EXECUTIVE SUMMARY

Never doubt that a small group of thoughtful, committed citizens can change the world.

Indeed, it’s the only thing that ever has.

Margaret Mead (1901-1978)
US Anthropologist, Author

Change and uncertainty were defining factors for Greenbuild 2009 as a sustainable event. After several years of exponential growth, it was uncertain how the event would weather the economic downturn that has caused many to curtail travel and conference education. Hosting the event in a newly opened building, with a split exhibit hall, new event vendors and a limited local infrastructure for recycling and composting also created new challenges to maintain and exceed baselines for sustainable practices.

In times of uncertainty and change, careful planning and engagement of all stakeholders is required to guarantee event sustainability. This is particularly important in order to conform with USGBC’s BS: 8901-certified event management procedures.

In the end, new and expanded approaches to planning for purchasing, green exhibiting, hotel reporting, waste management, and food tracking has made Greenbuild 2009 in Phoenix one of the most deeply engaging and verified association conferences in terms of event sustainability and in USGBC history, exceeding virtually every goal set.

Notable achievements for 2009 include:

- 67% increase in applicants for the Green Exhibitor Award, with 160 companies applying: 4 achieving Leadership Level, 71 earning mid-level Advocates status and 75 emerging as introductory-level Partners.
- 27.5% increase in recycling diversion at the host venue during the event, increasing diversion to recycling from 17.5% to 45% during event dates. This represents an estimated 70 tons of material donated or recycled.
- 79% diversion from landfill achieved for the Chase Field Opening Party.
- 300 volunteers were recruited to staff 132 recycling centers co-sponsored by Rubbermaid and Waste Management. Volunteers provided over 2300 hours of service to educate attendees about how to recycle and compost. Over 600 staff and volunteers were educated and trained in responsible waste management over the duration of Greenbuild.
- 50% reduction in energy consumption at the host venue compared to Greenbuild 2008, and a 23% reduction compared to 2007.
- 459 free light rail passes were provided to attendees staying at outlying hotels with access to the LRT.
- Aventura, the convention center caterer, sourced 47% natural or organically grown ingredients (not certified), 47% certified organic ingredients and 41% local ingredients (sourced within 100 miles of Phoenix).
Event: Greenbuild International Conference & Expo
Date: November 11-13, 2009
Host City: Phoenix, AZ
Venues: Phoenix Convention Center
          Chase Field
          Sheraton Phoenix Downtown
          Hyatt Regency Phoenix
Hotels: 19 properties contracted, 14,642 room nights
Exhibit: 1,862 exhibit booths, 1033 exhibiting companies
Audience: 27,373 registrants, representing designers, architects, manufacturers, trades people, educators, students and other champions of the green building movement, worldwide.

Event Purpose: Greenbuild is the world’s largest conference and expo dedicated to green building. Thousands of building professionals from all over the world come together at Greenbuild for three days of educational sessions, speakers, green building tours, special seminars, and networking events. Buildings play a critical role in protecting and improving our environment and the health of the people who occupy them. USGBC’s Greenbuild Conference and Expo provides an opportunity to connect with other green building peers, industry experts, and influential leaders as they share innovations in the green building movement.

Event Elements:
• LEED Workshops
• World Green Building Council International Congress
• Green Building Job Fair (new)
• Chapter Forums
• Educational Sessions
• Greenbuild Salon (new)
• Residential Summit
• USGBC Hanley Award Dinner
• Greenbuild After Dark Film Festival (new free public event)
• Opening Celebration at Chase Field
• Exhibition
• Special Green Building and Community Tours
The USGBC Conference and Events Department (USGBC CED) has a mission statement, as well as a Sustainable Development Policy. In addition, Greenbuild and each event hosted by USGBC have express and specific purposes.

**Mission Statement for Conference and Events Department:**
*The Conference and Events department of USGBC endeavors to provide leadership for the meeting industry through sustainable practices 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.*

**Sustainable Development Policy:**
*Every meeting or event USGBC owns or sponsors will follow our minimum green guidelines. Environmental standards/requirements are built into our RFP process for all vendors and venues.*

**Greenbuild Event Purpose:**
*USGBC’s Greenbuild Conference and Expo connects green building peers, industry experts, and influential leaders to share innovations in the green building movement.*

The USGBC CED was BS: 8901 (2007) certified for its approach to sustainability for all events in March 2009, through Phase 3 of the standard. This means all events planned by USGBC CED staff adopt BS: 8901 compliant systems. This approach applies to Greenbuild, as well as all USGBC events.
Greenbuild has established a consistent process for verifying and auditing sustainable event practices. Much like 2007 evaluations contributed to success in 2008, analysis of Greenbuild 2008 highlighted the following opportunities moving forward to 2009. Recommendations have been provided by USGBC staff, the Greenbuild Steering Committee, Host Committee, Program Committee and vendor partners.

