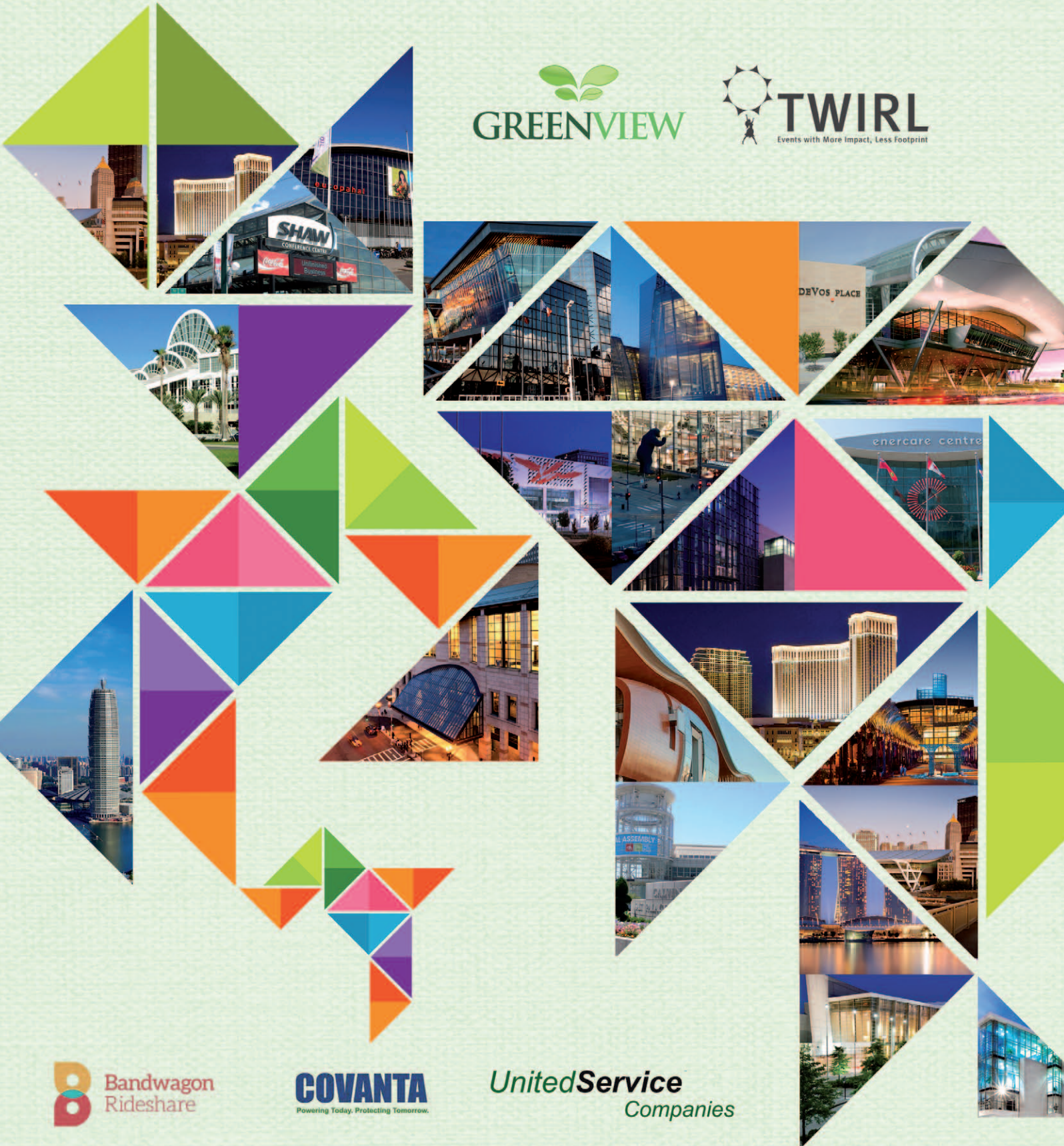


GREEN VENUE REPORT 2015

The State of Convention & Exhibition Center Sustainability



GREEN VENUE REPORT 2015

The State of Convention & Exhibition Center Sustainability



SPONSORS



This report concept was created by Greenview and Johanna Walsh of Twirl Management.



Greenview
503.298.4561
www.gviewadvisors.com



Twirl Management
415.636.7936
www.twirlmanagement.com

© 2015 Greenview and Twirl Management

Report Authors

Amanda Simons
Cara Unterkofler

Acknowledgments

We would like to thank the following individuals, without whom this report would not have been possible:

Kathleen Hennessey, Rebecca Marshall, Vivian Fleet, Camala Jones, Lindsay Arell, Ryan Green, Connor McGarvey, Mark McMinn, Mike Dziurgot, Kevin Teng, Peter Shogren, Michelyn Dion, Amanda Littleford, Melissa Boutwell, Matthew Uchtman, Bart Allen, Taryle Spain, Kimberlee Dobbins, Tim Trefzer, Eddie Tadlock, Sonya Poorter, Syed Mubarak, Dianne Young, Isabellah Saburi, Damion Wan, Gerrica Gray-Johnson, Evan Harwood, Marjolijn Krul, Mitchell Beers, Jeff Chase, Dan Sherman, Kyle Schatzel, Patrick Strickland, Eric Ricaurte, Lindy Farrar, Debbie Goeden, Lesley Allison, and Dan Black.

Please send questions and feedback regarding this report to reportit@greenvenuereport.com

www.greenvenuereport.com

Twitter: [@GrnVenueReport](https://twitter.com/GrnVenueReport)

Facebook: <https://www.facebook.com/greenvenuereport>

TABLE OF CONTENTS

INTRODUCTION	6
ABOUT THE REPORT	7
KEY FINDINGS	11
TOP 7 BEST PRACTICES FOR 2015	13
SPACE & EVENTS	14
LOCATION	18
FACILITY CERTIFICATIONS	22
STAFF	25
COMMUNICATIONS	29
WASTE	34
ENERGY	42
WATER	47
FOOD AND BEVERAGE	50
AIR QUALITY	55
GREEN CLEANING	55
OUTLOOK	57

INTRODUCTION

When it comes to sustainability within the meetings, incentives, conventions and exhibitions (MICE) industry,¹ convention centers play a pivotal role as a central event venue and “host.” The venue provides event organizers with a foundation that either helps or hinders sustainability. As we like to say, *“green meetings happen in green venues.”* Convention centers embracing sustainability can lead to benefits including increased efficiencies (and potentially associated cost savings), more engaged staff, more satisfied customers and competitive distinction within the market.

What are the individual and collective footprints (positive and negative) of events taking place within convention centers?

What are best practices in the industry that more convention centers (and their event organizer clients) can benefit from?

What innovative efforts by convention centers should be recognized and celebrated?

These are the fundamental questions the Green Venue Survey and Report have been designed to help answer. By collecting performance data and practices information from convention centers around the world, participating venues can see how they perform against their peers and the industry can better understand its aggregate impact, progress, best practices and innovations.

In this second annual report, the Green Venue Report is already helping centers, planners and other tourism stakeholders better understand levels of performance and areas of strength and weakness from a facility and industry perspective. For the first time, we are able to start quantifying certain metrics we weren't able to estimate before around environmental and social impacts, including convention center renewable energy use, food donation and waste diversion, for example.

Conducting and publishing the Green Venue Survey and Report on an annual basis provides an opportunity to continuously monitor progress and maintain an up-to-date reference on industry best practices and innovations for the benefit of all venues and their event organizer partners.

¹ For the purposes of this report, we are focusing on large events held in convention and exhibition center venues.

ABOUT THE REPORT

In this Second Annual Green Venue Survey and Report, the invitation for participation extended beyond North America to convention and exposition centers around the globe. The 2015 Green Venue Survey was an online survey comprised of 158 questions covering the topics of venue space, events, energy, waste, water, accessibility, food and beverage, staff involvement and communications. The questions are similar to those asked by sustainable event organizers and responsible property investors. All questions related to performance data pertained to 2014 full-year data. All questions related to practice information pertained to currently implemented practices as of the date of surveying (July 2015).

The “sustainability journey” continues with the second iteration of this report.

First, 30 convention centers completed the 2015 Survey, nearly double the number of participants as last year. However, this remains a very controlled sample size. While direct year-to-year comparisons are not possible at this time, we see a reassuring consistency in the data reported. Small “dips” in performance reported², we believe reflect a more accurate portrayal of overall industry performance, compared to the 16 leading centers representing the 2014 Report (2012 data set).

We believe the number of respondents and accuracy of the data will continue to grow as awareness of the Green Venue Report grows and as centers continue to dedicate personnel capable of answering questions spanning a breadth of sustainability topics (e.g., engineering, food and beverage, procurement, marketing). Though this report doesn’t reflect the entire industry, but rather a sub-section of top performers and industry leaders, it does give us a better view of the challenges and successes at convention centers across the world.

Second, the data and information for call-outs in the report were supplied by respondents and are assumed to be accurate and complete. Instances of particular data inconsistencies or weakness are addressed in the report and extreme outlying data was omitted for analysis. This exercise of reporting sustainability data from convention centers raises many questions about metric calculation boundaries and methods, and it is clear the industry can benefit from standardization. This report aims to share survey results in a transparent manner to support industry discussions about common measurement.

Third, we acknowledge that surveys themselves are a work in progress. This year we made great improvements in regards to wording, completeness and design however, it is still far from perfect. We look forward to introducing iterative improvements based on the immense learning we achieve each year.

² For example, the average waste diversion rate reported in 2015 (2014 data) was 52%, which better correlates to the performance we witness and track onsite at events than the 62% reported in 2014 (2012 data).

The 30 participating centers in this report represent 4 continents and data for over 57 million square feet of venue space, almost 10,000 events and over 35 million attendees.

PARTICIPATING VENUES

Our sincere gratitude goes out to the 30 centers that participated in the 2015 Green Venue Survey and Report. Their participation shows great leadership, which is reinforced by their positive policies and programs, many of which are highlighted throughout the report.

“If your actions inspire others to dream more, learn more, do more and become more, you are a leader.”

– John Quincy Adams

2015 Report Participants

1. Amsterdam RAI Exhibition and Convention Centre, Amsterdam, The Netherlands
2. Anaheim Convention Center, Anaheim, California, USA
3. Austin Convention Center, Austin, Texas, USA
4. Boston Convention & Exhibition Center, Boston, Massachusetts, USA
5. Calvin L. Rampton Salt Palace Convention Center, Salt Lake City, Utah, USA
6. Colorado Convention Center, Denver, Colorado, USA
7. David L. Lawrence Convention Center, Pittsburgh, Pennsylvania, USA
8. DeVos Place Convention Center, Grand Rapids, Michigan, USA
9. Enercare Centre, Toronto, Ontario, Canada
10. Georgia World Congress Center, Atlanta, Georgia, USA
11. Hynes Convention Center, Boston, Massachusetts, USA
12. The International Centre, Mississauga, Ontario, Canada
13. Jacob K. Javits Center, New York, New York, USA
14. Kenyatta International Convention Centre, Nairobi, Kenya
15. Las Vegas Convention & Visitors Authority, Las Vegas, Nevada, USA
16. Marina Bay Sands, Singapore
17. Metro Toronto Convention Centre, Toronto, Ontario, Canada
18. Moscone Center, San Francisco, California, USA
19. Music City Center, Nashville, Tennessee, USA
20. Orange County Convention Center, Orlando, Florida, USA
21. Oregon Convention Center, Portland, Oregon, USA
22. Palmer Events Center, Austin, Texas, USA
23. San Diego Convention Center, San Diego, California, USA
24. San Jose Convention Center, San Jose, California, USA
25. Sands Expo and Convention Center, Las Vegas, Nevada, USA
26. Shaw Conference Centre, Edmonton, Alberta, Canada
27. Venetian Macao Convention & Exhibition Centre, Macau, China
28. Virginia Beach Convention Center, Virginia Beach, Virginia, USA
29. Walter E. Washington Convention Center, Washington, DC, USA
30. Zhengzhou International Convention and Exhibition Center, Zhengzhou, China

Join & Contribute!

The 2016 Green Venue Survey will become available the spring of 2016. Find out more at www.greenvenuereport.com

U.S.A.

Anaheim Convention Center
Anaheim, California

Austin Convention Center
Austin, Texas

Boston Convention & Exhibition Center
Boston, Massachusetts

Calvin L. Rampton Salt Palace Convention Center
Salt Lake City, Utah

Colorado Convention Center
Denver, Colorado

David L. Lawrence Convention Center
Pittsburgh, Pennsylvania

DeVos Place Convention Center
Grand Rapids, Michigan

Georgia World Congress Center
Atlanta, Georgia

Hynes Convention Center
Boston, Massachusetts

Jacob K. Javits Center
New York, New York

Las Vegas Convention & Visitors Authority
Las Vegas, Nevada

Moscone Center
San Francisco, California

Music City Center
Nashville, Tennessee

Orange County Convention Center
Orlando, Florida

Oregon Convention Center
Portland, Oregon

Palmer Events Center
Austin, Texas

San Diego Convention Center
San Diego, California

San Jose Convention Center
San Jose, California

Sands Expo and Convention Center
Las Vegas, Nevada

Virginia Beach Convention Center
Virginia Beach, Virginia

Walter E. Washington Convention Center
Washington, DC

CANADA

Energare Centre
Toronto, Ontario

International Centre
Mississauga, Ontario

Metro Toronto Convention Centre
Toronto, Ontario

Shaw Conference Centre
Edmonton, Alberta

CHINA

Venetian Macao Convention & Exhibition Centre
Macao, China

Zhengzhou International Convention and Exhibition Center
Zhengzhou, China

Kenyatta International
Convention Centre
Nairobi, Kenya

KENYA

Marina Bay Sands
Singapore

SINGAPORE

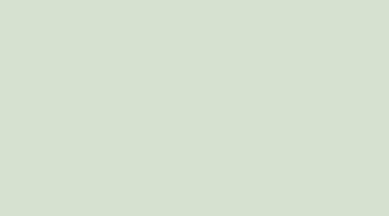
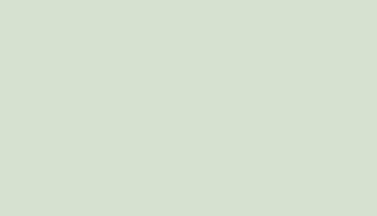
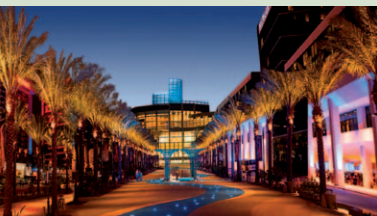
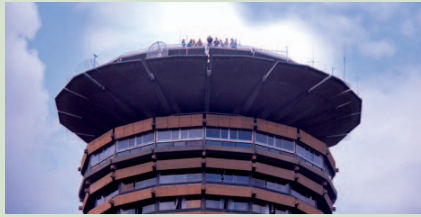
Amsterdam RAI Exhibition and Convention Centre
Amsterdam

AMSTERDAM

Sponsors

We would like to thank the 2015 Green Venue Survey & Report sponsors who made this project possible.





