



FOOD WASTE DIVERSION AND COMPOSTABLE PACKAGING PLAYBOOK

GREEN
SPORTS
ALLIANCE

TABLE OF CONTENTS

3	Acknowledgments
4	Introduction
5	Food Waste Diversion and The Circular Economy
6	The Compostable Food Serviceware Play-By-Play
6	• The Great Waste Fumble: Organic Waste in Landfills
7	• Interception! Compostables as Carriers
8	• Touchdown! Improved Soil Health and Carbon Sequestration
10	A Note on Compostable Products
11	A Word from a Composter AgRecycle
12	Program Road Map
14	Case Studies
14	• Target Field
15	• US Bank Stadium
16	• Penn State
18	• WM Phoenix Open
19	• MetLife Stadium
20	• State Farm Arena/Yankee Stadium
21	• Seattle Mariners/T-Mobile Park
22	Appendix
23	Credits

ACKNOWLEDGMENTS

Let's take you back to January 2020 and what promised to be another year of success for the Green Sports Alliance and its membership. We credit inspiration for this publication to Mr. Doug Behar of the New York Yankees. His input during a January 2020 Corporate Membership Network (CMN) conference call noting growing confusion around the topics of single use plastics and end of life options motivated us.

This playbook is designed to specifically address the role certified compostable food serviceware and packaging can play in a sports venue for facilitating food waste diversion away from landfills to composting as well as the impact this has on greenhouse gas emissions and climate.

Within the practice of zero waste, recyclables, reusables, and compostables all have different roles in reducing the total amount of waste generated by sports venues and events. Therefore, a later version of this playbook may include more involved discussion on how these three materials can be leveraged successfully in a comprehensive zero waste program.

This playbook was made possible due to the ongoing support of the Green Sports Alliance, the Corporate Membership Network and two of its members, Natur-Tec and NatureWorks.

The authors wish to recognize the following organizations for their contribution to this playbook:

- AgRecycle
- EcoProducts
- Max-R
- Nature-Tec
- NatureWorks
- WM

We also recommend reading earlier Green Sports Alliance Playbooks for additional information on implementing sustainable practices:

- Paper Use Playbook
- Fan Engagement Playbook
- Greener Cleaning
- Collegiate Zero Waste Playbook
- Get Ready to Play Playbook

INTRODUCTION

Conversations on waste reduction, recycling, and composting tend to focus primarily on disposal --specifically, the question of the most ethical and sustainable means of disposing of waste. These discussions are worthwhile but fail to recognize the exciting opportunity waste management offers for directly reversing trends of climate change. Waste is only a problem when its management threatens our environment from oceans to soils, impacting our ability to grow food and regulate the planet's temperature. The truth is waste doesn't need to be gotten rid of so much as it needs to be repurposed. The most successful approaches to this conversation, then, view waste management as the start of the soil regeneration process rather than an end-of-life inconvenience.

The purpose of this playbook is to provide an overview of the role certified compostable food serviceware plays in combating climate change via the diversion of organic waste from landfills to composting facilities. By switching from petrochemical based plastics & materials to biobased, compostable food serviceware and composting programs, GSA members can lower their carbon footprints by preventing single-use plastic and organic waste from accumulating in landfills. Additionally, the soil produced by composting facilities from food waste and compostable food packaging requires less fertilizer than standard untreated soil, has more micronutrients (which increases crop yield), retains more water, filters water runoff better, and sequesters carbon thus contributing to greenhouse gas (GHG) mitigation.



FOOD WASTE DIVERSION AND THE CIRCULAR ECONOMY

A guiding framework for choosing materials and understanding zero waste pathways

The first step in achieving zero waste is shifting from a linear understanding of product life cycles to a circular framework. Where the current linear packaging model views waste disposal as the final stage in a product's life, a circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

The circular economy has three ambitions:

1 Decouple materials from fossil feedstocks

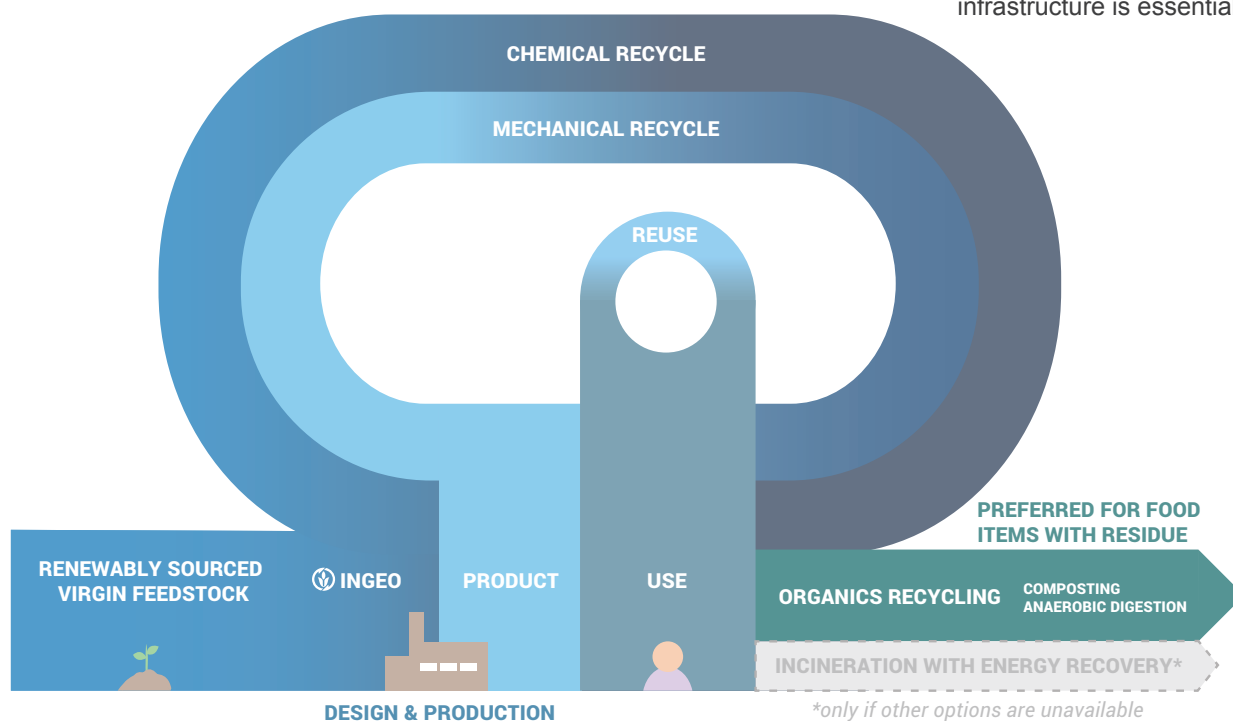
Decoupling from fossil fuels requires new materials to be made from responsibly sourced and renewable feedstocks. These feedstocks include paper and forestry products as well as the building blocks for a range of biopolymers, including PLA, PHA, BioPET, and more, which each possess unique properties designed for different downstream products.

2 Reduce leakage into natural systems and greenhouse gas emissions

Plastic accumulation in oceans and landfills is the most visible indicator of the plastic waste problem, but the greenhouse gas emissions associated with the creation and disposal of plastics are what cause damage to the environment and accelerate climate change.

3 Create an effective after-use materials economy

An after-use materials economy relies on multiple solutions. Organics recycling, which includes composting, is the preferred method for food bearing plastics and paper, and mechanical and chemical recycling are critically important pathways for products not used in food packaging. Ensuring all three of these processes are possible technically and supported with the necessary infrastructure is essential.



Credit: Graphic based on the New Plastics Economy framework from the Ellen MacArthur Foundation

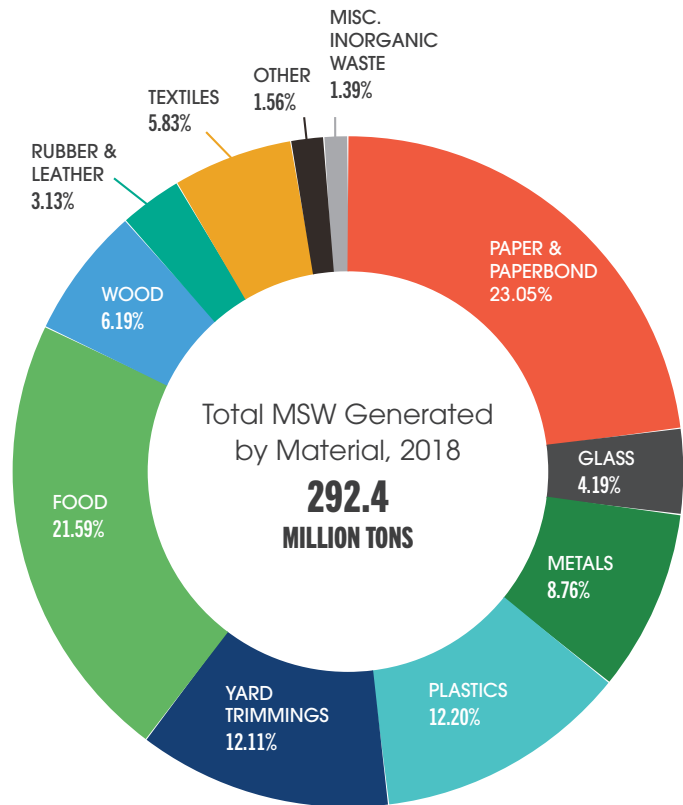
THE COMPOSTABLE FOOD SERVICEWARE PLAY-BY-PLAY

The Great Waste Fumble: Organic Waste in Landfills

Municipal solid-waste landfills are major contributors to greenhouse gas emissions in the United States. In fact, landfills are the 3rd-largest source of human related methane emissions in the US. When organic material like food waste is sent to a landfill, it degrades and releases methane, which is a potent greenhouse gas (GHG) that is 28 to 36 times more effective than carbon dioxide at trapping heat in the atmosphere over a 100-year period.

