


SUMMARY HIGHLIGHTS

**3**  
new solar picnic tables installed

Reduction in emissions per sq ft  
**12%↓**

FY17-18 Vanderbilt University Emissions = **183,895** MTCO2E

**8** Big Belly Solar powered recycling/waste containers  
**\$150k/yr** on Green Fund Projects  
**7** new projects in 2017



 **18** LEED Buildings on Campus



Named **#21** on Princeton Review's Top 50 Green Colleges  


- Scope 1: On-campus sources (76,256 MTCO2E or 41%)
- Scope 2: Purchased electricity (46,331 MTCO2E or 25%)
- Scope 3: Commuting (61,309 MTCO2E or 33%)

Became a **Menus of Change University Resource Collaborative** Member

**47%** Waste Diversion Rate  
  
**12,612** Commuters  
  
**30%** of Commuters use Sustainable Transportation

**FutureVU**  
Land Use Plan released in 2017

**BlueSky Energy Vision Strategy + Large Scale Renewable Energy Study**  
FutureVU projects in 2017

**Composting Program**  
  
Collected **200,000** pounds of food

# Vanderbilt University

## Fiscal Year 2017-18 Sustainability Report

## INTRODUCTION

A \$1 million gift from Commodore Cornelius Vanderbilt in 1873 established the University following the Civil War, with the mission to “contribute to strengthening the ties which should exist between all sections of our common country.” Today, Vanderbilt University is a top-15 private research university offering a full-range of undergraduate, graduate and professional degrees. Vanderbilt is situated on a 333-acre campus near the thriving city center of Nashville, TN, serving over 12,000 students and directly employing more than 6,000 faculty and staff. Its affiliated academic medical center, Vanderbilt University Medical Center (VUMC), is contiguously located and operates in close partnership and through a combined internal power grid with the University.

Vanderbilt University operates an on-site, natural gas fueled co-generation power plant that meets the steam and a portion of the chilled water needs of the University and Medical Center and 28% of the electrical need. The remaining 72% electrical need is purchased from the Tennessee Valley Authority through Nashville Electric Service (NES). Vanderbilt emits Greenhouse Gases (GHGs) through these two processes as well as university fleet vehicle use, refrigerant releases, faculty and staff commuting to work, air travel paid for by the University, and waste disposal and recycling.

The six GHGs emitted into the atmosphere that comprise the majority of the carbon footprint are: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF<sub>6</sub>). The amount of emissions of each gas are converted to a standard unit of measure, or metric tons of carbon dioxide equivalents (MTCO<sub>2</sub>E) and then summed to determine our carbon footprint.

Vanderbilt University embarked on a new journey as an independent legal entity from VUMC on May 1, 2016. Vanderbilt University is now smaller in both number of people and square feet without the Medical Center, and, therefore, so are our 2016 and 2017 Greenhouse Gas inventories in comparison to our previous inventories (2005-2015). Because of the significant shift in GHG footprint due to the new organization, 2005-2015 GHG data will be archived. The 2016 Annual Report contains first year baseline data for the University only, with the 2017 Annual Report presenting only the second year of trending data. Additionally, this report is fiscal year based reporting for FY17-18 for the first time to better align with Vanderbilt’s financial year and academic year cycle.

This sustainability report is intended to portray Vanderbilt’s current carbon footprint as accurately as possible and to highlight other key sustainability gains in fiscal year 2017 from July 2017-June 2018.

This report is developed by the Vanderbilt Sustainability and Environmental Management Office (SEMO). Any questions should be directed to [sustainvu@vanderbilt.edu](mailto:sustainvu@vanderbilt.edu).



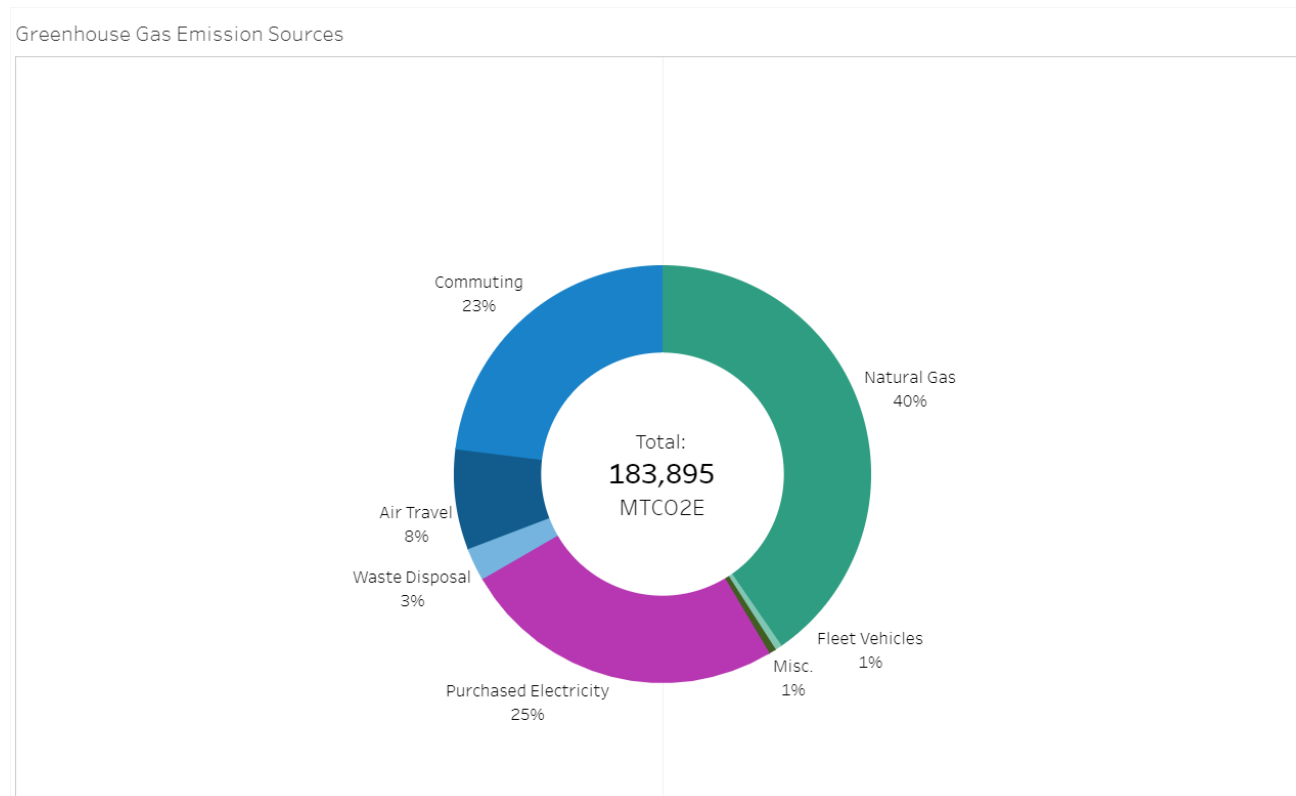
## CLIMATE IMPACTS – BY GHG EMISSION SECTORS

Vanderbilt reports greenhouse gas (GHG) emissions across all major sources.

