VANDERBILT UNIVERSITY
INVENTORY OF GREENHOUSE GAS EMISSIONS 2013

Electricity purchased by VU was at a seven-year low in 2013

17% Overall greenhouse gas emissions reduction since 2008
35% Reduction in greenhouse gas emissions per $1000 research dollars, 2005-2013
27% Reduction in greenhouse gas emissions per person on campus 2005-2013

VANTAGE laboratory earns LEED GOLD CERTIFICATION

Vanderbilt University Medical Center

54% Reduction in greenhouse gas emissions per ambulatory visit since 2005

VANDERBILT RECYCLING VOLUME DOUBLED FROM 2011 TO 2013

1 of 21 colleges with a perfect score!

VANDERBILT UNIVERSITY
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Produced collaboratively by the Sustainability and Environmental Management Office, Plant Operations, Campus Planning and Construction and Vanderbilt News and Communications.

The Sustainability and Environmental Management Office (SEMO) is a collaborative venture between Vanderbilt Environmental Health and Safety and Vanderbilt University’s Plant Operations. SEMO’s mission is to initiate, promote, coordinate, evaluate and encourage environmental management and sustainability initiatives that improve Vanderbilt’s impact on the community and environment.

Plant Operations provides facilities support for all construction, renovation and routine maintenance of University Central space and facilities; housekeeping services for approximately 5.8 million square feet of academic, administrative, residential, and recreational space; grounds care for 330 acres that are a registered arboretum; turf care for athletic fields; and utilities for University Central and the Medical Center.

Campus Planning and Construction (CPC) aims to present a physical environment that meets the programmatic requirements of its customer base while visually expressing the quality to which Vanderbilt University aspires. Functions closely related to the delivery of new facilities are performed by the Facilities Information Services unit within CPC. This group addresses the inventory and management of Vanderbilt’s construction document library, GIS mapping and documentation of all utilities and tracking of floor plans for the Space Inventory and Accounting processes.

Vanderbilt University’s award-winning Division of Public Affairs which includes Vanderbilt News & Communications serves as the institution-wide hub for communications, marketing and public policy initiatives. Whether developing unique relationships with and communicating to Vanderbilt’s vast array of external and internal constituencies, promoting government and community initiatives, creating a broader, deeper and more complete understanding of Vanderbilt, each and every activity of the division supports the University’s academic missions of teaching, research, service and patient care.

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EXECUTIVE SUMMARY

This Greenhouse Gas (GHG) emissions inventory is intended to portray Vanderbilt’s current carbon footprint as accurately as possible and to provide trending information to show progress in GHG emissions reductions from 2005-2013. This GHG inventory was developed by Vanderbilt’s Sustainability and Environmental Management Office (SEMO).

This report, a supplement to previous reports for 2005 to 2012¹, establishes Vanderbilt’s GHG emissions for calendar year 2013 so that the Vanderbilt community can better understand its own unique impact on the environment and determine the most effective improvement strategies to implement in the future. Trending data for 2005 through 2013 is provided in Appendix B and discussed below.

Findings

Total Vanderbilt GHG Emissions, Calendar Years 2005-2013.

¹ Vanderbilt University’s Inventory of Greenhouse Gas Emissions 2005-2013 is available at www.vanderbilt.edu/sustainvu.
Between 2005 and 2013, Vanderbilt University’s GHG emissions have decreased by:

- 12 percent overall
- 27 percent per person on campus
- 35 percent per 1,000 research dollars awarded
- 24 percent per 1,000 square feet of building space
- 31 percent per inpatient day
- 54 percent per ambulatory visit
- 22 percent per student

VU’s total GHG emissions for calendar year 2013 were 419,692 Metric Tons of Carbon Dioxide Equivalent (MTCO₂E), down 12 percent from 2005 and 17 percent from the all-time high reached in 2008².

Vanderbilt University’s EPA-Required GHG emissions for calendar year 2013 were 155,065 MTCO₂E, as reported to the Environmental Protection Agency (EPA) on March 13, 2014.

GHG emissions from Academic and Research Areas have decreased by 17 percent since 2008, and GHG emissions from Patient Care Areas have decreased by 16 percent since 2008³.

92 percent of GHG emissions in 2013 came from purchased electricity, coal and natural gas use at the campus co-generation power plant and faculty and staff commuting⁴.

Overall GHG emissions did uptick slightly in 2013 (by 2%) due to a shift in increased on-campus fuel use and decreased purchased electricity in order to save money on utilities as well as better tracking of Vanderbilt-funded air travel for faculty, staff and students through a new travel management tool, Concur. However, this uptick should reverse as the power plant fuel conversion discussed below is completed in 2014.

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² Additional information about the University’s total GHG emissions for 2005-2013 can be found in Table B.1 in the appendices.
³ Additional information about GHG emissions from Academic and Research Areas and Patient Care Areas can be found in Sections III and IV and Tables B.1, B.2 and B.3 in the appendices.
⁴ Additional information about the sources of GHG emissions can be found in Figure C.1 in the appendices.
Did You Know?

In 2013, Vanderbilt University began the conversion of its co-generation power plant from being fueled with both coal and natural gas to being fueled entirely by natural gas. This improvement will continue to meet the power needs of the University and Medical Center, but in a more environmentally sustainable way. This project will increase operational efficiency while also reducing greenhouse gas emissions, air pollutant emissions and noise pollution, and eliminating associated fuel use and emissions from trucking coal to the power plant. Coal use at the power plant will be discontinued by the end of 2014, barring unforeseen construction delays.

Future Plans

This inventory provides campus stakeholders with a consistent means of comparing annual GHG emissions and sufficiently detailed information to make informed decisions to determine reduction strategies. Annual emissions inventories will be conducted in the future to measure progress, which will continue to be made publicly available on the SustainVU website.

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5 More information regarding the VU Power Plant Conversion can be found at www.vanderbilt.edu/sustainvu/2013/04/vu-power-plant-to-convert-to-all-natural-gas.
6 www.vanderbilt.edu/sustainvu