Volvo Ocean Race Team achieved a 95% reduction in potential single-use hard plastics. This is what happens when we are able to effectively teach about avoiding unnecessary plastic.

ADVANCING THE SCIENTIFIC KNOWLEDGE OF OUR SEAS

Our Science Programme, supported by Volvo Cars, collaborates with the seven race boats to gather critical information on ocean health. This new information will help scientists get a better understanding of weather patterns and the impacts of climate change on our oceans.

The boats send 36 data points back to Race Control in Alicante every 10 seconds. This information includes temperature, barometric pressure, wind strength and direction. The data is then passed on to the National Oceanic and Atmospheric Administration and the European Centre for Medium Range Weather Forecasts.

The 'Turn the Tide on Plastic' boat is also measuring salinity, dissolved CO₂ and algae alongside groundbreaking tests for microplastic levels in the ocean. At the Auckland stopover, Team AkzoNobel became the second boat to be fitted with the testing equipment, doubling the amount of data we can collect and increasing scientific knowledge over a 7,600-nautical-mile leg. In early February, as the two boats sailed from Hong Kong to Auckland, they each launched drifter buoys into the ocean to capture data that will further scientist's understanding of our seas and climate.

ENGAGING STAKEHOLDERS THROUGH INNOVATIVE PLATFORMS

The seven Ocean Summits, at designated stopovers, are bringing together the worlds of sport, government, science and ocean advocates, to discuss innovative solutions to the global crisis of ocean plastics. By convening key stakeholders, we can inspire action to help turn the tide on plastic.

These platforms have already led to a range of announcements and collaborative initiatives from attendees. At the Ocean Summit in Alicante, the Spanish Government announced that it would be joining the UN Clean Seas Campaign. The Mayor of Alicante also announced an education campaign on plastic in all schools in the city. At the Cape Town Ocean Summit, the V&A Waterfront shopping centre, which welcomes 24 million visitors each year,

pledged to eliminate single-use plastic bags and bottles.

At the Hong Kong Ocean Summit, the Hong Kong Special Administrative Region (HKSAR) government committed to explore ways to reduce plastic. They also revealed plans for a \$HK20 million fund for upgrading plastic recycling facilities.

The Volvo Ocean Race Sustainability Education Programme gives young students the opportunity to discover the excitement of sailing and learn about plastic pollution and ways to protect our oceans. It is available in six different languages and is currently being used in 32 different countries by approximately 30,000 students. Thousands of children are also exposed to the issues and solutions during stopovers, with daily educational sessions in Race Villages.

The Sustainability Programme effectively communicates through the Race's digital channels, partner organisations and the global media, reaching an audience of millions every week.

A SUSTAINABLE FUTURE FOR THE VOLVO OCEAN RACE AND OTHER SAILING EVENTS LIKE IT

It is essential that the race builds upon the success of the Sustainability Programme. Therefore, Volvo Ocean Race is exploring ways in which the legacy of the race can be used as a template for future sailing and other sporting events. We will continue to contribute to a better understanding of the impact plastic pollution has on our oceans and potential human health, so that it may one day contribute to the solutions. ●



PART
04

BEYOND
EUROPE

GREEN TEAMS, OFFSETS AND FARMS SECURE A FUTURE FOR AMERICA'S PASTIME

MLB

Jason
KOBEDASr. Coordinator, Facil-
ity Operations; Major
League Baseball

Gordon EDES

Boston Red Sox team
historian

Jason works with Major League ballpark operators to promote best practices in ballpark operations, fan experience and sustainability.



A sport that requires blue skies, green grass and wooden bats takes a special interest in environmental sustainability. By prioritising recycling and offsetting at the All-Star Game and World Series, MLB shows fans their commitment to improving the environment.

For over ten years, Major League Baseball has been actively involved in sustainability efforts, implementing a variety of initiatives throughout each calendar year. As a new generation of fans fill American ballparks, what began as an effort to set an example in recycling, has progressed into an extensive programme involving legacy initiatives, carbon offsets, watershed restoration and renewable energy credits.

ALL-STAR AND WORLD SERIES GREEN TEAMS

Each year at the All-Star Game, MLB collaborates with participating universities to form an 'All-Star Green Team,' which helps encourage environmental awareness and positive environmental practices by collecting recyclables at ballpark and community events. In preparation for their participation at the All-Star Game and its surrounding events, students from these universities engage in

classroom sessions focusing on sports and sustainability.

At the 2017 MLB All-Star Game in Miami, the All-Star Green Team traversed the aisles between innings, and collected more than 1.5 tons of recyclable cans and bottles from guests. Additionally, the All-Star Green Team collaborated with the kids and coaches participating in the annual All-Star Youth Classic, a friendly tournament showcasing youth baseball & softball leagues from across the country, and HandsON Miami to help rehabilitate the local Charles Hadley Park. Improvements included redeveloping baseball fields, installing new benches, landscaping and applying fresh paint, and overall providing the community with a place for recreation and civic pride.

