



2017 GREEN VENUE REPORT:
**THE STATE OF CONVENTION &
EXHIBITION CENTER SUSTAINABILITY**



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GREEN VENUE REPORT 2017

THE STATE OF CONVENTION & EXHIBITION CENTER SUSTAINABILITY



GREENVIEW



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ABOUT GREENVIEW

Greenview is a sustainability consulting and research firm that helps organizations with their strategy, programs, measurement, and reporting. In addition, Greenview provides technology solutions to make calculation and monitoring of data and best practices easy through its Greenview Portal. Greenview's clients include many of the hotel industry's leading chains, as well as cruise lines, venues, destinations, trade associations, and research institutions to catalyze sustainability as the industry's thought leader.

With offices in Singapore and the United States, Greenview works with hotel companies to develop and implement strategies, programs, and data measurement platforms. Greenview's clients have received notable awards and recognition including the Dow Jones Sustainability Index Global Leader, CDP Leadership Index, and GRESB Green Star.

In addition to advising leading global organizations, Greenview has launched several innovative industry initiatives including the Green Lodging Trends Report, the Cornell Hotel Sustainability Benchmarking Index, the Hotel Footprinting Tool, the Hotel Owners for Tomorrow coalition, and the UNWTO's sustainable cruise development benchmarking for South-East Asia.

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INTRODUCTION



ABOUT THE GREEN VENUE REPORT

The Green Venue Report (GVR) is an industry-wide initiative to provide benchmarking data, catalyze best practice, and stimulate competition around global convention & exhibition center sustainability. The report aims to give insight and content to best practices, with real data showing trends across the facets of event and venue sustainability.

This year, we added three-year trends to many of the practices surveyed in the Green Venue Report. The graphical representation of the trends line will allow readers to quickly understand the trends in a three-year period. Each of the three-year trends includes an indication of whether the practice is common, emerging or innovative. Common practice is defined as a practice that has equal or more than 75% adoption rate, emerging practice has adoption rate of 25 – 74%, and innovative practice has less than 25% adoption rate.

Information is kept confidential, with each participant receiving a free compare report of their results against the set of peers. The report highlights the innovative practices found among venues to encourage leadership, while giving everyone a benchmark of where they stand, practice-by-practice. The survey is conducted via the Greenview Portal, an online system to track various types of utility data, community engagement, and best practices. As many of the questions are repeated each year, participants have their information stored within their Greenview Portal profile to make it easier to respond each year.

We encourage all venues to participate in the survey regardless of where they may be in their “sustainability journey.” For the **Sustainability Beginner**, who is just starting their journey, GVR participation provides your venue with the opportunity to determine the most impactful areas for improving sustainability. Compare your venue’s practices and performance against global participants and gain an understanding of your venue’s potential from the start. For example, tracking energy and water usage, having smart waste bin designs, as well as water bottle refill stations are great ways to get started.

For the **Sustainability Proficient**, GVR guides venues to examine and advance their current policies, programs, products, and strategies. The Compare Report provides your venue with the opportunity to see how other venues are advancing, and where you should make your sustainability investment. Practice areas include sustainability policies, green team activities, health and wellness policies, communication strategies to attendees and event organizers about sustainability programs in place.

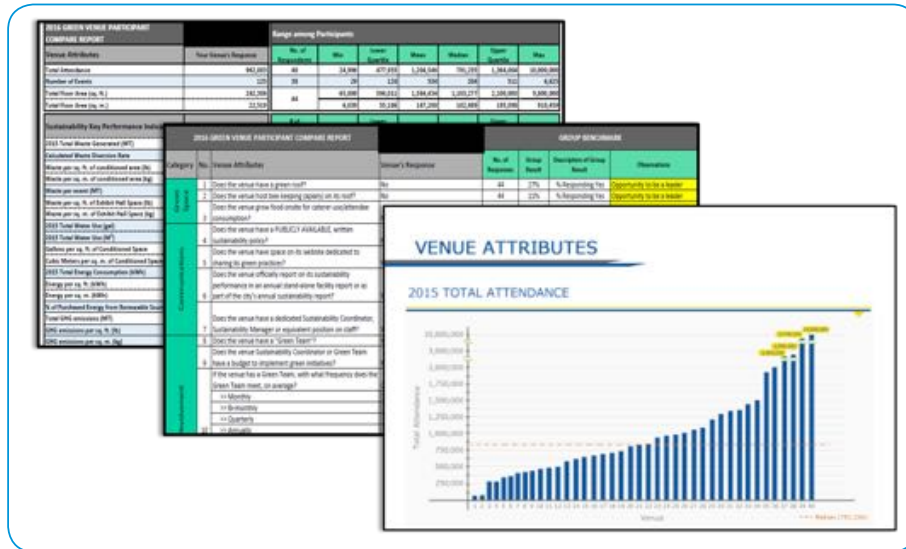
As the world surrounding sustainability continues to evolve, your venue can continue to improve its performance by gaining awareness of policies, programs, products, and strategies on a global scale. For the **Sustainability Leader**, participating in GVR gives you the opportunity to stay ahead of the curve, and continue to make great strides in the industry. Sharing and comparing ROI on sustainability investments, providing examples of innovative solutions and achievements to complex social and environmental problems helps push our industry forward.

Sign up to participate in the 2018 Green Venue Report!

- Receive a free compare report to find out where your venue is aligned with best practices, and where it is behind among your peers.
- Measure the quality of your organizations’ policies, program, products, and strategies.
- Use the compare report to improve and ultimately outperform your competitors.
- Get your achievements recognized through venue highlights sections.
- Join the webinar for best practice sharing and discussion.

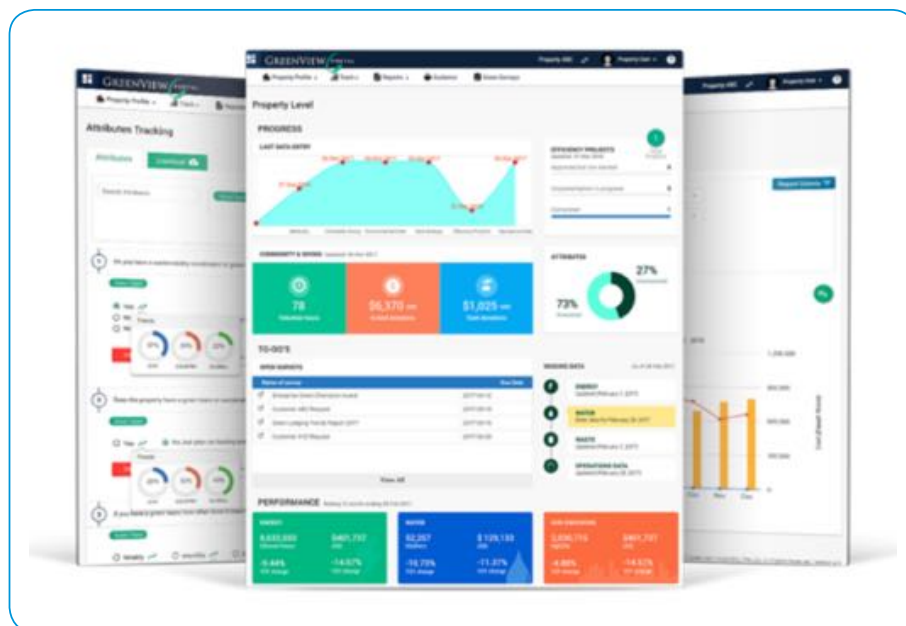
ABOUT THE COMPARE REPORT

The free compare report provides a quick snapshot of your responses to the Green Venue Report survey, with each benchmarked among the data set globally. The information contained in this report is confidential. It will only be shared with the survey participant, and if applicable, the management company of the venue.



ABOUT THE GREENVIEW PORTAL

The annual survey is conducted via the Greenview Portal system, an online sustainability data tracking and reporting platform. Returning venues can easily update their responses the following year as the system provides “last response” per repeating survey questions. Paid subscription to the Greenview Portal provides additional benefits such as the ability to store all your data (energy, water, waste, community and giving projects, efficiency projects, etc.) in one place, pull reports to understand your performance (including calculating your GHG emissions), as well as view confidential benchmarking analysis indicating the status of the venues’ implementation of each best practice criteria in comparison to the rest of the venues in their city country and globally.



BENEFITS TO VENUES:

The Green Venue Report provides convention and exhibition centers across the world with insight and content of best practices and data trends. Wherever you are on your “sustainability journey,” GVR can help your venue determine areas of improvement, analyze attributes and data trends, and achieve better performance.

Participating year after year makes the greatest impact for your venue, as you can not only track your performance, but also invest in the most effective best practices, innovations, tools, and technology for improving sustainability.

BENEFITS TO EVENT ORGANIZERS:

The Green Venue Report provides event organizers with resources on how to best set up a sustainable event program for their event, including ideas on innovations seen throughout the industry. The 2017 report will also include questions that event organizers should ask venues based on global sustainability trends.

BECOME A SPONSOR:

As a sponsor, your company or brand will be promoted through our global reach to the MICE industry and venues. Every year, we have had over 50% growth in participation.





























BECOME AN INDUSTRY SUPPORTER:

Management companies that join the project as industry supporters will receive a “company-level” compare report specifically for their properties under management. Get your properties on board to learn best practices and innovative efforts by venue, improve over time and ultimately outperform your competitors.































Do you have an idea for improving this report, and making it more useful? We would love your feedback. Please e-mail us at support@greenviewportal.com.

2017 GREEN VENUE REPORT PARTICIPANTS

-  Amsterdam RAI Exhibition and Convention Centre, Amsterdam, **The Netherlands**
-  Anaheim Convention Center, Anaheim, California, **USA**
-  Aria Resort and Casino, Las Vegas, Nevada, **USA**
-  Austin Convention Center, Austin, Texas, **USA**
-  Baltimore Convention Center, Baltimore, Maryland, **USA**
-  Bangalore International Exhibition Centre, Bangalore, **India**
-  Bangkok International Trade and Exhibition Centre, Bangkok, **Thailand**
-  Beanfield Centre, Toronto, Ontario, **Canada**
-  Bellagio, Las Vegas, Nevada, **USA**
-  Boston Convention & Exhibition Center, Boston, Massachusetts, **USA**
-  Broward County Convention Center, Fort Lauderdale, Florida, **USA**
-  Calvin L. Rampton Salt Palace Convention Center, Salt Lake City, Utah, **USA**
-  Centre de Congres de Lyon, Lyon, **France**
-  Centre de Convencions Internacional de Barcelona, Barcelona, **Spain**
-  Cobo Center, Detroit, Michigan, **USA**
-  David L. Lawrence Convention Center, Pittsburgh, Pennsylvania, **USA**
-  Edinburgh International Conference Centre, Scotland, **United Kingdom**
-  Enercare Centre, Toronto, Ontario, **Canada**
-  Ernest N. Morial Convention Center, New Orleans, Louisiana, **USA**
-  Flanders Expo, Brussels, **Belgium**
-  Georgia World Congress Center, Atlanta, Georgia, **USA**
-  Greater Richmond Convention Center, Richmond, Virginia, **USA**
-  Hampton Roads Convention Center, Hampton, Virginia, **USA**
-  Henry B. Gonzalez Convention Center, San Antonio, Texas, **USA**
-  Huntington Convention Center of Cleveland, Cleveland, Ohio, **USA**
-  Hynes Convention Center, Boston, Massachusetts, **USA**
-  Indonesia Convention Center, Tangerang, **Indonesia**
-  Jacob K. Javits Center, New York, New York, **USA**

2017 GREEN VENUE REPORT PARTICIPANTS (CONT.)

-  Kap Europa Conference Centre, Frankfurt, **Germany**
-  Kay Bailey Hutchison Convention Center Dallas, **USA**
-  Kistamässan, Kista, **Sweden**
-  London Convention Centre, London, Ontario, **Canada**
-  Los Angeles Convention Center, Los Angeles, California, **USA**
-  Maison de la Mutualite, Paris, **France**
-  Malmömässan, Malmö, **Sweden**
-  Mandalay Bay, Las Vegas, Nevada, **USA**
-  Marina Bay Sands, **Singapore**
-  McCormick Place, Chicago, Illinois, **USA**
-  Melbourne Convention and Exhibition Centre, Melbourne, **Australia**
-  Metro Toronto Convention Centre, Toronto, Ontario, **Canada**
-  MGM Grand, Las Vegas, Nevada, **USA**
-  The Mirage, Las Vegas, Nevada, **USA**
-  Moscone Center, San Francisco, California, **USA**
-  Music City Center, Nashville, Tennessee, **USA**
-  Nice Acropolis, Nice, **France**
-  Orange County Convention Center, Orlando, Florida, **USA**
-  Oregon Convention Center, Portland, Oregon, **USA**
-  Palais Brongniart, Paris, **France**
-  Palexpo, Geneva, **Switzerland**
-  Palm Beach County Convention Center, **USA**
-  Palmer Events Center, Austin, Texas, **USA**
-  Pennsylvania Convention Center, Philadelphia, Pennsylvania, **USA**
-  Saint Paul RiverCentre, Saint Paul, Minnesota, **USA**
-  San Diego Convention Center, San Diego, California, **USA**
-  San Jose Convention Center, San Jose, California, **USA**
-  Sands Expo and Convention Center, Las Vegas, Nevada, **USA**

2017 GREEN VENUE REPORT PARTICIPANTS (CONT.)

- 🌐 Shaw Conference Centre, Edmonton, Alberta, **Canada**
- 🌐 Square-Brussels Meeting Centre, Brussels, **Belgium**
- 🌐 Taipei Nangang Exhibition Center, Taipei, **Taiwan**
- 🌐 The International Centre, Mississauga, Ontario, **Canada**
- 🌐 Vancouver Convention Centre, Vancouver, British Columbia, **Canada**
- 🌐 Venetian Macao Convention & Exhibition Centre, Macau, **China**
- 🌐 Virginia Beach Convention Center, Virginia Beach, Virginia, **USA**
- 🌐 Whistler Conference Centre, Whistler, British Columbia, **Canada**
- 🌐 Wildwoods Convention Center, Wildwood, New Jersey, **USA**
- 🌐 World Forum, Den Haag, **The Netherlands**



KEY FINDINGS

The 2017 Green Venue Report includes data for 66 venues from 14 countries, a 50% increase from last year. The key findings represent insight and trends that are most notable either because a large percentage of the participating venues practice them, or they are emerging trends that have potential to become a common practice in the industry.

Venues are saving millions of dollars with sustainability upgrades. This year, we asked venues to provide us with examples of financial savings or benefits they've experienced through the implementation of energy, waste, or water saving technologies or programs. Venues that invest in these technologies receive returns on their investments ranging from a few hundred dollars by converting street lights to LED bulbs, to millions of dollars of savings by implementing venue wide energy programs. These trends are similar to those for waste and water.

Waste generated by events is being directly charged to event organizers. In an effort to curb waste generation, 52% of venues charge event organizers directly based on waste tonnage or by the number of waste container "pulls" or "hauls" generated by the show. Additionally, about a quarter of the venues provide economic incentives for event organizers to reduce waste sent to landfill.

Health and wellbeing of staff is of growing importance. Sixty-two percent of venues reported to having a health and wellbeing policy in place that applies to all staff. Policies and programs include innovative programs such as health and fitness facilities with free personal trainers to help promote healthy living and exercise, to weekly onsite doctor visits. Staff can see a doctor at the venue if they can't make it to a medical facility during working hours.

Energy tracking for events is improving. All venues reported to tracking energy on an on-going basis, with 88% of venues tracking energy monthly, an increase from 86% last year and 77% in 2015. Almost one third of the venues can sub-meter energy usage specific to the exhibit hall. However, only 5% of venues can sub-meter (i.e. measure exact usage) individual exhibit booths in the exhibit hall, continually low adoption rate since 2015. Sixty-four percent of venues can provide event organizers with an energy usage report specific to their event, which is a healthy increase since 2015 (53% in 2016 and 48% in 2015).

Venues are procuring more renewable energy and incorporating more renewable energy technologies into onsite operations. Twenty-three percent of venues purchased Renewable Energy Certificates (RECs), representing a total of approximately, 248 million kWh purchased. Additionally, 59% of venues purchase energy (electricity, district heating, district cooling) obtained from municipalities or other parties using renewable sources. Twenty-five percent of venues responded to having at least 50% of the venue's purchased energy obtained from utilities or other parties using renewable sources.

Europe leads the way in public transport accessibility. All venues located in Europe were accessible by train, light rail or subway/metro, bus, or within walking distance from the airport. By comparison, 46% of U.S. venues were accessible by the same means and 38% of venues in Canada were accessible by train, light rail or subway/metro.

Venues continues to value sustainable food and remain committed to purchasing from local producers. Eighty-nine percent of venues procure food and beverage products with at least one sustainability-focused certification or accreditation. This trend shows a jump from 85% last year. On average, 43% procured in 2016 were considered local by spend of food and beverage items (within 250 miles/400 km).

Tracking water consumption for events is increasing. Forty-five percent of venues can provide an event-specific water usage report to event organizers, up from 44% last year and 34% from 2015. Only 5% of venues track event water usage on an ongoing basis. However, 35% can provide event organizers an event specific water usage report when requested at no extra cost.

Venues continue to reduce food waste. Planning the precise volume of food needed for attendees helps to control costs and minimize waste, making food management a critical component of event catering. Seventy-seven percent of venues practice active food waste management (the tracking and monitoring of food production waste, overage and spoilage) using either manual or automated tracking. Even though this number is down slightly from last year, it is still a promising sign. Additionally, the majority of venues' catering departments (84%) regularly divert kitchen organics using onsite or offsite methods. Over half of venues (56%) donate food on a regular basis at no additional expense to event organizers.

Venues are starting to offer additional resources on sustainable events to organizers. Eighty-three percent of venues have sales staff that consistently and proactively make organizers aware of a venue's sustainability practices or "greening meeting". In addition, several venues also indicated that they distributed a sustainable meetings pamphlet, manual, or sales kit to meeting organizers. Additionally, 36% of the venues indicated that at least 25% of event organizers discussed sustainability or "greening" while engaging with the venue.

Venues continue to obtain sustainability certifications from various certification labels including health/wellness certifications. Eighty-six percent of venues have achieved a sustainability-related certification, 25% of venues held two sustainability certifications and 21% of venues held three sustainability certifications. Ninety-four percent of venues said they hold some type of sustainability certification or participate in government, state, municipality, or country wide sustainability designation program that focus on environmental responsibility and community stewardship. Interestingly, 31% of venues' catering departments have achieved sustainability or health/wellness certifications (specific to the venue's food and beverage operations).

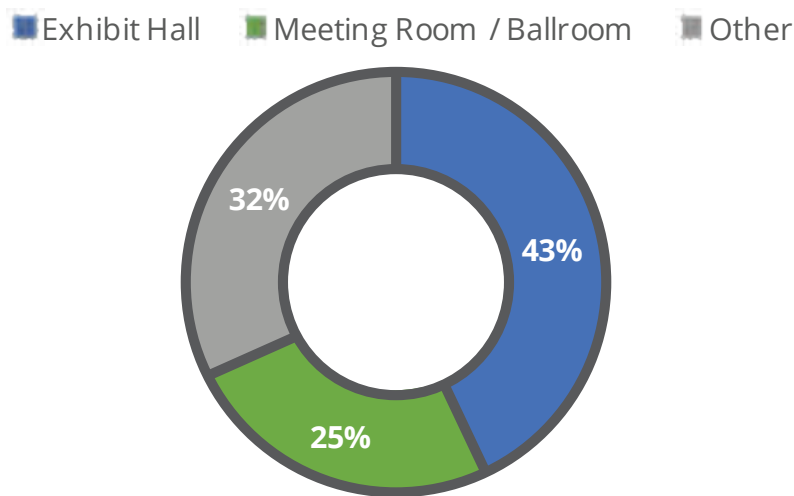
SPACE & EVENTS

Convention and exhibition centers play an influential role within the MICE industry due to their physical size, the number of people they welcome and host each year from around the world and the economic activity they help generate.

SPACE

In their entirety, venues ranged in size from 65,000 sq. ft./6,039 sq.m. to 9,800,000 sq. ft./910,450 sq.m. of total conditioned space.

VENUE SPACES



*Other represents public space, corridors, pre-function areas, and back-of-house support function spaces.

SUSTAINABLE SPACES

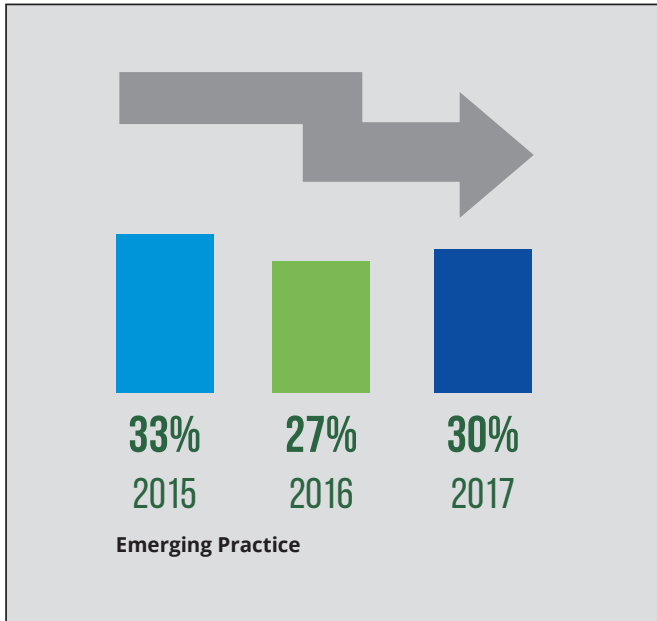
Convention and exhibition venues cover a lot of ground and many have space that may be underutilized. Venues are continually demonstrating that they are creatively using some of the underutilized space by designing and implementing green roofs, beekeeping, and onsite gardens.

Thirty percent of venues have a green roof, a 27% increase compared to last year. The total number of venues with a green roof increased from 12 to 20 representing over 1.45 million square feet or 136,973 square meters. An additional two venues plan to install a green roof in the next 18 months.

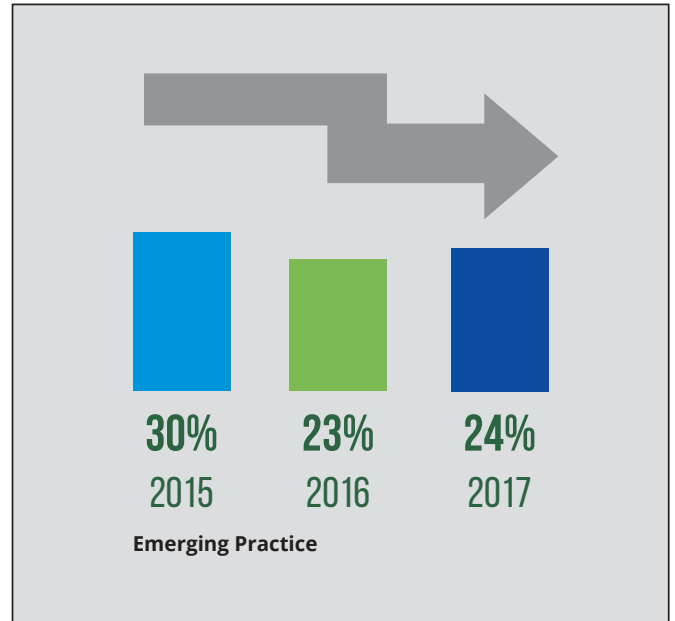
Fourteen percent of responding venues currently have an apiary on their roof. Three venues plan to install hives in the next 18 months.

The total number of onsite gardens increased from ten venues to sixteen, representing 24%. The three-year trend indicates that implementation of onsite gardens at venues has been stayed relatively the same.

Percentage of venues with a green roof



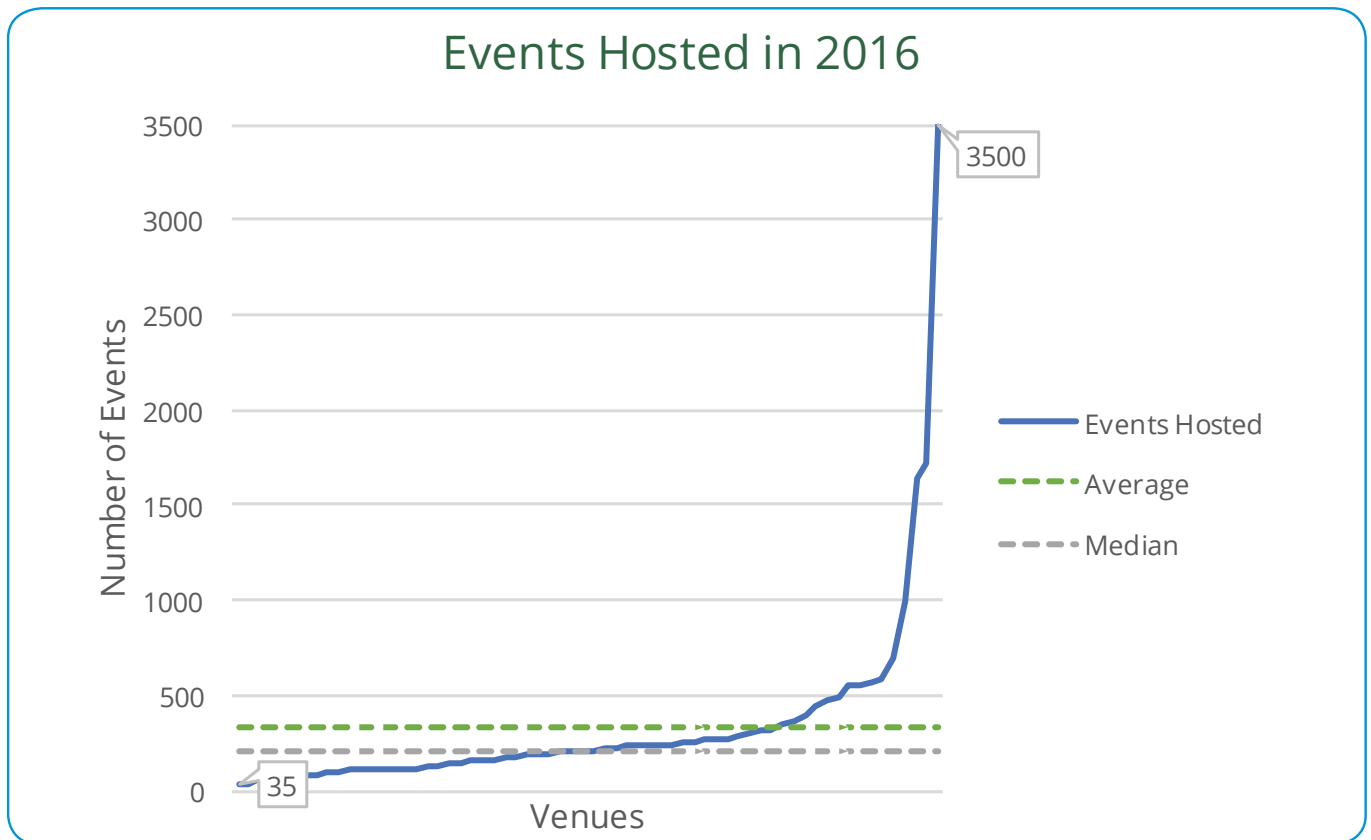
Percentage of venues with an onsite garden



EVENTS

Ninety-seven percent of venues were able to provide annual data on events.¹

21,758, total events were held across the 64 responding venues. As a guide, the survey question defined an event as a group of at least 50 delegates or attendees meeting for more than four hours at a time.

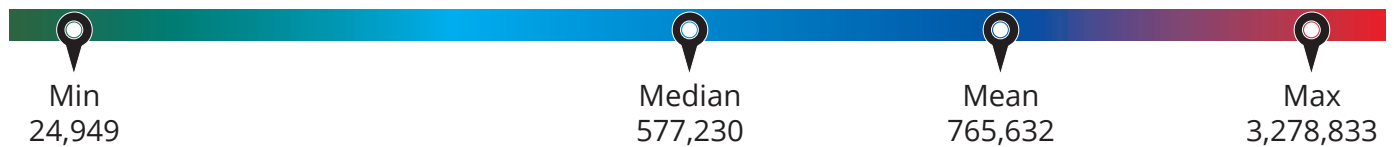


¹ We did not request annual event data according to a specific calculation standard but rather asked how the data were calculated, so responses may not be uniform. The same is true for attendee numbers.

In an effort to shed light on how venues calculate event and attendee numbers, we asked venues to give us more details on how they typically track this. The majority of venues reported to using some sort of electronic event booking and tracking system to track events. However, 23% of venues counted contracts, while a few others had their own methods.

ATTENDANCE

Ninety-four percent of venues were able to provide annual data on event attendance. A total of 49,000,422 attendees were present for events at 62 responding venues.



Event organizers come up with innovative solutions to make meaningful impacts in the destinations they visit. When asked about an innovative practice they've seen an event organizer do that really inspired, venues responded:

"One large retailer built hundreds of park benches and picnic tables at a single event which occupied an entire exhibit hall, took tens of thousands of dollars to purchase the equipment, required thousands of labor hours to complete.... and it was all done in a few hours and the benches were donated to the local school district. It was seriously impressive."

- San Jose Convention Center -

"One client offered carbon offsets to attendees for their cell phone and other wireless device usage. It was inexpensive and everyone received a sticker to put on their device showing they supported this effort."

- Broward County Convention Center -



LOCATION

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

ATTENDEE ACCESSIBILITY

BUS & CAR

100%

of venues in **Europe** were accessible from/to airport by train, light rail, bus, or subway/metro.

46%

of venues in the **United States** were accessible from/to airport by train, light rail, bus, or subway/metro.

