



# SAN FRANCISCO 2012

# GREENBUILD®

INTERNATIONAL CONFERENCE AND EXPO

# SUSTAINABILITY REPORT

## CONTACT

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**View online:** <http://greenbuildexpo.org/about/greening-the-conference/case-studies.aspx>

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# A MESSAGE FROM THE U.S. GREEN BUILDING COUNCIL

Dear USGBC Members and Stakeholders,

The U.S. Green Building Council (USGBC) welcomed nearly 25,000 visitors to San Francisco, California for our 11th annual Greenbuild International Conference & Expo, the world's largest conference and expo dedicated to green building. On the eve of USGBC's 20th anniversary, USGBC returned to San Francisco to celebrate its environmental leadership: the founding city of USGBC is one of the greenest cities in the world, boasting over 700 LEED-certified projects. Greenbuild 2012 featured three days of education sessions, renowned speakers, green building tours, networking and an expo spanning three halls.

USGBC strives to make our annual meeting the most sustainable meeting of its kind and to positively impact each city we visit. Last May, the USGBC Conference and Events department proudly received the 2012 IMEX Green Meeting Award in Frankfurt, Germany for our efforts to reduce the environmental impact, and enhance the social and economic impacts, of Greenbuild 2011. Considered the most prestigious international sustainability award in the meeting and event industry, it was an honor to be recognized with this award for the fourth time.

Greenbuild brings together green building experts from over 90 countries around the world, and the magic that occurs during their three days on site is inspiring. However, one of the most important aspects of Greenbuild is what remains in the host city after many of us have returned home. This year, USGBC invested in two projects in the San Francisco area, the Portero Hill Texas Street Farm and Tenderloin Vertical Garden. Nationally, we continued our student volunteer program, scholarship program and YouthBuild partnership. Internationally, we remain committed to the orphans in Port au Prince, Haiti where we began our journey three years ago to build the first ever LEED-certified orphanage and children's center in Haiti.



In 2012, we were proud to continue to raise the bar, and it is with great excitement that we share with you the Greenbuild 2012 Event Sustainability Report, summarizing our sustainability initiatives and performance results.

Once again, Greenbuild was a carbon-neutral event. Each year we expand and improve the carbon footprint calculations for Greenbuild with the goal of providing guidance on calculating the carbon footprint for the benefit of industry event organizers, venues and event. We are also proud to have worked very closely with the LEED certified Moscone Center and other city waste stakeholders to accomplish a record 86% waste diversion for Greenbuild. This unprecedented performance is the result of significant stakeholder collaboration, our vibrant student volunteer program, our exhibitor donation program and countless hours of operational planning and execution.

Accommodations are a critical component of every event. Each year we work through a detailed process with each of our hotel partners, which includes various phases of information sharing. For the first time, in 2012, we not only measured and compared properties' performance for our own internal analysis, but also provided all participating hotel partners with a summary of how their performance compared to the room block as a whole.

We are proud of the hard work and results achieved at Greenbuild 2012 and extend thanks to our event partners who worked hard alongside us to make it all possible. As we set our sights on 2013, we look forward to working with the green building advocates of Philadelphia to host an event that leaves a lasting legacy of improved green building practices throughout the city, from hotel energy efficiency to new organic waste collection schemes. We look forward to seeing you there.

Sincerely,



**Kimberly Lewis**  
Senior Vice President,  
Community  
Advancement,  
Conference & Events

**Kate Hurst**  
Director, Greenbuild  
Conference & Events

# ABOUT GREENBUILD

The USGBC Conference and Events department aims to provide leadership for the meeting industry by elevating considerations for sustainability, economic impact and social equity into our event platforms, while providing USGBC with a superior level of service for meetings and events and acting as a resource for green meetings to our chapters and our peers in the industry.

## GREENBUILD AT A GLANCE

# @GREENBUILD® 2012



### WHO ATTENDED

24,660

**ATTENDEES**

**4,840**

LEED  
PROFESSIONALS

4,048

ACCREDITED  
PROFESSIONALS (AP)

756

GREEN ASSOCIATES

906

**EXHIBITORS**

1,729

**BOOTHES**



**90** COUNTRIES REPRESENTED



**1** CANADA



**2** BRAZIL



**3** MEXICO

ALL **50** STATES REPRESENTED



**1** CALIFORNIA



**2** NEW YORK



**3** D.C.

WHAT THEY DID



43,996

CMP HOURS EARNED

6,288  
**ATTENDEES**

OPENING PLENARY

5,000  
**ATTENDEES**

CLOSING PLENARY

## MOST POPULAR SESSIONS

- 1 Energy Monitoring that Provides Meaningful Data AND Value
- 2 Pushing the Envelope - The Need for Enhanced Commissioning
- 3 Applying LCA to Building Design



## WHAT THEY SAID

During the opening plenary,

**#greenbuild** was  
tweeted every **3** seconds



and more than  
**20,000 #greenbuild tweets**  
were sent during the conference

**Corey Booker** @coreybooker

Thanks. The American Dream must be a green dream. RT @steviegotsoul: great insights at @Greenbuild



**Jane McGonigal** @avantgame

excited to be closing Greenbuild today with Bill McDonough, a hero for our planet!

### Trends

#GBUnREALCandy

#greenbuild

DirtyWeather

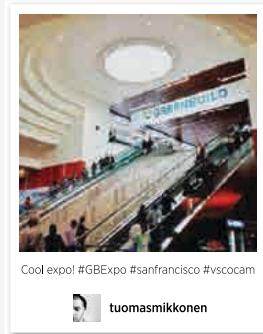
Susan Rice

Gaza

#WhatMakesMeSmile

## Making #greenbuild a trending topic!

### WHAT THEY SAW



 **GREENBUILD**  
INTERNATIONAL CONFERENCE AND EXPO



## GREENBUILD SUSTAINABILITY PERFORMANCE AT A GLANCE

Over 200 sustainability performance indicators are tracked by the USGBC Conference and Events department. The following key performance indicators (KPIs) are monitored to ensure continuous improvement and highlight areas of future opportunity. The table below shows 2012 performance against 2011 performance for our most important metrics.

Greenbuild Key Performance Indicators	2011	2012
Water Use at Venues (gal)	120,133	396,163
Energy Use at Venues (kWh)	880,615	863,003
Total GHG Emissions (lb)	19,350,692	30,014,656
GHG Emissions Per Attendee (lb CO2e)	841	1217.63
Ground Shuttle Fuel Used (gal)	337.5	2,180
Total Waste Per Attendee (lb)	7.04	7.09
Landfill Waste Per Attendee (lb)	1.90	1.00
Waste Diversion at Venues (%)	73%	85.87%
Sustainable Signage Sourced (sq ft)	77%	76%
Materials Donated to Local Organizations (lb)	19,761	13,288
Hotel Sustainable Practices Compliance (%)	100%	100%
Local Food Sourced (<100 miles, % by expenditure)	90%	58.3%
Regional Food Sourced (<500 miles, % by expenditure)	96%	74.29%
Exhibitor GMEGG Participation (%)	91%	92%
Green Exhibitor Award Participants	252	154

# OBJECTIVES & GOALS

There are countless opportunities for improving sustainable meeting practices. To keep us focused on what we believe to be the most significant impact of meetings and events, Greenbuild has set the following six objectives to guide our planning and evaluation processes.



1 Move Toward a Zero Waste Event



2 Increase Stakeholder Education and Engagement



3 Improve Sustainable Sourcing



4 Improve Performance Tracking



5 Reduce Greenhouse Gas Emissions



6 Positively Impact Communities

Each year we set several specific goals to ensure progress within each objective or key focus area. Many years, our goals remain similar, as we are constantly striving to minimize waste and maximize the use of local produce, for example. Other years, our goals reflect new developments in our sustainability strategy, such as the first time elimination of a session recordings CD-ROM or plastic name badge holder, as was done in 2012.

Goal	Result	Objective					
		Waste	Engagement	Sourcing	Tracking	Emissions	Communities
Divert 85% of all waste from the landfill	85.87% landfill diversion	•	•	•	•		
Reduce total waste per participant to under 6 lbs per attendee	7.09 lbs per attendee	•	•	•	•		
Serve food and beverage items that are: 50% organic 50% local (sourced within 100 miles) 70% regional (sourced within 500 miles)	62% organic food served 58.3% local food served 74.29% regional			•	•	•	•
Serve 100% local wine	97% local wine served at Moscone Center			•	•	•	•
Track 100% of food miles	100% of food miles tracked			•	•		
Increase GMEGG participation to 95%	92% participation	•	•		•		•
Increase Green Exhibitor Award participation	Decrease in participation to 154 Participants		•		•		•
Eliminate plastic name badge holders	25,000 name badge holders eliminated	•	•	•			
Eliminate session recordings CD-ROM	Production of 1,000 CDs avoided	•	•	•			
Special Sets: Use standard products available at convention centers to decrease the carbon footprint of this new "charrette" set	Set decorations were made from repurposed greenhouse materials	•		•		•	
Eliminate of all transportation between conference hotels and the Moscone Center	Hotel to Convention Center busses were not provided		•		•	•	•
Secure a Carbon Offset Sponsor	Initiated a successful carbon offset partnership with Terrapass					•	
Simplify scoring for Green Exhibitor Award to increase exhibitor participation.	Scoring system simplified and award levels re-defined		•				•
Simplify the GMEGG compliance survey and provide greater guidance to exhibitors	GMEGG tasks reduced by 50%; process guidance and GMEGG user guide produced		•		•		
Provide enhanced training for on-site GEA audit staff to ensure a smoother and more efficient audit.	Completed through advance trainings		•				•
Operate within the Convention Center's existing waste plan to increase the legacy of improved waste management practices, utilizing established waste practices and existing equipment	Utilized existing waste infrastructure	•					
Communicate Convention Center building initiatives to attendees	On-Site communication of Moscone's recent LEED Certification and related initiatives through sponsorship		•				•
Engage all small vendors not previously engaged in major vendor sustainability planning processes	Engaged two additional vendors: Cadmium CD and Breakpoint Books		•				
Provide more active engagement initiatives for attendees.	Communication focused on '10 things you can do to Green your Greenbuild'		•				
Involve volunteers and the Host Committee in sustainability through the Greening Sub-Committee, while also engaging the local host community in broader sustainability initiatives in conjunction with Greenbuild	Greening Committee of the Northern California Chapter's Host Committee successfully implemented multiple programs		•				
Engage attendees prior to the conference in sustainability through pre-show communication, via the website and targeted emails	Enhanced website presence and blasts		•				
Work with the General Service Contractor to strengthen partnership on sustainability initiatives	Undertook a sustainability review and multiple meetings. Improved tracking of materials and quantity of show decoration materials used.		•	•	•		
Introduce technology to begin the transition to fewer on-site printed conference materials	Developed the Greenbuild mobile app, note taking application and Wayfinder all introduced		•				



## SUSTAINABILITY CONNECTED

The following section examines each Greenbuild 2012 objective and features case studies that have been created to provide a more comprehensive look at some of our key sustainability initiatives. It is our hope that these key focus area overviews and detailed case studies will provide a picture of what sustainability means at Greenbuild. Additionally, it is our intention to provide other event organizers with ideas for performance improvement and insight into the sustainability planning and implementation process.

Objective reviews and case studies include:

### 1 Move Toward a Zero Waste Event

- Waste Planning 101

### 2 Increase Stakeholder Education & Engagement

- GMEGG: Greening the Expo Hall Through Greening Your Exhibitors
- Hotel Engagement

### 3 Improve Sustainable Sourcing

- Greening Your Name Badges
- Putting Your Logo on Items That Represent Your Values

### 4 Improve Performance Tracking / Reduce GHG Emissions

- The Carbon Footprint of an Event

### 5 Positively Impact Communities

- Donation Programs That Support Local Communities
- Leaving Behind A Legacy



# 1

## Move Toward a Zero Waste Event

Waste from large events is not only plentiful, but also highly visual. Attendees are eating meals on the go, thousands of exhibits are being assembled and broken down, and guides and collateral are disseminated throughout the convention center. Each year, we work with all event stakeholders to reduce the amount of materials produced for Greenbuild, reuse more often, minimize material sent to landfill, and engage and educate Greenbuild stakeholders about waste generation and responsible waste management.

### Goals & Achievements

#### 2012 Goals

85% diversion from landfill (or incineration)

< 6 lbs total waste per attendee

< 1 lb landfill waste per attendee

#### 2012 Achievements

85.87%  
(85.58% Moscone, 90.09% Bill Graham Auditorium)

7.1 lbs

1.0 lb

### Best Practices

► **Source reduction:** Material reduction and reuse strategies have been built into all Greenbuild planning processes. Greenbuild policy is to avoid creating new materials for Greenbuild whenever possible, order minimal amounts of material when necessary, and consider end-of-life disposal during sourcing discussions. Some examples:

- Eliminated plastic name badge holders
- Saved the Greenbuild aisle carpet for an extra 4th year of use

- Replaced CD-ROMs previously used to distribute session recording access codes with business card-sized cards made from rPET
- Special set stage created from salvaged greenhouse to reduce stage construction materials
- Rented all reusable furniture and decor items for celebration event at City Hall and Bill Graham Auditorium
- Eliminated one-page printed programs for the Green Jobs, Residential, and Legal Summits
- Decreased the size of the registration mailer by 43%
- 60% reduction in the printing of the Greenbuild map, saving 20,000 pieces of paper
- Began transition process away from printed programs with the introduction and testing of the on-site Greenbuild Mobile App

► **Waste Planning:**

- Formed Greenbuild 2012 Waste Team with dedicated contacts from all key stakeholder groups
- Drafted an official waste management plan
- Ensured consistent 3-stream waste stations and signage available in all areas of the convention center

► **Waste Management:**

- Back-of-house manual waste sorting implemented at Moscone for the first time

## The Coffee Cup Conundrum



Coffee cup lids were by far the single most challenging item in our waste diversion efforts. While disposable coffee cups are often made of recyclable or compostable material, lids are most commonly polystyrene (#6), the same material from which Styrofoam is made. This is the common material used at coffee shops, fast food restaurants, street carts and hotels. At the Moscone Center, all service ware was compostable, including coffee cup lids. However, most attendees picked up their coffee prior to arriving at the Moscone Center. Therefore some lids were compostable, while others were not.

Further complicating the issue is the perception about recyclability. Whether or not a plastic can be recycled in theory is different from the practicality of recycling within the infrastructure of the host city. In San Francisco, coffee cup lids do not get recycled, unless specific hand-sorting and separate collection processes are set up. These are costly and time consuming and not standard practice. Even though the lids enter the recycling bins, they end up in the landfill. Moreover, if too many lids and other non-compostable substances enter the compostable waste bin, they can contaminate the bin and the stream, resulting in the entire bin's contents being sent to landfill.

We encountered challenges as to how to best deal with coffee cup lids at Greenbuild, especially since our attendees themselves are knowledgeable and passionate about recycling, and understand that in theory #6 plastic can be recycled. Our decision however was to direct all coffee cup lids to landfill. Our rationale was that if the compostable lids served at the Moscone Center went to landfill, they would still biodegrade. And if the polystyrene lids were ending up in landfill anyway, then it was better to avoid the risk of them contaminating the other waste streams.