As part of the educational aspect of the All-Star Green Team, the students attended an exclusive

networking event with League and Club executives. At the event, students learned about the business of baseball, the role of sustainability throughout the sport, and the executives' various career paths.

The MLB 'Green Teams' also make a special appearance during the World Series. Given the uncertainty of who will be playing for the championship each year and where it will be played, 'Green Team' members are sourced from a variety of interested community, educational and professional groups, instead of through a traditional partnership with a university.

OFFSETS AND CREDITS

Each year, at least one player from every MLB Club is awarded a trip to the All-Star Game.

To account for the roundtrip air travel this entails, MLB offsets carbon emissions associated with every stage of the players' travel. This allows the league to combat the adverse effect that air travel has on our planet. Previous All-Star Games have generated more than 500,000 pounds of carbon dioxide equivalence, which were offset by funding projects designed to mitigate greenhouse gas emissions.

MLB is also engaged in Change the Course, a national freshwater restoration campaign to restore critically dewatered rivers and streams. During the 2016 MLB All-Star Game in San Diego, California, MLB restored the equivalent of more than 1.7 million gallons of water to the Colorado River Delta, which is critical to the city's water supply.

MLB also offsets all power used at participating ballparks during the All-Star Game and World Series through the purchase of Renewable Energy Credits (REC). Past REC purchases have contributed to wind power projects throughout the United States and equated to the amount of electricity used to power 80 homes for an entire year.



CLUBS TAKING THE LEAD

Boston Red Sox, Fenway Farms

The oldest ballpark in Major League Baseball now features a striking 21st-century innovation. Though over 100-years-old, Boston's Fenway Park houses an ingenious and resourceful tool that promotes sustainability and healthy eating; Fenway Farms.

In 2015, the Boston Red Sox installed a 5,000-square-foot rooftop farm on a previously unused space within the ballpark. More than 5,900 pounds of fresh organic produce are harvested each growing season at Fenway Farms, and served in the ballpark's restaurants and concession areas.

Recover Green Roofs and engineers from Simpson, Gumpertz & Heger transformed the ordinary roof into a model for sustainable and healthy eating.

Farm-to-Field

Local workers from Green City Growers did the actual planting and cultivating of the vegetables and herbs that grow in Fenway Farms. Working with Ron Abell, the executive chef of the Red Sox concessionaire Aramark, Green City Growers plants and cares for a wide array of produce every season. The farmers use only organic products and methods for fertility and pest management.

Fenway Farms was conceived out of efforts by Red Sox owners John W. Henry and Tom Werner to promote the "greening" of Fenway Park. That process began in 2008, when the club created a "Green Team" and installed solar thermal panels at Fenway Park – the first professional sports team to do so. Over the past five years, the Red Sox have recycled more than 1,300 tons and composted 600 tons of waste

Community outreach

Fenway Farms, vigorously promoted by Red Sox limited partner Linda Pizzuti Henry, is a direct reflection of the Red Sox' commitment to protecting and preserving the environment and neighborhood around Fenway Park.

More than a half million adults and children interact with Fenway Farms annually, helping to expose thousands who have grown up in an urban setting to the food-growing process, often for the first time in their lives.

**A LEAGUE-WIDE EFFORT**

MLB clubs have taken many steps over the past decade to improve efficiency and mitigate their impact on the environment. As the first professional sports league to have all its members join the Green Sports Alliance, Major League Baseball is fully committed to sustainability.

At the conclusion of each season, MLB issues the Green Glove Award to the MLB Club that diverted the greatest percentage of their waste from landfills. The Seattle Mariners were the winners of this annual award in 2017 with a diversion rate of 96%. In 2017, MLB clubs, as a whole, diverted more than 20,000 tons of waste from landfills. ●

**AS THE FIRST
PROFESSIONAL SPORTS
LEAGUE TO HAVE ALL ITS
MEMBERS JOIN THE GREEN
SPORTS ALLIANCE, MAJOR
LEAGUE BASEBALL IS
FULLY COMMITTED
TO SUSTAINABILITY.**

PORTLAND TRAIL BLAZERS' SUSTAINABILITY TIMELINE, ACHIEVEMENTS AND GOALS

PORTLAND TRAIL BLAZERS

Chris OXLEY

Senior Vice President
of Venue Operations
for the Portland
Trail Blazers.

Chris oversees
Information Technology,
Ticket Operations,
Business Development,
Government Affairs and
Rip City Management,
LLC.



The Portland Trail Blazers of the National Basketball Association (NBA) are considered an innovative leader among professional sports franchises and entertainment companies when it comes to sustainability strategies, and it is a distinction we welcome. Since 2005, we have focused efforts to reduce our environmental footprint by making changes to our operations, purchasing and business practices that benefit both the environment and our corporate bottom line.