According to the US EPA, reducing organic waste in a landfill will lower emissions of methane and non-methane organic compounds, reduce odors, minimize leachate generation, and conserve landfill space. Therefore, creating zero waste programs that divert as much food waste as possible from landfills to outlets like industrial composting facilities is an important step in mitigating climate change.

Many municipalities have already recognized how keeping food waste out of local landfills can help achieve greenhouse gas reduction targets and have implemented mandates or bans on sending organics to landfill.



Credit: EPA.gov (MSW stands for Municipal Solid Waste)

Over 63 million MT of food was sent to landfills in 2018.

Comparison of Life Cycle GHG Emissions for U.S. Food Waste Diversion from Landfills



Credit: https://www.epa.gov/system/files/documents/2022-01/organic_waste_management_january2022.pdf

Interception! Compostables as Carriers Diverting Two Waste Streams

The primary value of compostable food packaging programs is that they intercept two waste streams—organic waste and BPI-certified compostable food serviceware—from their journey to landfills, diverting them to industrial composting facilities. When a fan consumes food concessions at a venue, there is often leftover food residue in their containers, on their cutlery, or in their cups. When these food serviceware items are made from compostable material, the entire item, serviceware and food waste, can be sent to composting facilities and diverted from landfills. In this sense, compostables act as the carriers for food waste, and compost collection programs divert two waste streams that would otherwise end up in landfills:

1. Food waste, residues, and leftovers are diverted away from landfills to composting facilities
2. Biobased materials that can be composted alongside the organics replace non-recyclable, fossil-based plastics that would otherwise end up in landfills

It is important to note that more food waste can be collected in packaging and food waste collection programs than in food only composting programs. Additionally, when compostable serviceware is used across all venue applications, fans experience simplified consistent messaging on how to sort waste, leading to greater venue waste diversion rates.

A note on home composting:

While a lot of food waste can be safely composted at home, some organic and food waste ingredients must be sent to industrial composting facilities. The compost piles at these sites are managed to maintain temperatures hot enough to kill pathogens associated with these products. In smaller home compost piles, raised temperatures are often not achieved, and the potential for the survival of pathogens increases as a result.

Ingredients like meat scraps; dairy, fats and oils; diseased, pesticide-treated, or insect-infested plants should not be composted at home and neither should compostable packaging items containing these food residues. They should all be sent to industrial composting facilities, where they can safely and completely compost.

In the US, access to compost infrastructure doubled between 2014 and 2017.

In recent years, many local and state governments have banned the landfilling of organic waste and supported composting infrastructure in order to reduce municipal greenhouse gas emissions and achieve waste diversion targets. Currently, 27% of the US population has access to food waste composting programs and 11% has access to programs that accept some form of compostable packaging along with food waste.¹ These are major advancements as the growth of composting infrastructure continues to accelerate across the US and globally.

The influence that stadiums and venues have on municipal infrastructure can be leveraged to support the development of commercial composting facilities. Several examples of venues who have leveraged this influence are included in the case studies portion of this playbook.

¹Sustainable Packaging Coalition, [Understanding the Role of Compostable Packaging in North America](#)

Touchdown! Improved Soil Health and Carbon Sequestration

Composting waste diversion programs not only reduce the greenhouse gas emissions produced by food waste in landfills, but they also help produce valuable soil amendment. An estimated 28% of all U.S. cropland (99 million acres) is eroding so fast that the long-term productivity of the soil cannot be maintained.¹ Because compost is rich in organic matter and nutrients, it benefits soil health and the environment through structural amelioration, increased water holding capacity, and greater water infiltration capabilities.

Additionally, soil enriched with compost sequesters carbon dioxide from the atmosphere better, turning the carbon into both food crops and plants that can be harnessed as a renewable feedstock for future compostable products.

Using compost has multiple benefits for soil health

- Compost improves the soil structure and increases permeability and infiltration.
- It provides needed organic matter that enables soil to retain nutrients longer, reducing the need for additional synthetic fertilizers.
- It stabilizes the soil pH by increasing the soil's buffering capacity.
- Soil enriched with compost has a moisture holding capacity up to 3x better than unamended soil, thereby reducing erosion and run-off.
- Compost restores and enhances soil microbial communities and biological activity within the soil.

Compost can also be used in green infrastructure projects around stadiums and venues as well as our local communities where it can help manage storm water through soil systems, pavements, landscaping, and other methods. Compost also helps retain storm water and prevents flooding and runoff.



How Does Composting Work?

The terms compostable and biodegradable are often used interchangeably. However, they each have very specific meanings. To be compostable, organic waste and compostable packaging undergoes a two-step process of, first, disintegration and then biodegradation. All products certified as compostable by the Biodegradable Products Institute have passed testing ensuring both disintegration and biodegradation occur and that results of this process are safe components of the final compost.



