SUSTAINABLE SPORT INDEX

2021 BENCHMARKING REPORT

INTRODUCTION

The Sustainable Sport Index was initiated from conversations among venue operators, teams, and industry experts to better understand the environmental and social best practices and challenges in sports. The conclusion was that there was no existing database for the industry to truly understand and compare the impact that it has on the planet and society. This challenge is highlighted by the various distinctions within venue types and sizes, leagues, events, and regions. With this understanding, we set out to gather actual data from teams and venues in order to aggregate and analyze for trends, leaders, and opportunities for improvement.

The resulting effort is this first of its kind report for the sport industry. Collaborating with countless industry professionals and academics concluded with a comprehensive survey to gather data in areas including energy, water, waste, carbon emissions, cleaning, staff engagement, policies, food and beverage, transportation, communications, and wellness and accessibility. It is our hope that this becomes the first of many annual Sustainable Sport Indexes providing long-term value to the industry while highlighting existing team and venue best practices and opportunities for improvement.

Our Approach

Due to the unique circumstances impacting the entire industry in 2020, all performance data was requested from the 2019 calendar year. All questions related to best practices reflect currently implemented practices as of the date of surveying April through June 2021. The number of responses varied by question and category depending on applicability and completion by the respondent. Questions related to reporting number of events, attendees, or floor area were challenging as there is not a specific standardization on calculation methodology. The data and information for callouts in the report were supplied by participants and are assumed to be accurate and complete. Information was not independently verified. Instances of particular data inconsistencies or weakness are addressed in the report and extreme outlying data was omitted for analysis. The data set remains confidential. Partners were not involved in the preparation of the report or its content. If your organization is interested in participating in the 2022 Sustainable Sport Index, please email connect@sustainablesportindex.com for more information.



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SSI was given life through the support of our partners at Eco Products, Max-R, Aptim, and Honeycomb Strategies. Lastly, thank you to the teams, venues, leagues, and associations, especially Stadium Managers Association, Major League Baseball, Venue Solutions Group, and the Gridiron Stadium Network, that have participated in this year's important effort. Without your support this would not have been possible.



PARTICIPANTS



If you represent a sports venue or team, sign up to be included in the 2022 Sustainable Sport Index. www.sustainablesportindex.com



KEY FINDINGS

1 - FACILITIES SEE THE VALUE IN SUSTAINABILITY CERTIFICATIONS

Sixty-five percent (65%) of responding facilities have achieved some type of sustainability-related certification, with the most common certifications being Global Biorisk Advisory Council (GBAC), Leadership in Energy and Environmental Design (LEED), and WELL Building.

Note: Percentages total more than 100% because some venues have achieved more than one certification.



2 - FAN NEEDS ARE A PRIORITY

Addressing the needs of mothers and people who need sensory support is a top priority for teams and facilities. One hundred percent (100%) of responding facilities offer lactation spaces for staff and fans. And over seventy-six percent (76%) of responding facilities offer sensory relief rooms for fans.

> 100% of responding venues offer lactation rooms

76%

of responding facilities offer sensory relief rooms for fans

7

KEY FINDINGS

3 - CARBON TRACKING AND OFFSETTING IS VIRTUALLY NON-EXISTENT



Only **16.67%** of facilities and teams track their carbon emissions with **just one** team offsetting emissions.

4 - TRANSPORTATION

83% of responding venues are within walking distance (1 mile) of public transport. Of the facilities that are not within walking distance of public transportation, all have opened since 2017. We hope to see some public transportation options develop around their facilities in the near future.

5 - FACILITIES ARE COMMITTED TO "GREEN CLEANING"

Forty-four percent (44%) of responding venues have a green cleaning policy in place, and just under forty percent (39%) of facilities track the percentage of cleaning products that are third party certified such as EcoLogo or Green Seal. Of the facilities that do track spending on sustainable cleaning products, ninety-six percent (96%) of products purchased are green certified!

6 - OPERATIONAL PRACTICES

Venues are focused on energy reduction and onsite production, with less emphasis on offsetting. Thirty three percent (33%) of responding facilities produce renewable energy onsite through solar. Almost 78% of responding facilities use LED sport lighting. While only 11% purchase RECs.

KEY FINDINGS

7 - TEAMS AND FACILITIES PARTNER WITH SPONSORS TO SUPPORT SUSTAINABILITY PROGRAMS AND ACTIVATIONS

Seventy-three percent (73.3%) of responding teams have a sponsor for their sustainability programs and activations. We anticipate this number to increase in the future as more teams and venues recognize the value of these programs and partnerships.

8 - DEDICATED STAFF POSITIONS

Thirty-eight percent (38%) of teams have a dedicated sustainability and/or communityfocused position on staff. Of those that responded otherwise, another thirty-eight percent (38%) are considering adding this position in the near future. Similarly, 56.25% of responding facilities have a staff position dedicated to diversity and equity.

9 - WASTE DIVERSION RATE

The average waste diversion rate was 40.12% for all responding participants. However, we believe that this number leans higher than the true average because the facilities who participated in this first year were already proactive in taking sustainable actions and therefore were more inclined to participate. We will likely see this number drop as the survey expands next year.