We are dedicated to our mission and believe our "home court" extends far beyond the arena, and that everything we do in our lives has an impact. With that in mind, we also encourage our employees, sponsors, fans and event guests to join our efforts to protect our planet and community in ways that ensure a brighter future for generations to come.

IDENTIFYING ROOM FOR IMPROVEMENT

In 2005, our facilities department and members of our leadership team began discussing ways that our operations could become 'greener.' At that time, our waste rates were skyrocketing, and we realized we were throwing away many things that could be recycled. We launched a recycling program to minimize waste, save money and better manage our diversion numbers -- the amount of waste diverted from a landfill -- which in those days were around 25 to 30% (just from recycling cardboard).

INTEGRATING SUSTAINABILITY ELEMENTS INTO BUSINESS OPERATIONS

In 2007, our facilities management team assembled an internal work group that assessed all our operational and purchasing methods; identified areas that needed improvement; and surfaced best practices that were already working. The findings of our internal workgroup were used to develop a Green Program that became a roadmap to channeling our energies and resources toward improved sustainability practices.

Some sustainability practices already in place included post-event recycling (about 600 tons per year at the time); sorting of recyclable material from general trash; storm water drainage protection; and subsidized purchases of monthly public transit passes for staff to encourage its use instead of driving to work. We also reallocated our funding plans to support an extension of the Portland Streetcar public transit system, which improved mass transit options for our staff and fans.

THE TRAIL BLAZERS ARE COMMITTED TO PROTECTING OUR ENVIRONMENT AND ARE ALWAYS LOOKING FOR INNOVATIVE WAYS TO REDUCE OUR IMPACT. TO HELP FURTHER OUR MISSION, WE HAVE SET AGGRESSIVE SUSTAINABILITY GOALS THAT WE HOPE TO REACH BY 2025.

To further improve our sustainability practices, we placed additional recycling stations around our venues; instituted a food-waste recycling program for arena concessionaires; and committed to purchasing food and beverage containers and utensils made from compostable materials. We also identified repair and maintenance projects at the Moda Center and around the Rose Quarter campus that would improve energy efficiencies.

OUR EARLY ACHIEVEMENTS

In 2008 to increase energy savings, we began replacing older equipment serving various purposes with more energy-efficient models. The first targets were our cooling and heating apparatus, updating our facilities with new Variable Frequency Drive chillers

and cooling towers that accounted for outside temperature and load factors to save energy.

We began working with Energy Trust of Oregon in 2009 to perform the Trail Blazers and Rose Quarter's first energy audit, and received tax credits for the efficiency measures already completed. This energy audit also motivated us to pursue LEED Gold certification for Moda Center (originally known as the Rose Garden), which once achieved in 2010 making it the first-ever existing venue in the United States retrofitted to meet LEED Gold standards. The Trail Blazers also became the first pro sports team to join Business for Innovative Climate and Energy Policy (BICEP) in 2011; and we went on to co-found the Green Sports Alliance, encouraging other teams and leagues to reduce their environmental impacts.

Another pivotal initiative also happened in 2010. An exhaustive search for a contemporary waste receptacle to engage Trail Blazers fans and special event guests in separating concession waste was unsuccessful. Not to be discouraged, we designed our own line of multi-compartment recycling stations made from recycled plastic. We then licensed these Green Drop Recycling Bins and made them available for purchase by other arenas, venues and companies. For our internal rollout at the Rose Quarter, we stationed trainers at the bins during events to encourage fan participation in recycling -- a strategy that delivered a 13% increase in our overall diversion rate.

CONTINUED SUSTAINABILITY INITIATIVES

In 2014, we began the first phase of replacing interior lights of Moda Center with LED lights. This initial step helped us to go from 55 watts per light to 8 watts per light on the prestigious Club Level of Moda Center, which saved money and 250,000 Kwh/year. We also modernized the exterior illumination of the Moda Center rooftop halo with color LED lighting, allowing us to literally change the color of the venue exterior to match almost any activity happening inside (i.e., a red halo whenever there's a Trail Blazers home game). And while we enjoy lighting up the Portland skyline with various colors, we're saving 60,000 Kwh/year.

In 2015, we implemented more building-wide LED upgrades which focused on adding high-efficiency lighting in areas like refrigeration and storage. Combined with various sustainability initiatives elsewhere in our company, we pursued and again achieved LEED Gold Certification for a second time. And one year later, we also replaced Moda Center's

arena bowl lights with LEDs, saving us 1,000,000 Kwh/year. Dating back to 2008, these measures focused on lighting have helped reduce our Kwh energy usage by over 50%.

