

CMCMUA Landfill Gas to Energy Project: Documented Environmental Benefits

The staggering quantifiable environmental benefits, including air pollution emissions reduction, conservation of fossil fuel and reduction of green house gas emissions, that accrue from the CMCMUA's Landfill Gas Recovery and Utilization projects are documented below.

Annual Air pollution emissions reductions realized by burning LFG rather than Fuel Oil
 Figures are derived from an actual stack test performed at the WDC.

Air Contaminant	Emissions Pounds/Year Fuel Oil	Emissions Pounds/Year LFG	Emissions Reduction Pounds/Year	Annual Percent Emissions Reduction
Carbon Monoxide	2,628.00	175.20	- 2,452.80	- 93.3%
Particulates	3,880.68	1,646.88	- 2,233.80	- 57.6%
Nitrogen Oxides	37,580.40	4,642.80	- 32,937.60	- 87.6%

Conservation of Resources and Reduction of Greenhouse Gas Emission: Since the year 2000, over **8 million gallons** of fuel oil have been saved. A unique LFG metering station developed for this project measures the energy yield in dekatherms. This information is used to calculate the equivalent gallons of fuel oil that would be burned to produce the same amount of energy. These figures are used as the basis of the billing system. The major component of Landfill Gas is methane. Since the year 2000, over 2.1 billion cubic feet of LFG have been captured and sold as a sustainable energy. Not only does the LFG burn "cleaner" than oil as shown above, each year more than 200 million cubic foot of LFG is NOT contributing to global warming.

Year	Equivalent Gallons Of # 4 Fuel Oil	Cubic Feet LFG Utilized
2000	952,348	266,657,440
2001	930,767	206,614,760
2002	836,438	234,202,640
2003	868,518	243,185,040
2004	1,003,015	280,844,200
2005	1,023,086	286,464,080
2006	1,015,665	243,180,687
2007	1,006,670	230,649,185
Jan – July 2008	448,092	119,919,721
Total	8,084,599	2,111,717,753

Energy produced from sustainable fuel, Landfill Gas to Electricity Project: Since coming on line in March 2007, the LFG to electricity project has produced 2,483,333 kilowatts of electricity from 62,721,000 cubic feet of gas, as of July 31, 2008. The CMCMUA's Landfill Complex operates as an energy independent facility and is now receiving negative monthly electric bills from the local electric utility.

Kilowatts used onsite by CMCMUA's Recycling Facility
 Kilowatts used onsite by energy station for LFG to WDC
 Kilowatts used on site by other CMCMUA operations
 Kilowatts sold to the Grid

Annual Average
 432,240 kilowatts
 460,863 kilowatts
 192,000 kilowatts
 638,400 kilowatts