FACILITIES

Stadiums, arenas, and ballparks are home to our favorite sport teams and events. From the iconic Fenway Park to the innovative SoFi Stadium, each is as unique as the city and teams they represent. As hosts to events with upwards of 80,000 attendees, their impact on the environment can be significant. However, these impacts can be reduced by tracking and managing these metrics and implementing best practices through policy, employee and fan engagement, technology, and strategic partnerships. Below is a snapshot of our venue impacts by type and location:

		Average Waste Diversion Rate	Average Water Consumption (Gallons/Year)	Average Energy Consumption (kWh/Year)	
By Venue Type:					
	Arena (25% of Participants)	22.70%	52,056,865	18,252,917	
	Stadium (40% of Participants)	52.00%	68,697,441	18,830,585	
	Ballpark (35% of Participants)	39.43%	29,531,151	14,756,578	
By Region:					
	West (25% of Participants)	60.25%	27,942,447	14,081,662	
	Mountain West (15% of Participants)	14.77%	29,750,247	18,731,028	
	South (20% of Participants)	40.23%	Not enough data provided	Not enough data provided	
	Midwest (15% of Participants)	44.40%	55,827,686	18,414,229	
	Northeast (25% of Participants)	35.67%	18,535,401	14,768,637	

BY THE NUMBERS



FACILITIES

The facilities surveyed here first opened to the public as far back as 1912 and as recent as 2020. 88% of them have made huge investments in the upkeep of their venue and have undergone a major renovation within the last ten years. But whether aged or modern, large or intimate, each of these venues have defining characteristics that have made them iconic in their communities. Below is a quick look at some of the different venue characteristics from participating venues in this survey.



Roof Style

Venue Seating Capacities





Mercedes-Benz Stadium in Atlanta, GA is famously known for its eight retractable roof petals.



Coors Field in Denver, CO has the third largest seating capcity in MLB at 51,000.



FACILITIES

CERTIFICATIONS

Certifications provide guidance, transparency, and credibility to a venue's performance. Different certifications address a variety of impacts ranging from environmental to health and safety to stakeholder engagement. Some respondents, such as the Golden 1 Center in Sacramento, California, maintain more than one certification.



Golden 1 Center in Sacramento, CA has achieved LEED New Construction, GBAC, and WELL certifications!



"Fenway's greatest sustainability achievement is a 5,000 sqft. green roof that is home to Fenway Farms. It is a rooftop garden that produces about 6,000 pounds of produce every year that we use on site in our suites, restaurants and a bit in the concourse. Anything we do not use, is donated to a local Boston food bank.

We also run several post-game waste sorts a year to help divert more recycling and compost that, had we not sorted, would have went to landfill. We divert about 60-80% of recycling and composting each waste sort. Going through about 2 tons of trash from 12am-7am.

In 2008, the Red Sox became the first team in Major League Baseball to install solar thermal panels at their Ballpark. The 28 panels located on the roof behind home plate help avoid 18 tons of CO2 emissions annually. Since 2018, through the club's electric supply partner Engie & NRG, 100% of the Ballpark's electricity consumption will be offset with Green-e certified renewable energy certificates (RECs). Offsetting four years' worth of Fenway Park's electricity is equivalent to displacing the estimated annual greenhouse gas emissions of 10,000 passenger vehicles driven for four years or the carbon dioxide emissions from the total energy usage for 4,500 households for four years." - Robyn Pacini (Coordinator of Facilities Services - Boston Red Sox)





POLICIES & PROGRAMS

Organizations that develop, implement, and hold themselves and vendors accountable to environmental and social governance policies consistently perform better. This is due to better management practices, attracting and retaining top talent, sponsorship revenue, and a positive reputation in the community. These practices range from overall sustainability practices to cleaning and procurement, to diversity, equity, and inclusion.

SUSTAINABILITY POLICIES

While more than half of the venues in this survey have a branded sustainaby program (i.e "Let's Go Bucs, Let's Go Green"), only about a quarter of the venues have established a formal sustainability policy.



In addition, only 17.65% of the respondents have a dedicated Sustainability Coordinator, Sustainability Manager, or equivalent position on staff.

DIVERSITY POLICIES

DEI Policy In Effect



Of venues/teams have a diversity, equity, and inclusion statement or policy in effect. And an additional 6% are currently in the process of putting a policy in place. **DEI Staff Positions**



of the venues have a position dedicated to diversity, equity, and inclusion.



POLICIES & PROGRAMS

THIRD PARTY VENDOR POLICIES



Environmental Procurement Policy

MISSED OPPORTUNITY

Procurement policies are an effective way to better ensure the goals and objectives set forth are shared across the supply chain. This may include implementing policies to support women and minority-owned businesses, local suppliers and workers, and organizations with shared ethical goals. To support an Environmental Procurement Policy, it is best practice to review and share the policy with vendors on an annual basis, as well as track the percentage of purchases by spend that adheres to that policy.