AIRPLANE

TRAIN

38%

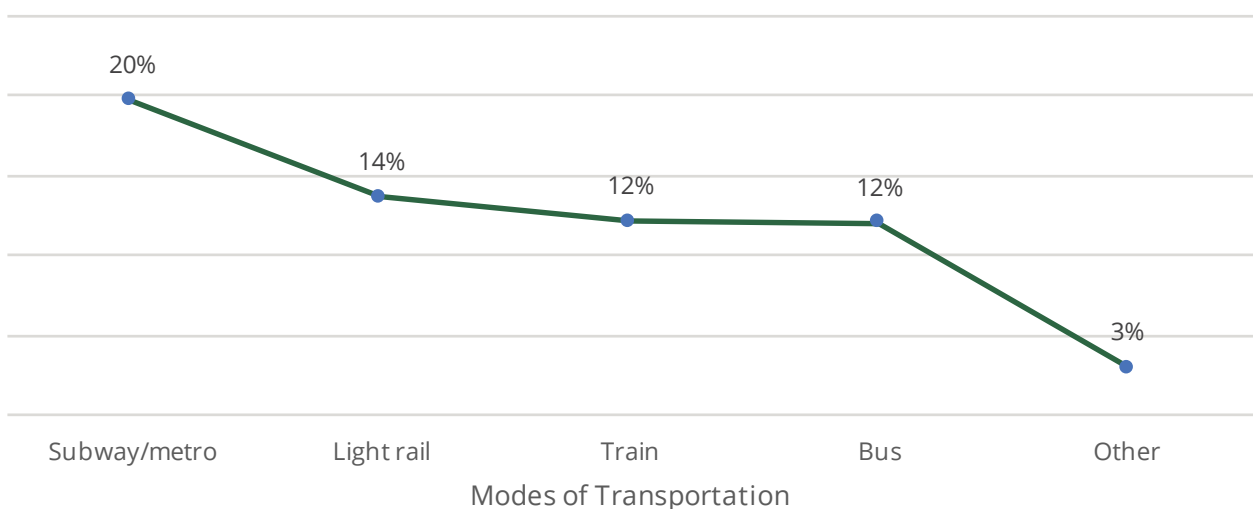
of venues in **Canada** were accessible from/to airport by train, light rail, bus, or subway/metro.

The average distance between venues and their respective local airports is 12.1 miles/19.4 kilometers.

The closest venue is located less than 1/3 of a mile (500 meters) from the local airport; the furthest is 83.8 miles/135 kilometers.

Fifty-six percent of venues indicated attendees could easily travel from the airport to the venue (within one-half mile) using light rail, train, or subway/metro.

Public Transportation Options from Airport (within .5 miles)



Ninety-one percent of responding 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 1.4 miles/2.5 kilometers.



BIKE SHARING

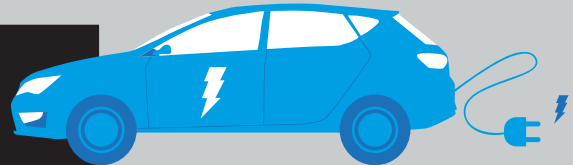
63%

are within 0.5 mi/0.8 km to a “city bike share” station

62%

CHARGING STATION

have electric car charging stations



26%

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



MASS TRANSIT

VENUE HIGHLIGHTS

The **Edinburgh International Conference Centre** (Edinburgh, Scotland) is actively participating in the City Travel Planning project, which aims to encourage staff and delegates to travel less in cars and take more journeys by foot, bicycle, public transport, and car share.

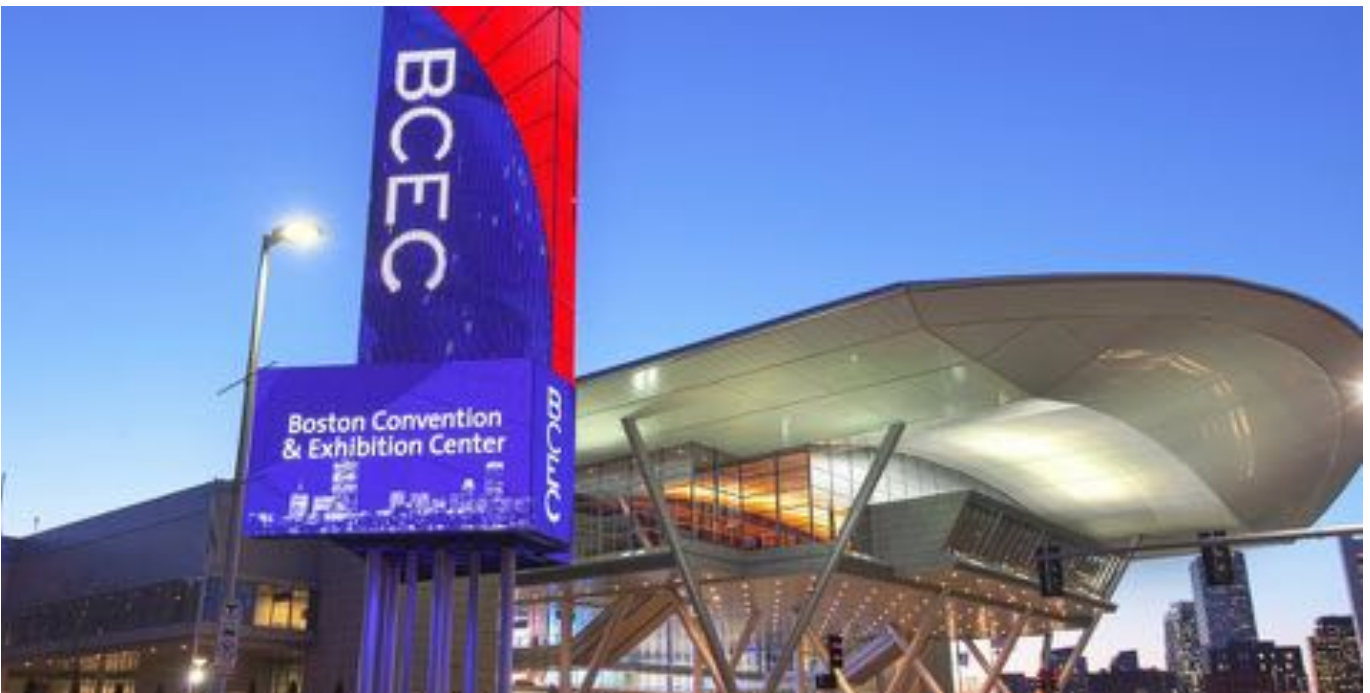
The travel planning program offers:

- Assistance with development of a travel plan.
- Personalized travel plans.
- Dr. Bike drop-in sessions.
- Cycle skills/maintenance training courses.
- Opportunities in relation to the free installation of SEStran Real-time Passenger Information (RTPI) public transport displays.





McCormick Place (Chicago, Illinois) recently completed a \$30 million-dollar busway transit lane to be used especially for event organizers. The venue is located outside the city center and not serviced by Chicago's rail line. Therefore, the new bus line enables event organizers to coordinate large shuttles of attendees from hotels outside of the immediate convention center district more efficiently.



In 2016, **Boston Convention and Exhibition Center** (Boston, Massachusetts) launched a consolidated shuttle system for Seaport District within Boston for local businesses. The aim of this program was to create routes for the large office buildings within the Seaport District to remove many of the private shuttles from the road. The Silver Line buses with direct access to Logan Airport bring attendees onsite to the venue, and help with airport transport during the last day of the show.

Not only are venues drawing crowds of attendees throughout the year, but these large facilities are also supported by hundreds of staff traveling to work each day. Fifty-nine percent of venues offer incentives for staff to use public transportation or mass transit, such as employees pretax transit dollars, transit passes, or vouchers.

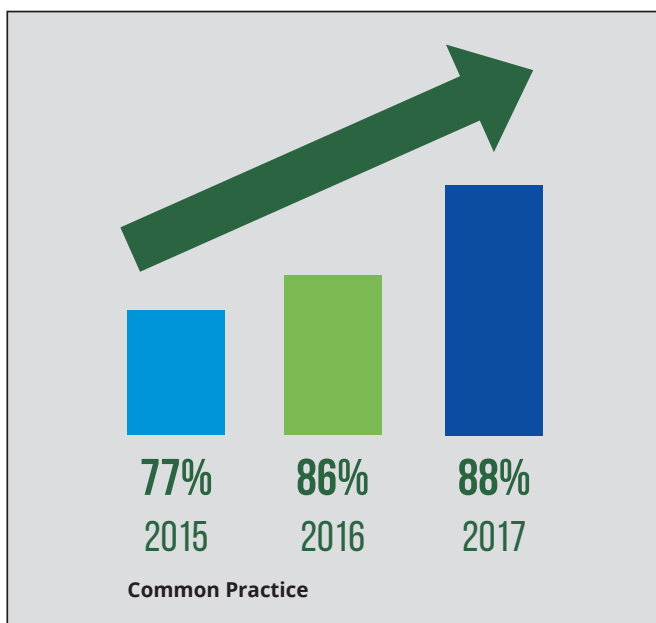
ENERGY

How a venue manages its energy usage can significantly impact its annual environmental footprint as well as its cost. There are numerous sustainable best practices related to energy. One of the easiest energy management best practices to implement is tracking energy usage and cost on a routine basis. Tracking of energy usage and cost can provide insight as to what the normal and adequate consumption pattern is. With routine tracking practices, anomalies can be quickly detected to investigate and potentially stop the problem, such as a leak in the pipes, before it becomes costly.

ENERGY TRACKING

All centers reported to tracking energy on an on-going basis, with 88% of centers tracking energy monthly. Since 2015, energy tracking has steadily increased, as per below.

Venues that track energy monthly



Centers that can provide event-specific energy reports are able to calculate the energy use of concurrent events by using the following technologies or calculations:

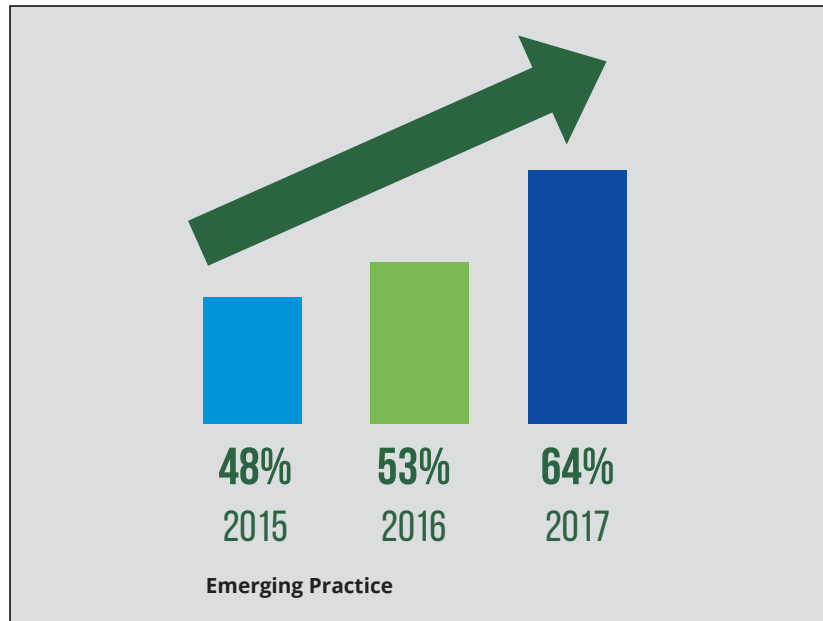
- Sub-metering throughout the center and exhibit hall space to determine exact energy values used by exhibitors and specific contracted spaces.
- Calculation based on service space being used by the event (square feet or square meter contracted space) for the duration of each event.

Five percent of venues can sub-meter (i.e. measure exact usage) individual exhibit booths in the exhibit hall.

Thirty percent of venues can sub-meter energy use specific to the exhibit hall.

Sixty-four percent of venues can provide event organizers with an energy usage report specific to their event. However, 79% of centers that can provide event specific reports, only do so when requested.

Venues that can provide event organizers with an energy usage report specific to their event

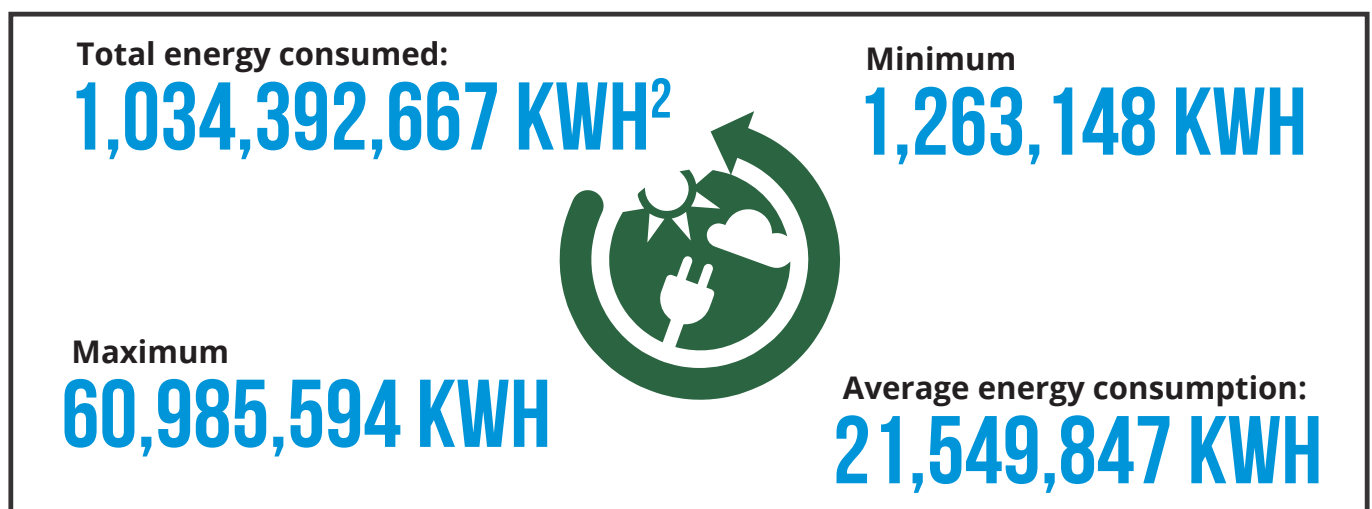


SUB-METERING BEST PRACTICES

Sub-metering has several benefits including:

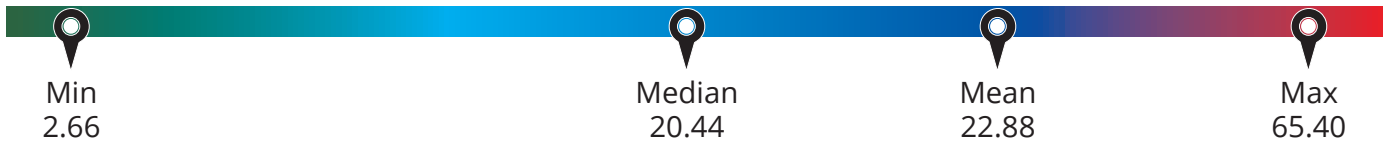
- Provides more information and control.
- Ability to invoice based on actual energy usage.
- Ability to provide accurate show-specific impacts to inform organizers, and support venue cost structures based on usage.

With all venues tracking energy, ability to provide historical energy data should be fairly straight forward. Eighty-two percent of venues were able to provide energy data for 2016.

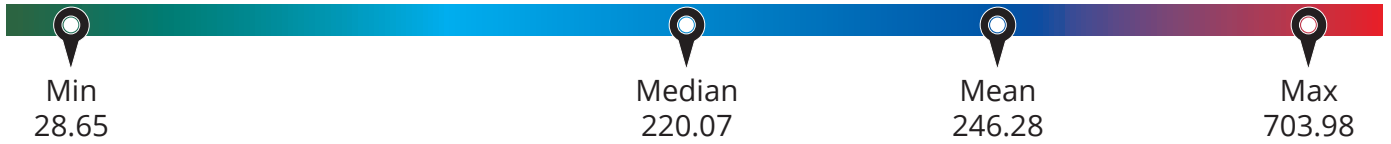


² Reported number excludes all outlier, including venues containing hotel and/or resort properties in their data set

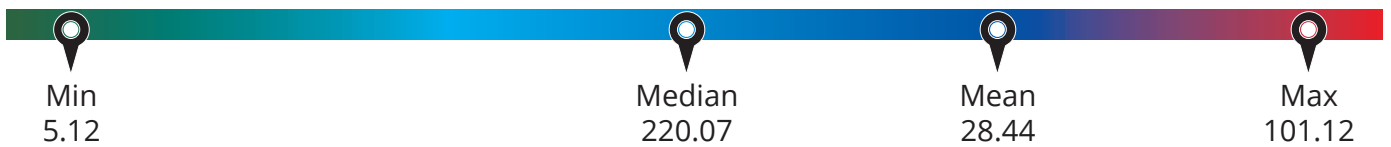
TOTAL ENERGY (KWH) PER SQ. FT.



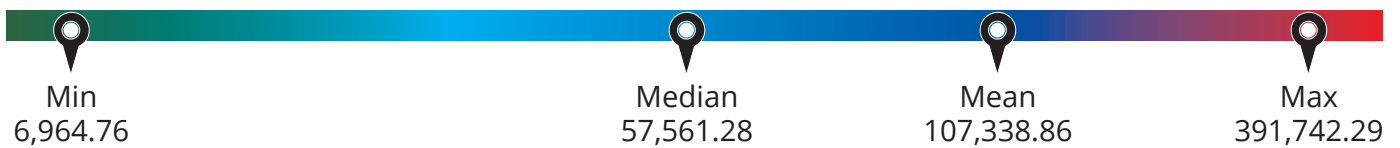
TOTAL ENERGY (KWH) PER SQ.M.



TOTAL ENERGY (KWH) PER ATTENDEE

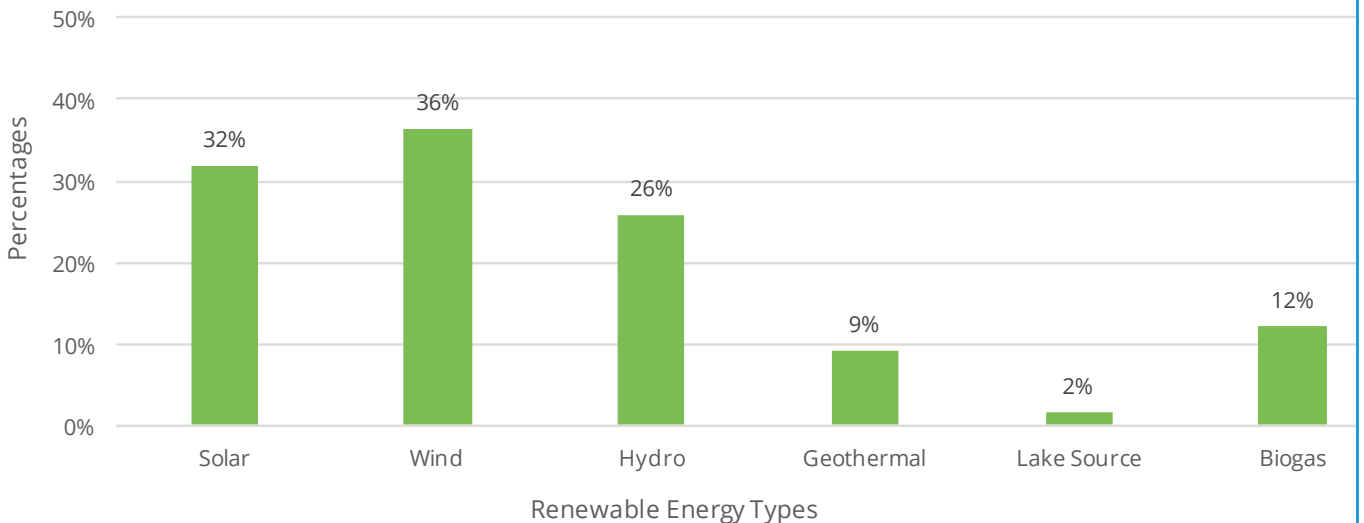


TOTAL ENERGY (KWH) PER EVENT



Venues with Purchased Energy from Renewable Sources

Note: Venues may obtain energy from more than one of the below renewable resources



ENERGY REDUCTION

One of the ways to reduce cost is to simply reduce energy consumption. Areas of energy efficiency may not be too difficult to find if you are regularly tracking and benchmarking your energy usage and cost. An easy energy best practice is to ensure that the temperature settings are set optimally so that energy is not unnecessarily used.

- **77%** have indoor cooling set point (during events) at 72°F/22°C or higher.
- **87%** have the indoor heating set point during events at 72°F/22°C or lower.

Another best practice in energy management is to install occupancy sensors so demand for energy is adjusted based on the occupancy of the space.

- **41%** of venues have restrooms that have occupancy sensors for reducing lighting for **90+%** of restrooms.
- **31%** of venues have at least **75%** of meeting rooms with occupancy sensors for reducing lighting use when unoccupied.

ENERGY EFFICIENCY

Installing energy efficient lighting is another common best practice. Energy efficiency lighting such as LED lighting can significantly reduce energy usage, thus cost and environmental footprint.

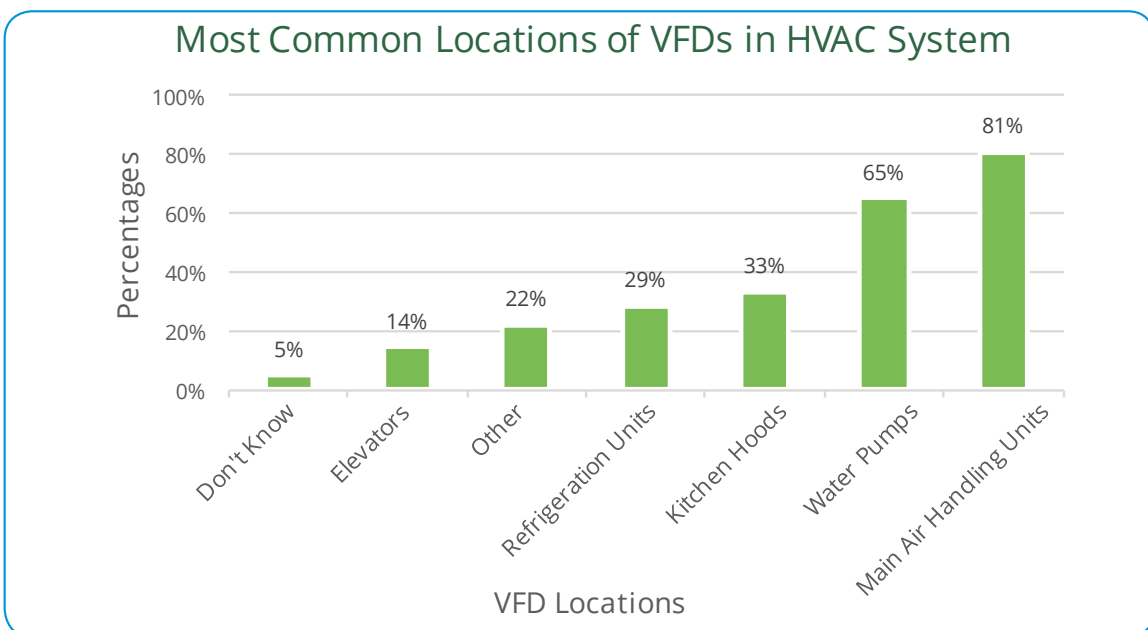
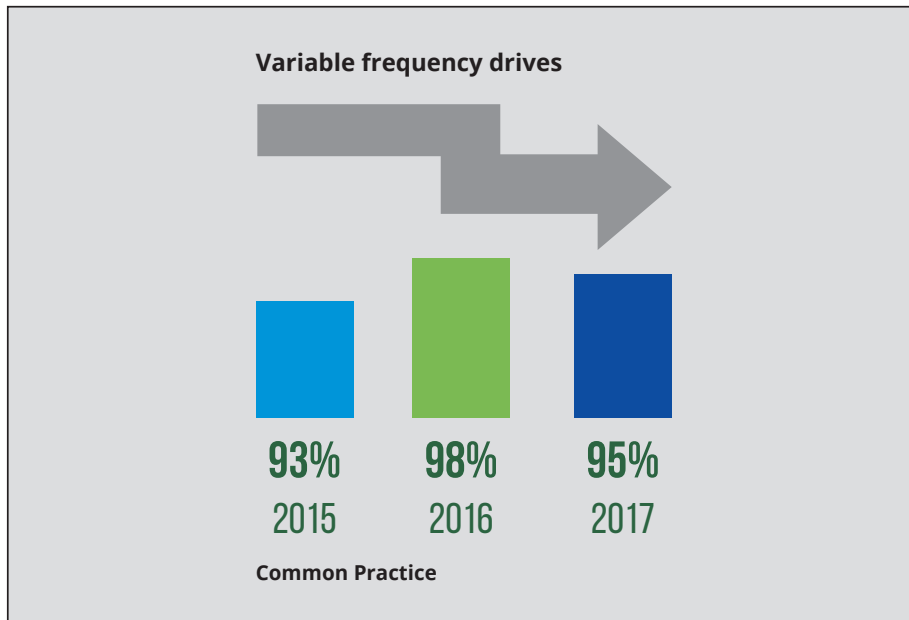
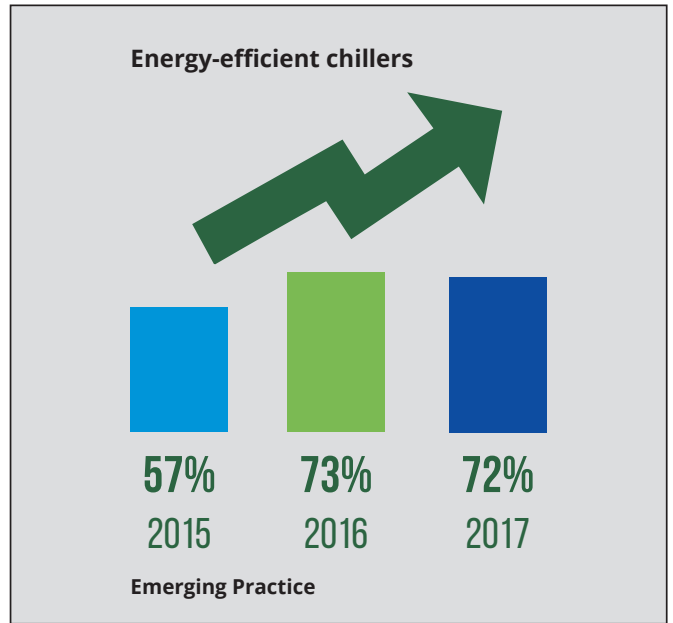
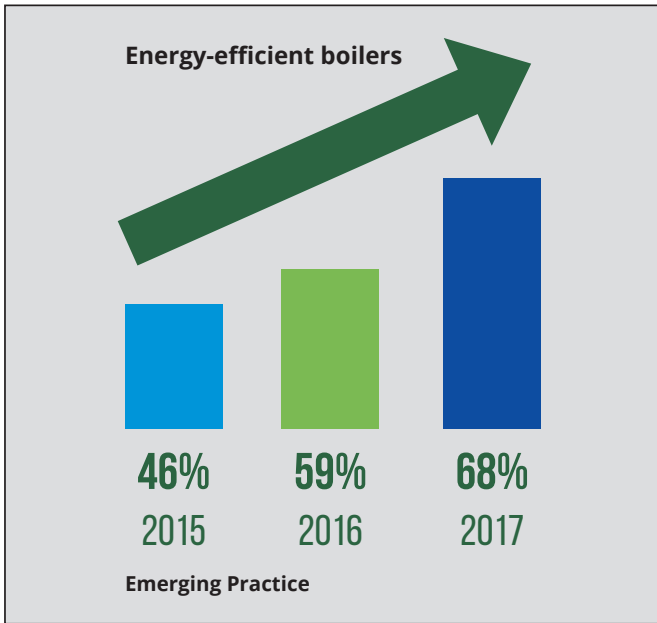
LIGHTING

- **43%** of venues have **90+%** energy-efficient lighting in exhibit halls, while an additional **15%** responded to having between **50-89%** energy-efficient lighting in exhibit halls.
- **55%** of venues have **90+%** energy-efficient lighting in the non-exhibit areas (corridors, meeting rooms, etc.)
- **52%** of venues have **90+%** windows outfitted with energy-efficient attributes.

EQUIPMENT

- Of venues that have boilers, **68%** have all energy-efficient boilers (>**85%** efficiency).
- Of venues that have chillers, **72%** have all high efficiency chillers.
- **95%** have variable speed frequency drives in their HVAC systems.

VENUES WITH ENERGY EFFICIENT EQUIPMENT



VENUE HIGHLIGHTS

At the **Georgia World Congress Center** (Atlanta, Georgia), tracking energy consumption enabled the center to put a dollar value on how much energy efficiency upgrades will save the facility. The center just completed a \$28 million energy saving performance contract that will reduce their energy consumption by at least 37%.

From the beginning of construction in October 2015 through February 2017, the center has saved over \$1.5 million in energy costs alone, more than 13.4 million kWh of electricity, and 7,800 therms of natural gas. GWCC is also partnering with Georgia Power and the Atlanta Falcons to



install solar 1.6 MW of solar PVs throughout our campus that will tie into the electrical grid and will contribute to the LEED Platinum certification of the Atlanta Falcons' new Mercedes-Benz Stadium.

ENERGY CHALLENGES

- The ability to calculate energy usage and carbon footprint per specific event requires implementation of sub-metering throughout the venue, requiring initial investment.
- Extreme and unpredictable weather patterns (e.g. extreme heat or cold) can increase an event's footprint from one year to the next.
- Price distortions from government subsidies and taxes between renewables and other energy sources can make using and utilizing renewable energy technology cost-prohibitive.
- Energy efficient equipment can require large initial investment cost.
- In some developing nations, venues may experience prolonged power outages and black outs and rationing.

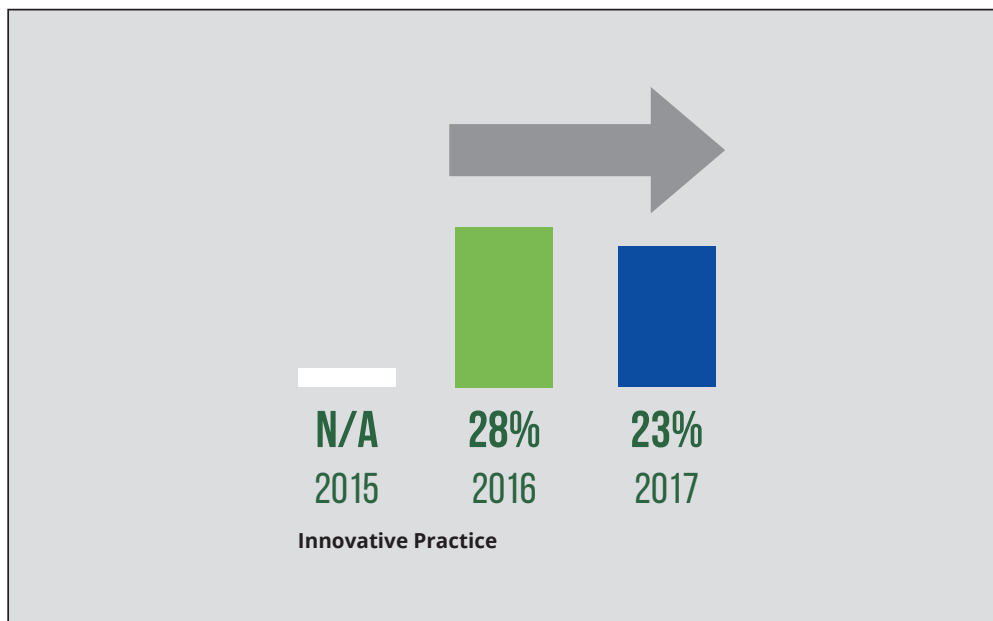
RENEWABLE ENERGY

Although generating power on-site using renewable energy sources is still an emerging best practice, at least a quarter of the responding venues use some type of renewable energy sources to power their facilities. This is a best practice to follow closely in the near future as more technologies become available and cost of renewable sources and equipment come down.

