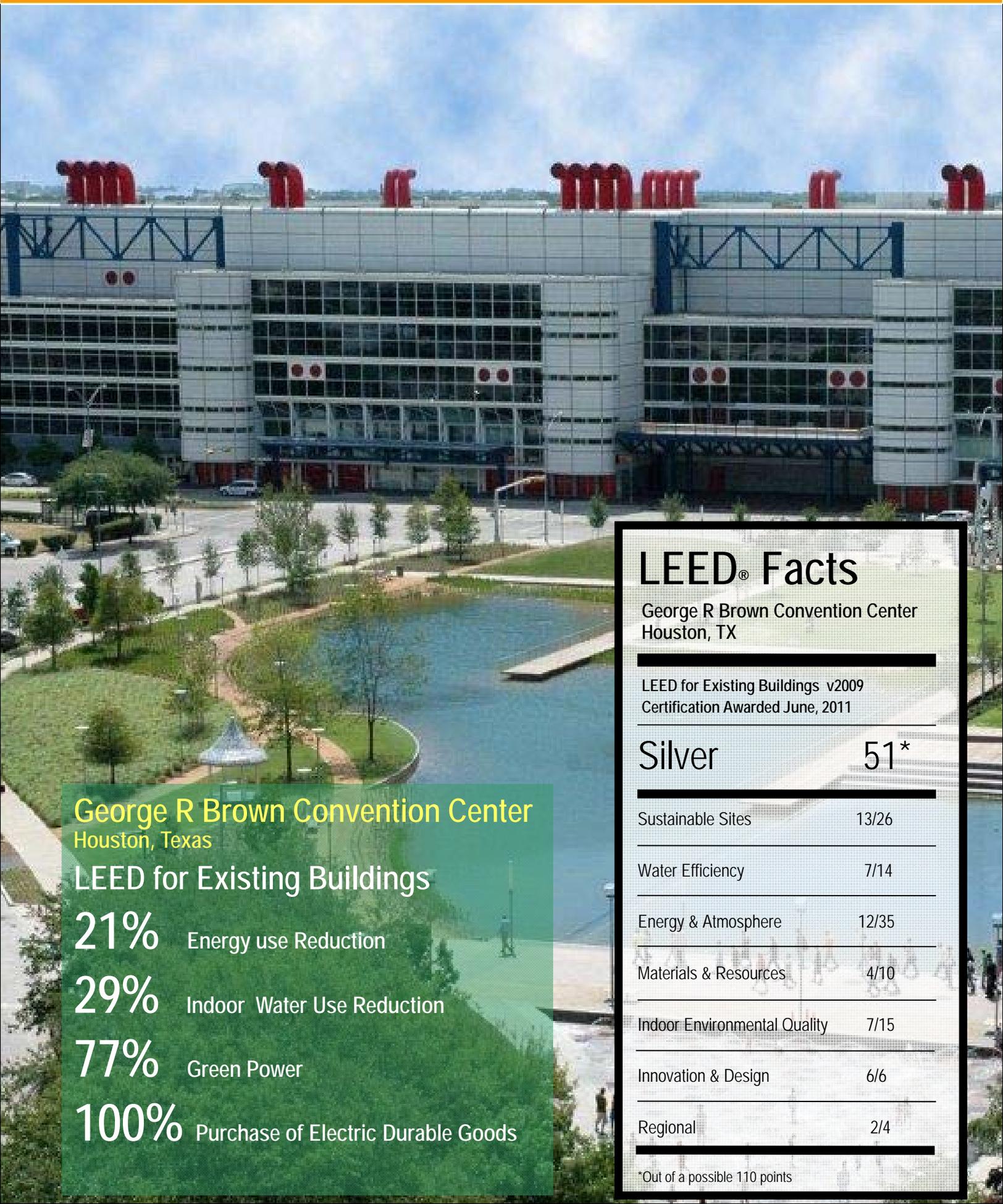




# GREEN BUILDING TOURS



June 7, 2013



## LEED® Facts

George R Brown Convention Center  
Houston, TX

LEED for Existing Buildings v2009  
Certification Awarded June, 2011

**Silver** **51\***

Sustainable Sites 13/26

Water Efficiency 7/14

Energy & Atmosphere 12/35

Materials & Resources 4/10

Indoor Environmental Quality 7/15

Innovation & Design 6/6

Regional 2/4

\*Out of a possible 110 points

### George R Brown Convention Center Houston, Texas

#### LEED for Existing Buildings

**21%** Energy use Reduction

**29%** Indoor Water Use Reduction

**77%** Green Power

**100%** Purchase of Electric Durable Goods

## George R Brown Convention Center Un-Convention-ally Green

**PROJECT DESCRIPTION** The George R. Brown Convention Center decided their clientele and customers preferred to hold their events in a greener environment. With this mission in mind the GBRCC retrofitted their building to achieve LEED for Existing Buildings: Operation and Maintenance. They were awarded LEED Silver in June 2011. Happily, along with showing environmental responsibility, they show a huge economic benefit. They save water and protect human health with green cleaning. Building occupants were educated about recycling and now plastics are being recycled, food waste is composted, less waste is generated, and a paperless filing system is in place. Original lamps were replaced with jumbo compact fluorescent to save as much as 60% energy per bulb and at the same time reduced heat output by 2/3 to reduce air conditioning loads. And a 100-kilowatt solar energy system graces the roof.

