



Cushman & Wakefield
Environmental Assessment:
MOU SemiAnnual Report
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Environmental Protection Agency
Region 2

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Accomplishments

Reductions of 163,377 MTCO₂e



Memorandum of Understanding

On December 12, 2008, Cushman & Wakefield signed a Memorandum of Understanding (MOU) pledging to become an environmental steward by implementing a number of green initiatives that would reduce its carbon footprint and further improve our planet's environment. This partnership with the United States Environmental Protection Agency (EPA) and Cushman & Wakefield has resulted in reducing energy, water and solid waste production across their entire operations.

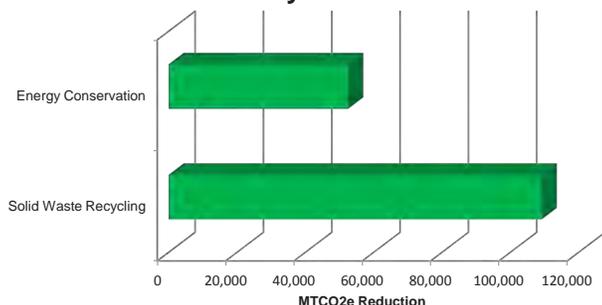
Reduction in Environmental Footprint

In the last three years, Cushman & Wakefield has provided several updates documenting their green initiatives. The EPA has analyzed the submitted information and generated an environmental footprint for the organization. Due to their progressive green efforts, the organization has managed to reduce its carbon footprint by 163,377 MTCO₂e* and saved an estimated \$15,800,000 in operating expenses.

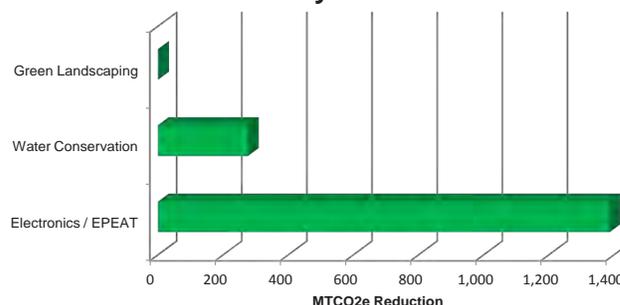
*Metric Ton Carbon Dioxide Equivalent

Environmental Metrics	Total Sector (MTCO ₂ e)	Cost Savings (est.)
Energy Conservation	52,524.4	\$14,168,373
Water Conservation	276.1	\$303,303
Solid Waste	109,188.8	\$1,364,917
Green Landscaping	0.9	\$0
Electronics / EPEAT	1,387.1	\$21,186
Total	163,377.3	\$15,857,779

Primary Initiatives



Secondary Initiatives



Measurement and Continuous Improvements

EPA uses these environmental conversion models to calculate metric tons of carbon dioxide equivalents:

Greenhouse Gas Equivalencies (GHG) Calculator converts GHG reductions into scenarios that can be easily communicated to the public.

eGRID Version 1.1 (2007) which converts standard metrics for electricity, green energy, fuel use, chemical use, water use, and sustainable materials management into MTCO₂e.

The EPA WARM Model which helps calculate GHG emission reductions from several different waste management practices, including source reduction, recycling, combustion, composting and landfilling.

The EPA Pollution Prevention (P2) Cost Calculator that estimates cost savings associated with GHG reductions.

Certain environmental data points cannot be converted to MTCO₂e because scientific models do not currently exist.

As methodologies improve, environmental assessments will be updated to include any new GHG reduction estimates.

Accomplishments

Reductions of 163,377 MTCO₂e

Greenhouse Gas Equivalencies

What does the reduction of 163,377 MTCO₂e represent ?
The organization's effort is equivalent to any one of the following:

- Annual greenhouse gas emissions from 32,035 vehicles



- Carbon dioxide emissions from 18,315,841 gallons of gasoline



- Carbon dioxide emissions from 379,947 barrels of oil consumed



- Carbon dioxide emissions from the energy use of 14,145 homes for one year



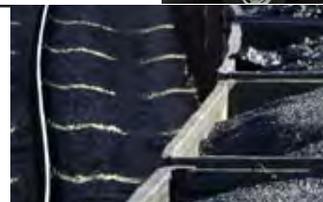
- Carbon dioxide emissions from 6,807,382 propane tanks used for home barbeques



