



Bayonne Medical Center
Environmental Assessment:
Green MOU Annual Report
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Environmental Protection Agency
Region 2

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Accomplishments

Reductions of 1,374 MTCO₂e



Memorandum of Understanding

On September 16, 2011, Bayonne Medical Center 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 Bayonne Medical Center has resulted in reducing energy, water and solid waste production across their entire operations.

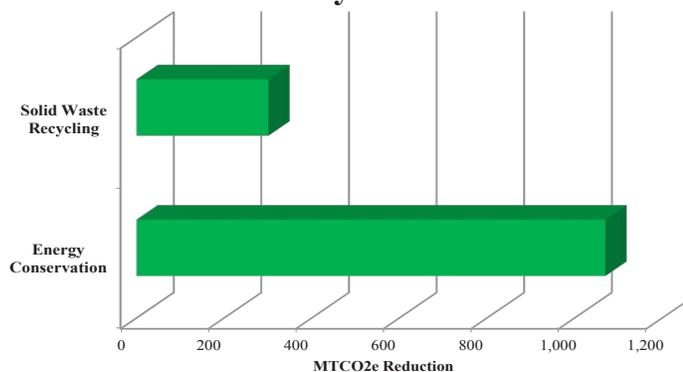
Reduction in Environmental Footprint

This is the second update Bayonne Medical Center has provided documenting its green initiatives. The EPA has analyzed the submitted information and generated an environmental footprint. Thus far, Bayonne Medical Center has managed to reduce its carbon footprint by 1,374 MTCO₂e* and saved an estimated \$184,750 in operating expenses. Since the Green MOU signing, Bayonne Medical Center has implemented a number of significant sustainable and green projects. These green practices are discussed in the narrative of this report and will provide a significant carbon footprint reduction during the subsequent years of the Green MOU.

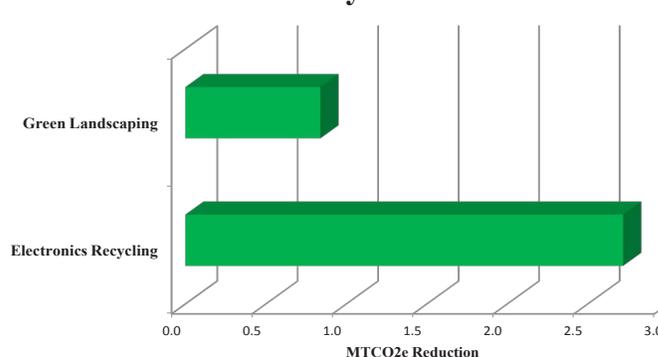
Environmental Metrics	Total Sector (MTCO ₂ e)
Energy Conservation	1,070.1
Solid Waste Recycling	300.9
Green Landscaping	0.8
Electronics Recycling	2.7
Total (MTCO ₂ e)	1,374.6

*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) 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 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 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 1,374 MTCO₂e

Greenhouse Gas Equivalencies

What does the reduction of 1,374 MTCO₂e represent ?
The organization's effort is equivalent to any one of the following:

- Annual greenhouse gas emissions from 286 vehicles



- Carbon dioxide emissions from 154,103 gallons of gasoline



- Carbon dioxide emissions from 3,197 barrels of oil consumed



- Carbon dioxide emissions from the energy use of 68.7 homes for one year



- Carbon dioxide emissions from 57,275 propane tanks used for home barbeques



- Carbon dioxide emissions from gasoline carried by 18.1 tanker trucks



- Carbon dioxide emissions from burning 5.9 railcars' worth of coal (about 1/10 mile long)





Environmental Metrics	Sep 2011 MOU	Sep 2012 Update	Sep 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
Energy Conservation/Energy Star					
Total Savings (MTCO2e)		100.7	969.4	1,070.1	\$180,619
Miscellaneous Energy Conservation					
Web Based Energy Competition					
Motors and Transformers					
Lighting Project Fixtures (bulbs and ballast)		135,606 kwh	135,606 kwh	201.3	\$33,983
High Temp Hot Water Pipe Replacement					
HVAC, Chiller & Electrical					
Bulb Replacement (CFLs)					
Bulb Replacement (LEDs)					
Boiler Replacement			1,170,281.36 kwh	868.8	\$146,636
Gas Savings					
Fuel Oil Savings					
Steam Savings					
Alternative Energy					
Total Savings (MTCO2e)				0.0	\$0
On-Site Solar (855 KW)					
On-Site Wind					
On-Site Geothermal					
On-Site Combined Heat and Power					
Purchase of Green Energy/Green Power					
Water Conservation/WaterSense					
Total Savings (MTCO2e)				0.0	\$0
Miscellaneous Water Conservation					
Low Flow/Hands Free Faucets					
Low Flow Toilets					
Low Flow Shower Heads					
Low Flow Urinals					
Waterless Urinals					
Solid Waste Recycling					
Total Savings (MTCO2e)		142.4	158.5	300.9	\$4,071
Mixed Recyclables (includes Wastewise)					
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)		22.4 tons	23.2 tons	141.8	\$1,824
Mixed Metal (construction/non-construction)					
Paper, Mixed		19.7 tons	21.4 tons	144.7	\$1,644
Plastic, Mixed (bottles,construction/non-construction,sharp containers)		2.7 tons	2.6 tons	5.2	\$212
Can / Bottle Recycling					
Blue Wrap Waste Reduction					
Mixed Organics					
Food Donation (Waste diversion)					
Biosolids and Food Waste Recycling / Composting		3.1 tons	2.5 tons	1.1	\$224