Scope 1: The most significant source of Scope 1 emissions is natural gas use at the on-campus power plant and in individual buildings. Additional Scope 1 emissions include fleet vehicles, diesel use at the power plant, emergency generators, anesthetic gas use, and refrigerant releases.

Scope 2: Scope 2 emissions are entirely purchased electricity from Nashville Electric Service (NES).

Scope 3: Scope 3 emissions at Vanderbilt include faculty, staff, and student commuting, air travel, waste disposal, and recycling.

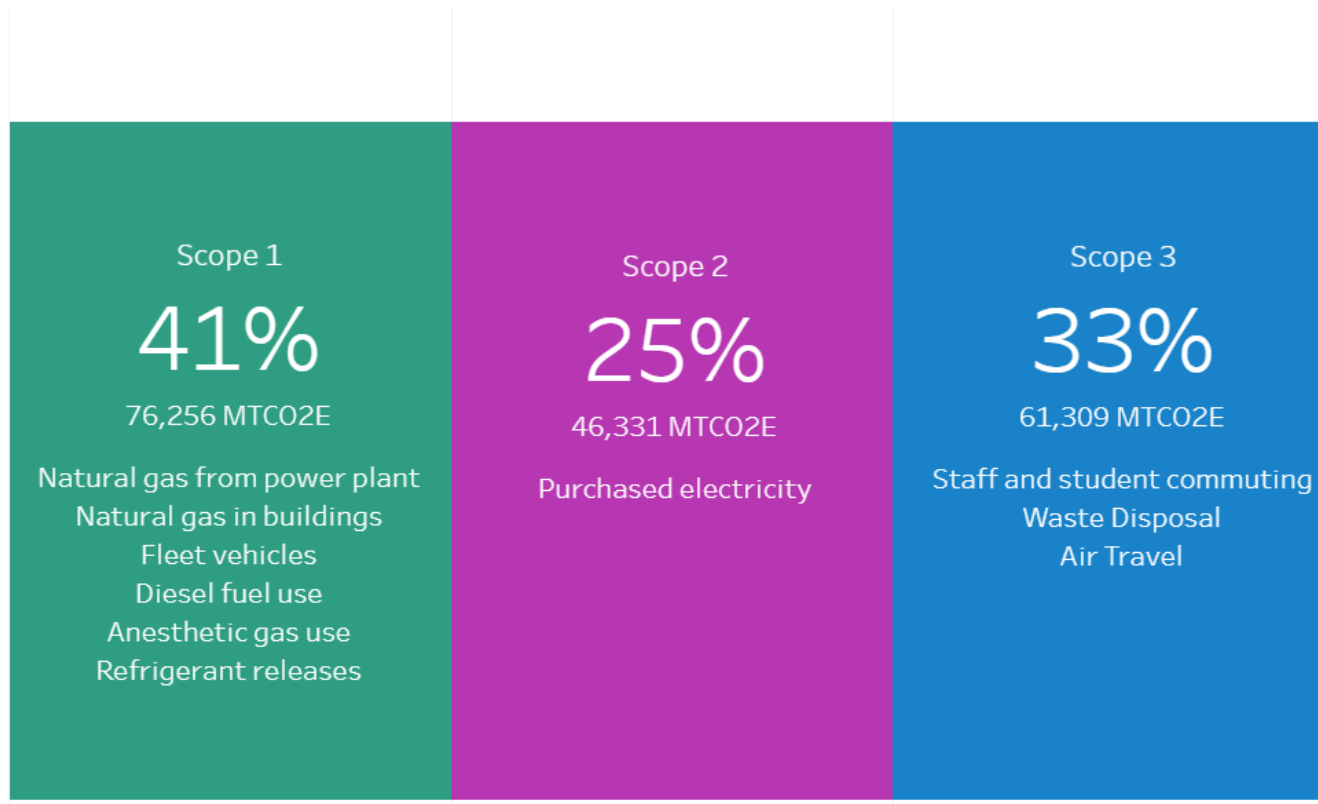


More information related to Scope 1 and 2 emissions can be found in the Energy section of this report. Details related to Scope 3 emissions can be found in the Transportation and Waste sections of this report.

## CLIMATE IMPACTS – BY GHG EMISSION SCOPES

Vanderbilt University emitted 183,895 metric tons of carbon dioxide equivalents (MTCO<sub>2</sub>E) in FY17-18. These greenhouse gas emissions were split between Scopes 1, 2, and 3 – 41%, 25%, and 33%, respectively. Scope 1 emissions are direct emissions from sources that are controlled by Vanderbilt, such as combustion of natural gas in the on-campus power plant. Scope 2 emissions are indirect emissions from purchased electricity. Scope 3 emissions are not directly controlled by Vanderbilt but are associated with Vanderbilt, such as employee commuting, air travel, and waste disposal. Compared to the CY16 Greenhouse Gas (GHG) emissions footprint calculation, FY17-18 footprint shows a slight overall increase of ~ 9,000 metric tons of CO<sub>2</sub> equivalent (MTCO<sub>2</sub>E). However, VU's GHG emissions per gross square foot has dropped by 12% compared to CY16, which is a very positive trend. Because it is important to address emissions from all sources, the University attempts to diversify our efforts to reduce emissions across all three Scopes.