Issues identified following Greenbuild 2008 included:

1. Providing needs-based scholarships to promote diversity and equity in conference participation.
2. Ensuring opportunities for membership to learn from sustainable event approaches.
3. Enhancing programming opportunities for residential and international content.
4. Providing tools to link employers with skilled employees in the movement.
5. Continuing to raise the bar of leadership practice in sustainable events in a measurable and transparent way, addressing in particular the challenges experienced in Boston in the following areas:
   - Volunteer management to support waste management
   - Attendee transportation
   - Exhibitor guidelines compliance
   - Accommodation overflow and compliance with sustainable practices

The recommendations above relate to Greenbuild in areas of programming, attendance, membership and sustainable practices. In addition they have broader implications for all meetings and events held by USGBC.

This report will focus specifically on efforts to address Issue #5 above in the context of Greenbuild. It should be noted, however, that in addition to efforts to address this issue USGBC did achieve the following related to Issues #1-4 before and as a result of Greenbuild 2009:

- Designate a greater number of scholarships for qualifying individuals to attend Greenbuild.
- Provide sustainable event training and consulting for the Heartland Chapter of USGBC for the 2009 Greening the Heartland event.
- Include sustainable event resources and tools on the USGBC Chapter intranet.
- Expand the Residential Summit and World Green Building Council International Congress functions at Greenbuild 2009, hosting each as a separate and longer conference program than in previous years.
- Host a Green Building Job Fair as part of Greenbuild 2009.
USGBC CED establishes overall goals for Greenbuild, which include specific objectives related to demonstrating leadership in event sustainability. These objectives are fairly consistent year to year, however, key performance indicators (KPIs) and targets are set following research into the host destination’s capacity to perform. Although USGBC aims to maintain and exceed sustainable event measurements each year, a primary consideration is ensuring improvement in event sustainability by the host community. At times this may mean Greenbuild performance rises and falls year to year given host city infrastructure, but in all cases leaves a legacy of improved capacity for sustainable events in the host city. The following objectives and targets were set for Greenbuild 2009 pre-event:

**Maintain degree of green practices from 2008 levels.**
- KPI Target: 78 MeetGreen® score.

**Increase diversion of materials from landfill through reduction, reuse and recycling.**
- KPI Target: 50% waste diversion.
- KPI Target: 100% recycling adoption by contracted hotels.

**Maintain adoption of minimum green practices by hotel vendors from 2008.**
- KPI Target: 100% linen reuse adoption by contracted hotels.
- KPI Target: 100% recycling adoption by contracted hotels.
- KPI Target: 100% amenity replacement on checkout by contracted hotels.
- KPI Target: 100% energy-wise housekeeping by contracted hotels.
- KPI Target: 80% adoption of green-certified cleaners by contracted hotels.
- KPI Target: 70% adoption of recycled bathroom tissues by contracted hotels.

**Improve sustainable transportation adoption from 2008.**
- KPI Target: 100% of buses either using energy efficient, latest technology engines or alternative fuels.

**Increase use of renewable energy from 2008.**
- KPI Target: 20% of facility energy renewably sourced.
- KPI Target: Measure a reduction in energy use at host venue.

**Increase sustainable procurement of food & beverage in Phoenix.**
- KPI Target: 25% local purchases by weight.
- KPI Target: 25% certified organic by weight.
- KPI Target: Establish baseline for food miles.

**Improve exhibitor adoption of green practices.**
- KPI Target: 100 exhibitors applying for Green Exhibitor Award.
Issues identification and objective and target setting are collaborative processes for Greenbuild, engaging staff, members, vendors, exhibitors, and attendees.

**Staff**
Each USGBC CED staff member is engaged in sustainability, whether they are involved in site selection, contracting, housing, program development, registration, sponsorship and exhibits, communications or volunteer management. Staff is required to implement sustainability as an aspect of everything they do, and also drive new sustainability initiatives. Key staff-driven initiatives for Greenbuild 2009 included the Greenbuild Mandatory Exhibit Greening Guidelines, improved recycling monitor coordination as well as on-site monitoring of green hotel practices.

**Members**
USGBC formally involves members in Greenbuild through the Steering Committee and Local Host Committee. The Greenbuild 2008 Steering Committee provided specific feedback on event sustainability following the Boston event. This included direction to improve use of non-taxi transport, which was a challenge in Boston and a potential issue for Phoenix. The Steering Committee also recommended USGBC consider how to improve the consistency and branding of waste management. Both recommendations were addressed in sustainable event planning and actions taken are described in greater detail below.

The local Host Committee Greening Committee was actively involved in three key initiatives to support Greenbuild. The Committee researched local composting and sustainable transportation options. They also provided waste management information to local hotels who were struggling to implement new recycling programs for Greenbuild by coordinating two special Waste Wise Hospitality Forums pre-event. In addition Amy Stephens and Aleks Webster were integral in helping to coordinate on-site volunteers to support recycling. Providing meaningful and clear actions for the local Host Committee’s Green Committee continues to be a challenge, but engagement was greatly improved in 2009.
Vendors
Unlike most events, Greenbuild does not have a ‘green team’. This is because all vendors are engaged in event sustainability on multiple levels as a fundamental part of event planning. All are contracted to implement specific practices, which typically include tracking of event metrics. Vendors also give and receive updates on event sustainability during regular bi-weekly planning calls.