- Carbon dioxide emissions from gasoline carried by 2,155 tanker trucks



- Carbon dioxide emissions from burning 890 railcars' worth of coal (almost 13 1/2 miles long)





Environmental Metrics	Dec 2008 MOU	Dec 2009 Update	Dec 2010 Update (reported Mar 2011)	Dec 2011 Update (reported Mar 2012)	Total Conversion (MTCO2e)	Cost Savings (Est.)
Energy Conservation/Energy Star						
Total Saving (MTCO2e)		24,319.4	14,485.0	13,720.0	52,524.4	\$14,168,373
Miscellaneous Energy Conservation		180,474,473 kbtu	107,493,412.4 kbtu	180,467,094.2 kbtu	52,524.4	\$14,168,373
Web Based Energy Competition						
Motors and Transformers						
Lighting Project Fixtures (bulbs and ballast)						
High Temp Hot Water Pipe Replacement						
HVAC, Chiller & Electrical						
Bulb Replacement (CFLs)						
Bulb Replacement (LEDs)						
Gas Savings						
Fuel Oil Savings						
Alternative Energy						
Total Savings (MTCO2e)						
On-Site Solar						
On-Site Wind						
On-Site Geothermal						
On-Site Combined Heat and Power						
Purchase of Green Energy/Green Power						
Water Conservation/WaterSense						
Total Savings (MTCO2e)		286.3	(17.4)	7.1	276.1	\$303,303
Miscellaneous Water Conservation		125,822 kgal	(7,638 kgal)	3,137 kgal	276.1	\$303,303
Low Flow/Hands Free Faucets						
Low Flow Toilets						
Low Flow Shower Heads						
Low Flow Urinals						
Waterless Urinals						
Solid Waste/Industrial Materials Reuse/Green Products						
Total Savings (MTCO2e)		33,250.8	47,218.6	28,719.5	109,188.8	\$1,364,917
Mixed Recyclables (includes Wastewise)		4,102.3 tons	4,462.8 tons	1,688.3 tons	30,350.1	\$410,136
Reduction/Green Products						
Re-Use/Purchase of Materials with Recycled Content						
Use of Recycled Steel during Construction						
Use of Recycled Iron during Construction						
Use of Recycled Plastic during Construction						
Use of Recycled Aluminum during Construction						
Use of Recycled Concrete / Asphalt during Construction						
Use of Coal Combustion Products						
Steel Recycled Offsite during Deconstruction						
Concrete Recycled		61.5 tons	705.5 tons	87.63 tons	42.7	\$34,185
Asphalt Recycled						
Ceiling Tiles Recycled						
Carpet Recycled			3.31 tons	2.08 tons	39.2	\$216
Recycled C & D Waste (Construction Waste)						
Cardboard (construction/non-construction/sharp containers)		797.8 tons	796.85 tons	457.68 tons	7,994.5	\$82,093



Environmental Metrics	Dec 2008 MOU	Dec 2009 Update	Dec 2010 Update (reported Mar 2011)	Dec 2011 Update (reported Mar 2012)	Total Conversion (MTCO2e)	Cost Savings (Est.)
Mixed Metal (construction/non-construction)		38.6 tons	77.7 tons	43.26 tons	831.8	\$6,382
Mixed Paper		4,039.4 tons	6,598.6 tons	5,515.83 tons	61,382.2	\$646,153
Mixed Plastic (bottles,construction/non-construction,sharp containers)		8.5 tons	30.32 tons	25.6 tons	99.6	\$2,577
Blue Wrap						
Mixed Organics			68.5 tons	265.04 tons	116.7	\$13,342
Food Donation (Waste diversion)						
Biosolids and Food Waste Recycling / Composting		1,303.5 tons	1,730.17 tons		2,669.6	\$121,347
Fluorescent Bulbs		16.4 tons	11.8 tons	7.0 tons	74.9	\$1,408
Waste Oil Recycled						
Magazines / Third Class Mail				1.31 tons	10.9	\$52
Newspapers						
Office Paper		132.4 tons	506.28 tons	82.43 tons	3,990.7	\$28,844
Textbooks						
Phonebooks		0.1 tons	0.1 tons	0.19 tons	0.7	\$16
Dimensional Lumber		0.6 tons	11.08 tons	4.0 tons	28.7	\$627
Fly Ash						
Aluminum Cans		3.6 tons	8.45 tons	12.35 tons	333.9	\$976
Glass		3.6 tons	4.9 tons	8.67 tons	6.6	\$687
HDPE						
LDPE			10.7 tons		18.7	\$428
PET		0.9 tons	4.05 tons	0.14 tons	8.1	\$204
Copper Wire			1.43 tons		9.5	\$57
Appliances			0.35 tons	0.48 tons	3.1	\$33
Non-Ferrous Metals		2.3 tons	3.04 tons	2.54 tons	73.8	\$315
Fats, Oils, Grease		223.4 tons	131.0 tons	8.0 tons	1,087.2	\$14,496
Steel Cans				8.55 tons	15.6	\$342
Tires				0.03 tons	0.1	\$1
Green Landscaping						
Total Savings (MTCO2e)		0.7	0.2		0.9	\$0
Green Roofs						
Porous Pavement						
Grass						
Low / No Mow Area						
Re-use of Collected Stormwater						
On-Site Re-use of Compost / Mulch						
Moisture Sensing Sprinklers						
Number / Acres of Trees						
Reflective Roof						
Synthetic Turf						
Native Plants						
Leaves Composted		3.7 tons	0.9 tons		0.9	
Electronics/EPEAT						
Total Savings (MTCO2e)		277.1	671.1	438.9	1,387.1	\$21,186
Recycling of Electronics		140.9 tons	147.8 tons	27.0 tons	505.1	\$12,628
Re-Use/Donation of Used Computers		0.4 tons	53.55 tons	59.9 tons	263.1	\$4,554



