



# CASE STUDY: THE OHIO STATE UNIVERSITY, HOME OF THE BUCKEYES

## CAMPUS FACTS

LOCATION:  
Columbus, Ohio

FOUNDED:  
1870

TYPE:  
Public

TOTAL STUDENT POPULATION:  
64,429 (50,145 undergraduates)

STAFF:  
32,019

PRIMARY ATHLETICS CONFERENCE:  
Big Ten

PRIMARY ATHLETICS DIVISION:  
NCAA Division 1

NUMBER OF VARSITY TEAMS:  
39 (20 women, 19 men)

NUMBER OF SPORTS FACILITIES:  
24 (19 athletic, 5 recreational)

SUSTAINABILITY OFFICE FOUNDED:  
2006

AASHE STARS RATING:  
Silver, 2012

SPORTS GREENING WORK STARTED:  
2007

**“OHIO STATE HAS INSTITUTED A COMPREHENSIVE APPROACH TO INCORPORATING SUSTAINABILITY INTO EVERYTHING WE DO,” SAYS RON SEGA, VICE PRESIDENT AND ENTERPRISE EXECUTIVE FOR THE OFFICE OF ENERGY AND ENVIRONMENT. “THE SUCCESS OF THE OHIO STADIUM PROGRAM, WITH ATTENDANCE OF MORE THAN 100,000 PEOPLE AT EACH GAME, INDICATES THAT OTHER VENUES CAN ALSO ACHIEVE OUR LEVEL OF WASTE DIVERSION.”**

## THE BUCKEYES’ GREENING STORY: MOTIVATIONS, CHALLENGES, AND LESSONS

The Ohio State University (Ohio State) is home to one of the most successful stadium recycling and composting programs in the United States. Ohio Stadium, with 105,000 seats, is the largest venue in the country to achieve waste diversion from landfill of more than 90 percent through recycling and composting. Ohio State launched its “zero waste” program at Ohio Stadium in 2011 and by 2012 achieved a top diversion rate of 98.2 percent for a single game and a season average diversion rate of 87.2 percent. Since 2012, the Ohio Stadium recycling and composting program has become the model for campus-wide “zero waste” efforts at Ohio State as well as collegiate stadiums across the country.

## WHY IS OHIO STATE GREENING SPORTS?

According to Jay Kasey, senior vice president for Administration and Planning at Ohio State, “The Ohio State University is working to be a leader in sustainability, and the best place to start is at home. The ‘zero waste’ program at Ohio Stadium is proof that when we work together as one university and one community, we can have an impact beyond our campus borders.”

Sustainability at Ohio State is a campus-wide effort and every department plays an important role. Corey Hawkey, Ohio State sustainability coordinator and head of the Ohio Stadium waste diversion program, notes that the Department of Athletics provides an unparalleled opportunity to engage the greater university community in greening efforts. “The Department of Athletics is uniquely positioned to support campus [sustainability] efforts for several reasons. First, for many people, Ohio State athletic events are the gateway to campus. Second, athletic facilities contribute significantly to the university’s energy use, carbon emissions, and ecological function. And third, athletics greening is important because of the educational experiences it can bring our athletes, students and fans.”

The campus sustainability office (Energy Services and Sustainability) is housed within the department of Facilities Operations and Development. The office has been engaged in campus-wide sustainability planning and implementation since 2006. In 2010, the university established a “framework plan” to promote sustainability for the entire campus, with support from students, faculty, and staff. This planning process, with a vision extending 50 years, provides Ohio State with sustainability goals and objectives and includes the Department of Athletics’ sustainability work.

“Ohio State has instituted a comprehensive approach to incorporating sustainability into everything we do,” says Ron Sega, vice president and enterprise executive for Ohio State’s Office of Energy and Environment. “The success of the Ohio Stadium program, with attendance of more than 100,000 people at each game, indicates that other venues can also achieve our level of waste diversion.”

## WHERE DID OHIO STATE START?

Sustainability efforts in Athletics started for the Buckeyes in 2007 when the sustainability office teamed up with the Department of Athletics to begin recycling at Ohio Stadium and in the adjacent tailgate lots. This recycling system began as a post-game waste-sorting initiative in which all waste was collected in trash bins at games and subsequently sent to a materials recovery facility (MRF) where recyclables were sorted out for recovery. The process recovered approximately 50 percent of game-day materials for recycling from the stadium and tailgate lots. However, as Hawkey points out, “The program was not visible, did not improve the fan experience, and provided limited opportunity to keep improving waste diversion rates.”

