



# Greening Greenbuild: Continuing to Grow and Innovate

## Event Highlights:

Greenbuild International  
Conference and Expo 2006

Colorado Convention  
Center, Denver, Colorado

November 15 – 17, 2006

Total attendance: 13,350

Since its inception in 2002 attendance at Greenbuild has grown by an average of 40% per year, to a staggering 13,350 participants in 2006. Commencing with the first conference and expo held in Austin, Texas, the United States Green Building Council (USGBC) has sought to not only improve the level of awareness regarding green construction practices, but also define cutting edge practice for green event management.

Working from this philosophy of continuous improvement, Greenbuild 2006 in Denver, Colorado innovated with the following green meeting achievements:

- Development of a Green Exhibitors Award including incentives for exhibitors to participate in the contest.
- Encouraged car-pooling, used biodiesel-powered buses and powered offsite events by fuel cells.

## Highlights of Environmental Achievements

- 5.46 tons of waste recycled and 4800 lbs of food waste composted, achieving a 27% waste diversion rate.
- 543 delegates were GreenRiders, saving and estimated 12,400 vehicle travel miles and 11,300 lbs of CO<sub>2</sub>.
- 618 lbs of food, including 160 lbs of whole fruit and 149 lbs of pastries, were donated to Food Bank of the Rockies.

## Leaving Legacies

As part of Greenbuild the Denver Convention Center implemented and has committed to leave in place a recycling program. The Center also trialed a food composting program for the event supported by Whole Foods.



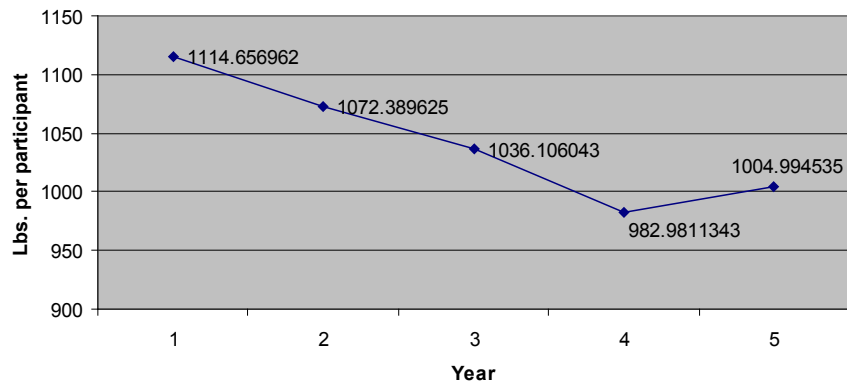
## Air Quality

Greenbuild aimed to both reduce emissions and offset those produced as a result of the conference and expo. Delegates were encouraged to use public transit and also consider participating in GreenRide, a ride-sharing service. 543 delegates participated in GreenRide, saving an estimated 11,300 lbs of CO<sub>2</sub> and 12,400 vehicle miles. Free, designated hybrid vehicle parking was also provided near the convention centre. In addition, the transportation company providing shuttles was asked to and operated shuttles using bio-diesel.

Two offsite parties for Greenbuild were also sustainably powered, making use of fuel cells to provide on-site entertainment.

In addition to reducing emissions, the USGBC also provided delegates and exhibitors with the option to offset their greenhouse gas emissions through a program managed by the Leonardo Academy. The Leonardo Academy calculated 13,415,677 lbs of emissions associated with Greenbuild 2006. This includes carbon dioxide, sulfur dioxide, nitrogen oxide, particulates and mercury and translates into an estimated 1005 lbs of emissions per participant. As the following graph illustrates this represents the only increase in per participant emissions at Greenbuild since the introduction of the event.

**Total Emissions Per Participant**



Donations received enabled offsetting of 228% of total emissions. This includes 228% of carbon dioxide, 266% of sulfur dioxide, 32% of nitrogen dioxide, 10% of particulates and 174% of mercury. Donations to the program were received from Milliken & Company, Wind Current, Sterling Planet, Green Mountain Energy, Dupont, National Offsets, Leonardo Academy, Philips Lighting, Johnson Controls and individual donors.

Please note that total emissions per participant are based on generalised data and may contain a 10 - 15% margin of error.