### SUSTAINABLE SITES (13/26)

The project instituted a building exterior and hardscape management plan utilizing best management practices. ■ Reduced commuting transportation by at least 32%. ■ Native or adaptive vegetation is now in place. ■ Roof areas are reflective and minimize contribution to the urban heat island effect. ■ Added ENERGY STAR roof membrane with an SRI of 101 for 100% of the roof area, reducing smog and the urban heat island effect. ■ Parking is under cover and does not contribute to the urban heat island effect. ■ Exterior lighting is shielded, and Interior lighting is programmed to turn off after hours to provide light pollution reduction.

### WATER EFFICIENCY (7/14)

Water performance is measured, reported, and controlled. ■ Plumbing fixtures and fittings have been improved for a 29% reduction in water consumption ■ Faucet and toilets valves were changed to motion sensor ■ The building has implemented a plan to improve its cooling tower water management. ■ Planted drought-tolerant native plants to reduce landscape watering. ■ Used green products to reduce water need for cleaning.

### ENERGY & ATMOSPHERE (12/35)

Adjusted energy benchmark score is 21% above the national average. ■ Investigation commissioning was utilized and an ongoing commissioning plan implemented. ■ A building automation system was implemented. ■ Energy for the building is supplemented by on-site solar power and off-site renewable energy certified power. ■ Emissions reductions were reported. ■ Upgraded fluorescent lighting with electronic ballast and high efficiency lamps. ■ Implemented Watt Stopper software to better manage lighting systems. ■ The use of motion sensors reduces energy use when lighting is not required in certain areas of the building. ■ Used Capacitors on electrical switch gear to reduce energy use during heavy voltage loads. ■ Replaced cooling towers with high-efficiency towers to reduce energy and water use. ■ Replace domestic water pumps with variable speed units saving 60% energy usage. ■ Replace old boilers with fire-tube boilers decreasing natural gas costs by 40%.

### MATERIALS & RESOURCES (4/10)

Sustainable Purchasing Policy has been provided. ■ 100% of the laptop computers purchased have ENERGY STAR label and EPEAT rating. ■ Solid Waste Management Policy has been provided. ■ Building waste stream was audited and demonstrates credit compliance. ■ 100 % of durable goods are reused or recycled.

### INDOOR ENVIRONMENTAL QUALITY (7/15)

The project complies with ASHRAE Standards 62.1-2007, Ventilation for Acceptable Indoor Air Quality. ■ Smoking is prohibited in the building. ■ High performance cleaning program has been implemented which address staffing, training, use of chemical concentrates, use of sustainable cleaning materials and equipment, use of sustainable floor care products. ■ 93% of cleaning materials purchased comply with the sustainable criteria. ■ Pest control, painting and shipping receiving protocols has been established to manage all significant pollutant sources. ■ Individual lighting control provided to occupants.

### INNOVATION IN DESIGN (6/6)

■ Exemplary performance for Solid Waste Management-Durable Goods – 100%; Sustainable Purchasing-Durable Goods – Electric; and Green Cleaning –Custodial Effectiveness Assessment. ■ Educating building occupants in sustainable practice. ■ Sustainable Building Cost Impacts documentation. ■ Gerad Moers, LEED AP, a principal on the project team.

### REGIONAL PRIORITY (2/4)

2 Regional priority point earned from Site Development-Protect or restore Open Habitat and Heat Island Reduction-Non Roof.

“LEED Certification is the right thing to do, plus it can save you a lot of money. Our clients and customers at the GRB are expecting us to be LEED Certified and help them make their meetings and conventions as GREEN as possible”

David Osterhout  
Director of Operations



**Owner:** City of Houston  
**Architect:** Mario Bolullo  
**Structural Engineer:** Robert Hansen  
**MEP Engineer:** E&C Engineers  
**LEED Consulting:** Redding, Linden, Burr  
**Contractor:** Swinerton  
**Project Size:** 1,800,000 SF  
**Completion:** July 2011



### ABOUT LEED

The LEED Green Building Rating System is the national benchmark for the design, construction, and operations of high-performance green buildings. Visit the U.S.Green Building Council's Web site at [www.usgbc.org](http://www.usgbc.org) to learn more about how you can make LEED work for you.