STRATEGIES

CERTIFICATIONS, POLICIES & BEST PRACTICE SUSTAINABILITY PROGRAMS

BY

HONEYCOMB

Integrating sustainability in sports, entertainment, and convention facilities, as well as tradeshows and events, Honeycomb Strategies supports clients pursuing thirdparty certifications as a verifiable and intentional management practice. Understanding where, when, and how to implement sustainable management programs for clients depends on a myriad of factors facing an organization. An established venue may seek LEED for Existing Buildings: Operations and Maintenance certification as a way to measure its existing performance relative to others. A brand-new venue may opt for an ISO 20121 certification as a way to establish and formalize sustainable building operations. Events, which move from city to city each year, may take a different approach due to the inconsistencies in city infrastructure, staff, or attendee needs. While certifications provide legitimacy to each organization, the true value depends on the intentions of the management team. While certifications often encompass the entirety of a building, event, or project, its policies and programs are the bricks upon which certifications are built. Venues and teams must leverage the brand power, visibility, and influence they possess to gain buy-in from key stakeholders.



Young super fans care about sustainability more than ever!

This means establishing policies and programs that rely on partners and supply chains to meet the same criteria. Sports teams and venues may find established certifications, policies, and programs as a way to demonstrate their sustainability commitment to fans with the added assurance that they have been measured and approved by an independent third party and will help mitigate any reputational risk of greenwashing.



GREEN TEAMS

Green Teams, or Sustainability Committees, are an important way to engage employees and educate them on the sustainability goals of the organization. In addition, a sustainability committee often brings together new ideas and solutions that may not have been obvious to just one person or department. This increases collaboration and commitment as well as helps share success and responsibility. Organizations with green teams also experience higher levels of employee engagement and retention as members are able to feel part of something bigger, and it gives them a chance to take pride in something outside of their day-to-day responsibility.

70%

of participating venues currently have a "Green Committee" within their organization. **24%**

of facilities conduct a sustainability training for staff at least once per year.

MISSED OPPORTUNITIES

Only 5.88% of facilities recognized or incentivized employees to participate in the sustainability efforts of the venue. Some examples of employee incentives included "Champion for the Environment" awards, shared goal setting, and rewards for meeting sustainability-related goals (ex. giftcards). When sustainability is seen as everyone's job, programs are more successful and there is greater accountability.

With so many venues already having a "green committee" in place, we believe there is an opportunity for these teams to take on the challenge of conducting sustainability trainings that are currently not happening.



GREEN CLEANING

Green cleaning is the process of using cleaning products that are made using safer, nontoxic, and/or biodegradable ingredients. As a result, these products are safer for human health, including building occupants and janitorial staff. In addition, these products have a lesser impact on the environment by reduced pollution in our water, better air quality, reduced exposure to allergy-causing substances, and reduced exposure to pollutants found to cause many health issues.





WELLNESS

Wellness programs support employees by encouraging behaviors that improve health and create a happier work environment. Benefits of an employee wellness program may include increased productivity and morale, lower levels of absenteeism, and improved employee retention.

Employee Well-Being

Air Quality

70% of facilities responded that they monitor Indoor Air Quality. Of those responses these are the areas that they monitor:



Is there a health and well-being

policy in place for all staff?





Bankers Life Fieldhouse, home of the Indiana Pacers and Fever, provides all staff with paid sick leave



WELLNESS

Lactation Rooms

Lactation rooms/stations give moms a dedicated private and sanitary space to pump or nurse their children during an event. This is important to demonstrate support and inclusivity for guests. Below is an example of a Mamava pod that provides an easy solution for a private area.



A Mamava pod at SoFi Stadium provides a convenient solution for having an easily accessible private area within a venue.

Sensory Relief Rooms

Sensory Rooms are designated areas within a venue that allow a person or family with sensory needs to take a break and refocus. These rooms are becoming more common as venues address sensabilities of fans and attendees.



76% of responding facilities offer Sensory Relief Rooms for fans



EVENTS



Note: These statistics assume each event was attended at full capacity which is not realistic.

3.3M is more people than the population of the city of Chicago (2.7M).



PER EVENT STATISTICS



465k Gallons per Event on average.

For comparison, an Olympic pool holds 660k gallons of water.



374k kWh per Event on average.

That's what it takes to power 34 homes for a whole year.



TRANSPORTATION

Transportation to and from a venue accounts for the largest portion of an event's carbon impact. This impact can be reduced by providing access to public transportation and incentivizing alternative transportation methods such as biking or carpooling. Additional transportation options also contribute to a more positive guest experience.



83% of responding venues were found within 1 mile of public transportation options such as train, bus, light rail, or subway.

89% of responding venues had bike parking available to attendees.





59% of responding venues offer electric vehicle charging stations. Of the venues that have these available at their facilities, they provide on average 21 electric vehicle charging stations.

TRANSIT PROGRAMS

28.5% of responding teams provide transportation incentives for fans or staff to support sustainability such as rewards for biking or carpooling to work or games. Incentives include:

- "Bike to the Game" days where fans can win items via raffle
- Free shuttles for fans with baseball tickets between the Stadium and several mass transportation hubs located throughout the city.
- Deeply discounted tickets and free subway rides home from the stadium on certain game days throughout the year.