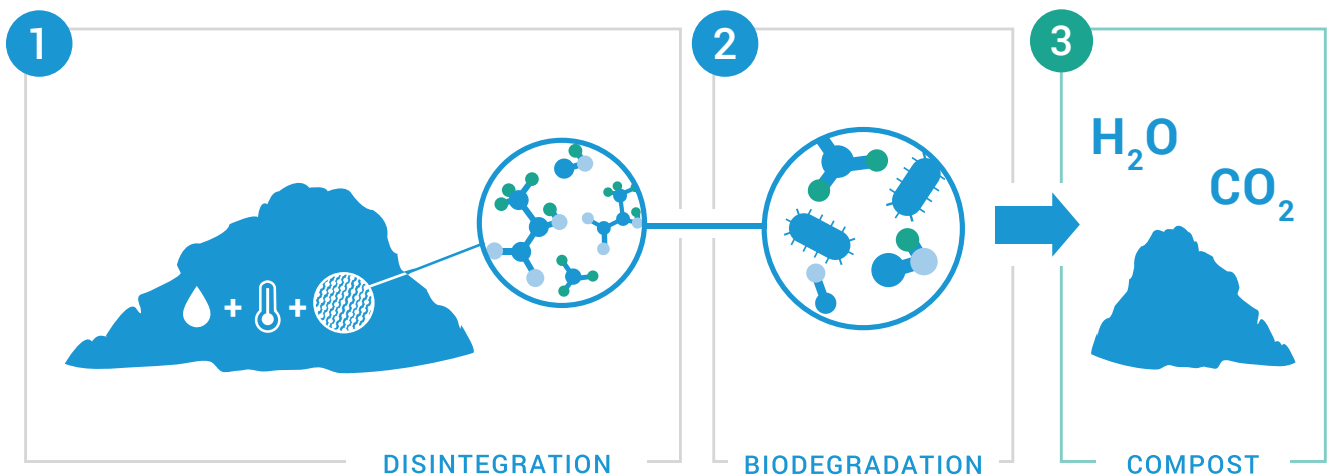
What is Compost?

Composting is the process of recycling organic matter, including food scraps, leaves, and certified compostable products. Composting speeds up the decomposition process, turning this organic matter into compost, which can be added to soil to help plants grow and improve soil health.

Uniquely, stadiums and venues can provide food waste as a valuable feedstock for creating compost, and they can also close the loop by

purchasing the final compost back for use at the venue and in the local community. Compost can be used by stadiums and venues to increase water drainage through surrounding soils or improve the health of landscaped plants and trees. Compost can also be donated to local community gardens to improve soil health and even help grow more food.

Composting is a two-step process:



Disintegration

The moisture and heat in the compost pile split apart the polymer chains in bioplastics or the fibers in paper products, creating smaller fragments.

Biodegradation

Microorganisms in compost and soil consume and metabolize the smaller polymer or paper fragments.

Compost

The end result of composting is carbon dioxide, water and humus, a soil nutrient.

Credit: CompostInfrastructure.com

FROM THE BIODEGRADABLE PRODUCTS INSTITUTE

A Note on Compostable Products

Defining “Compostable” and “Biodegradable”

While “biodegradable” and “compostable” may appear to be synonymous terms, there are important differences. While everything that is compostable is biodegradable, not everything that is biodegradable is compostable.

“Biodegradable” only means that it will decompose by bacteria or other living organisms. There are no specifications on environments or timeframes for this decomposition. Technically speaking, many things are biodegradable, but the rate and success of decomposition depend on the specific environment and access to active bacteria or other organisms to break it down.

“Compostable” refers to a specific timeframe and environment that is validated by a set of standards from organizations like ASTM. These standards are designed to provide scientific verification that a material can safely break down in a commercial compost facility and will not negatively impact compost quality.

In this way, “biodegradable” is not an appropriate attribute for describing the end of life for products and packaging because it lacks specificity on timeframe and environment. This term is generic and misleading, which is why it is illegal to market products as “biodegradable” in 4 states.



Need for BPI Certification

BPI’s third-party certification program distinguishes products that meet ASTM standards (and BPI’s other requirements) from those that do not. When looking at a product that is self-declared to be compliant by the manufacturer or brand, a consumer or composter will not know what standards have been met for the product. The third-party certification process ensures that correct components are used and that the correct tests have been conducted to ensure safety for the environment.



Common Materials and Finished Products

BPI-certified products cover a wide range of materials but can be roughly organized into a few categories. Rigid, resin-based items are products like clear cold cups, clear containers, and cutlery that are made predominantly from different bioplastic resins. Fiber-based items like plates, bowls, and containers are typically made from fibers like bagasse, wheat straw, or other molded pulp. Coated paper items like hot cups and soup cups utilize paperboard with bioplastic coatings. Film-based items like compostable liners and flexible snack packaging combine bioplastic resins with other technologies. BPI’s searchable database of certified products offers a complete list of BPI-certified materials and items.