LINKING SUSTAINABILITY TO CORPORATE SOCIAL RESPONSIBILITY

The Trail Blazers and Rose Quarter now focuses its philanthropy and corporate social responsibility on benefitting children and families where they LIVE, LEARN and PLAY. Specifically, our LIVE platform and website have been instrumental in raising awareness and engagement with fans around our sustainability efforts. The program focuses on five environmental impact areas – Waste, Water, Energy, Food and Transportation. And throughout the NBA season, we utilize select games as spotlight creative ways to manage these areas.



THROUGH STRATEGIC PARTNERSHIPS, WE HAVE BEEN ABLE TO IMPROVE BUSINESS PRACTICES, GENERATE REVENUE AND MAKE A POSITIVE IMPACT ON THE ENVIRONMENT ACROSS OREGON AND SOUTHWEST WASHINGTON.

Through strategic partnerships, we have been able to improve business practices, generate revenue and make a positive impact on the environment across Oregon and Southwest Washington. In partnership with Wildlife Works, we were able to offset our natural gas consumption, and develop a food recovery partnership with Urban Gleaners that results in roughly 8,000 meals per year being provided for insecure families.

In an effort to achieve zero food waste, we added an on-site food waste compactor in 2015. The compactor takes organics from our food waste and turns it into compost to enrich the landscaping soil in our massive greenery planters around the Rose Quarter exterior. We are proud to say that our diversion rate hovers around 90% today – a dramatic improvement from a diversion rate of 38% in 2008.

The Trail Blazers are committed to protecting our environment and are always looking for innovative ways to reduce our impact. To help further our mission, we have set aggressive sustainability goals that we hope to reach by 2025:

- ▶ To divert 100% of our waste.
- ▶ To reduce our water use per event day by an additional 10% and to continue to balance all water that we use.
- ▶ To reduce our energy use per event day by an additional 20% and continue to offset all energy use.
- ▶ To have all food consumed in our venues be local, organic and/or sustainable.
- ▶ To reduce our transportation impact by 50%.

Have we made progress with our sustainability efforts over the years? Yes, and we're proud of all those achievements, whether large or small. But we also believe our commitment to foster a healthier community must be ongoing, and fully engage our employees, fans, corporate partners and sponsors. ●

AN ENVIRONMENTALLY CONSCIOUS COMMUNITY, RALLIED AROUND A DETERMINED TEAM

PHILADELPHIA EAGLES

Norman
VOSSCHULTE
&
Lindsay
ARELL

Norman serves as the sustainability spokesperson and manager for the Philadelphia Eagles. Lindsay Arell is Principal at Honeycomb Strategies, a consulting firm focused on sustainability in the hospitality and sports arenas.



What started out with blue recycling bins under each employee's desk has turned into a company-wide sustainability programme that has gotten the Philadelphia Eagles to the point where they are diverting more than 99% of their waste from landfills and operating on 100% clean energy. The biggest shift in the program was making the transition from "operational sustainability" to "sustainability as a way of operating" at all levels of the Eagles organisation.

Since 2003, the Philadelphia Eagles and their GO GREEN programme have been leading the NFL with their sustainability efforts. Through a collaboration between the team's operations department and like-minded corporate partners, the organisation has quickly become environmentally responsible in the City of Philadelphia. While the Eagles have made significant strides over the years, the team has narrowed its focus to five key areas in the sustainability field: green energy production, recycling and composting, energy conservation and efficiency, reforestation and green product purchasing.

Through this comprehensive, yet streamlined approach, the Eagles have made groundbreaking developments in becoming a GO GREEN pioneer.

KICK BACK YOUR THERMOSTAT BY 2 DEGREES.

WHEN WE GO GREEN

SCO UNPLUGGING UN

The Eagles have received international praise for producing the largest solar power system in the NFL (14 wind turbines and 11,108 solar panels), increasing their recycling percentages from 8% to 99% in just six years, cutting the building's annual electricity usage by more than 50% through LED and fluorescent light alternatives, offsetting 100% of all team travel through reforestation programs and much more.

Despite all the team's success, they still challenge themselves to examine every area of their operation to find ways to improve. One of the most valuable resources has been the employees. In an engagement process that included staff interviews, stadium tours, surveys, and good old-fashioned brainstorming sessions, the idea of the GO GREEN Sustainability 2.0 ECCO System was born. Feedback from employees revealed that many of them wanted to take the program to the next level. More than 60 employees volunteered to serve on the sustainability committee to help develop and implement GO GREEN

2.0. Recognising the need to go beyond operational changes, the Sustainability Leadership Committee created subcommittees to focus on the areas of: engagement, communication, community and operations. Combined, these subcommittees are focused on creating an ECCO System within the organisation that continually evolves and improves year after year.