- Ensured all disposable food service ware was 100% ASTM D6400 compostable and marked to indicate compostability
- 320 student volunteers monitored waste stations to assist and educate attendees
- Official donation program in partnership with local non-profits for exhibitor and registration materials
- Encouraged all A/V vendors to track and recycle all electronic waste responsibly

### Challenges & Opportunities

- ▶ Various groups that handle waste from generation to final disposal do not consider waste diversion a primary concern, increasing the need for training
- ▶ Tight turnaround times for clearing spaces (especially the expo hall post-event)
- ▶ Tracking waste weight by material type

### Featured Case Studies

- ▶ Waste Planning 101

At approximately 3 grams each, coffee cups weigh relatively little. However they are so common that the lids have the potential to contaminate a large portion of the waste stream in their routine disposal. Furthermore if every Greenbuild attendee were to bring a cup of coffee from outside into Greenbuild every day for three days, then that would equate to nearly a quarter of a ton in total weight of the lids. No small problem! And as the production of polystyrene generates harmful GHG emissions and polystyrene itself has been cited as an environmental pollutant (formally cited by the city of San Francisco as a known hazardous substance and suspected carcinogen within its city ordinance banning use of polystyrene foam in restaurants, retail food vendors, city departments, and city's contractors), the aggregate effect of small coffee cup lids is immense.

We were grateful to the Moscone Center and Kimpton hotels for providing compostable coffee cup lids in their service ware offering during Greenbuild. We hope that more of our partners, as well as major coffee chains, will support efforts to increase diversion and avoid contaminating the diverted waste streams in the future.

# Waste Planning 101



Each year, a robust waste reduction and diversion plan is created for Greenbuild. While the parties involved and challenges differ from year to year, the waste management planning process remains relatively consistent, working through the steps of gathering key stakeholders; identifying and evaluating waste inputs; evaluating collection infrastructure and operations; understanding waste processing; and reporting.

## GATHERING KEY STAKEHOLDERS

Waste-specific stakeholders are those that directly affect or are directly affected by event-generated waste. For Greenbuild 2012, those waste stakeholders were identified as the following, and key personnel from each group actively participated in a weekly planning call leading up to the event and a daily on-site meeting:

- ▶ USGBC Staff
- ▶ Student Volunteers
- ▶ Host Committee Volunteers
- ▶ Attendees
- ▶ Exhibitors
- ▶ Moscone Center
- ▶ Recology (waste hauler and processing facility)
- ▶ Freeman
- ▶ LEGACY Sustainability Management (sustainability consultant)
- ▶ Habitat for Humanity (donation recipient group)
- ▶ RAFT (donation recipient group)
- ▶ Additional Greenbuild Vendors

An official waste plan was created detailing the roles and responsibilities of each party to ensure alignment and accountability. Much of the responsibility for each party often centers on training and communication. A well thought out waste plan among 10 people is moot if not communicated properly to those on the ground who will be implementing the plan.

## IDENTIFYING AND EVALUATING WASTE INPUTS

People often think about waste as leftover materials at the end of the event that need to be dealt with in the most responsible way possible. However, how materials should be disposed of should be evaluated during procurement stages. Event organizers must ask themselves about the recyclability of the materials they and their event partners are bringing on site. For Greenbuild 2012, we took steps to reduce waste and that key materials were recyclable or compostable:

**Moscone Disposable Food Service Ware:** A list and accompanying photos of all items served within the Moscone Center by SAVOR Catering was created, documenting the item, material specifications (i.e., what it's made of), third-party certifications (e.g., ASTM D6400

compostability standard), on-product markings, and intended disposal stream. 100% of Moscone service ware is compostable.

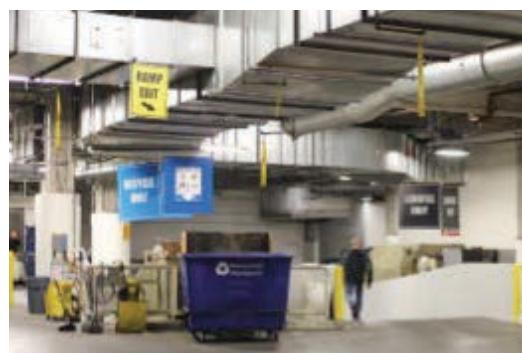
**Graphics & Exhibition Materials:** A complete inventory of every material Freeman uses on site for Greenbuild was created, documenting the items, material specifications, third-party certifications, theoretical disposal stream and practical disposal stream (given Moscone's and San Francisco's infrastructure). 100% of Greenbuild graphics were diverted from landfill through recycling or donation.

**Exhibitors:** GMEGG (Greenbuild Mandatory Exhibitor Green Guidelines) requires all exhibitors to fill out compliance with best practices related to flooring, graphics ("new graphics and signage will be composed of 25% recycled material and/or 75% recyclable material."), collateral, and shipping materials (i.e. "polystyrene (Styrofoam) will be eliminated from booth operations."). Exhibitors are asked to train their staff in green booth operations, and to provide information on materials used to help USGBC better plan for future shows.

## EVALUATING COLLECTION INFRASTRUCTURE & OPERATIONS

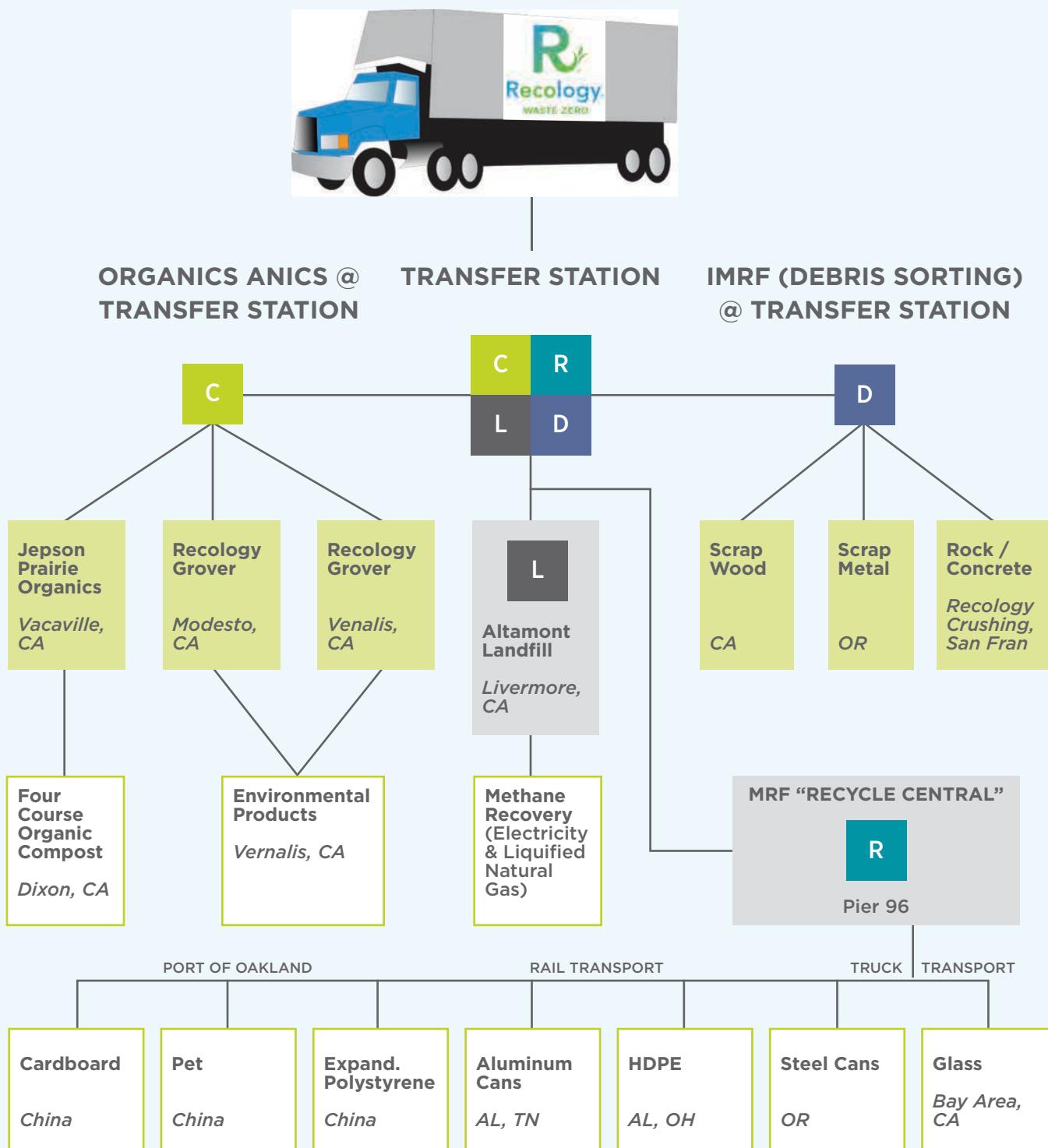
After ensuring the materials used are reusable, recyclable or compostable, it is critical that the infrastructure is in place to properly segregate and collect materials for proper diversion and processing. All front-of-house bins (i.e. bins attendees may interact with) and back-of-house bins and compactors (i.e. bins and containers staff would only interact with) were evaluated so that each and every bin was consistent and labeled to reduce confusion.

During Greenbuild, over 320 student volunteers monitored recycling stations to educate and assist attendees. To ensure optimized waste separation, Moscone operations staff manually sorted through green (composting), blue (recycling) and white (landfill) bags to remove contaminants.



## UNDERSTANDING WASTE PROCESSING

The final step in planning for waste diversion is understanding exactly where the waste is going and how it's processed once it's picked up from the venue. For each waste hauler, USGBC mapped out the downstream waste flow to better understand where waste goes. The following is an example of how waste was traced for the hauler, Recology, who processed all comingled recycling, compostables, debris waste and landfill materials.



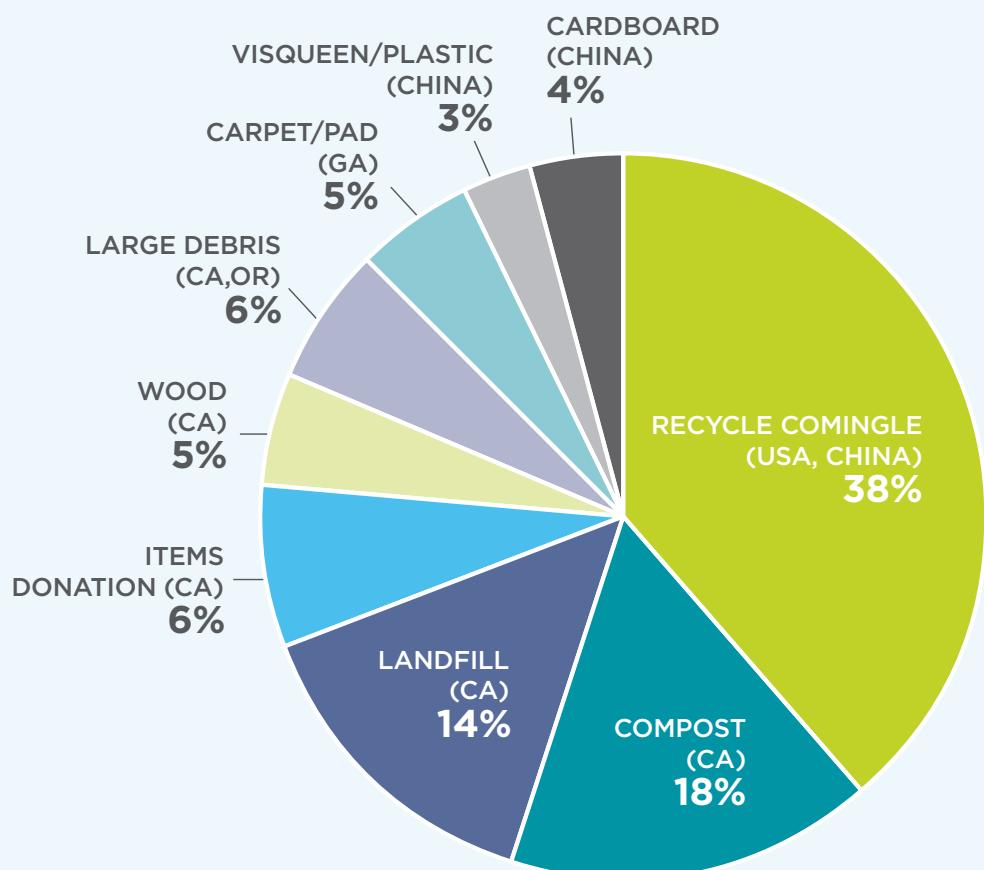
Looking closer at the downstream life of waste re-enforces the appropriate order of the 'reduce, reuse, recycle' mantra and helps us understand that perhaps all diversion is not created equal. For Greenbuild 2012, approximately 74% of materials were recycled and composted domestically with the remaining diverted materials, primarily PET plastic and cardboard, being shipped to China for further processing.

In addition to these haulers, much time and energy was put into developing an exhibitor donation program in partnership with Habitat for Humanity and SCRAP.

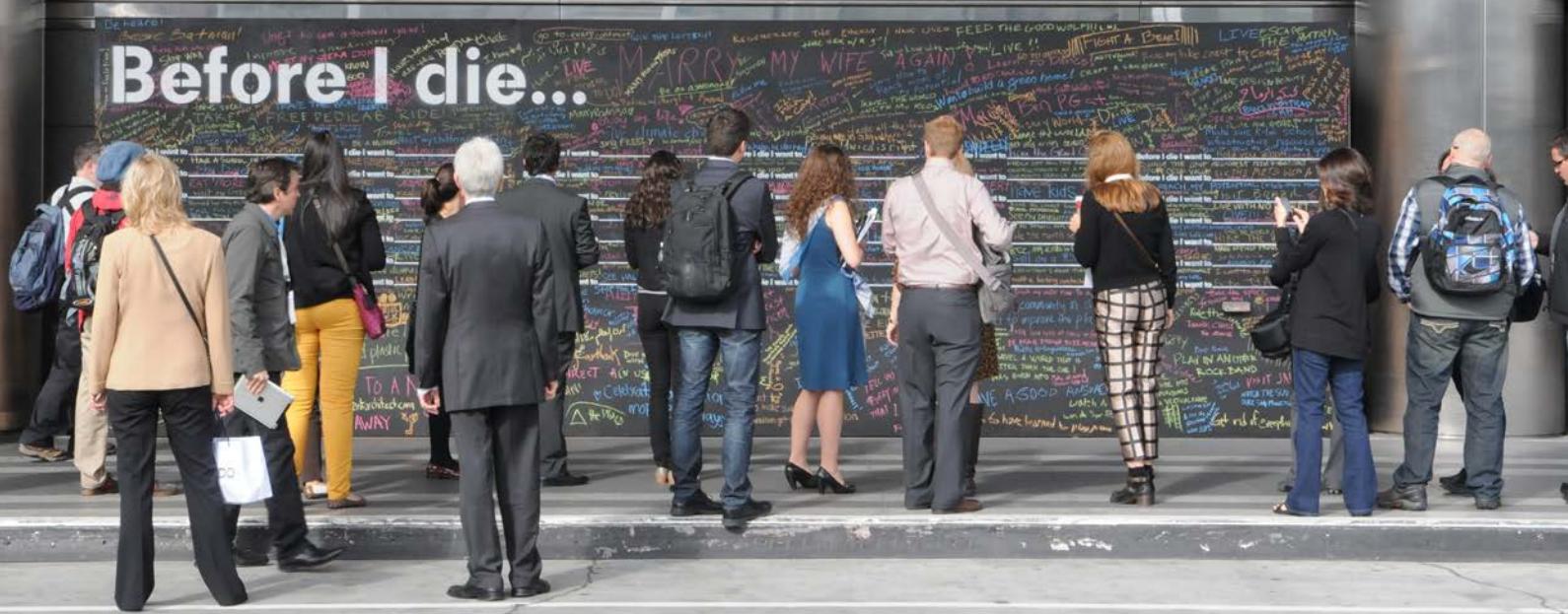
## REPORTING

Reporting results is the final step. Greenbuild achieved an 86% waste diversion rate.