Credit: BPIworld.org/Compostable-Products

A WORD FROM A COMPOSTER | AGRECYCLE

Dismantling the Myths Surrounding the Composting of Certified Compostable Food Packaging from AgRecycle's eleven-year experience:

Myth:

Compostable plastics don't really break down in composting facilities and end up contaminating the quality of the final compost.

Fact:

Compostable food serviceware certified by BPI breaks down fully and does not compromise the compost quality when a scientifically proven composting methodology is used.

Myth:

Compostable packaging programs are not necessary for increasing food waste capture for composting facilities.

Fact:

Certified compostable food serviceware packaging and food waste programs capture more food waste than food only composting programs!

Myth:

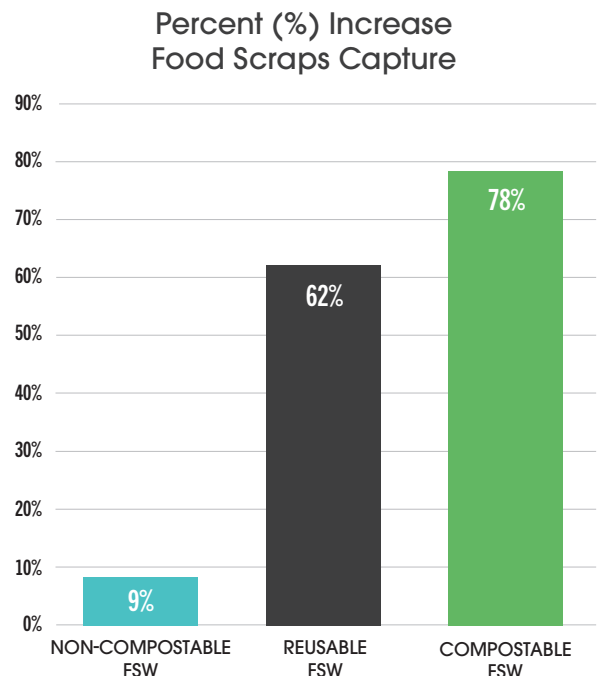
Accepting compostable products increase composters' risk of contamination from non-compostable oil-based products.

Fact:

Accepting compostable products does not increase the risk of contamination. Clear directions for fans on how to sort waste, reducing the number of materials in use, proper labeling...



A 3-year study published in BioCycle magazine of AgRecycle customers that implemented front-to back-of-house food scrap collection found that venues that switched from disposable to compostable food serviceware experienced a food capture rate increase of 72% and a contamination rate increase of just 2%.



Credit: Nora Goldstein, BioCycle August 2016, Vol. 57, No. 7, page 21



PROGRAM ROAD MAP

1. Establish a team with organizational buy-in with regularly scheduled meetings. It takes a team!
2. Map out where waste is generated at your facility (kitchens, suites, break rooms).
3. Perform a waste audit identifying all waste streams, including recycling, landfill, and compost.
4. Establish waste collection baselines and set goals for decreasing waste sent to landfills or incineration.
5. Meet with diversion stakeholders such as haulers, recyclers, composters, etc. during initial phases of program design to better understand:
 - Local Municipal Solid Waste (MSW) policy
 - Existing hauling, concessionary contracts, lease agreements, etc.
 - What materials (food, packaging, or both) are accepted at your local commercial composting facility
6. Control the product supply: use BPI-certified, well labeled compostable products and create procurement guides. See appendix for resources on sourcing certified compostable products.
7. Map out readily available and properly placed sort stations with options for compost, recycling, and landfill (these may be located near concourses, suites, concessions, and restrooms) and establish food waste collection in key areas. Work with your concessionaire in the kitchens, concession stands, suites, and clubs to collect food waste from the food preparation sources.
8. Create clear, concise and consistent signage for the collection bins.
 - Showcase the items supported and not supported, either with images or plexiglass display
 - Use national recycling colors: blue for recycling, green for compost, black for landfill/trash
 - Make sign placement accessible and in multiple languages

** If commercial composting is not available in your municipality, partnerships to develop the needed infrastructure are possible. Contact the GSA.*

9.

Sort for contamination. Even with the best bins and the best fans, contamination (plastics, cans, trash) will make it in the compost bin. Organize a team to sort through the compost bags to ensure only food waste and compostable products end up in the organics dumpsters.

- Designate space, likely in or by the compactor/dumpsters room.
- Create a system, use sorting tables, and bring lots of gloves.
- Establish a team and train them on acceptable compostable products and food waste based on the composter.

Pro tip: Use green compostable bags in the stadium for compost bins.

Pro tip: Label dumpsters.

Pro tip: During bowl pick, separate food waste and compostable products.

Pro tip: Collect food waste from kitchens, concessions, and suites separately. This should be pure food waste so you don't have to sort it!

10.

Develop ongoing staff training and engagement:

- Share why the facility is prioritizing this change and explain what happens to products in the various waste streams.
- Encourage active participation in waste audits. Sometimes dumpster dives are great team building activities!
- Give instruction on how to monitor, empty, and tag wastes receptacles

11.