ENGAGEMENT

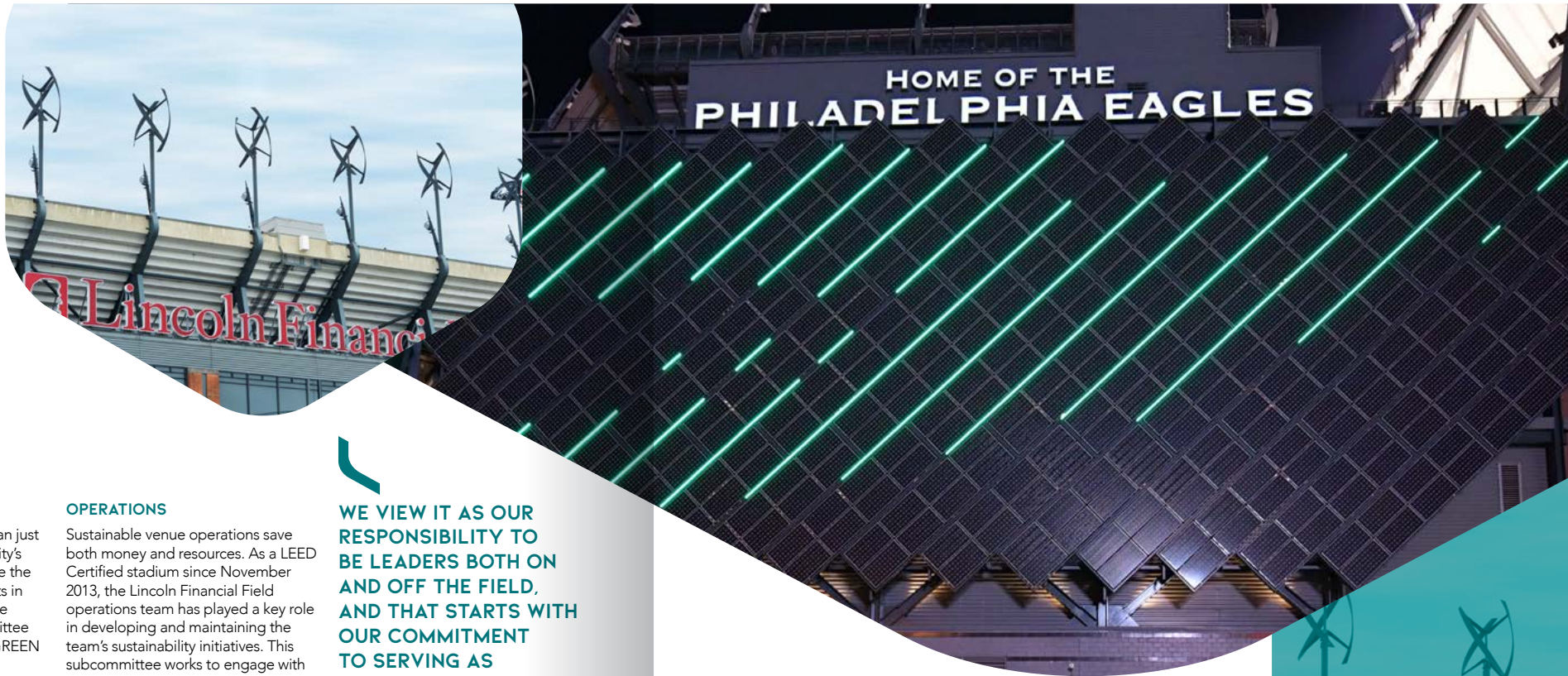
This subcommittee is focused on identifying all stakeholders within the organisation and community. These stakeholders include people both within the organisation (employees and contracted vendors) and externally (fans and community). Once identified, specific opportunities are developed to educate these stakeholders with various trainings and incentives for participation in the GO GREEN program. This committee is tasked with ensuring all internal events are filtered through a sustainability lens, finding opportunities to include GO GREEN measures wherever possible and creating staff-engaging sustainability activities.

COMMUNICATION

Working closely with the engagement subcommittee, the communication team serves as the "voice" of GO GREEN. This group works to create messaging and content for the program in a way that is engaging and educational. Participation by fans, employees and other stakeholders is critical to its success. Therefore, communicating their efforts effectively is a key component of GO GREEN.

**OUR ORGANISATIONAL
PHILOSOPHY HAS
ALWAYS BEEN THAT THE
PATH TO SUSTAINABILITY
IS A JOURNEY NOT A
DESTINATION, WHICH
IS WHY WE DEVELOPED
OUR ROBUST GO GREEN
PROGRAMME WITH THE
OPENING OF LINCOLN
FINANCIAL FIELD IN 2003**

Christina Weiss Lurie, President
Eagles Charitable Foundation,
Eagles Social Responsibility



COMMUNITY

The Eagles strive to be more than just a football team. As part of the city's fabric, the team aims to enhance the overall quality of life for residents in various ways, both on and off the field. The community subcommittee is tasked with developing GO GREEN activities and programmes that encourage participation from both the internal and external community. Each year they work to create sustainability events involving the community, as well as opportunities for employees to contribute back. Every Earth Day, employees and corporate partners collaborate on various park cleanups around the city to help create a cleaner, more sustainable environment for families and tourists. Effectively partnering with constituents allows the team to take their GO GREEN program to the next level.

