



**SL Green / Reckson**  
**Environmental Assessment:**  
**MOU Annual Report**  
**August 5, 2013**



**Environmental Protection Agency**  
**Region 2**

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## Accomplishments

Reductions of 64,659 MTCO<sub>2</sub>e



## Memorandum of Understanding

On April 23, 2012, SL Green 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. SL Green is the parent company of Reckson, which became a Green MOU Partner a year earlier, on April 21, 2011. This report includes the green and sustainable activities performed by Reckson as well as SL Green. This partnership with the United States Environmental Protection Agency (EPA) and SL Green / Reckson has resulted in reducing energy, water and solid waste production across their entire operations.

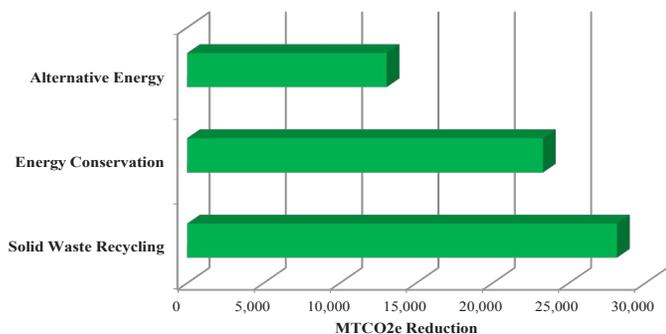
## Reduction in Environmental Footprint

This is the second update SL Green / Reckson has provided documenting its green initiatives. The EPA has analyzed the submitted information and generated an environmental footprint. Due to the progressive green efforts of the organization, SL Green / Reckson has managed to reduce its carbon footprint by 64,659 MTCO<sub>2</sub>e\* and saved an estimated \$5.1 million in operating expenses.

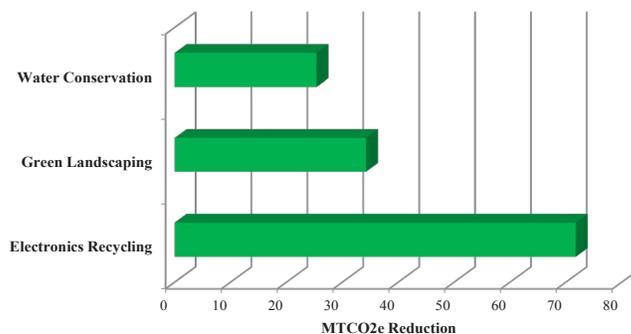
\*Metric Ton Carbon Dioxide Equivalent

Environmental Metrics	Total Sector (MTCO <sub>2</sub> e)
Energy Conservation	23,303.9
Alternative Energy	13,068.9
Water Conservation	25.4
Solid Waste Recycling	28,155.8
Green Landscaping	34.2
Electronics Recycling	71.8
Total (MTCO <sub>2</sub> e)	64,659.9

### 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) and the EPA Pollution Prevention (P2) GHG Conversion Tool which convert standard metrics for electricity, green energy, fuel use, chemical use, water use, and sustainable materials management into MTCO<sub>2</sub>e.

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 MTCO<sub>2</sub>e 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 64,659 MTCO<sub>2</sub>e

### Greenhouse Gas Equivalencies

What does the reduction of 64,659 MTCO<sub>2</sub>e represent ?  
The organization's effort is equivalent to any one of the following:

- Annual greenhouse gas emissions from 13,471 passenger vehicles



- Carbon dioxide emissions from 7,248,868 gallons of gasoline



- Carbon dioxide emissions from 150,372 barrels of oil consumed



- Carbon dioxide emissions from the energy use of 3,328 homes for one year



- Carbon dioxide emissions from 2,694,163 propane tanks used for home barbeques



- Carbon dioxide emissions from gasoline carried by 853 tanker trucks



- Carbon dioxide emissions from burning 278 railcars' worth of coal (almost 4 1/4 miles long)