Collect waste diversion metrics (both by weight and percent of total) with ongoing waste audits to track program status.

12.

Develop a "Waste Ambassador" program of individuals assigned to educate visitors and assist in waste disposal. These individuals could be facility employees or college students volunteering with a student organization.

13.

Engage the fans!

- Play a pre-recorded or live video educating fans on the waste collection system and sharing outcomes and success stories
- Showcase fans participating in the waste collection system and offer prizes.

14.

Upload all data to Play to Zero platform!



Every program is different. Be flexible and patient.



CASE STUDIES

Minnesota Twins at Target Field's Switch to Compostables Resulted in 70% Waste Diversion Achievement

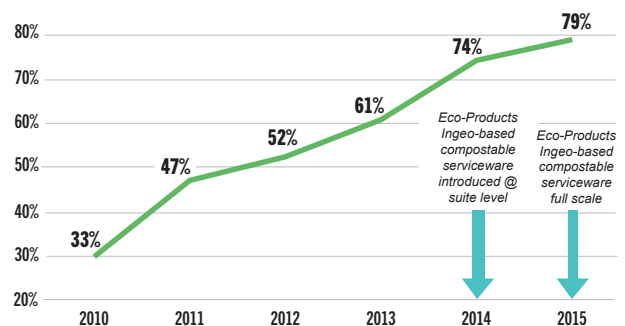
Target Field opened in 2010 with a seating capacity of 39,021 and the goal of becoming the greenest ballpark in America. As traditional sports concessions create a huge amount of waste each year, the Minnesota Twins sought to improve their already impressive environmental initiatives and, in 2015, focused efforts on migrating to fully compostable Ingeo-based food serviceware products in all concession and food service areas.

Solution

Through a partnership with Eco-Products and NatureWorks, the Minnesota Twins replaced their concessions packaging such as plastic beer cups, nacho trays, portion cups, and straws with alternatives made from compostable materials, including low carbon footprint Ingeo, allowing fans to deposit food packaging and utensils along with leftover food into compost bins. The Eco-Products team assisted in staff training and development of bin signage designed to instruct fans where to dispose of the product after it's used.



Target Field Waste Diversion Achievements



Results

Currently, food scraps are collected throughout the concourse and suites, in addition to back-of-house food prep areas. A post-game sort minimizes contamination for the composter, without adding undue burden to the concessionaire. In 2019 the Twins were able to achieve 70% waste diversion, putting them in a league of their own when it comes to waste diverting stadiums.

CASE STUDIES

US Bank Stadium Executes Flexible Transition from Double- to Triple- Stream Waste Collection

In their journey to achieving zero waste, US Bank first implemented a double-stream, waste and recycling option and later graduated to a triple-stream, recycling, compost, and trash-to-energy solution, an example of a successful incremental approach of waste management system overhaul.

Solution

Partnering with Max-R, US Bank Stadium outfitted their entire facility with waste and recycle bins customized to the needs of each specific location within the facility and the waste streams required for those areas. At the time of roll-out, US Bank Stadium was not ready to begin their composting program but was able to work with Max-R to implement a collection system that was able to easily transition from a double-stream, waste and recycling option to a triple- stream, recycling, compost, and trash-to-energy solution.

Results

Nearly all food packaging that comes from concessions, premium areas, and suites is made to be composted and is collected through the triple-stream waste collection system. Using this design, in 2018 **US Bank Stadium became the first sports stadium to achieve a Zero Waste Super Bowl with 91% of waste diverted from landfills—more than 69 tons.**



Other Sustainable Initiatives

- **Water Reduction:** The stadium ensures responsible water use by using industry-best low flow fixtures, and a storm water collection system keeps site runoff from flooding the surrounding area while also helping to charge the local groundwater.
- **Emissions:** By increasing the stadium's organics rates, CO2 emissions have been reduced by nearly 511,000 pounds, and methane emissions have been reduced by roughly 11,000 kgs.

CASE STUDIES

Penn State's Beaver Stadium Suites Achieve 100% Landfill Diversion Rate Showcasing Zero Waste Efforts

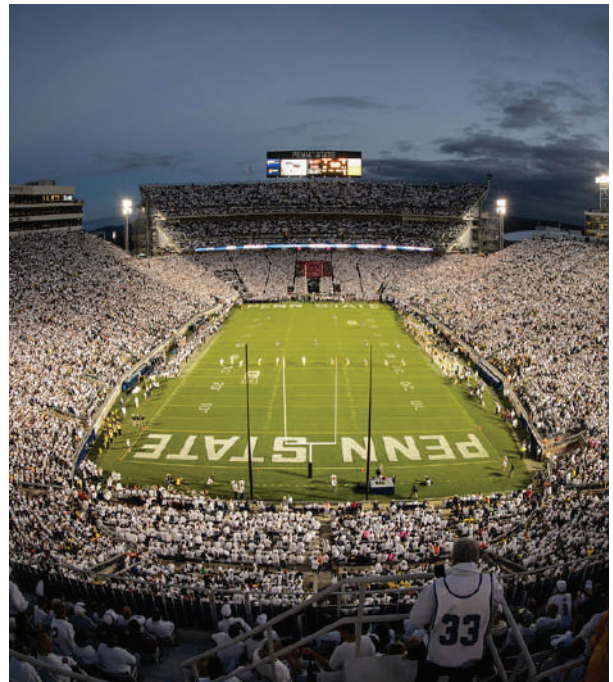
Penn State Athletics' events had a very large environmental footprint with fans attending events approximately 1 million times per year. To reduce waste and save money, the university targeted zero waste in their suites. Now the suites serve as a showcase to highlight sustainability efforts to key stakeholders.