TRANSPORTATION - HIGHLIGHT ORIOLE PARK & THE BALTIMORE ORIOLES

Baltimore Orioles and Oriole Park have made sustainable transportation options a priority as part of their Go Green program.



Transportation messaging can be found throughout the facility.



In November 2016, the Maryland Stadium Authority partnered with the Electric Vehicle Institute (EVI) and installed Electrical Vehicle Support Equipment Charging Stations. The stadium is also serviced by multiple public transportation routes





COMMUNICATION

Clear and engaging communication is a key aspect of a successful sustainability program. An effective sustainability communications strategy creates internal and external buy-in for programs, offers opportunity for education, and delivers awareness and increased brand value. As sustainable procedures become fully integrated in facilities, it is important they are shared both internally and externally and fully integrated into all aspects of the operation. Examples include a dedicated website, annual reporting of key metrics, in-venue messaging and engagement.



Pictured above is a great example of a branded sustainability program by the LA Memorial Coliseum, and a booth they set up to communicate their goals.

WEBSITE COMMUNICATIONS



of respondents have space dedicated on their website to sharing sustainability practices.

PUBLIC MESSAGING

31%

of the respondents have permanent sustainability messaging in the public areas of the venue.

BRANDED SUSTAINABILITY PROGRAMS



of the teams/venues have a branded sustainability program.

ANNUAL REPORTS



of the respondents produce an annual public sustainability report. An additional 6% are planing on producing a report in the coming year.

COMMUNICATION - HIGHLIGHT LINCOLN FINANCIAL FIELD & THE PHILADELPHIA EAGLES

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The Philadelphia Eagles have a comprehensive sustainability communication plan that is integrated into all aspects of their operations. On site, fans will see engaging communications in prominent areas throughout the stadium and experience various fan activations. In addition, the Eagles Go Green program has a dedicated webpage on the website with initiatives and updated metrics, including an annual Sustainability Report.







SPONSORSHIP

As more companies and organizations adopt their own sustainability goals, they look to align their marketing dollars with sports teams and organizations with similar goals. These partnerships often have a higher impact in that they promote both a brand and a sustainability initiative, resulting in a win-win situation.

SUSTAINABILITY PARTNERS

Of the 85% of teams and venues responding – 82.35% have sustainability-specific sponsors/partners. Some examples of sustainability partners included Missouri Organic, NRG Energy, and Ball Corp.





The power to change life.»



IN-GAME ACTIVATIONS

81.25% of teams responded to having in-game activations or messaging that supports sustainability. Examples of activations include fan engagement activities, sustainable sponsor messaging, athlete endorsements, and venue operations.



National Football League and Mercedes-Benz Stadium promote recycling on the halo board during Super Bowl LIII.

SPONSORSHIP - HIGHLIGHT BALL ARENA & SOFI STADIUM

Ball Corporation secured naming rights of the Denver arena and a larger partnership with Kroenke Sports and Entertainment venues, including Sofi Stadium and Arsenal Stadium. Ball manufactures roughly 50% of aluminum cans in the United States and has a goal to increase alternatives to plastic that are more easily recyclable. To help achieve this goal, they have introduced the infinitely recyclable aluminum cup as an alternative to plastic. These venues are transitioning all cold beverages served in aluminum cups, bottles, and cans, and eliminating plastic at their venues. The cans are then collected, sorted, and recycled at a local metal facility.





The Los Angeles Rams teamed up with a local artist to create a mural out of recycled Ball aluminum cups to promote the infinitely recyclability of the product.



Waste is an attendee's most visible impact associated with sporting events and general facility operations. Guests often equate a venue's sustainability program with their waste management practices because it is the most tangible experience at the event. However, waste is also one of the biggest challenges a venue faces with regards to sustainability. This is due to a wide variety of issues including the wide variety of product type sold, limitations on municipal waste services, challenges in educating guests about proper disposal, space for sorted materials, time between events, and staff training.

For the purposes of this survey, waste diversion rate is defined as "material being diverted from landfill or incineration through reuse, donation, recycling, and other means." The nature of activities that take place in sporting facilities requires venues to accommodate the disposal of a complex make up of materials in large volumes in a relatively short period of time, making waste management a significant challenge.



DIVERSION RATES

Facility Waste Diversion Rates

We believe the average diversion rate from these participants leans higher than the true average we would see across all venues since the venues who responded to this survey in this first year were already taking considerable actions and therefore were more inclined to participate. In other words, these participants are early adopters of waste diversion best practices which has given us an inflated waste diversion average.



WASTE STREAMS

In this survey we took a close look at how some of the different materials used throughout a venue are being collected. Below are some of the notable results. Contact SSI for a more detailed breakdown of waste streams.



More than 80% of venues are collecting recyclables in a co-mingled stream. Recyclable items included glass, plastics, aluminum, and paper. Cardboard was an exception where 71% of venues are collecting separately.



41% of facilities are collecting compost, including compostable service-ware, separately. 35% are not collecting at all.

47% of facilities collect food and organics separately. Again, 35% are not collecting.

44% of facilities are collecting landscaping waste separately. 37.5% are not collecting.



82% of facilities collect e-waste separately while 18% are not collecting.



88% of facilities are collecting food donations separately while 12% are not collecting.

