

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

Document/Reference Name	Authors	Date	Type	Notes/comments
Bioreactor Landfill – Outer Loop Landfill Research Information	WM – Gary Hater, et. al	Various	Discussions	Discussion with Gary Hater (WM)]
Bioreactor Landfill – Project XL Initiative		Various		www.epa.gov/projectxl.com and a Cooperative Research and Development Agreement (CRADA) with Waste Management, Inc
Bioreactors	U.S. EPA	2004	Website	http://www.epa.gov/garbage/landfill/bioreactors.htm
Buckling up for '07	Sean Kilcarr, Waste Age, June 2005	2005	Article	Vehicle emissions/alternative fuel data
Carbon cycle discussion/definition	Wheeling Jesuit University/NASA-supported Classroom of the Future	2005	Website	http://www.cof.edu/ete/modules/carbon/efcarbon.html
Carbon cycle illustration	University Corporation for Atmospheric Research (UCAR)	2005	Website	The source of this material (illustration) is Windows to the Universe, http://www.windows.ucar.edu at the University Corporation for Atmospheric Research (UCAR). 1995-1999, 2000 The Regents of the University of Michigan; 2000-2001 University Corporation for Atmospheric Research http://www.windows.ucar.edu/tour/link=/earth/climate/images/carboncycle_jpg_image.html&edu=high
Carbon cycle/definition	NASA's Earth Observatory	2005	Website	http://earthobservatory.nasa.gov/Library/CarbonCycle/

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

Carbon cycle/glossary and definitions		2005		http://www.chm.davidson.edu/student/che105/masqu岸/glossary.htm
Carbon sequestration definition	DOE Office of Science	2005	Website	http://cdiac2.esd.ornl.gov/
Carbon storage during biodegradation of municipal solid waste components in laboratory-scale landfills	Morton A. Barlaz	1998		Department of Civil Engineering, NC State University, Raleigh, NC., Global Biogeochemical Cycles, Vol. 12, No. 2 pages 373-380, June 1998.
Decision Support Tool – update to current conditions (2003)	Keith A Weitz	September 2005	Information, report	Research Triangle Institute (RTI)
Decision Support Tool for Life-Cycle-Based Solid Waste Management	Harrison, Kenneth W Dumas, Robert D. Salano, Eric Barlaz, Morton A. Brill, E. Downey Ranjithan, S. Ranji	January 2001	Paper	Journal of Computing in Civil Engineering
Emission Reduction Benefits of Landfill Gas Combustion	Environment Canada, National Office of Pollution Prevention	February 2002	Paper	Cheminfo Services Inc. prepared report. Study interprets Environment Canada test results for the emissions of 19 compounds measured at 4 landfill sites.
Emissions of Greenhouse Gases in the United States 2003	Energy Information Administration (Department of Energy)	December 2004	Paper	DOE/EIA-0573(2003) Required annually under Title XVI, Section 1605(a) of the Energy Policy Act of 1992

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

EPA global warming website www.epa.gov/globalwarming/climate/index Climate, Actions, report with following sections: Current United States Actions to Address Climate Change Analysis of the Kyoto Protocol Advancing the Science of Climate Change Advancing Technology to Address Climate Change Promoting Cooperation in the Western Hemisphere and the World	U.S. EPA	Various	Website	
Evaluation of a Biologically Active Cover for Mitigation of Landfill Gas Emissions	M.A. Barlaz, R.B. Green, J.O Chanton, C.D. Goldsmith, G.R. Hater	2004	Article	Vol. 38, no. 18, 2004 / Environmental Science & Technology
Garbage by the Numbers	Ed Repa, NSWMA	2005	Fact sheet	
Global Warming and Hurricanes	Geophysical Fluid Dynamics Laboratory, NOAA, U.S. Dep't of Commerce	October 2005	Website	http://www.gfdl.noaa.gov/~tk/glob_warm_hurr.html
Greenhouse Gas Emissions from Management of Selected Materials in Municipal Solid Waste, 9/98		September 1998	Paper	
Greenhouse Gases, Climate Change, and Energy (introductory chapter with information and diagrams about GHG)	EIA	2005	Website	http://www.eia.doe.gov/oiaf/1605/ggccebro/chapter1.html

