



**Southampton Hospital**  
**Environmental Assessment:**  
**MOU SemiAnnual Report**  
**May 24, 2012**



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

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## Accomplishments

### Reductions of 2,944 MTCO<sub>2</sub>e



## Memorandum of Understanding

On November 15, 2010, Southampton Hospital 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 Southampton Hospital has resulted in reducing energy, water and solid waste production across hospital operations.

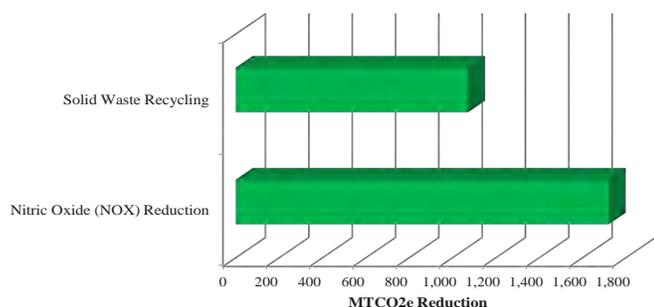
## Reduction in Environmental Footprint

This is the third update for Southampton Hospital and its green initiatives. The EPA has analyzed the submitted information and generated an environmental footprint for the hospital. Due to the progressive green efforts of the organization, the hospital has managed to reduce its carbon footprint by 2,944 MTCO<sub>2</sub>e\* and saved an estimated \$79,500 in operating expenses.

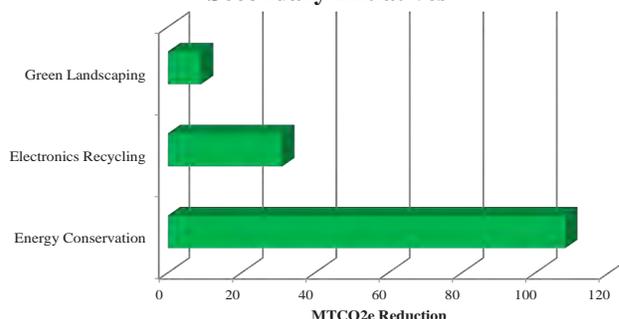
Environmental Metrics	Total Sector (MTCO <sub>2</sub> e)
Energy Conservation	108.1
Solid Waste	1,075.6
Green Landscaping	9.0
Electronics	31.1
Nitric Oxide (NOX) Reduction	1,721.1
Total (MTCO <sub>2</sub> e)	2,944.9

\*Metric Ton Carbon Dioxide Equivalent

### 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 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 2,944 MTCO<sub>2</sub>e**

## Greenhouse Gas Equivalencies

What does the reduction of 2,944 MTCO<sub>2</sub>e represent ?  
The organization's effort is equivalent to any one of the following:

- Annual greenhouse gas emissions from 577 passenger vehicles



- Carbon dioxide emissions from 330,146 gallons of gasoline



- Carbon dioxide emissions from 6,849 barrels of oil consumed



- Carbon dioxide emissions from the energy use of 255 homes for one year



- Carbon dioxide emissions from 122,704 propane tanks used for home barbeques



- Carbon dioxide emissions from gasoline carried by 38.8 tanker trucks



- Carbon dioxide emissions from burning 16 railcars' worth of coal (nearly 1/4 of a mile long)





Environmental Metrics	Nov 2010 MOU	May 2011 Update	Nov 2011 Update	May 2012 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
<b>Energy Conservation/Energy Star</b>						
<b>Total Savings (MTCO2e)</b>	<b>15.4</b>	<b>30.9</b>	<b>30.9</b>	<b>30.9</b>	<b>108.1</b>	<b>\$17,587</b>
Miscellaneous Energy Conservation	24,344 kwh	48,688 kwh	48,688 kwh	48,688 kwh	108.1	\$17,586
Web Based Energy Competition						
Motors and Transformers						
Lighting Project Fixtures (bulbs and ballast)		3.8 kwh	3.8 kwh	3.8 kwh	0.0	\$1
High Temp Hot Water Pipe Replacement						
HVAC, Chiller & Electrical						
Bulb Replacement (CFLs)						
Bulb Replacement (LEDs)						
Gas Savings						
Fuel Oil Savings						
Steam Savings						
<b>Alternative Energy</b>						
<b>Total Savings (MTCO2e)</b>					<b>0.0</b>	<b>\$0</b>
On-Site Solar						
On-Site Wind						
On-Site Geothermal						
On-Site Combined Heat and Power						
Purchase of Green Energy/Green Power						
<b>Water Conservation/WaterSense</b>						
<b>Total Savings (MTCO2e)</b>					<b>0.0</b>	<b>\$0</b>
Miscellaneous Water Conservation						
Low Flow/Hands Free Faucets						
Low Flow Toilets						
Low Flow Shower Heads						
Low Flow Urinals						
Waterless Urinals						
<b>Solid Waste Recycling</b>						
<b>Total Savings (MTCO2e)</b>	<b>546.8</b>	<b>232.6</b>	<b>232.6</b>	<b>63.5</b>	<b>1,075.6</b>	<b>\$61,213</b>
Mixed Recyclables (includes Wastewise)		4910 lbs	4910 lbs		14.1	\$196
Pallets Waste Avoided / Wood Recycled		390 pallets (7.8 tons)	390 pallets (7.8 tons)		38.4	\$624
Steel Recycled Offsite during Deconstruction						
Concrete / Asphalt Recycled during Deconstruction						
Recycled C&D Waste (construction waste)						
Cardboard (construction/non-construction/sharp containers)	165 tons	18.91 tons	18.91 tons	18.84 tons	687.2	\$8,866
Mixed Metal (construction/non-construction)						
Paper, Mixed		1.5 tons	1.5 tons		10.5	\$120
Plastic, Mixed (bottles, construction/non-construction, sharp containers)	45,000 lbs	6000 bottles + 750 5gal bottles + 9082.3 lbs	6000 bottles + 750 5gal bottles + 9082.3 lbs		49.5	\$1,320
Can / Bottle Recycling						
Blue Wrap Waste Reduction		5000 lbs	5000 lbs	5000 lbs	11.3	\$300
Mixed Organics						
Food Donation (Waste diversion)						
Biosolids and Food Waste Recycling / Composting						
Fluorescent Bulbs		3292 (approx 2100 lbs)	3292 (approx 2100 lbs)	345 lbs	0.3	\$91