53% of venues collect material donations separately while 47% are not collecting.



WASTE BINS & SIGNAGE

Strategic waste bins are a key component to a waste diversion program. Location, size, signage, and design are all important to effectively capture the correct waste stream and reduce contamination. In addition, they offer an opportunity to share the organization's commitment to sustainability while allowing guests to participate in the program. Best practices include bins that are connected, multi-stream stations or paired together, clearly labeled, sized appropriately, and have distinct bag/liner colors for each waste stream (i.e. clear = recycling, green = compost, black = landfill).



Public Facing Waste Bins





The Resource Recovery Room ("R3") at Mercedes-Benz Stadium has signage for employees to separate materials.



Best practice example of co-located waste bins supplied by Max-R.

What Bins Look Like





Globe Life Field, home of the Texas Rangers, provides a recycling bin next to every landfill bin throughout the venue.



WASTE CONTAINER BEST PRACTICES

CO-LOCATE ALL BINS

All waste stream bins should be co-located. No single bins.



CLEARLY LABEL EACH CONTAINER AND INCLUDE EXAMPLES

Clearly label containers, ensuring signage is visible, and include examples. Ensure each bin is labeled individually throughout your facility.

COLOR-CODE WASTE STREAMS

Assign a color to each waste stream type being collected. This helps to create consistency for both patrons and staff and clearly identifies which bin is to be used for landfill, recycling, compost, or other. It is also important that signage matches the color of the bin. The most common colors include:

Blue: Commingled Recyclables Green: Compost / Organics Black or Red: Landfill

ENSURE SIGNAGE IS VISIBLE

Signage should be large, easy to read, and on or above each container. This includes the front of the container, the backboard, or next to the openings.

WASTE - HIGHLIGHTS PNC PARK & LA MEMORIAL COLISEUM

The Pirates sustainability practices successfully divert more than 70% of the ballpark waste out of landfills each year, equivalent to more than 1,650 tons of materials. In 2020, the Pirates diversion rate of 75-percent earned the organization Major League Baseball's Green Glove Award for the highest diversion rate in the National League Central. That definitely deserves a high-five!



LA Memorial Coliseum is dedicated to Zero Waste for the 2019 season, of the 264 tons of waste generated, just 24 tons were sent to landfill - Thats a 90% diversion rate! They were also the 2019 Pac-12 Zero Waste Challenge Overall Winner. Fight On!





FOOD & BEVERAGE

Similar to waste, food and beverage is one of the most visible aspects of a facility's sustainability program. This includes the type of material used to serve, where the food was procured, healthy choice options, and waste management practices. As this service is usually sub-contracted to a third party, this is a major opportunity for venues to partner to achieve their shared sustainability goals.

RESPONDENTS FOOD AND BEVERAGE PROVIDERS



Sustainability policy provided by Golden 1 Center. 90% of F&B served in Golden 1 Center are sourced locally within a 150mile radius of the facility!



FOOD & BEVERAGE

SERVICEWARE

Materials Used In Retail Concession Outlets Materials Used In Suites



MISSED OPPORTUNITY

In both retail concession outlets and in suites, single use plastics are the most common type of serviceware used which is not recyclable in a municipal single stream facility.

WATER BOTTLE REFILL STATIONS

53%

of responding facilities have water bottle refill stations (in addition to traditional water fountains). This is notable as venues had been resistant to refill stations due to lost water bottle revenue. These stations demonstrate a shift in thinking and commitment to sustainability.



Truist Park, home of the Atlanta Braves, offers a SSI high 20 water bottle refill stations throughout the facility.



FOOD & BEVERAGE

BACK OF HOUSE ORGANICS DIVERSION

82% of respondents are diverting back of house food and organics from landfills through composting or, to a lesser extent, commercial digesters. 18% are not collecting or diverting back of house organics.



FOOD DONATION

88%

16,324 lbs

of respondents made the effort to collect food donations separately the average amount of food donations collected by each facility in 2019



Dodger Stadium collected 30K lbs of food donations in 2019!

FOOD AND BEVERAGE **PROCUREMENT BEST PRACTICES**



Achieving high waste diversion rates requires every tool available, including a successful front-of-house composting program. Some venues are hesitant to begin front-of-house composting programs out of concern for contamination, inability to find a composter willing to accept the material, lack of training for staff, and the perceived inability of guests to put the right stuff in the right bin.

But we are here to tell you that it is possible! It is not always easy, but it can be simple. We advocate for a Systems Solution to waste diversion. If you control what goes in, you can control what goes out. In other words, if procurement only buys certified and fieldtested compostable packaging, then collection and recovery at the end of life are simpler. Here are some of the benefits of this approach:

1) It's easier for guests to put the right stuff in the right bin - it all goes in the compost! 2) The facility can service and clean the building more guickly due to less sorting required.

3) Haulers can trust that contamination will be minimized and they will be able to easily spot what contamination exists.

4) Composters can easily identify compostable products they trust, will know that contamination.

will be minimized, and will receive more food scraps from accepting material from the front of house bins.

