

Cleaner and Greener[®] Certified Event Report

CB Richard Ellis Conference

September 5-7, 2007

Toronto, Canada

Leonardo Academy

Madison, WI

Cleaner and Greener[®] Certification of 2007 CB Richard Ellis World Conference

Leonardo Academy's Cleaner and Greener[®] Program recognizes the 2007 CB Richard Ellis World Conference, held in Toronto, Ontario, as a Certified Cleaner and Greener[®] Event. The conference was certified at the Gold Level, with greenhouse gas (CO₂) emissions associated with the event offset by more than 200 percent and associated emissions that affect health (SO₂, NO_x, mercury, and particulate matter) offset by over 60 percent. CB Richard Ellis worked with Leonardo Academy to calculate and offset the emissions generated by energy use and travel associated with the event. In kind donations of emissions offsets, donations of green electricity, and financial donations for purchasing offsets helped make this conference emissions neutral.

Summary of Emissions

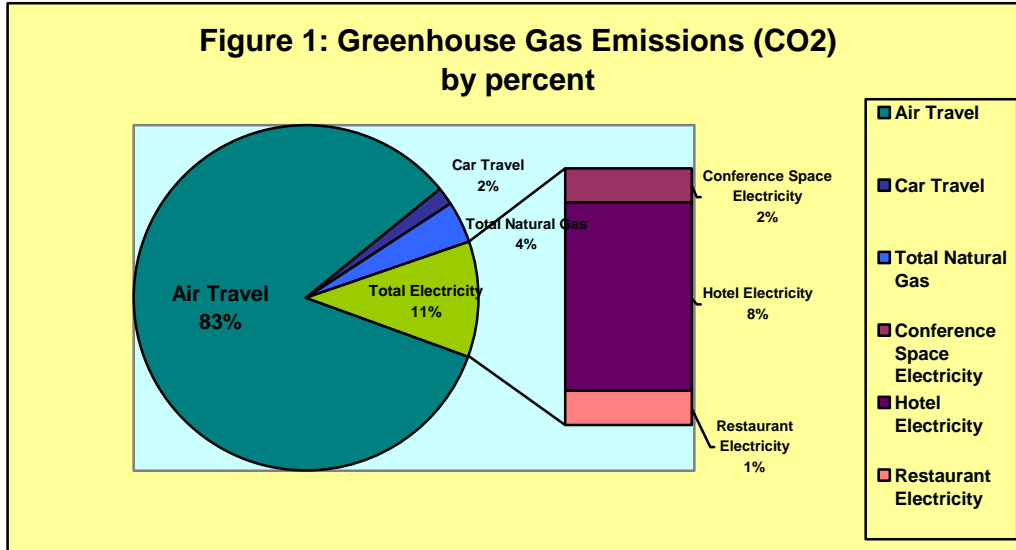
The Cleaner and Greener[®] Program uses an integrated approach to offsetting pollution from a wide range of sources. Instead of considering only greenhouse gases (CO₂), Cleaner and Greener works to offset the full range of emissions generated by an event, including carbon dioxide, sulfur dioxide, nitrogen oxides, particulates and mercury. Using attendance and facility data provided by CB Richard Ellis, Cleaner and Greener prepared preliminary conference energy use and emissions estimates. Emissions were recalculated after the conference based on final attendance data (Table 1) and verification made to ensure that the offsets obtained were sufficient for obtaining Cleaner and Greener Certification.

Table 1: Event Emissions—CB Richard Ellis World Conference 2007

Pollutant Type	Emissions Caused by Event Energy Use (lbs.)
Carbon Dioxide (CO ₂)	5,613,786
Sulfur Dioxide (SO ₂)	2,793
Nitrogen Oxide (NO _x)	6,905
Particulates (PM10)	1,297
Particulates (PM2.5)	888
Mercury (Hg)	0.01201