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

Greening Garbage Trucks: New Technologies for Cleaner Air	INFORM, Inc.	2002	Report	
Holistic Approach to Environmental Management of Municipal Solid Waste	Susan A. Thorneloe* and Keith A. Weitz**		Paper	
Impact of Municipal Solid Waste Management on Greenhouse Gas Emissions in the United States	Weitz, Keith A. Thornloe, Susan A.	Nov. 2000	Presentation	Given at U.S. Conference of Mayors conference
Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2003	U.S. EPA	February 28, 2004	Paper	
Life-Cycle Inventory Case Studies of Municipal Solid Waste Management	Ecobalance	August 2000	Paper	Ecobalance
Life-Cycle-based Solid Waste Management. I. Model Development II Illustrative Applications	Salano, Eric Ranjithan, S. Ranji Barlaz, Morton A. Brill, E. Downey	October 2002	Paper	Journal of Environmental Engineering
Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2003	U.S. EPA	2005	Report	
Projected Future Diesel Emission Standards	Cliff Buck	2005	Presentation	Adapted from a presentation given by Autocar Trucks

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

Recycling information/benefits (paper, aluminum)	National Recycling Coalition	2005	Website	http://www.nrc-recycle.org/resources/enviroben.htm http://www.gpi.org/recycling/environment http://www.recycle.novelis.com/NR/rdonlyres/D80899B7-43B0-4154-9F44-07EC3A5E99D7/0/FunFactsCard.pdf
Reduced Methane Emissions – A Case for Landfill Biocovers Research Bulletin, Issue 1, Volume 2 Fall 2003	Environmental Research and Educational Foundation (EREF)	2003	Article	www.erefdn.org
Saving the Planet One Landfill at a Time	Brian Guzzone, Program Manager, USEPA	January 2004		State of the LFGE Industry, 7 th Annual LMOP Conference and Project Expo
Solid Waste Management and Greenhouse Gases: A Life-Cycle Assessment of Emissions and Sinks, 2nd Edition	U.S. EPA	May 2002	Paper	2 nd edition
Solid Waste Outlook 2005	Chartwell	2005	Presentation for web seminar	Figures on waste generation – used to update to 2004
Sustainability and Waste Management	Thornloe, Susan A. Weitz, Keith A.	Undated 2003	Paper	

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

The Impact of Municipal Solid Waste Management on Greenhouse Gas Emissions in the United States	Thornloe, Susan A. Weitz, Keith A. Zannes, Maria	Sept 2002	Paper	Journal of the Air & Waste Management Association, Volume 52
The Impact of Municipal Solid Waste Management on Greenhouse Gas Emissions in the United States		2000	Paper	ISWA GHG Report
Third Party Verification of Methane Destruction to Create Greenhouse Gas Offsets (Bluebonnet Landfill)	Shaw EMCON/OWT	January 2004	Paper	Prepared in accordance with CCX proposed protocol for measuring and verifying GHG reductions in landfills. WMI used for offsetting increased CO ₂ emissions from 2004 Super Bowl, held in Houston, TX
U.S. Climate Change Technology Program – Technology Options for the Near and Long Term	U.S. Department of Energy, lead agency	November 2003	Report	
US Carbon Dioxide Emissions from Energy Sources <i>2004 Flash Estimates</i>	EIA	June 2005	Presentation	Updates with preliminary 2004 data on CO ₂ emissions in 2004.
Voluntary Reporting of GHG Reductions for Municipal Solid Waste Landfills	Miller, Megan J. Shaw EMCON/OWT, Inc.	May 2005	Paper	Presented at NSWMA Waste Tech Landfill Technology Track, Waste Expo, May 2005
Waste-to Energy (WTE) Information		August 2005	Information/ discussion	Ted Michaels Integrated Waste Services Association 1331 H Street, NW, Suite 801 Washington, DC 20005

National Solid Wastes Management Association (NSWMA)

Municipal Solid Waste Industry Reduces Greenhouse Gases through Technical Innovation and Operational Improvements

References and Data Sources – February 2006

Waste-to-Energy Research and Technology (WTERT) Council/ - Frequently Asked Questions (FAQs)	Waste-to-Energy Research and Technology (WTERT) Council	2005	Website	http://www.seas.columbia.edu/earth/wtert/wterfaq.html
--	---	------	---------	---