Keys for a successful program:

- Bottles + cans = recyclable
- Misc = landfill
- Co-locate all bins
- Food scraps + packaging = compostable Signage should depict actual products used
 - Partner with your composter to review products
 - Sort post-event to manage contamination





WATER

According to the United Nations, "water use has been growing globally at more than twice the rate of population increases in the last century." Water scarcity is being exacerbated by rapidly growing urban areas and climate change demands. Responsible water management practices are necessary to ensure this resource for our communities and the future.

WATER TRACKING



Teams and venues who responded to tracking water consumption annually

RAINWATER CAPTURE



Of venues capture rainwater for stormwater management and/or for reuse in their facilities. Typical uses include field and landscaping irrigation.



Nationals Field built a green roof to prevent harmful storm run-off into the Anacostia River.



Of respondents utilize timed irrigation systems and sensors to monitor moisture levels. of participants are offsetting water consumption.

MISSED OPPORTUNITY

While energy offsets have emerged as a solution to energy consumption, it is notable that none of the responding facilities report offsetting their water consumption through water restoration projects.

WATER - HIGHLIGHT SOFI STADIUM & COORS FIELD



The six acre lake on the property acts as the storm water management system for Hollywood Park and doubles as a public benefit to the community of Inglewood. Through a first-of-its-kind special permit, it is the first ever "wet" settling pond water system in Southern California. Two-thirds of Hollywood Park's storm drains, including the ETFE canopy over the stadium site, is connected to the lake feature where the water is treated and clarified before being used for on-site landscape irrigation.



"Coors Field underwent a major renovation which replaced electric coils under the sod to heat the grass to help it grow ...'The old system — one that had been there for the past 25 years, ever since Coors was first built — was an electric-grid system,' Razum explained. 'Now we've upgraded it to a hydronic heating system, where you pass hot water through the tubing underneath. That's what heats the soil. It's a huge upgrade, and it's going to save us a lot in energy consumption and be much more efficient than the old electric grid.'" - Patrick Saunders (Fort Morgan Times, 4/7/2020)

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ENERGY

From lighting to HVAC systems to kitchen operations, daily venue operations consume large amounts of energy. As a result, many technologies and partnerships have emerged to support the energy efficiency goals of large venues, as well as local utility incentives. Because of this, there are numerous opportunities to experience major cost savings through the implementation of energy efficient policies and infrastructure changes. These savings can be experienced through a reduction in energy bills, a longer equipment life-cycle expectancy, and a reduction in labor maintenance costs for overstressed and inefficient equipment.

ENERGY TRACKING & CONSUMPTION

16,821,218 kWh

of respondents track annual energy consumption

83%

Average annual energy consumption of responding venues in 2019.

Note: We did not get back enough data to provide averages for gas and fuel consumptions, but we believe these are also important to track.

RENEWABLE ENERGY

33% of responding facilities produce renewable energy onsite, with all production coming through solar panels. This energy is either being used to power the facility or is being pushed back to the grid.

The average energy produced from these solar panels is **898,004 kWh**, enough energy to provide electricity to 116 homes for a year.

VENUES PURCHASING RENEWABLE ENERGY CREDITS VENUES UTILIZING LED SPORT LIGHTING



78%

ENERGY - HIGHLIGHT PETCO PARK

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Petco Park has a 336-kW solar array installed on the ballpark canopy, the largest solar project in Major League Baseball. Petco Park replaced the field sports lighting with LED technology, reducing sports lights energy consumption in half from over 1 million watts to 500,000 watts.

Over 40,000 building lighting fixtures were converted from incandescent, HID, and fluorescent fixtures to LED fixtures. LED lighting uses a fraction of the energy that typical lighting fixtures consume.

Petco Park worked with the local utility to implement the second largest On-Bill Financing project in California history. The OBF project converted heating hot water loop to variable speed flow, implemented HVAC supply air temperature reset based on load, upgraded HVAC fan coil motors, installed demand response controls on HVAC, replaced ballpark ice machines with Energy Star units, installed demand-control variable speed drives for kitchen hood exhaust fans, installed temperature on/off controls for exhaust fans, installed plug load controls to shut down equipment in concession stands during non-events, added variable speed drives on spa filter pumps, added PC Power Management software to reduce ballpark computer energy use, implemented controls to turn on/off electric hot water heaters based on event needs, installed a smaller "pony" chilled water heat exchanger to reduce CW use on non-event days, reduced CHW pump speed with variable speed drives and controls optimization.





ENERGY BEST PRACTICES



APTIM works with venues to analyze opportunities for managing their energy usage in ways that align with sustainability and financial goals. Here are some opportunities reduce energy use and carbon footprint.



1. Energy Efficiency:

- Lighting and equipment retro-fitting can significantly reduce energy use. For example, electric heat pumps are 2 to 3 times more efficiently than combustion systems.
- Automation and BAS program, such smart sensors, wireless technology, and data analytics to control equipment more accurately and efficiently,



2. Renewable Energy:

- Rooftop solar arrays and car park canopies, wind turbines, and solar/battery storage. all produce energy onsite and often are supported by rebates.
- New technologies such as Vehicle to Grid (V2G) allow EVs to provide charge back to the building's grid. The incorporation of microgrid technology will allow venues to operate independently from the utility grid, becoming instant power plants that provide energy security to their neighborhood during natural disasters.