KEY FINDINGS

Centers see the value in a dedicated staff position to manage the sustainable operations of the venue. Increasingly, the people in these positions hold specific sustainability-related professional designations. Seventy percent (70%) of centers have a dedicated Sustainability Coordinator or Sustainability Manager on staff. These professionals need to use a dynamic skill set combining technical knowledge with a holistic, cross-departmental view of the facility and its operations. Of those centers with a dedicated sustainability position, 76% held the professional designations of LEED AP or LEED Green Associate. Many sustainability managers also held additional professional certificates or advanced academic degrees that included designations such as Certified Facility Manager (CFM) and Master of Science in Sustainability and Environmental Science.

Green teams are critical for green venues. Seventy-seven percent (77%) of responding centers have an employee green team, with an average of 11 staff members from almost all departments within the facility. Although challenges with keeping staff engaged in sustainability programs were commonly reported, centers are coming up with creative ways to help employees better understand why sustainability is important and reward their improvement efforts.

Convention Centers are taking an active role supporting city and regional sustainability goals. Eighty-five percent (85%) of responding centers participate in sustainability programs or initiatives lead by their city, regional government or local grassroots organizations, taking an active role in shaping the sustainable development of their community.

Convention Centers are helping local communities through donations. 80% of reporting centers donate excess food to local charities on an ongoing basis. In 2014, just under 630 Metric Tons of food was donated by Green Venue Survey participants. Items and materials donation is becoming a best practice, but leaves room for improvement. Fifty-five percent (55%) of responding centers regularly help event organizers donate conference materials with additional 17% supporting donation programs when asked at no additional charge to the event organizer.

Centers and event organizers are talking more about sustainability, but great communication challenges still exist. Responding centers indicated that on average 27% of event organizers discussed sustainability or “greening” when engaging with the venue. Additionally, 86% of responding centers reported that sales staff are versed in the venue’s sustainability practices and or “green meeting” options and discuss these options during pre-event planning process. While planners are discussing greening with venues more often (up from roughly 20% in 2012), and the majority of convention sales teams are prepared to address sustainability requests, significant opportunities remain to increase the amount of communication and improve the rhetoric around “sustainability.”

Convention centers are supporting local sustainable infrastructure. Nearly two-thirds of venues have electric car charging stations for employees and attendees and 87% have secure bike parking onsite.

Convention centers are greening their roofs. One-third (33%) of centers reported having a green roof installed on the building, representing over 826,000 sqft of space. Two responding centers are practicing beekeeping on their roof, with 3 additional centers planning on installing beehives in the next year. Venues are creatively utilizing other spaces as well. Thirty percent (30%) of responding centers produce food onsite for catering purposes.

Centers are still aggressively seeking certifications. Ninety percent (90%) of centers have either achieved or are actively seeking a sustainability-related certification. In 2014, 83% of responding centers had achieved a sustainability-related certification, an 8% increase over 2012. The most common certifications include LEED, ISO 14001, APEX/ASTM³ and BOMA BEST.

Reported waste diversion performance is average. The average reported waste diversion rate at centers is 52%. Some of the largest, heaviest items such as carpet and construction debris have the lowest recycling rates across the centers, which may be a factor in this average rate of diversion.

Centers are committed to "green cleaning". Responding centers are using 76% (by spend) third-party certified cleaning products (e.g., EcoLogo, Green Seal, FSC, etc.).

Renewable energy is an important aspect of center energy portfolios. Fifty-nine percent (59%) of responding centers procure offsite renewable energy, and 42% produce renewable energy onsite. The most popular source of offsite renewable energy is wind. Solar is the most common source of onsite renewable energy.

Tracking event impacts is improving. Almost all of the responding centers were able to provide annual impact data related to energy, water and waste. Ninety-three percent (93%) of centers provided annual waste data, 86% provided annual energy data, and 90% of centers provided annual water consumption data. When it comes to event-specific reporting, waste is the most commonly tracked metric (72% of respondents), followed by energy (48%) and water (34%).

MICE needs standard metrics and calculation methods. There is currently no standardization around simple metrics like "number of annual attendees" or more complex metrics like "event-specific energy consumption." This lack of standardization makes apples to apples comparisons very difficult.

³ ASTM Standard E2774-11 "Standard Specification for Evaluation and Selection of Venues for Environmentally Sustainable Meetings, Events, Trade Shows, and Conferences"

TOP 7 BEST PRACTICES FOR 2015

Leading venues are consistently adopting these best practices.
Are you in?

83% have achieved a sustainability-related certification.

80% donate excess food to local charities on an ongoing basis.

85% participate in sustainability programs or initiatives led by their city.

77% have an employee green team or sustainability committee.

70% have a dedicated Sustainability Coordinator or Sustainability Manager on staff.

87% have secure bike parking for staff.

72% can provide event planners a specific waste diversion report for their event.



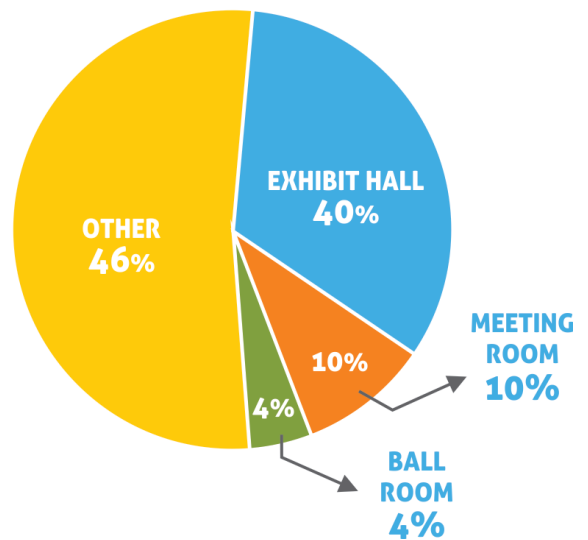
SPACE & EVENTS

Convention and exhibition centers play an influential role within the MICE industry due to their physical size, the number of people they host each year from across the globe and the economic activity they help generate. Information regarding venue spaces and events hosted is presented below.

Space

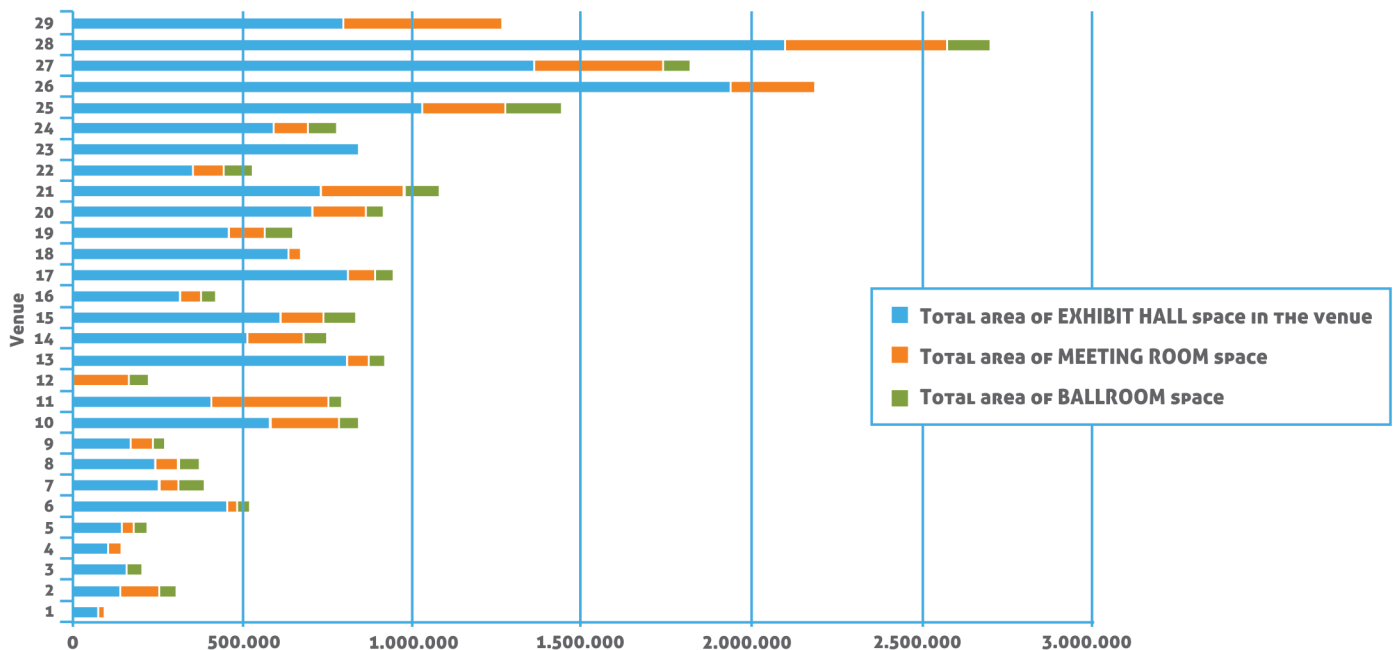
In their entirety, centers ranged in size from about 133,000 sqft to 10,000,000 sqft. While venues can have a diverse make up of spaces to support a wide range of activities, the three primary event activity spaces have been identified as exhibit halls, ballrooms and meeting rooms. On average, the sum of these three types of spaces makes up roughly 53% of total center square footage. This illustrates that a significant amount of the area of convention centers is made up of public spaces, corridors, pre-function areas and back-of-house support function spaces.

Convention Center Spaces



Venue Space Breakdown

Note venue numbers are randomized and do not match participant map numbers



Green Spaces

Convention and exposition centers cover a lot of ground and many have space that may be underutilized. For the 2015 report we asked centers how they are creatively using some of that space in the form of green roofs, bee keeping and onsite gardens.

A “green roof” or “living roof” is a roof that is partially or completely covered with vegetation. Green roofs mitigate urban heat island effects as well as reduce building energy use, reduce air pollution and greenhouse gas emissions, enhance storm water management and improve water quality⁴. Thirty-three percent (33%) of centers reported having a green roof, representing 826,181 sqft of space, and 3% of reporting centers are planning to install a green roof in the next 12 months (i.e., before July 2016).



33% of reporting venues have a green roof representing 826,181 sqft of space

30% percent are producing food onsite

2 centers have beehives on the roof with **3** more planning on building them in the next 12 months

Two responding centers are currently practicing beekeeping on their roof, with 3 additional centers planning on installing beehives in the next year. Beekeeping is a rapidly growing trend at hotel properties⁵. If the trend plays out similarly

at convention and exposition centers, we can plan on seeing a lot more beekeeping in the next several years.

Another emerging trend is onsite gardening. Nearly one-third of centers are also producing food onsite for catering purposes.

⁴ <http://www.epa.gov/heatisland/mitigation/greenroofs.htm>

⁵ The State of Urban Beekeeping in Hotels, Greenview, 2014: <http://www.greenview.sg/wp-content/uploads/2014/09/>

[Greenview-Beekeeping-Study-Final-081814.pdf](http://www.greenview.sg/wp-content/uploads/2014/09/Greenview-Beekeeping-Study-Final-081814.pdf)

Music City Center



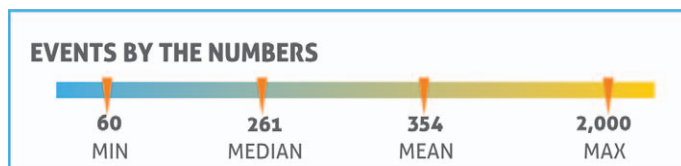
CENTER HIGHLIGHT

Spanning seven acres, the state-of-the-art green roof on the **Jacob K. Javits** center reduces water runoff and heat gain at the convention center, helping to lower the facility's annual energy consumption by 26%. The green roof also helps protect the roof membrane, enhances the aesthetics of the building when seen from above and creates a natural wildlife habitat. See the green roof with your own eyes at <https://m.youtube.com/watch?v=eclYTpccf8E>.

Helping to mitigate declining honeybee populations, **Music City Center** recently became home to over 100,000 honeybees. With four beehives located on the center's green roof, the urban bees can fly up to a mile from the center gathering pollen throughout Nashville. The center's culinary team will use half of the honey, while the rest will be jarred for promotional use. The first harvest is expected to be ready in spring of 2016.

Events

Almost all reporting venues were able to provide data around number of events hosted and annual attendance. Overall, 9,900 total events were held across the 28 responding centers, with the average number of events held in 2014 being 354. The maximum number of events held in 2014 was reported at 2,000, the minimum 60. It is important to note there is no standardization of how centers calculate the number events held or what metrics they use as to what constitutes an event, the same is true for attendee numbers.