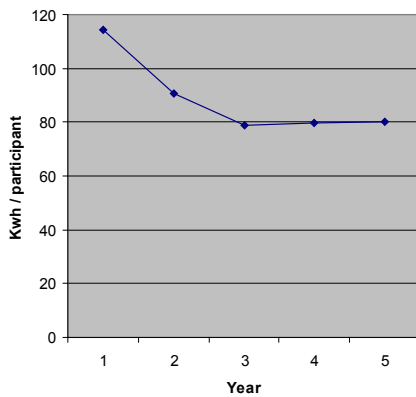


## Energy Efficiency

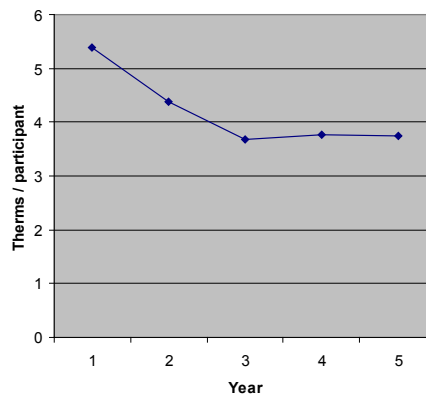
The Colorado Convention Centre reduced lights, power and HVAC during move in and move out times in the exhibit hall. In addition, hotels were selected within walking distance of the convention center to minimize transportation needs. 12 of the 14 conference hotels confirmed staff were instructed to shut blinds and turn down heat/AC during the day.

Total energy consumption at Greenbuild continues to increase as participation at the event climbs. As illustrated by the following graphs, however, average per participant use of electricity and natural gas has levelled off at Greenbuild over the last 3 years. Average per participant use of fuel by transportation continues to decrease, dropping from a high of 48 gallons per participant in 2004 to 40 gallons per participant in 2006.

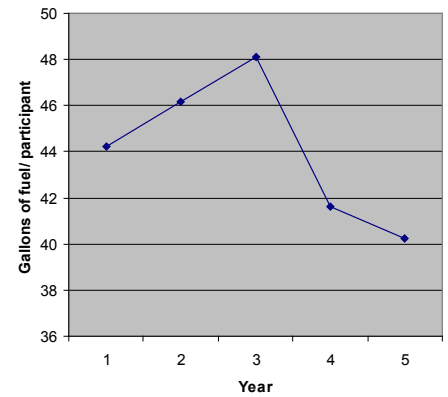
Average Energy Use - Electricity



Average Energy Use - Natural Gas



Energy Use - Transportation



It is important to note that energy and emissions numbers are dependent on the location of the event and utility emission rates for that location (some states' utilities are more coal dependent than other states that might have hydro-power in their mix). The data reported here are estimates and could be made more location specific should USGBC choose to direct Leonardo Academy to factor in these local considerations into their calculations.



## Water Conservation & Quality

Water was conserved by providing bulk water stations, avoiding the use of saucers for cups and not pre-filling water glasses. Eleven of the fourteen conference hotels provided a linen and towel re-use option for guests while twelve confirmed they use cleaning products that do not introduce toxins into the air or water. The conference center was requested to use environmentally sensitive cleaners, however did not make use of cleaners with a recognized eco-label. The caterers did contribute to energy efficiency and water quality by providing vegetarian meal options and a minimum of 31% local and organic food.



## Waste Minimization

The Colorado Convention Centre agreed to institute recycling and food composting for Greenbuild 2006. Glass, aluminum, plastic, paper and cardboard were accepted as part of this program. In all 20 tons of trash were taken to the landfill, while 5.46 tons were recycled and 4800 lbs were composted. The convention center further agreed to maintain a recycling program following the event. 618 lbs of left-over food were donated to the Food Bank of the Rockies, including 160 lbs of whole fruit and 149 lbs of pastries.

Catering made use of both china service and disposables. Disposable packaging was used for 10% of meals and was made by BioMass Packaging, which provides food serviceware derived from corn starch and sugar cane that is compostable.

As part of their exhibition contract Stetson provided instructions for exhibitors to assist with recycling. They also provided green booth options for exhibitors and a donation area for giveaways and building supplies. The exhibitors used recyclable carpet, re-usable signage, EnergyStar lighting and earth-friendly cleaning products. All exhibitors were requested to participate in recycling, minimize packaging and the amount of collateral materials distributed. To affirm this message Stetson and the USGBC partnered in the designation of a Green Exhibitor Performance Award. The purpose of the Green Exhibitor Performance Award was to recognize the outstanding efforts of exhibiting companies who successfully minimized the negative environmental effects of participating in the exposition. Each participating exhibitor earned points based on their environmentally responsible practices and products incorporated into their display. The rating system was specifically designed so that every company had the opportunity to attain the highest recognition level regardless of booth size. The Award was won by HOLCIM Inc.

