

INTRODUCTION

UNIVERSITY BACKGROUND:

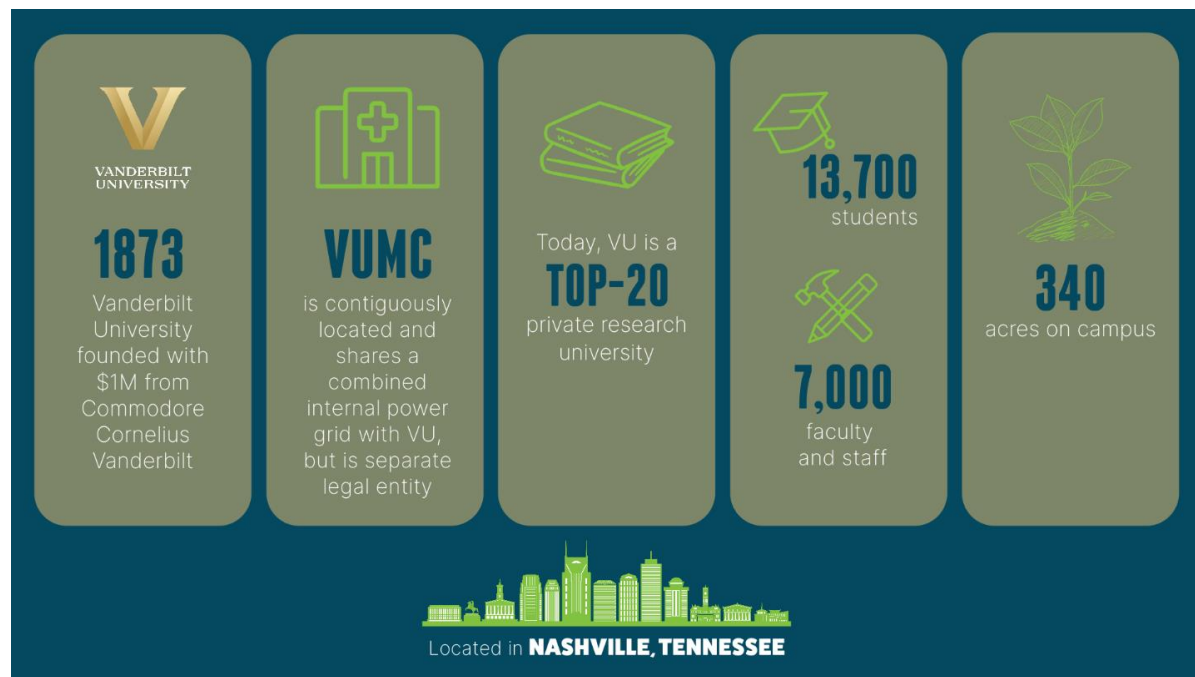


Figure 1 Institutional statistics about Vanderbilt University

UNIVERSITY GREENHOUSE GAS EMISSIONS BACKGROUND:

Vanderbilt University operates an on-site, natural gas fueled co-generation power plant that meets steam needs, hot water needs, and a portion of chilled water needs of the University and Medical Center. Excess heat from the steam generating process is used to generate 25% of the electrical needs of the University. The remaining 75% of electrical needs of the University are purchased from the Tennessee Valley Authority through Nashville Electric Service (NES). Vanderbilt emits Greenhouse Gases (GHGs) through power plant 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.

There are six GHGs emitted into the atmosphere that comprise the majority of the carbon footprint. The amount of emissions of each gas are converted to a standard unit of measure, or metric tons of carbon dioxide equivalents (MTCO₂E) and then summed to determine Vanderbilt's carbon footprint.

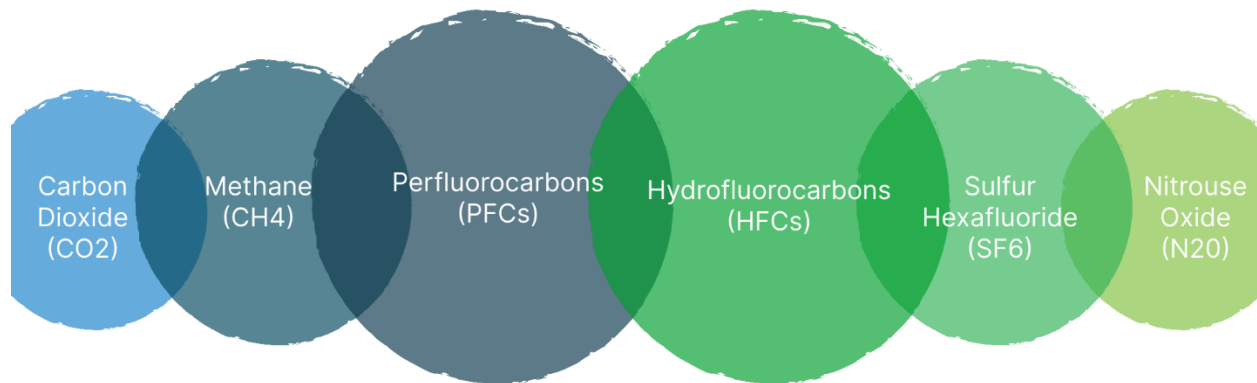


Figure 2 The 6 Greenhouse Gas Emissions emitted into atmosphere that comprise the carbon footprint