Sustainable Energy

As a major contributor to climate change, energy accounts for nearly 60% of all greenhouse gas emissions. This presents unique opportunities for convention and exhibition centers around the world to mitigate their own effects on the environment. The UN Sustainable Development Goals call for seven targets around providing clean and affordable energy to all. Through investing in clean energy technology, and energy efficient fixtures, venues can have a significant impact on transforming the economy and the planet.

Venues that purchase Renewable Energy Credits (RECs)

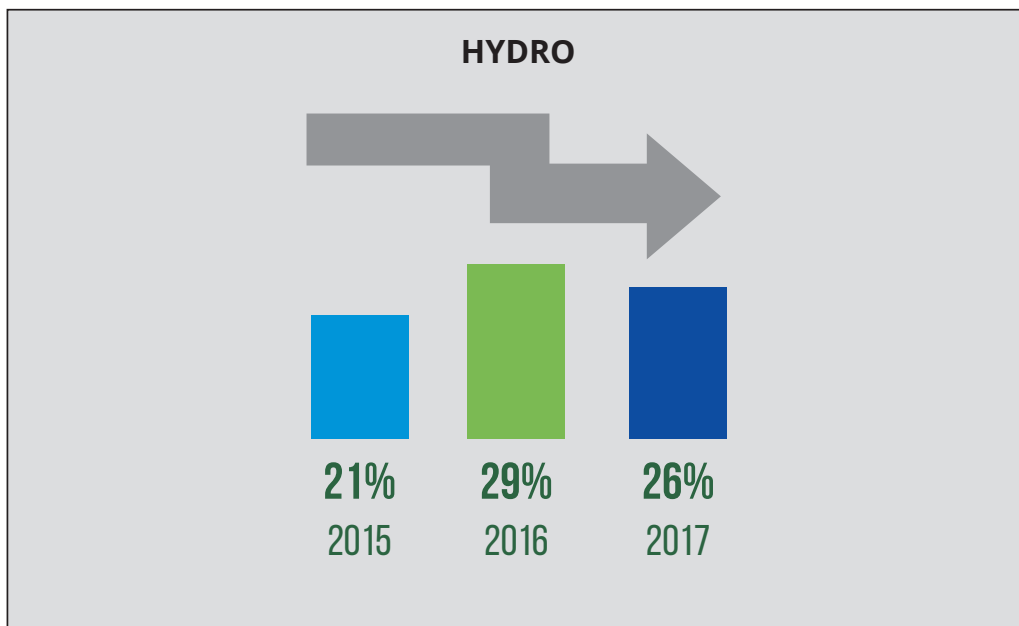
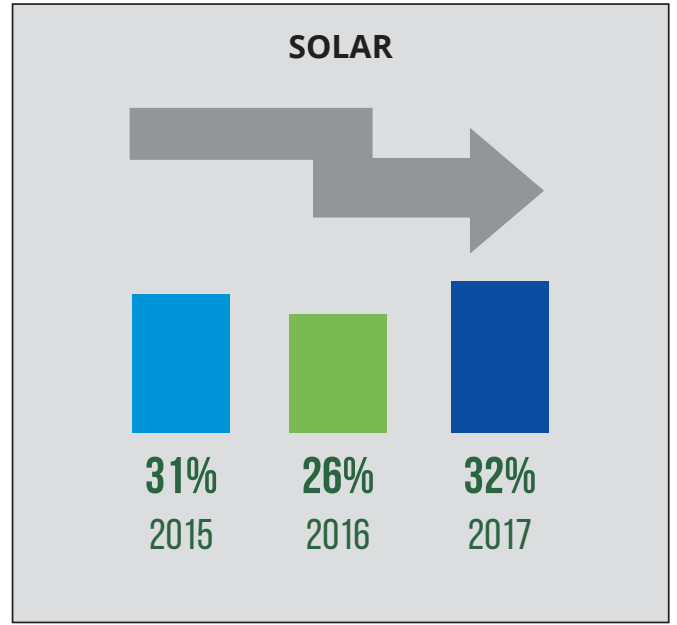
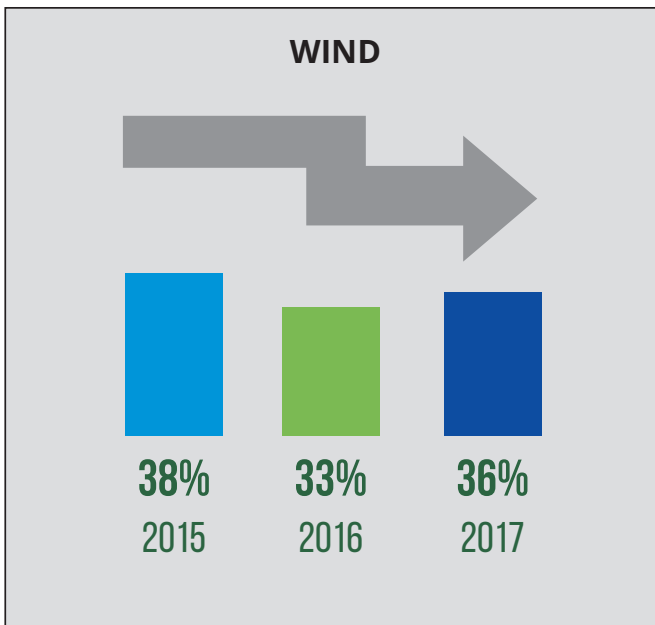


25%

of venues responded to having at least **50%**

of the venue's purchased energy obtained from utilities or other parties using renewable sources.

The most common of these offsite sources come from:



VENUE HIGHLIGHTS

Aria (Las Vegas, Nevada), which is part of City Center and a larger host of buildings, is home to an 8.2-megawatt combined heat and power system. The system utilizes natural gas to generate electricity through two twin turbines and captures waste heat to warm water for facility use.



Daylight harvesting in the **Cobo Center** (Detroit, Michigan) uses outdoor light meters to automatically adjust light based on daylight coming into the building. On sunny days, lighting is reduced in parking lots, interior areas like the concourse, docks, and exterior lit areas. This program reduced energy use by more than 10% last year.

At the **Edinburgh International Conference Centre** (Edinburgh, Scotland), Home Energy Scotland is a free impartial advice service funded by the Scottish Government and managed by the Energy Saving Trust. Services include attending any event and providing free advice to delegates on ways they can save money and reduce their environmental impact.

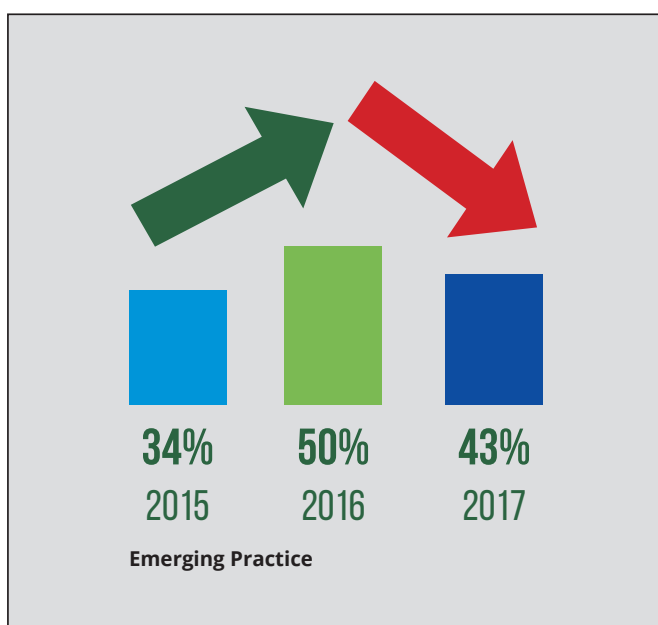
The Centre also has exhibition stands resourced with expert energy advisors that can help delegates identify ways to save energy and money at home and at work. This can include simple energy saving tips, guidance on funding for energy efficiency measures like insulation, and in-depth advice on topics ranging from sustainable transport to water usage.

Carbon Emissions

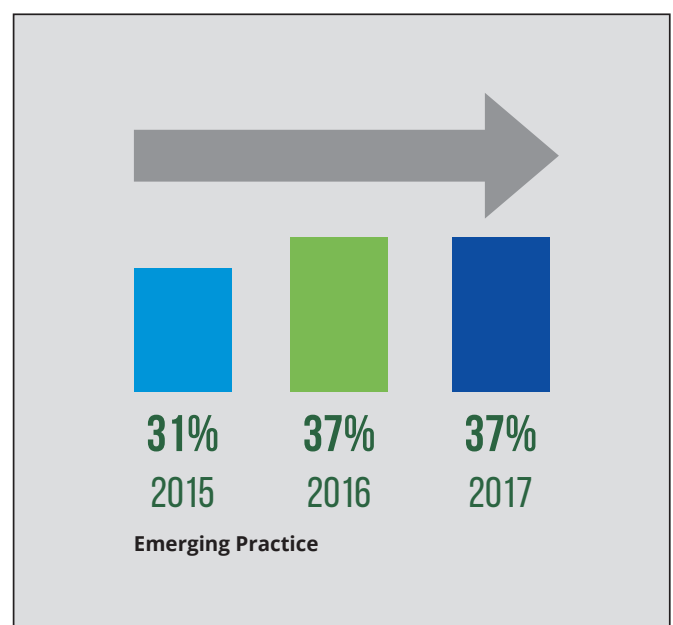
The Paris Agreement is a pact within the United Nations Framework Convention on Climate Change (UNFCCC) between 197 countries that focuses on reducing greenhouse gases emissions, adapting to the impacts of climate change, and to provide financial assistance to developing countries affected by a changing climate. At the time of signing the agreement in 2015, the globe was on track to reaching the hottest year on record and the first year that global average temperature reached 1 degree Celsius above the preindustrial average. Climate change is directly related to carbon and greenhouse gas emissions. Although exact effects are hard to pin down, there are significant findings that show climate change and the warming of the earth over time is causing disastrous effects for marine animals and arctic animals. Countries and people living in coastal areas are experiencing rising sea levels at unprecedented speeds leading to coastal flooding and displacement. Those living in more arid regions of the world are finding temperatures unbearable, poorer air quality due to stagnant air conditions, which make pollution linger as well as lead to higher rates of respiratory infections and diseases.

Tracking and reporting of carbon emissions is equally important as the practice of tracking energy usage and cost on a routine basis. Venues that can report carbon footprint for a specific event, on a regular basis are able to understand their environmental footprint and consider ways to reduce or offset the impacts.

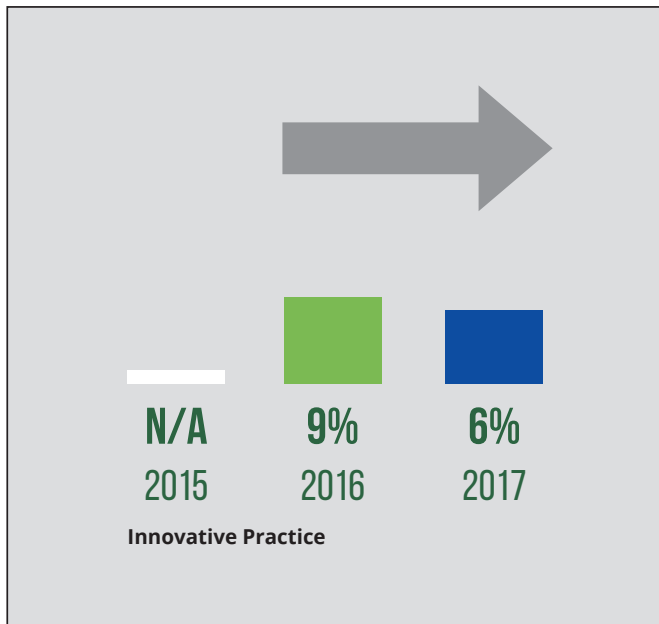
Venues that track carbon emissions



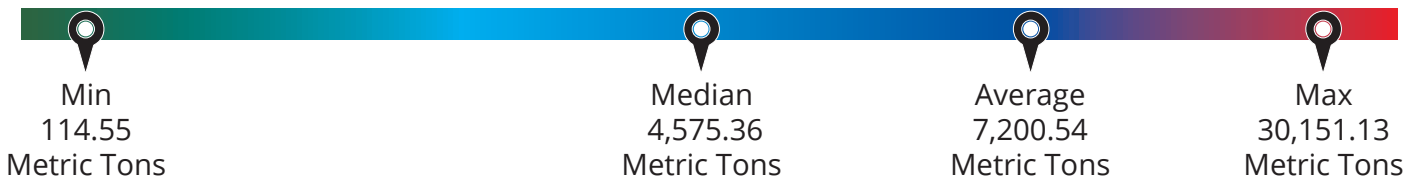
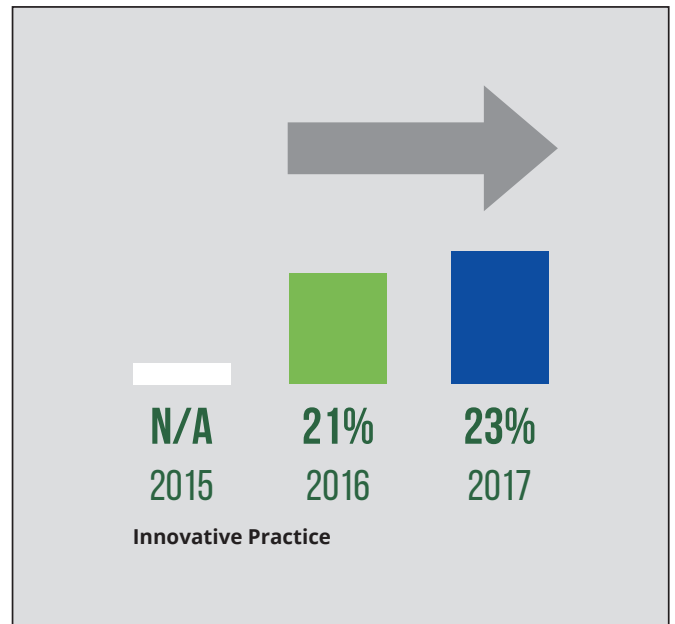
Venues that can provide carbon footprint for a specific event



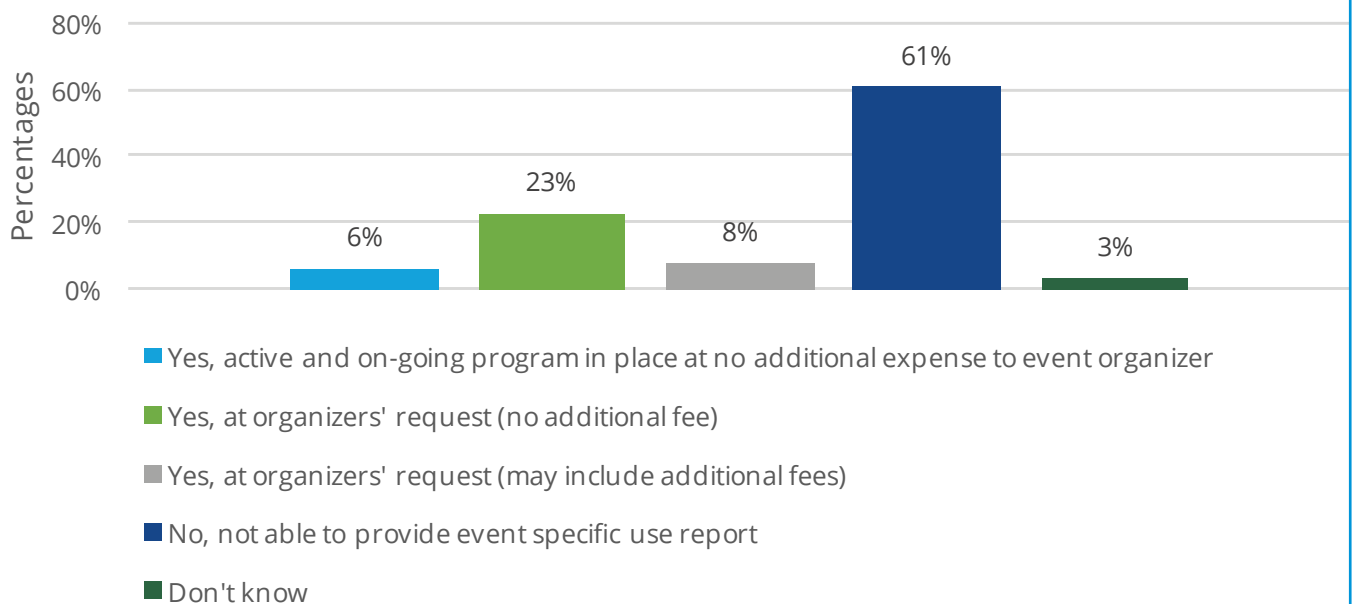
Venues that track carbon footprints of events on a regular basis



Venues that track carbon footprints of events if requested by an event organizer with no additional cost



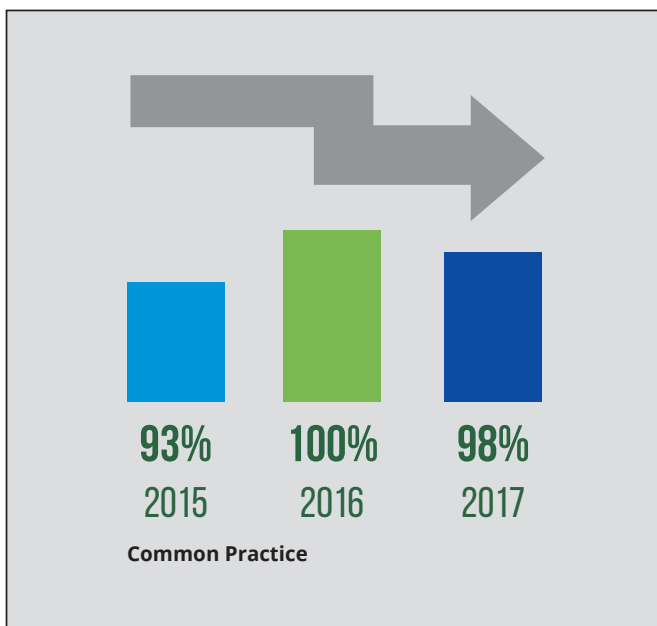
Venues that Provide Carbon Footprint Reports for Events



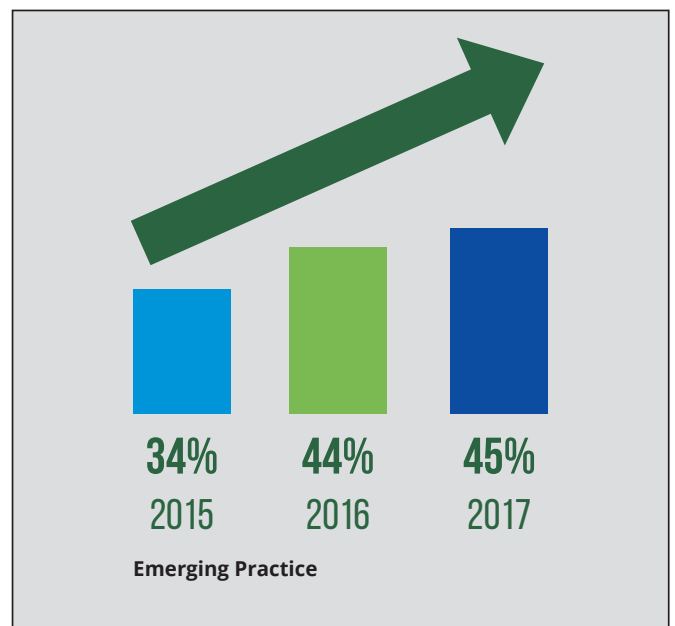
WATER

Availability and cost of water vary significantly around the world. For venues, water bills can be a large portion of the total operating costs. We asked questions around some of the most common and impactful best practices related to water conservation. Similar to good waste and energy management, tracking water is a necessary practice that enables venues to manage water consumption and cost effectively.

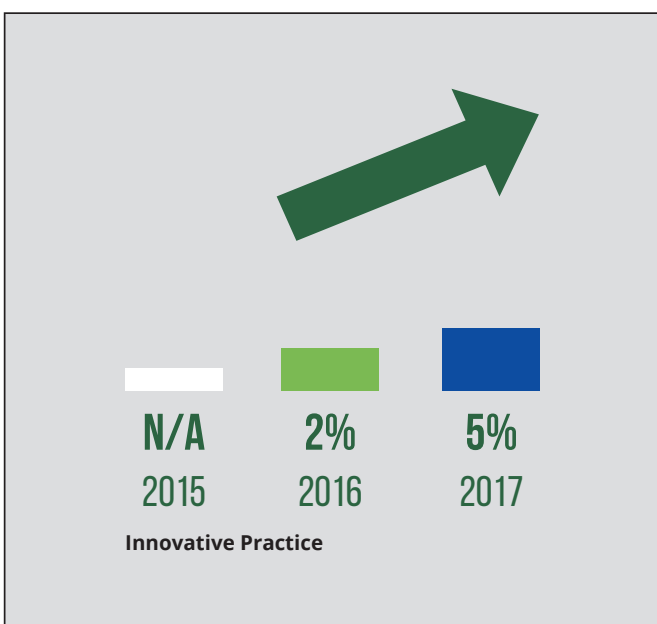
Venues that track water consumption on a routine basis



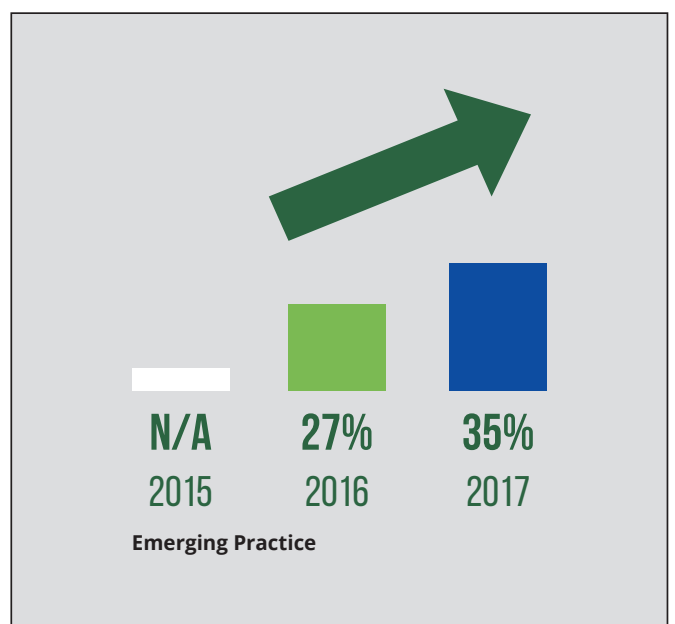
Venues that can provide an event-specific water usage report to event organizers



Venues that can track event water usage on an on-going basis



Venues that can provide event organizers an event specific water usage report when requested at no extra cost



Total water consumption³:

**678,204,576 US GAL /
2,567,284 M3**

Minimum water consumption:

**89,826 US GAL /
340 M3**

Maximum water consumption:

**70,429,990 US GAL /
266,607 M3**

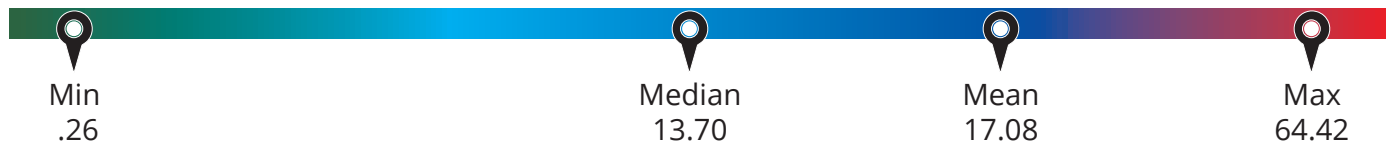


Average water consumption:

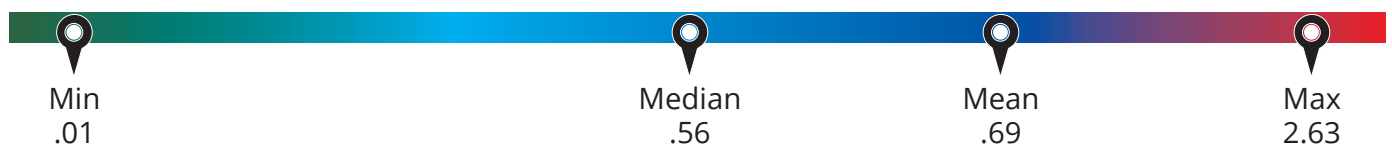
**15,772,199 US GAL /
59,704 M3**

2016 annual water consumption reported is equivalent to the water in 1,027 Olympic-sized swimming pools.⁴

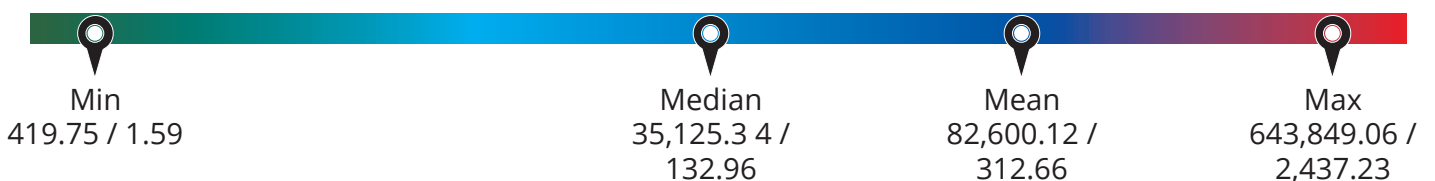
WATER USE PER VENUE SQ. FT (US GALLON)



WATER USE PER VENUE SQ.M (M3)



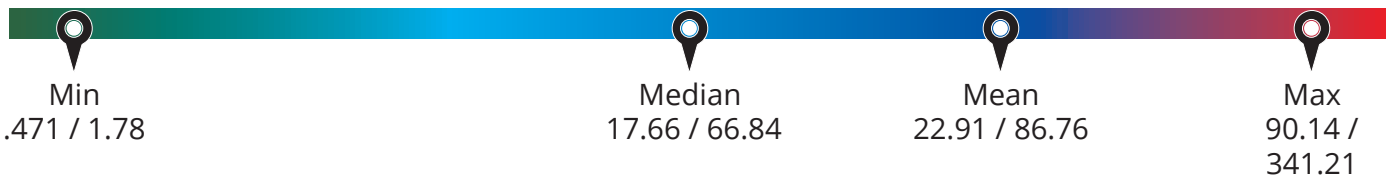
WATER USE PER EVENT (US GALLON/M3)



³ Reported number excludes all outlier, including venues containing hotel and/or resort properties in their data set

⁴ https://en.wikipedia.org/wiki/Olympic-size_swimming_pool

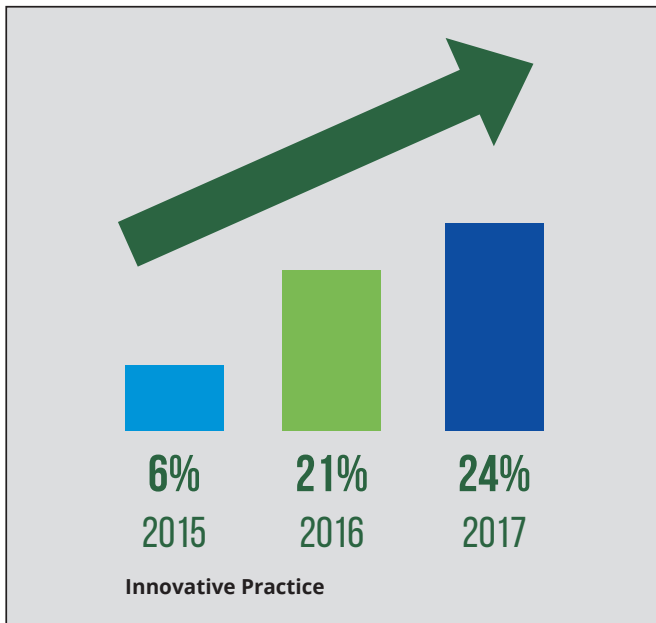
WATER USE PER ATTENDEE (US GALLON/LITERS)



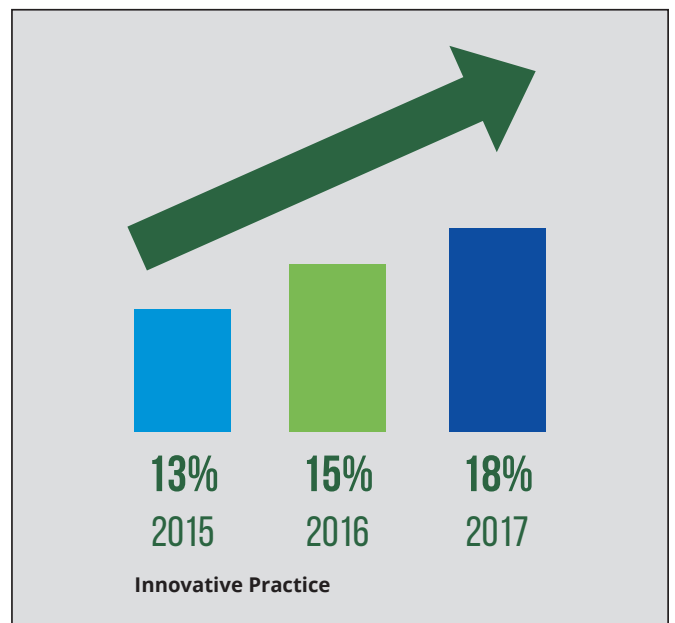
WATER EFFICIENCY

Water management and efficiency practices adopted by responding centers include:

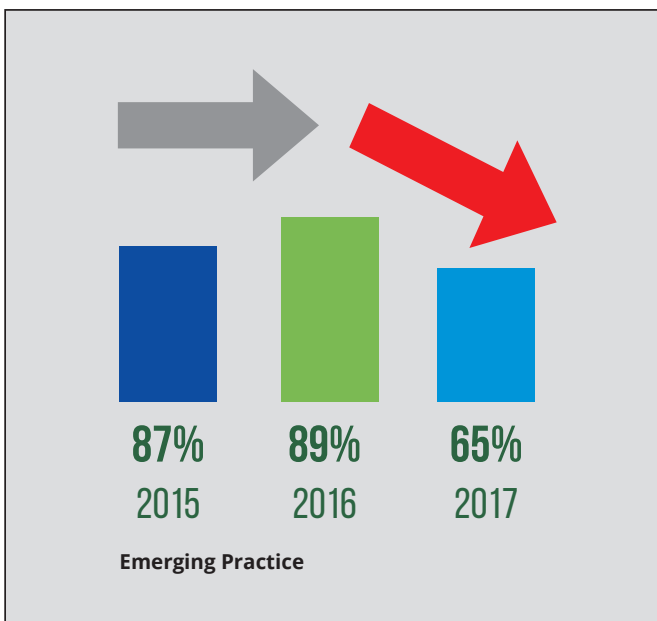
Venues that capture rainwater for storm water management or reuse



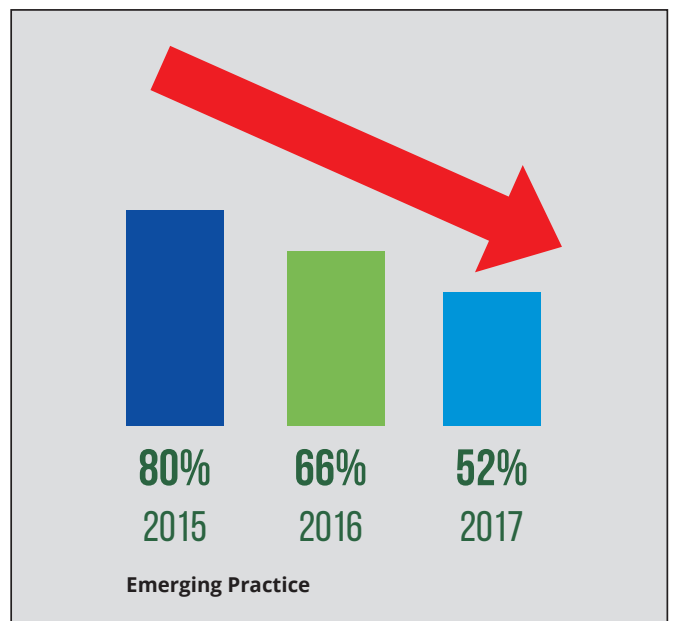
Venues that reuse grey water



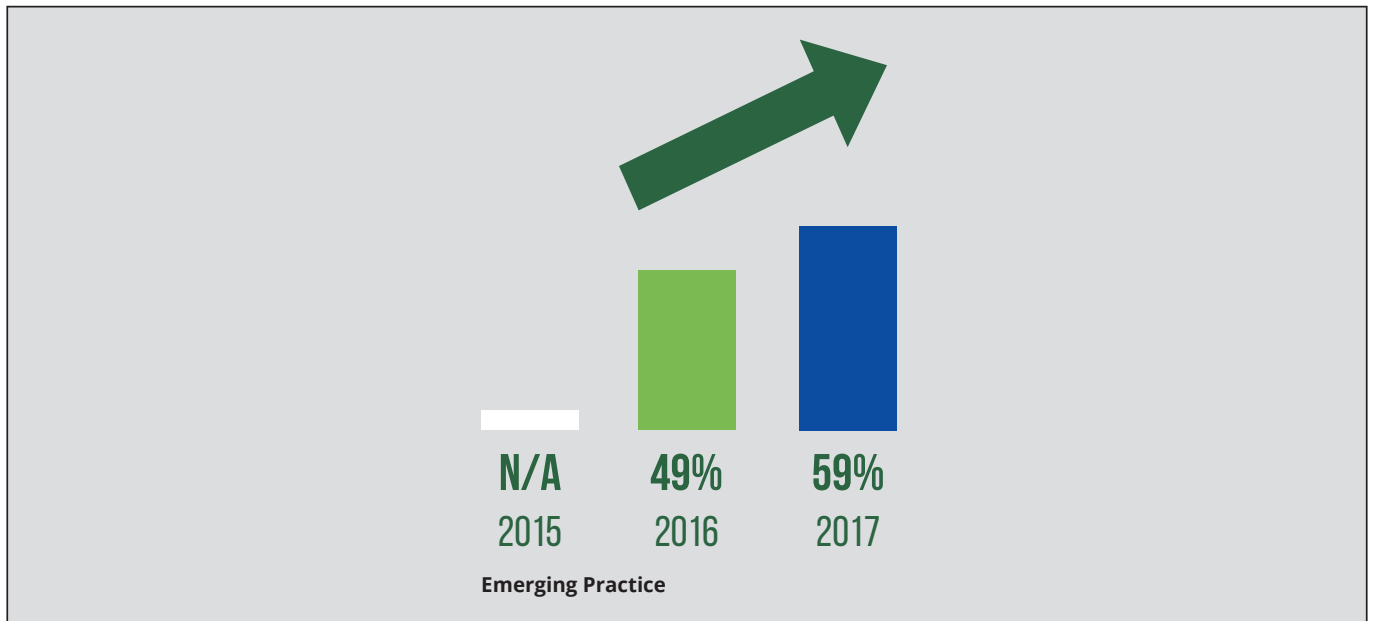
Venues that have 90+% of faucets that are high efficiency (<2.0 GPM / 7.5 LPM)



Venues that have 90+% of toilets that are high efficiency (<1.28 GPF / 4.8LPF)

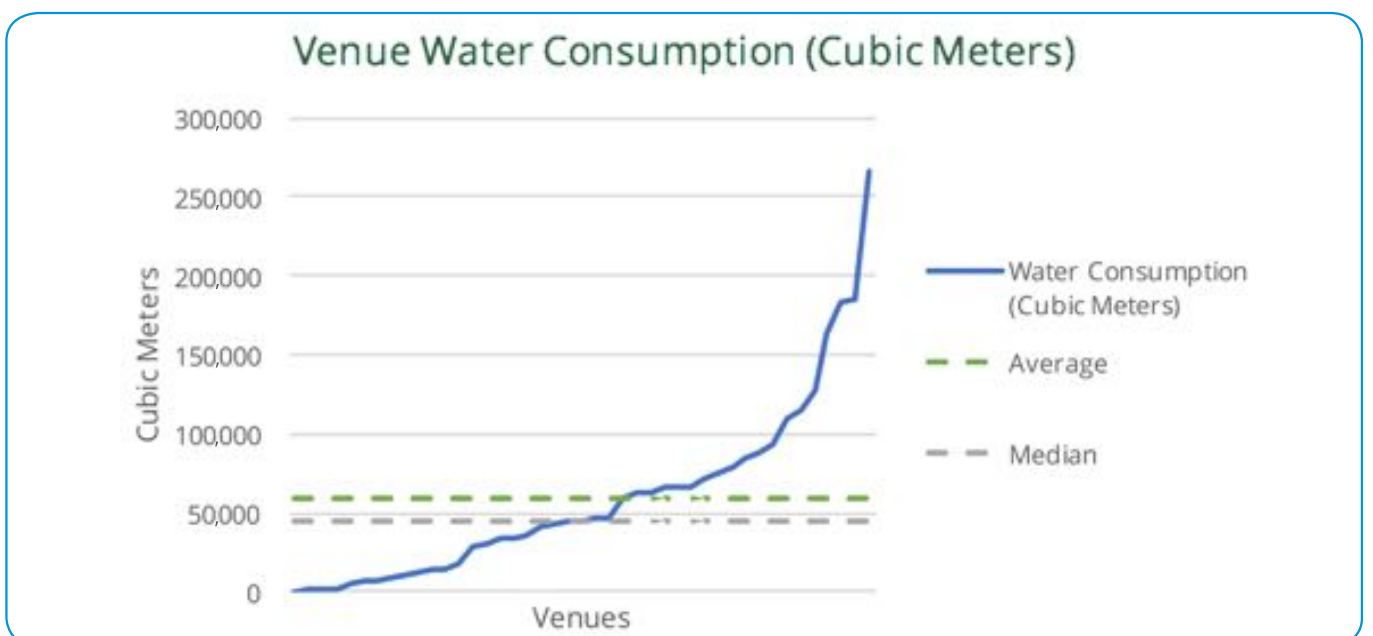


Venues that have water bottle refill stations located in the facility

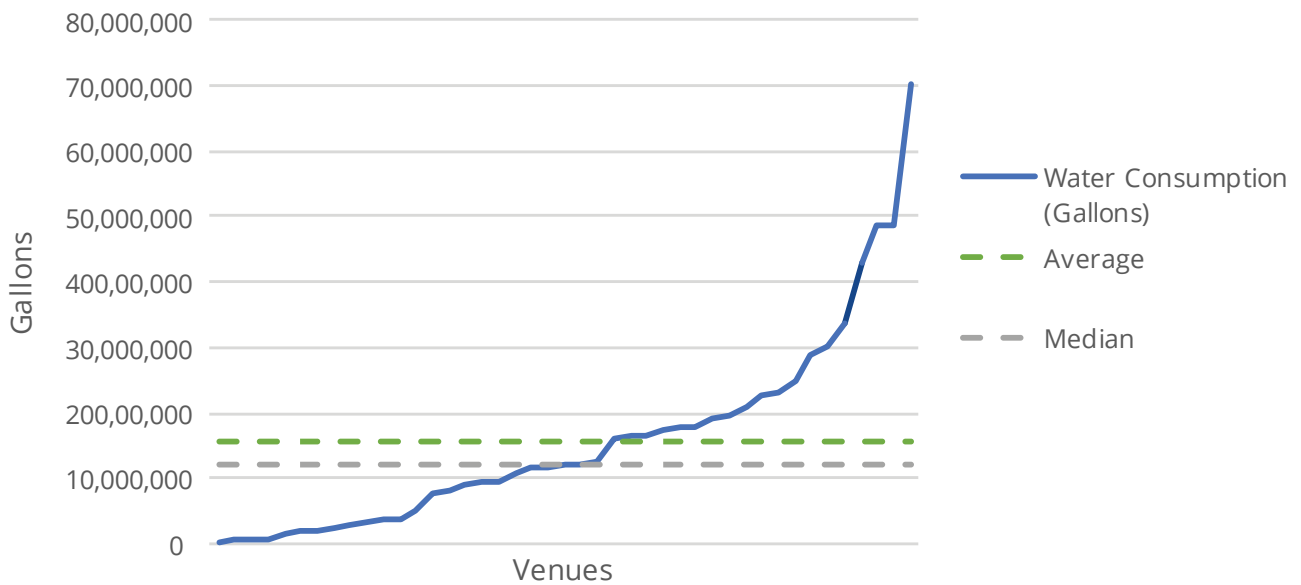


Providing Access to Water

As part of the UN Sustainable Development Goals, access to safe water is a global facing issue. Convention and exhibition centers face numerous challenges surrounding water quantity and quality. As extreme weather conditions, aging infrastructure, and the potential for hazardous chemicals in drinking water continue to affect cities throughout the world, it is necessary to continue to invest in and develop efficient systems to provide safe and adequate water supply. Venues have the opportunity to provide attendees with water resources using efficient equipment, that not only provide venues with cost-savings, but also support global efforts.



Venue Water Consumption (Gallons)



WATER CHALLENGES

- Older infrastructure and plumbing can increase water consumption and cost as efficiency decreases. Venues with older water equipment should determine the ROI to replace fixtures with newer, more efficient equipment.
- Extreme weather patterns (persistent drought, heavy rains, flooding, etc.) not only affect energy usage and cost, they also affect venues' total water consumption and costs. Water challenges affected by weather may continue as weather patterns have been unpredictable around the world.
- Some centers responded to water costs being relatively inexpensive, which has translated into water conservation efforts that should be simple and inexpensive in order for facilities to make the "business case" for their implementation.



VENUE HIGHLIGHTS

The **Amsterdam RAI Exhibition and Convention Centre**

(Amsterdam, Netherlands) organizes an event called Aquatech, which stimulates the development of sustainable water solutions to help achieve the UN Sustainable Development Goal: Clean Water and Sanitation. In addition, the venue also organizes free movie screenings of films to help raise awareness around the plastic problems in the ocean.



The **Anaheim Convention Center**

(Anaheim, California) has a centrally controlled smart, weather-based irrigation system. Water produced from the use of our Eco food waste

composters (approximately 150 gallons per cycle) is currently being dumped into a clarifier and will be reused for a renewable hydroponic micro-green system.

The **Mirage** (Las Vegas, Nevada) employs a cutting-edge (no pun intended) grass and natural turf irrigation system. Rather than using traditional sprinklers, which are very water inefficient, the Mirage has taken advantage of a fully underground irrigation system on front area grass for several years. In addition, the Mirage benefits from an innovative program followed by the City of Las Vegas and Southern Nevada Water District: all water used indoors is treated and returned to Lake Mead. Essentially, the venue borrows water for a short time for use on the property (and thus the events taking place) and then the water is returned to replenish the lake.



WASTE

Waste continues to be a high-profile sustainability topic for venues as meetings and events create significant volume of waste, which is also highly visible. Total waste at meetings and events include printed registration materials, marketing collateral, food, abandoned exhibits, carpet, cardboard, broken pallets, and general waste. These are among the many materials venues should manage during show breakdown, and often with limited space on the back docks and short turnaround time to create a “blank slate” for the next event client, the amount of waste created becomes a big challenge for most venues.

Responsible Consumption

The UN Sustainable Development Goals encompass several targets around reducing waste and promoting healthy, sustainable communities. As large producers of waste, convention and exhibition centers have an opportunity to make a significant impact by addressing this goal. Reducing waste generation through prevention, reduction, recycling, and reuse helps to eliminate resource use, degradation, and pollution, overall increasing the quality of life, while providing economic benefits.

Average total waste generated per venue:

**1,155
METRIC TONS**



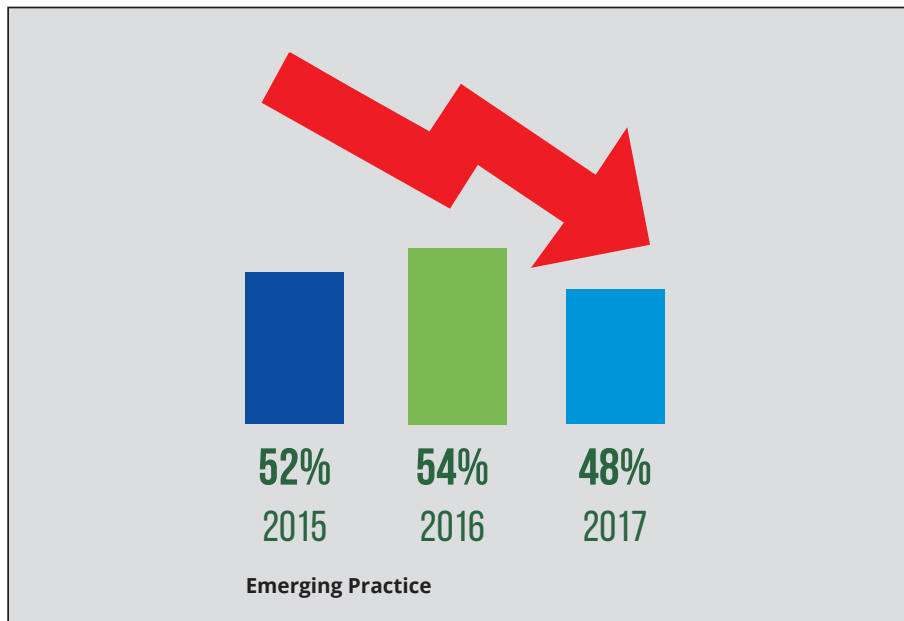
Maximum total waste reported:

**6,435.57
METRIC TONS⁵**

⁵ Maximum total waste reported number excludes all outlier, including venues containing hotel and/or resort properties in their data set.

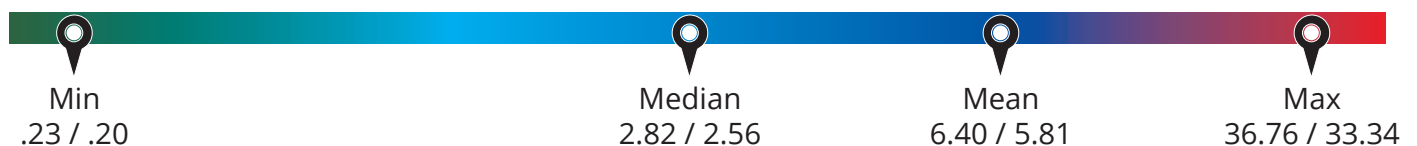
The highest reported diversion rate was 100%⁶, while the lowest reported rate was 7%. These reported diversion figures might reflect above average performance for the industry and a lack of standard definition of “waste diversion” among centers across the globe. For example, currently, there is no industry consensus whether waste-to-energy should count as “diversion.”

Average annual waste diversion

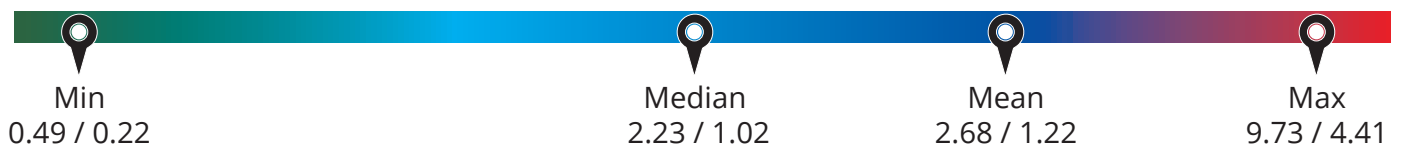


Almost 23% of venues send waste to a waste-to-energy plant and 14% send waste to incineration facilities rather than landfill. Eight percent of venues that send waste to a waste-to-energy plant recover energy through incineration.⁷

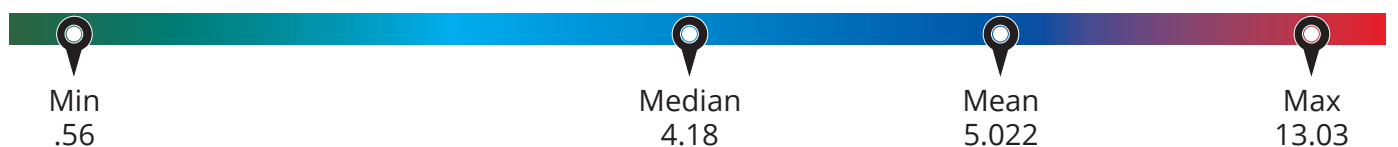
WASTE GENERATED PER EVENT (SHORT TON/MT TON)



WASTE GENERATED PER ATTENDEE (LB/KILO)



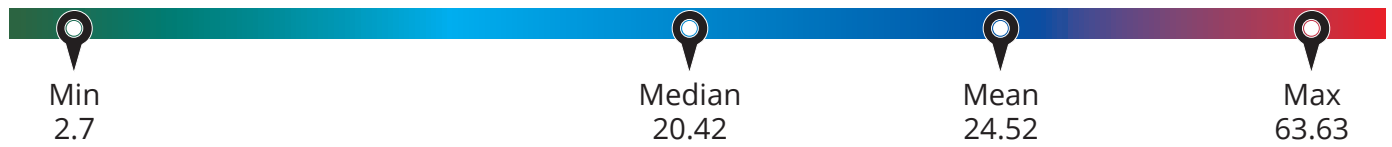
WASTE GENERATED PER SQ.FT OF EXHIBIT HALL SPACE (LB)



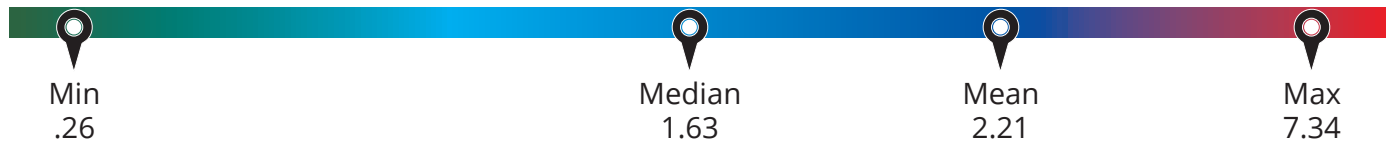
⁶ As reported by this center, no waste goes to landfill or incinerator. Residual waste (after recycling and composting) is sent to an industrial waste-to-energy processing plant that produces fuel pellets. Pellets are primarily used to replace fossil fuels such as coal.

⁷ Waste figures in table exclude all outliers, including all venues containing hotel and/or resort properties in their data set.

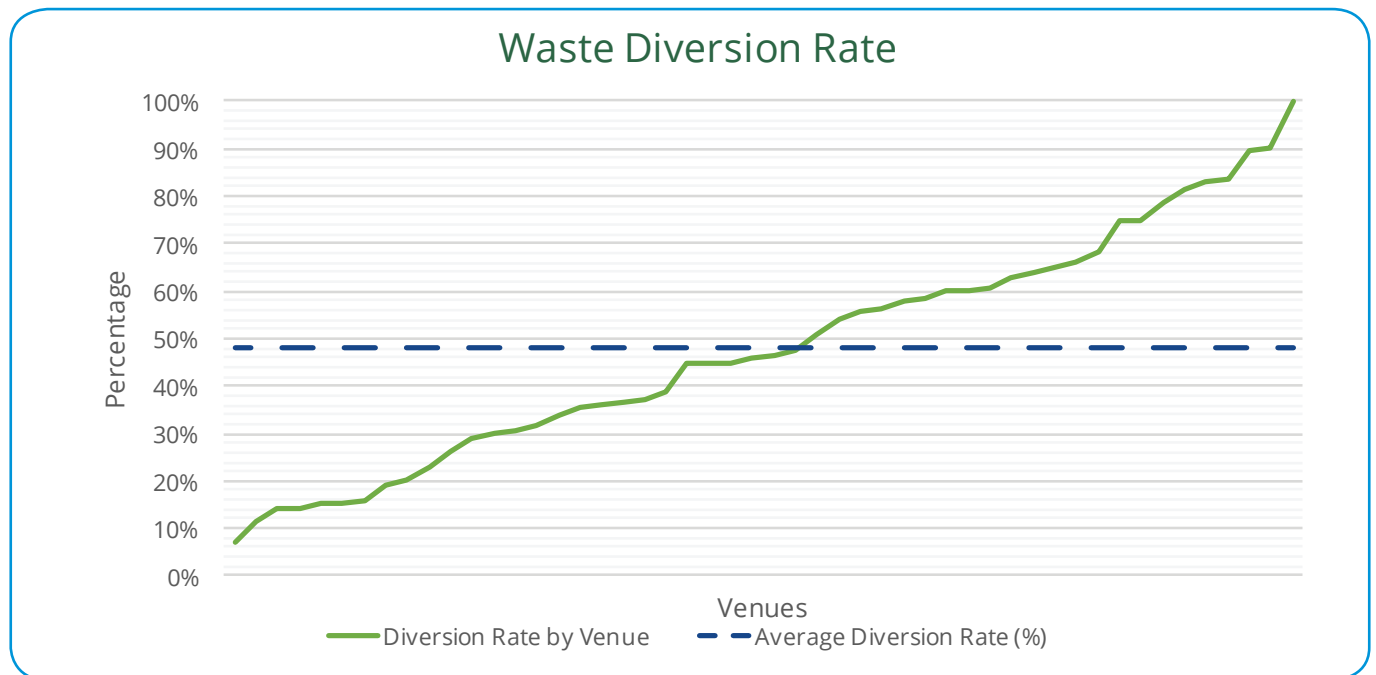
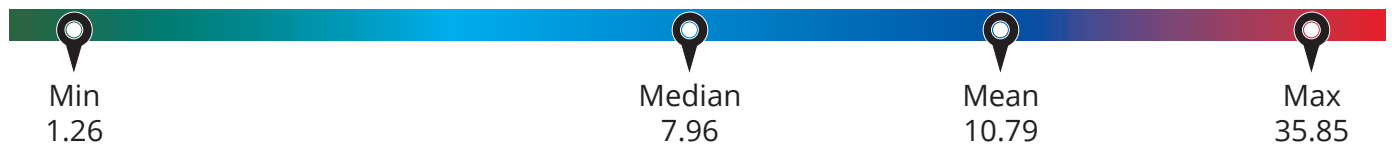
WASTE GENERATED PER SQ.M OF EXHIBIT HALL SPACE (KILO)



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



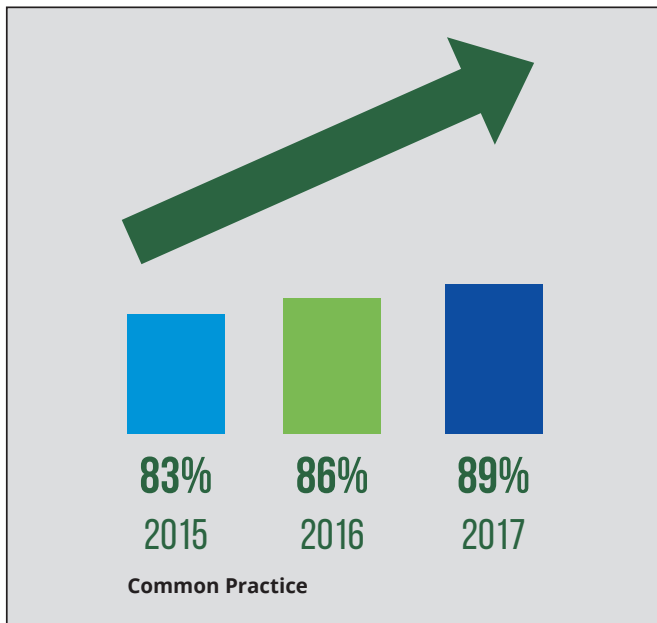
WASTE GENERATED PER SQ.M OF CONDITIONED VENUE SPACE (KILO)



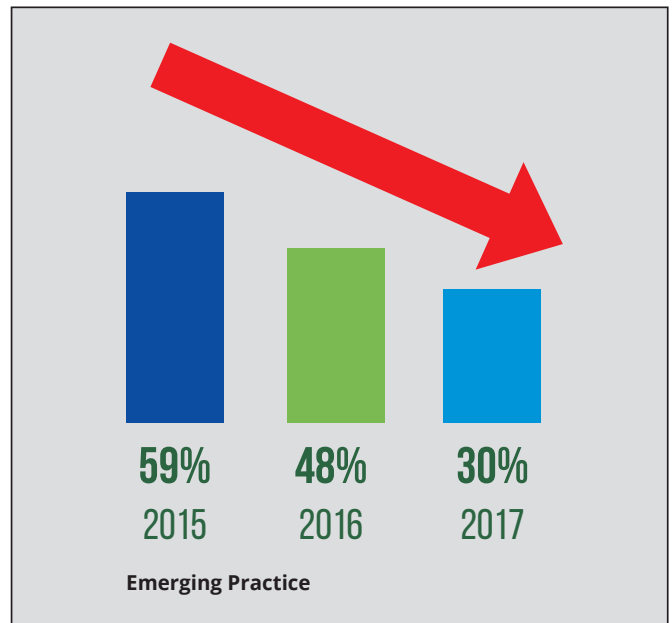
WASTE BINS

Waste bins, with the right design and color coding, is the easiest way to demonstrate a venue’s commitment to responsible waste management to event organizers. Easily identifiable, well located waste bins also enable attendees, event organizer staff, vendors, and exhibitors to participate in the waste diversion process. With everyone pitching in, the waste management program becomes more manageable and effective for venues.

Venues that have recycling and landfill bins that are always paired in public and exhibit hall spaces



Venues that have composting bins available to attendees in public spaces and concession areas by default



BIN BEST PRACTICES: Waste bins can be an expensive line item for centers, making the right decisions for how those bins look can significantly impact your waste diversion rates. Best practice tips for waste bins include:

- Bins have WORDING to describe what can be disposed of in each bin.
- Bins are clearly distinguished by COLOR.
- Bins have IMAGES of items that can be disposed of on each bin.
- Bins are consistently PAIRED together in sets of recycling, landfill, and compost.
- No stand-alone bins.

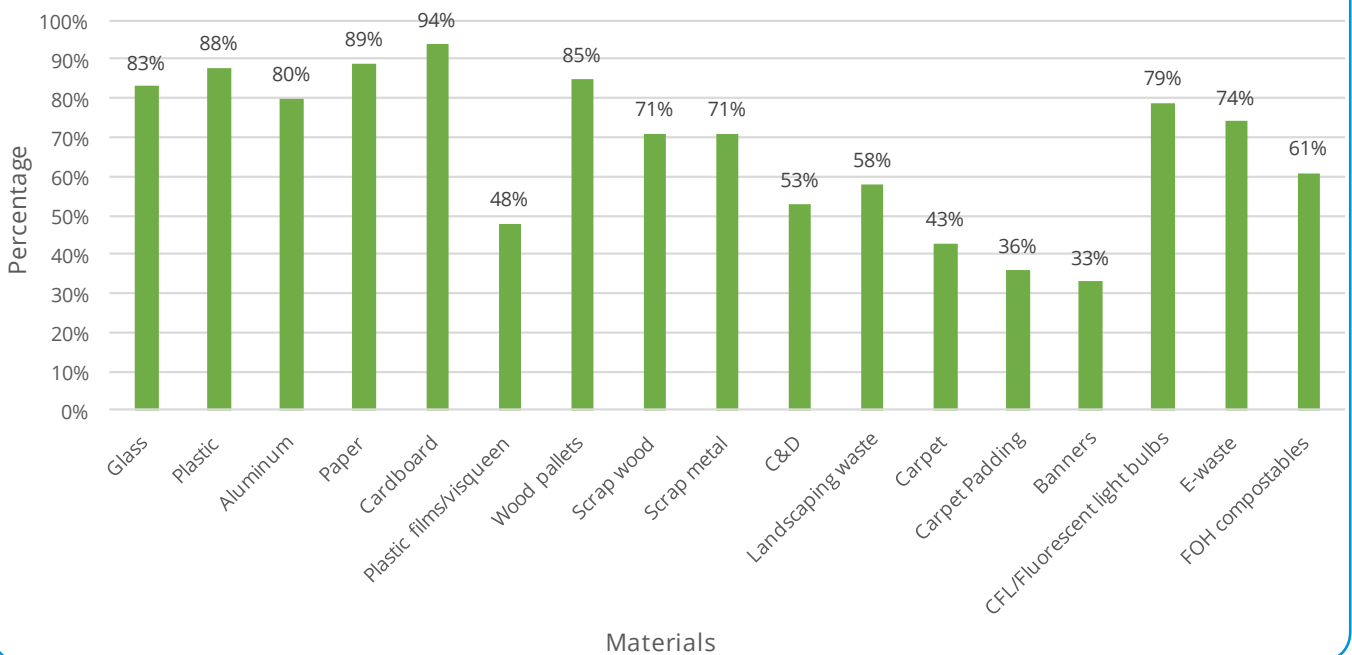
WASTE DIVERSION PROGRAMS

Regularly operating waste diversion programs, as part of standard operating procedure, drive positive waste management performance in convention centers and all facilities alike. 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.