Environmental Metrics	Apr 2011 MOU	Apr 2012 Update	Jul 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
<b>Energy Conservation/Energy Star</b>					
<b>Total Savings (MTCO2e)</b>		<b>11207.6</b>	<b>12096.3</b>	<b>23,303.9</b>	<b>\$4,437,045</b>
Miscellaneous Energy Conservation					
Real-Time Energy Management		10,393,701 kwh	10,393,701 kwh	10,553.4	\$3,003,780
Mechanical Retrofit (3 locations)		1,339,816 kwh	1,355,332 kwh	1,368.3	\$389,449
Mechanical Retrofit (gas savings)		52,744 therms	44,724 therms	518.6	\$63,671
Lighting Project Fixtures (bulbs and ballast)					
High Temp Hot Water Pipe Replacement					
HVAC, Chiller & Electrical					
Boiler Upgrade		29,730 therms	29,730 therms	316.4	\$38,842
Bulb Replacement (CFLs)					
Bulb Replacement (LEDs)		1,192,811 kwh	3,011,824 kwh	2,134.6	\$607,570
Gas Savings					
Fuel Oil Savings					
Steam Savings		23,676,000 lbs	23,676,000 lbs	8,412.6	\$333,733
<b>Alternative Energy</b>					
<b>Total Savings (MTCO2e)</b>		<b>9,782.2</b>	<b>3,286.7</b>	<b>13,068.9</b>	<b>\$308,188</b>
On-Site Solar			133,340 kwh	67.7	\$19,268
On-Site Wind					
On-Site Geothermal					
On-Site Combined Heat and Power (720KW)			3,467,482 kwh	1,800.0	\$293,002
Purchase of Green Energy/Green Power		19,268,260 kwh	2,795,102 kwh	11,201.2	(\$4,082)
<b>Water Conservation/WaterSense</b>					
<b>Total Savings (MTCO2e)</b>		<b>2.8</b>	<b>22.6</b>	<b>25.4</b>	<b>\$38,091</b>
Miscellaneous Water Conservation (360 Hamilton)		500,000 gal	500,000 gal	1.7	\$2,514
Low Flow/Hands Free Faucets		750,000 gal	12,500,000 gal	22.2	\$33,305
Low Flow Toilets					
Low Flow Shower Heads			50,000 gal	0.1	\$126
Low Flow Urinals (140 Grand, Summit Lake Drive)		404,000 gal	450,000 gal	1.4	\$2,146
Waterless Urinals					
<b>Solid Waste Recycling</b>					
<b>Total Savings (MTCO2e)</b>		<b>1130.6</b>	<b>27025.2</b>	<b>28,155.8</b>	<b>\$398,678</b>
Mixed Recyclables (includes Wastewise)			9651.84 tons	27,025.2	\$386,074
Pallets Waste Avoided / Wood Recycled					
Steel Recycled Offsite during Deconstruction					
Concrete / Asphalt Recycled during Deconstruction					
Recycled C&D Waste (construction waste)					
Cardboard (construction/non-construction/sharp containers)		66.4 tons		206.5	\$2,656
Mixed Metal (construction/non-construction)					
Paper, Mixed		227.7 tons		801.5	\$9,108
Plastic, Mixed (bottles, construction/non-construction, sharp containers)		8.1 tons		7.9	\$324
Can / Bottle Recycling					
Mixed Organics					
Food Donation (Waste diversion)					
Biosolids and Food Waste Recycling / Composting					



Environmental Metrics	Apr 2011 MOU	Apr 2012 Update	Jul 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
Fluorescent Bulbs					
Ceiling Tiles Recycled					
Carpet Recycled					
Waste Oil Recycled					
Magazines / Third Class Mail					
Newspapers					
Office Paper					
Phonebooks					
Textbooks					
Dimensional Lumber					
Fly Ash					
Aluminum Cans		12.9 tons		114.7	\$516
Glass					
HDPE					
LDPE					
PET					
Appliances					
Non-Ferrous Metals					
Fats, Oils, Grease					
Instrument Recycling					
<b>Green Procurement</b>					
<b>Total Savings (MTCO2e)</b>				<b>0.0</b>	<b>\$0</b>
Purchase of Materials with Recycled Content					
Purchase / Use of Compost Socks					
Purchase of EPEAT Products					
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					
<b>Green Landscaping</b>					
<b>Total Savings (MTCO2e)</b>			<b>34.2</b>	<b>34.2</b>	<b>\$0</b>
Green Roofs					
Porous Pavement					
Grass					
Low / No Mow Area					
Green Space					
Re-use of Collected Stormwater					
On-Site Use of Compost / Mulch					
Moisture Sensing Sprinklers					
Number / Acres of Trees			2 acres	34.2	
Reflective Roof					
Synthetic Turf					
Native Plants					
Leaves Composted					