Vanderbilt University became an independent legal entity from Vanderbilt University Medical Center (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 the 2016 and forward Greenhouse Gas inventories in comparison to previous inventories (2005-2015). Because of the significant shift in GHG footprint due to the new organization, 2005-2015 GHG data is archived. The 2016 Annual Report contains first year baseline data for the University only, with the FY22-23 Annual Report presenting the seventh year of trending data. This sustainability report is intended to portray Vanderbilt's current carbon footprint as accurately as possible and to highlight other key sustainability gains in FY22-23 from July 2022-June 2023, aligning with the Vanderbilt academic year cycle.

This report is developed by the Vanderbilt Environmental Health, Safety, and Sustainability office. Any questions should be directed to futurevusustainability@vanderbilt.edu.



CARBON FOOTPRINT

CARBON NEUTRALITY

[On Earth Day 2019](#), Vanderbilt University unveiled a comprehensive long-term strategy to significantly reduce its environmental footprint in part by powering its campus entirely through renewable energy, with the goal to be carbon neutral by 2050.

OUR GOAL: Vanderbilt will power its campus entirely through **renewable energy** and commits to **carbon neutrality** by 2050.

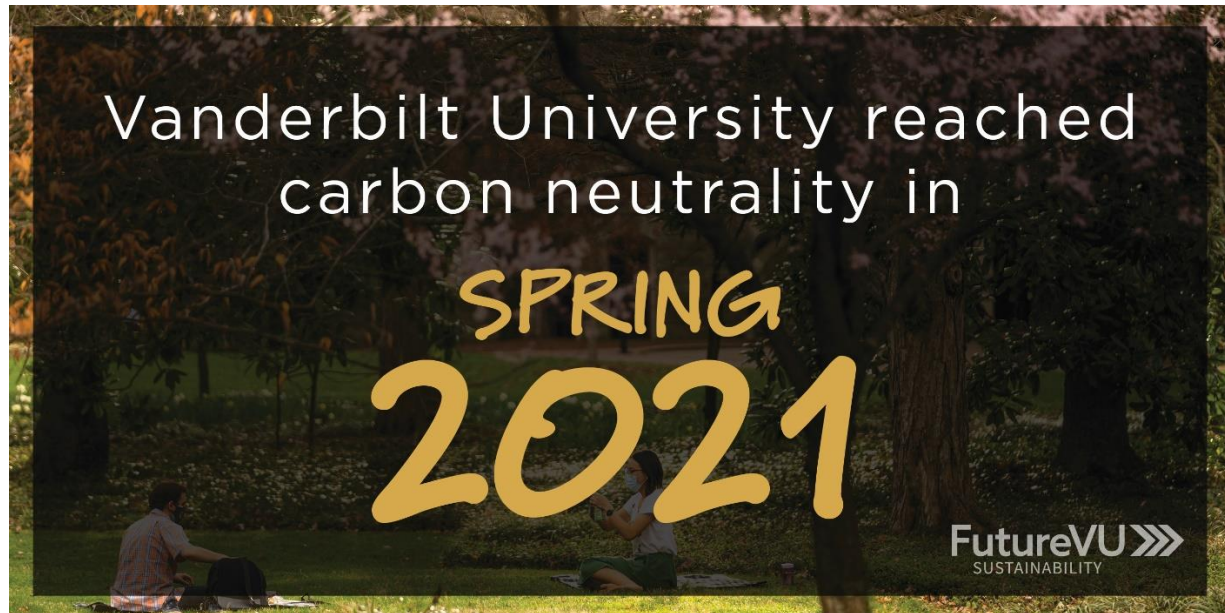


Figure 3 Vanderbilt carbon neutrality goal and progress

In 2021, Vanderbilt University reached carbon neutrality, decades ahead of its initial goal. A collaboration with the nonprofit organization Climate Vault allowed the university to address the full extent of its carbon footprint through offsets for FY19-20 and FY20-21.