OPERATIONS

Sustainable venue operations save both money and resources. As a LEED Certified stadium since November 2013, the Lincoln Financial Field operations team has played a key role in developing and maintaining the team's sustainability initiatives. This subcommittee works to engage with vendors, in addition to tracking metrics to gain a better understanding of the program's impact. They also strive to build upon the current program by researching and implementing new technologies and expanding efforts at the team's practice facility, the NovaCare Complex.

WE VIEW IT AS OUR RESPONSIBILITY TO BE LEADERS BOTH ON AND OFF THE FIELD, AND THAT STARTS WITH OUR COMMITMENT TO SERVING AS ENVIRONMENTAL CHAMPIONS IN THE GREATER PHILADELPHIA REGION. WE HOPE THAT OUR GO GREEN MEASURES INSPIRE OTHERS TO ADOPT SUSTAINABLE PRACTICES, ALL IN AN EFFORT TO ENHANCE THE QUALITY OF LIFE FOR PEOPLE AROUND THE WORLD.

ISO 20121

The Philadelphia Eagles understand that a sustainability program is more than lighting fixtures and recycling bins. To truly make an impact, an organisation must go beyond building upgrades to create a culture of sustainability and innovation. It is with this goal the Eagles decided to pursue the ISO 20121 Sustainability standard. This standard provides a framework to encourage continual improvement and the engagement of all stakeholders. Since 2016, the Eagles have been working towards the goal of becoming the first NFL organisation to achieve certification under this international standard.

GO GREEN MISSION STATEMENT:

To create and sustain championship performance on the field and in the community through programmes that promote the quality of life in our region, green the environment to improve our impact on the planet and enhance our profitability as a business. ●

PLAY IT FORWARD: INNOVATING FOR THE NEXT GENERATION

THE NATIONAL HOCKEY LEAGUE

Omar Mitchell

Vice President,
Corporate Social
Responsibility, National
Hockey League

Omar Mitchell oversees social impact initiatives at the National Hockey League that drive positive social and environmental change across Clubs, business partners, fans and the broader hockey community. He is responsible for NHL Green, the NHL Foundation, and the execution of Legacy Projects.



The National Hockey League (NHL®) seeks to reduce its impact and protect the roots of the sport. NHL Green, the League's sustainability initiative, works to improve the natural and built environments where hockey is played by championing sustainable innovation and community development. The NHL® recently celebrated its 100th anniversary, and is looking forward to a bright future for the game. These goals aim to innovate to reduce environmental impacts, transform the hockey industry through collaboration, and inspire communities to act.

INNOVATING TO REDUCE OUR IMPACT

Innovation is at the forefront of the NHL's approach to sustainability. The NHL and its Clubs are working to reduce their impact on the environment by adapting new and improved technologies.

Water-Efficient Technology

At Centre Bell, the Montreal Canadiens implemented a closed-loop system that takes the melted ice shavings, purifies the water, and recycles it back into the ice resurfacer. This new system helps avoid the waste of over 208,000 litres of drinking water each year and has eliminated the need to discharge greywater into sewers.

Lighting Upgrades

Compared to metal halides, LEDs produce more light with less electricity and give off less heat which means less energy is needed to keep the rink cool. They turn on immediately and last longer, reducing glare and improving game presentation, guest experience, and visibility for players. All NHL arenas have begun to make the switch to LED or more energy efficient fixtures

ARENAS ARE BEGINNING TO EMBRACE ENHANCED THESE SMART BUILDING AUTOMATION SYSTEMS TO EFFICIENTLY CONTROL AND MONITOR MECHANICAL, ELECTRICAL, AND ICE PLANT EQUIPMENT.

throughout their facilities, such as in the concourse, stairwells and outdoor areas. Almost half of NHL arenas have LED game lighting (those used to illuminate the ice surface) installed and many others are actively considering making the switch.

Enhanced Building Management Systems

New continuous recommissioning systems, which can now control existing building management systems, ensure that building systems and equipment are operating optimally by identifying problems and systems integration issues. Arenas are

beginning to embrace enhanced these smart building automation systems to efficiently control and monitor mechanical, electrical, and ice plant equipment. Clubs, such as Boston Bruins, Vancouver Canucks, and Tampa Bay Lightning, have seen energy reductions between 10-20% as a result of implementing these systems.

TRANSFORMING THE HOCKEY INDUSTRY THROUGH COLLABORATION

As rinks across North America are confronted with rising operating costs and legislation changes that affect some rinks' current refrigerants, the NHL is committed to keeping ice accessible and affordable. By working with rink associations, industry experts and hockey organizations, the League hopes to transform the hockey industry through the development and sharing of sustainable best practices.