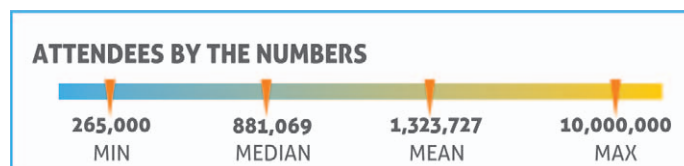


Meeting Type	Meetings	Number of Participants
Corporate/Business Meetings	1,298,300	113,337,000
Conventions/Conferences/Congresses	273,700	60,960,000
Trade Shows	10,900	26,768,000
Incentive Meetings	67,700	9,172,000
Other Meetings	182,600	14,710,000
Total	1,833,200	224,947,000

Source: Table 1. CIC 2012 Economic Significance of Meetings to the U.S. Economy.

Attendance

In terms of attendance, the 27 responding centers represented over 35,740,600 attendees, with an average of 1,323,727 visitors to each center annually. The highest total 2014 attendance was reported at 10,000,000 attendees, the lowest 265,000.



In 2012, it was estimated that more than 1.8 million meetings were held in the U.S. and involved an estimated 225 million participants. Of those meetings, 273,700 were conventions, conferences and congresses (with 60,960,000 participants) and 10,900 were trade shows (with 26,768,000 participants).⁶

⁶ Convention Industry Council and PricewaterhouseCoopers. (2012). *The Economic Significance of Meetings to the U.S. Economy, Interim Study Update*. Alexandria, VA: Convention Industry Council.

LOCATION

Convention and exposition center location and proximity to the city center, airport, public transportation and hotels directly impacts attendee experience and the carbon footprint of an event.

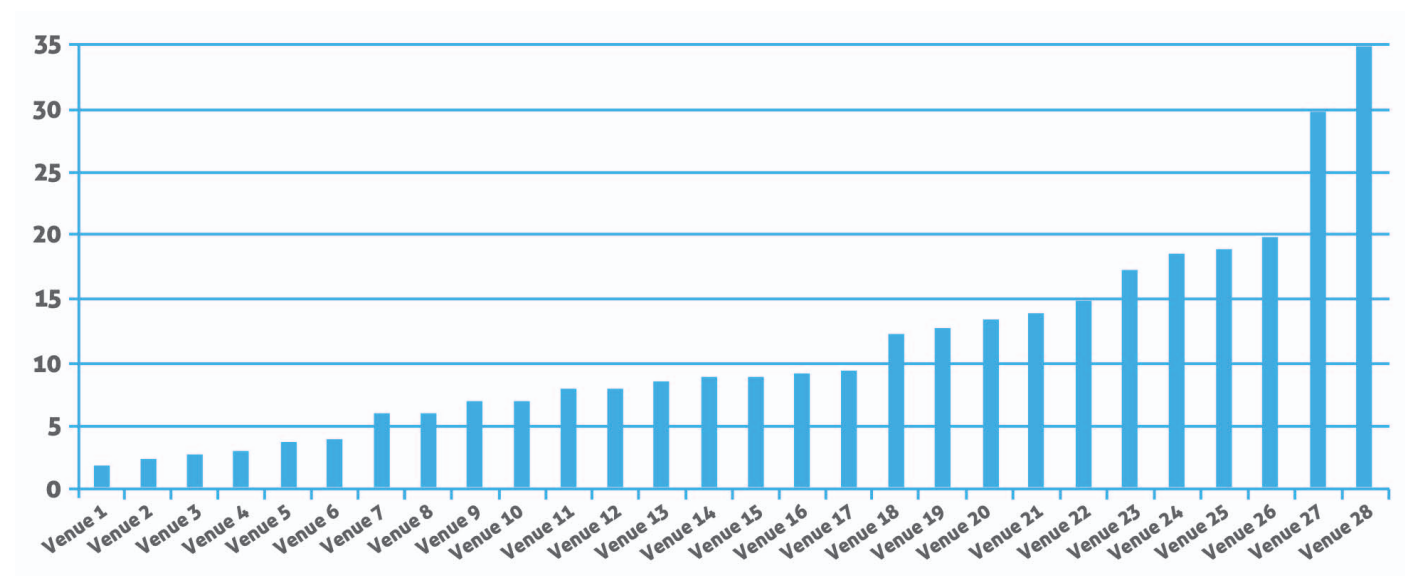
Non-US reporting venues generally offered greater attendee access to public transportation options. Many US cities were designed for car travel, which has historically limited the development of public transportation. However, traffic and congestion in cities is increasingly becoming an “attendee experience” challenge. Centers are waiting for rail systems to be expanded to their center or to the airport to provide better options for event attendees.

Attendee Accessibility

The average distance between reporting centers and their respective local airports is 11.1 miles. The closest reporting center is located 1.9 miles from the local airport; the furthest 35 miles. Fourteen of 16 venues (87.5%) reported to be accessible by train, light rail or subway, with the average distance to the closest train, light rail or subway being 1.29 miles. Of the centers accessible by train, light rail or subway, 8 of 14 (57%) are located within less than .25 miles of the closest transportation station.

Fifty-two percent (52%) of responding venues indicated attendees could easily travel from the airport to the venue (within ½ mile) using light rail, train or subway/metro.

Distance to Airport (miles)



Boston Convention and Exhibition Center



CENTER HIGHLIGHT

The **Boston Convention & Exhibition Centre** (BCEC) is serviced by a direct line from Logan Airport, through the local public transit system, affectionately known as “the T.” The Silver Line express bus service transports attendees from the airport to World Trade Center Avenue, just a few blocks away from the convention center main entrance. Total travel time is on average 12 minutes. Passes for “the T” are available onsite at BCEC. For large events, the center brings the Silver Line buses onsite to the venue during the last day of an event to help with airport rides. **Signature Boston** promotes the use of many different of public transportation options and provides resources for green transport within Boston in their Navigator guide.

http://signatureboston.com/uploadDocs/1/Navigator-Summer-2015_WEB.pdf

Ninety-three percent (93%) of venues reported to be accessible by train, light rail or subway/metro, with the average distance to the nearest train, light rail or subway being 1.03 miles.

Of the 29 reporting centers, all are located less than 100 yards of a public bus station stop. Easily accessible public bus systems are a common option for venue staff, but are not heavily utilized and are not considered an adequate alternative for out-of-town event attendees.

87%

have secure bike parking

64%

have electric car charging stations

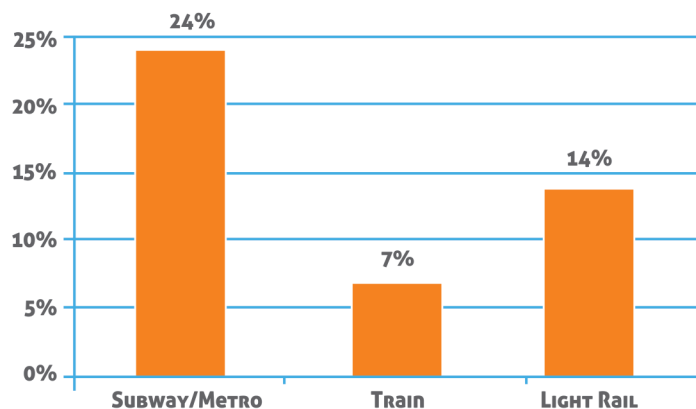
21%

have programs to offer event organizers that incentivize mass transit travel for attendees.

some basic sustainability data such as distance from the local airport to the convention center and the number of hotel rooms within one mile of the venue.

See www.empowermint.com for more information.

Public Transport Options From Airport within 1/2 mile of Convention Centers



Staff Accessibility

Not only are centers drawing crowds of attendees throughout the year, but these large facilities are also supported by hundreds of staff traveling to the center each day. To encourage responsible commuting among employees, 63% of venues offer alternative transportation incentives to staff and 64% offer dedicated electric car parking stations to staff. Many centers commented on offering employees pretax transit dollars to encourage public transportation use.



Shaw
Conference Centre

CENTER HIGHLIGHT

Staff at the [Shaw Convention Centre](#) participate in the Edmonton “Commuter Challenge”. The week-long event during Canadian Environment Week, encourages employees to walk, cycle, carpool/rideshare, take transit or telecommute during the week. This friendly competition enables participants to compare their results to other participating businesses in the region.

The [Amsterdam RAI Exhibition and Convention Centre](#) provides bicycles for the staff for the staff to travel to local business appointments within the neighborhood. To promote the use of electric cars, the center has an electric vehicle available for one employee per month to experience what it is like to own and drive an electric car.



Amsterdam RAI

FACILITY CERTIFICATIONS & PROGRAMS

Many convention centers are municipally owned venues, providing an opportunity to illustrate the city's and destinations' commitment to sustainability. As such, many convention and exposition center facilities have and continue to invest resources toward achieving building sustainability certifications.

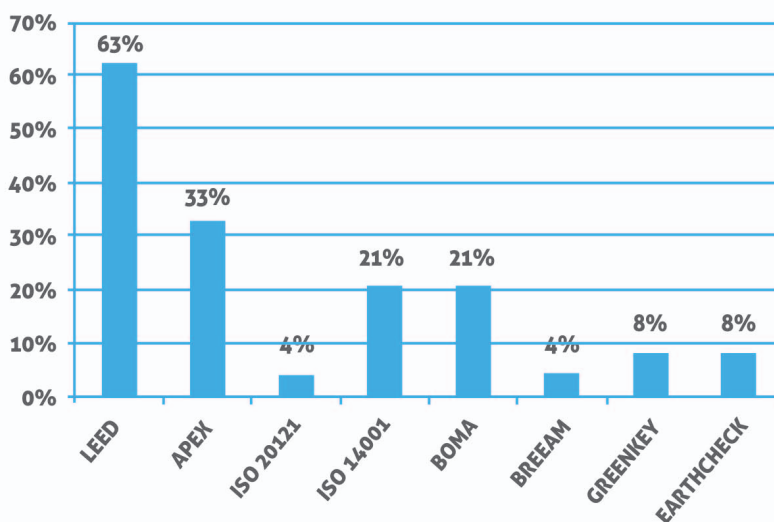
Eighty-three percent (83%) of responding centers have achieved a sustainability-related certification. The most common certifications include LEED, ISO 14001, APEX/ASTM⁷ and BOMA BEST. An additional two venues are in the process of pursuing a sustainability-related certification, for a total of 90% having achieved or actively seeking certification.⁸

Sixty-three percent (63%) of venues with certifications have achieved LEED certification. Most LEED certifications are for Existing Buildings: Operations & Maintenance (EBOM) with the exception of few for New Construction (NC). Twenty-nine percent (29%) of venues with certifications hold two sustainability certifications, with twenty percent (20%) holding three different sustainability certifications.

Other top reported certifications included:

- 8 APEX/ASTM certified⁹
- 5 ISO 14001 certified
- 5 BOMA BEST certified
- 2 Green Key certified and rated
- 2 Earth Check Building Planning and Design certified
- 1 BREEAM certified

Venue Certifications



When asked, "what sustainability certifications are you interested in achieving within the next year and a half?" 18 centers provided the following information regarding future certifications or re-certifications:

- 7 plan to pursue LEED
- 5 plan to pursue APEX/ASTM
- 4 plan to pursue either ISO 14001 or ISO 20121
- 1 plans to pursue Green Key Meetings rating

⁷ ASTM Standard E2774-11 "Standard Specification for Evaluation and Selection of Venues for Environmentally Sustainable Meetings, Events, Trade Shows, and Conferences".

⁸ As of May 2015.

⁹ APEX/ASTM Level 4 being the highest level achieved

Facility Certifications

LEED New Construction (LEED NC):

www.usgbc.org/v4

LEED for Existing Buildings Operations and Maintenance (LEED EB+OM):

www.usgbc.org/v4

ASTM E2774 Venue Standard:

www.conventionindustry.org/standardspractices/APEXASTM/APEXASTMlist.aspx

ISO - Framework for Environmental Management Systems (ISO 14001):

www.iso.org/iso/theiso14000family_2009.pdf

ISO - Event Sustainability Management Systems (ISO 20121):

www.iso.org/iso/home/standards/management-standards/iso20121.htm

BOMA BEST (Building Owners and Managers Association of Canada Building Environmental Standards):

www.bomabest.com/

BREEAM (Building Research Establishment Environmental Assessment Methodology):

<http://www.breeam.org/>

US EPA Free Programs

For centers operating in the US (24 centers), the Environmental Protection Agency (EPA) has designed programs to help businesses and organizations monitor and manage waste management and energy use. Fifty-seven percent (57%) of US venues participate in the Energy Star Portfolio Manager Program and 13% participate in the EPA Waste Wise Program.

ENERGY STAR:

<http://www.energystar.gov/buildings/tools-and-resources>

WASTE WISE:

<http://www.epa.gov/waste/conserv/smm/wastewise/>

In addition to industry certifications and government programs, convention and exposition centers across the world are taking an active role in their local communities to address sustainability issues surrounding waste generation, water consumption and energy efficiency.

Oregon Convention Center



CENTER HIGHLIGHT

The **Oregon Convention Center** is a central member of the Lloyd EcoDistrict. The inner Northeast Portland area known as the Lloyd District is working to become a vibrant sustainable living—and-working neighborhood in Portland. Members of the EcoDistrict work to promote building efficiencies (in water, waste and energy), commit to achieving ambitious sustainability performance goals, help guide district investments and community action in a sustainable way and tracking their results. <http://www.ecolloyd.org>

The **International Centre** is a member of the Recycling Council of Ontario, an organization tackling issues surrounding consumption, waste generation, reduction and diversion and recycling. The center is also a founding member of Partner's in Project Green (PPG). PPG is a consortium based around Toronto Pearson Airport, which aims to bring together over 20,000 businesses and over 300,000 employees to collaborate on sustainability and corporate social responsibility issues to establish more sustainable business practices.