Greenbuild Waste Breakdown by Waste Stream



*\*Final destination of each waste stream is shown in parenthesis*



## 2

## Increase Stakeholder Engagement and Education

Each year, USGBC staff, the destination city, vendors, hundreds of exhibitors and tens of thousands of attendees come together sharing in the goal of making Greenbuild a success and advancing the built environment. This creates a unique experience for planning and implementing a 'green event.' The USGBC works to break patterns and the status quo in the meeting and event industry and instead use Greenbuild as a platform for bringing the very principles it stands for to life.

### Goals & Achievements

#### 2012 Goals

100% GMEGG participation

Increase number of exhibitors competing in the Green Exhibitor Award

Provide more active engagement initiatives for attendees

Involve volunteers and the Host Committee in sustainability through the Greening Sub-Committee

#### 2012 Achievements

93% participation

2012: 15% (154 exhibitors)

2011: 27% (254 exhibitors)

Communication focused on '10 things you can do to Green your Greenbuild'

Carbon offset package in registration

Encouraged shoe check, walking, pedicabs public transit passes

The Greening Sub-Committee of the Host Committee engaged over 40 local businesses in a local sustainability program and provided multiple sustainability resources for attendees

Goals & Achievements (continued)	
2012 Goals	2012 Achievements
Engage attendees before and during Greenbuild via the website and targeted emails	Added three new pages to the website with updated sustainability information Final pre-show attendee email and direct mobile app links highlighted actions attendees could take to Green their Experience
Improve the distribution and accessibility of the Greenbuild Sustainability report	New case studies added to showcase specific practices and challenges

## Best Practices

- ▶ **Vendors:** All vendors fill out Vendor Sustainability Plan (VSP) documents pre-event, attend an official vendor sustainability training webinar, and work with their staff to conduct any internal training necessary to get everyone ready to execute on site.
  - Smaller vendors were included in the full sustainability planning process. In 2012, the vendor sustainability planning process asked all vendors to detail their sustainability initiatives for each sustainability objectives. To increase engagement and effectiveness, training is emphasized: vendors are asked to train their staff on their sustainability initiatives, waste management, Greenbuild programs, or general sustainability principles.
  - This year, vendors were incorporated into the strategic planning meetings for Greenbuild, ensuring they were more involved in the general planning process throughout the year. This allowed vendors to witness the integration of sustainability into the process from day one, and allowed conversations to start early on
  - Greenbuild's on-site staffing vendor holds a Green Award Incentive Program to encourage sustainable actions by Greenbuild show staff at Greenbuild and beyond
- ▶ **Exhibitors:** The Greenbuild Mandatory Exhibitor Green Guidelines (GMEGG) require exhibitors to present information on the impact of their booth and operations, including on materials, flooring, air quality, signage and collateral, shipping, packing and water use. Exhibitors are encouraged to raise the bar by applying for the annual Green Exhibitor Award. To better engage exhibitors in sustainability, the reporting requirements for the Greenbuild Mandatory Exhibition Green Guidelines were simplified and clarified.
  - 821 exhibitors participated in GMEGG (93% of all booths)
  - 15% (154) participation in the Green Exhibitor Award
  - 10% of participating booths were audited for GMEGG compliance
- ▶ **Attendees:** Greenbuild attendees are attending education sessions and connecting with cutting-edge businesses on the expo floor. Additionally, interactive experiences are available including Sustain-a-dine (farm-to-table dining experience), Ride n' Drive (opportunity to test drive the most progressive alternative fuel and electric vehicles on the market), the Greenbuild Sustainability Wall, and annual film festival documentary selections.

- Attendees were able to offset carbon emissions related to their Greenbuild trip through Greenbuild registration. Over 400 attendees took advantage of this option. The specific carbon offset projects receiving the offset donations were advertised to increase transparency and participation
- Recycling volunteers stationed throughout the Convention Center highlighted the importance of waste diversion while providing a platform for engagement and education.
- Greenbuild's sustainability is a critical part of its identity: USGBC hopes to showcase sustainable practices at Greenbuild, setting an example of sustainable operations, for both the conference and building industries. To raise awareness leading up to Greenbuild, attendees are informed of sustainable practices through the Travel and Greening sections on the Greenbuild website and pre-show newsletters. While on-site, sustainable actions were encouraged through the Education and Expo Guides, the Sustainability display and the Greenbuild Mobile App. This year, to encourage attendee involvement and positive personal actions, USGBC highlighted '10 things you can do to Green Your Greenbuild.
- To showcase the recent LEED for Existing Buildings Certification by the Moscone Center's North and South Buildings, USGBC partnered with Jones Lang LaSalle to showcase the Center's sustainability features. Jones Lang LaSalle organized an interactive tour throughout Moscone. Attendees could scan large QR Codes to view a short video or photo montage of green improvements made during the renovation of the Center. Attendees visiting all five stations were entered into a prize drawing.
- The Moscone renovation and LEED Certification were also highlighted at an education session featuring speakers from the City of San Francisco, SF Travel and Jones Lang LaSalle: JO2: *Moscone Renewal: A Sustainable Public-Private Partnership.*



- ▶ **Students:** Each year hundreds of students participate in the Greenbuild volunteer program, offering them full access to Greenbuild for eight hours of volunteering. In 2012, the USGBC provided scholarships through the Center for Green Schools Scholarship Program.
  - For the third year, USGBC and Freeman worked with YouthBuild to bring young men and women to learn and volunteer at Greenbuild. YouthBuild is a national non-profit that helps young people pursue their high school diploma or GED while gaining skills in the building and construction industries.
  - The Center for Green Schools hosted a cross-country bus tour promoting safe sustainable schools through six service projects at K-12 schools across the country. See page 24 for more information.
- ▶ **Hotels:** Each of the 30 Greenbuild hotel properties contractually agree to specific greening practices. Leading up to the event the USGBC works to track hotel progress, compare property performance and communicate results in a way that is helpful for all parties. During the event, an on-site walk-through is conducted and feedback is requested on the overall process as well as the hotels' views on key sustainable practices.
- ▶ **Venue:** USGBC works closely with main venues to gather information on waste practices, materials usage, energy and water consumption, cleaning policies, and food and beverage sourcing.
  - USGBC and Moscone Staff met early in the planning process to discuss goals, expectations, key program leads, and the overall partnership
  - The Moscone Center North and South Buildings achieved LEED Gold Certification for Existing Buildings in the fall of 2012, leading up to Greenbuild. Moscone is the first convention center on the West Coast to earn LEED Gold Certification for an existing building, and became San Francisco's largest municipally owned green building.

### Local Community

- ▶ The USGBC Northern California Chapter Greenbuild 2012 Host Committee started a Greening Committee to catalyze positive, sustainable changes in the San Francisco Bay Area in the lead-up to Greenbuild. This volunteer community focused on green business operations, sustainable food options, local transportation options, and educating attendees on sustainable options while at Greenbuild.
- ▶ Greenbuild engages temporary staff workers in sustainability at Greenbuild through sustainability trainings at each staff training orientation meeting. ProShow offers a green award for those staffers taking sustainable actions.

### Challenges & Opportunities

- ▶ Moving beyond the status quo of meetings and events operation is time consuming and demands creative problem solving
- ▶ Attendees can be overwhelmed with messages throughout the show making it hard to break through with sustainability messages

- ▶ Often the parties organizing the exhibitor booths are different from those who operate the booths during the event
- ▶ The number of parties setting up and breaking down the expo hall is numerous, making it hard to communicate to everyone
- ▶ There is low stakeholder awareness of the voluntary carbon offset program and USGBC's 100% carbon offset. USGBC can encourage greater attendee participation through earlier and more prominent advertisement of the program and specific carbon offset projects and partnerships

#### Featured Case Studies:

- ▶ GMEGG: Greening the Expo Hall through Greening Your Exhibitors
- ▶ Hotel Engagement

## Get on the Bus!

Beginning in Ithaca, NY, on November 5th, the Center for Green Schools and seven Cornell University Sustainable Design (CUSD) students began a nine-day bus tour to Greenbuild in San Francisco, CA.

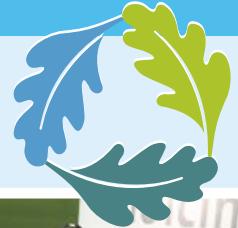
Along the way, they stopped to complete six service projects at K-12 schools to promote safe, sustainable schools while creating positive change. Each project was planned by a USGBC Students group at a local higher education campus and engaged members of the local community, as well as the K-12 students. Each event had a theme that coincides with one of the six LEED credit categories such as “innovation in design” or “water efficiency.”

At each stop, an additional 3-4 of the USGBC Students members were picked up, culminating in 19 students arriving at Greenbuild. Along the way, a student filmmaker from CUSD captured each event and created a short documentary about the trip and the importance of healthy, high performing schools. This trip was powered by students, from planning each individual event to local and national media outreach, giving them the resources and experience to be sustainable leaders!

The 3,227 miles traveled by the bus will be offset by USGBC (not through the official Greenbuild offset). For more information please visit <http://mygreenapple.org/getonthebus>.



# GMEGG - Greening The Expo Hall Through Greening Your Exhibitors



## In 2012, 93% of the 906 Greenbuild exhibitors participated in GMEGG.

In 2010, the USGBC introduced the Greenbuild Mandatory Exhibitor Green Guidelines (GMEGG), an exhibitor requirements document that remains a leader in exhibitor engagement and education in the industry. As the sustainability of Greenbuild advanced, the next challenge was to engage the hundreds of companies that exhibit at Greenbuild, who each year bring tons of materials from across the country to the exhibit floor and operate independently of standard conference greening policies.

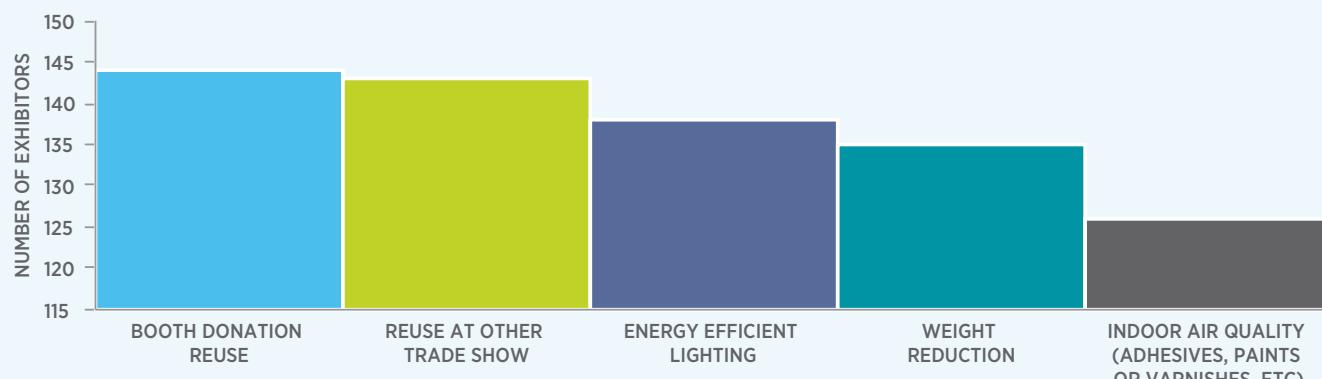
USGBC created GMEGG to address exhibit hall sustainability and achieve the following:

- ▶ To establish a baseline level of sustainable performance in the Expo

- ▶ To decrease the Expo floor's environmental impact, by reducing the footprint of exhibit booths
- ▶ To learn about exhibition practices on the Greenbuild floor
- ▶ To improve GMEGG and exhibit hall performance and process

The complete text of GMEGG can be found in Appendix C. Each year, we seek to improve the GMEGG guidelines, our pre-event exhibitor communications and on-site audit processes. GMEGG participation is defined as successfully completing the GMEGG Compliance Forms in the Exhibitor Resource Center. Exhibitors are asked to complete two forms each, with 9 questions on booth features and 15 questions on booth operations.

## Five Most Commonly Awarded Points



From 2011 to 2012, the GMEGG requirements were significantly changed:

- ▶ A Materials Usage Report is no longer required
- ▶ New sections: Booth Lighting, Electronic Display, and 'Display' materials (within booth graphics and signage)
- ▶ Three mandatory prerequisite requirements were added:
  - All medium screw-based general service bulbs must replace incandescent bulbs with energy efficient lighting.
  - All printed collateral, if used, will be on 100% recyclable paper. Paper must be recyclable in a standard municipal recycling stream.
  - Exhibitors who ship booth materials using a third-party logistics partner will choose a logistics partner that participates in the U.S. EPA's SmartWay Partnership Program or an equivalent program.

EGG Audits were held to ensure GMEGG compliance, learn more about sustainable exhibition practices, and receive exhibitor feedback on GMEGG, the exhibit hall and Greenbuild. In total, USGBC staff from the Certification and LEED departments conducted 81 audits.

Of those 906, an additional 154 companies participated in the Green Exhibitor Award.

Having received points at the top tier, CH2M HILL, Green Insulation Group and OSRAM SYLVANIA were recognized at the Champion level. Competing exhibitors are rated in five categories: booth construction, shipping materials, transportation, print/collateral and community partnerships. Exhibitors can be recognized at three different levels: Champion, Leader and Achiever. Booths self-reporting at the Champion level have their scores verified by USGBC staff auditors.

All exhibitors are also encouraged to participate in the Greenbuild Exhibitor Donation Program, allowing them to donate materials to community non-profits instead of bearing the costly expense of return shipping.

## Audit Results

**67%** (54 exhibitors) passed

**15%** (12 exhibitors) failed

**21%** (17 exhibitors) were no-shows

**11 of the 12** failures were scored as non-compliant, but completed at least 10 of 13 required practices

**1** failure achieved partial compliance, completing 7 to 9 of 13 required practices

**17** No-shows: these booths will automatically be audited in 2013

# HOTEL ENGAGEMENT



Five of our hotel partners at Greenbuild this year have achieved LEED certification: the Hotel Carlton, InterContinental San Francisco, Orchard Hotel, Orchard Garden Hotel, and W San Francisco.