Greener Rinks

In October 2016, the League launched the NHL Greener Rinks Initiative™. The League seeks to highlight the benefits of adopting sustainable practices to

further the future success of the local rinks, the frontlines of our game. By working with regional rink associations and NHL-preferred rink suppliers, the NHL surveyed community ice rinks throughout North America to better understand the current state of the game's infrastructure. In March 2017, the Greener Rinks website debuted to showcase some best practices and technologies to help community rinks reduce energy and operating costs. The NHL will continue to build out these resources and tools to provide rink owners and operators with access to information to help them make informed decisions regarding sustainability-related investments.





INSPIRING COMMUNITIES TO ACT

Healthy environments lead to healthy communities. The League engages the NHL family – players, fans, and the communities that they play in, with hopes of inspiring action at the local level.

NHL Green Month

Since 2015, the NHL and its Clubs have engaged fans during Green Week in March. This week shines a spotlight on the impactful environmental work the Clubs are doing at their arenas and in the community. The League is continuing to develop ways to engage fans on sustainability through the help of the Clubs and athletes as it expands Green Week to Green Month in 2018. During the 2018 NHL Green Month teams activated in a variety of ways. The Detroit Redwings worked with their local energy partner to purchase renewable energy for all their home games during Green Month. The Florida Panthers hold a Panther Conservation Night during Green Month to raise awareness about the team's namesake.

Give Back to Local Communities

As part of the commitment to the communities that host tentpole League events, the NHL Corporate Social Responsibility team executes Legacy Projects—leave-behind philanthropic endeavors and initiatives aimed at supporting local groups with missions that align with the League's social responsibility priorities. One example is the refurbishing of Clark Park's outdoor community rink in cooperation with the Red Wings Foundation before the Winter Classic in 2014. A yearly undertaking since 2012 is the Legacy Tree Project, when in honor of the NHL Draft™, the NHL plants trees in a park at the Draft's host city to represent each of the League's Clubs.

OFFSETS AND CREDITS

The NHL and its Clubs are committed to improving hockey's environmental impact. Hockey can trace its roots to the frozen freshwater lakes and ponds. The ability to skate and play the game outdoors is a critical component of the League's history and culture. Major environmental challenges such as

climate change and freshwater scarcity affect future opportunities to take the game outside. Since its launch in 2010, NHL Green™ has been committed to preserving the environment - including the frozen ponds that inspired and cultivated the game more than 100 years ago.

REC Purchases

The NHL counterbalanced the League's total electricity usage (e.g., NHL offices and NHL-affiliated activity of NHL arenas) from FY15-17 through the purchase of Green e-certified renewable energy credits, generated from U.S. wind and Canadian biomass. Additionally, the League, with the National Hockey League Player's Association, counterbalanced all Toronto-based games during the 2016 World Cup of Hockey. Some Clubs, such as the Minnesota Wild and the Tampa Bay Lightning, also purchase

additional RECs. Since 2014, the National Hockey League has been listed in the top 26 of EPA's Green Power Partnership National Top 100, a list representing the largest green power users in the country.

Gallons for Goals™

For every goal scored during the regular season, the NHL purchases 1,000 gallons' worth of Water Restoration Certificates®. With over 6,000 goals a season, the League is able to have significant impact in helping to fund restoration projects in North America, including the Colorado River Basin with Bonneville Environmental Foundation. Through Gallons for Goals and purchasing Water Restoration Certificates to offset the water impact for the Stanley Cup Finals and games played during Green Week, the NHL has restored over 88 million gallons of water. ●

TEAMS GO FOR GOLD, STADIUMS GO FOR PLATINUM

MERCEDES-BENZ STADIUM

Scott
JENKINS

General Manager,
Mercedes-Benz Stadium

Scott Jenkins joined Mercedes-Benz Stadium as general manager in February 2014. Jenkins oversees current planning and construction as well as operations for the stadium. Jenkins is a pioneer in the green building movement in sports and was an inaugural member of the Green Sports Alliance.



From day one, the design and development of Mercedes-Benz Stadium in Atlanta, Georgia was focused on satisfying the community and the environment. Officially opened in 2017 as home to the Atlanta Falcons NFL football team and the Atlanta United FC, Mercedes-Benz Stadium has quickly become a cornerstone in the Atlanta region and a pinnacle example of how to construct new sporting venues.

ACHIEVING LEED PLATINUM CERTIFICATION

Leadership in Energy and Environmental Design, or LEED as it's commonly known, is the most widely used building rating system in the world. In November 2017, Mercedes-Benz Stadium was awarded LEED Platinum status by the U.S. Green Building Council and became the first professional sports stadium in North America to achieve this highest tier of certification.

Mercedes-Benz Stadium obtained more LEED points than any other sports facility in the world, totaling 88 points in all. The venue got most of its points for robust initiatives in alternative transportation, energy, and water usage and conservation.