Many vendors will contact USGBC and event greening consultants MeetGreen throughout the planning process for assistance with specific environmental challenges related to procurement pre-event. This is a critical element, acknowledging responsibility to reduce and reuse as a top priority. Vendor needs this year ranged from research into overflow hotels best able to meet sustainability guidelines, to the evaluation of alternative fuel transportation, and the merits of different fair trade coffee labels in order to make informed purchasing decisions. In addition, special resource sheets were prepared for hotels to educate them about local groups in Phoenix that could help to implement contracted green practices.

Particular attention was paid to two vendor-related areas this year. The first area was general service contracting as Greenbuild retained Champion as a new service provider for this function in 2009. USGBC and Champion in collaboration with Stetson and MeetGreen worked hard to select and document most sustainable materials for the event which are itemized below. This collaboration has created a template for materials tracking moving forward that captures any reasons for falling behind, meeting or exceeding historical baselines.

In addition, USGBC, MeetGreen, the Phoenix Convention Center, Champion, and Stetson partnered to document a formal Waste Management Plan for Greenbuild. Planning has been done informally in the past, but this was the first time a comprehensive, documented Plan was outlined, which has created a template moving forward. This helped to improve local capacity for recycling and anticipate areas that might require trouble shooting, although did not eliminate all problems. For further information on the Plan please refer to the appendix.

Training was a critical component of the Waste Management Plan. All vendors received waste management training prior to the event, and were required to sign a commitment to work toward a goal of 50% diversion by acting according to tactics included in the Plan. In addition to general training, additional time was spent with Pro-Show event staffers, Champion, United Service, Aventura and the Phoenix Convention Center to ensure frontline staff was aware of donation and recycling procedures. It is estimated in excess of 600 individuals were trained onsite to support sustainable waste management.
Onsite ownership of sustainable practices was very evident by front-line staff involved in waste management at the convention center. More than one volunteer and staff person was found fishing recyclables out of trash to try to maximize diversion. In thanks for the above and beyond effort by many of these volunteers and staff a special appreciation gathering was held for these individuals prior to the end of the event.

Pro-Show continued to support event greening by providing event staffers with a special Green Prize during Greenbuild. Christine Maple was selected as the winner this year for her efforts to not only ‘work green’ while at Greenbuild, but ‘live green’ too. She brought re-usable lunch and drink containers to the event, commuted via light rail daily while also using solar power, an electric vehicle and composting at home.

Exhibitors
USGBC engaged exhibitors in sustainability in a big way at Greenbuild 2009. 2010 marks the first year Greenbuild exhibitors will be required to meet Mandatory Exhibitor Greening Guidelines (GMEGG). In order to secure space for 2010 all exhibitors were required to sign a contract addendum to demonstrate their intention to abide by minimum guidelines. In addition to the GMEGG, Greenbuild will continue to give a Green Exhibitor Award. This will be a voluntary program for exhibitors and include incentives to exceed minimum guidelines.

2009 can best be called the ‘teenage’ year for both initiatives. Having been informed about pending GMEGG, all exhibitors received an updated scorecard for the 2009 Greenbuild Green Exhibitor Award. The new scorecard was reviewed by the Exhibitor Advisory Committee prior to release and updates were made. The final version sent to exhibitors for 2009 required more detailed practices and documentation than any year previous, and allowed USGBC to test the waters about what minimums should be finalized for 2010. 160 exhibitors took time to apply for the Award, many providing very constructive comments about how to improve the program for 2010, and very clear direction about what was wrong with the approach. Despite the added effort involved in 2009, this represents a 67% increase in Award applicants over 2008. All exhibitor feedback received contributed to the creation of the new 2010 GMEGG contract addendum that was distributed onsite at Greenbuild 2009. A revised online Award format will be available in the New Year.
All those reaching Leadership Level in the pre-event verification were required to verify practices onsite and submit all appropriate documentation substantiating practices. In addition a random sampling of other applicants was completed onsite. All exhibitors will be subject to pre-event and onsite verification of GMEGG in the future. These verifications will be conducted on a random basis.

**Attendees**
Greenbuild does not hide event sustainability back of house. It is an important goal of the event to engage attendees in practicing event sustainability. For this reason USGBC communicates recommended sustainable practices to attendees pre-event through the web-site, Greenbuild blog and online program. Pre-event messages are re-iterated onsite using the show program, signage and session slides. Attendees are also welcome to provide feedback on their ‘green’ Greenbuild experiences via email. In addition volunteers are recruited to educate attendees about facility recycling.
USGBC’s Sustainable Events Strategy is the shared responsibility of all staff in the Conference & Events Department. Primary responsibility for aspects of event sustainability lies with Kimberly Lewis, Vice President of Conferences & Events, and the Director team of Kate Edwards, Rhiannon Jacobsen and Joanna Lanziorotti. Jenny Niemann plays a key coordinating role in event sustainability for Greenbuild.