Environmental Metrics	Apr 2011 MOU	Apr 2012 Update	Jul 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
<b>Electronics/EPEAT</b>					
<b>Total Savings (MTCO2e)</b>			71.8	71.8	\$1,794
Recycling of Electronics			88,185 lbs	70.6	\$1,764
Re-Use/Donation of Used Computers					
Toner/Ink Recycling and Use of Recycled Ink					
Battery Recycling			1,530 lbs	1.2	\$30
<b>Mass Transit</b>					
<b>Total Savings (MTCO2e)</b>					
Miles Avoided					
<b>Transportation</b>					
<b>Total Savings (MTCO2e)</b>				0.0	\$0
Hybrid Vehicles					
Electric Vehicles					
Biodiesel Vehicles					
Clean Construction Vehicles					
LNG Vehicles					
Alternate Fuel Vehicles (Zipcar)					
Smartway Transporters					
Bike Racks			12		
<b>LEED Projects</b>					
<b>Total Savings (MTCO2e)</b>					
Silver - 10% (834,000 sq ft)					
Gold - 17% (505,000 sq ft)					
Platinum - 20%					
<b>Misc. - Further Clarification</b>					
<b>Total Savings (MTCO2e)</b>					
NOX (equipment only)					
NOX (includes vehicles)					
<b>MTCO2e Savings</b>					
<b>Total (MTCO2e)</b>	0.0	22,123.2	42,536.8	64,659.9	\$5,183,796
Energy	0.0	11,207.6	12,096.3	23,303.9	\$4,437,045
Alternative Energy	0.0	9,782.2	3,286.7	13,068.9	\$308,188
Water	0.0	2.8	22.6	25.4	\$38,091
Solid Waste	0.0	1,130.6	27,025.2	28,155.8	\$398,678
Green Procurement	0.0	0.0	0.0	0.0	\$0
Green Landscaping	0.0	0.0	34.2	34.2	\$0
Electronics	0.0	0.0	71.8	71.8	\$1,794
Mass Transit	0.0	0.0	0.0	0.0	\$0
Transportation	0.0	0.0	0.0	0.0	\$0



2013

## **SL Green / Reckson Additional Green MOU Accomplishments**

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### ***Sustainable Building Information***

SL Green / Reckson has developed a broad platform of market leading initiatives throughout their portfolio pertaining to the conservation of energy and water, recycling and more. SL Green / Reckson shares these successes with their tenants and the community to develop awareness about the benefits of sustainability.

### ***Recycling Program***

Recycling is a key component of the sustainability program, providing tenants a means to ensure that waste is diverted from landfills, including cardboard, paper, plastic / glass / aluminum. Working together, tenants separate all recyclables within their office space; which is then removed and appropriately separated by building staff before being taken to the recycling transfer station. Tenants are encouraged to get involved, and constantly develop new ways to promote and improve separation through the program.

SL Green / Reckson also participates in other critical recycling programs including fluorescent lamp recycling, and construction waste diversion. Since 2007, SL Green / Reckson has recycled more than 1.6 million square feet of commercial carpet and ceiling tile, equivalent to more than 600 tons of debris. SL Green / Reckson also provides tenants access to electronics recycling.

### ***Energy Star Program***

Focused on energy efficiency, since 2009, SL Green / Reckson has reduced energy consumption throughout portfolio core common building areas by more than 10%. Through a dedicated effort, addressing lighting and mechanical systems to improve efficiency, its success is seen through the Energy Star Label program, developed by the U.S. Environmental Protection Agency. Each building's energy use is assessed and provided a score of 1-100, ranking that property against other commercial buildings nationally. In 2011, 7 properties received The Energy Star Label, scoring greater than 75, and placing SL Green / Reckson's properties among the most efficient buildings nationally, typically 30% more efficient than without this designation.

### ***Tenant LEED Commercial Interior Program***

The LEED for Commercial Interiors (LEED-CI) program provides a set of criteria for certifying tenant and interior projects. The program was developed by the U.S. Green Building Council (USGBC) to place emphasis on green office and retail environments. Focused on providing healthy and productive spaces for employees and occupants alike, LEED for Commercial Interiors recognizes the power that tenants and designers have in making sustainable choices to distinguish their Tenant's commitment toward sustainability.

It is important that SL Green / Reckson helps provide their tenants with the critical information to facilitate a LEED-CI Certification. The intent of the LEED-CI analysis is to provide detailed information for each building and space type that contribute toward key program credits. This information assists their tenants in the creation of high performance, energy efficient, healthful, durable, affordable, and environmentally sound interior environments, reducing operation and maintenance costs.