In FY21-22, Vanderbilt University continued to offset its carbon footprint by investing in the development of solar energy projects that will expand access to clean energy in the Southeast with Clearloop, a Silicon Ranch company. Vanderbilt's investment initially supports a solar farm in Panola County, Mississippi, in the town of Batesville—a community at the intersection of the Mississippi Delta and the Appalachian foothills. This solar farm will provide access to clean energy to approximately 1,000 Panola County homes. Vanderbilt will receive the carbon offset credits for the life of this solar project. Two more solar farms are planned as part of Vanderbilt's collaboration with Clearloop.

Vanderbilt also opened its first solar farm through the Green Invest Program, the Vanderbilt I Solar Farm, in April of 2013.

Beginning in FY22-23, a portfolio approach will enable Vanderbilt to continue its carbon neutrality. In addition to offsets from Clearloop solar farms, Renewable Energy Certificates from the Vanderbilt I Solar Farm in Bedford County will offset approximately 70 percent of the university's annual indirect

greenhouse gas emissions from electricity purchased through Nashville Electric Service, or the equivalent of enough power to help serve more than 6,000 homes for one year.

While the university continues to push action and innovations on several fronts to reduce emissions, the near-term opportunity to work with organizations like Clearloop allow Vanderbilt to accelerate its impact now.

More information about Clearloop and Vanderbilt I Solar Farm can be found later in the report.

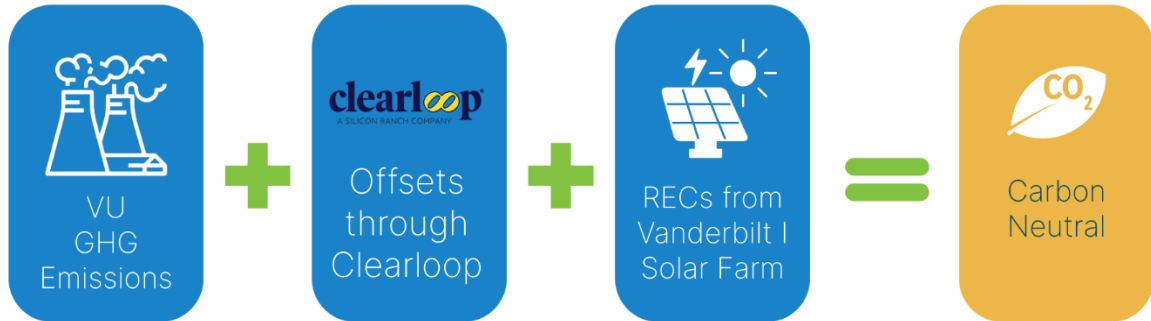


Figure 4 Vanderbilt's path to carbon neutrality

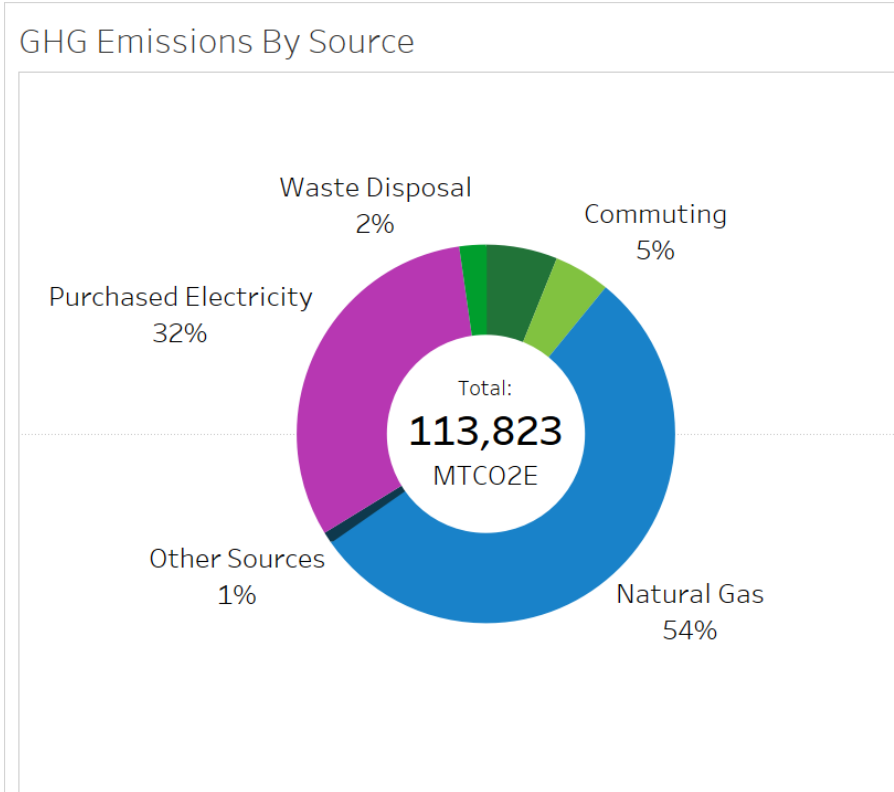
GHG EMISSION SOURCES

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 from electricity purchased from Nashville Electric Service (NES).
- **Scope 3:** Scope 3 emissions at Vanderbilt include faculty, staff, and student commuting, air travel, waste disposal, and recycling.