On the basis of this experience in 2007, the sustainability office realized that, without fan-facing recycling or composting bins, the stadium’s ability to divert waste from landfills depended substantially on the performance of the waste hauler and MRF sorting technology. “By treating all materials as trash in the stadium we were missing out on the opportunity to engage fans to help us improve waste sorting and diversion rates,” explains Hawkey. “We recognized that we needed to reevaluate our approach to waste management at the stadium.” As a result, in 2008 the university’s sustainability office initiated discussions about developing a “zero waste” program at Ohio Stadium.

The process began with the sustainability office reaching out to the Department of Athletics to better understand existing stadium processes and build a working relationship. The next step was securing a \$50,000 grant from the university President and Provost’s Council on Sustainability and pitching the “zero waste” program to other important stakeholders.

The partnership between the Department of Athletics and the campus Energy Services and Sustainability group was crucial for moving Ohio Stadium toward its waste diversion goals. A leadership team was established with representatives from Energy Services and Sustainability, Department of Athletics (stadium manager, associate director of facilities), IMG Sports Marketing, Sodexo (concessionaire at the time), and Waste Management (hauler at the time). “The leadership team provided feedback to Athletics on major issues and questions relating to planning and implementation,” explains Hawkey. “The leadership team suggested solutions and additional partners that could improve the program.”

Ultimately, Ohio State’s efforts required partnerships across the campus and with the surrounding community (see “Zero Waste’ Program Goals and Partners” sidebar). Support and funding for the Buckeyes’ sustainability initiatives came from both campus and athletics leadership, including the President and Provost’s Council on Sustainability and athletics director Gene Smith.

“In May 2011, years of teamwork and trust building paid off with the initiation of the ‘zero waste’ program at Ohio Stadium, the largest stadium in the country to attempt a ‘zero waste’ initiative,” said Don Patko, associate athletics director for facilities, Department of Athletics. “The stadium program made recycling an important part of the fans’ experience with improved signage and recycling stations throughout the



Photo courtesy of The Ohio State University.

## “ZERO WASTE” PROGRAM GOALS AND PARTNERS

### GOALS

- Reduce the environmental impact of events at Ohio Stadium
- Demonstrate Ohio State’s leadership in sustainability
- Reduce costs related to stadium materials collection
- Achieve a 75 percent landfill diversion rate in 2011
- Achieve 90 percent diversion at least once by end of the 2012 football season

### PARTNERS

- Alpha Tau Zeta chapter of FarmHouse International fraternity (compost sorting)
- D&D Cleaning (compost sorting)
- OSU Department of Athletics (leadership, operations and funding)
- OSU Energy Services and Sustainability Office (leadership and coordination)
- OSU Facilities Operations and Development Office (leadership, support, operations)
- IMG Sports Marketing (sponsorship)
- Mid-Ohio Food Bank (food donation)
- Ohio Department of Rehabilitation and Correction (recycling)
- OSU President and Provost’s Council on Sustainability (leadership and funding)
- Price Farms Organics, Ltd. (composting)
- PSI (education and outreach)
- OSU Navy ROTC (operations)
- Rumpke (hauling)
- Sodexo (food services)
- Solid Waste Authority of Central Ohio (support)
- Southeastern Ohio Correctional Institute (recycling)
- Vera Institute of Justice (support)

**“BY TREATING ALL MATERIALS AS TRASH IN THE STADIUM WE WERE MISSING OUT ON THE OPPORTUNITY TO ENGAGE FANS TO HELP US IMPROVE WASTE SORTING AND DIVERSION RATES,” SAYS COREY HAWKEY, OHIO STATE SUSTAINABILITY COORDINATOR.**



“THE ‘ZERO WASTE’ PROGRAM AT OHIO STADIUM INVOLVED SIGNIFICANT EFFORTS BY MANY DEDICATED PEOPLE TO DRASTICALLY REDUCE THE AMOUNT OF FOOTBALL GAME-DAY TRASH HEADED TO LANDFILLS,” SAYS SEGA. “WE’RE PROUD TO BE LEADERS IN THIS AREA AND LOOK FORWARD TO SHARING OUR EXPERIENCE, SO OTHERS CAN DO EVEN BETTER.”

## FINANCING

### FUNDING

- \$50,000 from the Ohio State President and Provost’s Council on Sustainability (2011 and 2012)
- \$37,500 annually in sponsorships from Rumpke and Solid Waste Authority of Central Ohio (starting in 2012)
- \$36,000 from Ohio State’s Energy Services and Sustainability (one-time startup costs)
- \$30,000–\$50,000 from Sodexo
- \$12,000 from the Ohio State Department of Athletics (one-time startup costs)

### COSTS

- \$30,000–\$50,000 (estimate) to switch to compostable and recyclable products and food vendor-related staff time (funded by Sodexo)
- \$48,000: Up-front infrastructure, 2011 (receptacles, signage, labor, etc.)
- \$49,000 annually: Training, management, and supervision for 65 Zero Waste team members

### STAFF TIME

- Sustainability coordinator: 20–25 hours per week plus 12 hours on game day and 6 hours on day after game
- Student volunteers: 10 to 12 per game (8–12 hours), and additional time for compost sorting

stadium. Adding front-of-house composting receptacles also helped increase the waste diversion rate and create a cleaner recycling stream.”