Environmental Metrics	Dec 2008 MOU	Dec 2009 Update	Dec 2010 Update (reported Mar 2011)	Dec 2011 Update (reported Mar 2012)	Total Conversion (MTCO2e)	Cost Savings (Est.)
Toner/Ink Recycling and Use of Recycled Ink			12.0 tons	12.4 tons	497.8	\$976
Battery Recycling		31.7 tons	41.3 tons	2.7 tons	121.1	\$3,028
Purchase of EPEAT Products						
Mass Transit						
Total Savings (MTCO2e)						
Miles Avoided						
Transportation						
Total Savings (MTCO2e)						
Hybrid Vehicles						
Electric Vehicles						
Biodiesel Vehicles						
Clean Construction Vehicles						
LNG Vehicles						
Smartway Transporters						
Bike Racks						
LEED Projects						
Total Savings (MTCO2e)						
Silver - 10%						
Gold - 17%						
Platinum - 20%						
Misc. - Further Clarification						
Total Savings (MTCO2e)						
NOX (equipment only)						
NOX (includes vehicles)						
MTCO2e Savings						
Total (MTCO2e)		58,134.3	62,357.4	42,885.6	163,377.3	\$15,857,779
Energy		24,319.4	14,485.0	13,720.0	52,524.4	\$14,168,373
Water		286.3	(17.4)	7.1	276.1	\$303,303
Solid Waste		33,250.8	47,218.6	28,719.5	109,188.8	\$1,364,917
Green Landscaping		0.7	0.2	0.0	0.9	\$0
Electronics / EPEAT		277.1	671.1	438.9	1,387.1	\$21,186



2012

Cushman & Wakefield Additional Green MOU Accomplishments and Cost Savings

Energy Usage Reported in the Energy Star Portfolio Manager Tool

As of this report, 513 properties under management shared their individual building Portfolio Manager Account information with the C&W Corporate Master Account. Properties in the Master Account represent 113.3 million sq. ft. of commercial real estate, with an average property size of 220,833 sq. ft.

For the energy performance and emissions report, the data set was narrowed to include 147 buildings that have reported 24 consecutive months of data (i.e., those properties for which a complete year-over-year comparison could be performed).

For the water use report, the data set was also narrowed to include only properties with 24 consecutive months of data. Accordingly, the final data set used for analysis of water consumption is based on reporting from 73 properties.

Energy Use & Emissions

Through December 2010, these 147 buildings were collectively performing 22.42% better than the national average. Through December 2011, these same buildings were performing 23.30% better than the national average.

Between December 2010 and December 2011, the average ENERGY STAR rating for these 147 properties increased by 2.17 points, representing a 2.84% increase.

As of December 2011, 30% of the properties analyzed within the Portfolio have earned the ENERGY STAR label or have a label application in process, while another 27% of the buildings are eligible to apply for the label.

Tracking Waste in EPA's WasteWise Re-TRAC Tool

As of this report, 194 properties under management are registered as reporting locations under C&W's account in the WasteWise Re-TRAC tool.