In addition, vendor responsibility for sustainability is clearly outlined in event request for proposals and contract language. Contract guidelines include specific sustainability actions and measurements for all of the following:

- Accommodations
- Meeting Venue
- Caterer
- General Services Contactor
- Transportation
- Audio-Visual & Production
- Meeting Management & Logistics
- Registration
- Event staffing
- Communications & Marketing
- On-site Office & Signage
With eight years of practice in greening Greenbuild, USGBC and its partners have developed a lengthy list of tactics to advance event sustainability. The following list highlights key actions and achievements that were achieved in 2009.

**Venue**
- Pre-event site visit to determine capacity to implement responsible waste management onsite led to the creation of Greenbuild’s detailed Waste Management Plan. This was a collaborative process between USGBC, the Phoenix Convention Center (PCC), City of Phoenix, MeetGreen and vendors.
- Rubbermaid provided a donation of 184 recycling bins and 20 rolling bins to create 132 recycling centers, sponsored by Waste Management. The Rubbermaid bins will be used at Greenbuild until at least 2011.
- An estimated 300 volunteers were recruited to staff recycling centers and provided over 2300 hours of service to educate attendees about how to recycle and compost.
- A front and back of house composting program was provided to accept food scraps and compostable serviceware. This was the first time such a comprehensive program had been implemented at the PCC for an event of this scale. Seeing the impact of composting on waste volume, the PCC is now looking to acquire a permanent composting option in order to improve diversion and reduce disposal costs.
- Special recycling for visqueen and film plastic was established for this event, which PCC is working to provide permanently.
- PCC baseline for recycling was measured at 17.5%, meaning 82.5% of materials disposed at the venue are sent to landfill. Greenbuild successfully increased diversion to 45% at the PCC, ensuring over 70 tons of materials were donated, recycled or composted. In addition to this, the Chase Field event was able to achieve 79% diversion through a fee-for-service waste management program operated by Green Global Integrators. The total diversion rate from landfill across venues was calculated at 51%.
- The PCC made significant changes to energy management procedures in preparation for Greenbuild, including reducing lighting and air conditioning during move-in, and only activating escalators in occupied areas of the building. Having noted measurable positive impacts of these procedures during the event, PCC is now adopting them as standard practice. The combination of energy efficient procedures, LEED®-certified building systems and southern climate contributed to a 50% reduction in energy consumption compared to Greenbuild 2008, and a 23% reduction compared to 2007.
Accommodations

- To assist with planning for overflow, hotels were ‘pre-screened’ for their ability and intention to meet Greenbuild’s sustainable guidelines. Compliance probability scores were identified for each property and these scores were used assist USGBC to prioritize overflow hotels.

- During a November 2008 site visit it was revealed that fewer than 40% of contracted hotels had implemented many of Greenbuild’s required environmental practices, including recycling. MeetGreen researched and prepared a resources list to connect hotels with local agencies that could assist with recycling, composting, food and amenity donation and other sustainable practices. In addition the Phoenix Host Committee Green Committee held two Waste Wise Forums for the hospitality community to educate them about the business benefits of greener practices.

- On-site auditing by USGBC staff and event vendors helped to identify hotels that were not conforming with contracted practices. This would lead to immediate contact with the hotel to address the non-conformity. Eight incidents were recorded, three were singular incidents at separate properties, three were multiple incidents at one property, and two were multiple incidents at one property.

- 18 of 19 hotels reported the following adherence to minimum required practices. The Embassy Suites Airport Hotel was the only non-reporting hotel.
  - 95% energy-wise housekeeping practices
  - 100% linen re-use
  - 95% recycling
  - 89% did not replace amenities, 47% donated unused amenities
  - 74% use recycled content bathroom tissues
  - 79% use certified environmentally responsible cleaners

The single biggest lasting effect of the conference was on our staff’s awareness of energy use. Greenbuild’s insistence that light levels be appropriate for the use, and the regulation of escalator operation helped push our internal agenda over the top with our own staff. We are very focused on customer service at PCC and often the desire to make everything ‘perfect’ leads us to overuse large electrically operated equipment. For example, Client Managers will ask that all the escalators (28 of them) be on to assist a client during move in and move out. Yet the vast majority or people in the building on those days are coming in the back door. Those that are coming in the front door are moving packages and boxes, something you don’t want on an escalator anyway. USGBC’s insistence that we only use those escalators needed for crowds underscored an energy management effort we already had in place. The week after the conference ended I was able to get complete concurrence in a new operating procedure which I had been stymied on before. I should also add that we changed our temperature set points in the exhibition space during USGBC at their request, saving a lot of energy, and no one noticed. We haven’t set them back and don’t plan to.