Strategic Objectives

- Achieve zero waste in the suite sections of Beaver Stadium.
- Learn from the suites experiences to expand the initiative to all of Beaver Stadium and other athletic venues on the PSU campus.
- Make the suites zero waste initiative a showcase for donors and government officials.
- Use the zero waste initiative to educate students about sustainability and conduct academic research.

Solution

- Partner with the Green Sports Alliance, NatureWorks, StalkMarket, and GreenDrop to work toward zero waste in the suites of Beaver Stadium.
- Switch to certified compostable food serviceware including cups and cutlery made with Ingeo™ bioplastics.
- Conduct waste audits after each home game in 2013.
- Educate and engage fans to help achieve zero waste goals.



Meeting Strategic Objectives

- NatureWorks personnel provided ongoing advice, consultation, and key contacts to other parts of the supply chain.
- Compostable food service items from StalkMarket integrated easily and met high quality standards.

Results

- Prior to the zero waste initiative, essentially all materials ended up in a landfill. By the end of the first season, the diversion rate was up to 100% and has stayed there ever since.
- Compostable materials were taken to Penn State's own composting facility and made into landscaping amendments for use on campus and retail sale, closing the loop on the materials collected in the stadium.
- Initial savings were relatively small but allowed development of a system that could save thousands of dollars per home game in future seasons while reducing Penn State's carbon footprint.
- More than 30 Penn State students became zero waste ambassadors during each season by working games as spokespeople for sustainability initiatives.

“Packaging and foodservice items were the first step in achieving our zero waste goals. Having Ingeo's ASTM-certified products allowed us to have confidence that the materials we collected would be compatible with our university composting system. We were also confident that the suites clientele would not be disappointed in the performance of the food service items provided by StalkMarket.”

JUDD H. MICHAEL Professor, Penn State University



Other Milestones & Outcomes

- Waste audits were conducted after each home game to learn about the mix of waste being created and where efforts should be focused.
- Beaver Stadium operations partnered with university hospitality services to ensure compostable foodservice items were used to avoid items going to landfill.
- The experience gave hospitality services the knowledge and confidence to pursue zero waste initiatives in many other venues on campus where they provide services.

CASE STUDIES

WM Sports and Entertainment Division Shares Lessons Learned from Compostable Initiatives at the WM Phoenix Open & MetLife Stadium

WM's Sports and Entertainment Division implements comprehensive sustainability programs at stadiums, tournaments, races, conferences and other events across the country, where capturing organic waste is always a top priority. Try the below tips and strategies to effectively implement organics diversion.

WM Phoenix Open

1. Design for the Dumpster

Organics processors vary, so it is essential to learn what materials are accepted before setting up procurement requirements. Once local haulers explain what their organics processors want versus what is considered contamination, share this information with all vendors, sponsors, and suppliers to ensure that any materials used on site are compatible with the waste diversion systems.

All food serviceware at the WM Phoenix Open is certified compostable, based on specifications set by local processors. We update our vendor requirements as processor capabilities shift. In 2012, we started with "Acceptable Material Guidelines" that evolved into contractual "Sustainability Requirements." Including procurement requirements in contracts prioritizes sustainability at the start of every stakeholder agreement.

2. Engage Everyone

Identify every event stakeholder group and explain your approach to the zero-waste process to ensure everyone understands your procurement guidelines and overarching goals.

WM guides stakeholders through the WM Phoenix Open procurement process by reviewing purchases and providing supplier options. After distributing the requirements, we utilize a combination of in-person meetings, surveys that reinforce requirements, follow-up calls, supplier reviews, on-site procurement checks, employee training, and exit surveys that help assess future improvements.



3. Highlight Improvement Opportunities

Planning a zero-waste campaign for a sporting event is a year-round process. To make the case for future adjustments, encourage your team to identify concerns from all areas of operations. Create procedures for pre- and post-event management to ensure everyone is engaged and improvements are implemented year after year.

The WM Phoenix Open Planning Committee, including sustainability and operations leads, meets year-round to review improvement opportunities. After each tournament, we identify successes and address challenges. For example, procurement requirements are routinely updated based on items that contaminated the recycling and organics streams. Over the years, we've banned condiment packets, polystyrene, plastic straws and any wrapper smaller than a chip bag.