Greenhouse Gas Emissions by Scope

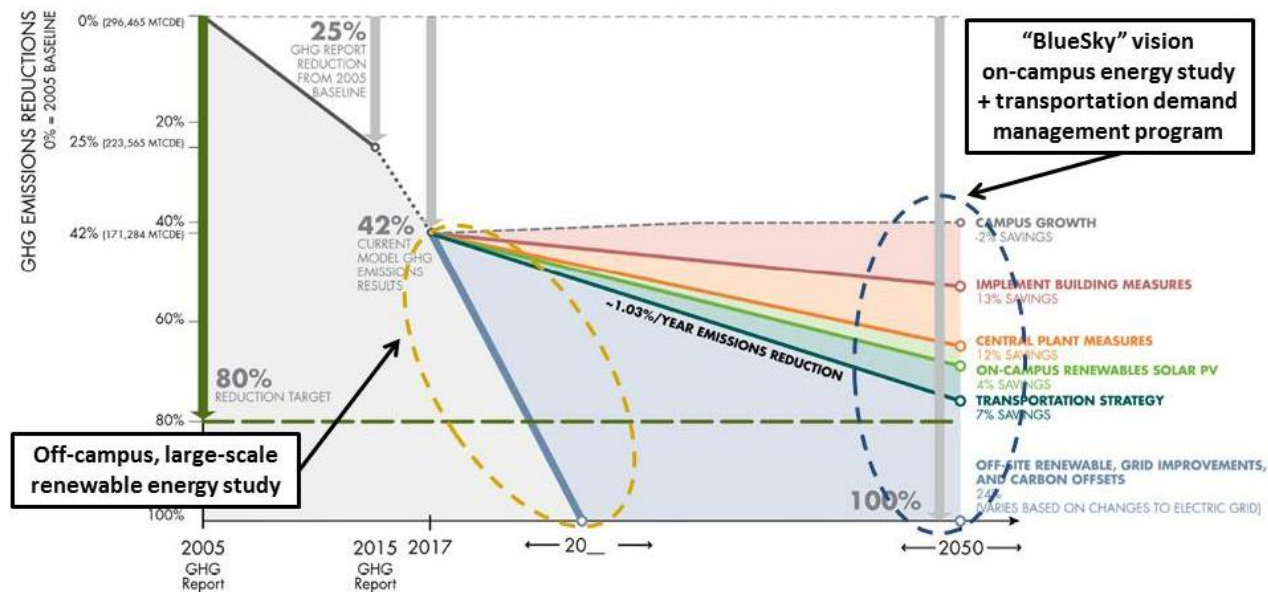


## CLIMATE IMPACTS – NEXT STEPS

Sustainability is a key theme of the [FutureVU](#) Guiding Principles for land use planning. As part of FutureVU, Atelier Ten, an external consulting group, prepared a GHG emissions forecast, which outlined potential targets and scenarios for the University to reach significant reductions in GHG emissions by 2050. Vanderbilt has launched four comprehensive operational studies to further expand on the reduction recommendations and aid in the development of solutions that result in a significant reduction in the University's environmental impact. These studies include a [Large-Scale Renewable Energy Study](#), a [BlueSky Vision Energy Strategy Study](#), a Zero Waste Study, and a [Transportation Demand Management \(TDM\) Study](#).

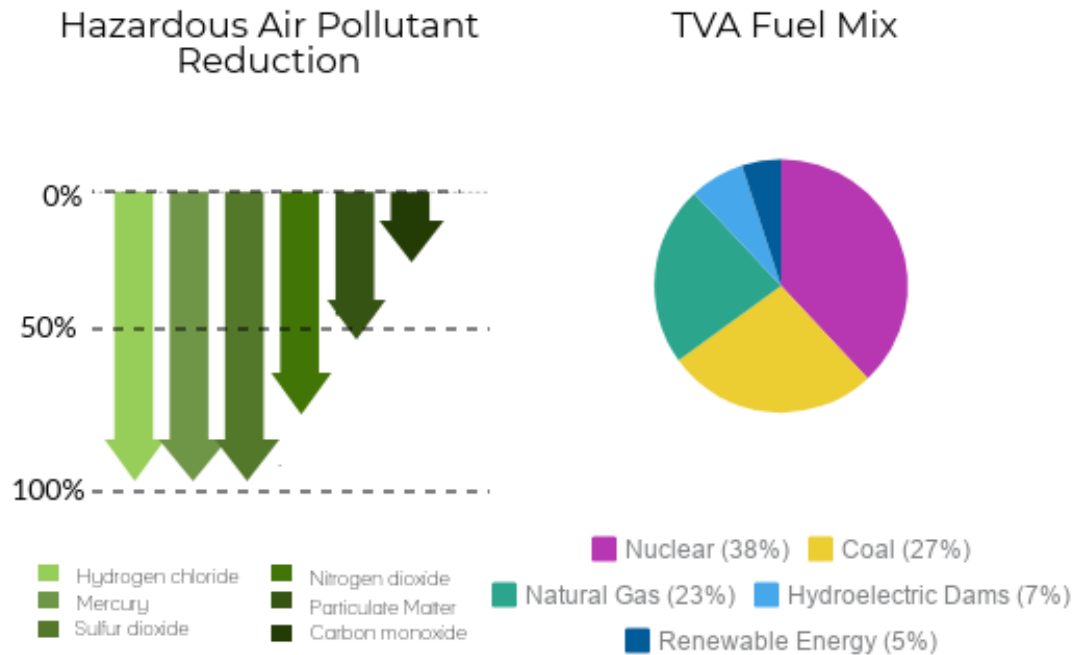
The Large-Scale Renewable Energy Study evaluates the potential for Vanderbilt to use renewable energy as part of its power portfolio. This study kicked off in 2017 with the formation of an advisory committee and will result in a recommended strategy in 2018.

The BlueSky Vision Energy Strategy Study also began in 2017 with the formation of an advisory committee. This study will identify major potential opportunities to reduce Vanderbilt's carbon footprint and improve central campus land use within the University's on-campus energy production, distribution and consumption infrastructure and behavior. It will culminate in a “BlueSky Vision” for campus energy in 2019.



## ENERGY – EMISSIONS FROM POWER CONSUMPTION

Vanderbilt’s on-campus Combined Heat and Power (CHP) plant produces 28% percent of the electricity, all of the steam, and a portion of the chilled water consumed by the Vanderbilt community. This plant uses primarily natural gas, with diesel as backup emergency fuel, to produce electricity, steam, and chilled water. In November 2014, the conversion of the power plant from coal to natural gas was completed. The conversion increased operational efficiency while also contributing significant environmental benefits such as reductions in both greenhouse gases and other hazardous air pollutants, such as mercury. The remaining 72% of electricity needed to power Vanderbilt’s campus is purchased from the Tennessee Valley Authority (TVA) through Nashville Electric Service (NES).



## ENERGY – EFFICIENCY PROJECTS

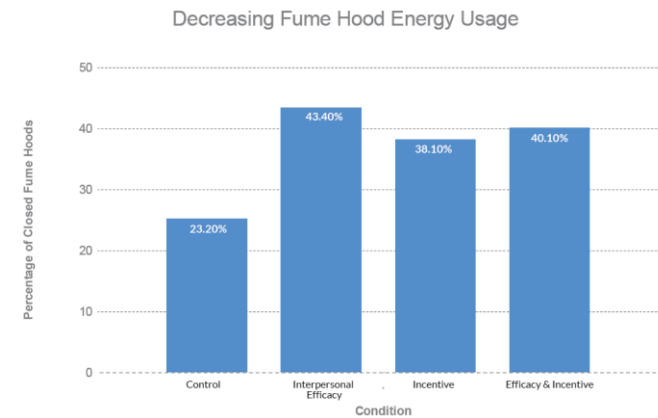
Greenhouse gas emissions normalized on a square foot basis have dropped more than 12% since 2016 due to a combination of ongoing energy efficiency improvements of existing buildings by [Plant Operations](#) and green building techniques employed in new construction by [Campus Planning and Construction](#). These building practices are described in the Sustainable Building section below. For example, stairwell light motion sensors were recently installed at Central Library. The sensors dim lighting in the stairwell to lower levels when the stairs are not in use, reducing the amount of energy needed to light the empty stairwells while maintaining a safe environment.



## ENERGY – BEHAVIOR CHANGE PROJECTS

Vanderbilt's [ThinkOne](#) energy conservation educational program encourages energy conservation by changing behaviors and was developed in collaboration with the Department of Psychology and the Center for Evaluation and Program Improvement. This program seeks to reduce energy consumption at Vanderbilt by 10% through behavioral change alone. SEMO also collaborates with the [Dean of the Commons](#) each year on the annual [Commons Unplugged](#) energy competition and educational event, which encourages residence house energy conservation.