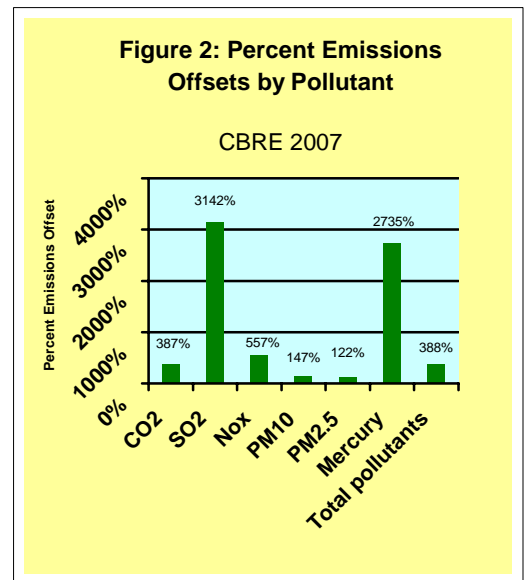
Approximately eighty-three percent of the greenhouse gas emissions (CO₂) generated by the 2007 CBRE World Conference were caused by air travel (Figure 1), which burns kerosene as fuel. Kerosene combustion creates higher percentages of particulates than most electricity generation, therefore creating a proportionately larger amount of particulate emissions relative to electricity generation displaced by renewable energy generation. A large amount of donations received to offset the CBRE Conference are in the form of renewable energy certificates, created by offsetting emissions that would have been caused if the electricity had been created by a non-renewable source (i.e., fossil fuel combustion). Since the majority of emissions offsets for the conference were created from renewable energy generation,

particulate emissions are more difficult to offset for events that have many attendees traveling long distances.



Summary of Emissions Offsetting for CBRE

Offsets of carbon dioxide, sulfur dioxide, and renewable energy credits were gathered to make the 2007 CBRE World Conference an event with a net positive atmospheric impact. Figure 2 depicts the total percent emissions offset for each pollutant associated with conference energy use. The conference had a positive net atmospheric impact, as over 100 percent of emissions were offset. Although total emissions were offset by 388 percent, some pollutants (such as sulfur dioxide and mercury) were offset more than others. This is due to the differences in emissions factors relative to each type of pollution.



Purchasing Emissions Offsets

A competitive procurement was conducted by Leonardo Academy to purchase emissions offsets from renewable electricity, with Community Energy selected as the provider. When purchasing renewable energy certificates, Leonardo Academy requires that providers offer only Green-E certified RECs. All offsets purchased by the Cleaner and Greener Program on behalf of the 2007 CB Richard Ellis World Conference are Green-e Certified, based on the eligibility requirements of The Green-e Climate Protocol

for Renewable Energy Version 1.0. The Protocol establishes guidelines on the greenhouse gas claims that can be made from greenhouse gas (GHG) emissions reductions generated by grid-connected renewable energy projects located in the United States. The purpose of the Protocol is to bring additional creditability to the GHG emissions reductions market, in order to spur the development of the voluntary market for renewable energy.

Based on the imminent updating of the Green-e emissions reduction standard, Leonardo Academy requested assurance from Community Energy that the RECs purchased on behalf of CBRE met the requirements of the current draft of the proposed updates to the standard. Community Energy verified that the RECs purchased do, in fact, meet the requirements of the most recent version of The Green-e Climate Protocol for Renewable Energy, adopted October 18, 2007.

Background on Emissions Offsetting

While emissions are generated by energy use, emissions offsets are generated by activities that reduce the amount of pollution entering the atmosphere or by increasing carbon sequestration rates. Emission reductions are decreases in pollutant emissions that result from actions such as installing more advanced pollution control technology, switching to cleaner fuels, improving energy efficiency, and increasing renewable energy use. The CBRE Conference was offset using two types of emissions offsets: renewable energy projects and waste heat recovery.

Renewable energy credits (RECs) result from a reduction in fossil fuel emissions due to renewable energy projects. Renewable energy projects offset a wide variety of pollutants created by electricity generation, including carbon dioxide, nitrogen oxides, particulates and mercury. The positive environmental attributes of renewable energy are emission reductions that can be traded or sold as renewable energy certificates, or "green tags." Renewable energy credit donations from Bullfrog Power completely offset the electricity used for conference space at the event.