Hotels are key partners at Greenbuild. In addition to being a large opportunity for green building, accommodation from large events generates large impacts. Attendee accommodation is typically the second largest source of GHG emissions from an event, after transportation to the destination.

As a lodging partner and meeting venue, there are literally hundreds of potential sustainable practices and specifications that hotels can implement. Hotels can and have made immense strides in sustainable building and operations.

## PROPERTY CONTRACTS & SURVEYS

We continued to include robust environmental responsibility clauses in each of our hotel contracts (as we have done since Greenbuild's inception). These clauses included our priority actions in key areas of energy and water efficiency, materials and sourcing, waste management, housekeeping practices, and performance data reporting. If a hotel was not able to implement certain practices, they were required to provide us with written communication as to the barriers to implementing them.

We used the USGBC's Green Venue Selection Guide with an accommodation supplement to survey each hotel on approximately 150 different aspects of a hotel's sustainability policies, programs, specifications, and performance well beyond the contract language. This type of survey provides hotels with a guide of different best practices they can implement.

For hotels that did not comply with our key practices, we requested they implement them and received generally positive results, such as the case of the Parc 55 Hotel which started placing waste recycling bins in the lobbies for Greenbuild.

## ON-SITE WALK-THROUGHS

We visited each hotel, requesting an on-site walk-through with sales and/or engineering department staff to verify the surveyed items. As part of our adherence to BS8901 and preparations for ISO 20121, we also took the opportunity to ask the hotels for their views on the engagement process and how it could be improved, as well as for their own views on the most important green practices a hotel should be implementing.

## VALUABLE FEEDBACK

Through this and previous Greenbuild events, we learned that hotels wanted the opportunity to receive feedback on their practices and gain more value from the efforts taken to fill out surveys. We also saw how competition and knowledge of competitor best practices can nudge hotels to increase their own programs.

This year we tabulated all the results of the surveys, and provided a scorecard back to each hotel. The scorecard provided a breakdown of their compliance with each practice, and gave a percentage of the other hotels contracted at Greenbuild that had implemented the same practice, as well as an average figure for the quantitative performance such as waste diversion rates and Energy Star ratings. We also provided a listing of innovative and best practices found throughout the hotel room block.

Each individual hotel's survey was kept confidential to the others, as only averages were provided. This helped maintain the confidentiality of our relationship while allowing hotels to see where they stand on overall green hotel programs, and stimulate them to continue progress.





3

## Improve Sustainable Sourcing

From printed guides and banners to carpet, food and beverage, and merchandise, each material that makes up Greenbuild is carefully sourced and thoughtfully designed to be reused or recycled.

### GOALS & ACHIEVEMENTS

#### 2012 GOALS

#### 2012 ACHIEVEMENTS

##### FOOD

50% local food served	58.3%
70% regional food served	74.3%
50% organic food	62%
100% local wine served	97% local wine served at Moscone Center
China or 100% compostable food and beverage service ware used	All Moscone and official Greenbuild events complied

##### PRINTING

Use only 100% post-consumer recycled content paper.	100% of paper complied
Reduce the amount of paper used for creation of marketing pieces (page count and flat size)	2012 pre-conference mailer was 43% smaller than 2011. Decreased the quantity of Greenbuild maps by 67%

GOALS & ACHIEVEMENTS	
2012 GOALS	2012 ACHIEVEMENTS
<b>MERCHANDISE</b>	
70% of products made in USA	Not Achieved
80% of products to use organic cotton (by product weight) or 100% post-consumer recycled content	Not achieved
Communicate sustainability attributes of all Greenbuild merchandise to attendees	Not achieved
<b>SPECIAL SETS</b>	
Reuse 3 special set stages	3 stages reused. New 4th stage constructed from reclaimed materials
<b>REGISTRATION</b>	
Eliminate use of PVC plastic name badge holders	Credentials printed directly on plastic (polypropylene) badges, which hung directly from lanyards
<b>CONFERENCE PROCEEDINGS</b>	
Replace conference proceedings CD-ROM with more sustainable material	Conference proceeding CD-ROMs replaced with small, recycled PET plastic cards, avoiding production of 2,000 CDs.

### Best Practices

- ▶ Utilize LEED-certified hotels and venues whenever possible
- ▶ All Greenbuild pre-event marketing collateral and on-site guides are printed on 100% post-consumer content paper using vegetable-based inks
- ▶ All Greenbuild-related small signage is printed on eco-board, a 100% recyclable substrate made with up to 20% recycled content
- ▶ USGBC prioritizes reuse of signage, structural elements, and displays throughout the design process:
  - Standard signage and structural elements (registration counters, most booths and kiosks, some banners) are not branded so they can be reused
  - Themed graphics are placed on year- or site- specific signage (education session information, directionals, and conference information displays)
  - When ordering signage, staff are required to designate 'reuse' or 'recycle' for each sign
- ▶ Paperless registration process
- ▶ Consolidated deliveries, minimizing packaging, and elimination of polystyrene
- ▶ Collaboration with catering partners to maximize the percentage of local and organic produce and products served

- ▶ Development of materials evaluation criteria (feedstock, reuse, recyclability, and human health) for the first time
- ▶ Improved tracking for sponsorship fulfillment items. All sustainability features were tracked for all fulfillment items ordered, including source and manufacturing location information, content, and disposal stream
- ▶ Lanyards: Made in USA from 100% recycled PET with recyclable plastic clamp and metal hook
- ▶ Bags: Made in Haiti from 100% organic cotton
- ▶ Meal Debit Cards: made from 100% Teslin Biodegradable substrate. Labeled cards with disposal information
- ▶ Water Cups: 100% compostable cups, made in the USA from resin derived from vegetable based materials.
- ▶ Merchandise:
  - Most adult t-shirts made from Greenbuild conference bags assembled in Port-au-Prince, Haiti, in Phenix2's factory, which was personally visited by USGBC staff. On average, every employee at this factory provides for eight Haitian family members through their employment.
  - The merchandise store is re-stocked with unsold items from previous years
  - The USGBC merchandise store sold Re-Hy bottles which are reused water and specialty product bottles, as well as KleenKanteen stainless steel water bottles. Greenbuild mugs were made from 100% post-industrial recycled content in New Jersey.

### **Challenges & Opportunities**

- ▶ Considerable effort is required to find reputable suppliers providing more sustainable alternative services and products (e.g., printing services and tote bags).
- ▶ Greenwashing and false product claims make it difficult to distinguish the true value of products and services.
- ▶ More sustainable products can cost more (but can also add more value).
- ▶ Vendor partners must buy in to the event's goals in order to find creative alternatives to default products. In order to implement large changes in material ordering, collaboration must start from a very early stage to enable vendors and planners to find sustainable alternatives and ensure the new material will serve the needs of the show.

### **Featured Case Studies:**

- ▶ Greening Your Name Badge
- ▶ Putting Your Logo on Merchandise That Represents Your Values

# GREENING YOUR NAME BADGE



The name badge is a staple item at all large events. Badges are critical for networking and regulating attendee access, and have also become a very visual indicator of sustainability. Collection bins are provided for badge returns, everyone is reminded in the program and on-site Greening Wall to return their name badges and yet, despite great efforts, typically only a fraction of distributed badges make their way back to the event organizer.

For smaller meetings that have closer control over attendee behavior, it is best to use an all paper badge that can be recycled post-event. If a plastic badge is required for stability it is best to work hard to collect badges and reuse them again and again. However, for large meetings, meaningful, large-scale collection remains a serious challenge leading event organizers to re-evaluate name badges and look to minimize material use all together. The reality is that given our current recycling and composting facility capabilities, almost all plastic name badges risk the fate of landfill or incineration.

Focusing on reduction of materials used and maximizing the use of post-consumer content for lanyards and name badges, the following badge was developed in collaboration with our registration partner, Active Events.

- ▶ Elimination of 30,000 PVC (plastic #3) name badge holder
- ▶ Replacement of paper name badge with tear-resistant mixed plastic (#7 plastic)
- ▶ Continued use of rPET lanyard (made from recycled PET (#1 plastic) water bottles)
- ▶ Lanyard clips directly into name badge holder, eliminating plastic use
- ▶ Greenbuild served as a test case for using this new material and process, helping Active Events to develop a new alternative offering for all of its clients

USGBC is actively seeking alternative badge materials for use at Greenbuild 2013, prioritizing materials that are made from a renewable resource, durable and functional.



# PUTTING YOUR LOGO ON MERCHANDISE THAT REPRESENTS YOUR VALUES



Each item produced for Greenbuild is vetted for its impact on the environment, from t-shirts to hard-hats. Sustainable sourcing has been a part of the Greenbuild purchasing process since Greenbuild's inception. As Greenbuild has grown, so have Greenbuild merchandise and giveaway inventories. With this comes a large challenge, as more merchandise leads to an inherently greater environmental impact. However, merchandise and promotional items present an opportunity for USGBC to impact the industry through purchasing power and working with vendors to find cost-neutral, sustainable alternatives to traditional items.

To reduce our impact, USGBC merchandise products all have a different sustainability story. During the design phase, products chosen for the store are simple, useful products, which are priced to sell on-site. USGBC works with vendors from the beginning to find sustainable options for all product categories. Vendors are asked for detailed product information for all items and are asked to prioritize sustainability in their proposals, ordering, packaging and shipping.

The following factors are considered when sourcing Greenbuild promotional materials:

- ▶ Material: preference for natural, rapidly renewable materials free of harmful chemicals
- ▶ Material source location
- ▶ Manufacturing location
- ▶ Location of Finishing/Printing
- ▶ Organic content
- ▶ Post-consumer recycled content
- ▶ Recyclability or compostability and proper disposal stream
- ▶ Shipping procedures: consolidated deliveries, packaging of items, polystyrene use, use of EPA's Smartway Program Partner for shipments

Incorporating this information into the decision-making process helps USGBC staff to consider the full impact of production.

The following are some examples of Greenbuild's merchandise and promotional item selections:

- ▶ Conference lanyards: 100% post-consumer recycled PET 100% post-consumer recycled PET plastic (i.e. recovered water bottles and other PET products)
- ▶ Adult T-shirts and Conference Bags: Sewn and crafted in Port-au-Prince, Haiti, in Phenix2's factory, which was personally visited by USGBC staff.
- ▶ Project Haiti bowtie: 100 % of proceeds went to Project Haiti
- ▶ Project Haiti coaster sets: Handwoven by Haitian artisans
- ▶ Greenbuild mugs: made from 100% post-industrial recycled content in New Jersey
- ▶ Re-Hy water bottles: made from reused glass water and specialty product bottles.
- ▶ Greenbuild Program Book and Expo Guide: printed on 100% post-consumer recycled content paper



## PROJECT HAITI

Through Project Haiti, USGBC is building the first LEED-certified orphanage and children's center in Haiti. The Haiti Orphanage and Children's Center will replace a previously successful orphanage in Port au Prince that was destroyed in the earthquake. Following construction of the orphanage and children's center, the Foundation Enfant Jesus — a nongovernment, nondenominational, apolitical charitable organization that operated the original orphanage on the building site — will operate the center.

At Greenbuild 2010, a 35-person all-star design team gathered to conceptualize the design of the orphanage. In the summer of 2011, the international architectural firm of HOK stepped in to offer its services pro-bono to turn conceptual designs into architectural blueprints.

With the land secured and the charitable organization designated, USGBC and project partner Lend Lease Corp. are now engaged in a full-fledged capital campaign to support

the construction of the Haiti Orphanage and Children's Center. The center's mission is to provide for the immediate health and emotional needs of orphaned children and provide a pathway to adoption.

### Project Haiti @ Greenbuild

Project Haiti was featured throughout Greenbuild to provide timely updates to USGBC members and stakeholders supporting the project. Greenbuild is an opportunity to broaden support for Project Haiti and general recovery in Haiti, through attendee engagement and using the power of Greenbuild for good.

To support development in Haiti, USGBC works with Phenix2, one of the largest Haitian apparel companies, to source promotional items. 10,000 Greenbuild conference bags and hundreds of adult t-shirts were sewn and crafted in Port-au-Prince, Haiti, in Phenix2's factory, which was personally visited by USGBC staff. On average, every employee at this factory provides for eight Haitian family members through their employment.

The Project Haiti Booth, located in one of the main entrances to Greenbuild, provided attendees with informational updates on the project. A Project Haiti video was also highlighted as part of the opening plenary, seen by over 6,000 attendees. To continue to raise awareness, the Merchandise store featured the Project Haiti bowtie. The bowties originated with the USGBC Cincinnati Chapter and Dhani Jones' Bowtie Cause, and 100 % of the proceeds went toward Project Haiti. The Merchandise Store also sold Project Haiti coaster sets, made by Haitian Artisans. Finally, customers at the merchandise store were given the option to add on a \$1.00 - \$5.00 contribution to Project Haiti to their purchase. 377 attendees chose to donate to Project Haiti through this process.





## 4

# Improve Performance Tracking

To quantify our performance and monitor improvement overtime, we track hundreds of sustainability indicators for Greenbuild each year around venue energy and water use, freight weight and fuel, graphics and expo materials, food and beverage and waste diversion. Our KPIs for Greenbuild are listed in the table on page 6.

In 2012 we focused on better understanding Greenbuild's carbon footprint and began the process of creating strategies and methods for closing data gaps that currently exist in our calculations. This process is described in more detail in our Carbon Footprint Case Study on page 42.