A collaborative project with the [Sustainability and Environmental Management Office \(SEMO\)](#), [Vanderbilt Law School](#), and [Owen Graduate School of Management](#) is researching fume hood use in laboratories on campus to determine what behavioral interventions produce the most energy-saving behaviors in the lab. Each fume hood uses the same amount of energy as a home and VU has over 800 fume hoods. The study has shown that various behavioral interventions such as incentives and competition have a beneficial impact on how often fume hoods were closed.





## SUSTAINABLE BUILDINGS – LEED

Vanderbilt has a long history of building with sustainable and green features, which are more efficient and last longer. The U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System is the nationally accepted benchmark for the design, construction, and operation of high-performance sustainable buildings. This third party certification is recognized as confirmation that a building is environmentally responsible. LEED projects earn points across nine categories: integrative process, location and transportation, sustainable sites, water efficiency, energy and atmosphere, materials and resources, indoor environmental quality, innovation, and regional priority.

Vanderbilt University has a total of 18 LEED certified projects and was the first university in Tennessee to earn LEED certification. The university is pursuing LEED certification on 5 buildings that were recently completed or are under construction.

### Gold:



### Silver:



### Certified:





## SUSTAINABLE BUILDINGS – GREEN ROOFS

Vanderbilt has six green roofs across campus, which provide multiple benefits including reduced energy use in buildings, reduced urban heat island effect, improved stormwater management, increased roof longevity, and improved aesthetics.

Many of the green roofs at Vanderbilt are “hidden in plain sight” and act as plazas or lawns. The newest green roof was installed as part of a major renovation of Eskind Library. A group of students organized a green roof awareness event in 2017 that led participants through the green roofs across campus to highlight these unique features and share information about the benefits.



## SUSTAINABLE BUILDINGS – NEXT STEPS

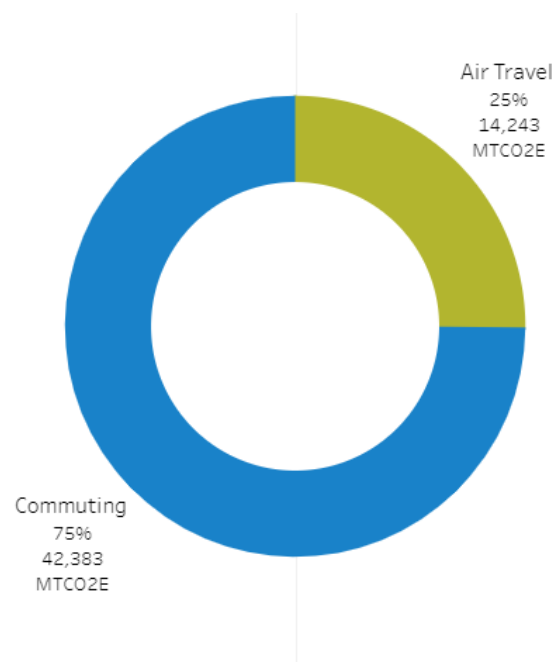
Looking forward, Vanderbilt will explore other certifications for sustainable buildings in addition to LEED. The School of Nursing building expansion is Vanderbilt’s first WELL certification pilot, in addition to pursuing LEED Gold. [WELL certification](#) serves as a credible label for a building’s effect on occupants’ health and well-being.

Vanderbilt is also exploring the [Living Building Challenge](#) certification, which certifies buildings that are regenerative and positively impact the environment.



## TRANSPORTATION – EMISSIONS SUMMARY

Vanderbilt is a major employer in Nashville. The university consists of more than 6,000 faculty and staff, is home to nearly 7,000 undergraduate students, and is the place of study for an additional 5,700 graduate and professional students. Combined, Vanderbilt's commuting population is 12,612, which contributes 42,383 MTCO<sub>2</sub>E to the University's carbon footprint, or 75% of transportation emissions. Air travel for faculty and staff accounts for another 14,243 MTCO<sub>2</sub>E, or 25% of transportation emissions. Transportation emissions are 30% of Vanderbilt's overall emissions.



For Vanderbilt's efforts to offer alternative transportation programs for employees and students, the University received [the 2016 Sustainable Transportation Award](#) presented jointly by the Tennessee Department of Environment and Conservation ([TDEC](#)) and the Tennessee Department of Transportation ([TDOT](#)). The Sustainable Transportation Awards recognize outstanding initiatives within the State of Tennessee to reduce transportation-related energy usage and emissions, in line with an overarching effort to save natural resources, improve the health and well-being of Tennesseans, and create efficiencies in the delivery of goods and services.

## TRANSPORTATION – STRATEGIC PLAN

Issues of mobility and transportation are paramount to the sustainable future of Vanderbilt University, especially within the context of the unprecedented growth happening in the city. One hundred people are moving to Nashville every day, significantly increasing traffic on roadways. Additionally, a recent analysis of staff income versus distance from campus indicated that VU staff in the lowest pay bracket live the furthest from campus, exacerbating the mobility situation further. In close alignment with the [FutureVU Guiding Principles](#), VU's new land use plan calls for diversification of transportation options, prioritization of pedestrian and bicycle mobility, mass transit, and improved accessibility. Foundational principles also include regular evaluation of how traffic interacts within and around the campus boundaries, and reducing rather than adding parking and the number of roadways.

Vanderbilt also aims to enhance connectivity by integrating pedestrian and bicycle circulation, providing mobility paths that integrate with campus landscape and architecture, reducing vehicular through-campus traffic, relocating existing parking to the perimeter of campus, and promoting safety on campus.

The preparation of a comprehensive transportation strategy, based on recommendations from the [Wond'ry working groups](#), [Vanderbilt Student Government \(VSG\) proposal](#), [FutureVU Faculty Advisory Committee](#), and transportation consultants, [Kimley Horn and Associates](#), is currently underway. Vanderbilt has improved alternative transportation options and connectivity across campus with a new bike share program, pedestrian improvements, and a Vandy Van bus shelter. Vanderbilt also participated for the first time in Nashville's Park(ing) Day, which served to draw attention to the use of public space in urban areas by temporarily turning parking spaces into parks and parklets. Vanderbilt transformed 17 parking spaces into an interactive parklet that featured games and activities throughout the day in a relaxing environment that included landscaping, hammocks and a water feature and was awarded the "Wow Factor" award, placed second in "People's Choice" award, and third in the "Text to Vote" category.