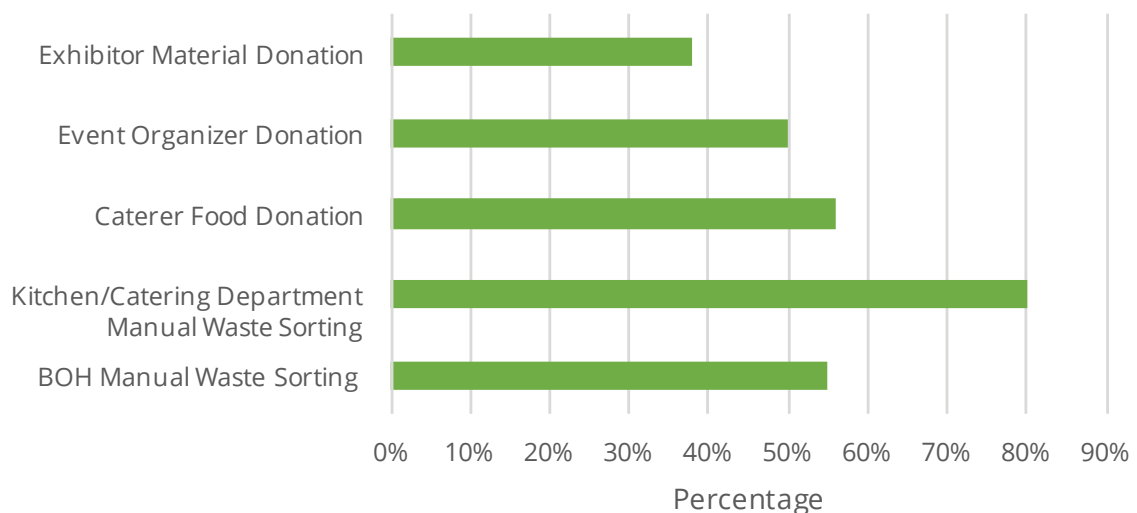
Ninety-eight percent of venues have an active and ongoing program in place to recycle at least one of the materials shown in the graph below.



Percent of Centers Recycling Materials on an Active, Ongoing Basis



Percent of Center Participating in Waste Diversion Programs



VENUE HIGHLIGHTS

Austin Convention Center (Austin, Texas) collects empty and partially used chafing fuel cans (sterno cans). The metal is recycled and the fuel is hauled away and incinerated.



Through sorting 52 tons of trash a day, **Mandalay Bay** (Las Vegas, Nevada) has developed an Asset Reclamation program that recovered over \$500,000 worth of the venue's own materials, keeping them both out of the landfill and saving on replacement cost.



Bellagio (Las Vegas, Nevada) offers rebates for recyclables indexed to commodity markets, and sends all food scraps to a local pig farm as feed.



For the **Metro Toronto Convention Centre** (Toronto, Canada), donations are key to the success of their diversion program. The venue works with approximately 10 local organizations on a regular basis to find a home for left over show material (carpet, signage, delegate bags, etc.) as well as any additional food not consumed during the event.

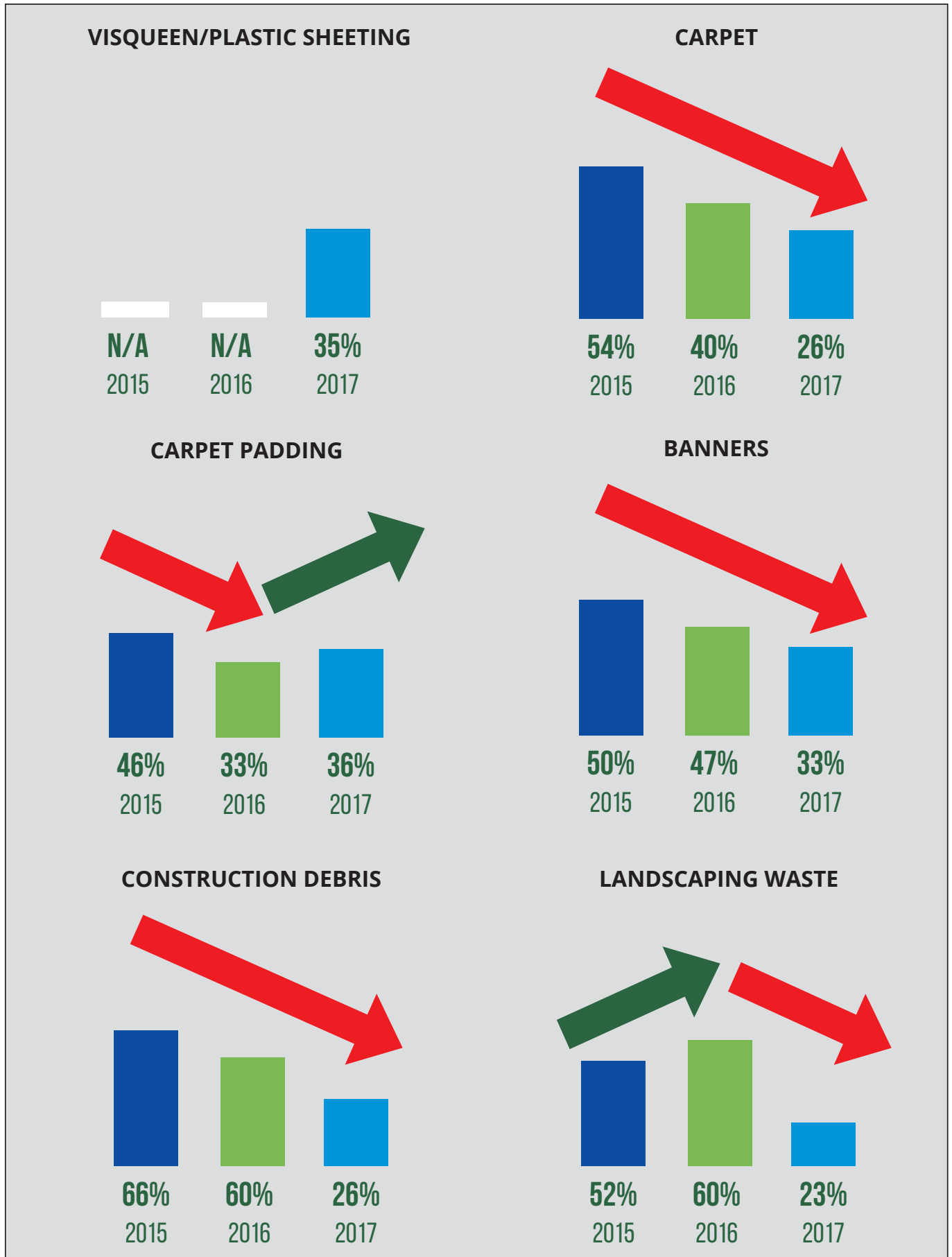


The **Oregon Convention Center** (Portland, Oregon) has made waste management part of their contracting agreement. Event organizers must agree to eliminate certain materials from the show and adhere to a strict waste diversion policy as part of their contract. Watch [“Waste Diversion at the OCC”](#) video.



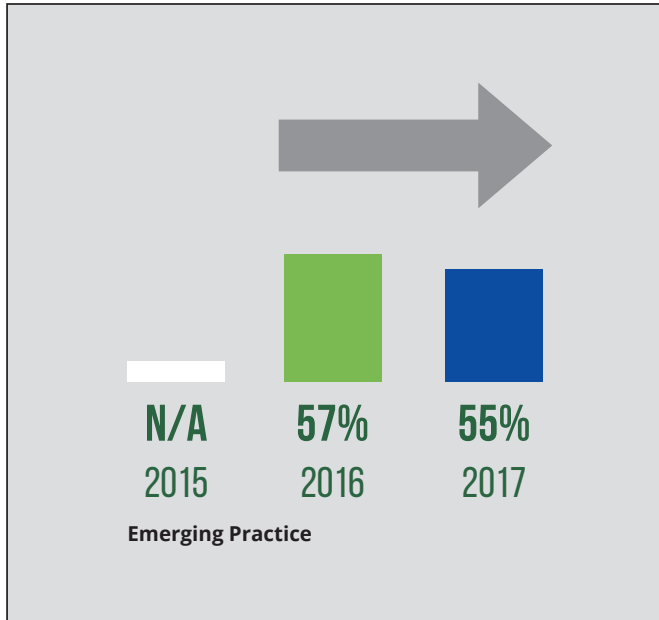
The lowest average recycling rates continue to be for items that make up significant tonnage.

PERCENTAGES INDICATE THE NUMBER OF VENUES THAT DO NOT RECYCLE THE MATERIAL

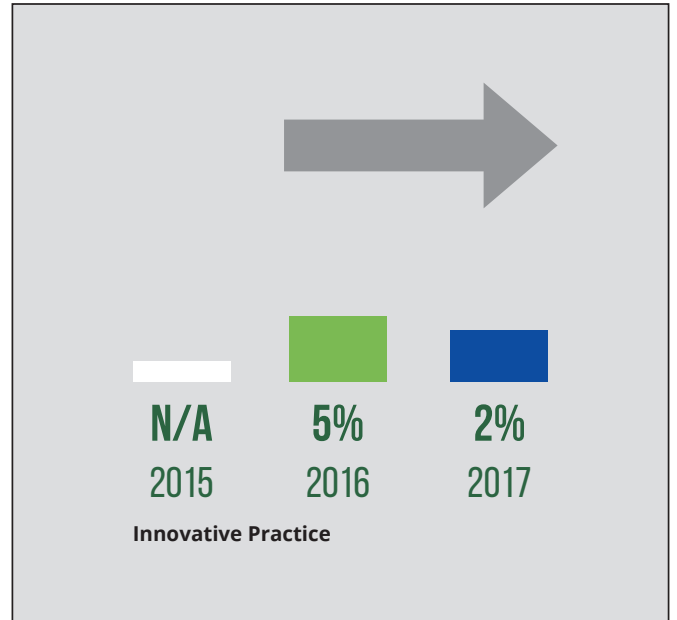


Eighty percent of the responding venues' kitchens/catering departments have active and ongoing back-of-house waste sorting program in place. Unfortunately, this number drops significantly when we look at the venues beyond their kitchens/catering departments.

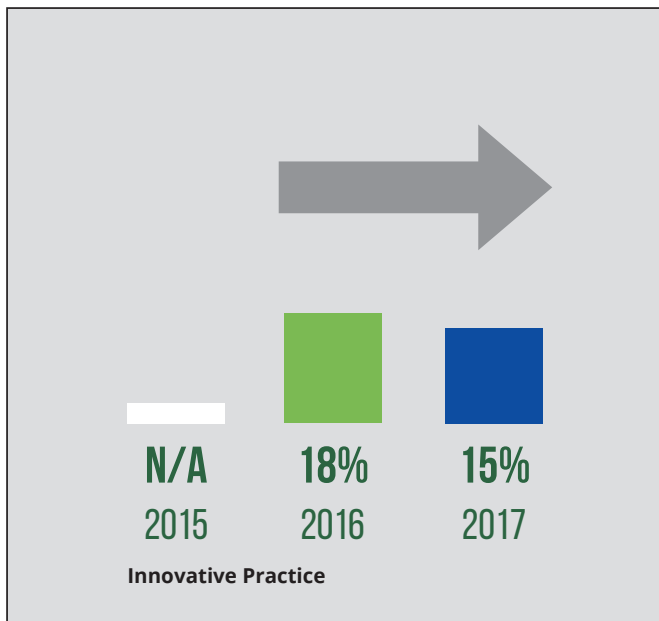
Venues that have active and ongoing back-of-house waste sorting program in place for all areas



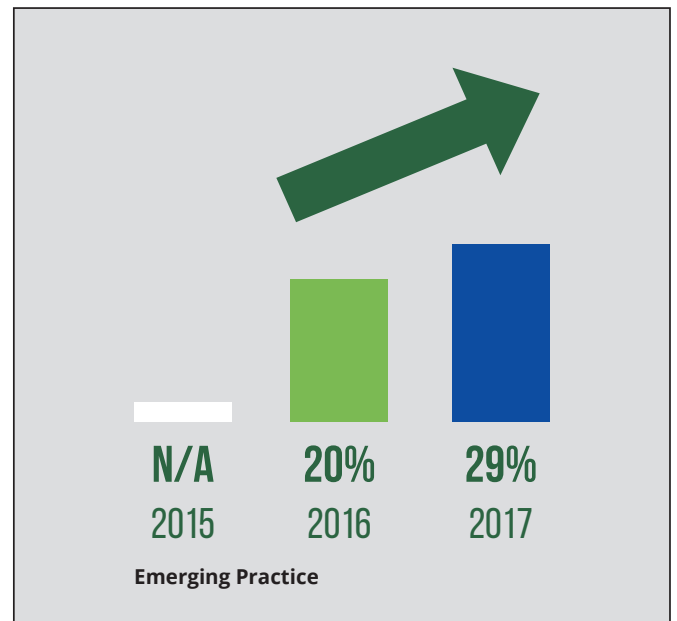
Venues that offer the practice with no additional cost to event organizers



Venues that provide manual waste sorting to event organizers (with possible fee)



Venues that reported to not being able to offer manual back-of-house sorting when requested



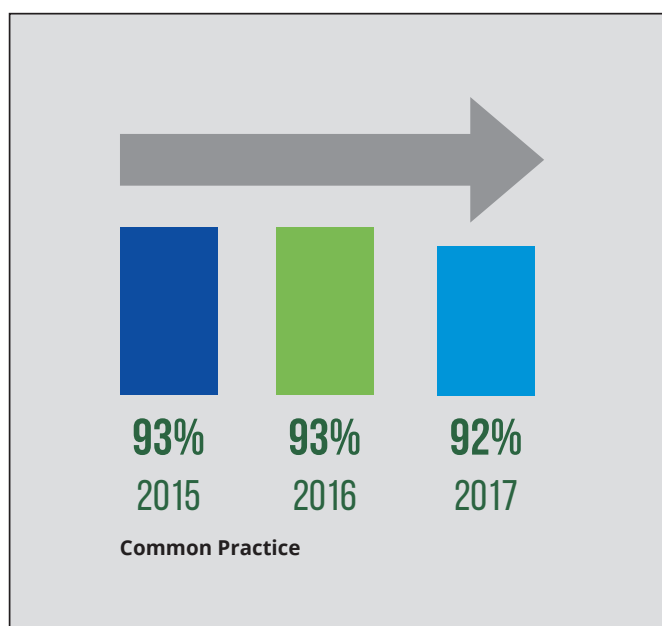
Fifty-two percent of venues charge the event organizer for the actual waste tonnage generated or the number of waste 'pulls', similar to last year's 50%. In doing so, venues can more effectively track and charge for waste generated by event clients.

Twenty-four percent of venues offered economic incentives for event organizers to reduce waste to landfill, down from 34% last year. Incentives included reducing or eliminating fees for recycling and composting hauls and charging planners for landfill or incineration hauls only.

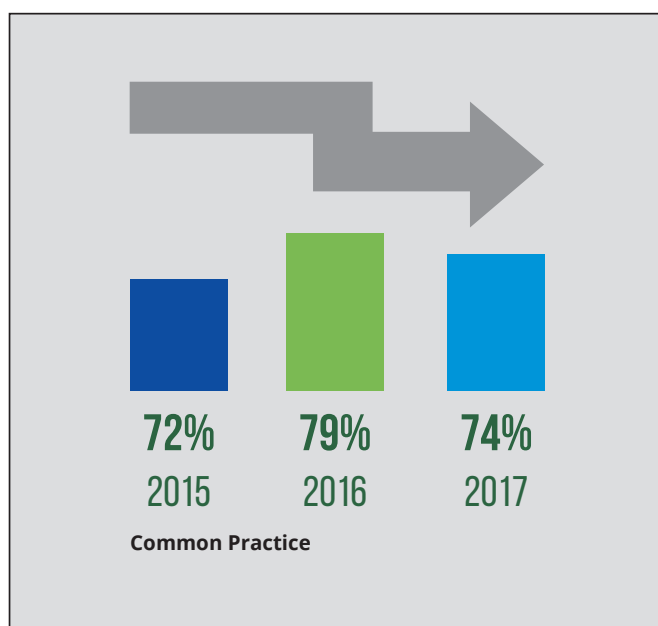
WASTE TRACKING

There are many benefits to regularly tracking waste. First, tracking helps venues understand the issues and how to manage them more efficiently. Venues can understand the various components of waste, cost per each component and how each should be managed better to improve operational efficiency as well as save cost. Waste can also be profitable when managed correctly and used as a waste to energy source.

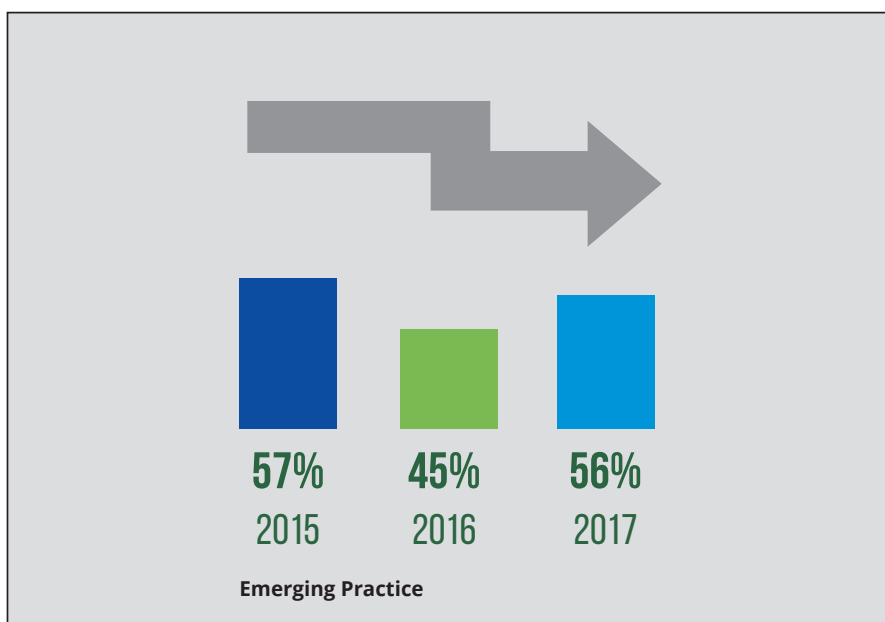
Venues that track waste on a regular basis



Venues that can provide event planners a specific waste diversion report for their event

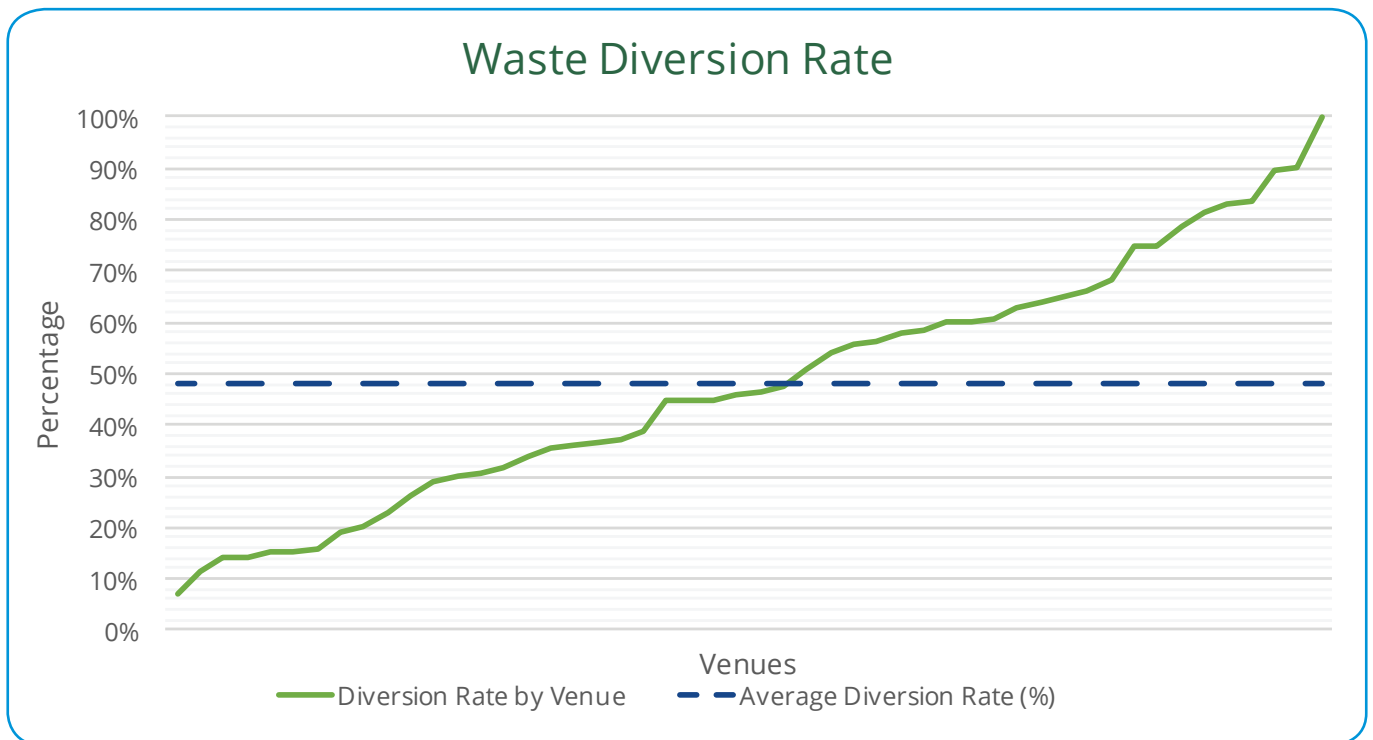


Venues that provide the event reports at no additional expense to planners



WASTE CHALLENGES

- Lack of education, awareness, and training around proper waste management.
- Improper sorting by public and event staff creates additional operational challenges to separate waste post events.
- Low cooperation level from contracted cleaners and vendors to effectively separate waste streams.
- Compostable flatware breaks down slowly, therefore, some compost farms reject this material.
- Limited number of vendors accepting materials for diversion.
- Certain materials, common to events, are not easily recycled by commercial and municipal haulers. (e.g. foamcore signage, carpet scraps etc.)
- Facilities available for accepting front-of-house compost and compostable service ware are scarce.
- Limited space to offer waste sorting programs back-of-house.
- Poor market incentives to recycle materials vs. landfill or incineration options.



THE BUSINESS CASE FOR VENUE SUSTAINABILITY

Today, venues around the world are forced to deal with a complex situation of social, environmental, political, market, and technological trends. Many of these trends require thoughtful, strategic sustainability based solutions. Yet, many venues are often reluctant to put sustainable solutions at the core of their strategy for success, mistakenly believing that the costs outweigh the benefits. The Green Venue Report continues to show, year after year, that quite the opposite is true.

In 2017, we asked venues to share their financial impacts and benefits implementing sustainability programs in three key areas; energy, water, and waste. Sustainable solutions that garnered significant financial successes found a variety of programs ranging from training and labor programs to the purchase of specialty equipment and infrastructure efficiency upgrades.

A key factor in identifying inefficiencies and areas of improvement, noted by all venues that provided information, was good tracking and data collection. Having data to create a baseline or benchmark of venue impacts enabled facilities to make clear cost-benefit analysis decisions on implementing sustainable solutions.

WASTE

- The **Bellagio** (Las Vegas, Nevada) invested in half a million dollars (US) per year hiring an outside contractor to provide labor for onsite waste sorting at the facility. By taking advantage of commodity rebates, the venue was able to offset the investment cost by 30-50%. In addition, the estimated value of undamaged goods salvaged from the waste stream (Asset Recovery) was nearly \$500,000 in 2016.
- Installing a baler was key to financial savings for both the venue and event organizer clients at the **Broward County Convention Center** (Fort Lauderdale, Florida). In 2015, without the baler, an event client was charged for 39 “pulls” of waste containers (open-tops and compactors). In 2016, with the baler, the venue was able to reduce the number of waste container pulls from 39 to 17 for the same client, saving them roughly \$5,000 in waste fees.
- Plastic balers at the **Enercare Centre** (Ontario, Canada), and paper balers at **Kistamassan** (Kista, Sweden), helped both centers save from \$1,000 to \$3,000 (USD) in waste costs annually after being installed.
- By increasing their waste diversion rate in 2016, the **Amsterdam RAI Exhibition and Convention Centre** (Amsterdam, the Netherlands) saved 8% in waste cost, which equated to roughly €25,000 last year.

- Food digesters and composting programs can significantly reduce waste weights, which lead to lower costs as well as providing other positive environmental impacts. At the **Venetian Macao** (Macao, China), food digesters provide cost benefits, however the payback period is 5 years. That said, other benefits such as reduction in waste and related emission help the venue reach their overall carbon emission goals. **Mandalay Bay** (Las Vegas, Nevada) placed an additional 100 food scrap bins in the back of house locations. This waste was donated to a local pig farm for food. The program was set up in an effort to facilitate the removal of food waste from trash, which resulted in a direct increase in waste diversion rates, but an indirect increase in recyclables, as waste is converted from “wet” to “dry.”

ENERGY

- When the **Austin Convention Center** (Austin, Texas) was first retro-commissioned as part of their LEED certification for existing buildings process in 2007, energy usage in the facility decreased significantly, up to 30%. As the number of events at the center has increased every year, the combination of energy retro fit, lighting upgrades and improved air filters contributes to a net decrease in energy consumed.
- In 2016, the **Boston Convention & Exhibition Center** (Boston, Massachusetts) purchased and replaced 16,000 ft. of CFL 26W bulbs with 14W LEDs. In addition, the venue added variable frequency drives to the facility's main booster pumps. The total cost of the project was \$17,000 USD but included \$9,000 USD in rebates. Anticipated savings in 2017 is 53,000 kWh per year, roughly a cost savings of \$7,500 per year.
- The **Georgia World Congress Center** (Atlanta, Georgia) recently completed a \$28 million energy saving performance contract that will reduce energy consumption by at least 37%. From the beginning of construction in October 2015 through February 2017, the center has saved over \$1.5 million in energy costs alone, more than 13.4 million kWh of electricity, and 7,800 therms of natural gas. GWCC is partnering with Georgia Power and the Atlanta Falcons to install solar 1.6 MW of solar PVs throughout our campus that will tie into the electrical grid and will contribute to the LEED Platinum certification of the Atlanta Falcons' new Mercedes-Benz Stadium.
- The **Hynes Convention Center** (Boston, Massachusetts) replaced 452,232W metal halide fixtures with an 85W LED fixture in the exhibit halls. Projected savings is equal to about 340,000 kWh per year, which will result in a savings of around \$55,000 per year. Total cost of the project was around \$250,000, however, the center received incentives of \$120,000 and provided \$43,000 worth of labor costs to install the fixtures. The net cost to the venue was \$85,000, which equals a 1.5 year payback period and 65% ROI.
- Venues with parking facilities can consume a significant amount of energy. The **Music City Center** (Nashville, Tennessee) retrofit the parking garage from 945 fluorescent fixtures to LED fixtures. The bulb installed was the KOB Electric T8-S4-1550-RMV 4ft T8 LED Lamp. The Music City Center partnered with the Tennessee Valley Authority (TVA) EnergyRight program to cost-share the retrofit. This rebate program brought the total project cost to \$33,655 for an ROI of less than 1 year (8 months). The fluorescent system had an annual electricity cost of \$69,346 and the current system is estimated to have an annual cost of \$20,803. This is an annual savings of \$48,542!

- In 2016, **The Saint Paul RiverCentre** (St. Paul, Minnesota) used 19% less electricity than their 'benchmark' year of 2007-08 (right before the sustainability program launched). At current energy costs, this reduction is saving the venue almost \$140,000 per year.
- By making significant building upgrades including, city heating, water and ventilation installation upgrades, LED light retrofits, upgrades to the roof and windows throughout the facility, **World Forum** (Den Haag, the Netherlands) saw total energy costs reduced from €1 million in 2006 to €440,000 in 2016.

WATER

- The **London Convention Centre** (London, Canada) implemented an On Demand hot water system with a cost of \$55,000 CAD. The On Demand hot water system replaced a 500-gallon holding tank which was constantly heated. This led to reduced water usage and associated energy costs for water heating. Additionally, the center purchased a new industrial dishwasher in the kitchen for a cost of \$116,500 CAD with anticipated savings of \$6,000 annually with 40% improvement of water usage.
- Using rainwater is one of the ways venues are offsetting water costs. In 2016, **Music City Center** (Nashville, Tennessee) collected 3,065,268 gallons of rain water onsite, which was almost half of the facilities total water consumption. This resulted in a cost savings of \$11,331. The **Taipei Nangang Exhibition Center** (Taipei, Taiwan) collected and recycled rainwater helping to save the venue around US\$ 14,122 in water expenses each year.
- Recently upgraded restroom fixtures at the **Georgia World Congress Center** (Atlanta, Georgia) has saved the venue more than 14.2 million gallons of water between October 2015 and February 2017.
- Using water for landscaping the grounds around the facility can use a significant amount of water. **Broward County Convention Center** (Fort Lauderdale, Florida) installed a high-efficiency irrigation system for the landscaping, and reduced annual water consumption from 10,000,000 gallons of water per year by 65%, to 3,500,000 gallons annually.