Virginia Beach Convention Center is an active participant in multiple state sustainability programs. The center is a member of Virginia Green, a state run sustainable tourism program that requires partners to have programs in place that address recycling, waste reduction energy and water conservation. Additionally, they are partners of Virginia Energy Sense, which works to reduce energy by educating people on ways they can reduce energy at work and home.

85% of venues participate in community, city and regional sustainability-related programs.

STAFF

What is the centers' vision of sustainability? Who is responsible for implementing that vision? In some centers, employees create and manage grass roots sustainability programs that align with their personal interests and convictions. In other centers, formal management positions are created to oversee long-term projects like LEED certification and annual reporting. In all cases, the fact remains true that the awareness and buy-in of venue employees is another critical factor to sustainability success.

Seventy percent (70%) of centers have a dedicated Sustainability Coordinator or Sustainability Manager on staff.

Dedicated Staff

Seventy percent (70%) of centers have a dedicated Sustainability Coordinator or Sustainability Manager on staff. These professionals need to use a dynamic skill set combining technical knowledge with a holistic, cross-departmental view of the facility and its operations. Of those centers with a dedicated sustainability position, 76% held the professional designations of LEED AP or LEED Green Associate. Many sustainability managers also held additional professional certificates or advanced academic degrees that included designations such as Certified Facility Manager (CFM) and Master of Science in Sustainability and Environmental Science.

These positions within the center spearhead sustainability projects, communications and certifications discussed above. Although, 17% of centers reported to having someone on staff who is not a dedicated Sustainability Manager, but holds the responsibilities of the role, anecdotally, it is very difficult for someone with other core responsibilities to effectively lead facility sustainability efforts.

We asked participants this year who they identified as a "green hero". See some of the Green Heroes nominated on page 28.

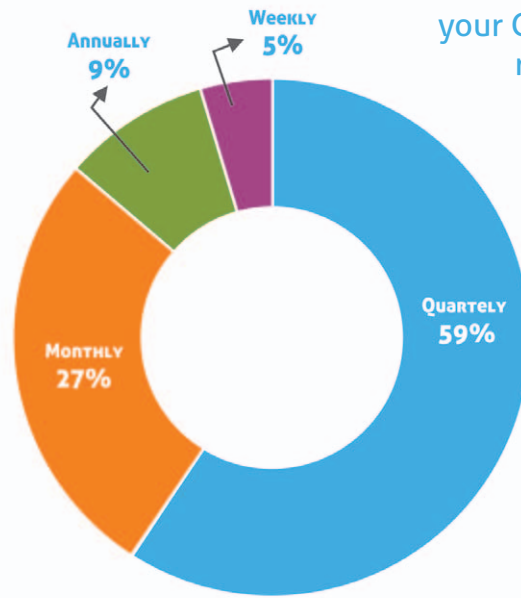
Green Teams

While having a dedicated leadership position within the organization is very important for sustainability performance and success, ensuring that employees from all departments and at all levels are engaged is equally critical. Seventy-seven percent (77%) of responding venues have an employee green team. The average green team size is 11 staff members, with 59% of teams meeting at least quarterly.¹⁰

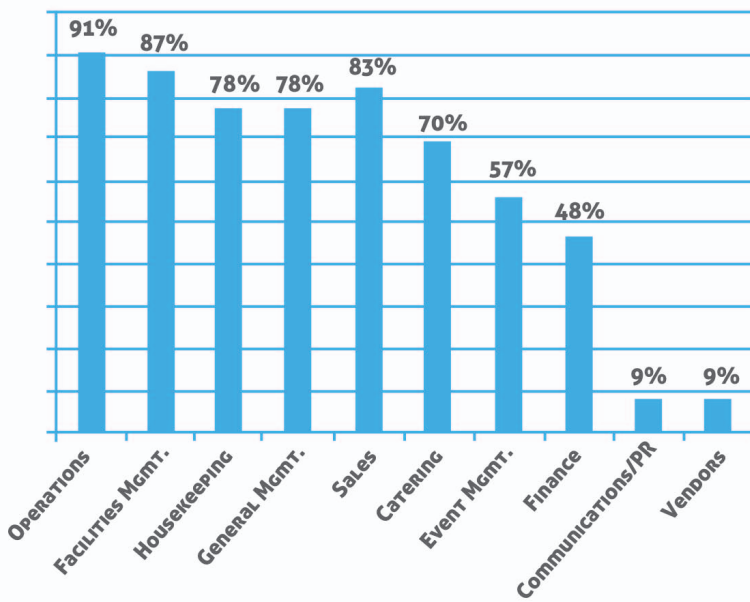
Forty-seven percent (47%) of centers budget funds specifically for the Sustainability Coordinator or Green Team to implement green initiatives.

Green team members represent almost all departments within the facility. The majority of departments participating include Operations, Facilities Management, Housekeeping, and General Management.

How often does your Green Team meet?



Who's on the Green Team?



% of departments represented on Green Teams

Keeping staff engaged and caring about sustainability programs at the work place is a common challenge among respondents. Dedicated sustainability staff and green team members commented that they spend a lot of volunteer time training employees on sustainable operating practices to increase buy-in and help all staff better understand the “why” behind the programs, not just the “how.”

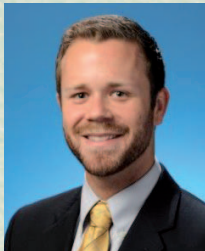
Through fun competition and recognition programs, 56% of responding centers recognize employees who go above and beyond in their sustainability efforts. Examples included sustainability-focused staff appreciation events and “Lunch & Learns,” where prizes are awarded for creative contributions to sustainability and CSR-focused community field trips.

¹⁰ This percentage is based on 22 centers that had a green team and provided data on the frequency of meetings.



CENTER HIGHLIGHT

The [Enercare Centre](#) (Toronto, Canada) started 2015 off with a staff environmental program that will run throughout the year. Employees from all centre departments are part of the “GreenAcres” contest, in which staff members participate in fun, friendly, and engaging activities throughout the year. The program focuses on team building and furthering the centre’s commitment to sustainability. Eight teams were formed with each team creating an environmental challenge. Each challenge is the focus of activity for the month and all teams participate in hopes of making the most impact in that area. Some of the challenges to date have included: Electronic Recycling Drive (including batteries and printer cartridges), Paper Reduction Challenge, Commuter Challenge, Recycling Lights & Oil (incandescent lights and used motor oil). At the end of the year, winners will be announced and “green” bragging rights will be awarded.



Tim Trefzer,
Sustainability
Director, Georgia
World Congress
Center. Tim a
is role model
for the industry.

By leading monthly calls for sustainability coordinators and directors for venues across North America, he has helped to create a forum for the sharing of ideas, best practices and identifying sustainable solutions for challenges faced by many centers.



Brian Daniels,
Facility and
Maintenance
Manger,
Anaheim
Convention
Center. Brian

was instrumental in helping the Anaheim Convention Center become LEED Certified in 2010. His hard work and dedication made it all possible.



**Natalie
Archuleta,**
Catering and
Conference
Manager at
the Venetian,
Sands Expo

Convention Center. Natalie is one of the senior CCM's and always handles the green programs. Her hard work and dedication to collaboration ensures the success of the green components in many of the venues event programs.



Ewell Sterner,
Director of Food
and Beverage
and Facility
Operations, San
Jose Convention
Center. Ewell

puts several sustainable practices in place across Team San Jose departments to eliminate waste and find new ways to be eco-friendly. He has also introduced and leads "Hunger at Home," a program that works to fight hunger and homelessness.

**SUSTAINABILITY ROLE
MODES COME FROM
ALL DEPARTMENTS
AND INSPIRE IN MANY
DIFFERENT WAYS.**

**"WHO IS YOUR
GREENING HERO?"**



Diane Young,
Chief Executive
Officer,
Enercare Centre
and Exhibition
Place. Diane
is a dedicated

proponent of corporate and environmental responsibility. She is the driving force behind sustainable energy programs at the centre, an aggressive waste diversion project and the first permanent wind turbine in the City of Toronto, and recently a District Energy System.



**Vince
Quattrociocchi,**
Vice President
of Operations,
Metro Toronto
Convention
Center. Vince

has been a sustainability champion at the center for almost 2 decades. His support and drive is what has made their sustainability programs so successful.



Mark Cornia,
Housekeeping
Manager, Calvin
L. Rampton
Salt Palace
Convention
Center. Mark

goes above and beyond his duties to train all of his staff on proper recycling procedures. His efforts help to ensure the center's recycling program is strictly adhered to.



Gerry Rego,
Director of
Engineering, The
International
Centre. Gerry
is always on
the lookout for

new technologies in energy and water efficiency. He truly understands that more efficient systems reduce our overall impacts. Gerry is the guy that will get the job done and ensures that our suppliers are providing us with the best products available.



COMMUNICATIONS

Effective communications are an integral part of any sustainability effort, serving many important purposes—internal buy-in, customer buy-in, education, customer awareness and satisfaction and increased brand value, to name a few. Ideally, sustainable operations become fully integrated into the operations of a center, and likewise, sustainability conversations become fully integrated into the planning process between center staff and event organizer clients. Below, various communication mechanisms and messages currently implemented by convention centers are explored.

Policies

One of the foundations of a sustainability program is a sustainability policy, which illustrates a clear commitment to employees and external audiences. Policies set center priorities and goals, guiding initiatives and programs.

Like the 2014 Report, there was still some discrepancy among respondents as to what constitutes a “sustainability policy.” Ninety-seven percent (97%) of responding centers reported to have an internal policy and 67% reported having a publically available, written sustainability policy. However, upon examination, only 20% of all reporting centers were able to provide links to documents that meet the general requirements of such a document¹¹.

¹¹ Requirements for sustainability policies are addressed generally in both the ISO 20121 and APEX/ASTM Standards for Sustainable Meetings and Events

A sustainability policy is public statement outlining an organization’s commitment and strategy towards sustainability. The policy clearly states the organization’s commitments, vision, goals and objectives for both daily and event operations. The policy defines the organizations’ sustainability vision, but also explains how long-term goals will be achieved.

Reporting

When it comes to officially reporting on performance, 45% of reporting centers prepare an annual sustainability report specifically for the venue or as part of the city’s annual sustainability report.



Amsterdam RAI

CENTER HIGHLIGHT

The **Amsterdam RAI**, has made it their goal to be a leader in the field of sustainability in Europe's conference and event industry. Starting in 2008, the center has been reporting on their sustainability practices and CSR policies. Providing metrics and details on sustainability focused programs that span from awards to waste, their detailed reports provide a good example of convention center sustainability reporting.

<http://www.rai.nl/en/rai-amsterdam/about-rai-amsterdam/sustainabilityenvironment-and-innovation/sustainability-reports/>



Georgia World Congress Center

CENTER HIGHLIGHT

The [Georgia World Congress Center](#) (GWCC) addresses the environmental challenges of the industry head on in their video about the center's sustainability programs, building attributes and an active sustainability leadership role within the business community of Atlanta. The GWCC "SEE GREEN" section of their website makes it easy for planners to tap into sustainability programs offered specifically for meetings and events.

http://www.gwcc.com/about/See_Green.aspx

The [San Diego Convention Center](#) has created collateral highlighting their sustainability practices and achievements, including engaging info-graphics that make it easy for planners and attendee to see the positive impacts the center is making.

<http://visitsandiego.com/2015/04/convention-center-environmental-efforts-set-new-record>

Websites & Marketing Collateral

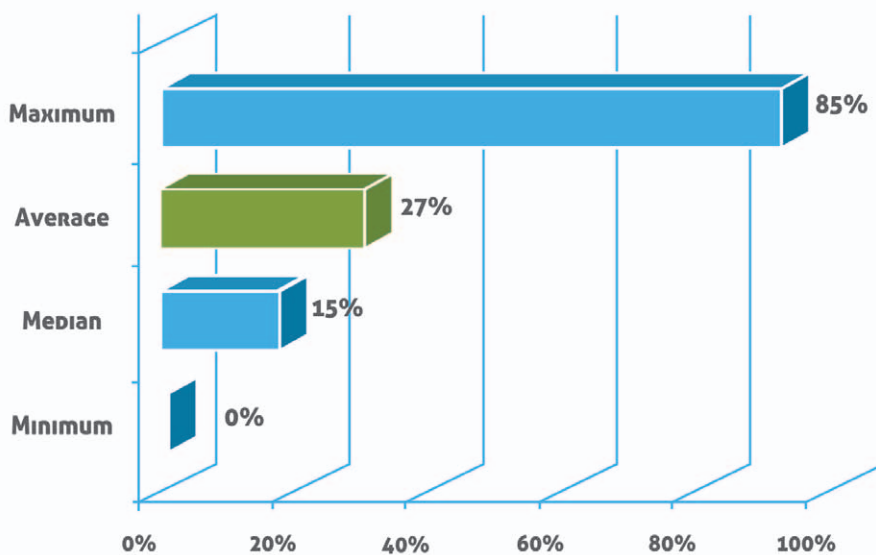
Many centers are proactively marketing their commitment and programs to planners and other stakeholders, with 90% of responding centers having a webpage or website section dedicated to sharing the venues' sustainability practices. The amount, quality and real-time nature of the content presented varies across center sites.

Planner Communications & Requests

One-way communications about programs and overall center attributes are a good way for centers to show their sustainability commitment. However, most meetings are unique in size, nature and impacts. Therefore, it is only through real collaboration and conversation between the venue, event organizer, caterer and third-party vendor partners (general contractor, AV supplier, transportation supplier) that true sustainable event planning, implementation and progress can occur.