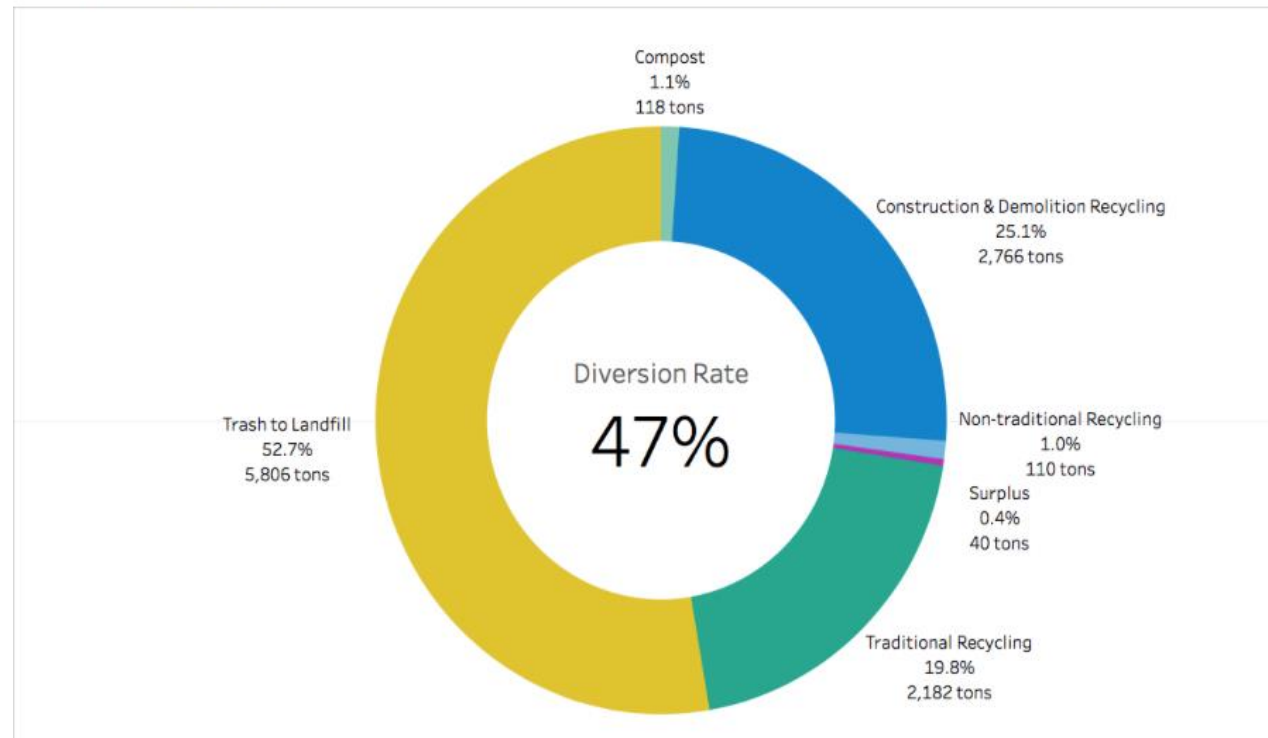


## WASTE & RECYCLING

Vanderbilt has a 20-year history of recycling efforts to reduce waste going to landfills. In addition to traditional recycling programs for materials such as paper, plastic, cardboard, and glass, Vanderbilt has recycling programs for non-traditional materials like construction and demolition debris, toner cartridges, batteries, light bulbs, scrap metal, and electronics. Additionally, the [ReUse program](#) that started in 2016 sustainably manages unneeded furniture and equipment owned by Vanderbilt University departments and laboratories. Vanderbilt also launched a composting program in 2017 to manage food waste from dining operations on campus.

These efforts are creating major environmental impacts. Recycling between 2007 and 2017 increased almost 42-fold from 250,000 pounds to 10,432,000 pounds, with a diversion rate for the University of 47% in 2017.

Waste & Recycling Material Streams

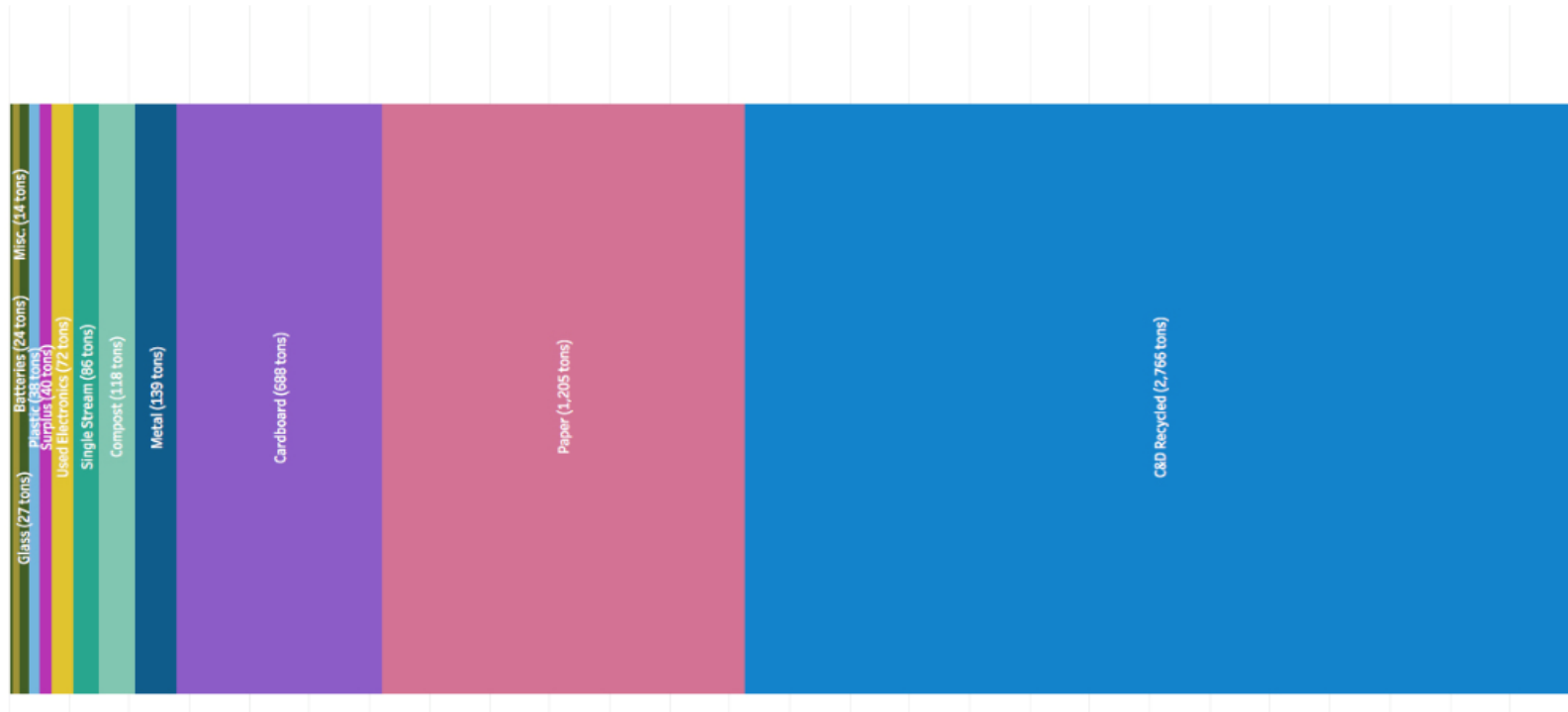


## WASTE & RECYCLING – RECYCLING STREAMS

In 2017, Vanderbilt University generated 5,806 tons of waste and 5,216 tons of recycling. Waste disposal accounts for 4,683 MTCO<sub>2</sub>E from Vanderbilt or about 3% of our total emissions.

Vanderbilt's 5,216 tons of recycling are broken down into specific streams below.

