

# 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



**1 of 21**  
colleges with a  
perfect score!

Vanderbilt University  
Medical Center

**54%**



REDUCTION IN GREENHOUSE  
GAS EMISSIONS PER  
AMBULATORY VISIT SINCE  
2005

VANDERBILT RECYCLING  
VOLUME

**DOUBLED**

FROM 2011 TO 2013

BY

**2015**

VANDERBILT WILL BE

**COAL FREE**

**SustainVU**  
VANDERBILT



VANDERBILT UNIVERSITY

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**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.

Front page graphic created by Jennifer Wu.

**Published October 22, 2014**



## ACKNOWLEDGEMENTS

The authors gratefully acknowledge the following individuals for providing data to SEMO and sharing their insight on operations that produce greenhouse gas emissions:

### VU Plant Operations

Roger Bess  
James “Darren” Bevill  
Larry Cox  
Terry Haley  
Debbie Kunik  
Mitchell Lampley  
David Manning  
Mark Petty  
Richard Warf  
Robert West  
Jeff Youngblood

### Environmental Health and Safety

Melanie Byers  
Ben Edwards  
Susan Johnson  
Marisa Scott  
Kevin Warren  
Robert Wheaton

### VUMC Facilities and Construction

Mike Gable  
Elizabeth Hiett  
Tim Simpson  
Mark Walker  
Joel Wilson

### VUMC Parking and Transportation Services

David Banks  
Gary Streaty

### Campus Planning and Construction

Hugh Brantley  
Judson Newbern

### Human Resources

Leah Cannon

### Vanderbilt University Information Technology

Jeff Flint

### Office of Traffic and Parking

Lance Hale

### Finance

Jane Hershey

### VU Police Department

Missy Morrison

### VUMC Pharmacy Procurement

Michael O’Neal

### Division of Animal Care

Jessie Pirtle

### Vanderbilt University Real Estate

Benji Rust

The authors gratefully acknowledge the following individuals for assisting SEMO with reviewing this report:

James Clarke, *Professor of the Practice of Civil and Environmental Engineering and Professor of Earth and Environmental Sciences; Chair, Environmental Advisory Committee*; Eric Kopstain, *Vice Chancellor for Administration*; Judson Newbern, *Deputy Vice Chancellor for Facilities and Environmental Affairs*; Mark Petty, *Assistant Vice Chancellor for Plant Operations*; and Robert Wheaton, *Executive Director, Environmental Health and Safety*.

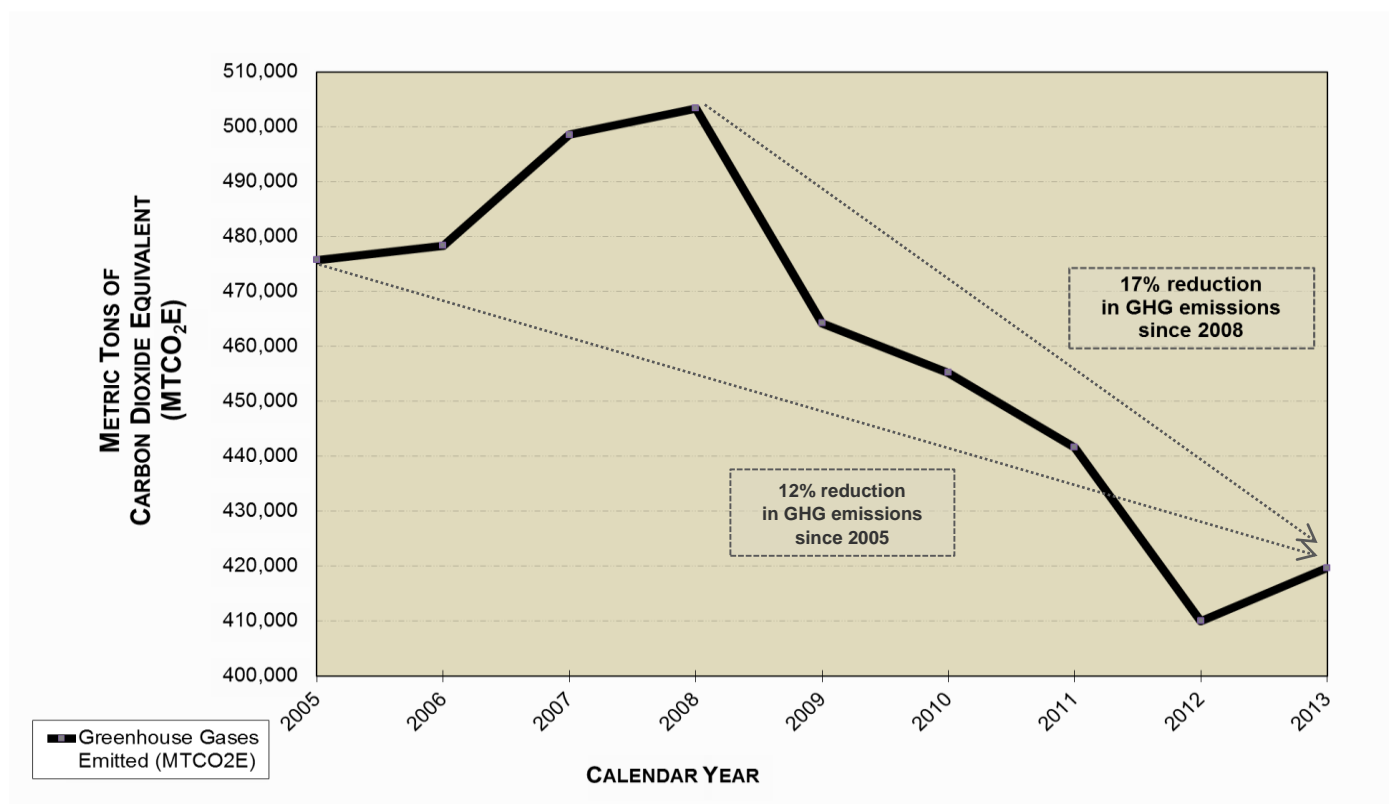
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## EXECUTIVE SUMMARY