When asked what percent of event organizers discuss “greening” when engaging with the venue, responding centers indicated that, on average, 27% of planners discussed sustainability (up from roughly 20% in 2012). Anecdotally, this figure does not align with the number of planners that claim to be incorporating “green practices” into their meetings. This gap in conversation lead to the addition of a new question in the 2015 Green Venue Survey related to the venues’ sales teams’ familiarity with sustainable programs. Eighty-six percent (86%) of responding centers reported that sales staff are versed in the venue’s sustainability practices and or “green meeting” options and discuss these options during pre-event planning process.

Percentage of event organizers that discuss event “greening” with venue



Based on this data and the GVR Team’s event planning and consulting experience, this gap between “intention and capability to improve performance” and “meaningful conversation and collaboration” is perplexing and concerning for both venues and planners. These figures indicate opportunities are being missed around planners clearly expressing needs or concerns and centers communicating sustainability programs and solutions in a way that results in meaningful implementation.

Venue Feedback

When asked, “what kind of support would you like to see from event organizers to improve the sustainability at your venue?” centers responded that they would like to see planners:

- Continue the commitment to sustainable events by asking for sustainable programs, which will show customer demand and promote greater incentive for the venue.
- Take greater initiative in being responsible for what is brought into the venue. Many centers expressed the success of sustainability programs weighs heavily on reducing the use of resources (and thus creation of waste). Additionally, a greater focus on procuring materials that can be easily recycled or reused was mentioned.
- Improve communication between centers, planners and vendors. Planners play a critical role in the success of sustainability programs during events. By sharing sustainability plan details with their planning team, exhibitors and staff, greater participation and better results can be achieved.

Many of us have seen the quote, “Be the change you wish to see in the world”. Participating centers commented that leading planners are creating sustainability initiatives that are not only inspiring their attendees, but their convention center partners across the world as well. Organizers are developing and implementing programs that donate hundreds of tons of food and exhibitor materials to local charities, purchasing Renewable Energy Credits (RECs) to offset energy use, creating interactive communications to help attendees navigate CSR activities, recycling, composting, and healthy/sustainable food choices. These planners and their events come and go from the venue, but leave an impression and legacies that stick.

WASTE

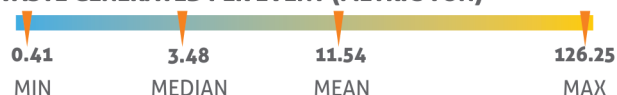
Waste is a significant and highly visible impact associated with meetings and events. General waste, registration materials, marketing collateral, food, abandoned exhibits, carpet, cardboard, broken pallets—these are among the many materials convention centers have to manage during show breakdown, often with limited space on the back docks and only hours to create a “blank slate” for the next event client.

A vast majority of the participating centers were able to report 2014 waste generation and diversion data. The total amount of waste generated at the 28 reporting centers was 54,080 Metric tons.

Average total waste generated per center in 2014 was 1,931 Metric tons, with the maximum waste total reported at just over 8,100 Metric tons. In terms of “waste diversion” (which is defined in the survey as “materials being diverted from landfill and incineration through reuse, donation, recycling and other means”), the average reported waste diversion rate was 52%. The highest reported diversion rate reported was 100%;¹² the lowest reported rate was 11%.¹³ These reported diversion figures might reflect above average performance for the industry.

Though waste diversion was clearly defined in our survey, we found in some parts of the world, centers rely on waste incineration, as the only regional option available, and consider it waste diversion. This opens up a larger discussion of “what constitutes waste diversion” on a global scale. Lack of a standard definition and efficient waste burning-to-energy production operations are something to consider in the discussion.

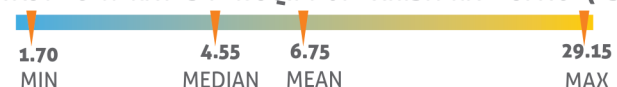
WASTE GENERATED PER EVENT (METRIC TON)



WASTE GENERATED PER ATTENDEE (LB)



WASTE GENERATED PER SQ.FT OF EXHIBIT HALL SPACE (LB)



WASTE GENERATED PER SQ.FT. OF VENUE SPACE (LB)



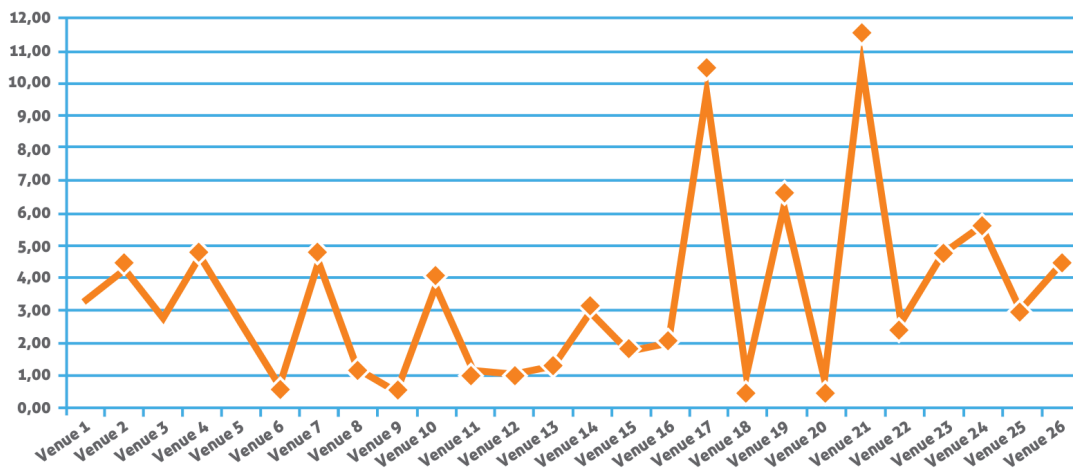
¹² As reported by this center, no waste went to a landfill. Residual waste (after recycling and composting) is sent to an industrial waste to fuel energy processing plant that produces fuel pellets. Pellets are primarily used to replace fossil fuels such as coal.

¹³ Based on Greenview and Twirl Management’s experience in planning and supporting events in centers across North America, these reported diversion rates are high.

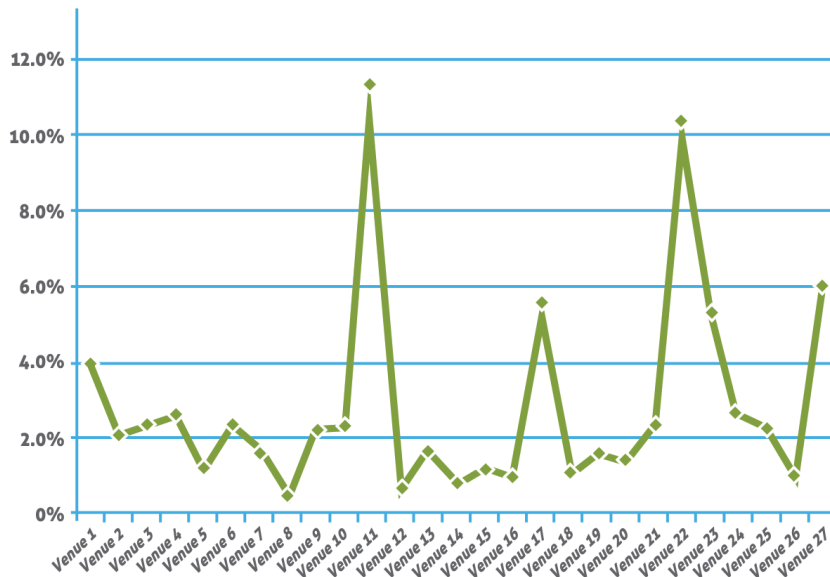
Over half of the reporting centers surveyed are willing to go above and beyond in the name of waste diversion. 10% of venues have an active program in place to provide waste audits to planners after their event. An additional 21% of venues can do so upon request at no additional fee to the planner, and an additional 31% can provide a waste audit, however, the event planner may incur a fee for this service.

28% of centers reported they could offer back-of-house manual waste sorting upon request at no additional fee, with an additional 31% indicating they can provide this service, however, organizers may incur an additional fee.

Waste Per Attendee (lb)



Waste Generated Per Square Foot



Waste Bins

Waste bins—their presence and design—send a message to event organizers about the level of a centers’ commitment to responsible waste management. They also present an opportunity for attendees, event organizer staff, vendors and exhibitors to participate in the waste diversion process. Having effective bins in the right location can also greatly affect the success of a centers’ waste management program.

83%

of centers have recycling and landfill bins that are consistently paired¹⁴ in public and exhibit hall spaces

59%

of centers have composting bins available to attendees in public spaces and concession areas by default

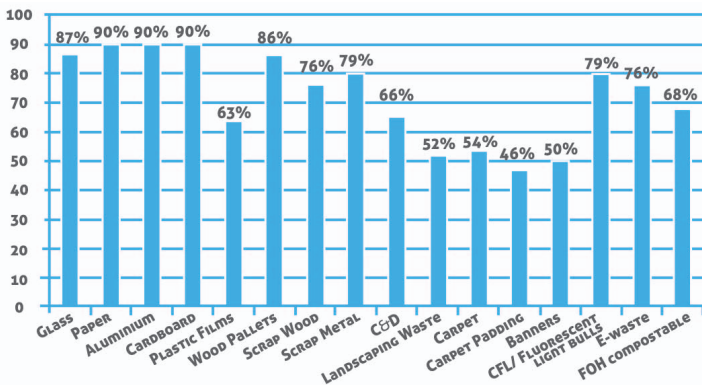
83%

of centers use clear or different colored bin liners to distinguish materials

Waste Diversion Programs

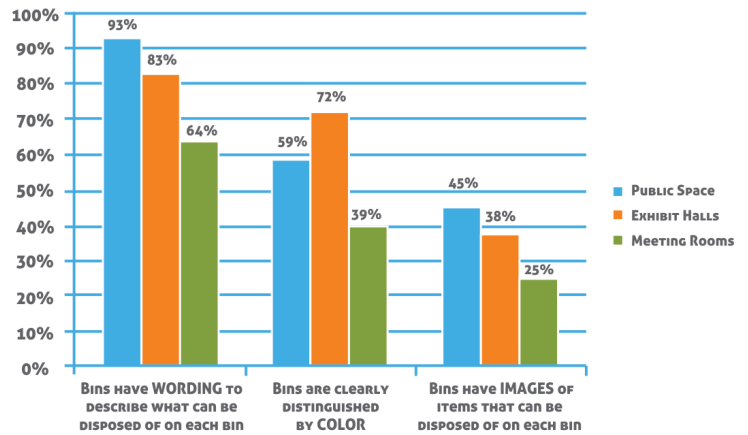
Regularly operating (i.e. standard operating procedure) waste diversion programs drive positive waste management performance in convention centers, and all facilities alike. All responding centers have an active and ongoing program in place to recycle at least one of the materials shown in the graph below.

% of centers recycling these materials on an active ongoing basis



¹⁴ “consistently paired” means 90% of the landfill bins in the venue have a recycling bin placed directly next to them.

Bin Best Practices



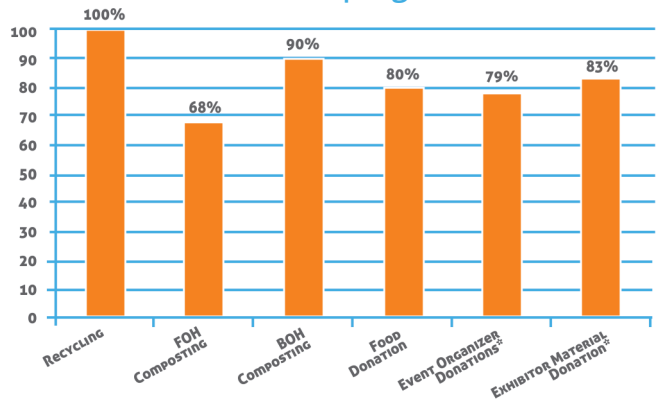
The nature of convention and exhibition centers is to accommodate a vast array of events and shows, which in turn means they must accommodate the disposal of a diverse make up of materials from those shows.

The average waste diversion rate across centers was 52%. One reason why this number isn’t significantly higher may be in part to what materials are regularly recycled.

The lowest average recycling rates were for items that make up significant tonnage:

- Construction Debris: 66%
- Carpet: 54%
- Landscaping Waste: 52%
- Banners: 50%
- Carpet Padding 46%

% of centers participating in ongoing waste diversion programs



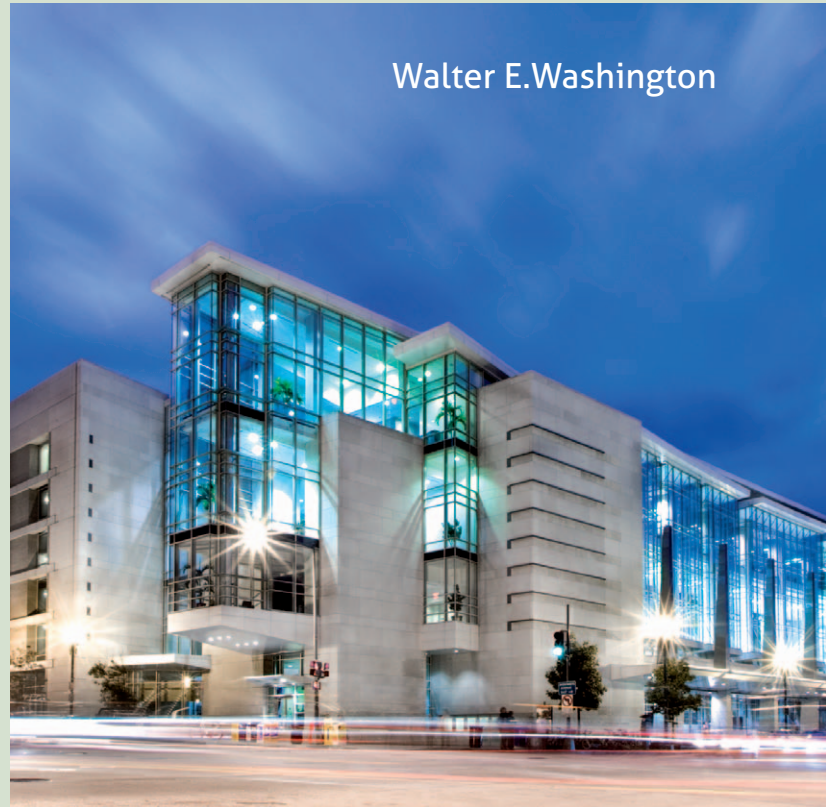
CENTER HIGHLIGHT

“Know the Code” is a program developed by the **Walter E. Washington Convention Center** (Washington, DC), for their color-coded recycling and waste minimization program. The holistic system has helped the center to source more environmentally responsible products and enhance their waste diversion rates.