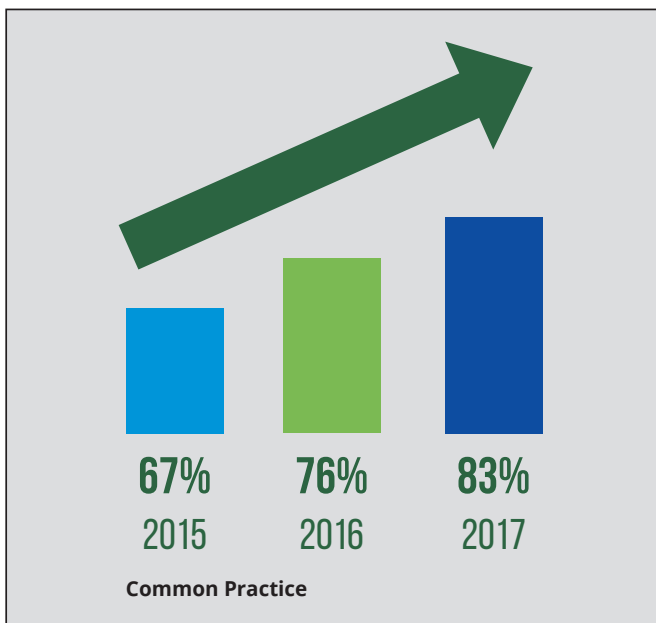
COMMUNICATIONS

Effective communications have several benefits to the venues driving sustainability efforts such as gaining internal and customer buy-ins, increasing customer awareness and satisfaction, as well as increasing its brand value. Ideally, sustainable operations become fully integrated into the operations of a venue, and likewise, sustainability conversations become fully integrated into the planning process between venue staff and event organizer clients.

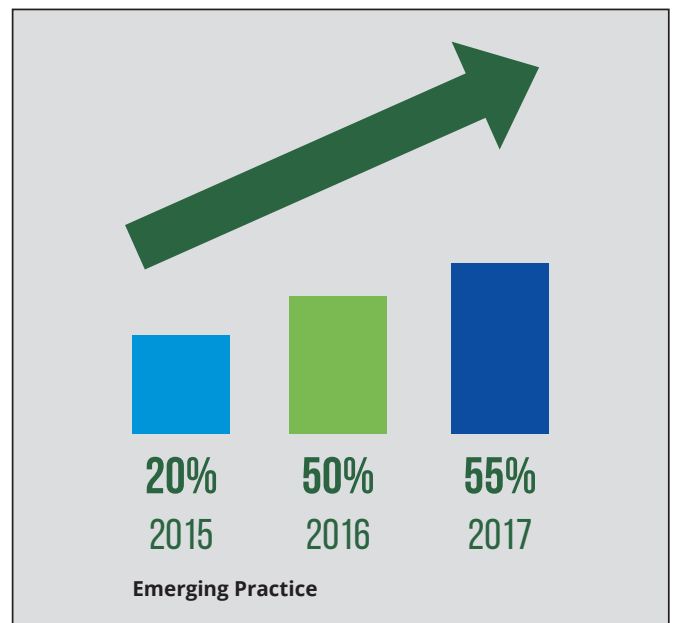
POLICIES

One of the foundations of a sustainability program is a sustainability policy, which illustrates a clear commitment and sets venue priorities, goals, guiding initiatives, and programs.

Venues that have a publicly available, written sustainability policy



Venues who claimed to have a public policy, and able to provide links to documents that meet the general requirements



VENUE HIGHLIGHTS

Many centers provided guidance documents and information about sustainability commitments and practices. However, a sustainability policy takes that commitment one step further. A **sustainability policy** is a 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.

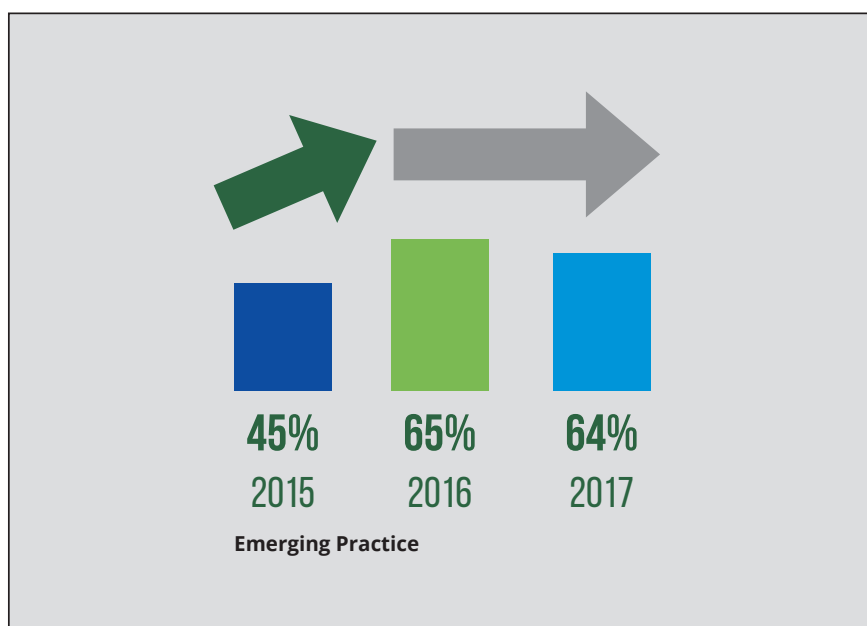


A good example of a public sustainability policy can be found on the **Cobo Center** (Detroit, Michigan) website; [view sustainability page here.](#)

REPORTING

Sixty-four percent of venues indicated they prepare an annual sustainability report specifically for the venue or as part of the city’s annual sustainability report. However, we discovered an array of documents submitted as sustainability reports. Items ranged from one page infographics to detailed multipage reports with long term goals and metrics clearly defined.

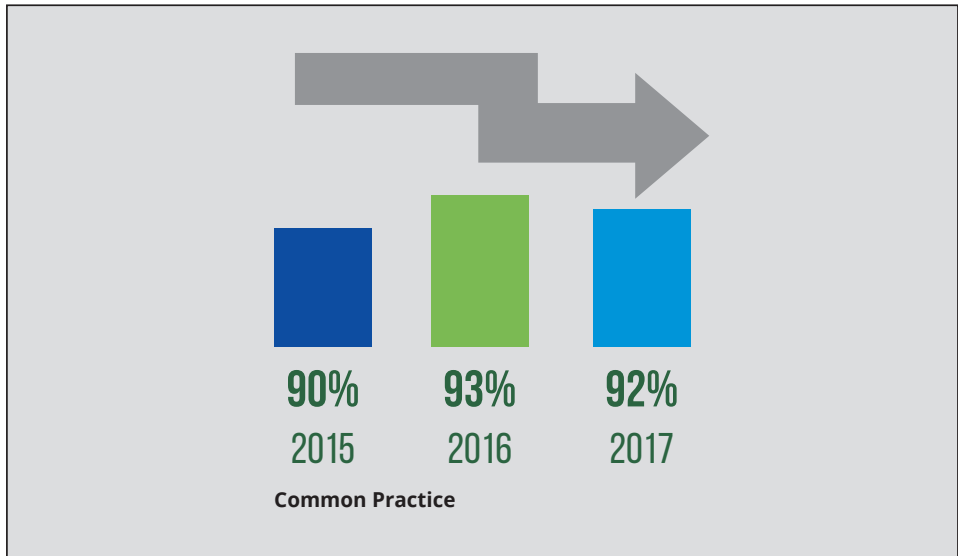
Venues that prepare an annual sustainability report



WEBSITES & MARKETING COLLATERAL

Almost all venues are proactively marketing their commitment and programs to planners and other stakeholders, with 92% of venues 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 venue sites.

Venues that have a webpage or website section dedicated to sharing their sustainability practices



VENUE HIGHLIGHTS

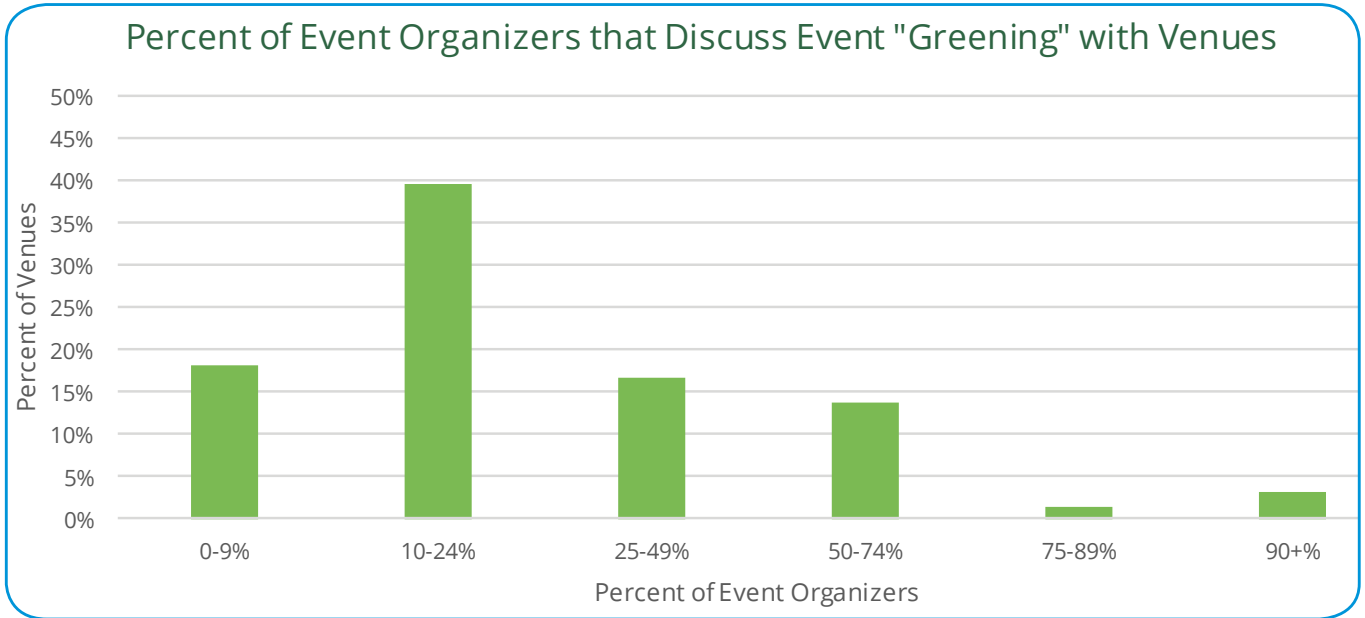
The **International Centre** (Ontario, Canada) created a Sustainable Event Guide, a resource and tool for planners to guide them toward planning a more sustainable event. It includes several aspects of hosting an environmentally responsible event, from small changes to larger commitments. The document is available on their website for all planners and organizers to view. [View International Centre Sustainable Event Guide](#)

The venue is also an Ambassador for Partners in Project Green – A community of businesses, government bodies, institutions, and utilities working together to build the largest eco-business zone in the world.



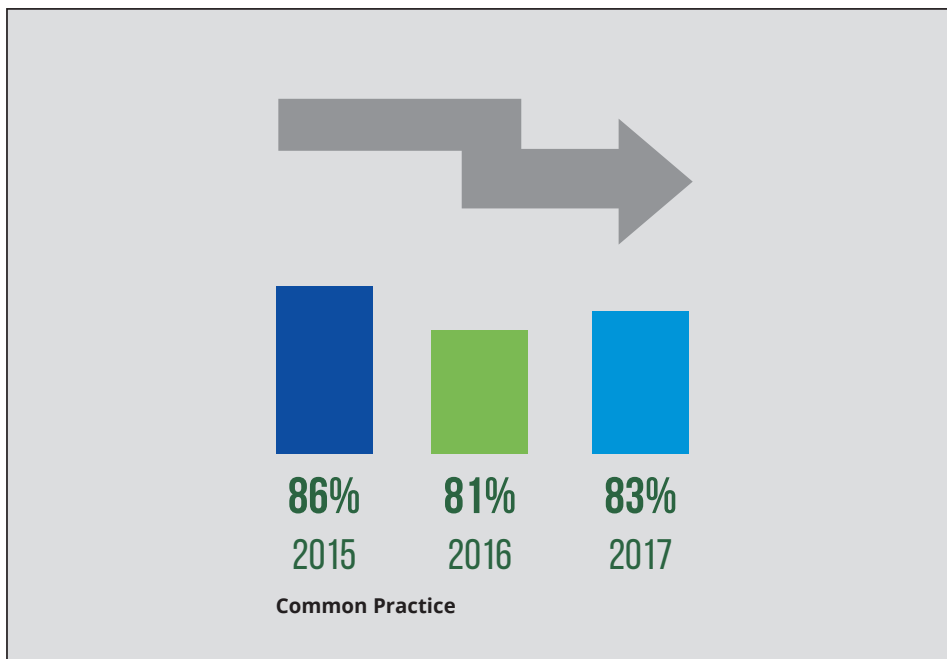
PLANNER COMMUNICATIONS & REQUESTS

As most meetings vary in size, nature, and impacts, two way dialogues and collaboration among the venue, event organizer, caterer, and third-party vendor partners (general contractor, AV supplier, transportation supplier) are a necessary means to an effective sustainable event planning and implementation.



Eighty-three percent of responding venues reported that sales staff are versed in the venue’s sustainability practices and or “green meeting” options and are able to discuss these options during pre-event planning process.

Venues with sales staff who are versed in their sustainability practices



VENUE HIGHLIGHTS

At the **World Forum** (Den Haag, the Netherlands), sustainability is discussed throughout the planning process. The venue has created an easy [checklist for event organizers](#) to follow, ensuring organizers take advantage of sustainability programs and practices in place at the World Forum.



VENUE FEEDBACK

When asked,

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

- **Take advantage of venue sustainability programs already in place.** Many venues have strong sustainability programs in place to help with waste diversion, materials donation and sustainable food sourcing. Venues do their best to share this information with event organizers early in the process of event planning and would love to see more events participate in the programs to reduce impacts.
 - **Plan to donate materials.** Venues are often left seeing items that could be reused by local charity groups being tossed into waste streams. Event organizers that work with their exhibitors, general service contractors, catering and CVB to donate left over materials can provide a positive impact in the host destination.
 - **Better engagement around waste policies.** Many venues have waste diversion programs in both front of house and back of house. Event organizers that work to understand and communicate the waste management and diversion strategies in place at a venue to their vendors and attendees can make a world of difference.
-

When asked,

“what kind of support would you like to see from event vendors (hired by the venue or event organizers) to improve the sustainability at your venue?”, venues responded that they would like to see vendors:

- **Use more sustainable materials.** Vendors often use materials that are easily recycled or reused into the center for one off use. Vendors that source materials made of recycled content and that are easily recyclable would greatly improve the waste impact of events.
 - **Greater communication between parties.** Venues would love to have more open lines of communication with vendors to tell them about their sustainability policies and programs in place. Giving vendors ample time to understand the programs to take advantage of them while onsite for the event would significantly help reduce the impacts of the show.
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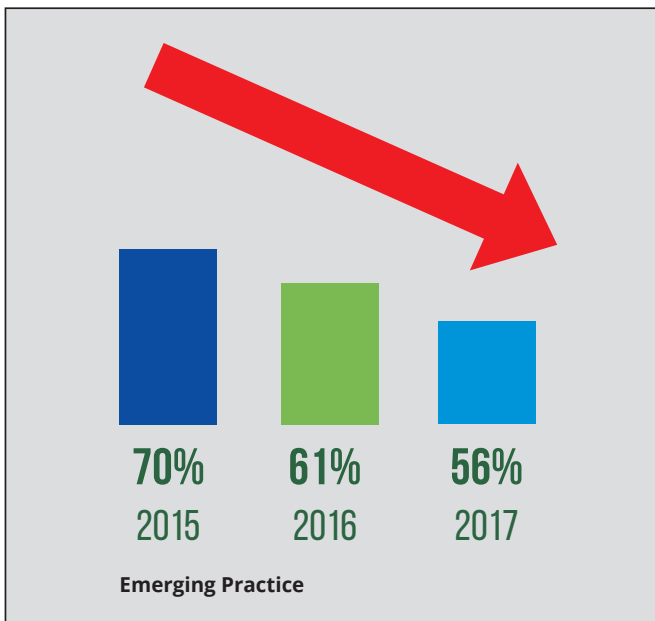
STAFF

Having a staff or team of staffs in charge of green initiatives at the venues becomes a critical factor to the venues' successful sustainability journey. The staff(s) engagement generally varies from creating and managing grass roots sustainability programs that align with their personal interest and convictions to formal management roles overseeing long-term sustainability initiatives like achieving certification(s) and conducting annual reporting.

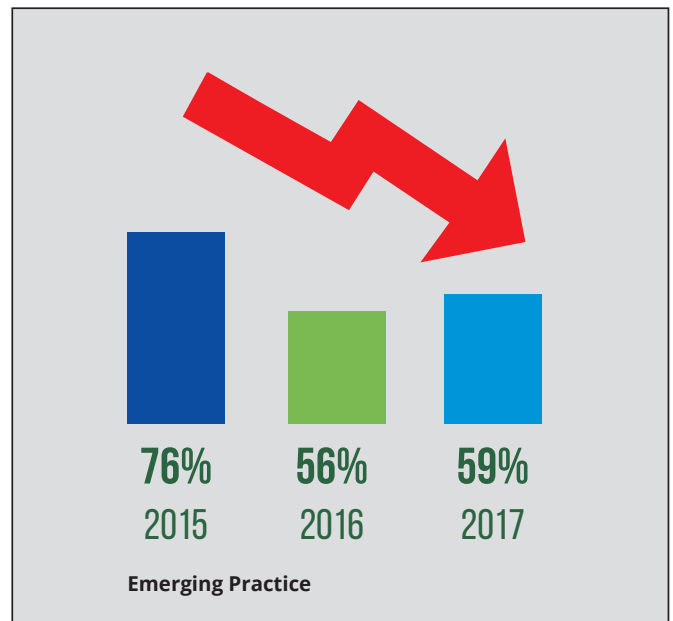
DEDICATED STAFF

The total number of venues reported to having a dedicated Sustainability Coordinator or Sustainability Manager was 37 out of 66 venues, 56% of total. Of those venues with a dedicated sustainability position, 59% held professional designations such as LEED AP or LEED Green Associate.

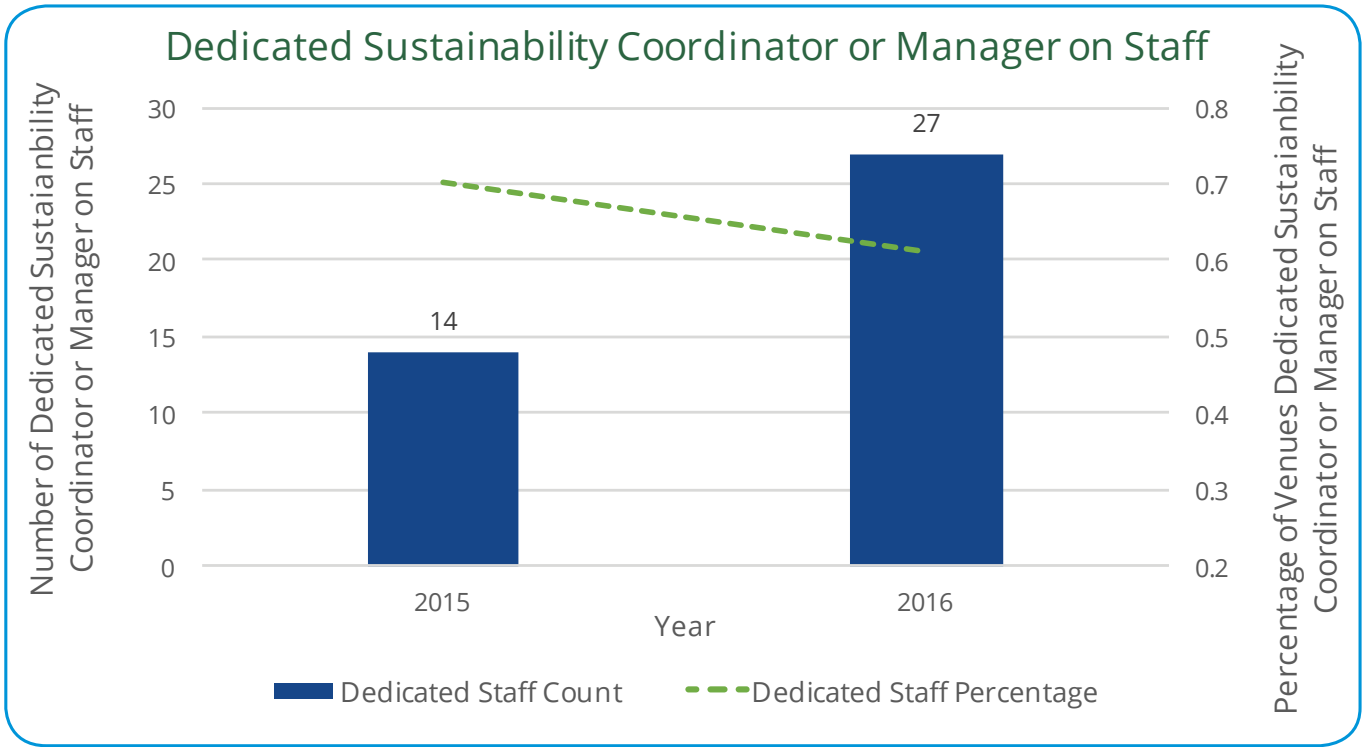
Venues with a dedicated Sustainability Coordinator or Sustainability Manager



Dedicated sustainability coordinator or manager with professional designations



These positions within the venue spearhead sustainability projects, communications, and certifications discussed above. Thirty-two percent of venues reported to having someone on staff who is not a dedicated sustainability manager, but holds the responsibilities of the role. Anecdotally, it may be difficult for someone with other core responsibilities to effectively lead facility sustainability efforts. This is an area of improvement for venues that do not have a dedicated person, as the venues that do have someone in place have the ability to drive more sustainability initiatives that can reduce cost and environmental footprint.

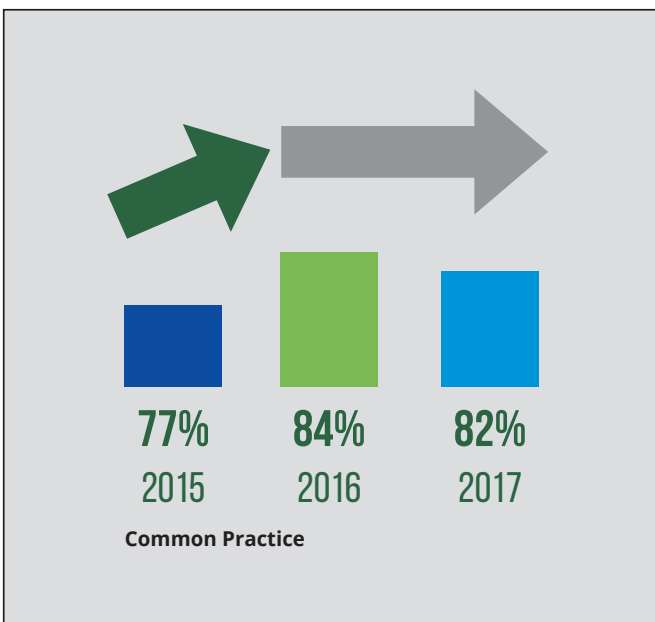


GREEN TEAMS

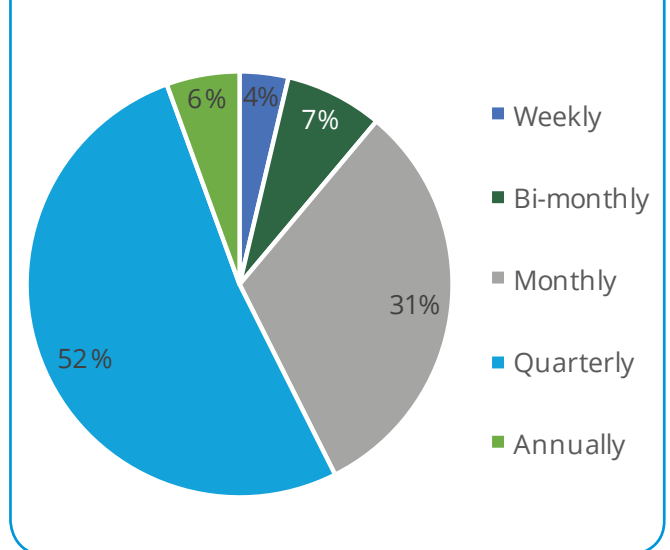
While having a dedicated leadership position within the organization is very important for sustainability performance and success, ensuring that employees from all departments and at all levels are engaged is equally critical.

Eighty-two percent of venues have a Green Team, with an average green team size of 16 staff members. Ninety-four percent of the teams meet at least quarterly and 31% of teams meet monthly⁸.

Venues with a Green Team

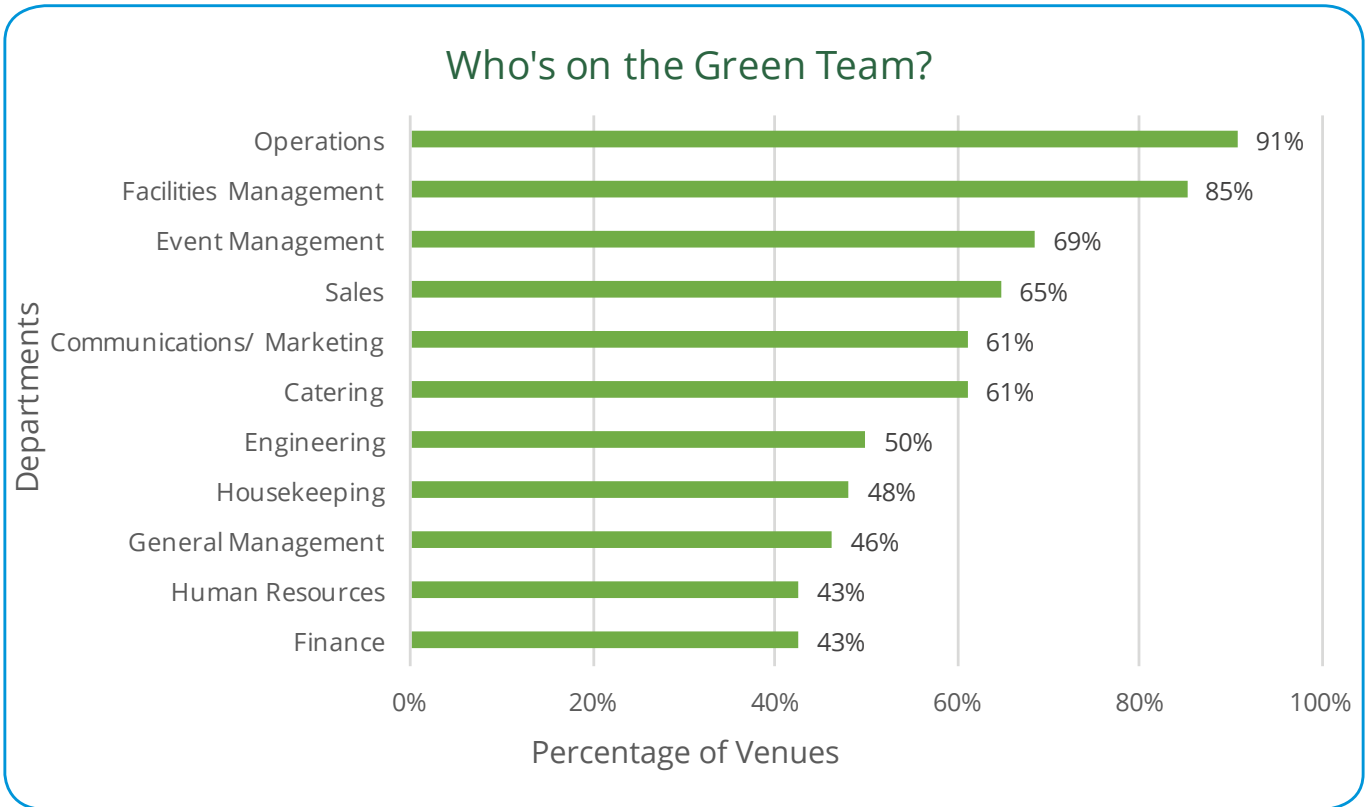


How Often Does Your Green Team Meet?

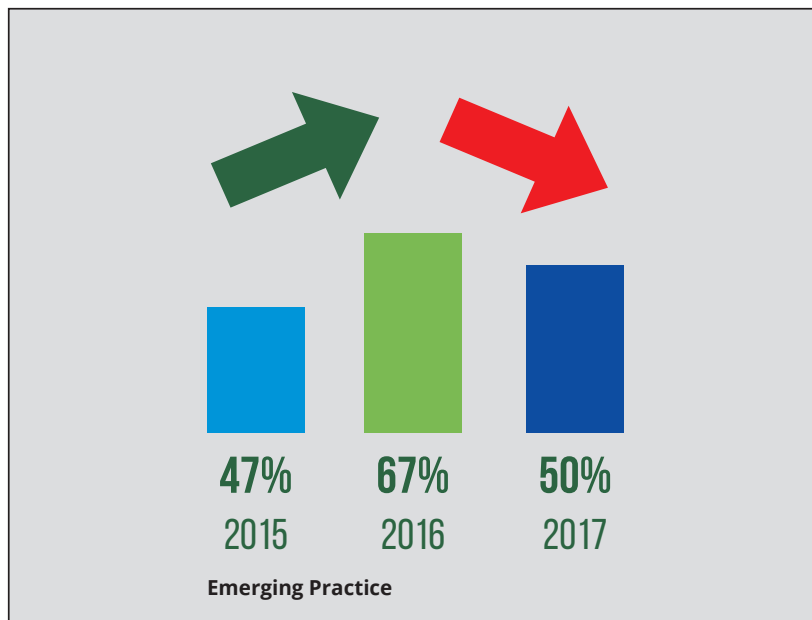


⁸ This percentage is based on all centers that had a green team and provided data on the frequency of meetings

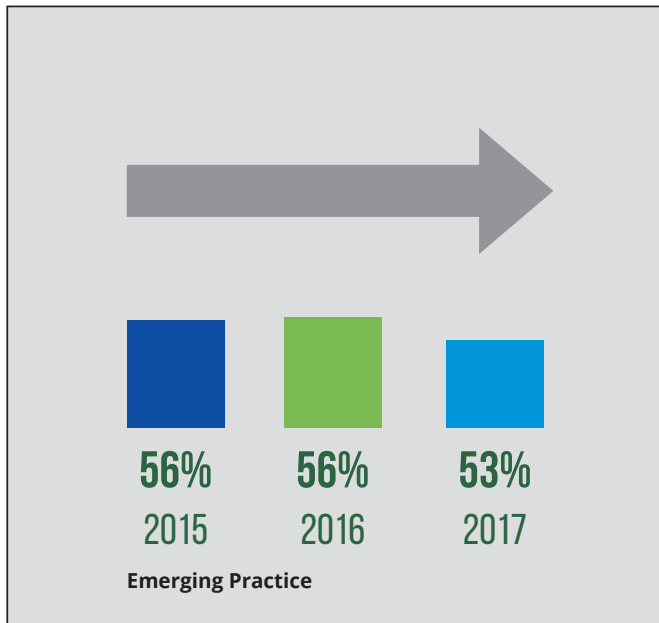
Green team members are represented across almost all departments within the facility.