~ Kevin Mattingly, Deputy Director, Phoenix Convention Center
Transportation

- To address Steering Committee concerns about transportation, USGBC improved attendee communications about airport shuttles and local transit in Phoenix by researching and providing information via the web site about local public transit, shuttles and hybrid rental options.
- 459 free, 3-day passes to light rail were provided to those attendees staying at hotels with access to the LRT. In addition USGBC staff staying at outlying hotels were provided 7-day passes to encourage LRT use over taxis.
- Pedi-cabs were available for attendees commuting small distances within the downtown.
- Sky Harbor Airport was also advised of programming considerations that might cause increased use of airport facilities and shuttles during Greenbuild.
- USGBC also arranged for an increase in hybrid cabs and rentals to ensure where vehicles were required that there were more sustainable options available.
- 113% of all event emissions, including venue and hotel energy, attendee air and ground transportation and ground shuttles were offset. These offsets amount to 38.7 million pounds of CO2 equivalent. Emissions were offset by Leonardo Academy’s Cleaner+Greener Event Certification and sponsored by Milliken and WindCurrent. TMS also offset 100% of ground shuttle emissions.

Food & Beverage

- Greenbuild was the first large-scale event to implement front and back of house composting at the Phoenix Convention Center and Chase Field. This required cooperation from hundreds of temporary food service staff brought in for the event. 25,780 lbs of compost was hauled from PCC, and 6713 lbs from Chase Field, including food and disposables.
- Aventura tracked natural, organic and local food procurement, achieving the following:
  - 47% of menu items used natural or organically grown ingredients (not certified).
  - 47% of menu items used certified organic ingredients.
  - 41% were sourced within 100 miles of Phoenix.
- Chase Field tracked the following food & beverage procurement:
  - 25% of food weight sourced within 100 miles.

_The best thing about hosting Greenbuild is that we are continuing to use the local, organic and natural products sourced for all of our clients._

~ Mark Wallace, Assistant General Manager, Aventura Catering
Exhibit Hall Programs

- 160 exhibitors applied for the Green Exhibitor Award. Four achieved Leadership Level with more than 87.5 points: PCD Engineering, Arizona State University, Cambridge Architectural, and CH2M Hill. In addition 75 exhibitors were verified as Partners with a minimum of 41.5 points, while 71 achieved Advocate status at more than 61.5 points.

- The following unique achievements of exhibitors participating in the program are worth noting:
  - Skanska: Adopting a new strategy for their booth helped Skanska to reduce the cost of giveaways by 90% and shipping costs by one-third.
  - CH2M Hill: Integrating more sustainable booth features helped CH2M Hill to save $1500 on their booth materials.
  - Pella: Significantly reduced shipping costs by reducing the weight of their exhibit by an estimated 75%. In addition the company decided to eliminate carpeting and instead bought staff comfortable, supportive shoes to use at the show, also reducing costs...in addition to creating happy feet!

- 20 exhibitors donated over 19,500 lbs of materials to organizations in Phoenix following Greenbuild, including flooring, furniture, and cleaning supplies.

- The following sustainable materials were sourced for the exhibit hall:
  - 25% post-industrial recycled content aisle carpet was used, while 80% recycled content carpet tiles and 100% post-consumer recycled content booth carpet options were made available to exhibitors.
  - 98-100% recycled content carpet padding was used, with a lifecycle of approximately 7 years.
  - Visqueen was made of recycled plastic and visqueen and tabletops were recycled locally in Phoenix.
  - Bioflex banners that are not reused were recycled locally in Phoenix in addition to temporary event signage that was made of cardboard.
  - Use of 100% online exhibitor kits reduced paper use, saving an estimated 24 trees.

In conjunction with each of its annual conferences, USGBC completes a legacy project to support a local initiative. This year, two projects were selected. One project, “Solar Commons in the Light Rail Right of Way,” will demonstrate an alternative business model to finance, build, and manage solar energy production by building a self-sustaining, viable solar energy network in the right of way. The second supported Legacy Project is a Net Zero Energy Affordable Home that will be built for Habitat for Humanity Central Arizona. A LEED Platinum home will be constructed in seven days at a site located near the Phoenix Convention Center for Greenbuild.
USGBC’s approach to benchmarking event sustainability has evolved over the last eight years. As Greenbuild has grown so has USGBC’s ability to leverage tracking of key performance indicators. The following table summarizes event data since 2002. Some notable trends and achievements include:

**Consistently improving local host community baselines for waste diversion from landfill.** Although Greenbuild’s waste diversion percentages fluctuate, the event has consistently achieved a target of improving on the recycling diversion rates of venues used. 2009 was no exception. Although diversion dropped over 2008 levels, an increase of over 27% on baseline at PCC was achieved. Fluxuations in diversion are explained by the different capacities each city has to recycle and accept donations. This capacity is assessed in the site selection process and re-assessed during the creation of the waste management plan with the goal of creating permanent improvements in waste diversion by hospitality in host communities.

**Improving exhibitor engagement.** Greening the trade show floor is a critical challenge for Greenbuild. Key performance indicators show a steady improvement in expanding participation in the Green Exhibitor Award program, which has paved the way for Greenbuild Mandatory Exhibitor Green Guidelines in 2010.