The first football season with the program in place was a great success: Ohio State was able to divert 75 percent of the 2011 football season’s waste from landfill, and after just a few months, achieved a top diversion rate of 82.4 percent. During the fall of 2012, the second season of the program, Ohio State achieved a season average of 87 percent waste diversion and a peak game diversion rate of 98.2 percent, which gave the school the diversion rate title in the Game Day Challenge.

“‘Zero Waste’ at Ohio Stadium involved significant efforts by many dedicated people to drastically reduce the amount of football game-day trash headed to landfills,” says Sega. “We’re proud to be leaders in this area and look forward to sharing our experience, so others can do even better.”

## CHALLENGES: OVERCOME AND ONGOING

### LACK OF PRECEDENT

According to Corey Hawkey, “When we decided to move Ohio Stadium toward ‘zero waste’ in 2011, no one really understood what that actually meant. There was little precedent for diverting over 90 percent of materials from a stadium that seats 105,000 fans. One of the first things that we did was to talk to our peers who had attempted ‘zero waste’ before us, regardless of their size.” The Ohio State team reached out to the University of Colorado at Boulder and the University of California at Davis to research waste management techniques and learn from the other schools’ experiences. “The things we learned from existing programs helped us avoid a lot of mistakes,” explains Hawkey. “While they were a great help, ultimately we were treading in new water and it was important to stick to the goal and stay focused on bringing together all of the knowledge of our partners.”

### FINANCING AND BUY-IN

The “zero waste” program could not have been launched without support from the top echelons of the university. “Leadership from the President and Provost’s Council on Sustainability was critical to getting the ‘zero waste’ program off the ground,” explains Hawkey. “The planning support coupled with the funding for up-front infrastructure costs provided a seal of approval that helped solidify campus-wide buy-in.” This leadership motivated departments around campus to support the program with staff time and, in some cases, additional funding. Once the program secured campus-based funding, Ohio State worked with IMG Sports Marketing, an existing partner of the Buckeyes, to attract sponsorship dollars to help offset the program’s implementation costs. Ohio State also partnered with existing vendors like Sodexo, its concessionaire at the time, to transition to compostable and recyclable products and to upgrade the process for cleaning concessions and suites. Sodexo covered the additional costs in switching products, labor, and infrastructure, estimated at \$30,000 to \$50,000 (details are proprietary). “There were startup costs,” says Hawkey. “However, costs can be balanced and off-set with support from sponsors and by developing efficiencies over time.”



## CONTAMINATION

“Ensuring that compost isn’t contaminated in a stadium of over 105,000 fans is quite a challenge,” says Hawkey. “The team decided from the very beginning that the program would revolve around labeling food and fiber as compost and everything else as recycling, with no trash bins in the stadium. The education outreach was targeted to this approach.” Ohio State worked to develop a program that relied on fan education and clear, color-coded infrastructure to ensure success.

To do this, the team focused on simple messaging that could be relayed in the chaotic concourse environment and stationed workers at receptacles around the stadium to help educate fans at the point of disposal. Ohio State worked with Sodexo to educate and encourage participation of concession staff. Postgame sorting processes also helped reduce contamination. Many process revisions were made to minimize contamination during the first year of implementation, and collectively these efforts helped ensure a successful program.

## BEYOND OHIO STADIUM

Tailgate lots present a unique waste management challenge, and recycling efforts there are managed separately from the “zero waste” program at Ohio Stadium. High school students are hired to pass out recycling bags to tailgaters as they arrive and to help educate the fans about the program. Many fans use the bags, placing their materials in the recycling and trash dumpsters strategically located throughout the tailgating areas. Ohio State received a grant in 2012 from the Alcoa Foundation to expand the number of educators in the tailgate lots, add extra recycling infrastructure, and develop a recycling education station.



Photos courtesy of The Ohio State University.

## STANDOUT GREENING ACCOMPLISHMENTS

- **Highest Diversion Rate: 98.2 percent** during game against Illinois on November 3, 2012
- **2012 Season Diversion Rate: 87.2 percent** (up 12 percentage points from 2011)
- **Student Volunteer Hours: 120** (average of three volunteers working eight five-hour games, demonstrating consistent student commitment)
- **Reduction in Landfilled Materials: 61.2 percent** in 2012 compared with 2010 (23.2 tons versus 59.8 tons)
- **Increase in Season Diversion Rate: 28.8 percent** in 2012 compared with 2010
- **Influence: At least six other institutions** have begun to research implementing “zero waste” programs since the launch of OSU’s initiative.