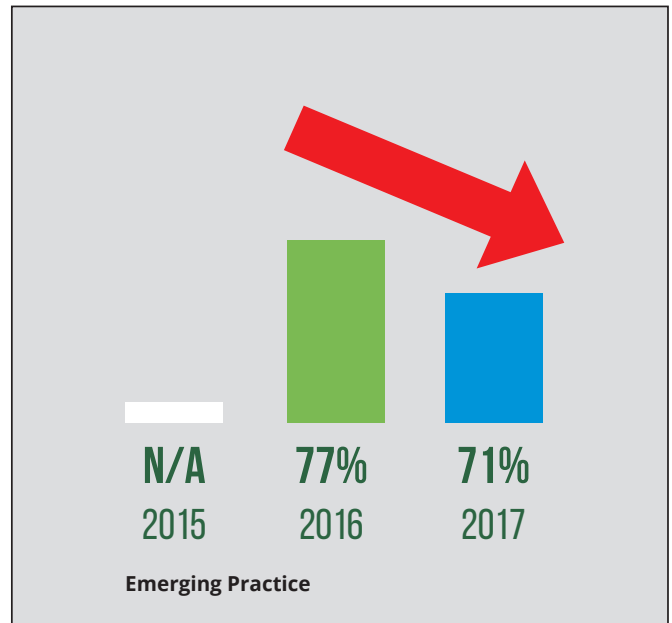
Venues that have a budget to implement sustainability initiatives and programs



Venues that recognize and award employees who go above and beyond in their sustainability efforts



Venues that hold official staff training on understanding and implementing green practices at least once a year



Keeping staff engaged and caring about sustainability programs at the work place continues to be a common challenge among the responding venues year after year. 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.”

VENUE HIGHLIGHTS

At the **Sands Expo and Convention Center** (Las Vegas, Nevada), staff are engaged at multiple levels of the operations. Line level staff are encouraged to use their best judgment in identifying abandoned items that could be donated. Property sustainability tours are provided quarterly for all team members, and new hires are trained on the details on our sustainability programs. Team members receive rewards and recognition for participating in green programs and are provided numerous volunteering opportunities throughout the year. Staff participate in multiple annual green events like Earth Hour, Earth Day, World Hunger Day, and World Water Day.

The **Boston Convention and Exhibition Center** (Boston, Massachusetts) has an onsite Green Team made up of MCCA employees and in-house vendors who promote sustainability throughout our organization. They have an internal intranet page used to provide communications to all employees, keeping them up to date on initiatives, procedures, and tips/facts. The venue also gives out free compost to employees on Earth Day (from the farm where food scraps from the kitchen are sent), participate in the Charles River Cleanup with a team of volunteers, and host a Textile/Electronics recycle drive on America Recycles Day to engage their employees. In 2017, the venue plans to have a “Green Ambassador” for each department within the organization. This person will help spread the word and hold other employees accountable for acting in a sustainable manner while at work (e.g. shut lights off in office, use refillable mug, etc.).

HEALTH AND WELLBEING

Health and wellbeing topics are becoming more important. And rightfully so, as majority of an employee’s time is spent at the workplace. Venues today are thinking more about how their policies and physical spaces affect the health and wellbeing of their staff. Sixty-two percent of responding venues reported to having a health and wellbeing policy in place that applies to all staff.

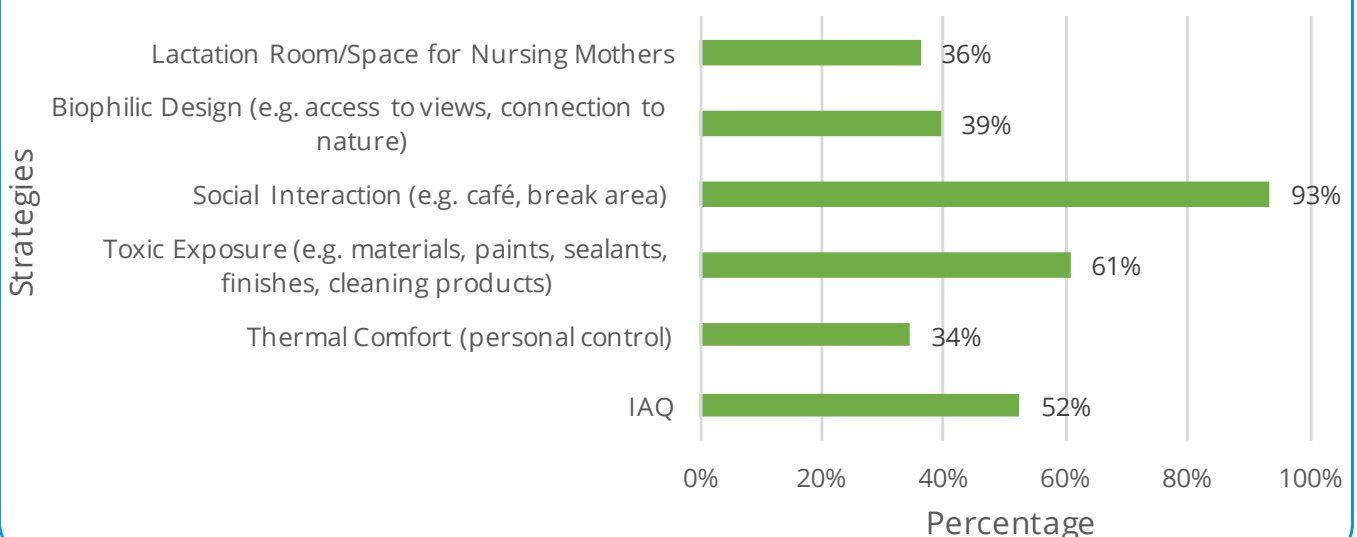
Good Health and Well-being for All

Ensuring healthy lives and promoting the wellbeing for employees in the workplace creates an environment for all to thrive. Health is defined as a complete state of physical, mental, and social well-being, and can refer to a broad range of activities that address the determinants of health or the conditions that lead to health outcomes. In connection to the UN Sustainable Development Goal of achieving good health and well-being for all, venues across the globe are implementing policies to promote healthy living. This includes creating a safe environment, free from toxins, providing medical insurance, and access to physicians to provide vaccinations and wellness checks.

Policies and programs include innovative programs such as:

- Health and fitness facilities with free personal trainers to help promote healthy living and exercise.
- Incentive programs for staff to earn paid time off for achieving health goals such as going for wellness checks and being active for a certain number of hours each week.
- Weekly onsite doctor visits. Staff can see a doctor at the venue if they are unable to visit a medical facility during working hours.
- Dedicated lactation room available for staff and attendees.

Strategies to Promote Health & Well-being of Employees



GREENING HEROES

Sustainability role models come from all departments and inspire in many different ways.

“WHO IS YOUR VENUE GREENING HERO?”



ANDY GINSBERG
Director of Public Area, Aria

Andy works to keep Aria sustainable through several projects. One of his projects includes collecting cigarette butts to send to a recycling company that removes and recycles components of the butts, and harvests these materials to make plastic benches.



CHANCE THOMPSON
Chairman of the Green Team Committee, Calvin L. Rampton Salt Palace Convention Center

Chance was instrumental in the submission of the Salt Palace for the APEX/ASTM certification. This included overseeing the creation of a new Sustainable Events Program, and introducing reduction goals for energy, water, and waste. Salt Palace is now required to purchase sustainable products at least 30% of its total spend, and is also aiming to have a recycling diversion rate of 50%.



CEDRIC TURNBORE
Director of Operations, Cobo Center

Cedric has been a Green Committee Chairman since 2012, and leader on the Executive Green Team. He works to bring all departments together to improve and implement processes related to waste diversion. Each month, Cedric collects waste data from every center department to ensure accuracy of reporting. He encourages innovation and teamwork in all departments. Cedric's passion is a beacon for not only the center, but the entire community.



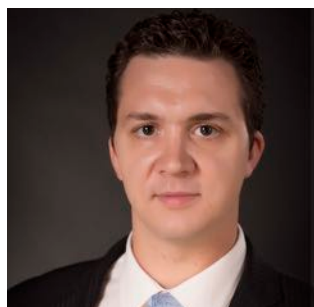
CHEF MAX KNOEPFEL
Food & Beverage Team, Music City Center

Max leads the sustainability efforts in the kitchen by working with local farmers to build menus around the best seasonal produce available. He also created a successful venue composting program, and donated all leftover food to the Nashville Rescue Mission.



PAM CAVANAUGH
Environmental Services Supervisor, Orange County Convention Center

Pam is an extremely dedicated and inspirational employee for the Orange County Convention Center. She has been with the facility for 20 years, and has initiated many sustainability efforts. Pam helped the OCCC become the first convention center to achieve the ISO14001 certification. She continues to inspire her staff, and work on additional waste management programs for the venue.



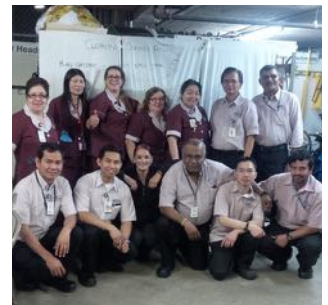
RYAN GREEN
Sustainable Events Manager, Sands Expo Convention Center

Ryan constantly looks for new sustainability ideas to implement across the facility. He launched the Banquet Food Donation program to utilize surplus food to reduce waste, while feeding the hungry in the Las Vegas community. The program donated over 260K meals to people in need, and the largest food bank in Las Vegas recognized Ryan as a 'Community Hero'.



WALTER YEH
President & CEO, TAITRA (Taipei NANGANG Exhibition Center is a division of TAITRA)

Walter has encouraged Taiwan MICE organizers and venue providers to adopt ISO 20121. This has led the Taipei NANGANG Exhibition Center to achieve this certification in 2014. Walter also promotes Taiwan Green MICE to key stakeholders at global events, including the UFI Focus Meeting on sustainable development.



LEONOR TAVARES
Cleaning Services Manager, Metro Toronto Convention Center

Leonor works with her entire team to not only keep the venue spotless, but also maintain a 90% diversion rate. She is always on the lookout for new products that not only make her team's jobs easier, but also the MTCC a safer, healthier building. She encourages her team to improve and maintain the rigorous customer service and environmental standards in place at the MTCC.

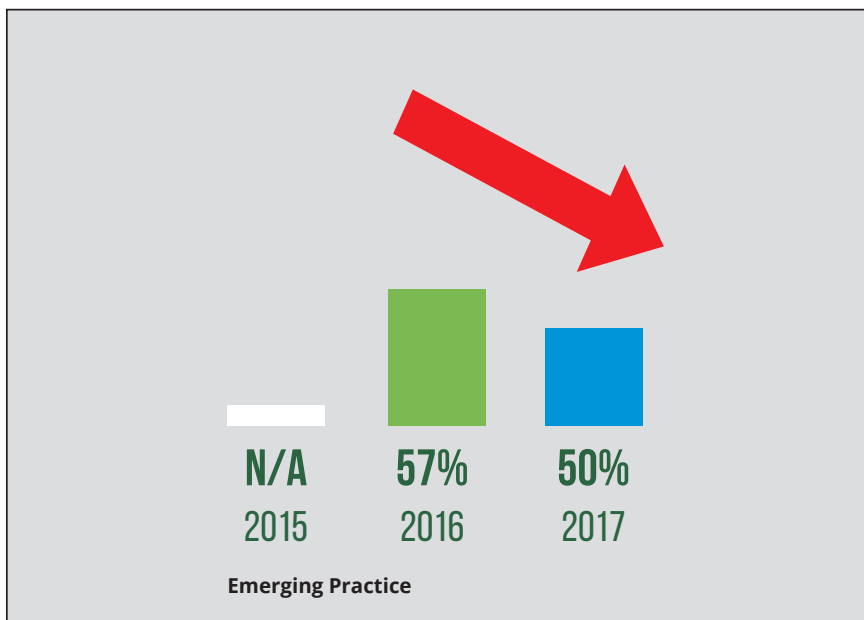
COMMUNITY INVOLVEMENT

One of the responsible business practices venues engage in is getting involved with the community through community-focused programs including cash or material donations and volunteering staff time. Allowing staff to volunteer their time to make a positive impact in their communities also has positive impacts on the staffs' attitude toward their employers and work environment.

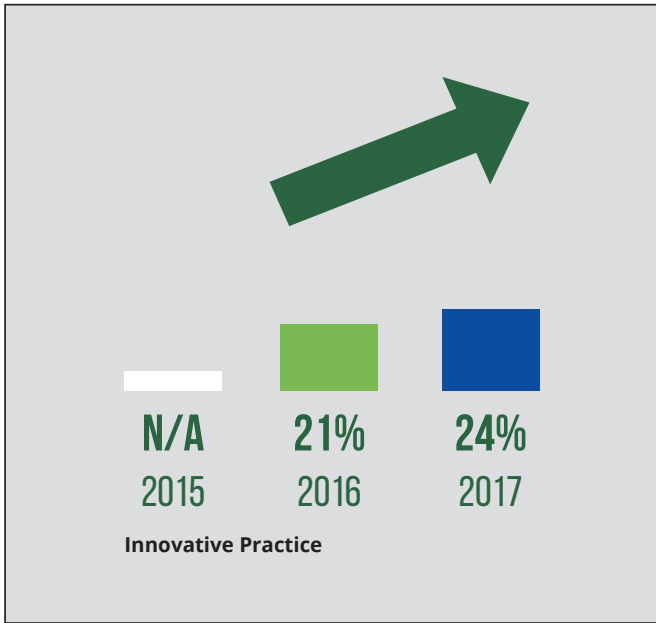
Supporting Communities & Partnerships

Convention and exhibition centers across the globe have a unique opportunity to utilize their position as a meeting place for millions of attendees to provide their local community with not only economic benefits, but also social. The UN Sustainable Development Goals targets address not only the economic assistance needed to support development, but also the social aspects. Through volunteering and providing partnerships, venues can provide their community with resources to promote education, social development, and job prosperity.

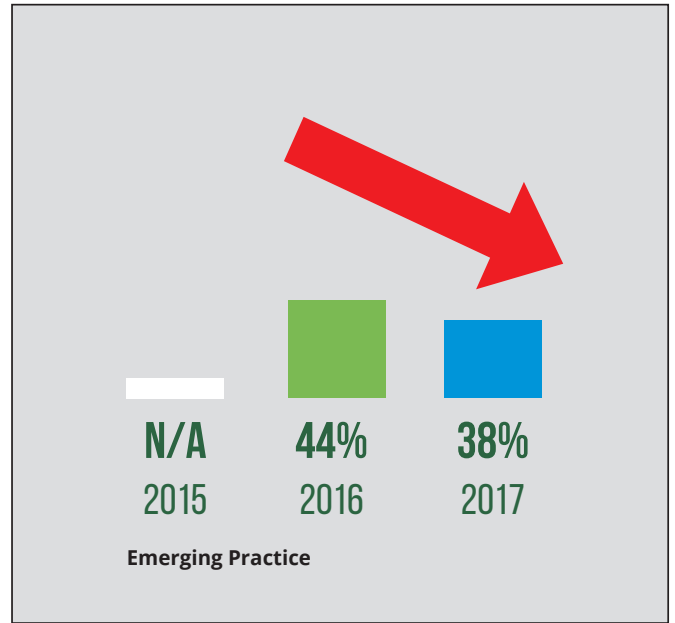
Venues that regularly help event organizers donate conference materials



Venues that can help, at no additional cost to the planner, when requested



Venues that regularly facilitate exhibitor materials donation programs



Additionally, 33% responded that they coordinate with exhibitors for donations when asked by event organizers at no additional cost.

In 2016, 3,355 metric tons of materials were donated to local non-profits, schools or community organizations throughout the world.



58% of all centers have a “donation room” to store materials.

76% of all centers donate food on a regular basis.

74% of centers can help event organizers donate conference materials at no additional cost to the planner.



The **Music City Center** (Nashville, Tennessee) believes that it is important to support the community with hands-on involvement, as well as donations. A recipient of much of the center's good deeds is the Metropolitan Nashville Public School System. By providing real life opportunities to the students of Hunter's Lane High School, students are exposed to career opportunities at the center and beyond. The MCC hosts the Annual Career Fair for all of Metropolitan Nashville Public School System's 9th grade students. MCC also participates in the annual Hunter's Lane High School Academy Showcase, a monthly job shadow opportunity at MCC. This event provides students with the opportunity to listen to guest speakers on various topics including resume writing and interviewing skills. This year, the center also provided donations, including equipment to the Culinary program of Hunter Lane.

Taipei Nangang Exhibition Center

(Taipei, Taiwan) provides trade show VIP badges to every village chief to encourage them to visit our B2B trade shows free of charge. The center offers local and regional companies a 10% discount for conference room rentals, and offers all communities space for disaster management drills free of charge.





San Jose Convention Center (San Jose, California) encourages employees to participate in a program called “Hunger at Home”. Ewell Sterner, the Director of Food and Beverage and Facility Operations, along with several volunteer employees meet monthly with hotel partners and local charities to discuss how Team San Jose can utilize recyclable material to help locally with hunger and homelessness. The team shares ideas, creates actions plans, has sub-committees to focus on specific tasks and plan/participate and/or conduct fundraisers. Fundraising proceeds go directly to the non-profit organizations to feed the hungry and assist shelters in our community.



The **Calvin L. Rampton Salt Palace Convention Center** (Salt Lake City, Utah) offers a full donation program for items left behind by events and exhibitions. Event organizers are alerted of this program early in the planning process so they can plan for donation items. The center also participates in four service projects a year, such as landscape cleanup and flower/tree planting. In 2016 Salt Palace supported childcare, fed the homeless, and raised money for Festival of Trees. In 2017, the center has multiple projects planned with the goal of benefiting outdoor recreation, nature protection, air quality, and recycling.

FOOD & BEVERAGE

Food and beverage can play a big role at meetings and events related to sustainable practices. It's the perfect opportunity to showcase regional and local cuisines using locally sourced or on-site grown ingredients. Sourcing locally minimizes the environmental footprint by reducing the travel distance significantly while also supporting local small farmer and retailers. Food and beverage can also be a big source of waste. When food matters decompose, it produces methane released into the atmosphere, harmful to the environment. How the venue manages food waste is also a critical best practice in waste management.

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. And large meetings and events certainly contribute to the annual food waste. Venues have the opportunity to reduce food waste by implementing a few good practices.

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



84% divert back-of-house kitchen residuals

92% recycle kitchen grease

56% donate food on an ongoing basis, and an additional

18% can donate upon request (in 2016, over 1,126 Metric tons of food were donated)

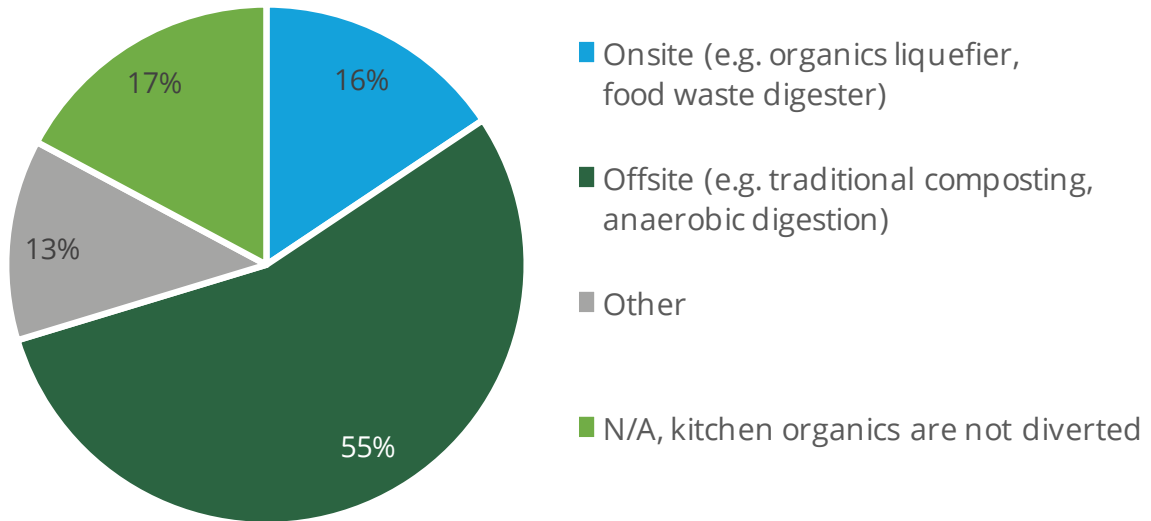
76% practice food waste management (tracking and monitoring food production waste, overage and spoilage)

Eliminating Waste

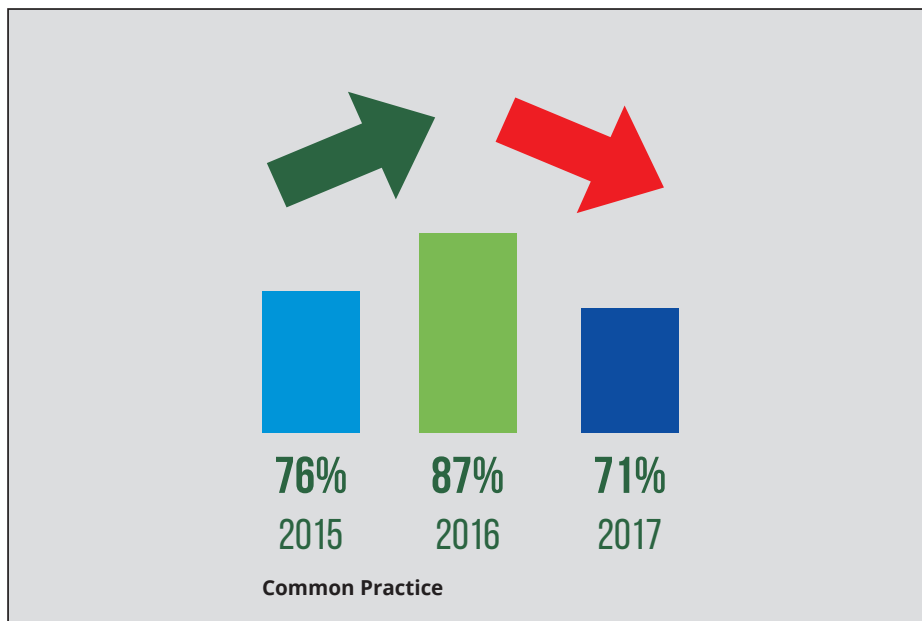
Responsible consumption, as well as disposal of food is a critical objective undertaken by the UN Sustainable Development Goals. Although a large portion of environmental impacts of the food industry occur in production, the waste accumulation of unused food is also substantial. Before food becomes waste, venues have the opportunity to prevent excess food waste by following responsible consumption guidelines. This includes avoiding excess purchasing and overconsumption, and donating excess food prior to spoiling.

Traditional composting facilities remains to be the most common processing method for organics with 55% of venues using this method. However, both use of onsite liquefiers and food waste digesters and alternative methods such as feed for local pig farms have increased from last year to 16% and 13%, respectively.

Back of House Food Waste Diversion Programs



Catering departments that provide event organizers with the weight of food donated for their specific event



VENUE HIGHLIGHTS

Huntington Convention Center of Cleveland (Cleveland, Ohio) is a working farm, which produces food in-house for catering purposes. Operated by the Levy and SMG team, the farm is home to between 500-800 thousand honey bees in 13 hives generating more than 2,000 pounds of honey annually, 29 chickens that provide about two dozen eggs daily accounting for a quarter of the facility's total annual shelled egg use, a variety of raised beds that feature seasonal greens, herbs, and vegetables, and three Mangalista heritage breed pigs.

During the RNC, SMG and Levy arranged with a local farmer to rent a family of goats to naturally manicure and eat all of the weeds around the farm. With the planting of milkweed, the primary food source for monarch butterflies, the Huntington Convention Center also serves as a butterfly way station along the migratory route from Canada to Mexico.

During the year, Levy recycled 37,832 pounds of food waste, including donating 10,000 pounds of leftovers to the Cleveland Food Bank, recycling 26,832 pounds for farm food scraps (our pigs eat about 15 gallons of food scraps per day), and recycling 1,000 pounds of cooking oil. The one-at-a-time napkin dispensers reduce napkin waste by 56 percent and the facility utilizes eco-friendly, biodegradable and compostable plates, box lunches, cups, and flatware products.

Levy partners with Chef's Garden in Huron, a local, family-owned 300-acre vegetable farm, to purchase produce from a source committed to sustainable agriculture utilizing practices that replenish nutrients depleted from the soil and growing crops through natural means. Wherever possible, Levy purchases food products that are sourced locally and responsibly raised, including antibiotic free poultry from Gerber Farms in Kidron and Fresh Fork Market in Ohio City, cage-free eggs, and hormone- and antibiotic-free pork from Cleveland's Pork Chop Shop.

The Huntington Convention Center of Cleveland uses Grind2Energy™, Emerson's food waste recycling system, to enable food waste to be converted into energy. Through Grind2Energy's innovative process, food waste is ground on-site using an industrial-strength InSinkErator® grinder, which is then converted into a slurry. The quasar energy group, a full waste-to-energy company, transports this material to a local anaerobic digestion facilities to extract methane for energy production and to produce a nutrient-rich soil amendment. During 2016, more than 82,000 pounds of food waste was recycled and converted into enough natural gas to heat 22 homes, electricity to power 15 homes, more than 5,700 pounds of nutrient-rich fertilizer, and the elimination of greenhouse gas emissions equivalent to 65,653 automobile miles.



MENUS AND PURCHASING

Approximately 86% of venues provided data on purchasing habits for food and beverage.

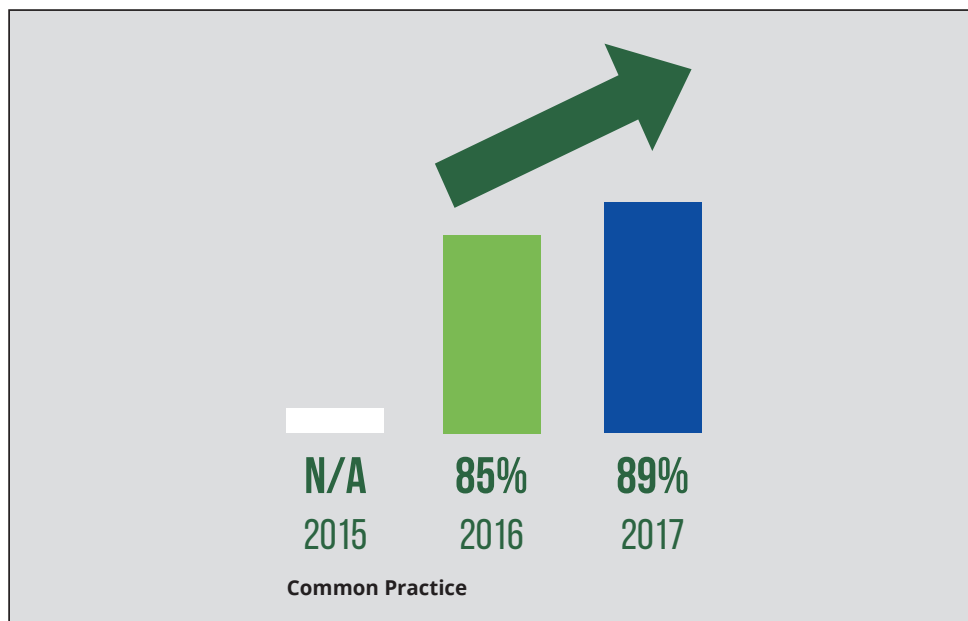
On average, 43% (by spend) of food and beverage items procured in 2016 were considered local (within 250 miles/400 km).

Seventy-one percent of venues can provide the event organizer with a food donation report (i.e. weight of food donated) for their specific event.

Approximately, 32% of venues have event organizers request organic/local/seasonal menus 0-9% of the time while an additional 29% of venues have event organizers request organic/local/seasonal menus 10-24% of the time.

Forty-six percent of responding venues' catering departments have achieved sustainability or health/wellness certifications (specific to the venue's food and beverage operations).