Environmental Metrics	Nov 2010 MOU	May 2011 Update	Nov 2011 Update	May 2012 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
Ceiling Tiles Recycled						
Carpet Recycled						
Waste Oil Recycled		100 gal	100 gal		2.4	\$34
Magazines / Third Class Mail						
Newspapers						
Office Paper	107,500 sh (215 reams approx 1075 lbs)	90909 lbs	90909 lbs		260.6	\$3,658
Phonebooks						
Textbooks						
Dimensional Lumber						
Fly Ash						
Aluminum Cans				200 lbs	1.4	\$4
Glass						
HDPE						
LDPE						
PET						
Appliances						
Non-Ferrous Metals						
Fats, Oils, Grease						
Instrument Recycling						\$5,000
Medical Device Reprocessing						\$41,000
<b>Green Procurement</b>						
<b>Total Savings (MTCO2e)</b>					<b>0.0</b>	<b>\$0</b>
Re-Use/Purchase of Materials with Recycled Content						
Purchase / Use of Compost Socks						
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>3.0</b>	<b>3.0</b>	<b>3.0</b>	<b>9.0</b>	<b>\$500</b>
Green Roofs						
Porous Pavement						
Grass						
Low / No Mow Area		6000 sq ft	6000 sq ft	6000 sq ft	9.0	\$500
Green Space						
Re-use of Collected Stormwater						
On-Site Use of Compost / Mulch						
Moisture Sensing Sprinklers						
Number / Acres of Trees						
Reflective Roof						
Synthetic Turf						
Native Plants						
Leaves Composted						



Environmental Metrics	Nov 2010 MOU	May 2011 Update	Nov 2011 Update	May 2012 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
<b>Electronics/EPEAT</b>						
<b>Total Savings (MTCO2e)</b>		<b>13.9</b>	<b>13.9</b>	<b>3.3</b>	<b>31.1</b>	<b>\$285</b>
Recycling of Electronics		6248 lbs	6248 lbs	4000 lbs	13.2	\$250
Re-Use/Donation of Used Computers						
Toner/Ink Recycling and Use of Recycled Ink		875 lbs	875 lbs		17.9	\$35
Battery Recycling				80 lbs	0.1	
Purchase of EPEAT Products						
<b>Mass Transit</b>						
<b>Total Savings (MTCO2e)</b>						
Miles Avoided						
<b>Transportation</b>						
<b>Total Savings (MTCO2e)</b>					<b>0.0</b>	<b>\$0</b>
Hybrid Vehicles						
Electric Vehicles						
Biodiesel Vehicles						
Clean Construction Vehicles						
LNG Vehicles						
Alternate Fuel Vehicles (Zipcar)						
Smartway Transporters						
Bike Racks		2	2	2		
<b>LEED Projects</b>						
<b>Total Savings (MTCO2e)</b>						
Silver - 10%						
Gold - 17%						
Platinum - 20%						
<b>Misc. - Further Clarification</b>						
<b>Total Savings (MTCO2e)</b>		<b>573.7</b>	<b>573.7</b>	<b>573.7</b>	<b>1,721.1</b>	<b>\$0</b>
NOX (equipment only)		2.04 tons	2.04 tons	2.04 tons	1,721.1	
NOX (includes vehicles)						
<b>MTCO2e Savings</b>						
<b>Total (MTCO2e)</b>	<b>562.2</b>	<b>854.1</b>	<b>854.1</b>	<b>674.4</b>	<b>2,944.9</b>	<b>\$79,585</b>
Energy	15.4	30.9	30.9	30.9	108.1	\$17,587
Solid Waste	546.8	232.6	232.6	63.5	1,075.6	\$61,213
Green Landscaping	0.0	3.0	3.0	3.0	9.0	\$500
Electronics	0.0	13.9	13.9	3.3	31.1	\$285
Misc. - Further Clarification	0.0	573.7	573.7	573.7	1,721.1	\$0



2012

**Southampton Hospital Additional  
Green MOU Accomplishments and Cost Savings**

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Nothing to report