### Goals

- ▶ Refine tracking sheets so that only data used in decision making is requested
- ▶ More accurately track attendee travel to Greenbuild and within the local area
- ▶ Gather more data on hotel impacts
- ▶ Improve the tracking of exhibitor sustainability practices through the Exhibitor Resource Center
- ▶ Improve tracking for all Greenbuild materials, from minor fulfillment items to major show decorations

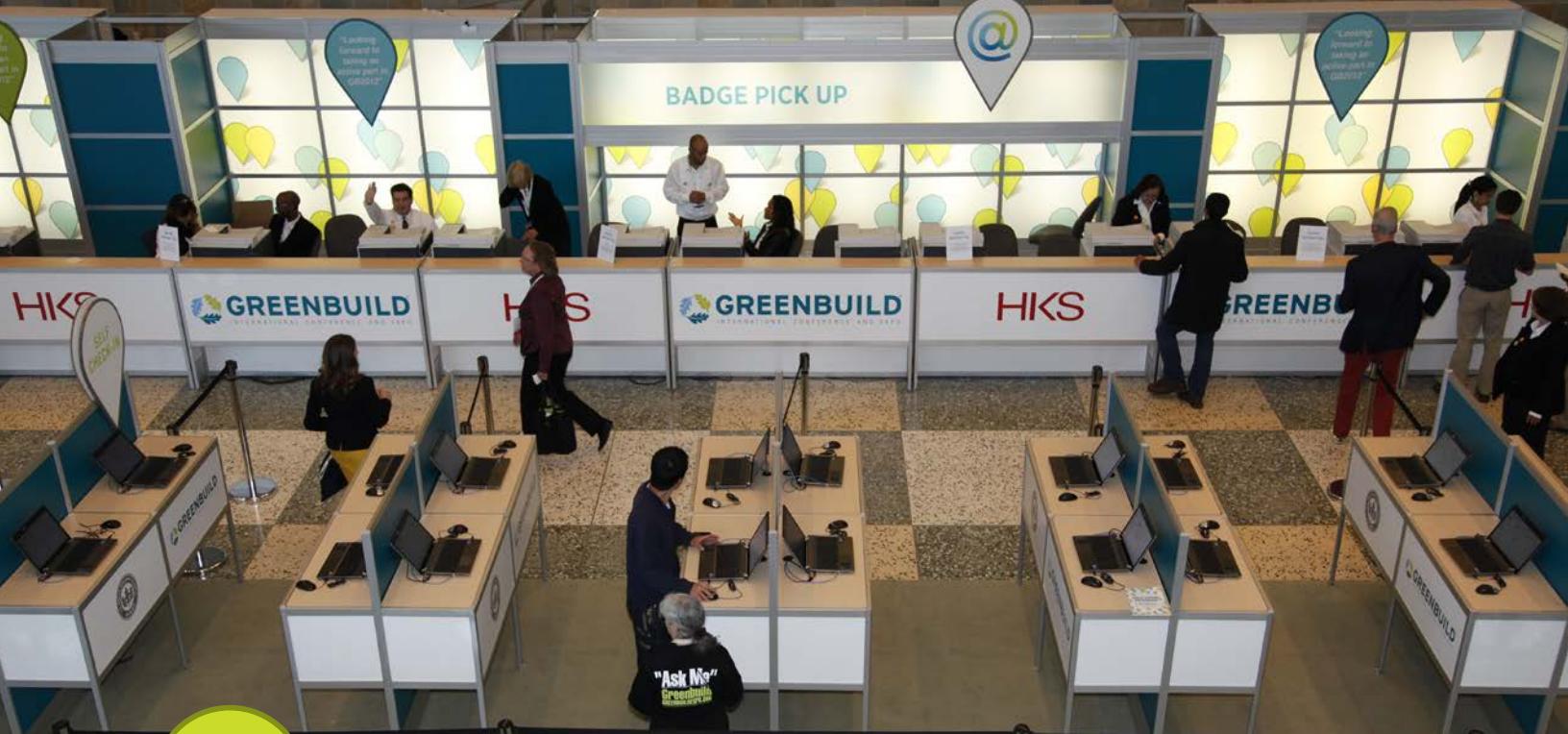
### Achievements & Best Practices

- ▶ Simplified tracking sheets for vendors, making them more relevant and useful
- ▶ Mapped out carbon footprint in a data table for first time to understand boundary and data completeness and accuracy

- ▶ Tracked food and beverage sourcing by item, food miles (local (<100 miles and regional (<500 miles) and organic
- ▶ Tracked main venue cleaning products by product and third-party environmental certifications
- ▶ Tracked over 120 hotel sustainability attributes and practices and conducted in-person, on-site walk-throughs
- ▶ Tracked attendee, staff and vendor travel to the destination
- ▶ Tracked waste generated at main venues by material category and weight and perform on-site audits of venues and processing facilities
- ▶ Tracked the % of equipment used (by wattage specifications) by the A/V partners that is Energy Star certified
- ▶ Tracked use, reuse and recycling of carpet, graphics, and use of materials by the event general contractor
- ▶ Tracked fuel usage associated with freight, on-site vehicles and shuttle transportation
- ▶ Tracked paper use for Greenbuild marketing and on-site guides
- ▶ Tracked GMEGG compliance and performed on-site audits
- ▶ Tracked plans, implementation and reporting of all key vendors
- ▶ Request key sustainability metrics for merchandise items, for shipping practices, material content and source location information, manufacturing practices, etc.

### **Challenges & Opportunities**

- ▶ Few industry standards exist on the boundary and methodology of calculating the carbon footprint of an event
- ▶ Meaningful conversations with each venue, vendor and hotel partner are required to collect quality data and understand the challenges and opportunities that exist for improved performance
- ▶ The difficulty of calculating accurate freight emissions typically leads to only decoration and advance freight being accounted for in the carbon footprint calculation of an event
- ▶ Attendee registration data lost creating the need to extrapolate and estimate data for travel to the destination



# 5

## Reduce Greenhouse Gas Emissions

Conferences produce significant greenhouse gas emissions, from high energy use at the Convention Center to high footprints associated with attendee air travel. We work to reduce the amount of energy used by our A/V equipment, hotels, staff, and local transportation. Then, we offset 100% of the remaining emissions through carbon offsets, to mitigate the impact of our unavoidable emissions.

### GOALS & ACHIEVEMENTS

#### 2012 GOALS

Utilize LEED-certified venues engaging in energy-conservation strategies and utilizing energy-efficient technologies

Continue practice of eliminating hotel shuttles except for offsite events

Encourage walking between conference hotels and the Convention Center

Encourage sustainable transportation within the San Francisco Bay Area

Encourage attendees to offset their conference-related emissions through a carbon offset package

#### 2012 ACHIEVEMENTS

5 of the 30 hotel properties were LEED certified, Moscone Center Gold LEED certified

Selected only walkable hotels located in downtown San Francisco

Offered detailed walking directions at every hotel as well as a shoe check service in all three Moscone Center buildings

Provided public transit information to attendees prior to the show and walking directions and pedicabs on-site.

400 attendees, offsetting approximately 65 tons of CO<sub>2</sub>e (through registration page)

## Best Practices

- ▶ Offset 100% of event emissions
- ▶ 100% of Moscone Center electricity is generated by renewable hydropower
- ▶ Programmed all rented laptops (registration and internet cafe) equipment to power down after official event hours
- ▶ Requested AC/Heat not be run during move in and move out in the expo hall
- ▶ Requested reduced use of escalators during move in, move out and after hours
- ▶ Worked with AV vendor partners to ensure the most energy efficient equipment and lighting is used and that as many screens and equipment from local warehouses are used as possible
- ▶ Partner with general services contractor that is EPA SmartWay registered
- ▶ Encouraged exhibitors through GMEGG to consolidate shipments and use a transport provider who is EPA SmartWay registered
- ▶ Utilized the GMEGG standards for shipping to encourage the utilization of sustainable shipping practices by other stakeholders. This includes all major vendors, merchandise and fulfillment item suppliers, and USGBC staff.
- ▶ Reduce the impact of shipments to Greenbuild by show organizers, vendors, and exhibitors by encouraging consolidated shipments and sustainable shipping practices

## Challenges & Opportunities

- ▶ Attendee, vendor and staff flights can represent as much as 85% of an events carbon footprint and those travel emissions are often times unavoidable and without green power alternatives.
- ▶ Hotel efficiency is driven by the property's facilities, which are difficult to alter for one meeting, as it requires significant capital investment that usually follows scheduled plans of capital allocation for retrofitting of various aspects of the hotel.
- ▶ It can be difficult for exhibitors to understand their energy use when metering is often unavailable at a per booth level.
- ▶ It can be difficult to track the effect of certain policies and practices when the main venue is changing each year, and therefore subject to unique climate and building design differences and required attendee travel distances.

## EPA SMARTWAY PARTNERSHIP PROGRAM

SmartWay is a public/private collaboration between the US Environmental Protection Agency and the freight transportation industry that helps freight shippers, carriers, and logistics companies improve fuel-efficiency and save money. Joining SmartWay is free and open to all freight shippers, truck carriers (including drayage fleets), logistics companies, multimodal carriers, and rail carriers. By working with suppliers who are SmartWay partners, you are helping to ensure that your decorations, equipment and/or freight is being shipped to and from the host destination in the most efficient way possible. Find out if your general services contractor or shipping company is a partner here: <http://www.epa.gov/smartway/partnerlists/partner-list.htm>

# THE CARBON FOOTPRINT OF AN EVENT



## USGBC offsets 100% of Greenbuild emissions.

A carbon footprint measures the total greenhouse gas emissions caused directly and indirectly by a person, organization, event or product through activities including transport, land clearance, and the production and consumption of food, fuels, manufactured goods, materials, wood, roads, buildings, and services. (adapted from Wikipedia)

Since its inception, the Greenbuild International Conference and Expo has striven to reduce and offset the entire footprint of the event. But just what is the carbon footprint of an event, where does it come from, and how is it measured?

### SOURCES OF GHG EMISSIONS

Just as in any other carbon footprinting exercise, boundaries need to be set for where to start and stop the aggregation of footprint inputs and outputs associated with an event. These are subject to interpretation for the each event, as operational and financial control are typically the forms of guidance used to set boundaries per the Greenhouse Gas Protocol. For Greenbuild, we focus on the major, quantifiable and controllable sources in three categories:

► **ORGANIZER EMISSIONS:** those emissions resulting from activities undertaken by the organizer and its staff or contracted directly by the organizer for the event, including:

- a. Staff transportation to the destination (fuel consumed for flights, trains and cars)

- b. Staff ground transportation within the destination city that is not contracted, but undertaken by USGBC (fuel consumed for cars, taxis, buses, trains, etc.)
- c. Staff hotel accommodation
- d. Event signage and decorations freight (fuels associated with shipping USGBC equipment and decorations)
- e. Convention Center (heating and cooling, lighting, and on-site vehicles used)
- f. Hotel meeting rooms (heating and cooling and lighting associated with contracted meeting space)
- g. Ground Shuttles within the destination (fuel from USGBC-contracted shuttles)

► **VENDOR EMISSIONS:** those emissions resulting from activities that are undertaken by contracted vendors, including:

- a. Vendor travel to the host city
- b. Vendor ground transportation within the host city
- c. Vendor hotel accommodation
- d. Vendor freight shipped through the general contractor
- e. Vendor operations (those aside from the center or hotel emissions already accounted)

### ATTENDEE & EXHIBITOR EMISSIONS:

those emissions resulting from activities of attendees and exhibitors, including:

- a. Attendee/Exhibitor travel to the destination city
- b. Attendee/Exhibitor ground transportation within the destination city
- c. Attendee/Exhibitor hotel accommodation
- d. Exhibitor freight shipped to the advance warehouse or directly to the meeting venue through the general contractor

► Other potential sources of GHG emissions exist for an event, but are not included in our footprinting exercise. These include:

- Freight shipped directly by the exhibitor or vendor that is not tracked through the general contractor
- Affiliate meetings held in hotel facilities but not organized by the USGBC
- Landfilling and incineration of wastewater and solid waste
- Fugitive emissions released by the facilities utilized
- General emissions for all upstream activities within the lifecycles of all products, materials, and services utilized.

## CALCULATING THE CARBON FOOTPRINT

All the sources included in the footprint need to be documented. Most important is to identify the tracking mechanism used to collect the data, and the specific people responsible for providing it.

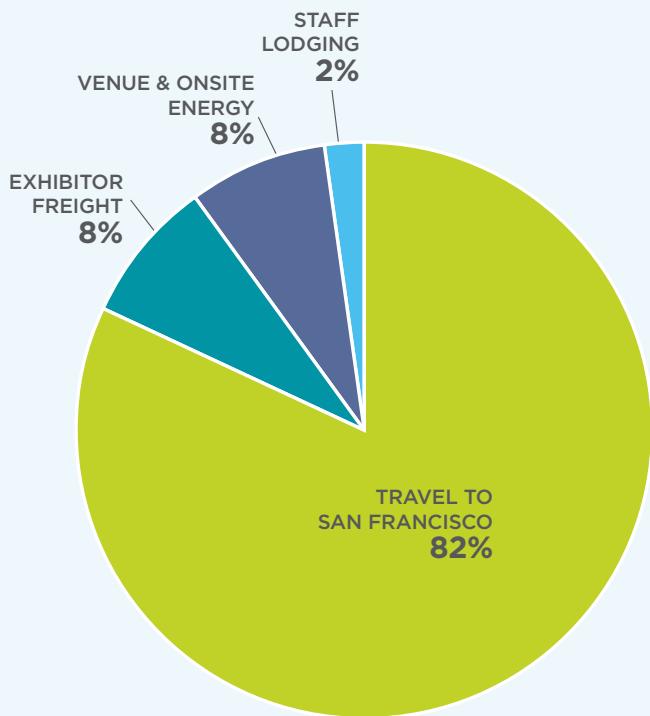
Some guidance on how we calculate the most important sources:

- **TRAVEL TO THE HOST CITY:** we embed attendee and exhibitor travel data in the event registration page, gathering the origin city for each registrant. We use

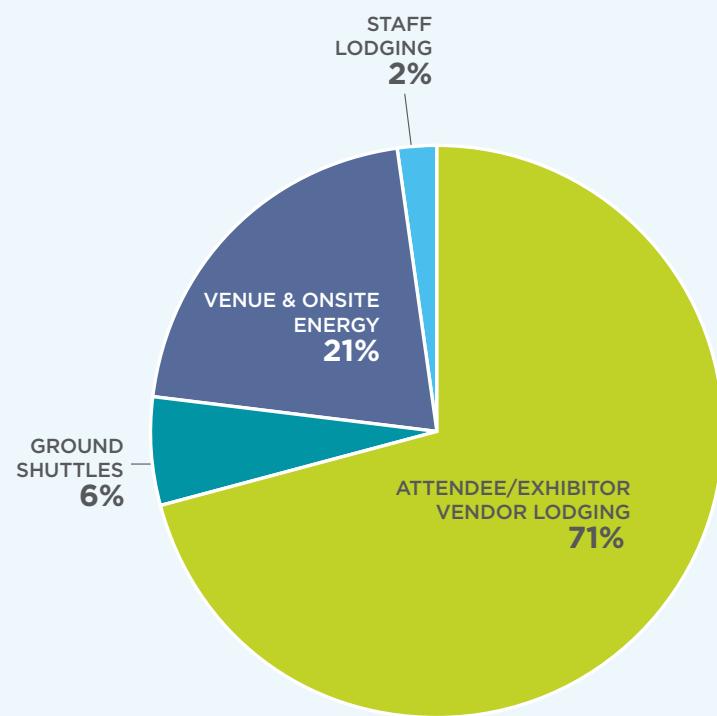
the air distance traveled, multiplied by the coefficients of CO<sub>2</sub> emissions per passenger mile. When origin data are not available, we extrapolate from the existing data set (usually between 35% and 50% of total registration).

- **HOTEL ACCOMMODATION:** we request the carbon footprint of the room block from each hotel partner. We request they use the standard method for calculating developed by the hotel industry, the Hotel Carbon Measurement Initiative.
- **CONVENTION CENTER:** we work with the convention center to identify the GHG emission sources from operations, which usually include lighting, HVAC, and forklifts or other equipment. We request that the center take meter readings on daily intervals from move-in to move-out for each energy source. When this is not available, we request they provide estimation based on the corresponding month's reported energy consumption.
- **FREIGHT:** we request from the general contractor the total amount of fuel burned from shipping of freight, both directly by the contractor and advance freight sent by vendors.
- **GROUND TRANSPORTATION:** For ground shuttles we request the total fuel burned and equivalent CO<sub>2</sub> emissions from the transportation vendor. For attendees using other means, we use attendee feedback surveys, which provide % usage of various transportation methods. For those that traveled by taxi, personal car, bus, or other public transportation, we use passenger-mile conversions for each based on the average distance of hotels from the convention center, extrapolated out by the total attendance figure.