**Understanding procurement trends.** Since 2006 Greenbuild has focused on acquiring more accurate reporting from caterers and hotels of their green practices. This has improved to the point that caterers are now tracking weight and miles traveled by menu items to prove compliance with contracted guidelines. Hotels are also being held to more strict reporting requirements both pre-and post-event. Much like waste management, local infrastructure and site attributes can result in improvements and dips in performance. More intensive reporting requirements were extended to transportation companies in 2009, helping to improve KPI capture. In addition USGBC staff are more accurately tracking paper use, which is showing notable reductions.

**Measuring utility use.** Although USGBC has tracked estimates of venue energy use in the past, Greenbuild is now in a position to capture venue-specific energy and water use. This is helping us to show in actual terms how LEED principles and regional climate can impact on-site resource use, which in turn can be used to assist with future site selection.
<table>
<thead>
<tr>
<th>Utilities</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy use at venues (kWh)</td>
<td>478,052</td>
<td>476,000</td>
<td>617,145</td>
<td>773,688</td>
<td>1,069,000</td>
<td>982,661</td>
<td>1,503,600</td>
<td>755,050</td>
<td>Yes</td>
</tr>
<tr>
<td>Water use at venues (cft)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16,818</td>
<td>626</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Total GHG emissions (lbs)</td>
<td>4,669,980</td>
<td>5,620,394</td>
<td>8,109,602</td>
<td>9,534,917</td>
<td>13,415,677</td>
<td>17,770,120</td>
<td>26,270,650</td>
<td>34,160,590</td>
<td>n/a</td>
</tr>
<tr>
<td>Waste diversion at venues (%)</td>
<td>-</td>
<td>-</td>
<td>48%</td>
<td>26%</td>
<td>27%</td>
<td>91%</td>
<td>76%</td>
<td>51%</td>
<td>Yes</td>
</tr>
<tr>
<td>Landfilled materials (lbs)</td>
<td>-</td>
<td>-</td>
<td>21,360</td>
<td>-</td>
<td>40,000</td>
<td>8400</td>
<td>85,564,811</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Recycled materials (lbs)</td>
<td>7,725</td>
<td>-</td>
<td>20,040</td>
<td>-</td>
<td>10,920</td>
<td>82,680</td>
<td>97,818</td>
<td>8,556,481</td>
<td>n/a</td>
</tr>
<tr>
<td>Composted materials (lbs)</td>
<td>-</td>
<td>-</td>
<td>7,640</td>
<td>-</td>
<td>4,800</td>
<td>14,120</td>
<td>29,720</td>
<td>32,493</td>
<td>n/a</td>
</tr>
<tr>
<td>Donated materials (lbs)</td>
<td>-</td>
<td>376</td>
<td>-</td>
<td>-</td>
<td>618</td>
<td>2,245</td>
<td>41,200</td>
<td>19,549</td>
<td>n/a</td>
</tr>
<tr>
<td>Waste per participant (lbs)</td>
<td>-</td>
<td>-</td>
<td>2.75</td>
<td>-</td>
<td>3</td>
<td>0.37</td>
<td>1.5</td>
<td>6.4</td>
<td>n/a</td>
</tr>
<tr>
<td>Procurement &amp; planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper used²</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>12,464,800</td>
<td>4,426,300</td>
</tr>
<tr>
<td>Ground shuttle miles traveled</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>15,000</td>
<td>n/a</td>
</tr>
<tr>
<td>Sustainable shuttles sourced¹</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>Yes</td>
</tr>
<tr>
<td>Organic food (certified)</td>
<td>21%</td>
<td>-</td>
<td>7%</td>
<td>-</td>
<td>31%</td>
<td>21%</td>
<td>42%</td>
<td>47%</td>
<td>Yes</td>
</tr>
<tr>
<td>Local food (100 miles)</td>
<td>14%</td>
<td>-</td>
<td>51%</td>
<td>-</td>
<td>31%</td>
<td>21%</td>
<td>15%</td>
<td>41%</td>
<td>Yes</td>
</tr>
<tr>
<td>Food miles (total)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>55,528</td>
<td>100%</td>
</tr>
<tr>
<td>Hotels - linen reuse</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Hotels - energy efficient housekeeping</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>Hotels - amenity reuse/donation</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>86%</td>
<td>92%</td>
<td>65%</td>
<td>89%</td>
</tr>
<tr>
<td>Hotels - recycling</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>64%</td>
<td>92%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>Hotels - green cleaners</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>77%</td>
<td>79%</td>
<td>No</td>
</tr>
<tr>
<td>Hotels - recycled bathroom papers</td>
<td>50%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>65%</td>
<td>74%</td>
<td>Yes</td>
</tr>
<tr>
<td>Energy saved (Mj)³</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>747,975</td>
<td>380,801</td>
<td>n/a</td>
</tr>
<tr>
<td>Water saved (gallons)⁴</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>281,128</td>
<td>152,618</td>
<td>n/a</td>
</tr>
<tr>
<td>Solid waste avoided (lbs)⁵</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>27,570</td>
<td>6,267</td>
<td>n/a</td>
</tr>
<tr>
<td>Emissions avoided (lbs CO2 equivalent)⁵</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>86,165</td>
<td>47,041</td>
<td>n/a</td>
</tr>
<tr>
<td>Community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer hours</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2063</td>
<td>2300</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Community agencies helped</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>-</td>
<td>2</td>
<td>21</td>
<td>3</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Exhibitor Award applications</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>16</td>
<td>77</td>
<td>93</td>
<td>160</td>
<td>Yes</td>
</tr>
<tr>
<td>Costs avoided through sustainability</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>740,880</td>
<td>615,893</td>
<td>n/a</td>
</tr>
<tr>
<td>MeetGreen calculator score</td>
<td>26</td>
<td>34</td>
<td>34</td>
<td>45</td>
<td>60</td>
<td>71</td>
<td>78</td>
<td>78</td>
<td>Yes</td>
</tr>
</tbody>
</table>