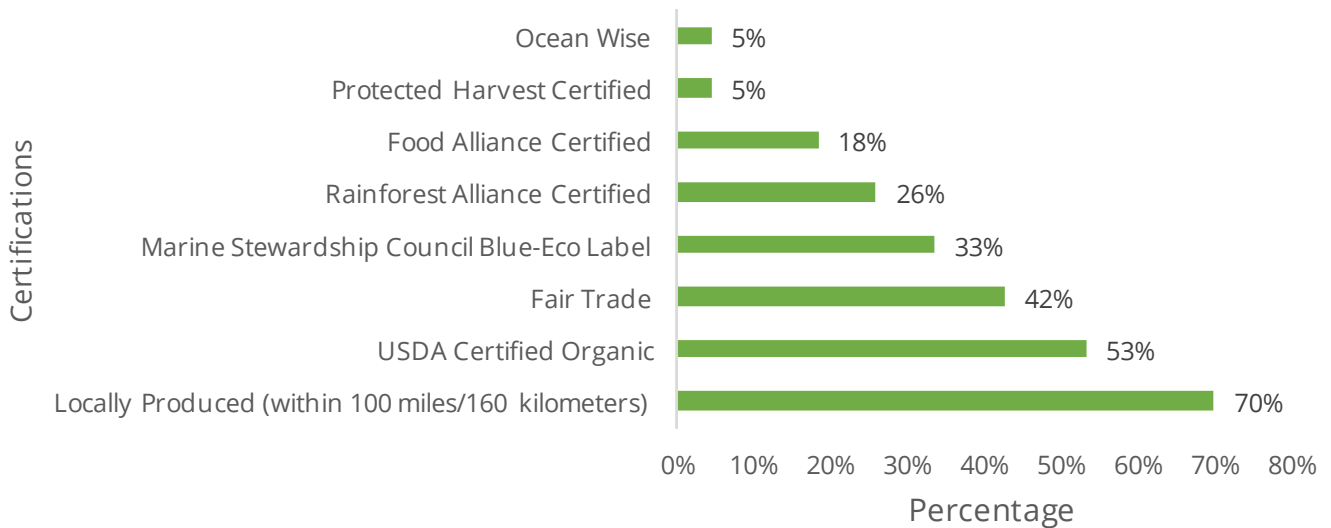
Venues that procure food and beverage products with at least one sustainability-focused certification or accreditation



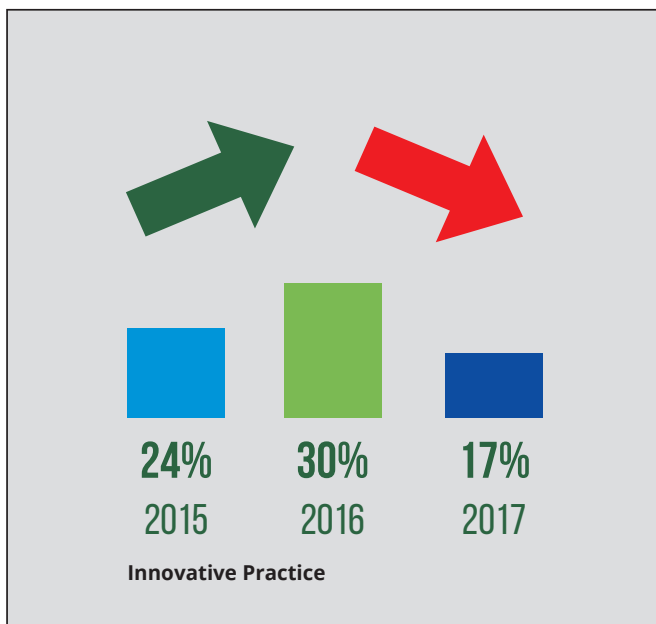
FOOD AND BEVERAGE CHALLENGES

- Keeping up with the latest food and beverage trends related to sustainability (e.g. organic, local, biodynamic, etc.) is difficult as they change quickly and sometimes short lived.
- Cost of sustainable food products is still higher compared to their less sustainable choices in many areas.
- Lack of municipal composting partners to take food waste and compostable service ware.
- Local farmers and food producers' inability to meet the large demands of products required by convention center catering departments.
- Difficulty in sourcing local food year-round in locations affected by desert climates or long winter months.

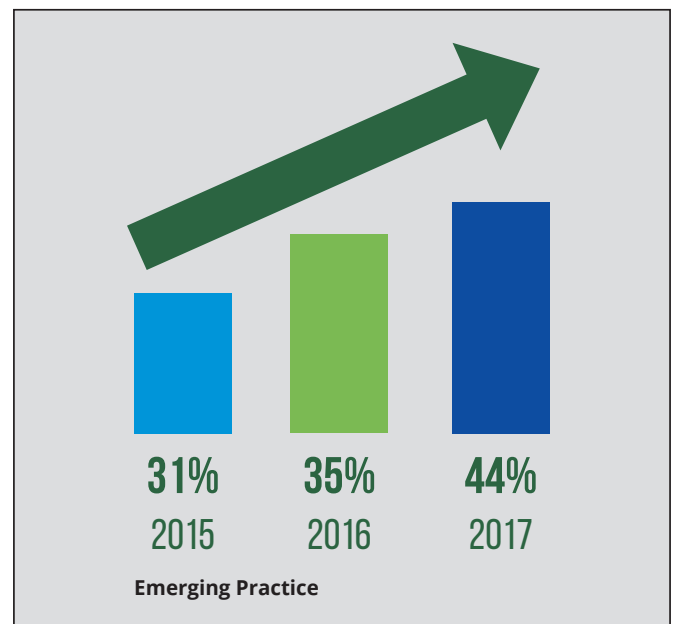
Most Common Sustainability Certifications for F&B Procurement Decisions



Venues that have an active ongoing program in place to provide event organizers detailing the percentage of local/organic/sustainable F&B purchased for their event



Venues that can provide a report at the organizers request (fees may be incurred)



Sustaining Food Sources

As global resources continue to decline, sustainable food products become necessary in order to provide basic human resources. Overfishing has contributed to rapid decline of many fish species, which are relied upon by over 3 billion people. The UN Sustainable Development Goals attempt to address this issue by providing targets to conserve marine life, regulate harvesting, and end overfishing. By selecting sustainable menu options, venues and event organizers can contribute to the goals established by the UN SDGs.

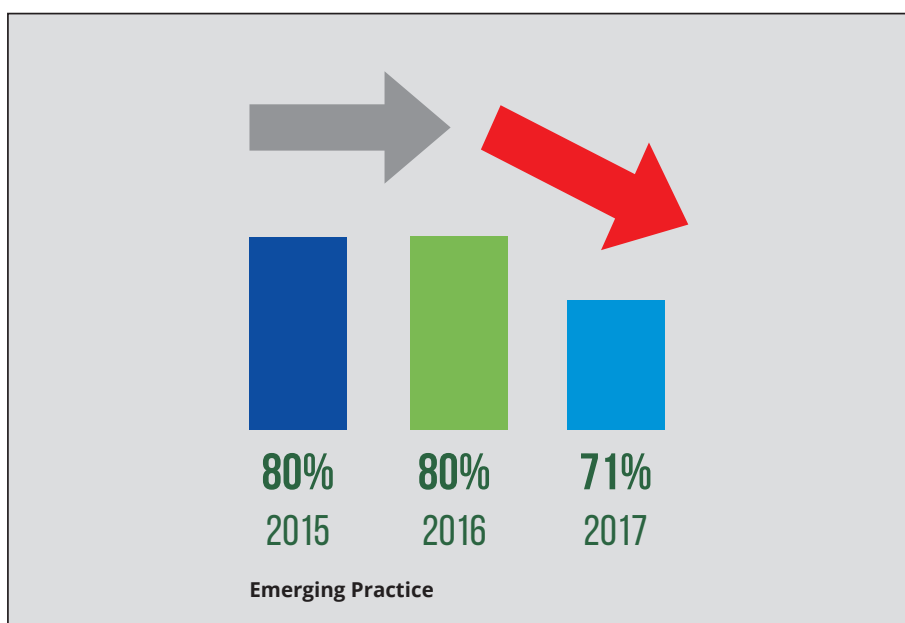
INDOOR AIR QUALITY

Indoor air quality impacts attendee and staff wellness, attendee satisfaction, as well as the overall building health. Some venues are located in cities with air pollution issues, thus bringing people to a city with high levels of smog makes indoor air quality harder to manage, but also even more important. There are certain best practices such as no-smoking and no idling policies, toxic free paint and carpeting, as well as adding open-air concepts and green spaces with plants that can drastically help keep the air clean.

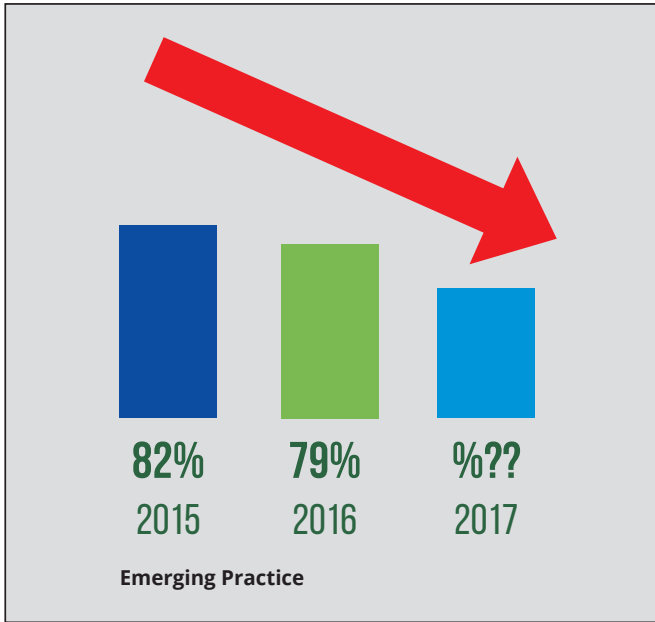
Sustainable Cities

Many convention and exhibition centers are located in high congestion, urban environments where air pollution is a common occurrence. The UN Sustainable Development Goals highlight targets around improving resource use and reducing pollution, to create more sustainable cities. As gathering places in cities across the world, venues have the opportunity to create indoor and outdoor spaces that are both sustainable and promote healthy living. Creating inclusive, green public spaces and utilizing non-toxic materials reduce the adverse effects from poor air quality on human health and the environment. By investing in air quality projects, venues support the overall growth and development of a center, leading to healthier environment and economy.

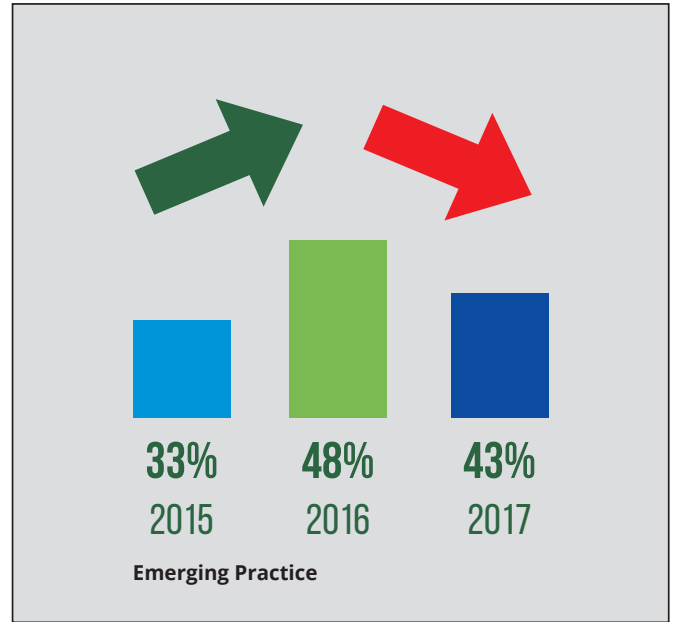
Venues with Indoor Air Quality (IAQ) program in place



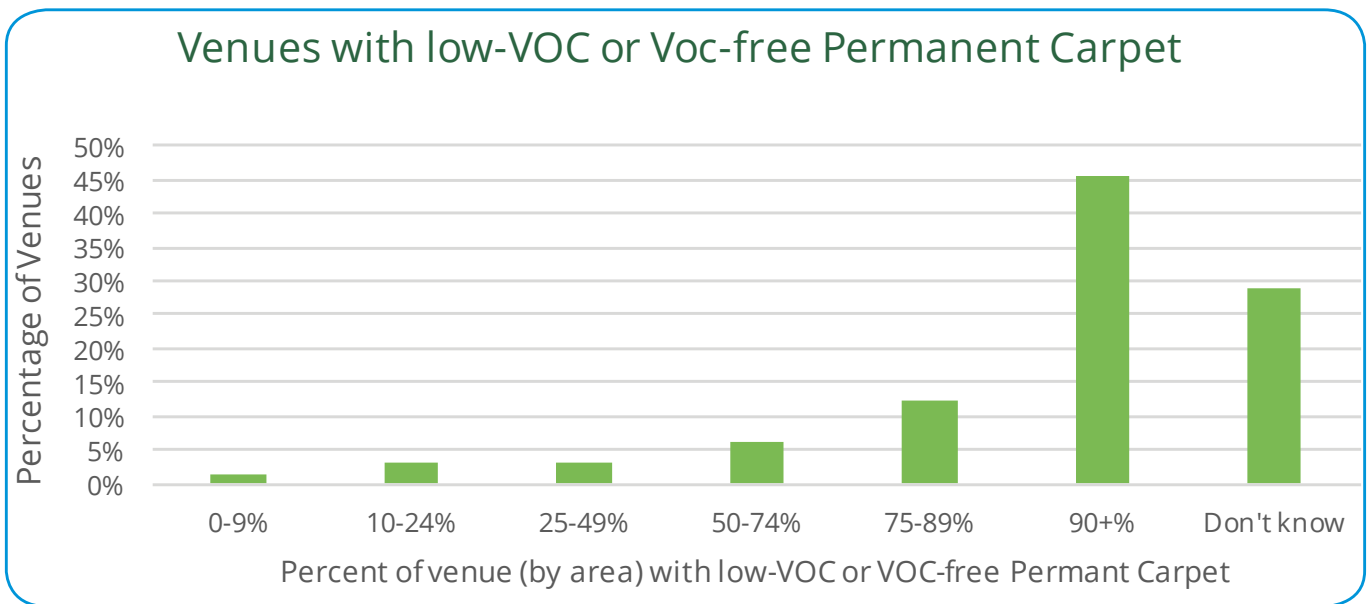
Venues with no idling policy for shuttle busses



Venues with no idling policy for shuttle busses that strictly enforce the policy



45% of venues have **90%** or more of permanent carpet in the center is low-VOC or VOC-free.⁹

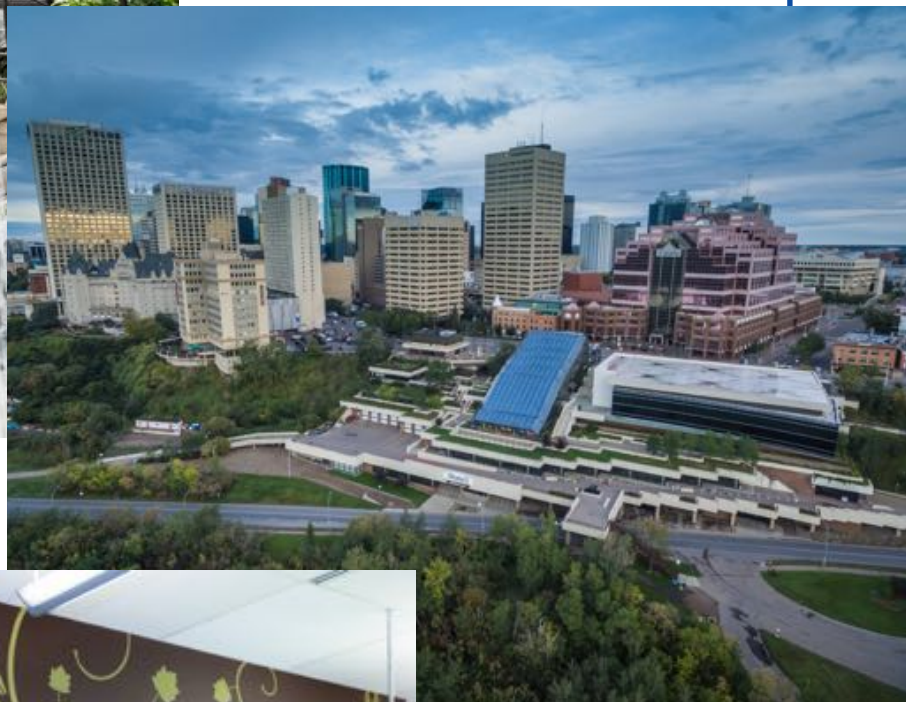


64% of venues have **90%** or more of painted facades that are low-VOC or VOC-free.

⁹ According to the EPA, 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. <http://www.epa.gov/iaq/voc.html>

VENUE HIGHLIGHTS

The **Shaw Conference Center** (Edmonton, Canada) is home to a large interior greenscape, including a “living wall” that sequesters over 1800 kilograms of carbon dioxide by the plants in the SCC atrium each year.

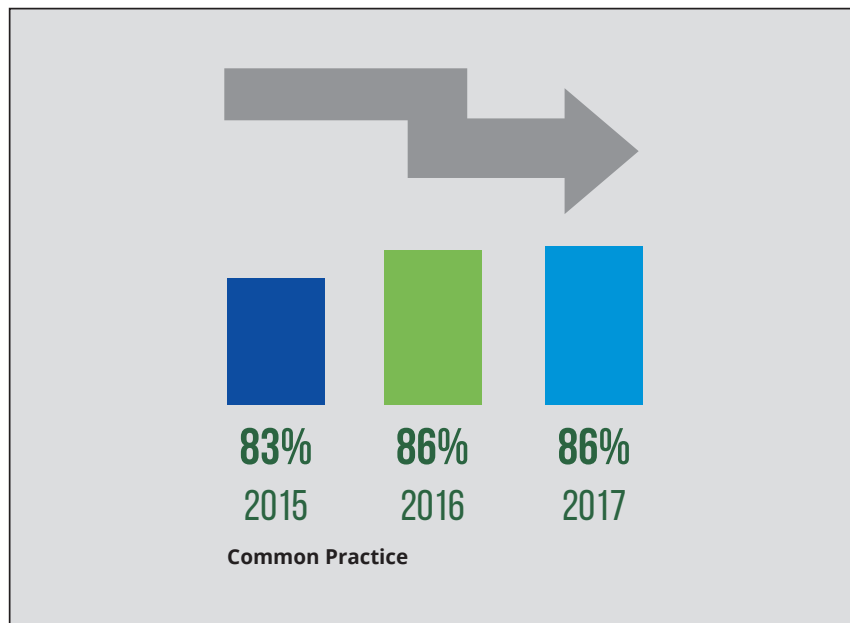


FACILITY CERTIFICATIONS & PROGRAMS

Many convention and exhibition venues still leverage certifications as a way of demonstrating their commitment to sustainability. Whether the destination and the managing organization are private companies or municipally owned, many venues have and continue to invest toward obtaining building and sustainability certifications.

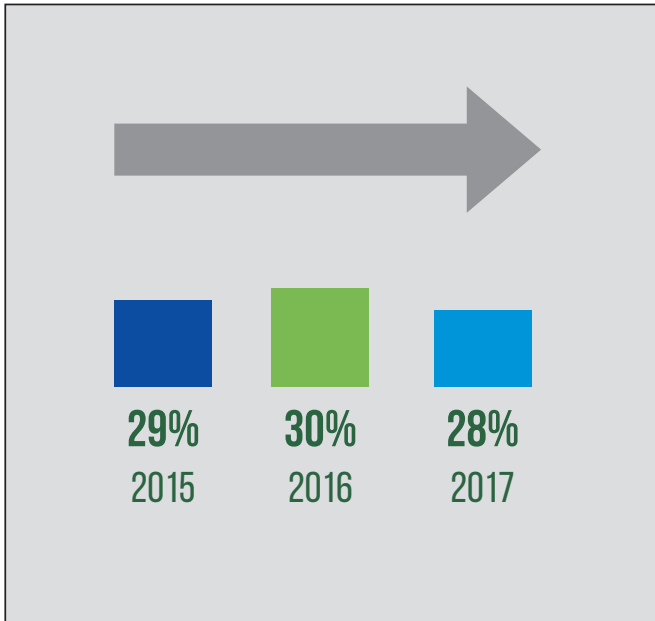
This year, 94% of venues responded to holding some type of sustainability certification or participating government, state, municipality or country wide sustainability designation program that focus on environmental responsibility and community stewardship.

Venues with a sustainability-related certification¹⁰

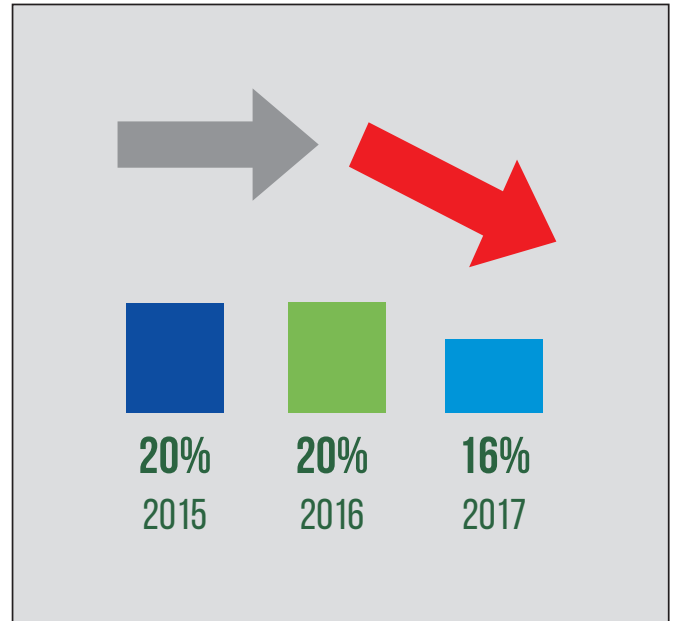


¹⁰ This percentage represents third-party certification. Third-party certification involves an independent assessment declaring that specified requirements pertaining to a product, person, process or management system have been met.

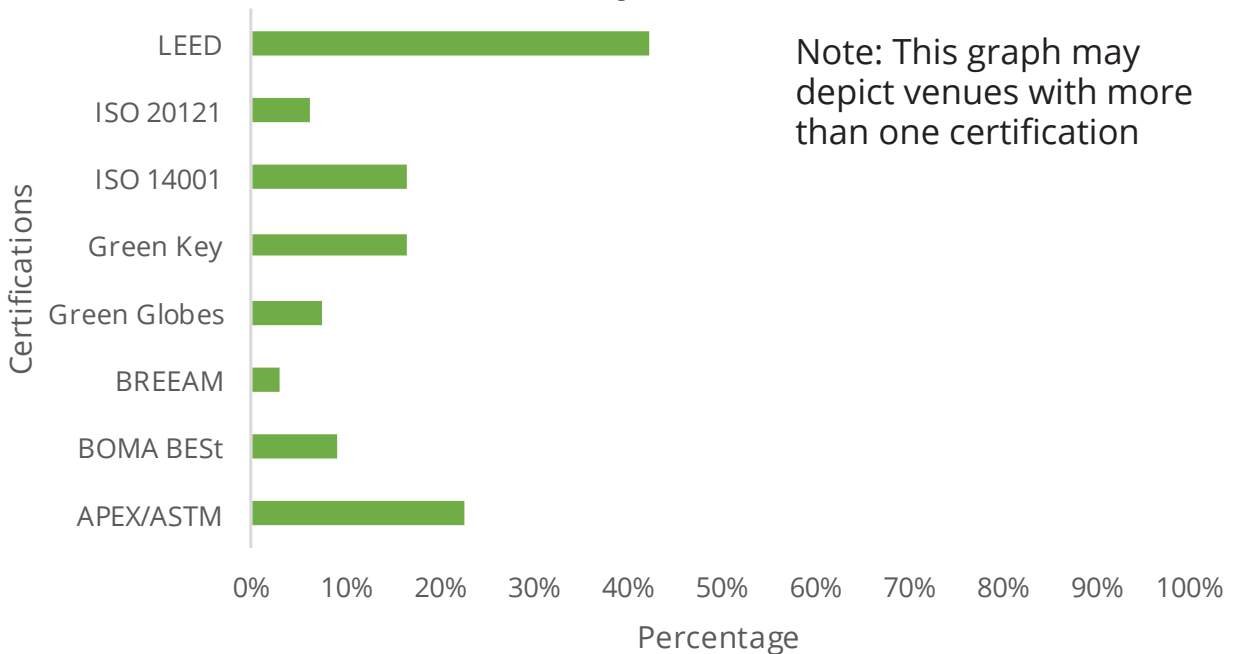
Venues with two sustainability certifications



Venues with three sustainability certifications



Venue Sustainability Certifications



Of the 60 venues planning to achieve a sustainability-related certification within the next 18 months, 25 venues (42%) are planning to achieve a new future certification, while 37 venues (62%) are planning to recertify an existing certification.

The breakdown of certification or recertification is as follows:

- 19 plan to pursue LEED
- 14 plan to pursue APEX/ASTM
- 21 plan to pursue either ISO 14001 or 20121 certifications
- 12 plan to pursue other certifications

FACILITY CERTIFICATIONS

- **LEED New Construction (LEED NC):**
<http://www.usgbc.org/Docs/Archive/General/Docs5546.pdf>
 - **LEED for Existing Buildings Operations and Maintenance (LEED EB+OM):**
<http://www.usgbc.org/Docs/Archive/General/Docs3617.pdf>
 - **ASTM E2774 Venue Standard:** <http://www.conventionindustry.org/standardspractices/APEXASTM/APEXASTMlist.aspx>
 - **ISO - Framework for Environmental Management Systems (ISO 14001):**
http://www.iso.org/iso/theiso14000family_2009.pdf
 - **ISO - Event Sustainability Management Systems (ISO 20121):**
<http://www.iso.org/iso/home/standards/management-standards/iso20121.html>
 - **BOMA BESt (Building Owners and Managers Association of Canada Building Environmental Standards):** <http://www.bomabest.com/>
 - **BREEAM (Building Research Establishment Environmental Assessment Methodology):** <http://www.breeam.org/>
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GREEN CLEANING

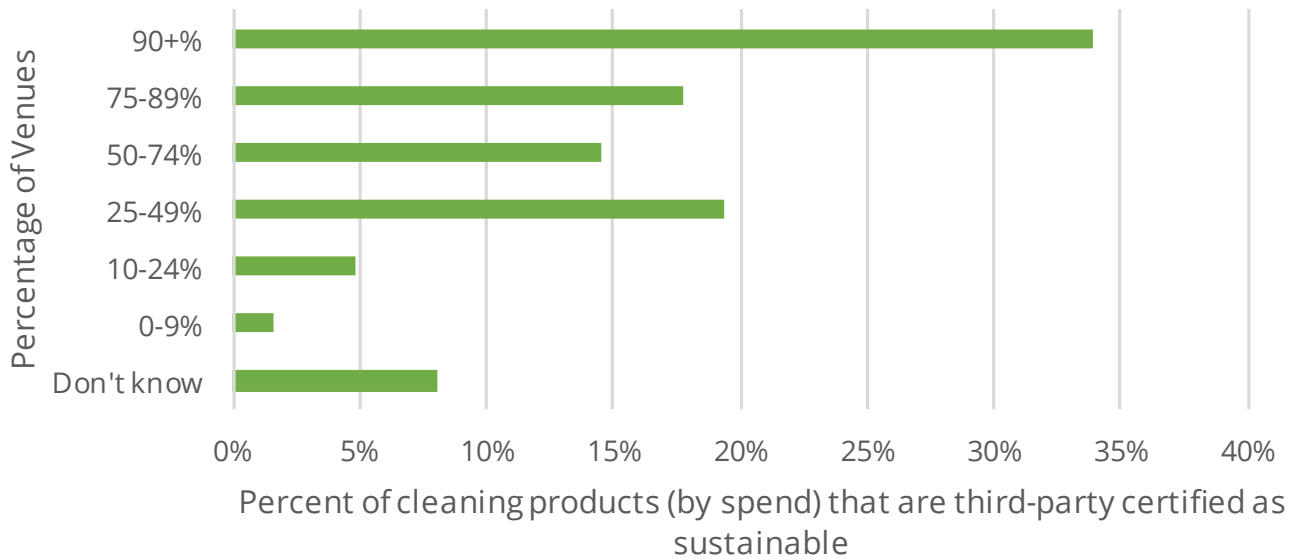
Last but not least, green cleaning practices have a significant positive impact on attendees as well as staffs in charge of cleaning the facilities due to the effects on toxic ingredients used on commercial cleaning products (not certified as green cleaning products). Green cleaning also applies to the equipment used in cleaning. Is the cleaning equipment energy efficient? Do they create more waste during the cleaning process? These are some of the questions venues should address related to green cleaning.

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.



Over a third, 34% of venues procure at least 90% of cleaning products that are third-party certified as sustainable. (e.g. EcoLogo, Green Seal, etc.)

Venues that Procure Third-Party Certified Sustainable Cleaning Products



TECHNICAL NOTES

- All questions related to performance data are for the 2016 calendar year.
- All questions related to practice information pertained to currently implemented practices as of the date of surveying (April 2017).
- Questions related to reporting number of events, attendees, or floor area do not follow any specific standardization on calculation methodology.
- The data and information for call-outs in the report were supplied by participants and are assumed to be accurate and complete. Data were not verified however.
- Instances of particular data inconsistencies or weakness are addressed in the report and extreme outlying data was omitted for analysis.
- Data points are asymmetric in terms of the coverage of floor area vs. utility data. Some venues do not have complete coverage of their floor area, while others have to proportion out utility usage from shared facilities. In showing the energy, water, and waste metrics, the intent is to provide the range of performance across the industry. Data are not normalized however and apples-to-apples comparison is still lacking.
- The data set remains confidential and is not provided to any party other than Greenview.
- Sponsors are not involved in the preparation of the report or its content.



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*Carrie Freeman-Parsons,
Vice Chairman of The Freeman Company*

As the premiere provider of integrated solutions for live events, including expositions, conventions, corporate events, and exhibits, the Freeman Company provides full-service solutions for nearly every aspect of an event from event design and production to entertainment, and global freight transportation.

Freeman employees actively participate in sustainability initiatives and take great pride in making them award-winning and successful. As part of the foundation of Operational Excellence, Freeman believes the activities the company participants in should better the environment, and increase the desire to be green. This should apply to both the company's overall structure, and each individual employee. Freeman is committed to full compliance with government environmental laws and regulations and proudly engages in sustainable practices at all 40 office locations. Freeman is committed to finding new and innovative ways to produce events that have less impact on the environment.

Freeman promotes innovation at every event. The company provide solutions to reduce the environmental impact of products and services, while actively advocating our sustainability message to clients and industry leaders. Freeman is always mindful of how the company interacts with the local and global environment and strive each day to achieve the mission to **Rethink, Reduce, Reuse, and Recycle.**

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Welcome to the world of events. As an integrated Group operating in all event professions, **GL events** works in three major segments: event organisation, event venue management and services for fairs, congresses and events



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The logo for Exhibition World features the words 'Exhibition' and 'World' stacked vertically in a large, bold, black serif font, all contained within a white rectangular box.

**Exhibition
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Read by leading international exhibition organisers, venues and service suppliers in 113 countries, **EW** tackles the key issues affecting the industry. The magazine features regular interviews with key global industry decision-makers and publishes regional and sectoral reports on the industry.

Trade Show Executive is committed to providing news, views and tools to the managers of shows large and small, in every industry from automotive to medical to woodworking, so that show executives can turn innovative ideas into competitive edge.

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Trade Show Executive



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