### Sources of GHG Emissions from Greenbuild 2012



### Sources of Onsite GHG Emissions at Greenbuild 2012



- **VENDORS:** for other sources from vendors, we request a post-event report from all major vendors identifying their staff travel, lodging, and other emissions.

Several of our vendors, exhibitors, and attendees make their own efforts to calculate and reduce or offset their own carbon footprint through purchasing carbon offsets. We subtract these figures to arrive at the total carbon footprint of the event.

### ISSUES IN EVENT CARBON FOOTPRINT CALCULATION

While we improve our tracking and quantification methods each year, we recognize that several issues exist in fine-tuning the calculation and reducing uncertainty. Examples:

- ▶ Allocation of Venue Emissions. What part of the convention center's footprint falls under the responsibility of the event? Should the

event be allocated 100% of emissions from move-in to move-out, or only a portion of that representative of the event's operations above the convention center's footprint in non-use, or dark days? No standard method exists for events at present. To be safe, we currently assign 100% of the footprint, however we would like to work to further explore how this may be commonly measured.

- ▶ Uncertainty of Travel. Though we know the origin city of most attendees, their actual travel pattern to and from Greenbuild isn't verified. Also, some attendees participate in Greenbuild virtually through online access only. To be safe, we assign a footprint to each registered participant and assume travel by air for all origin cities over 150 miles from San Francisco, embedding a stopover when not originating in a major gateway city. For future shows we will seek to increase the precision of this tracking

to enable better calculation. Also, depending on the sources of air travel emission factors, the carbon footprint of air travel can be up to 35% less for the same calculation.

As it's in its relative infancy, the practice of carbon footprinting itself is not an exact accounting exercise, as uncertainty is recognized at all levels of GHG emissions accounting and the respective Global Warming Potential of greenhouse gases themselves. By making carbon footprinting a common exercise in all business and organizational activities however, it becomes more precise. More importantly, it builds awareness of our impacts, responsibilities, and opportunities to become a sustainable society.

## **GOING CARBON-NEUTRAL**

The USGBC is proud of many of its sustainable achievements, however, hosting a carbon-neutral Greenbuild each year is the one we hold with the highest esteem.

USGBC partnered with Terrapass to offset 100% of carbon emissions related to Greenbuild. Through a sponsorship, Terrapass and USGBC each offset 50% of total Greenbuild emissions.



# 6

## Positively Impact Communities

Greenbuild is a 3-day event that has a deep and lasting impact on attendees, volunteers, exhibitors, vendors, venues, hotels and the host city as a whole. USGBC aims to leave every Greenbuild destination community stronger than when we arrived, as well as better equipped to host top-of-class sustainable meetings and events.

### GOALS & ACHIEVEMENTS

#### 2012 GOALS

Provide access to Greenbuild to students and emerging professionals, exposing them to the many opportunities the green building industry has to offer and encouraging their active participation in green buildings

Help expand awareness of green schools

Engage the Local Community in sustainability projects, working with local volunteers to catalyze positive sustainable change

Use resources more efficiently by providing needed materials and supplies to non-profit organizations, extend the life of materials produced for Greenbuild

Accelerate the creation of green jobs in the green building industry

#### 2012 ACHIEVEMENTS

590 students and young professionals attended Greenbuild through the Student Volunteer Program. 43 Youthbuild attendees from across the U.S. learned and volunteered at Greenbuild. 29 Scholarships through the Center for Green Schools

Center for Green Schools Bus tour raised awareness across the country through a high-profile bustour and 6 school projects

Two Local Legacy Projects: Tenderloin Vertical Garden and Protro Hill Texas Street Farm

Exhibitor donations: 9,315 lbs (Habitat for Humanity)

Registration/show mgmt materials: 3,415 lbs (SCRAP)

## Best Practices

- ▶ Official donation program for exhibitor and registration materials
- ▶ Legacy project program (see XX for more information)
- ▶ **YouthBuild and Student volunteer program:** The YouthBuild organization is a national non-profit that helps young people pursue a GED whilst learning a skillful trade in the building and construction. 2012 was the third year that USGBC and Freeman worked with YouthBuild, bringing 43 young men and women from across the U.S. to learn and volunteer at Greenbuild.
- ▶ The classroom (in front of North) will be donated and used in Oregon
- ▶ The **Inaugural Women in Green Power Breakfast** was an incredible success, with 350 attendees. This event generated excitement among attendees and will be held again at Greenbuild 2013. For every ticket purchased an emerging professional gets to attend for free.
- ▶ **Green Jobs Summit and Green Building Job Fair:** Hosted by USGBC in partnership with the BlueGreen Alliance, BlueGreen Alliance Canada and the Center for American Progress, the second annual Green Jobs Summit provided a forum to develop a shared plan of action to accelerate the creation of green jobs in a clean energy economy. The half-day event consisted of 260 participants and convened key leaders, experts, advocates, and practitioners from government, business, labor and the public for in-depth and interactive conversations to advance the green jobs movement. Educational sessions were designed to maximum participant engagement focusing on four topic areas: finance and business development; policies, research and governance; field organizing and community engagement; and messaging and communications.
- ▶ **Social Equity Scholarship Program:** The USGBC Greenbuild Scholarship Program provides all-inclusive trips to the Greenbuild International Conference and Expo to individuals entering into the green building industry. In order to increase access to Greenbuild, the scholarship program is reserved for low-income individuals without the means to attend. Greenbuild is the ideal setting for those new to the green building industry to learn from green building experts, discover innovative technologies and companies that are transforming the industry, and to form worthwhile relationships within the green building movement. USGBC provided 29 scholarships for Greenbuild 2012.
- ▶ Moscone legacies – donated signage (50 sets for all rented bins in expo hall)
- ▶ **Local business Engagement:** The USGBC Northern California Chapter (NCC) has worked with 40 different Bay Area businesses to encourage them to join the San Francisco Green Business Program. NCC has used this outreach to encourage businesses to green their operations in advance of Greenbuild. For more information, see [greenbuildexpo.org/greening](http://greenbuildexpo.org/greening).

## Challenges & Opportunities

- ▶ The greening committee worked on a variety of projects to improve sustainability in the Bay Area. The most successful piece of this program involved building off existing resources the City offered, and connecting local businesses and individuals to those resources. We will use this model for future greening committees, encouraging them to build focused programs that connect new stakeholders to existing resources within the community.

- ▶ Social equity and community initiatives can be better communicated to attendees, before, during and after the conference. These initiatives are very impactful and resonate with Greenbuild attendees, but awareness levels are low among general attendees. The many social equity initiatives can be communicated as a package to consolidate and simplify messaging.
- ▶ During the post-show tear-down, there are many opportunities for donations beyond the Exhibitor Donation Program. From leftover conference bags to discarded staff room items, USGBC sends a wide variety of goods to donation. To streamline communication and increase the amount of materials donated, a better plan for post-show donations should be created. To quickly identify donation opportunities, the Exhibitor Donation Program stickers, indicating goods for donation, should be used throughout the center by vendors and staff.

#### **Featured Case Studies:**

- ▶ Donation Programs That Support Local Communities
- ▶ Leaving a Legacy

# DONATION PROGRAMS THAT SUPPORT LOCAL COMMUNITIES



An Exhibitor Donation Program has been a part of Greenbuild's waste diversion and community legacy planning since 2002. In partnership with Freeman and the Moscone Center, this year over 13,000 lb of building and leftover show management materials were donated to Habitat for Humanity Greater San Francisco, Oakland's Restore, SCRAP, and Building Resources. Of those materials, almost 500 lb of food were donated to Delancy Street Foundation for use in their non-profit, community restaurant.

At many large tradeshows, the expo hall generates a significant amount of waste during breakdown. A well planned donations program can help reduce that waste (often to landfill) and provide useful and free materials to the local community. What makes a good donations plan successful?

## ADVANCED & FREQUENT COMMUNICATION

- ▶ For Greenbuild 2012, USGBC worked very closely with the Moscone Center and Freeman to develop and implement a large-scale donations program
- ▶ Donation forms and program information included in Online Exhibitor Kits to increase exhibitor awareness and participation
- ▶ Made participation simple by allowing exhibitors to submit forms pre-event or onsite at Freeman Service Desk
- ▶ Prior to exhibit halls closing, distribute a "move-out bulletin" to exhibitors with specific instructions for labeling

## DONATIONS AT-A-GLANCE

**EXHIBITOR DONATIONS: 9,315 LB**

**REGISTRATION/SHOW MGMT MATERIALS: 3,415 LB**

**FOOD: 486 LB**

**SIGNAGE: 72 LB**

**TOTAL: 13,288 LB**

## DEPENDABLE NON-PROFIT PARTNERS

**HABITAT FOR HUMANITY GREATER SAN FRANCISCO** ([www.habitatgsf.org](http://www.habitatgsf.org)) partners with working families and the community to build affordable ownership homes in San Francisco, Marin, and the Peninsula. Habitat was a Greenbuild 2012 key non-profit partner along with *Oakland's ReStore* ([www.habitatbsv.org/ReStore](http://habitatbsv.org/ReStore)). All proceeds from sale of these building materials will go towards building Habitat homes.

**SCRAP** provides the San Francisco community with low cost supplies, [creative reuse workshops](#), [volunteer opportunities](#), [educational field trips](#), [art exhibitions](#), and the opportunity to learn and pass on the value of [creative reuse](#) ([www.scrap-sf.org](http://www.scrap-sf.org))

**BUILDING RESOURCES** takes leftover Plexiglas, sintra board and other deco materials to provide the local community with low cost, high quality materials ([www.buildingresources.org/index.html](http://www.buildingresources.org/index.html))

**DELANCEY STREET RESTAURANT** received all rescued food from Greenbuild 2012 is a key training school of the Delancey Street Foundation, the country's largest self-help residential organization to help people rebuild their lives.

## A SOLID LOGISTICS PLAN

- ▶ Freeman, Moscone Center, Habitat for Humanity and Moscone security staff meet pre-event to discuss procedures, identify consolidation points inside each exhibit hall, delivery times and dock locations, key contacts, and work out all details affecting the donation program
- ▶ Types of material, size and weight estimated based on previous years data to plan transportation and labor needs. Two 26-foot trucks arranged based on data with back up plans in place in the event of additional donations.
- ▶ Exhibitors instructed to complete form and label all items for donation with "Hold for Collection – Show Management" sticker
- ▶ Consolidation areas for marked donated goods established in each hall, taking floorplans into consideration
- ▶ Freeman teamsters designated to stack, shrink wrap, palletize and forklift donated goods to the nearest consolidation point in each exhibit hall
- ▶ Freeman identifies and records any exhibitor goods not marked for shipping and evaluate them for possible donation.
- ▶ Habitat for Humanity notified of number of pallet loads consolidated at docks and pick up times confirmed
- ▶ Show bags and office supplies collected, weighed, recorded and then staged and secured at Moscone West for pick up by SCRAP

## TRACKING & REPORTING

- ▶ Freeman staff document and capture exhibitor booth, types of material donated, and estimated weight of material to calculate the amount and weight of material donated
- ▶ Data is used in waste diversion calculation and for future years' planning

# Leaving a Legacy



Greenbuild 2012 continued the tradition of creating a lasting legacy in its host city. Complementing our mission of market transformation, the U.S. Green Building Council in conjunction with the 2012 Greenbuild Host Committee used the Legacy Project to marshal their collective resources to support local community organizations in their missions and goals.

Potrero Hill Texas Street Farm aims to improve the lives of residents living in the Potrero Terrace and Annex, a large low-income housing complex on the eastern edge of San Francisco. The Farm is a key and prominent project in the revitalization of an underserved neighborhood; this farm is part of the overall Texas Hill Farm project, which will provide similar farms to all the low-income housing in the area. Supported by the well-established Bridge Housing and the San Francisco Parks Alliance, the Farm will

provide a local source of produce and revenue as well as offer education and training on growing and maintaining an urban farm and a seed saving program. Greenbuild Legacy funds will be used for materials and equipment to build, manage, and maintain the seed beds and hire and train youth from the community to run the program. The project directly serves the residents of the housing projects where it is located. This program will be financially and environmentally sustainable, but, just as important, it has a built-in longevity as families/children move into the community.

The project directly serves the residents of the housing projects where it is located, and will train and hire youth living in the projects to run the program. This program will be financially and environmentally sustainable, but, just as important, it has a built-in longevity as families/children move into the community.



The Tenderloin Vertical Garden is another project that focuses on urban food production. The Tenderloin, located in downtown San Francisco, is a low-income, ethnically-diverse neighborhood with a large homeless population and no access to a proper grocery store. The Vertical Garden will increase food production at an existing urban garden located in the heart of the Tenderloin by 30%, by the simple expediency of installing a vertical food wall for growing herbs, tomatoes, and green leafy vegetables. This project will serve as a demonstration project on how to increase yields on limited urban garden sites. Greenbuild Legacy funds will be used for materials and construction of the green wall, designing and implementing the structure, hiring local residents to maintain the garden, Food Justice programming and outreach and educational materials for after-school programs.

Tenderloin Vertical Garden will serve a neighborhood with a large low-income and homeless population, is backed by an established community organization as well as several city agencies, and has viability, visibility and longevity. Notably, the site is adjacent to the San Francisco Civic Center, one of the main venues for Greenbuild 2012.



## DESTINATION SAN FRANCISCO

There are countless opportunities for improving sustainable meeting practices. To keep us focused on what we believe to be the most significant impact of meetings and events, Greenbuild has set the following six objectives to guide our planning and evaluation processes.

San Francisco was chosen as this year's host city for Greenbuild because of the specific offerings and features for event organizers that support green meeting best practices, including:

- ▶ A robust public transportation system, allowing rail access from SFO or Oakland Airports in 30-45minutes
- ▶ Downtown walkability with over 30,000 hotel rooms within walking distance of the Moscone Center
- ▶ 5 LEED certified hotels (including the Hotel Carlton, InterContinental San Francisco, Orchard Hotel, Orchard Garden Hotel, and W San Francisco)
- ▶ City-wide waste recycling and composting system, achieving 80% diversion from landfill
- ▶ The city's [Food Service Waste Reduction Ordinance](#) requires that restaurants and other food service businesses use compostable or recyclable food service containers and utensils. Stores are prohibited from distributing styrofoam containers or plastic bags.
- ▶ 92% of the city's taxi fleet is comprised of hybrid or compressed natural gas (CNG) vehicles. San Francisco's Clean Air Taxi Program has, since 1990, almost doubled the size of its fleet while achieving a 10% total reduction in greenhouse gas emissions.
- ▶ San Francisco's municipal facilities are powered through the San Francisco Public Utilities Commission's CleanPowerSF program, where electricity is generated from GHG-free, renewable energy sources.

The Moscone Center is the first convention center on the west coast to attain LEED Gold Certification for Existing Buildings and also San Francisco's largest municipally owned project, by square footage, to do so. In addition to offering the sustainable renovation features and practices listed below, the Moscone Center was an active partner with USGBC, working to implement sustainable meeting practices for the duration of the event.

## SUSTAINABILITY PARTNERS

USGBC is proud to be a leader within the green meeting movement, but we could not be successful without the collaboration, dedication and hard work of our Greenbuild 2012 partners.