Recycling Streams

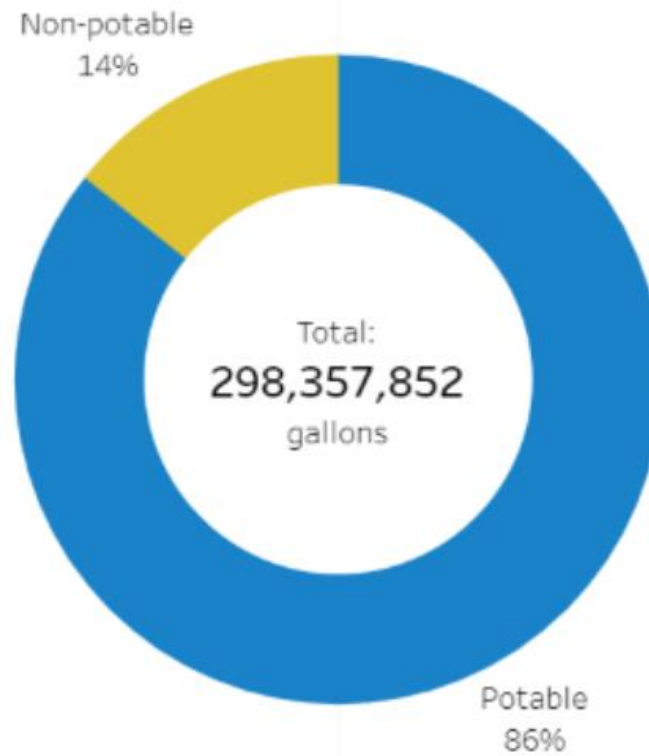


Waste generated at Vanderbilt that is not recycled is sent to landfill. With landfill gas capture technology, 69% of the landfill gas (methane) produced is reused to generate electricity.

### WATER - POTABLE V. NON-POTABLE

Water conservation not only reduces the amount of water used but also reduces the energy needed to treat, pump, and deliver water throughout campus. Water conservation also reduces environmental pressures on our watersheds. Vanderbilt has made great strides in reducing water use on campus by instituting groundwater and stormwater reuse and installing 3,500 water conserving fixtures across campus.

These efforts have made a massive impact on the university's water usage. In 2006-2007, Vanderbilt used over 1.5 billion gallons of water. In 2010, that figure shrunk to 742 million gallons, and in FY17-18, that figure was a mere 298 million gallons, an 81% reduction in 11 years.





## WATER – NON-POTABLE

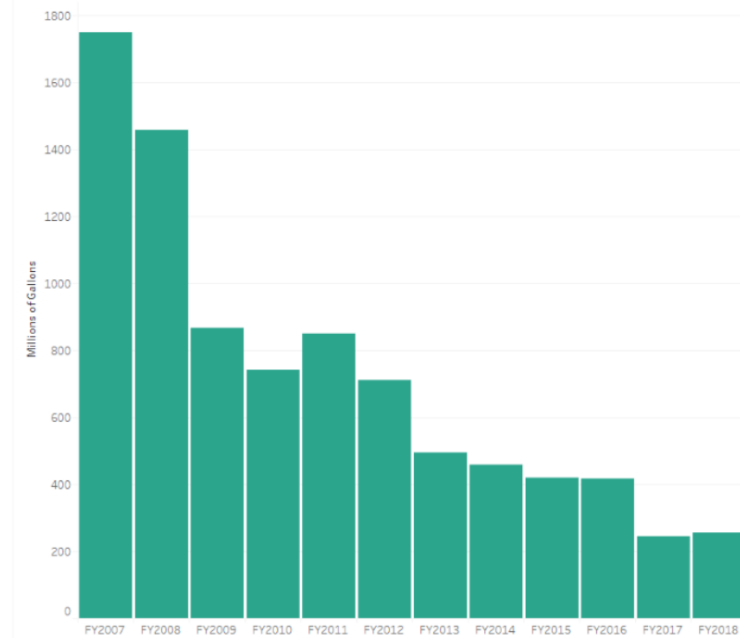
One of Vanderbilt's most significant efforts to conserve potable water is the collection of water from underground utility tunnels, which is used to irrigate sports fields and lawns on campus. In addition, air conditioning condensation collection systems are now in the Commons Center and two of the Medical Research Buildings. The Rainbird IQ irrigation system allows for on-demand, efficient water use. Stormwater management practices are also in place across campus. The new Engineering Science Building has a cistern that collects stormwater from the roof for irrigation and includes a landscape with bioswales and a green roof to retain stormwater on site.



## WATER – POTABLE

Vanderbilt has taken significant steps to reduce its water usage. Since 2007, Plant Operations has retrofitted 3,500 bathroom fixtures on campus in an effort to make them more water efficient. These efforts include low flow and no touch faucets, low flow and dual flush toilets, high-efficiency showerheads and water free urinals. In 2016, the football stadium was upgraded with 74 ultra low-flow urinals.

Historical Potable Water Usage



## FOOD – EAT THE WORLD, SAVE THE EARTH

[VU Campus Dining](#) is committed to providing the best-tasting, most nutritious, diverse and sustainable menus. VU Campus Dining prioritizes sustainable facilities, working to boost energy efficiency and reduce food waste. Vanderbilt's [Eat the World, Save the Earth](#) program offers students and the Vanderbilt community easy access reference guides and identification icons for specific choices: organic, vegetarian, vegan, and local. The program includes seasonal menus, an online nutrition calculator, an on-staff registered dietician, and healthy menu options for all dietary needs. VU is also a member of the Menu of Change University Research Collaborative ([MCURC](#)). MCURC is a working group of leading scholars, foodservice business leaders, and executive chefs from invited universities who are accelerating efforts to move Americans toward [healthier, more sustainable, plant-forward diets](#).



## FOOD – COMPOST

A program for composting food waste was started in October 2017 in the Commons Center Dining Hall. The program currently includes pre-consumer collection for many dining prep locations, as well as post-consumer collection at Rand dining hall and the Commons Center dining hall. Food waste is collected and composted by the [Compost Company](#), a local vendor. In addition, coffee grounds from many campus dining/cafe locations are collected for a composting program run by students at the campus community garden. Composting is a process in which organic waste is broken down into a rich, soil additive under controlled conditions. Compost can be used to promote plant growth while also reducing landfill waste by recycling organic materials back into the soil. The compost program will be expanded to include all dining locations in the future.



## FOOD – REDUCING WASTE

Vanderbilt has made recent efforts to reduce waste from its dining facilities. Plastic straws and lids for cold beverages were removed from all dining facilities. Straws are often thrown away and are not easily recycled in our current recycling facilities. Vanderbilt has also streamlined the number of to-go boxes that are offered in our dining facilities, while some facilities do not offer to-go options, encouraging diners to use reusable hard china. All to-go food containers offered are also made out of compostable materials. The compostable containers are made from sugarcane and wheat straw stalks – both rapidly renewable resources – and will biodegrade in 30 days.