Shaw Conference Centre

(Edmonton, Canada) makes sure planners know what they can recycle at the venue by putting the information front and center on their sustainability webpage. The center also offers waste audits for planners at no additional cost. <http://shawconferencecentre.com/about-us/sustainability/>

The **Moscone Center** (San Francisco, CA) has color-coded and clearly labeled bins for composting, recycling and landfill in all public lobby spaces. This makes it one of only a few centers to offer composting as a default option for attendees in those spaces.



Walter E. Washington

The 2015 Green Venue Survey included additional answer choices regarding waste programs and capabilities. Answer choices included “active and ongoing program, no additional expense to planner,” “at planners’ request, no additional fee” and “at planners’ request, may include additional fees.” These more granular answer choices provide a better understanding of what centers are doing on a regular basis versus what they are capable of accommodating when asked, and if those requests lead to additional fees for event organizers.

Venue best practice is to create ongoing, regular waste diversion programs that staff can learn, own and improve on. Challenges arise when trying to implement programs on an event-by-event basis, causing confusion and increasing the likelihood of operational “mistakes” and waste stream contamination.

“One of the most significant ways event vendors can improve sustainability here is specifically the cleaning contractors hired by the General Service Contractors to remove exhibitor waste during the event. If they would train and commit their staff to better separate waste onsite (mainly separation of Cardboard from other waste), that could help improve our overall diversion rate and increase our recycling revenue.” – Michael Dziurgot, Anaheim Convention Center

Financial incentives to reduce waste can have dramatic effects. Thirty-one percent (31%) of responding centers offer specific financial incentives to planners to reduce the amount of waste sent to landfill. Incentives reported included not charging or offering a reduced fee for recycling and composting hauls and charging planners for landfill hauls only. For one center, it is their standard practice to share their waste diversion policy with all event planners. If the show complies with the policy, they received 100% of their deposit back at the end of the event. Forty-eight percent (48%) of responding venues charge the event organizer for the actual waste tonnage generated, which helps tackle total waste generation.

Thirty-one percent (31%) of responding centers use an affiliated “booth cleaning” service, all of which are reported to be trained in responsible waste management practices.

WASTE TRACKING

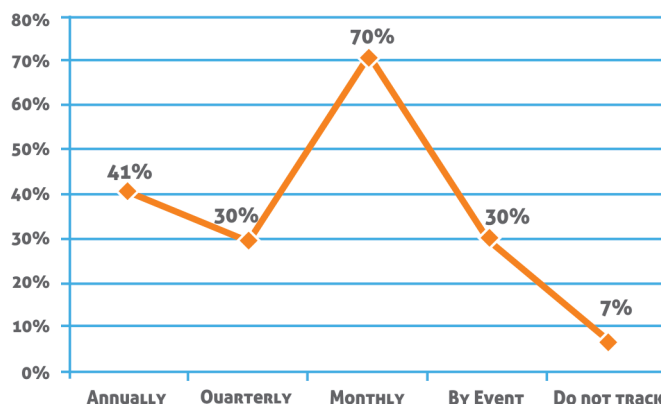
You can’t manage what you don’t measure is a saying venues are taking seriously when it comes to waste tracking and management. Ninety-three percent (93%) of centers track their waste on a regular basis. For events, 72% of centers can provide event planners a specific waste diversion report for their event and 57% provide the event reports at no additional expense to planners.

Eighty-three percent (83%) of responding centers verify how the waste haulers are processing waste after it leaves the venue. Some venues reported conducting regular site visits to their local municipal recycling and or composting facility.

Waste Challenges

- Certain materials, common to events, are not easily recycled by commercial and municipal haulers (e.g., foamcore signage, carpet scraps)
- Limited space to offer waste sorting programs back-of-house
- Requires time and collaboration among staff, often times from various departments (caterer, operations, community donations)
- Collecting and aggregating waste data from a variety of hauling and community partners to calculate a comprehensive diversion rate
- Allocating waste to specific events that are occurring simultaneously in the space (and potentially “sharing compactors”)
- Reporting to event organizer clients in a clear and meaningful way

Waste Tracking



Anaheim Convention Center



CENTER HIGHLIGHT

Pending approval from the City Council, **Anaheim Convention Center** (Orange County, CA) will offer a “Zero Landfill” waste hauling option to event organizers. All waste generated during an event can be hauled to a waste-to-energy facility that converts waste into electrical energy. This service comes with an increased fee (about twice the price of standard hauling).

The **Metro Toronto Convention Center** offers a “zero waste” event management solution to clients (for a fee). Through the program, planners are ensured that 97% of the waste produced during their event will be reused, donated or recycled.

<http://www.mtccc.com/planners/greenYourEvent/solutions/zeroWasteEvent.aspx>



Metro Toronto Convention Center

Waste and Community

Donation programs are an important part of waste diversion, but have the added benefit of supporting those in need within the local community. Fifty-five percent (55%) of responding centers regularly help event organizers donate conference materials. As a result of their programs, in 2014, 156 Metric tons of material were donated to local non-profits, schools or community organizations throughout the world. An additional 17% can help, at no additional cost to the planner, when requested. Forty-eight percent (48%) of responding centers have an active and ongoing program for expo/meeting materials donation. An additional 24% can facilitate exhibitor donation programs at the request of the event planner for no additional fee. Eighty percent (80%) of all centers donate food on a regular basis.

Venues also indicated providing a high-level of planner support related to community donations.

69%

of reporting centers have ability to provide planners with a written list of community donation partners

63%

of all centers have a donation storage or staging area to hold materials for community partners

52%

of centers regularly help event organizers donate conference materials at no additional cost to the planner.



Venue Feedback

Participating venues see opportunities for event vendors, exhibitors and attendees to support recycling programs in place by adhering to venue waste protocols, particularly during the move in and move out process. Planners can play an important role in making sure all parties are educated and aware of the systems in place at the center. Additionally, the materials brought onsite by event organizers and vendors are those that will need to be disposed of after use. Therefore, centers request planners discontinue use of non-recyclable foam core signage and use more recyclable and compostable materials.

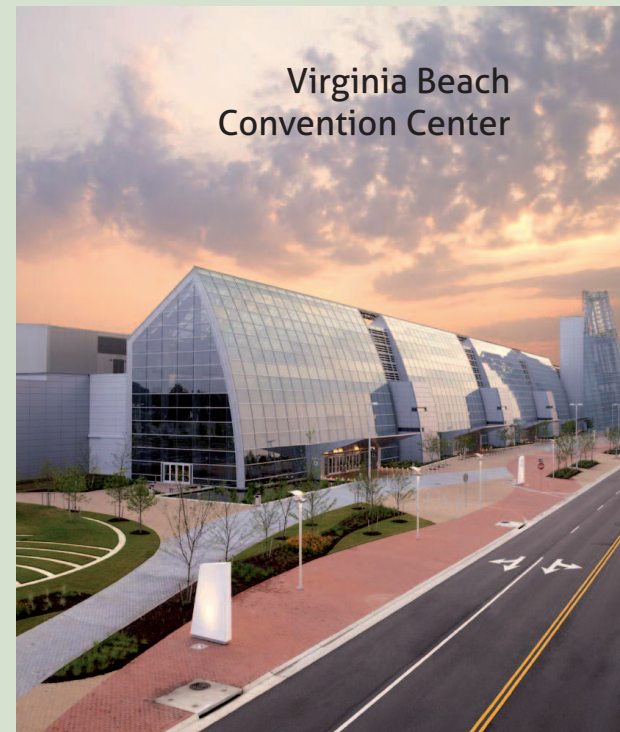
San Jose Convention Center



CENTER HIGHLIGHT

San Jose Convention Center employees are involved with a program called "Hunger at Home." The Director of Food and Beverage and Facility Operations, and staff volunteers meet monthly with hotel partners and local charities to discuss how Team San Jose can utilize recyclable materials to address local hunger and homelessness. Collaborators share ideas, create actions plans, create sub-committees to focus on specific tasks, donate meeting space, and plan/participate and/or conduct fundraisers. Fundraising proceeds go directly to the non-profit organizations to feed the hungry and assist local shelters.

The **Virginia Beach Convention Center** and CVB provides planners with a dedicated webpage on how to give back to the local community through donations and attendee community projects. <http://www.visitvirginiabeach.com/meetingplanners/giveback/>



Virginia Beach Convention Center

ENERGY

A clean energy portfolio and energy-efficient practices are a critical component of any event venues' sustainability program.

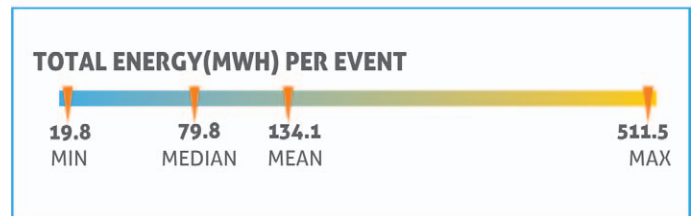
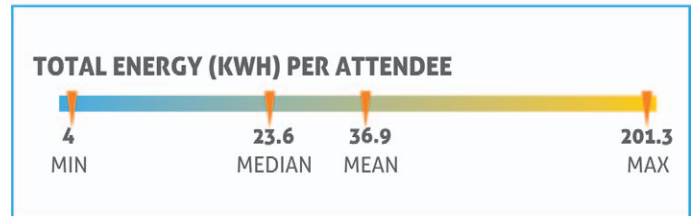
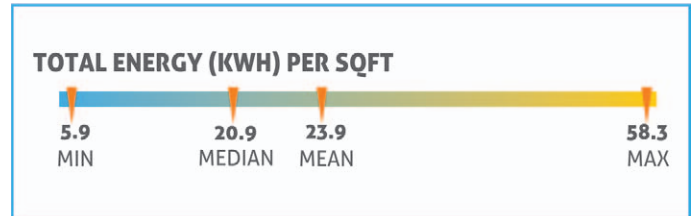
Eighty-six percent (86%) of responding centers were able to provide 2014 energy consumption data.¹⁵

The total 2014 energy consumed at the 26 reporting centers was 504,324,000 kWh - a carbon footprint equivalent to that of 31,730 homes' energy use for one year.

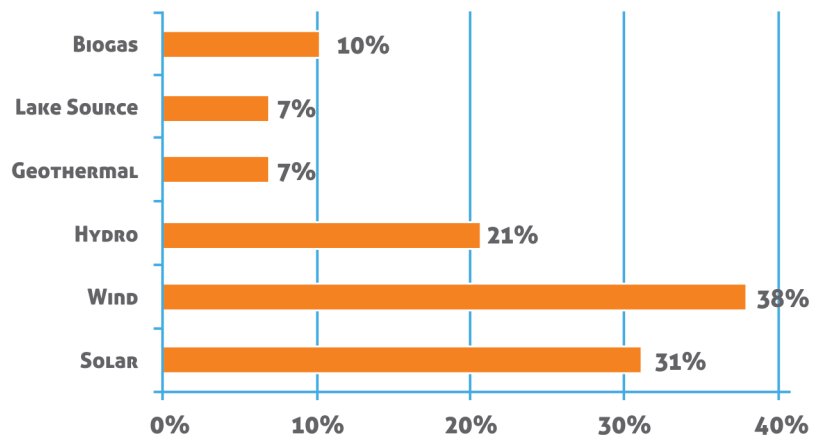
Average energy consumed per center in 2014 was 28,985,000 kWh, with the maximum energy consumption reported at 84,470,000 kWh, the minimum 10,765,000 kWh.

Renewable Energy


Exhibition and convention centers are procuring more renewable energy and incorporating onsite renewables into their energy portfolio. Fifty-nine percent (59%) of responding centers procure renewable energy from offsite sources. The most popular source of offsite renewable energy reported was wind, followed closely by solar and hydro. Forty-two (42%) of reporting centers produce renewable energy onsite. Roughly 14.3% of all energy consumed by reporting centers came from renewable sources (both onsite and offsite).



Offsite renewable energy sources



¹⁵ Data were analyzed with outliers and incomplete data sets removed. Data were analyzed as submitted, and not verified for accuracy.



Salt Palace
Convention Center

CENTER HIGHLIGHT

In 2012, the [Calvin L Rampton Salt Palace Convention Center](#) began operating the largest rooftop solar panel array in Utah. The 6,006 panels cover the size of about 5 football fields and provide roughly 17% of the electricity needed to power the center. This onsite renewable energy program has also become an attraction at the center. Showcasing the installation process, the center has a cool time-lapse video on display in the main lobby, making it an educational experience for attendees and local residents visiting any show.