1. Includes 8,393,272 lbs of carpet that was recycled which is not factored into percent diversion.
2. All materials printed by show management, estimate of 8.5” x 11” sheets used.
3. Includes 219 shuttles less than 2 years old using ultra-low sulphur diesel and 12 shuttles 3-5 years old using B20 biodiesel.
5. Includes Chase Field event only.

Copyright 2009 MeetGreen®
USGBC hired MeetGreen to conduct a verification of onsite practices at Greenbuild. In addition MeetGreen was responsible for collecting and reviewing all event measurements submitted by vendors, staff and exhibitors. MeetGreen conducted back of house tours at the Phoenix Convention Center, and all hotel meeting venues, as well as a random sampling of guest rooms. USGBC staff was also involved in audits of hotels and exhibitor booths.

In addition to collecting and reporting on the benchmarks above, MeetGreen prepared an event calculation for Greenbuild using the MeetGreen® Calculator. Those events that score highly are run by planners who not only request sustainable practices, but also ensure that these requests are implemented through systemic processes, that procedures are tracked and that a high level of performance is achieved. For example, to score highly in the venue category a planner would request and implement recycling through contract procedures, in addition to measuring a high percentage of waste diversion from landfill. Practices and measurements tracked by the MeetGreen® Calculator meet or exceed United States Environmental Protection Agency purchasing policies and Convention Industry Council Green Meeting Guidelines.

The calculator tracks practices in the following areas:
• Destination Selection
• Meeting Venue Selection
• Accommodation Selection
• Transportation
• Food & Beverage
• Exhibit Production
• Communications & Marketing
• On-site Office

The following graphs show scores for Greenbuild 2009:
• **Total Conference Comparison Report**: Shows the total score achieved for Greenbuild as well as the total score of all conferences in the MeetGreen® Calculator. The numerical bar value represents the percentage of total points earned in all categories. It is important to note that the highest scoring meetings are both large and small, ranging in size from 125 to over 50,000 attendees.
• **Conference Summary Report**: Shows the scores achieved by Greenbuild 2009 in all eight categories. The numerical bar value represents the percentage of total points earned in that category.
Feedback from the Greenbuild Steering Committee, Host Committee, USGBC staff, vendors and event auditor findings identified the following opportunity areas for sustainability at Greenbuild 2010.

**Event branding.** Greenbuild 2009 featured a unique, branded theme called Main Street Green. Although annual event themes have been used in the past this was the first year the brand was more visible through temporary event signage and properties. Greenbuild is encouraged to minimize the use of branded banners and properties as a means to reduce costs and environmental impacts. With the introduction of the GMEGG, USGBC has exposed itself to increased risk of criticism about its own use of sustainable signage, given guideline requirements for exhibitors to reuse exhibit elements made of most sustainable materials. A Greenbuild signage and properties inventory which itemizes sustainable attributes of materials used and quantity (square feet) of new, reused, donated and recycled signs and properties will help to promote accountability in this area.

**Collecting appropriate, consistent data.** There is no accepted template for collecting key indicators that measure event sustainability. This makes it challenging to know what data to collect in order to benchmark practices. USGBC has measured event sustainability using key data indicators that allow comparison over time and across different events. With the launch of new APEX-ASTM Standards for Green Meetings and Events in the United States, the Greenbuild team will need to continue to refine and improve data collection, paying attention to what financial and social indicators might be used to supplement existing data.

**Conference Challenge.** In 2008 a key event challenge was to standardize USGBC sustainable event practice in order to achieve BS 8901 certification. Because the capacity for sustainable waste management in Phoenix was limited, a 50% diversion waste challenge became a focal point for event action in 2009. This also tied in with the Green Meeting Industry Council’s Trash Challenge for the event industry. USGBC should consider putting forward a new challenge to catalyze and focus action in 2010. Possible challenges might include:

- Paperless conference challenge
- Renewable energy challenge
- Green Your Greenbuild Attendance challenge
Attendee impact. Although USGBC measures the environmental impact of sustainable actions, it has not yet formally invited attendees for their feedback. Are green measures impacting the attendee experience? If so, are they receiving a positive reception, or a negative one? Opportunities exist to request feedback in the post-event evaluation process. This would enable USGBC to better determine if their sustainable practices are adding to or detracting from the attendee experience, and what additional ideas for event sustainability participants might have.