## “ZERO WASTE” PROGRAM IMPLEMENTATION GUIDE

### FROM OHIO STATE PROJECT LEAD COREY HAWKEY

#### I: SEEK COLLABORATORS AND REVIEW BEST PRACTICES

- Connect with other campuses implementing waste diversion stadium programs and build relationships between athletics departments. Ohio State established a database of others seeking to achieve “zero waste”: <http://go.osu.edu/zvenues>
- Learn from your peers and seek out experts.

#### II: EVALUATE PRODUCTS AND SWITCH TO COMPOSTABLE AND RECYCLABLE SERVICEWARE

- Work with your food vendor to develop a strategy to address all products used at concessions, considering product type and flow through the stadium.
- Collaborate with your food vendor to identify compostable or recyclable serviceware alternatives that do not increase cost or negatively affect the fan experience.
- Understand that you do not have to change all products at once. Work on high impact items first.

#### III: UPDATE STADIUM WASTE INFRASTRUCTURE

- Conduct an inventory of existing waste containers and map their locations (this is an ideal student research project).
- Develop a plan for the consolidation and reallocation of receptacles.
- Evaluate the cost of new or repurposed receptacles, signage, and any other necessary infrastructure and begin to identify sponsorship opportunities.

#### IV: IMPROVE THE GAME-DAY COLLECTION PROCESS AND OUTREACH

- Develop an understanding of the waste disposal process during the game.
- Create a redeployment plan for new recycling and composting stations.
- Develop a plan to educate fans and monitor recycling and composting stations.
- Create a plan for marketing and communicating the program.
- Develop a program brand with a clear name and color scheme (Ohio State used school colors for bins: scarlet for recycling and gray for compost).
- Simplify the disposal process as much as possible. Ohio State worked with its food vendor to decide on the message “If it’s food or fiber, you compost it; anything else, whatever it is, recycle it.” Determine what process is best for your stadium and partners.

#### V: IMPROVE THE POSTGAME CLEANUP PROCESS

- Develop a strategy to collect materials after the game (Ohio State partners with NROTC).
- Develop a plan for the cleanup process that addresses the type of bags, location of dumpsters, and transfer of waste from container to hauling truck.
- Evaluate the stadium waste hauling contract and revise when appropriate.

#### VI: IMPLEMENT AND TRACK

- Complete data reports after each game, using a consistent data system.
- Implement the program throughout the season, holding regular meetings with the waste diversion committee and partners and making appropriate adjustments to the program as necessary.

#### VII: REVIEW PERFORMANCE AND EXPLORE NEW FUNDING

- Complete a season review and assemble report with all data.
- Consider ways to improve efficiency and effectiveness.
- Work with sports marketing to publicize extensively and identify further sponsorship opportunities.

## LESSONS FROM THE FIELD

### FOCUS ON PARTNERSHIPS

“Ohio State is very proud of the partnerships that were developed to support Zero Waste at Ohio Stadium,” says Hawkey. “The strong partnerships helped ensure that all the right resources were in place for success. It is important that all stakeholders wanted to succeed not only because it was good business but also because they believed in the goals.” Hawkey also cites two other important components of a campus-wide collaboration. “Support from university leadership plays a significant role in the initiation of the program. You also need a champion within the department of athletics to ensure the success of the program.”

### FOSTER COMMUNICATION AMONG STAKEHOLDERS

“It is imperative to listen to the needs of all stakeholders and to take the time to learn how they do things and why,” says Hawkey. “Also, be respectful and communicate openly about why decisions are made and what results are expected from those decisions. Communicate with all stakeholders out of respect to ensure there are no surprises.”

### BUILD PROJECTS OVER TIME

It will take time to reach your goals. “Do not make major changes you are unsure of. Instead, make changes incrementally and with the understanding that you can always change it back or into something else,” says Hawkey. Ohio State is extending the success of Zero Waste at Ohio Stadium across campus and all athletics facilities.

### MAXIMIZE YOUR RESOURCES

The sustainability office worked with the sports marketing group and the athletics marketing offices to make sure that the program improved the fan experience by building fan loyalty and pride. It is helpful to engage sponsors and marketing from the beginning to open communication channels throughout athletics departments.

“LEADERSHIP FROM THE PRESIDENT AND PROVOST’S COUNCIL ON SUSTAINABILITY WAS CRITICAL TO GETTING THE PROGRAM OFF THE GROUND AND HELPED SOLIDIFY CAMPUS-WIDE BUY-IN,” SAYS HAWKEY.