<https://www.youtube.com/watch?v=jVXAvjB5IEo&feature=youtu.be>

Energy Reduction

Reducing energy use can lead to significant cost savings for venues. For many of the practices surveyed, a majority of venues are already adopting them. Of responding centers:

96%

have a default policy in place for reduced lighting use in exhibit halls during move in and move out. On average, only 34% of lights are left ON during move in and move out under these policies

93%

have a default policy in place for reduced HVAC use in exhibit halls during move in and move out

90%

have a default policy in place for limited escalator use during move in and move out

96%

have a Building Automation System to manage temperature and lighting in meeting rooms

67% have occupancy sensors for reducing lighting usage in restrooms

46%

of have occupancy sensors in meeting rooms for reducing lighting use when unoccupied

Depending on the nature of hosted events, electricity consumption on the exhibit hall floor, as a result of exhibitor lighting and equipment use, can be significant. Twenty-nine percent (29%) of responding centers have energy sub-metering capability on the expo floor. A trend toward more granular sub-metering provides venue engineers with more information about and control over their facilities. It also supports the venues' ability to invoice based on actual energy use and helps provide event organizers accurate show-specific impacts. The same is true for more granular measurement of other venue impacts.

Energy Efficiency

Installing energy-efficient lighting is a common best practice at convention centers. For centers that can make the investment for upgrades to energy-efficient lighting and equipment, there are significant cost savings and environmental benefits to be had. Of responding centers:

LIGHTING

54%

have energy-efficient lighting in exhibit halls

64%

have energy-efficient lighting in the corridors

66%

have energy-efficient lighting in the meeting rooms

75%

have windows outfitted with energy-efficient attributes

EQUIPMENT

46%

have all energy-efficient boilers (i.e. >85% efficiency)

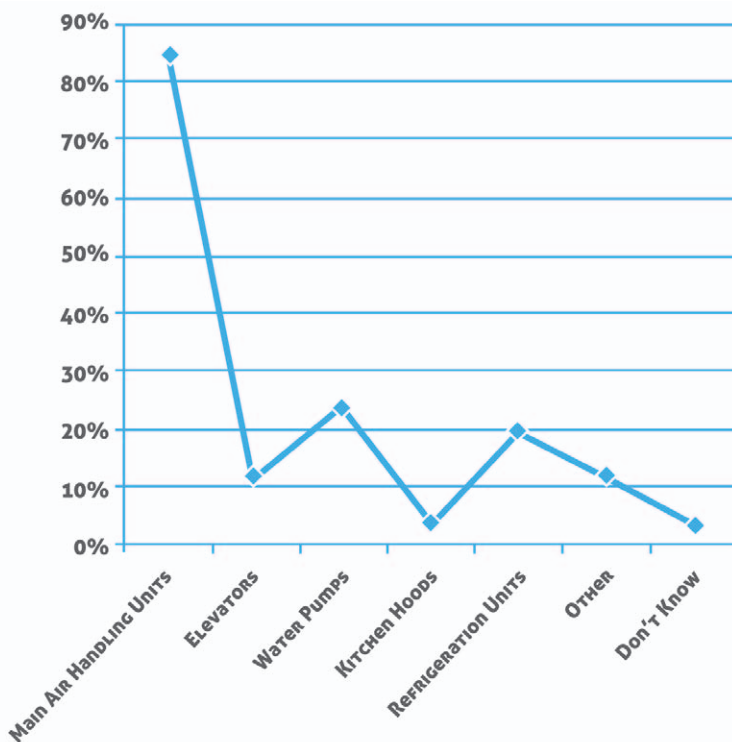
57%

have all high efficiency chillers

93%

have variable speed frequency drives in their HVAC systems

Most common locations of VFDs



Energy Tracking & Emissions

All centers reported to tracking energy on an on-going basis, with 77% of centers tracking energy monthly and 13% tracking on a quarterly basis. Forty-eight percent (48%) of responding centers can provide event organizers with an energy usage report specific to their event. However, the majority of centers that can provide event specific reports, only do so when requested.

Thirty-four (34%) of responding centers track carbon emissions as a venue, with 31% of venues reporting they can track and report the carbon footprint for a specific event. Only two centers track the carbon footprints of events on a regular basis, with seven additional centers indicating they could report the carbon footprint of an event if requested by an event organizer.

Centers vary in their ability to track energy use and use different tools to do so, including utility management programs, energy dashboards, billing services and publicly available tools such as Energy Star Portfolio Manager.

Energy Challenges

- Tracking requires advanced notice due to requests to utility providers or manual meter readings
- Allocating energy to a specific event if it is not a full-facility event (sub-metering that exists is typically limited)
- Tracking all energy sources (e.g., electricity, natural gas, district steam, chilled water) can require coordination with various providers
- Lack of industry standards in energy tracking leaves room for error or comparability among reported figures or units
- Environmental forces (e.g., extreme heat or cold) are beyond a center's control
- In developing nations, centers are subject to prolong power outages, black outs and rationing



CENTER HIGHLIGHT

The [Marina Bay Sands](#) in Singapore has invested a state-of-the-art Intelligent Building Management System that has over 90,000 control points. The system allows for automated controls over lighting, heating and water supplies for the entire integrated resort. This has led to a significant reduction in energy consumption and smaller carbon footprint. The building is also connected to a District Cooling System that produces and distributes chilled water via common service tunnels. Air conditioning units on the property make use of the water-cooled chillers, which are roughly 80% more efficient than air-cooled models.

WATER

Water scarcity is one of the major challenges facing our world today. Over the last century, world water use has grown at a rate more than double the rate of population growth and increasingly a number of regions are chronically short of water.¹⁶ In convention centers, kitchens, restrooms and landscaping can be significant areas of water consumption.

A majority of centers were able to provide 2014 water consumption data. Total 2014 water consumption at the 27 centers equaled 479,858,408 US gal, with the maximum water consumption reported at 58,808,925 US gal, the minimum 991,702 US gal.¹⁷

Of reporting venues, 93% regularly track water consumption and 34% can provide an event-specific water use report to event organizers.

Water Efficiency

Water management and efficiency practices adopted by responding centers include:

13% reuse gray water

28% use native plants¹⁹ for landscaping

87% reported a median value of 97% and an average 91%, of all venue faucets are high efficiency (<2.0 GPM).

80% reported a median value of 90% and an average 71% of all venue toilets are high efficiency (<1.28 GPF).

¹⁶ <http://www.un.org/waterforlifedecade/scarcity.shtml>

¹⁷ Outlier was removed for reporting purposes

¹⁸ https://en.wikipedia.org/wiki/Olympic-size_swimming_pool

¹⁹ Native/adapted plants are plants indigenous to a region that are adapted to the local climate.



Palmer Events Center

2014 annual water consumption reported is equivalent to that of over 727 Olympic-sized swimming pools.¹⁸

WATER USE PER VENUE SQ.FT (US GALLON)



WATER USE PER EVENT (US GALLON)



WATER USE PER ATTENDEE (US GALLON)

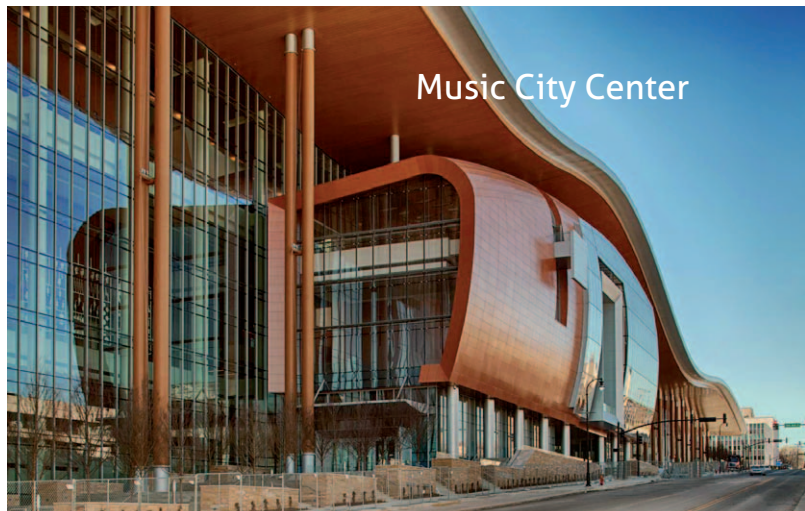


When it comes to events, eliminating plastic, disposable water bottles is becoming more common practice among planners. To support this trend, 52% have water bottle refill stations located in the facility.

It is important to note that comparisons are not apples to apples. Water consumption varies greatly based on the size of the venue, the number of events and efficiency upgrades. This snapshot of total water consumption by venues clearly illustrates this spectrum.

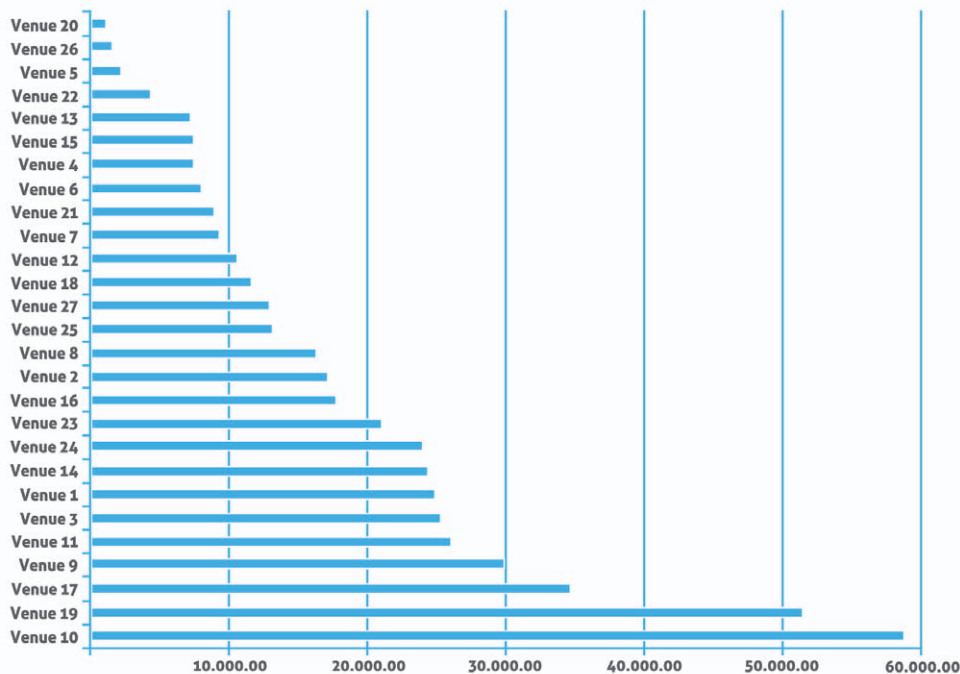
Water Challenges

Only two responding centers capture rainwater for storm water management or reuse. However, many centers indicated they are unable to collect rainwater due in part to local laws and regulations restricting their ability to do so. The laws in place are a result of severe drought faced in many parts of the world. Restricting rainwater capture in theory enables rainwater to percolate into the water table and replenish ground water and reservoirs for future use.



Music City Center

Total Water Use by Venue (US Gallons)



MUSIC CITY CENTER (NASHVILLE, TN) REPORTED COLLECTING OVER 3 MILLION GALLONS OF RAINWATER IN 2014, WHICH WAS EQUIVALENT TO ABOUT 40% OF THEIR WATER USE.

David L. Lawrence Convention Center



CENTER HIGHLIGHT

The [David L. Lawrence Convention Center](#) (DLCC) (Pittsburg, PA) has an onsite wastewater treatment plant. Reclaimed and treated water from all drains at the DLCC is used to flush toilets and urinals. The DLCC also pulls water from Pittsburgh's "4th River", an underground aquifer. Only 23% (of the over 9,000,000 gallons) of water used in 2014 was potable. This included water for cooling towers and a water feature.

Water produced from the use of Eco Food Waste Composters at the [Anaheim Convention Center](#) is currently dumped into a water clarifier to be reused for watering onsite.

FOOD & BEVERAGE

Food and beverage is a fun, creative and delicious part of many events. It can be a great way to connect attendees to regional cuisine and provides venues an opportunity to be creative and minimize impacts when hosting events.

A center's in-house catering partner drives its food and beverage sustainability initiatives. Catering partners reported included Centerplate (23%), Aramark (10%), Levy (20%), Savor (3%), "In-house Caterer" (27%) and Other (17%).

ARAMARK at the Anaheim Convention Center is deeply committed to sustainability and has a robust program in place, addressing:

- Energy
- Sustainable Menu Development
- Waste Stream Management (Green Zone/Recycling Center)
- Communication and Education
- Whole Animal Sourcing/ Purchasing
- Partnerships with Certified Rainforest Alliance & Fair Trade Products
- Sustainable Beef Programs
- Food Donation Program
- Office Supplies and Cleaning Products
- Green Roof

In 2010, ARAMARK at the Anaheim Convention Center became the first center catering group to purchase their own "whole animal" beef supply. Aramark purchases from Hearst Ranch in San Simeon, CA—a grass-fed, grass-finished, hormone-free, antibiotic-free, free-range and certified humane operation. All beef products (including hamburgers and BBQ) served at concessions throughout the Anaheim Convention Center come from this herd. ARAMARK also serves all cage-free eggs and is a Monterey Bay Aquarium Seafood Watch program partner.

All bottled water served at the center is packaged in 100% rPET (post-consumer recycled #1 plastic) bottles. ARAMARK partners with Arrowhead for its 5-gallon water program. Arrowhead(R) 100% Natural Spring Water comes from a local natural spring located 80 miles from the center. ARAMARK also offers a "buy a bottle, plant a tree" program, by supporting "Trees For Future" and planting a tree in Brazil for every bottle of Trinity Oaks, house wine, that is purchased, and serves only Rain Forest Alliance and Fair Trade certified coffee. For more information visit <http://visitanaheim.org/partners/1088/aramark-at-the-anaheim-convention-center>



Organics & Food Waste

Roughly one third of all the food produced in the world for human consumption is lost or wasted – that’s approximately 1.3 billion tons of food. In the United States, organic waste is the second highest component of landfills²⁰. Food waste sent to landfills is becoming an increasingly important issue, as it produces methane gas—a greenhouse gas 21 times more potent than carbon dioxide.