Another way to offset emissions is through waste heat recovery projects. This involves using heat exchangers to recover heat exhausted at natural gas compressor stations, then using this 'waste heat' to vaporize a fluid to drive a turbine/generator set, in turn generating electricity. According to Basin Electric Power Cooperative, the electricity generated from such projects has 'zero or near zero' emissions and minimal environmental impact. The electricity generated from waste heat has 'zero or near zero' emissions and minimal environmental impact and is put on the grid, thereby displacing energy generated by fossil fuel combustion. Basin Electric's donation of 1,958,480 kWh of green tags from waste heat recovery projects located in North and South Dakota offset 93 percent of the total conference carbon emissions.

Although emission reductions from carbon sequestration projects were not used to offset the CB Richard Ellis Conference, donations of these reductions have been used to offset other Certified Cleaner and Greener Events. Carbon sequestration projects usually involve either planting trees or preserving existing forests. American Forests estimates that over its lifetime, the average tree will sequester over 650 pounds of carbon dioxide. Leonardo Academy believes that, in order to encourage the further preservation of forests, it is important to recognize the carbon sequestration resulting from maintaining existing forests as well as the sequestration from planting new forests. Carbon dioxide credits donated from Milliken's forest preservation projects have helped create emission reductions to offset several events certified by Leonardo Academy's Cleaner and Greener Program.

About Cleaner and Greener[®] Event Certification

Events become Cleaner and Greener Certified when event organizers and participants work with Leonardo Academy to calculate and offset the emissions caused by energy use at the event. Before the event, Cleaner and Greener staff estimates the emissions that will be created by energy use at the event, based on the projected number of event attendees. Emissions are generated from event activities such as participant travel (air, rail, and road), event space electricity, hotel room energy use, and meal preparation. Emissions of carbon dioxide, sulfur dioxide, nitrogen oxides, mercury and particulates are also estimated. Next, Cleaner and Greener works with event organizers to either purchase emission offsets or to find donations to offset the full range of event emissions. In the case of CBRE, all offsets were either donated or purchased from donations made by conference attendees. After the event, Cleaner and Greener recalculates event emissions using actual event attendance and conference space use data and verifies that the offsets obtained are sufficient for the event.

Offsetting all types of emissions is important because each causes a particular set of problems for human and environmental health. Carbon dioxide is the major cause of global warming, while sulfur dioxide causes respiratory problems and acid rain, among other problems. Nitrogen oxides lead to smog, acid rain and global warming. Particulate matter can cause serious respiratory problems, while mercury pollution is toxic to humans and animals. The Cleaner and Greener Program focuses on all of these pollutants and takes steps beyond more narrowly focused offset programs that consider only a particular subset of emissions (e.g., greenhouse gases).

Cleaner and Greener Event Certification is part of Leonardo Academy's ongoing work in increasing the understanding of emissions offsetting benefits and creating financial rewards for building owners in voluntary and regulatory emission reduction markets for all types of emission reductions delivered by building energy efficiency and other building owner emission reduction actions.