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 2012<sup>1</sup>, 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.

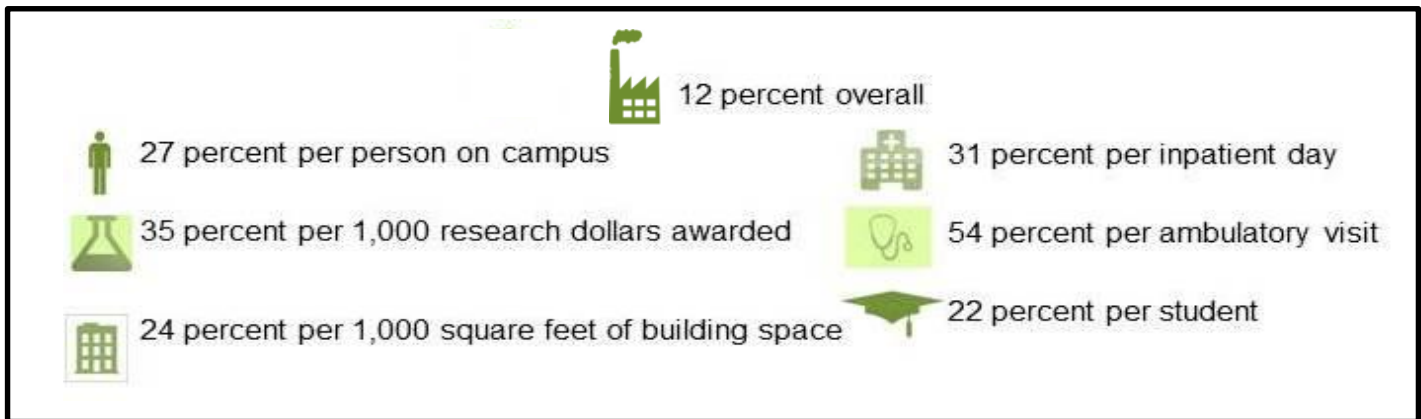
## Findings



Total Vanderbilt GHG Emissions, Calendar Years 2005-2013.

<sup>1</sup> Vanderbilt University's Inventory of Greenhouse Gas Emissions 2005-2013 is available at [www.vanderbilt.edu/sustainvu](http://www.vanderbilt.edu/sustainvu).

Between 2005 and 2013, Vanderbilt University's GHG emissions have decreased by:



- ✓ VU's total GHG emissions for calendar year 2013 were 419,692 Metric Tons of Carbon Dioxide Equivalent (MTCO<sub>2</sub>E), down 12 percent from 2005 and 17 percent from the all-time high reached in 2008<sup>2</sup>.
- ✓ Vanderbilt University's EPA-Required GHG emissions for calendar year 2013 were 155,065 MTCO<sub>2</sub>E, 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 2008<sup>3</sup>.
- ✓ 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 commuting<sup>4</sup>.
- ✓ 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.

<sup>2</sup> Additional information about the University's total GHG emissions for 2005-2013 can be found in Table B.1 in the appendices.

<sup>3</sup> 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.

<sup>4</sup> 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<sup>5</sup>.



2014 Photo of power plant prior to construction (*left*); artist rendition of power plant after conversion (*right*)

### 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](http://www.vanderbilt.edu/sustainvu)<sup>6</sup>.

<sup>5</sup> 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/](http://www.vanderbilt.edu/sustainvu/2013/04/vu-power-plant-to-convert-to-all-natural-gas/).

<sup>6</sup> [www.vanderbilt.edu/sustainvu](http://www.vanderbilt.edu/sustainvu)