## FOOD – ORCA

Vanderbilt's main dining facility, Rand Hall, uses an Organic Refuse Conversion Alternative (ORCA) aerobic digester to transform all back-of-house food waste into water. The ORCA offers a method to digest food waste on-site and convert it to nutrient-rich water within a 24-hour period. This generates big waste savings: The Environmental Protection Agency estimates that food waste makes up 15% of the overall trash disposed of annually nationwide in landfills. The ORCA not only eliminates landfilling and the methane gas produced in the process, but also reduces the potential for pests around dumpsters and the emissions generated from trucking food waste to landfills.





## GREEN PROCUREMENT

Vanderbilt is exploring a Sustainable Purchasing Policy that establishes standards for the purchase of goods and services consumed by the University with the goals of:

- 1) Reducing the environmental footprint of the University's operations
- 2) Leveraging Vanderbilt University's purchasing power to encourage transparency and environmentally friendly manufacturing practices within product industries
- 3) Influencing generations of environmentally conscious product users through educational programs and by example

If two products are competitive in performance characteristics and pricing, ***the University will favor the environmentally preferable product or supplier.*** For example, [Vanderbilt's Purchasing and Payment Services](#) has worked closely with the University's preferred office products, janitorial products, and laboratory products suppliers to provide more easily identified environmentally preferable product selections. These products are readily identifiable in eProcurement by a special symbol. Purchasing and Payment Services partners with suppliers that are committed to sustainability practices and offer the Vanderbilt community products like FSC recycled paper, remanufactured toner cartridges, and EnergyStar or EPEAT electronics.

The Sustainable Purchasing Policy will enable Vanderbilt to plan its future growth in balance with economic, environmental, and socially responsible values.

## GREEN PROCUREMENT POLICY



## GREEN PRINTING

The Vanderbilt CampusPrint initiative is a multi-phase project to switch to energy efficient printers, reduce the amount of printing, and use more sustainable paper.

In Phases 1 and 2 of CampusPrint, 152 desktop printers/fax machines were eliminated, reducing the overall printing across campus by 32%. Multi-function devices replaced any remaining printers that were still necessary. This reduction in units saved nearly 70,000 kWh annually, which is enough to power five homes in Nashville.

The EPA estimates that one page printed using a personal desktop printer costs up to 14 times as much as one page printed using a multi-function unit. Additionally, each ton of office paper consumes 12,000 gallons of water, 24 trees, 98 tons of various materials, and 11,000 kWh to produce, creating one ton of solid waste and 15,000 gallons of waste water in the process.

Many green paper/printing options are available to the Vanderbilt community, including post-consumer waste recycled-content papers, papers certified by the Forest Stewardship Council ([FSC](#)), vegetable-based inks, papers processed without chlorine, and products made with renewable energy. In collaboration with SEMO, [VU Printing Services](#) achieved Forest Stewardship Certification as an environmentally sustainable printer, and all CampusPrint paper is FSC certified.

## GREEN CLEANING

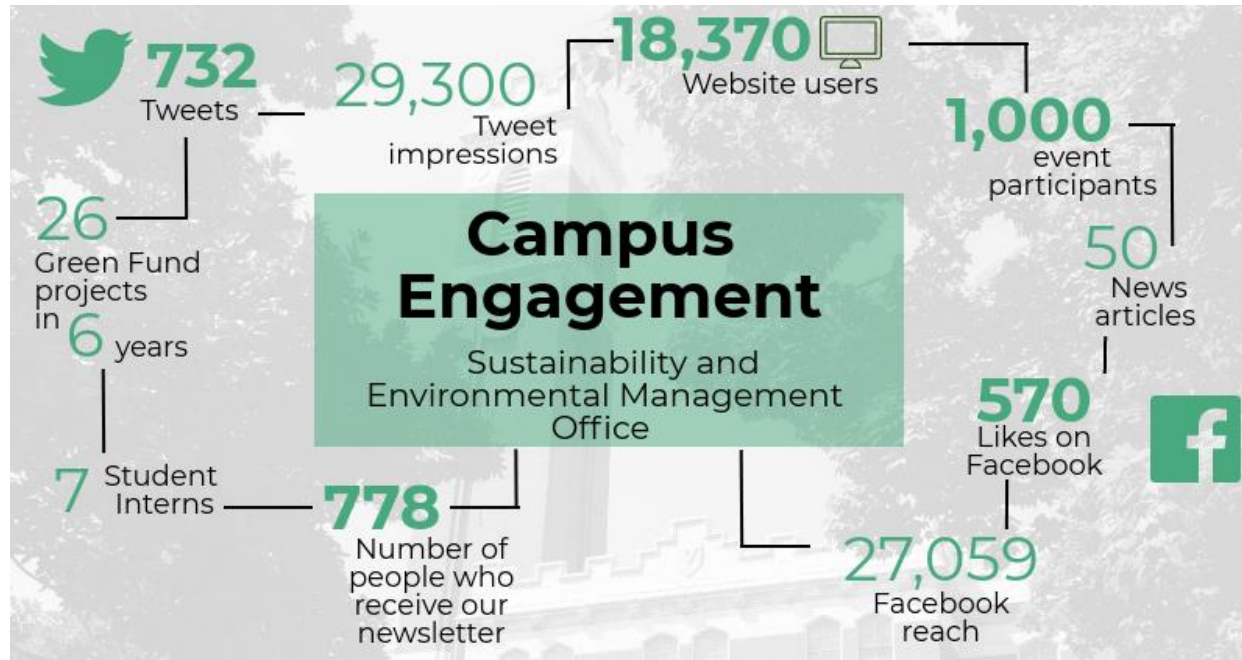
Vanderbilt is expanding the use of green cleaning products and practices throughout VU Facilities as part of its focus on WELL building principles. VU is implementing a Green Cleaning Policy requiring:

- Each building to have an individualized Green Cleaning plan
- Campus cleaning practices to be tracked
- The use of pre-approved cleaning products and equipment
- Routinely providing education on best practices, new technologies, and procedures for cleaning
- Policy revisions every five years



## EDUCATION & OUTREACH SUMMARY

Campus engagement is a key component of the sustainability program at Vanderbilt. Below is a visual summary of our education and outreach across campus.



Vanderbilt was named a [Top 50 Green College](#) this year by the Princeton Review, ranked 21st on the list with a 98/99 Green Rating. The schools on the Top 50 Green Colleges list share superb sustainability practices, a strong foundation in sustainability education, and a healthy quality of life for students on campus. Princeton Review chose the Top 50 Green Colleges for 2018 based on a combination of school-reported data and student opinion, collected in 2018–2019 via institutional and student surveys.

Green Rating scores are based on institutional data obtained from school administrators. Our 10 survey questions cover these key factors:

- whether students have a quality of life on campus that is both healthy and sustainable
- how well a school is preparing students for employment in an increasingly green economy
- how environmentally responsible a school's policies are

Student survey responses included student ratings of how sustainability issues influenced their education and life on campus; administration and student support for environmental awareness and conservation efforts; and the visibility and impact of student environmental groups.



## VANDERBILT GREEN FUND

The Vanderbilt Green Fund (VGF) provides funding specifically to projects that are student-initiated and reduce the greenhouse gas emissions or improve the overall sustainability of the Vanderbilt University campus. VGF enables students, faculty, and administration to directly engage in the process of transitioning to a clean and sustainable energy future. Any student, faculty, or group associated with Vanderbilt University can propose a project for consideration.