Catering practices being implemented to divert kitchen organics and excess food from landfill, include:

90%

divert back of house kitchen residuals

87%

recycle kitchen grease

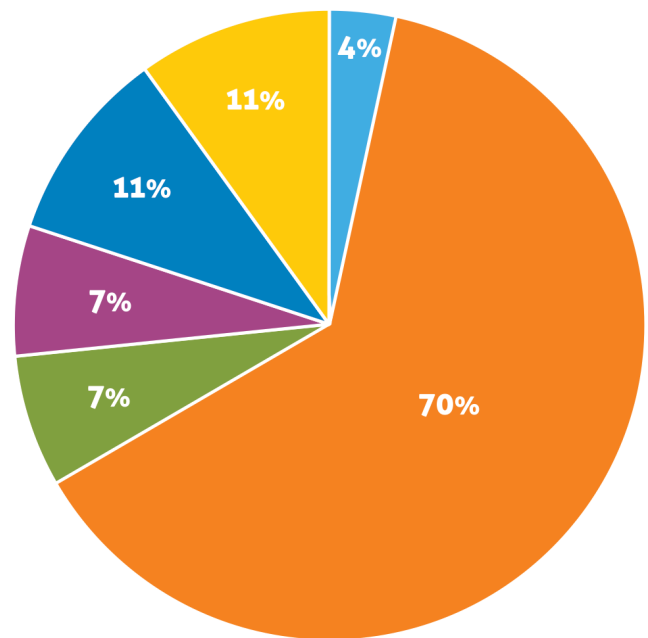
80%

donate food on an ongoing basis, and an additional 7% can donate upon request

80% OF REPORTING CENTERS DONATE EXCESS FOOD TO LOCAL CHARITIES ON AN ONGOING BASIS. In 2014, JUST UNDER 630 METRIC TONS OF FOOD WAS DONATED BY GREEN VENUE SURVEY PARTICIPANTS.

While use of traditional composting facilities is still the most common processing method for organics, there are many emerging alternative technologies, which give centers flexibility with regard to local infrastructure and fees.

Food Waste Diversion Programs



- Treated onsite in organics liquefier
- Sent untreated to offsite compost facility
- Ground in commercial "digester" / garbage disposal system
- Sent untreated to offsite animal feed production facility
- Other
- Do not divert kitchen residuals

Of the 80% of centers regularly donating food, 83% were able to provide data on weight of food donated. In 2014, 629 Metric tons of food were donated by Green Venue Survey participants. Seventy-six percent (76%) of catering departments can provide event organizers with the weight of food donated for their specific event.

²⁰ <http://www.unep.org/wed/2013/quickfacts/>

Sands Expo and Convention Center



CENTER HIGHLIGHT

The [Sands Expo Convention Center in Las Vegas](#) recently launched the first 'Banquet Donation Program' in Las Vegas. Remaining portions of hot, prepared meals are donated to local food banks for immediate or next day meal service. The center has donated over 40,000 meals in the last 12 months to Meals on Wheels (serving elderly individuals in their homes), the Shade Tree (a women's and children's domestic abuse shelter) and Catholic Charities, which serves meals to those in need.

“The Concession Coffee Challenge”

Coffee is one the most frequently sold items at events and typically served to go. When centers and catering departments commit to front of house composting they often commit to procuring compostable service ware such as coffee cups, lids and coffee sleeves. Centers also create specific signage to help attendees dispose of their food and beverage packaging correctly as well as training for staff.

When corporate concessions such as Starbucks use brand standards and do not provide compostable coffee cups, lids or service ware they create a major hurdle for centers trying to implement front of house composting. Without complete center and contracted concession participation in the program, the waste streams confuse attendees, compost streams become contaminated, and ultimately endanger the success of the entire program.



Icon created by Jon Tillana

ACCORDING TO THE EPA’S FOOD RECOVERY CHALLENGE HIERARCHY (see [HTTP://WWW.EPA.GOV/FOODRECOVERYCHALLENGE/](http://www.epa.gov/foodrecoverychallenge/))

THE BEST OPTION FOR ALL EDIBLE FOOD IS SOURCE REDUCTION (RIGHT SIZING MENUS) FOLLOWED BY DONATION FOR LOCAL CONSUMPTION AND THEN USE FOR ANIMAL FEED. LAST IN THE HIERARCHY IS LANDFILL OR INCINERATION. CONVENTION CENTER’S AROUND THE COUNTRY ARE PARTICIPATING IN THIS VOLUNTARY EPA PROGRAM TO REDUCE FOOD WASTE, MANY OF WHICH ARE ALSO PARTNERING WITH ROCK AND WRAP IT UP TO LOCALLY DONATE FOOD. MORE INFORMATION CAN BE FOUND AT [HTTP://WWW.EPA.GOV/FOODRECOVERY/SUCCESS/ROCKIN.HTM](http://www.epa.gov/foodrecovery/success/rockin.htm) AND [HTTP://ROCKANDWRAPITUP.ORG](http://rockandwrapitup.org).

When looking at food service ware, centers reported:

81%

of service ware used by the caterer is ASTM D6400/BPI certified compostable

62%

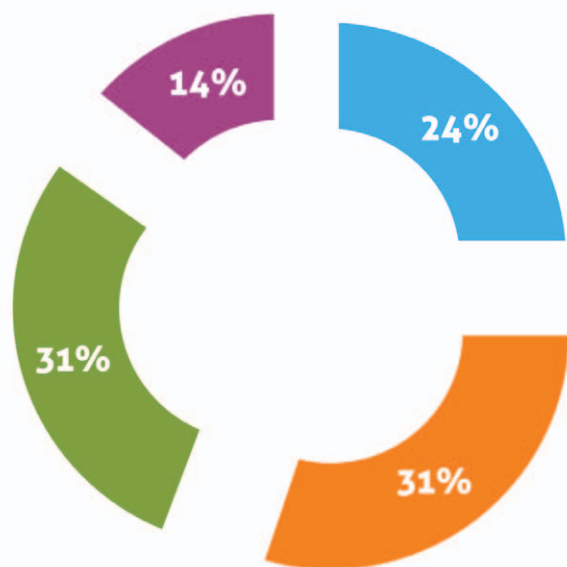
of service ware used by third-party concession outlets within the center is ASTM D6400/BPI certified

Menus

When planning menus for events, 24% of centers have an active ongoing program in place to provide event organizers the percentage of local/organic/sustainable F&B purchased for their event. An additional 31% will provide that information if requested, at no additional fee to the planner.

Menus is another area highlighting gaps in communication between planners and venues, with centers reporting that, on average, only 28% of event organizers request organic/local/seasonal menus.

Catering departments that provide planners the % of local/ organic/ sustainable F&B purchased for events



- **ACTIVE ONGOING PROGRAM**
- **CAN PROVIDE AT PLANNER REQUEST, NO ADDITIONAL FEE**
- **CAN PROVIDE AT PLANNER REQUEST, MAY INCUR ADDITIONAL FEE**
- **DO NOT KNOW**

MUSIC CITY CENTER (NASHVILLE, TN) became one OF THE FIRST CONVENTION CENTERS IN THE UNITED STATES TO BECOME REAL CERTIFIED (RESPONSIBLE EPICUREAN AND AGRICULTURAL LEADERSHIP) THE GOAL OF REAL CERTIFICATION IS TO AFFECT CHANGE IN THE FOOD AND FOODSERVICE INDUSTRIES BY PROVIDING MARKET-BASED INCENTIVES TO INCREASE THE PROFITABILITY OF MORE HEALTHFUL AND SUSTAINABLE FOOD AND BEVERAGE. LEARN MORE AT [HTTP://USHFC.ORG/PROGRAMS/CERTIFICATION-PROGRAM/](http://ushfc.org/programs/certification-program/)

Make Food and Beverage Challenges

- Lack of municipal composting partners to take food waste and compostable service ware
- Local food producers are often unable to provide the large volume of products needed by convention center catering departments
- Sourcing local food year-round in locations affected by desert climates or long winter months
- Costs associated with sustainable food products

AIR QUALITY

You could live days without food or water, but only minutes without air. Polluted air can have detrimental effects on your health and wellbeing. Taking steps to improve air quality both indoors and out helps us all breathe a little easier.

Eighty percent (80%) of all participating centers have an Indoor Air Quality (IAQ) program in place.

Eighty-two percent (82%) have a no idling policy for shuttle buses, however, only 43% reported that the policy was strictly enforced.

Volatile organic compounds, or VOCs, refer to the toxic compounds often found in paint and carpet that change from solid or liquid form to gas; in other words they vaporize or off-gas into the air you breathe over time ²¹. Among responding centers, 89% of permanent carpet found in the venues is low-VOC or VOC-free, 96% of centers' painted facades are low-VOC or VOC-free.

GREEN CLEANING

Green cleaning is an increasingly relevant topic in sustainability due to the effects on cleaning staff handling cleaning chemicals on a daily basis, as well as on building occupants, who are concerned with exposure to chemicals that are harmful or can cause allergies. Additionally, concerns are expanding to consider detrimental downstream effects certain chemical ingredients can have when discharged into water and soil. Green cleaning can refer to both the composition of supplies procured for cleaning and actual cleaning operations/practices to reduce usage or waste.

On average, 76% of cleaning products used by responding centers are third-party certified as sustainable (e.g., EcoLogo, Green Seal, FSC, etc.) Air fresheners and floor cleaning products, particularly for carpet, were noted as the most difficult sustainable cleaning products to procure.

²¹ <http://www.epa.gov/iaq/voc.html>



Hynes
Convention Center

CENTER HIGHLIGHT

Both [Hynes Convention Center](#) and the [BCEC](#) (Boston, MA) utilize their facility partner ABM's Green Care program, which features the use of Green Seal certified products and systems that focus on using electrolyzed water in cleaning procedures to minimize the amount of required chemicals.

As a building with a significant number of windows and glass, the [David L. Lawrence Convention Center](#) (Pittsburg, PA) has not purchased glass cleaner in over 4 years. The center uses technology called "Orbio" in which they "produce" a cleaning solution on-site by combining tap water, water softeners and a small electrical current. This solution is used on windows, glass, hard surfaces, carpet, and other areas of the building.

OUTLOOK

This second annual Green Venue Report represents the performance and practices of 30 convention and exhibition centers across North America, Asia, Europe and Africa. From examining their responses, it is clear that they and many centers around the globe are implementing numerous innovative and inspiring programs.

This report can serve as a best practices guide for those convention centers in the earlier stages of their sustainability journey. For those facilities, there is no need to recreate the wheel, but instead take advantage of “low hanging fruit” opportunities to raise the bar on industry standard practice.

We understand that greener operating efforts are constantly evolving, with smarter, better practices being adopted all the time, however, there is always room for improvement. Now that we have gained momentum as an annual industry exercise, we look forward to the 2016 Green Venue Report being able to demonstrate progress that venues have made in adopting best practices as well as finding innovative solutions to common sustainability challenges.

Data collection and analysis uncovered a lack of definition around measuring event impacts. “Facility energy use” or “event energy use,” for example, is defined differently across venues. Even topics that are seemingly straightforward, such as, what defines an event or an event attendee appears to be counted differently across the centers we surveyed. Data standardization is an interesting topic for industry discussion and collaboration.

The data and comments collected by centers for this report highlighted a significant disconnect within our community. Even though more centers and planners are discussing sustainability during the planning process, 86% of center sales staff discuss greening in the pre-planning stage and on average 27% of event organizers initiate the conversation about sustainability, these conversations are

not translating into the adoption of even basic sustainability practices during events.

If these numbers are telling us that convention centers and planners are actually discussing sustainability, yet planners are still not taking advantage of sustainability programs, then perhaps this misstep in communication highlights a significant problem in the way we talk about sustainability in general. Perhaps, there is an opportunity for centers to change the way they communicate their programs. Event sustainability conversations can't be focused on additional costs and impact reports. Conversations need to happen in a way where planners better understand how utilizing the sustainable programs in place will enable them to create a unique and powerful event experience. An event that can be a showcase of organizational brand values, that has the potential to enhance attendee experience, demonstrate leadership, potentially reduce costs and is more efficient and less wasteful.

Today, the worlds' largest companies in all sectors and regions disclose their sustainability performance and impacts to some degree. However, the majority of event organizers representing associations and corporate brands that embrace sustainability and social responsibility are not translating those organizational values when executing their events. This creates an opportunity for convention centers to help their clients to do so, and add tremendous value in the process.

We hope this report and subsequent surveys serves as a catalyst for convention centers and show organizers to “up their green game.” Centers have both the square footage and the engineering prowess to incubate and lead sustainable practices for the meeting and convention industry. Planners can make their events and their spending power influence great change and benefit not only their brand, but also the world we live in.

Sign up to take the 2016 Green Venue Survey!

- Completion of the survey provides you with aggregated sustainability data for your venue that you can choose to share with event organizer clients, your marketing team and other stakeholders
- Participate in an industry-leading study, continuing your association with leading sustainability initiatives. Participating venues will receive recognition in the published report, PR Materials and external communications
- Access to a comprehensive list of convention center best practices
- Be part of a growing community of industry leaders working together to advance best sustainability practices in the meetings and events industry

Become a 2016 Green Venue Report Sponsor!

We still have some sponsorship positions open for the 2016 survey and report. For inquiries please email us at

reportit@greenvenuereport.com

www.greenvenuereport.com

Twitter: @GrnVenueReport

Facebook: <https://www.facebook.com/greenvenuereport>

Email: reportit@greenvenuereport.com



SPONSORS



2015 Report
Updated October 26, 2015