F R E E M A N





# WE ARE... GREENBUILD® NATION PHILADELPHIA NOV. 20-22, 2013

PRESENTED BY THE U.S. GREEN BUILDING COUNCIL

## LOOKING AHEAD

We always have the same overarching goal – to make Greenbuild as sustainable of an event as possible. However, each year we approach that goal in a destination city with different challenges and opportunities than the last, while at the same time challenging ourselves and our vendors to improve performance. The USGBC strives to not only make improvements for the duration of Greenbuild, but to work with our event partners to understand the importance of sustainability all year long, for every event that is held.

### 2012 Challenges

- ▶ Engaging the convention center, hotels and vendors to make real, long-term change.
- ▶ Keeping sustainability a part of all operational decisions (and keeping that communication flowing to the right people).

### Opportunities and Outlook for 2013

- ▶ Improved stakeholder engagement process through a formalized commitment to ISO 20121, including more communication with longer lead times to allow for more creativity and results.
- ▶ More rigorous goal setting approach to develop quantifiable goals around key focus areas
- ▶ Continuous improvement of carbon footprint calculations – creating a standard the industry can look to.
- ▶ Improve sustainability engagement and tracking at Off-Site Venues
- ▶ Improving GMEGG as an industry guideline and an education tool for exhibitors
- ▶ Continued focus on sustainable sourcing with special focus on merchandise and general contractor materials

# APPENDIX A HISTORICAL DATA TRACKING

EVENT SUSTAINABILITY DATA	2008	2009	2010	2011	2012
Participants	28, 224	27,373	28,193	23,000	24,600
Energy Use at Venues (kWh)	1,503,605	755,050	1,319,856	880,615	863,554
% Renewable Energy Use at Venues	-	-	-	-	74%
Water Use at Venues (gal)	125,807	4,683	19,600	120,133	396,163
Total GHG Emissions (lbs)	26,270,650	34,160,590	24,888,893	19,350,692	30,014,656
GHG Emissions per Participant (lbs)	933	1,247	883	841	1,217
Landfill Materials (lbs)	42,320	175,060	23,220	7,522	24,717
Recycled Materials (lbs)	97,818	85,564,811	91,874	90,434	105,988
Composted Materials (lbs)	29,720	32,493	38,170	8,021	30,962
Waste-to-Energy (lbs)	-	-	-	36,215	-
Donated Materials (lbs)	41,200	19,549	20,017	19,671	13,288
Landfilled Waste per Participant (lbs)	1.5	6.4	0.82	1.90	1.0
Total Waste (lbs)	211,058	85,791,913	173,281	161,863	174,956
Total Waste per Participant (lbs)	7.5	3,134.2	6.1	7.0	7.09
Waste Diversion at Venues %	76%	51%	87%	95.34%	85.87%
Freight (fuel use gal)	-	117,713	63,866	73,480	116,155
Freight (# of shipments / weight tons)	-	408/94	379/139	367/686	80/505
Carpet (sqft used / returned to inventory)	216,270	250,140/0%	357,510/100%	63,230/97.5%	349,640/89%
Signage - produced (sqft)	-	58,362	35,576	23,920	38,744
Signage - returned to inventory	-	23%	59%	55%	7.2%
Signage - recycled	-	49%	72%	45%	61%
Ground Shuttles (fuel use gal)	11,088	4,219	11,473	0	2,180
Total Food Miles	-	44,184	12,130	2,982,468	1,246,745
Food Miles Per Pound	-	-	-	102.3	314.2
Food Miles Per Attendee	-	-	-	143.3	50.6
PROCUREMENT					
Organic Food (certified, by cost)	42%	47%	50%	42%	62%
Local Food (<100 miles)	15%	41%	32%	90%	55%
Regional Food (<500 miles)	-	-	-	96%	74%
Sustainable Shuttles Sourced	-	100%	100%	100%	100%
Sustainable Signage Sourced	-	65%	81%	77%	76%
Paper Specifications (recycled content)	100%	100%	100%	100%	100%
Carpet Specifications (recycled content)	25%	25%	25%	25%	25%
Hotels - Linen Reuse	100%	100%	100%	100%	100%
Hotels - Energy Efficient Housekeeping	96%	95%	100%	100%	100%
Hotels - Amenity Donation	65%	89%	100%	100%	88%
Hotels - Recycling	96%	95%	100%	100%	100%
Hotels - Composting	-	-	-	90%	100%
Hotels - No Newspaper Delivery	-	-	-	90%	100%
Hotels - Green Cleaners	77%	79%	100%	100%	67%
Hotels - Recycled Bathroom Papers	65%	74%	100%	90%	100%
Exhibitors - GMEGG Participation	-	-	97%	91%	93%
Exhibitors - GMEGG Compliance	-	-	90%	-	97%

# APPENDIX B BOUNDARY AND QUANTIFICATION METHODS

This section provides additional details pertaining to boundaries and calculation methods used to arrive at our reported performance results. It is our hope that every thorough carbon calculation will be as transparent with a listing of their methods.

## ENERGY USAGE

The energy boundary consists of energy consumed during Greenbuild events and corresponding move-in/move-out periods from main venues and contracted transportation only.

- ▶ For each venue, the total energy consumption (electricity, steam, heating and cooling) during Greenbuild move in, event and move-in/out days was collected.
- ▶ Electricity data collected in 24-hour increments, while daily averages during the preceding quarter for natural gas and steam consumption were taken and multiplied by the 7 days in the consumption period.
- ▶ Fuel data from the contracted shuttles were provided by TMS.
- ▶ Energy consumption from the Moscone Center includes the energy supplied to Yerba Buena Gardens, as the Center indicated they had no way of separately allocating between the venue and the gardens.
- ▶ The total energy consumption for the entire period was assumed to be all attributed to the Greenbuild event<sup>1</sup>.

### Boundary Considerations

- ▶ Mobile fuels from other vehicles operated by the venues or third parties were not included in the footprint.
- ▶ Energy use from hotels was not included within the boundary.
- ▶ Energy use from fuel burning of participant travel to and from San Francisco was not included.

## WATER USE AT VENUES

The water boundary consists of water consumed at the Moscone Center and Bill Graham Auditorium during the event and corresponding move-in/move-out periods. Total water consumption was provided from the venues in 24-hour increments during the event period.

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<sup>1</sup> *Though it is reasonable to assume that not all the energy footprint of venues for 24-hour periods of each day continuously from move-in to move-out is attributable to the event, a lack of common measurement guidance inhibits precise, replicable calculation. Further industry guidance on such calculations can help harmonize these calculations.*

### **Boundary Considerations**

- ▶ Water data include district potable water consumption only.
- ▶ Water data only includes the operational water footprint and does not include virtual water content of processes involved in the materials and supplies used or consumed during the event.
- ▶ Water consumption from the Moscone Center includes the water supplied to Yerba Buena Gardens, as the Center indicated they had no way of separately allocating between the venue and the gardens.

## **WASTE CALCULATIONS**

Waste data include waste generated and diverted or disposed of at the Moscone Center and Bill Graham Auditorium throughout the duration of Greenbuild. To arrive at the waste figures the following methods were used for the Moscone Center:

Recycled material weight was derived by adding the weights of the following back-of-house streams

1. Comingle (Plastic/Metal/Glass)
2. Cardboard
3. Visqueen/Plastic
4. Large Debris
5. Wood
6. Carpet/Pad
7. Composted material
8. Donated materials

Donated materials weight was derived by adding the weights of the following 2 categories:

1. Food Donated - Daily Donation to Delancey Street.
2. Exhibit Hall Donations - Donation weights provided by Freeman to Habitat for Humanity.

### **Boundary Considerations**

- ▶ Upstream waste not disposed of onsite is not included.
- ▶ Waste generated from hotels, or other vendors offsite, is not included.

## **GHG EMISSIONS**

### **Boundary**

Included in the total GHG emissions value:

- ▶ Electricity use at the venues
- ▶ Stationary combustion of fuels at venues
- ▶ Mobile fuel combustion of fuels at venues

- ▶ Mobile fuel combustion of general contractor freight
- ▶ Mobile fuel combustion of freight sent directly to the venue by exhibitors
- ▶ Airline travel by attendees
- ▶ Airline travel by USGBC staff
- ▶ Ground shuttle use for offsite events and event staff
- ▶ GHG emissions per occupied room for hotels (per the Hotel Carbon Measurement Initiative)
- ▶ Not included in the value:
  - ▶ Emissions from waste disposal and wastewater treatment
  - ▶ Fugitive emissions from refrigerant leakages
  - ▶ Emissions from ground transportation other than USGBC contracted shuttles

### **Quantification**

- ▶ Emission factors for mobile fuel burning obtained from the US EPA Climate Leaders Program
- ▶ Emission factors for electricity consumption at venues were not assigned an emission factor, assumed to be null given the CleanPowerSF claim of all electricity for municipal facilities sourced from clean energy
- ▶ Emission factors for municipal steam were obtained from the San Francisco Public Utilities Commission 2011 Facilities Report, which cites the
- ▶ Emission factors for air travel obtained from the US EPA Climate Leaders Program, assuming a direct flight from major US hubs, with 1 connection for other cities, and a connection through a major hub internationally. Travel was extrapolated based on 61% of the attendee base indicating city of origin (of residence, not origin of travel)
- ▶ Emission factors for stationary fuel burning obtained from the World Resources Institute
- ▶ GWP of CH<sub>4</sub>: 25
- ▶ GWP of N<sub>2</sub>O: 310
- ▶ Other attendee carbon offsets were not subtracted from the total GHG emissions value. In the case of hotels that offset their emission and provided an HCMI figure of zero, their emissions were not included in the total GHG emissions value.

# APPENDIX C GMEGG GUIDELINES

## GREENBUILD MANDATORY EXHIBITION GREEN GUIDELINES (GMEGG)

The U.S. Green Building Council's Greenbuild Mandatory Exhibition Green Guidelines (GMEGG) is a set of mandatory steps exhibitors must take into consideration for the construction and operation of a Greenbuild exhibit. All exhibitors are required to sign this agreement with their exhibitor application, design their booth(s) to the requirements outlined in GMEGG, and document their compliance in the Exhibitor Resource Center (ERC). All further documentation is due on October 10, 2012 through the ERC. 10% of the floor will be randomly audited for compliance. Companies failing to submit the mandatory documentation outlined below will be subject to sanctions, up to and including forfeiture of exhibit space at Greenbuild 2013.

**SUSTAINABLE EXHIBITION POLICY:** The exhibitor will submit a written policy for its exhibition operations, documenting objectives and goals for sustainability. Online submission required on the 2012 ERC.

**GMEGG COMPLIANCE DOCUMENTS:** The exhibitor will submit a written material usage report which includes information on all materials used in the booth construction. Online submission required on the 2012 ERC.

**INDOOR AIR QUALITY:** Exhibitor will comply with one or more of the following options in each subcategory:

► **Adhesives, Sealants and Finishes:**

- No paints, varnishes or glues will be used to maintain the booth.
- Booth will be maintained using only low- or zero VOC materials such as paints, varnishes or glues.
- New booth materials will be bonded or finished with only low or zero-VOC materials.

► **Booth Materials**

- Any new flooring, signage, counters and paneling will be certified low- or zero VOC by their manufacturer.
- Booth flooring, signage, counters, and paneling will be reused.

► **Booth Lighting**

- All medium screw-based general service bulbs must replace incandescent bulbs with energy efficient lighting.
- In addition, exhibitor will comply with one or more of the following options:
  - All booth lighting will be reused.
  - New booth lighting will comply with the following requirements:

- New accent lighting will utilize LED technology.
- New backlighting will utilize energy efficient lighting technologies. No new T12 lighting or magnetic ballast will be used.
- New overhead signage will utilize energy efficient lighting technologies.

**ELECTRONIC DISPLAY:** Electronic display equipment (i.e. flat screen displays) will comply with one or more of the following options:

- ▶ Display is reused.
- ▶ Display meets criteria for EnergyStar qualification or equivalent energy efficiency program.

**BOOTH FLOORING:** Exhibitor will comply with one or more of the following options:

- ▶ Flooring will not be used.
- ▶ All flooring is reused and has been in use for at least one year.
- ▶ New flooring will be composed of one or more of the following: 25% post-consumer recycled material, 100% recyclable material or rapidly renewable material(s).
- ▶ Flooring provided by the Greenbuild general service contractor will be used. (25% post-consumer recycled material)

**BOOTH GRAPHICS AND SIGNAGE:** Exhibitor will comply with one or more of the following options in each subcategory:

- ▶ **Signage and Printing:**
  - No graphics or signage will be used.
  - Exhibitor will reuse graphics and signage that have been in use for at least one year.
  - New graphics and signage will be 100% recyclable.
  - New graphics and signage will contain a minimum 25% recycled material and utilize water- or vegetable-based inks.
- ▶ **Display:** Pop-up displays and structural elements of the booth will meet one or more of the following requirements:
  - Display elements are reused.
  - New display elements will be 100% recyclable.
  - New display elements will contain a minimum 25% recycled content.

#### **COMMUNICATIONS & COLLATERAL:**

- ▶ All printed collateral, if used, will be on 100% recyclable paper. Paper must be recyclable in a standard municipal recycling stream.
- ▶ In addition, exhibitor will comply with one or more of the following options:
  - Exhibitor will eliminate print or promotional giveaways.
  - Exhibitor will limit the quantity to less than 2,500 handouts and giveaways combined.

- Exhibitor will provide printed material that is a minimum 50% post-consumer recycled content or 30% post-consumer recycled content if printed material is certified as sustainably sourced by a third party organization.
- Exhibitor will provide promotional giveaways that meet one or more of the following sustainability criteria: 30% postconsumer recycled content, rapidly renewable, biodegradable.

#### **SHIPPING MATERIALS:**

- ▶ Exhibitors who ship booth materials using a third-party logistics partner will choose a logistics partner that participates in the U.S. EPA's SmartWay Partnership Program or an equivalent program.
- ▶ In addition, shipped materials will comply with one or more of the following options:
  - No exhibit materials will be shipped
  - Polystyrene (i.e. packing peanuts) will be eliminated from booth operations.
  - All padding materials and exhibit crate will be reused.
  - Shipments will be consolidated.
  - Exhibit crate(s) will be made from a third-party-certified sustainable material.
  - Exhibitor will purchase carbon offsets to cover all shipping to and from Greenbuild.

**WATER RECLAMATION:** Exhibitors that use water for display purposes must use water reclamation/recycling (i.e. holding tanks).

**STAFF TRAINING:** The exhibitor will distribute the USGBC Green Booth Operations guidelines to booth staff. These guidelines will be provided for distribution on the ERC.

I confirm that my exhibit meets the Greenbuild Mandatory Exhibition Green Guidelines and agree to provide documentation upon request of show management.