ALTERNATIVE TRANSPORTATION

Located in the major metropolitan city of Atlanta, Georgia, the designers of Mercedes-Benz Stadium knew they

had to emphasize infrastructure for alternative transportation options. With 3 MARTA rail lines, the public transit network in Metro Atlanta, within 0.7 miles of the stadium, public transportation has been a focus of fan engagement programmes at the stadium. The stadium leads the National Football League in percentage of fans using public transportation to attend games.

The facility offers a bicycle valet programme on event days where attendees can park their bikes in free, secure bike parking areas with attendants available to assist.

For fans that must drive in, the stadium offers electric vehicle (EV) charging stations with the capacity to charge up to 48 vehicles simultaneously.

Walking to events is also encouraged. The stadium was designed to incorporate ample pedestrian-friendly walking paths to allow for

better connectivity between local communities and the stadium.

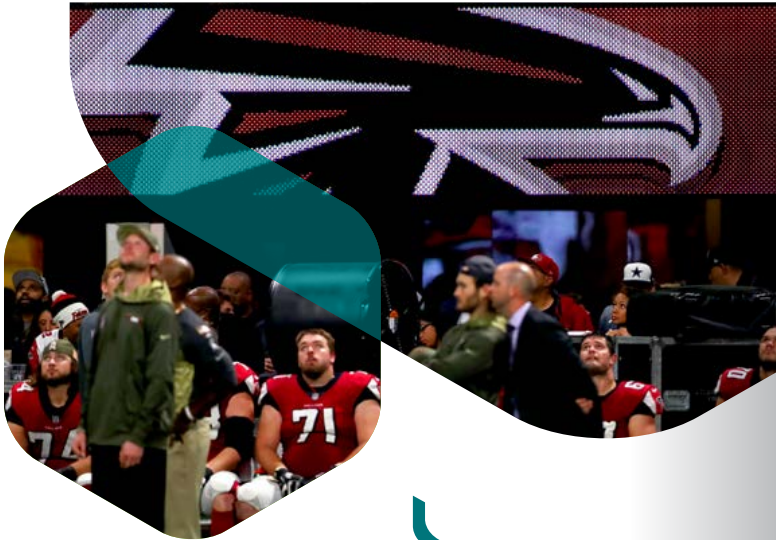
ENERGY

Topping out at 2 million square feet, the Mercedes-Benz Stadium reduces its energy usage via innovative design aspects. These innovations help the stadium use 29% less energy than a typical building of that size. Through its 4,000 solar PV panels, the stadium can power nine Atlanta Falcons Football games or 13 Atlanta United soccer matches.

The stadium boasts advanced LED lighting installations throughout the facility, including 460 LED sports lights. These fixtures will last 10 times longer than standard lighting installations and aim to reduce energy usage by as much as 60%.

IF WE ARE NOT SUCCESSFUL IN TRANSFORMING THE WESTSIDE COMMUNITIES AROUND THE STADIUM, THIS PROJECT WILL BE A FAILURE.

Arthur M. Blank, MBS



WATER USAGE AND CONSERVATION

Mercedes-Benz Stadium was the first stadium to achieve all water credits offered by LEED. The facility features water efficient fixtures and an infrastructure that uses 47% less water than a typical building.

The stadium features an impressive 1.1-million-gallon storm vault and 680,000-gallon cistern for storm water capture and reuse. In a unique partnership, Mercedes-Benz Stadium worked with Trees Atlanta and other community organisations during construction to share captured rainwater for tree irrigation in the community.

COMMUNITY ENGAGEMENT ON THE WESTSIDE

In addition to the Blank Foundation's investments through the "Westside Neighborhood Prosperity Fund", a critical part of the Westside

transformation work is leveraging Mercedes-Benz Stadium as a force for good in the community.

Mercedes-Benz Stadium does not wish to gentrify the surrounding communities for new people to come live and work there. Rather, the stadium aims to serve as a catalyst for positive, transformational change in Atlanta's historic Westside neighbourhoods. The "Westside Works" programme seeks to change lives by providing opportunities.

West Nest, located on the 300 concourse of the Mercedes-Benz Stadium, is a concession stand operated and managed by Culinary Arts graduates of the Westside Works programme. A portion of the proceeds go back into the programme so it can continue serving the community by doing things like giving free culinary training to other Westside residents. ●

AS THE FIRST PROFESSIONAL SPORTS STADIUM IN THE U.S. TO BE AWARDED LEED PLATINUM CERTIFICATION, MERCEDES-BENZ STADIUM HAS BEEN AT THE FOREFRONT OF INNOVATION IN SUSTAINABILITY EFFORTS.

Scott Jenkins,
General Manager,
Mercedes-Benz Stadium

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index.html](http://www.uefa.org/social-responsibility/index.html)

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