3. Equipment Optimization:

- Recalibrate and adjust existing systems to operate at the maximum efficiency through retro-commissioning.
- Monitoring-based commissioning provides additional opportunities for analyzing and adjusting operations in real-time and allows facility staff to recover quickly from changes made during gameday events and catch seasonal impacts to operations as they occur, leading to an additional 10% reduction in energy usage.



4. Vehicle and Equipment Electrification:

• Fleet modernization and electrification of equipment, especially when paired with renewable energy,, greatly reduces a venue's carbon impact.



CARBON

Carbon management is the process of measuring and reducing carbon dioxide (CO2) and other greenhouse gas emissions (GHG)-related to a venue's operations, often referred to as an organization's carbon footprint. By tracking this impact, teams and venues are able to identify opportunities to reduce and/or offset these carbon emissions.

CARBON TRACKING

17%

of respondents are tracking carbon emissions on an annual basis.



Fenway Park is one of the few venues currently tacking their carbon emissions.

CARBON OFFSETS

<6%

of respondents purchase carbon offsets to reduce carbon emission impacts.

OFFSETTING TEAM TRAVEL

12.5%

of respondents are purchasing carbon offsets in support of team travel.

MISSED OPPORTUNITY

Travel GHG emissions are likely the biggest carbon impact area for any team. An effective strategy to reduce environmental impact from travel is to purchase certified carbon offsets. As only 12.5% of teams are currently employing this strategy, this is a missed opportunity for teams across the sports industry to significantly reduce their carbon footprint and mitigate the effects of climate change.



In 2021, Lincoln Financial Field and the Philadelphia Eagles established a partnership with the Ocean Conservancy and the Ocean Foundation to offset all team travel for 2020 through the planting of seagrass and mangrove restoration efforts in Puerto Rico. As part of Team Ocean, this partnership merges the Eagles' robust Go Green program with Ocean Conservancy's work in the world of sports, going back to their role as Ocean Partner for the Miami Super Bowl Host Committee in 2019.

The Eagles offset their carbon footprint in 2020, including air and bus travel to eight road games, for a total of 385.46 tCO2e. The calculations were made by The Ocean Foundation using the travel details from the Eagles 2020 itinerary. The funding for this project is broken down the following way:

- 1.80% Labor and supply restoration efforts
- 2.10% Public education (workshops and trainings to build local scientific capacity)
- 3.10% Administration and infrastructure

Ocean Conservancy created the Blue Playbook in 2019 as a guide for pro sports teams and leagues to take on ocean-facing actions. Investing in blue carbon restoration projects is recommended under the Carbon Pollution Pillar and is an area the Eagles have been proactively invested in.

"Our sustainability journey began with a few recycling bins in the office back in 2003 and has since grown into a multi-curriculum program that is now focused on aggressive action to protect our planet, and this includes the ocean," said Norman Vossschulte, Director of Fan Experience, Philadelphia Eagles. "This next chapter with Ocean Conservancy is an exciting beginning as we face the climate crisis. We met with Ocean Conservancy in 2019 to discuss ocean-related efforts, and in the time since, have been inspired by their scientists and experts on the value of protecting our ocean. Whether you are on the Delaware River, down at the Jersey Shore, or on the other side of the planet, a healthy ocean is vital to all of us."

For every \$1 invested in coastal restoration projects and restoration jobs, \$15 in net economic benefit is created from reviving, expanding, or increasing the health of seagrass meadows, mangrove forests, and salt marshes. <u>https://oceanfdn.org/calculator/why-go-blue/</u>





TEAMS

Professional sport teams and their athletes are recognized leaders in their communities and beyond. As such, they have a unique opportunity and responsibility to help create transformative change and raise awareness regarding key issues. Below are a variety of ways teams are committed to demonstrating leadership for the environment and their communities.

COMMUNITY PERSONNEL ON TEAM STAFF



37.5% of responding teams have a dedicated Sustainability or Community focused role on staff.

Of those who did not, 44% are considering adding this position to their staff.

SUSTAINABILITY ACTIVATIONS

50% of participants dedicate a day, game, or combination of both that revolves around sustainability and/or community awareness. There is room for improvement here as this would be a **best practice!**

81% of teams have in-game activations or messaging that supports sustainability. Examples include "Trees being planted for free throws made", "Recycle to Win giveaways", and "Green Tours through rooftop garden".

EARLY ADOPTERS

10 Years Over half of the teams surveyed have a sustainability policy that has been in place for 10 years, on average! This has led us to believe that some of the data in this survey may be slightly skewed in favor of sustainability best practices because these participants were early adopters of new policies and technologies.



TEAMS

COMMUNITY ENGAGEMENT

60%

of respondents have a dedicated community engagement or social responsibility program.

88%

of responding teams have a particular community relatedcause that it supports.



Recycle For Good at Mercedes-Benz Stadium, a partnership with Novelis, supports all aluminum from the venue separately collected and recycled, the value of which is used to support local Habitat For Humanity home builds.