Select Certified Cleaner and Greener® Events

- November 7-9, 2007, Greenbuild International Conference and Expo held at McCormick Place Convention Center, Chicago, IL by the US Green Building Council
- September 12-14, 2007, Greening the Heartland 2007 Conference held in Madison, WI by the Wisconsin Green Building Alliance
- September 4-7, 2007, CB Richard Ellis World Conference 2007 held in Toronto, Ontario
- August 9-11, 2007, ASHRAE Regional V Chapters Regional Conference held in Kalamazoo, MI by the Western Michigan Chapter of ASHRAE
- August 5-8, 2007, GovEnergy 2007 Conference held in New Orleans, LA by the U.S. General Services Administration (USGSA)
- June 23-27, 2007, ASHRAE 2007 Annual Meeting, held in Long Beach, CA by the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
- May 8-10, 2007 CARE 2007 5th Annual Conference, held in Charleston, SC by the Carpet America Recovery Effort (CARE)
- April 4-5, 2007, GLOBALCON Energy, Power, Facilities Expo, held in Atlantic City, NJ by the Association of Energy Engineers (AEE)
- May 2-4, 2006, Carpet America Recovery Effort Conference (CARE) held at Callaway Gardens, GA
- November 15-17, 2006, Greenbuild International Conference and Expo held at the Colorado Convention Center in Denver, CO, by the US Green Building Council
- September 15, 2005, Business Council for Sustainability Fall Meeting held in Halifax, Nova Scotia by the Conference Board of Canada
- April 11-14, 2005, National Environmental Partnership Summit held at the Fairmont Chicago Hotel in Chicago, IL by the Performance Track Participants Association, the National Pollution Prevention Roundtable, the Compliance Assistance Providers Forum, and the Environmental Protection Agency
- June 16-18, 2003, NeoCon World's Trade Fair 2003 held at the Chicago Merchandise Mart, Chicago, IL, U.S
- November 12-15, 2002, USGBC 1st Annual International Green Building Conference & Expo held at the Austin Convention Center, in Austin, Texas, U.S. by the U.S. Green Building Council
- February 8 -24, 2002, Olympic Winter Games of 2002 and March 7-16, 2002, the Paralympic Winter Games of 2002 held in Salt Lake City and surrounding communities, Utah, U.S. by the Salt Lake Organizing Committee

About Cleaner and Greener

While most emissions offsetting programs focus only on greenhouse gasses, Leonardo Academy's Cleaner & Greener program addresses the full range of emissions that are detrimental to human health, as well as those that contribute to climate change. We work with companies and organizations, families and individuals to quantify their emissions footprints; develop strategies to soften their environmental impact through reduced energy use, alternative transportation, and other sustainable actions; and offset remaining emissions through offset purchases. Cleaner and Greener recognizes program participants for their environmental stewardship through Cleaner and Greener Certification of the level of emission reductions and offsets achieved.

About Leonardo Academy

Leonardo Academy is a 501(c)(3) non-profit organization founded in 1997 that is dedicated to advancing sustainability and putting the competitive market to work on improving the environment. We develop and distribute strategies, guidance, metrics, standards, education, and information on how to increase sustainability. We also help companies, organizations, families, and individuals successfully promote, encourage, and implement sustainability. Our integrated approach makes sustainability very practical for our clients. We provide: sustainability assessments and strategy development for companies and organizations, support for LEED® Implementation and Certification, emissions footprint analysis and development of emission reduction and offset strategies, sustainable land management, sustainability education and training, and certification of emission reduction and offset achievements through our Cleaner and Greener® Program for events, companies and organizations.



Leonardo Academy's Cleaner and Greener® Program

CB Richard Ellis World Conference 2007

Event Emissions and Offset Summary

Dates of event: September 4-7, 2007

Location: Toronto, Ontario

Name of organization holding event: CB Richard Ellis

Address: 355 S. Grand Avenue Suite 2700, Los Angeles, CA, 90071

Contact person:

Name: Stefan Ciotlos

Title: Executive Vice President

Phone: 416 495 6259

Fax: 416 494 6435

E-mail: stefan.ciotlos@cbre.com

Event Website: www.cbreevents.com/WC2007

Event Statistics:

Event Attendance: 3261 = local (130), regional (33), national (65) and international (3033)

Total Event Meeting Floor Space = 325,852 square feet per day

Total Electricity Consumption = 416,483 kWh

Total Natural Gas Use = 18,477 therms

Total Air Passenger Miles = 7,492,701 miles, (228,527 gallons kerosene)

Total Vehicle Miles = 157,180 VMTs, (7,345 gallons gasoline)

Emissions Offsets Based on Estimated Energy Use for CBRE World Conference 2007

Pollutant Type	Emissions Caused by Event Energy Use (lbs.)	Emission Reduction Offsets by Donor and Amount (lbs.)			Number of Times Emissions Offset
		Basin Electric	Bullfrog Power	Attendee Donations	
Carbon Dioxide (CO ₂)	5,613,786	5,238,079	108,574	16,356,767	3.9
Sulfur Dioxide (SO ₂)	2,793	20,850	441	66,471	31.4
Nitrogen Oxide (NO _x)	6,905	14,351	159	23,957	5.6
Mercury (Hg)	0.01201	0.0787	0.0016	0.2481	27.4
Particulates (PM10)	1,297	307	11	1,593	1.5
Particulates (PM2.5)	888	172	6	903	1.2