Of the conference hotels selected nine properties confirmed they have a recycling program that includes paper, plastic, glass, aluminum cans, cardboard, and grease. One property was unable to recycle grease. These properties used either clearly marked recycling containers in common areas including the lobby & hotel guest rooms, or sorted recyclables back of house. The USGBC offered to assist in obtaining recycling containers at no cost. Two hotel properties were only able to recycle paper in guest and meeting rooms while two properties did not provide recycling.

Twelve of the fourteen conference hotels selected did not replace consumable amenities unless gone, or provided bulk soap and shampoo dispensers. Three properties donated unfinished amenities to a local charity. Seven of the host hotels provided china service, and no polystyrene. Three of these seven properties gave preference to disposables that were either biodegradable or at a minimum used recycled content paper.



## **Power of Purchasing**

Greenbuild coordinators have a history of using their purchasing power to promote greener business practices. In keeping with this trend the convention center was requested to institute recycling and composting and make use of minimum 20% recycled products for hand towels and toilet paper and minimum 50% of environmentally responsible cleaning products for carpets, floors, kitchens and bathrooms. The caterer was also requested to provide locally grown and organic foods as well as shade-grown and fair trade coffee wherever possible and affordable (minimum 20% of meals), purchase condiments and beverages in bulk, and participate in a food composting program.

Greenbuild organizers used name badges printed on recycled paper and recycled name badges following the event. Conference bags and give-aways made use of recycled materials and programs were printed on recycled post-consumer paper with soy-based ink.

## **Contributing to Communities**

The host city of Denver, Colorado was partially selected on the basis of Greenprint Denver, which is a 5-year citywide action plan to promote the importance of sustainable development and ecologically friendly practices throughout the community. The conference agenda gave profile to various Greenprint Denver projects. In addition, conference greening initiatives supported local charities such as the Food Bank of the Rockies. Left over exhibition materials were provided to Habitat for Humanity.

## **Commitment to Change**

As in previous years the USGBC sought to engage attendees in greening measures through conference communications including the Greenbuild web site. Delegates were encouraged to:

- Use public transportation.
- Pass along newspapers to someone else or make sure it's recycled.
- Participate in the towel and sheet reuse program at the hotel.
- Carry a reusable drink container.
- Recycle materials in appropriate bins.
- Turn off hotel room lights, heat/air and television when leaving rooms.



## Lessons Learned

**Measuring and comparing the waste stream.** USGBC was successful in re-instituting more extensive waste tracking in 2006. This is helpful in comparing the effectiveness of our efforts to divert landfill waste over successive years. Our most successful diversion rate has been 48% in Portland in 2004, with this year's diversion falling to 27%. USGBC needs to ensure training and communication prior to the event brings this figure in-line with what has been achieved in the past.

**Exercising influence and using purchasing power.** Opportunities still remain for USGBC to be an agent of change for supplier practice, particularly as attendance at Greenbuild grows. This is especially illustrated in the area of accommodation selection. In the past our surveying and itemization of hotel practice has been rather passive, relying on self-surveys after the selection of hotels has occurred, with no repercussions for breaches of environmental practice. In addition the conference center was requested to use environmentally sensitive cleaners, however did not follow through with this practice. There are opportunities here that with sufficient lead time and effort that hotels and meeting venues without green programs or specific practices might be encouraged to become more proactive in this area. In addition there is still a lack of on-site verification of hotel practice and follow through to ensure practices are adhered to. In 2004 Greenbuild was very successful in engaging hoteliers in green practices in Portland which has led to a legacy of greening at these properties. On-site verification and the provision of a waste audit did help to engage properties and might be considered for future conferences, along with other incentives.

**Impact on delegates and growing the green meetings movement.** Throughout the history of Greenbuild USGBC has attempted to actively engage delegates in the greening of the event. An opportunity exists to seek delegate feedback on green practices, how event greening may contribute to delegate satisfaction with the event and how these practices might contribute to learning by delegates and adoption of similar practices by other groups.

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