MetLife Stadium

1. Set the Right Goals

Drawing a boundary around your operations is essential to establishing aggressive procurement and diversion goals. Venues should conduct a greenhouse gas emissions evaluation of disposal options before setting lofty zero waste targets. Food waste minimization and diversion is often at the top of the list. Venues should also target material streams with the most opportunity and largest greenhouse gas reduction impact.

MetLife Stadium worked with WM to frame its diversion rate, utilizing a customized dashboard to track all environmental impacts. An operations review revealed specific opportunities to increase food waste collection as well as the tools needed to facilitate the change. The stadium targeted all back-of-house collection, along with public areas where they have more control, making plans to expand as the program develops.

2. Keep it Simple

Inform your employees about your material management goals and process. Set up a system to keep it simple by prioritizing reuse whenever possible and keeping back-of-house disposal straightforward, without degrading material value. Implement strategies to streamline waste conveyance through the final disposal.

MetLife Stadium finds a lot of value in employee communication. To accommodate varying learning styles, the stadium utilizes in-person and video trainings along with uniform signage. To optimize operations, different color liners are used for the landfill, recycling and organics streams. This combination of training and operational adjustments led to a 91% increase in organics diversion between 2017 and 2019, with progress maintained during the subsequent period of decreased fan attendance.

3. Lean on Your Team

Most venues and events coordinate with a variety of sponsors, vendors and operational partners. Exploring cross-functional goals and services to align on sustainability initiatives leads to a more impactful program and stronger co-branding opportunities.

When negotiating a new sponsorship, WM and MetLife Stadium identified the value of incorporating sustainability goals into the agreement. MetLife Stadium receives help developing a comprehensive sustainability program while WM is incentivized to increase organics diversion to demonstrate that the sponsorship goes far beyond logo placement.

CASE STUDIES

Enhancing fan understanding of waste streams and reducing cross-contamination at the point of collection- Atlanta Hawks State Farm Arena and New York Yankees Yankee Stadium

State Farm Arena

As part of their 2018 renovation, the Atlanta Hawks and State Farm Arena implemented a Max-R program that not only addressed both premium spaces as well as the open concourse but that also was future friendly and ready for the eventual move to a front-of-house compost program. When the decision to compost was made, each unit was converted to provide a large capacity stream for compost, with a major reduction to the waste stream. Max-R continues to work with State Farm Arena as they expand their zero-waste program throughout the arena.

Yankee Stadium

As a leader in Major League Baseball sustainability, the New York Yankees lead in their commitment to achieving zero waste. After their initial rollout of metal bins that could not stand up to the game-day-traffic, Yankee Stadium replaced their dented, metal bins with intuitive, clearly labeled, double stream recycle stations that supported their zero waste initiatives. They took advantage of the opportunity to promote their brand, Yankee Stadium, as well as their own unique green initiative logo and that of their zero-waste collection partner.



CASE STUDIES

Seattle Mariners T-Mobile Park Improves Diversion Rates by Upgrading to Double Stream Stations in Premium Areas

When the Seattle Mariners home field transitioned from Safeco Field to T-Mobile Park, they made a decision to elevate their award-winning recycling program even further. With impressive diversion rates already, they wanted to address a need in their premium areas, with a decorative yet sustainable solution. They engaged Max-R to provide a combination of double stream zero-waste stations (compost and recycling), with a small inventory of triple stream stations that include landfill waste. Even though the percentage of landfill waste is so small, providing strategically located outlets keeps that waste from contaminating their clean compost and recycling streams.





ADDITIONAL RESOURCES

ASTM Labeling Standards

- D6400 for Labeling of Plastics Designed to be Aerobically Composted in Municipal or Industrial Facilities
- D6868 for Labeling of End Items that Incorporate Plastics and Polymers as Coatings or Additives with Paper and Other Substrates Designed to be Aerobically Composted in Municipal or Industrial Facilities

Biodegradable Products Institute [labeling guidelines](#) for compostable products and packaging

US Composting Infrastructure Coalition

Sustainable Packaging Coalition, Understanding the Role of Compostable Packaging in North America

The Ellen MacArthur Foundation

CONTACTS

Green Sports Alliance

Matt Adler | Director of Corporate & Sports Partnerships
matt@greensportsalliance.org

Michael Kraus | Director of Sustainable Events and Analytics
michael@greensportsalliance.org

Bradley Vogel | Senior Manager, Member Services and Events
bradley@greensportsalliance.org

greensportsalliance.org

AgRecycle

Ms. Carla Castagnero | President
carla@agrecycle.com

Penn State University

Dr. Judd Michael | Professor of Agricultural and Biological Engineering
jhm104@psu.edu

Natur-Tec

Rick Lombardo | Senior Director, Business Development
rlombardo@ntic.com | 517.230.5995
www.natur-tec.com

NatureWorks

Doug Kunneman | Business Development Leader
doug_kunneman@natureworkslc.com | 404.862.0709
www.natureworkslc.com