Environmental Metrics	Sep 2011 MOU	Sep 2012 Update	Sep 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
Fluorescent Bulbs		0.64 tons	0.73 tons	0.2	\$55
Ceiling Tiles Recycled					
Carpet Recycled					
Waste Oil Recycled					
Magazines / Third Class Mail					
Newspapers					
Office Paper					
Phonebooks					
Textbooks					
Dimensional Lumber					
Fly Ash					
Aluminum Cans					
Glass					
HDPE					
LDPE					
PET					
Appliances					
Non-Ferrous Metals					
Fats, Oils, Grease			660 gal	7.9	\$112
Green Procurement					
Total Savings (MTCO2e)				0.0	\$0
Re-Use/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					
Green Landscaping					
Total Savings (MTCO2e)			0.8	0.8	\$0
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			10 trees	0.8	
Reflective Roof					
Synthetic Turf					
Native Plants					
Leaves Composted					



Environmental Metrics	Sep 2011 MOU	Sep 2012 Update	Sep 2013 Update	Total Conversion (MTCO2e)	Cost Savings (est.)
Electronics/EPEAT					
Total Savings (MTCO2e)		1.3	1.4	2.7	\$68
Recycling of Electronics					
Re-Use/Donation of Used Computers					
Toner/Ink Recycling and Use of Recycled Ink					
Battery Recycling		0.82 tons	0.88 tons	2.7	\$68
Mass Transit					
Total Savings (MTCO2e)					
Miles Avoided					
Transportation					
Total Savings (MTCO2e)				0.0	\$0
Hybrid Vehicles					
Electric Vehicles					
Biodiesel Vehicles					
Commuter Gas Savings					
Clean Construction Vehicles					
LNG Vehicles					
Alternate Fuel Vehicles (Zipcar)					
Smartway Transporters					
Bike Racks					
LEED Projects					
Total Savings (MTCO2e)				0.0	\$0
Silver - 30%					
Gold - 40%					
Platinum - 45%					
Misc. - Further Clarification					
Total Savings (MTCO2e)					
NOX (equipment only)					
NOX (includes vehicles)					
MTCO2e Savings					
Total (MTCO2e)	0.0	244.3	1,130.2	1,374.6	\$184,758
Energy Conservation	0.0	100.7	969.4	1,070.1	\$180,619
Alternative Energy	0.0	0.0	0.0	0.0	\$0
Water Conservation	0.0	0.0	0.0	0.0	\$0
Solid Waste	0.0	142.4	158.5	300.9	\$4,071
Green Landscaping	0.0	0.0	0.8	0.8	\$0
Electronics	0.0	1.3	1.4	2.7	\$68



2013

Bayonne Medical Center Additional Green MOU Accomplishments

Bayonne Medical Center has taken significant steps in promoting recycling, increasing energy efficiency, and reducing its carbon footprint in the past year.

ENERGY AUDIT

Working with the PSE&G Carbon Abatement Hospital Energy Efficiency Program, an audit was conducted by PSE&G which identified numerous opportunities for reducing Bayonne's carbon output.

The most significant of these, replacement of a 600HP Babcock & Wilcox boiler, has been completed as of October 12, 2012.

An agreement has been signed with PSE&G to move forward with the energy reduction projects listed below:

Retrofit of lighting fixtures throughout the facility, replacing fluorescent with LED lights, with potential savings of 375,227 kWh.

Installation of Premium Efficiency Motors, with electricity savings of 43,783 kWh.

Installation of Premium Efficiency motors with VFD's on Municipal Water Booster Pumps, estimated energy savings of 65,167 kWh.

Insulation of Steam and Hot Water piping, with potential savings of 1,320 therms.

These projects are anticipated to be completed by the spring of 2014.