Greenbuild Mandatory Exhibitor Green Guidelines (GMEGG) management. With the introduction of mandatory minimum greening guidelines, USGBC should plan a system for addressing exhibitor grievances and non-conformities. This system should anticipate concerns that may be raised and the potential that exhibitors might accuse other exhibitors of not conforming to guidelines. Having a system in place well before the show ensures complaints can be addressed in a fair and non-confrontational manner. As part of this process USGBC should clearly state how they will verify practice pre-show and onsite on the ERC and outline any penalties for non-compliance.

Waste Management Strategy. To comingle? Or not comingle? To pay staff? Or use volunteers? Every year Greenbuild considers which approach is most appropriate for onsite waste management at Greenbuild. During this process different tactics are evaluated based on their ability to achieve three main objectives: to divert the highest amount of waste, to educate attendees and vendors, and to minimize cost. 2009 has provided an opportunity to learn and compare approaches.

Commingling v not comingling. Prior to Greenbuild PCC operated a comingled recycling program which achieved between 15-20% diversion from landfill. The program did not require specialized bins, signage or volunteers and tolerated a 10% contamination rate. Greenbuild opted to sort waste front and back of house and introduce composting. This process resulted in an improved diversion, but the question that will need to continue to be evaluated is: does this justify the investment in special staff, training, signage and procedures to sort waste this way?

Carpet Recycling. An unprecedented amount of aisle and booth carpet was recycled at this year’s event. Typically carpet has been reused up to five times before recycling. This year a color error led to aisle carpet being returned to the manufacturer for reuse, but was ultimately recycled. Exhibit booth carpet was sourced locally in Phoenix in order to reduce shipping and emissions. This carpet was recycled, rather than reused as was the case in previous years. The 2010 waste management plan should put higher priority on reuse before recycling.
Volunteers v Staff. USGBC continues to use volunteers front and back of house to sort waste, which is a visible and important strategy to educate and involve attendees and vendors in waste management. PCC achieved an increase of 25-30% in recycling diversion by involving volunteers in waste monitoring. In addition to volunteers, this approach required special bins, signage and training. The transformational impact on event staff and volunteers was evident as many frontline workers became champions for increasing diversion and educating their team members. Facility staff were also requesting management to make such procedures standard through an improved permanent recycling program. Chase Field also sorted waste, but made use of paid staff monitors, achieving a 79% diversion. This approach came at a one-time direct cost to USGBC. USGBC will need to continue to evaluate the merits of a waste management program that uses volunteers instead of staff, and the impact this can have on achieving strategic waste management goals.

Share the Story. USGBC has already received much media coverage about its sustainable meeting practices. To remain at the fore-front of this movement new story ideas should be cultivated and shared. Ideas to consider include:

- Announcing Greenbuild’s contribution to the GMIC’s Trash Challenge, including other significant event KPI’s.
- Describing how practices pioneered at Greenbuild have created new sustainable meeting programs other planners and events can benefit from (i.e. how are vendors using Greenbuild to help develop new products and services that are made available to help other shows reduce impacts).
- Showing how Greenbuild is successfully leaving legacies of practice in each host city it visits. In the case of Phoenix, this might include the piloting of a new composting program at PCC, or the implementation of new energy-reducing move-in/move-out practices at the venue.
- Sharing the story of reduced energy use at Greenbuild 2009. With three years of data now available to compare, USGBC can show how selecting certain destinations and choosing LEED-certified buildings impacts the venue energy footprint of this event in a positive way.

Beyond Greenbuild. USGBC CED is already taking forward lessons learned from this event and applying them to other events planned by USGBC nationally. An expanded focus for 2010 will be the engagement of Chapter teams to support capacity building for regional events. This was initiated last year for the first time for the Greening the Heartland event in Detroit.
CONCLUSION

Since 2002 the United States Green Building Council, through Greenbuild, has created the blueprint for sustainable events. USGBC Conference and Event staff continue to evolve and expand efforts and address limitations that emerge to challenge the event each year as it moves from city to city. The USGBC team is proving that a ‘green event’ is not a box you check off, but an integrated and expanding approach to ensure the longevity of a successful event. Even in light of economic downturns in the event sector, Greenbuild has expanded programming, while retaining a healthy attendance and exhibitor population and not compromising on environmental objectives. In fact, permanent adoption of sustainable practices by event partners are assisting them to improve service delivery in ways that add value and are more efficient and cost-effective.

Into the future, USGBC has committed to increase internal staff capacity for event sustainability in partnership with vendors, and expand sustainability efforts beyond Greenbuild. This is consistent with their commitment to BS: 8901 and desire to remain a leader in sustainable events.