53%

of responding teams incentivize fans or staff to support sustainability and/or community related efforts.



TD Garden is a proud supporter of the Boston vs. Bullies program which aims to stop bullying in schools and throughout the community.

TEAM AND VENUE HIGHLIGHTS COMMUNITY AND FAN ENGAGEMENT

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MERCEDES-BENZ STADIUM

Mercedes-Benz Stadium offers extensive virtual and on-site STEM education to classes throughout Georgia which includes information on sustainability efforts at the stadium. The onsite urban garden offers workshops for Washington High School students and gives back food to the Westside community. https://mercedesbenzstadium.com/stadium-tours/steam/



PACERS SPORTS & ENTERTAINMENT

Pacers Sports and Entertainment supports a number of causes. Five pillars of their social justice agenda are: Bridging the persistent education gap, Inspiring youth through mentorship, Addressing neighborhood food deserts, Improving relationships between law enforcement and local communities, and Supporting Black and minority-owned businesses.



GEHA FIELD AT ARROWHEAD STADIUM

GEHA Field at Arrowhead Stadium is home to the Extra Yard For The Environment. This is an annual recycling drive to help divert waste from landfills for local Chiefs fans.





BARRIERS AND BENEFITS

It is important to understand both where sustainability initiatives are succeeding and what the pain-points these venues and teams are experiencing if we expect to make significant progress with sustainability in sport. We thank all the participants for their honest feedback on what is working and not.

		Agree / Stronly Agree	Neutral	Disagree / Strongly Disagree	Observations
To what extent would you agree that the following are barriers to	Too Difficult or Complicated	11.76%	35.29%	52.94%	More than half disagree that it is too difficult.
the venue implementing a sustainability program?	Implementation Too Costly	76.47%	23.53%	0.00%	Over 76% of venues see sustainability as costly, meaning ROI is not clear.
	Lack of Community Infrastructure (no recycling facility, mass transit, etc.)	35.29%	5.88%	58.82%	Demonstrates that 1/3 of venues experience challenges due to lack of infrastructure for programs.
	Lack of Expertise	35.29%	35.29%	29.41%	Lack of expertise is not seen as a barrier.
	Lack of Executive Support	29.41%	23.53%	41.18%	Lack of executive support is not seen as a barrier.
	Lack of Time	52.94%	23.53%	23.53%	50% of respondents see time as an barrier, demonstrating policies need to be integrated into SOPs.
	Facility Age	52.94%	0.00%	47.06%	Respondants are split regarding age as a barrier.

		A lot / Somewhat	A Little	Not at All	Observations
To what extent have the following outcomes resulted from your	Decrease in Resource Consumption	56.25%	25.00%	18.75%	81% say resource consumption decreased as a result of sustainability program.
venue's sustainability program?	Decrease in Solid Waste Generation	50.00%	31.25%	18.75%	Similarly, over 80% saw a decrease in solid waste generation.
	Decrease in Operating Costs	31.25%	25.00%	43.75%	Over 50% experienced a decrease in operating costs.
	Increase in Visitor Satisfaction	25.00%	50.00%	25.00%	75% of facilities are reporting an increase in visitor satisfaction.
	Improvement in Employee Satisfaction	31.25%	25.00%	43.75%	Over 50% experienced an increase in employee satisfaction. However, not all survey employees on this question.
	Overall Improvement in Facility Management	68.75%	18.75%	12.50%	Over 85% saw an improvement in facility management.
	Sponsorship Revenue	40.00%	40.00%	20.00%	80% reported seeing increases in sponsorship revenue.



LOOKING TO THE FUTURE

This is just the first of what will become an annual index measuring the actual data and ESG efforts of sports teams and venues. The firstyear results have shown the incredible embrace of sustainability in a relatively short span of time since this issue has infiltrated the sports industry. It is our hope that this data set grows year after year, finally giving the industry a baseline from which to measure and evaluate progress.

The year 2020 brought a wave of change to sports as we saw social unrest and with health and wellness rise to the top of team and athlete messaging. The environment, too, is at an inflection point. When we look to surveying 2021 data, we expect a few key issues to rise to the top:

- Heath and Wellness
- Diversity, Equity, and Inclusion
- Sustainability Sponsorships
- Stakeholder Engagement
- Supply Chain and Procurement

Thank you again to the early adopters who've recognized the value of this first iteration of reporting. Visit <u>www.SustainableSportIndex.com</u> for more information and to participate in 2022.





TECHNICAL NOTES

- All questions related to performance data are for the 2019 calendar year.
- All questions related to operational practices pertained to currently implemented practices as of the date of surveying (April-June 2021).
- The number of responses per question is different across questions and categories. The average response rater per question was around 75-85%
- Due to challenges with standardization in the industry, questions related to reporting the number of events, attendees, or floor area do not follow any specific standardization on calculation methodology.
- The data and information for callouts in the report were supplied by participants and are assumed to be accurate and complete. Information was not verified.
- Instances of particular data inconsistencies or weaknesses are addressed in the report and extreme outlying data was omitted for analysis.
- The data set remains confidential.
- Partners are not involved in the preparation of the report or its content.

SUSTAINABLE SPORT INDEX

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