Company Name (print): \_\_\_\_\_ Date: \_\_\_\_\_

Authorized Company Representative (print): \_\_\_\_\_

Authorized Company Representative (signature): \_\_\_\_\_

Email Address: \_\_\_\_\_ Phone Number: \_\_\_\_\_

# APPENDIX D “GREENING THE CONFERENCE” FROM THE EDUCATION PROGRAM GUIDE

## GREENING THE CONFERENCE

### 10 STEPS TO A GREENER GREENBUILD

Greenbuild is one of the industry's most sustainable tradeshows, but USGBC needs your help to incorporate greening from the Opening Plenary to Post-Conference Tours. Here are 10 ways to reduce the environmental impact of our annual gathering. See more at: [greenbuildeexpo.org/greening](http://greenbuildeexpo.org/greening).



**1**

**Take Public Transport**  
Use [511.org](http://511.org), a trip planner and real-time info force for rail, bus, streetcars and more. Go to [511.org](http://511.org) for an online trip planner, dial 511 on your phone, or download the Mobile app: [511.org/apps-transit.asp](http://511.org/apps-transit.asp). Also, take BART to get downtown from both SFO and Oakland Airports in 30 minutes.

**SFO:** Pittsburg/Bay Point – SFO Line. Station: SFO BART Station, located in the International Terminal at SFO.

**Oakland:** Dublin/Pleasanton – Daly City Line. Station: Coliseum/Oakland Airport BART Station, connected by the AirBART shuttle to Oakland Airport.

**Moscone Stop:** Powell/4th Street



**2**

**Walk**  
We've eliminated conference shuttles, as all hotels are walkable and downtown! Walk from your hotel to the Moscone Center, located in pedestrian-friendly downtown San Francisco.



**3**

**Check Your Shoes**  
Check your shoes just like you check your coat. Wear your sneakers to the Convention Center, drop them off with us, and then slip into your loafers or heels at the Conference. Shoe check stations are located at Coat Check, within the street-level lobbies of Moscone West and Moscone South & North.



**4**

**Hit The Hall**  
Greenbuild exhibitors are asked to abide by the Greenbuild Mandatory Exhibition Green Guidelines (GMEGG) for booth materials, lighting, flooring, graphics collateral, and shipping. Ask exhibitors what they are doing to green their exhibition program. Are they going above and beyond GMEGG – by participating in the Green Exhibitor Award or the Exhibitor Donation Program?



**5**

**Paint the Town Green**  
Explore Local Green Restaurants — The city of San Francisco is dedicated to the sustainable food movement and the USGBC Northern California Chapter has partnered with local restaurants in order to promote local neighborhoods, communities and good stewardship. Visit Local Green Businesses — USGBC NCC has also compiled a list of sustainable and green businesses so that whether you are looking for fine art or a slice of Muenster, you can feel confident that you are patronizing a business that is as green as you are. Check the Greenbuild mobile app or go to [greenbuildeexpo.org/greening](http://greenbuildeexpo.org/greening) to learn more.



**6**

**Stay Sustainably**  
All Greenbuild hotels have committed to sustainable practices. Take advantage of towel and sheet reuse initiatives to save energy and water. Decline newspaper delivery and turn off all lights when leaving the room.



**7**

**Tour Moscone**  
The Moscone Center's North and South Buildings just achieved LEED Gold Certification for Existing Buildings. Learn more from signage and QR codes throughout the Center.



**8**

**Party Green**  
The Greenbuild Celebration on Thursday night will be located at City Hall and the Bill Graham Civic Auditorium. We're providing direct shuttle buses to get there, so avoid a cab and take the shuttle with your colleagues. Shuttles will depart from all hotels or take BART, Muni, or Metro to the event.



**9**

**Offset**  
Attendee travel leads to the great majority of event emissions. Do your part to offset the impact you can't avoid by purchasing carbon offsets at Greenbuild registration. 100% of carbon-offsets purchased by attendees will fund four different TerraPass carbon offset projects.



**10**

**Waste Not**  
Do your part to reduce the waste created by Greenbuild. Say no to plastic bags, disposable items, and paper you won't need. We know the swag is tempting, but only take what you'll use from the expo hall. On Friday, return your conference lanyard and bag: collection stations will be in all street lobbies on Friday. As you discard waste at the Moscone Center, make sure it's going into the correct stream. Volunteers will be stationed at recycling stations to assist you.

## WASTE STREAMS AT GREENBUILD

### RECYCLE



- » Paper/Cardboard
- » Brochures, Newspapers, Mags
- » Plastics (#1-#6)
- » Aluminum and Glass (all colors)

### FUTURE COMPOST



- » Food scraps (meat/dairy are OK!)
- » Moscone cups & food containers
- » Moscone utensils & napkins

### LANDFILL



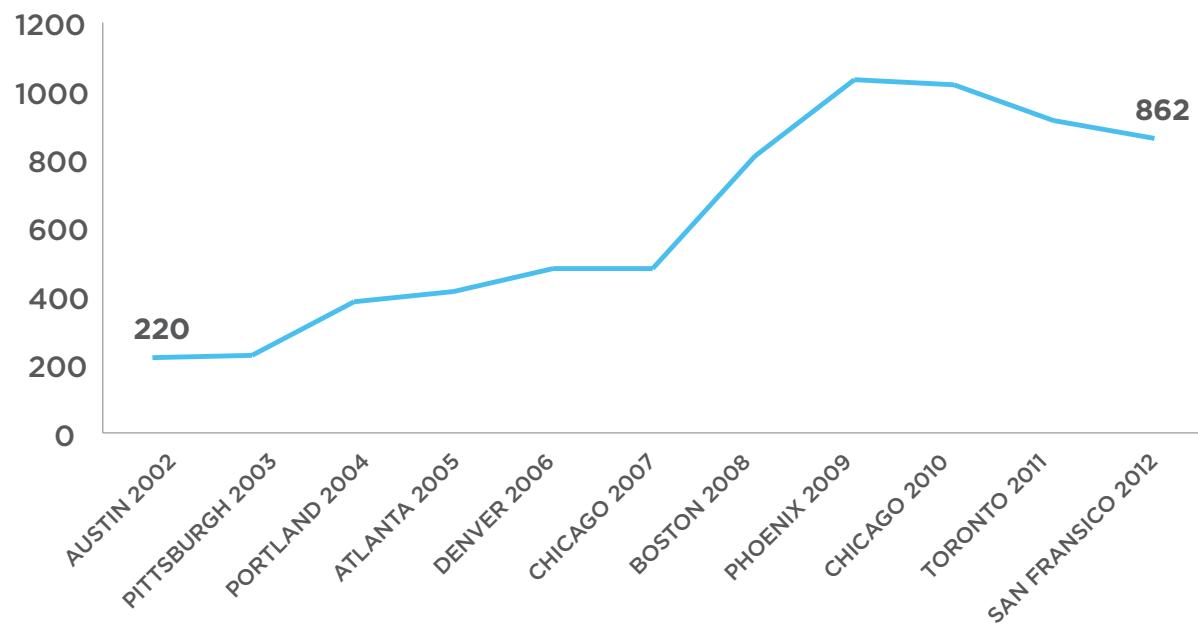
- » Plastic wrappers or packets for chips, ketchup, dressing
- » Non-recyclable food containers purchased outside the convention center

# APPENDIX E GREENBUILD PROFILE OF ATTENDEES, EXHIBITORS, INDUSTRIES, AND SESSIONS

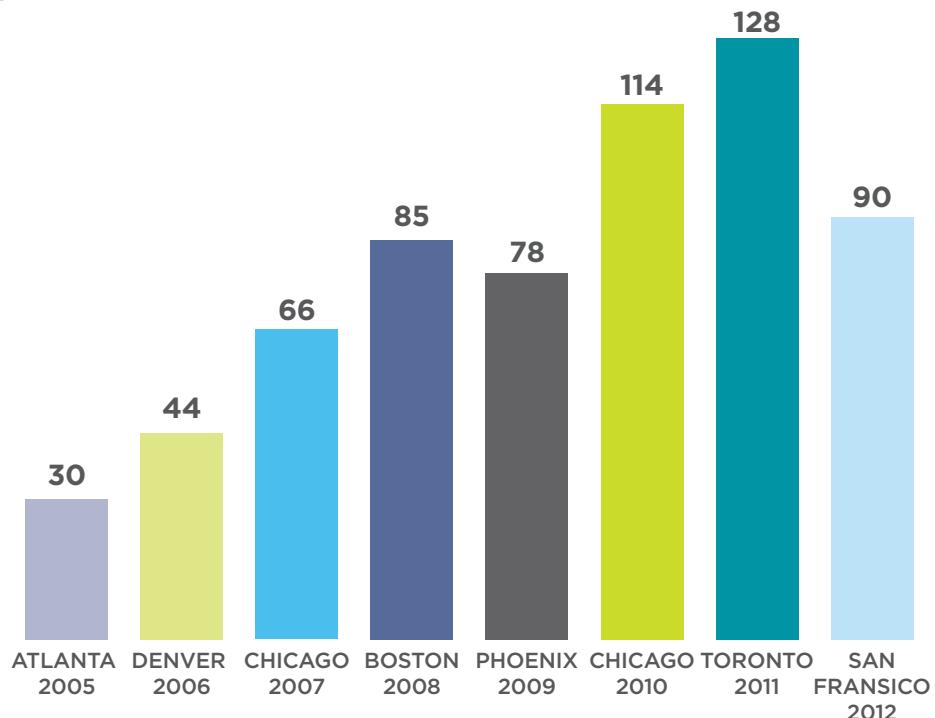
## Event Profile Information:

Greenbuild saw a 7% increase in attendance over last year.

### Attendance



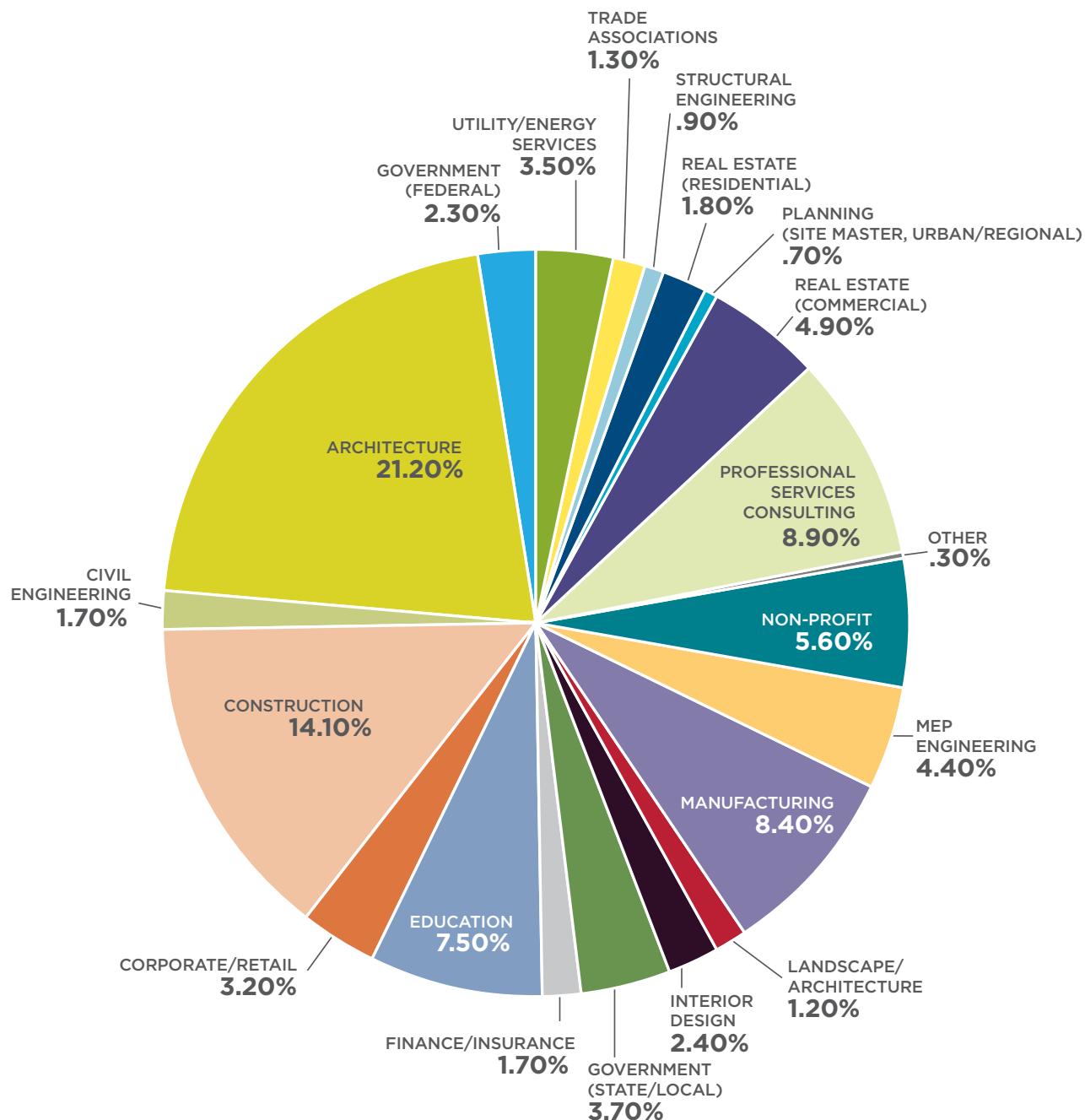
### Countries Represented



While the number of countries represented decreased, the overall number of international attendees is on the rise. In 2012, 25.64% of Greenbuild attendees came from outside the US and Canada, compared with only 7.29% representation from this demographic in 2011.

### Greenbuild 2012 Attendee Industry Demographics

2012 saw increased attendance from four out of the five most popular industries represented at Greenbuild: Architecture, Construction, Education, and Professional Services Consulting. We also saw increased participation from key industries like Commercial Real Estate and State & Local Government.



## GREENBUILD 2012 MEDIA STATISTICS

### Traditional Media

Greenbuild 2012 drew 206 trade and mainstream media (newspapers, magazines, TV, radio, online, blogs) to San Francisco including:

- ▶ Bloomberg Businessweek
- ▶ New York Times
- ▶ San Francisco Chronicle
- ▶ USA Today
- ▶ Examiner
- ▶ Metropolis
- ▶ Treehugger
- ▶ Washington Post

### Social Media

- ▶ Twitter
  - Twitter was a primary media outlet that USGBC utilized in order to engage with sponsors and foster conversation about Greenbuild 2012. The @USGBC account generated hundreds of tweets in advance of the show, on-site, and post-show.
  - During the show, @USGBC called attention to all sponsors by thanking them individually via Twitter and announcing their sponsorship level.
  - Statistics
    - The official conference hashtag #Greenbuild was a global trending topic with more than 20,000 #Greenbuild tweets sent between Monday, Nov. 12 and Friday, Nov. 16.
    - Each tweet reached a direct audience of over 48,000 followers on the @USGBC account and nearly 10,500 followers on the @Greenbuild account.
    - The monthly follower growth rate on the @Greenbuild account increased by 450% over the course of the campaign, growing from 200 new followers per month to more than 900.
- ▶ Facebook
  - USGBC utilized Facebook to distribute Greenbuild photos, updates, blog posts and other unique content to an audience of nearly 9,000 followers and growing.
- ▶ Greenbuild Blog
  - A record 39 entries posted June – November, driving traffic to the Greenbuild website and creating buzz around the conference.