The [Office of Housing and Residential Education](#) and [Plant Operations](#) make a combined annual input of \$150,000 to the VGF. Green Fund proposals are first evaluated by a student committee that is organized jointly by [VSG](#) and [SPEAR](#). Top proposals are recommended by the student committee to the Green Fund Working Group, which makes the final funding decisions. The Working Group is comprised of six administrators, six students, and one faculty member. To propose a project to VGF, complete this [application](#).

### FY 2012/2013 Projects

- Solar Dok
- Solstice Charging Units
- Re{cycle}
- Green Vandy Van
- Biogas digestion system

### FY 2013/2014 Projects

- Green Lights real-time energy usage feedback
- Towers Occupancy Sensors
- Campus-wide Low-flow showerheads

### FY 2014/2015 Projects

- Hydration Stations
- Kefi Recyclosaurus
- EcoTube/EcoTank
- ReCardio Elliptical Machines at VRWC

### FY 2015/2016 Projects

- LED Bulb Retrofits for Commons Bathrooms
- Solar PV for Currey Tennis Center
- Solar Hot Water Heating for Currey

### FY 2016/2017 Projects

- Hydration Stations
- Apiary/Garden Project
- Low Flow Urinal Retrofit in Football stadium
- Rand Green Roof

### FY 2017/2018 Projects

- Stevenson Lights Off
- Green Roof
- Dual Flush Toilet Retrofits
- Cold Water Laundry Settings
- Utensils and Napkin Dispensers

### **GREEN FUND – SOLAR PICNIC TABLES**

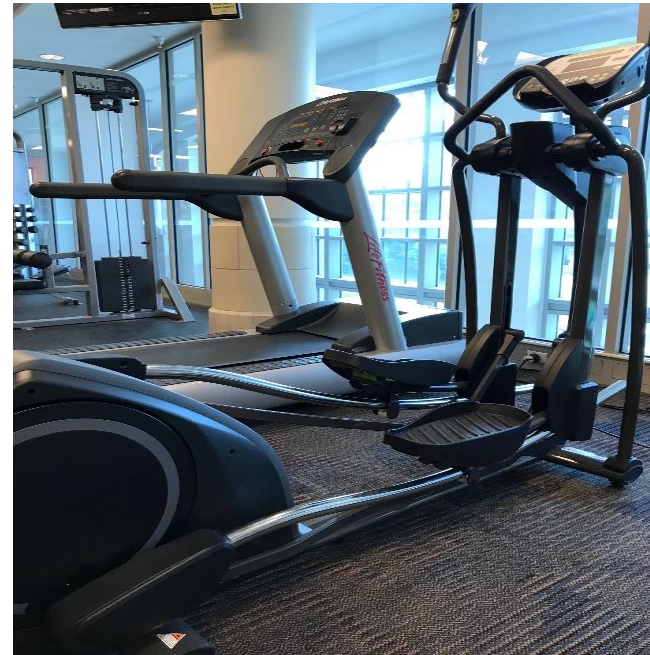
Three new solar picnic tables created by Sunbolt were installed in the fall semester. Similar to the Solar Dok outside Commons Center which was installed in 2012, the new picnic tables use photovoltaic solar panels to provide electrical power. Each table features a solar array, LED nighttime lighting, four 120 volt and eight USB charging stations, and two large benches for students. The systems will be able to provide 75-100 iPhone charges per day. The new tables were installed outside of Kissam Center, Highland Quad, and at the Commons Center.



### **GREEN FUND – ELECTRICITY PRODUCING GYM EQUIPMENT**

Four SportsArt green technology exercise machines have been added to the Commons Fitness Center. The SportsArt machines capture 74% of generated energy and feed it back to the grid, offsetting building electrical costs.

The Commons gym now features three ellipticals and one indoor bicycle that generate electricity. The machines convert mechanical energy exerted during exercise into utility-grade energy that goes into the grid. The Vanderbilt Recreation and Wellness Center also offers electricity-generating gym equipment.

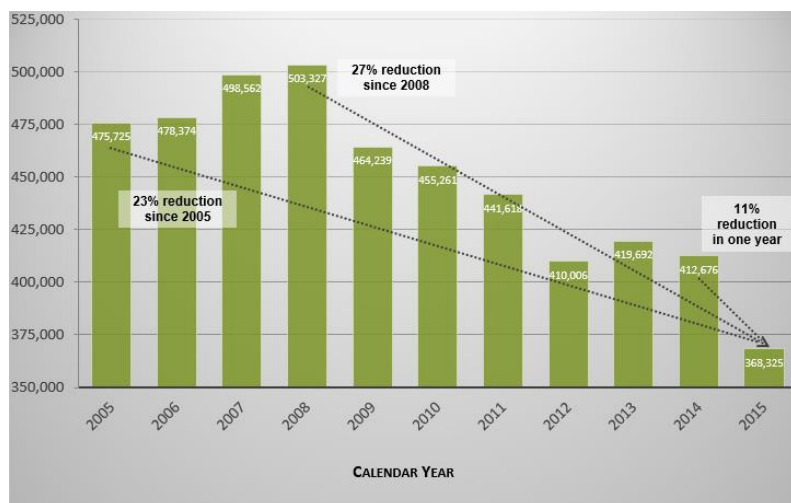


## PAST REPORTS

Vanderbilt is committed to the highest standards of transparency and sustainability through a process of environmental responsibility and accountability at every level of the University. With regards to climate change, this commitment translates to actions aimed at reducing greenhouse gas (GHG) emissions at the university, departmental, and individual level.

The listing to the right provides downloadable files of our past greenhouse gas inventories and reports.

From 2008 to 2015, Vanderbilt University, including Vanderbilt University Medical Center, reduced its overall greenhouse gas emissions by 27%. In 2016, the University separated from the Medical Center, resulting in changes to its boundaries, operations, and size of population, which necessitated a new 2016 baseline.



The completion of a university-wide GHG emissions inventory has occurred annually since the first publication in 2005. These reports provide many key data points, past trends and successes of Vanderbilt University and its efforts to curb greenhouse gas emissions and operations.

- [2016 Greenhouse Gas Emissions Inventory Update, Published October 2017](#)
- [2015 Greenhouse Gas Emissions Inventory Update, Published October 2016](#)
- [2014 Greenhouse Gas Emissions Inventory Update, Published October 2015](#)
- [2013 Greenhouse Gas Emissions Inventory Update, Published October 2014](#)
- [2012 Greenhouse Gas Emissions Inventory Update, Published October 2013](#)
- [2011 Greenhouse Gas Emissions Inventory Update, Published October 2012](#)
- [2011 Greenhouse Gas Emissions Inventory Update, Published October 2012](#)
- [2010 Greenhouse Gas Emissions Inventory Update, Published October 2011](#)
- [2005-2009 Greenhouse Gas Emissions Inventory Update, Published October 2010](#)
- [2005-2007 Original Greenhouse Gas Emissions Inventory](#)

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