Emissions Reduction Donors

- Bullfrog Power, a provider of 100% clean, renewable energy to homes and businesses in Alberta and Ontario, donated 59,080 kWh of Eco-Logo certified green power for permanent retirement on behalf of the CB Richard Ellis World Conference 2007. This donation completely offset the electricity used for the conference space.
- Basin Electric Power Cooperative donated 1,958,480 kWh of green tags from their waste heat recovery projects located in North Dakota and South Dakota. This donation offset 93% of the total conference carbon emissions.

Additional Information

How the Event Emissions are Calculated

The pre-event estimate of emissions caused by the energy use associated with this event are calculated based on the travel to and from the event plus the emissions associated with the facilities used for the event, including conference space, lodging, and meals. Starting with Greenbuild 2007, events that are Cleaner and Greener® Certified will have emissions and offsets quantified using methodology referencing the LEO 5000-2001 Draft American National Standard for Trial Use on Emission Inventories, Offsets and Emission Reductions, the EPA Climate Challenge and USGBC credit interpretations on emissions and emission offsets.

What Types of Emissions are Included

Leonardo Academy's Cleaner and Greener® Program includes the full range of emissions caused by energy use. This includes both emissions that contribute to climate change (like CO₂) and emissions that are harmful to human health (SO₂, NO_x, Hg, and particulates).

How Emission Offsets Work

We can reduce emissions directly by our own actions, such as increasing the efficiency of our buildings and vehicles. We can install renewable energy sources in our homes and encourage renewable energy sources in our workplaces. We can also acquire ownership of emissions reductions created by others to offset the emissions caused by our own energy use. Setting up score-keeping standards for quantifying emissions reductions and tracking the ownership of these reductions creates the opportunity for formally creating emission reduction certificates and holding, retiring, donating, and buying and selling emission reductions. These quantified emission reductions can be used to offset the emissions caused by our events, our businesses, our organization and our families. This empowers us to take responsibility for our energy use and to offset the emissions we cause. New Idea to Think About: "Keeping carbon sequestered in existing forests is just as important for total carbon sequestered as sequestering carbon in newly planted forests!"

What Leonardo Academy does with Donations by Event Participants for Emission Offsets

Leonardo Academy uses the donations to buy emissions offsets. Because Leonardo Academy is a charitable (501c3) nonprofit organization, donations are deductible to the full extent allowed by law in the USA. We use 90% of each donation to buy emission offsets. We use 10% of each donation to cover the transaction costs of processing these donations (credit card fees, staff time, etc.). When Leonardo Academy purchases emissions offsets, we use a competitive procurement process to maximize the amount per dollar of the desired offsets we buy. As far as the desired type of emission offsets, we currently only buy renewable energy certificates that have been certified by the Green-E program run by the non-profit organization Center for Resource Solutions. Leonardo Academy permanently retires all offsets acquired to offset events so they can never be used for any other purpose in the future.

Large Donations of Emission Offsets

For events of non-profit organizations Leonardo Academy invites owners of offsets and companies that sell offsets to donate emission reductions.

How You Can Make a Donation to Help Offset the Emission Cause by this Event

Your Charitable Donation of \$20 or more will purchase enough emissions reductions (renewable energy credits) to offset the average per attendee emissions from this event.

Two ways to make this donation:

1. Visit the Cleaner and Greener® web site at www.cleanerandgreener.org and go to the Greenbuild 2007 web page, where you can make a secure donation with a credit card.
<http://www.cleanerandgreener.org/eventcertification/events/CBRE2007WC.htm>
2. Fill in the form below (no Cash or Credit Card numbers please!) and mail or fax it back to Leonardo Academy. We will email you an invoice for the donation amount you specify.

Name	Telephone Number	Email Address	Amount to Donate (\$)

About Leonardo Academy

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