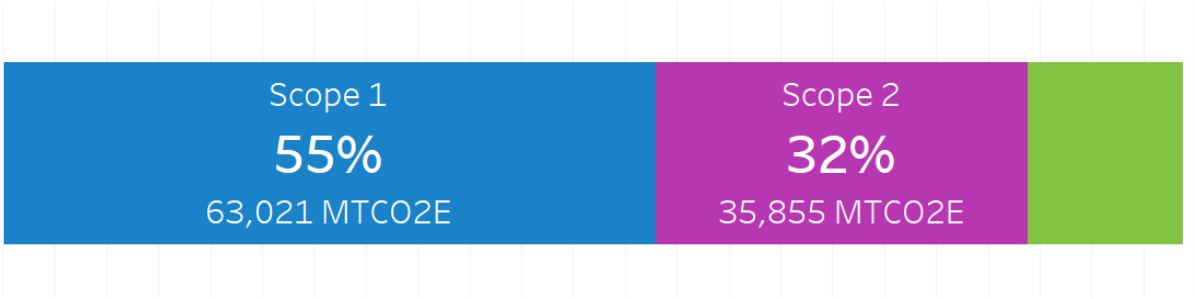
GHG EMISSIONS SUMMARY

GHG Emissions by Source



Vanderbilt University emitted 113,823 metric tons of carbon dioxide equivalents (MTCO2E) in FY22-23. These greenhouse gas emissions were split between Scopes 1, 2, and 3, at 55%, 32%, and 13%, 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.

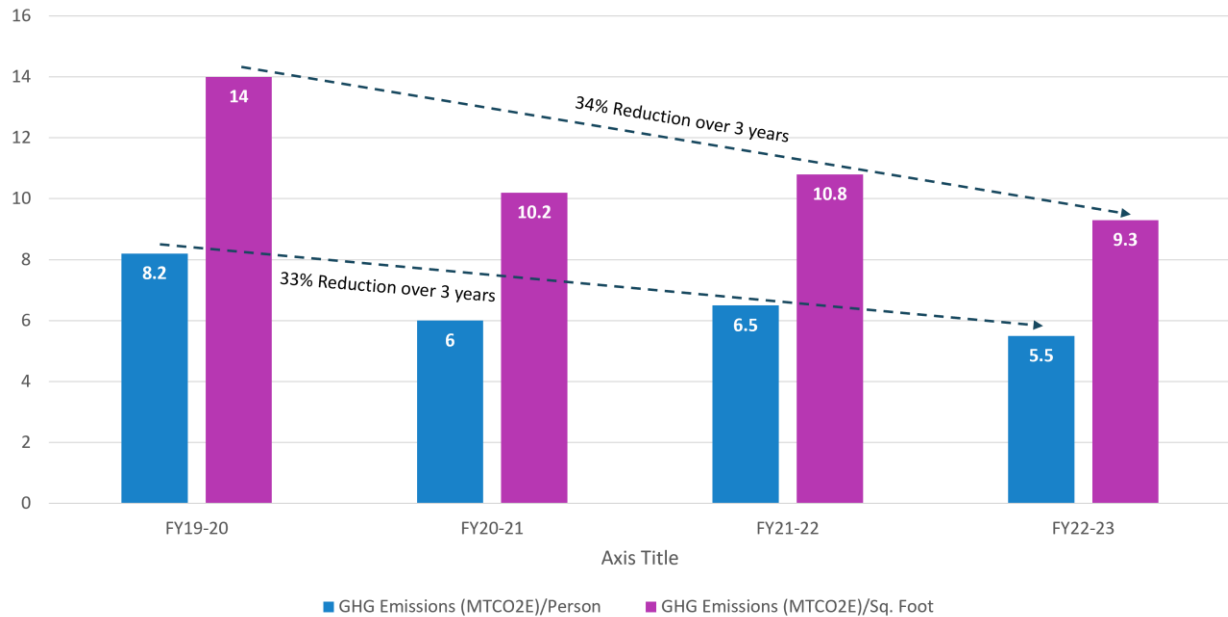
GHG Emissions By Scope



Compared to the FY21-22 Greenhouse Gas (GHG) emissions footprint calculation, the FY22-23 footprint shows an overall GHG decrease of 11%. Commuting emissions decreased significantly between FY22-23 and FY21-22 due to increases in telecommuting and greater insights into commuting behaviors.

VU’s GHG emissions per gross square foot has dropped by 34% over three years, despite a growth of 950,000 square feet over the same period.

Normalized GHG Emissions Trends

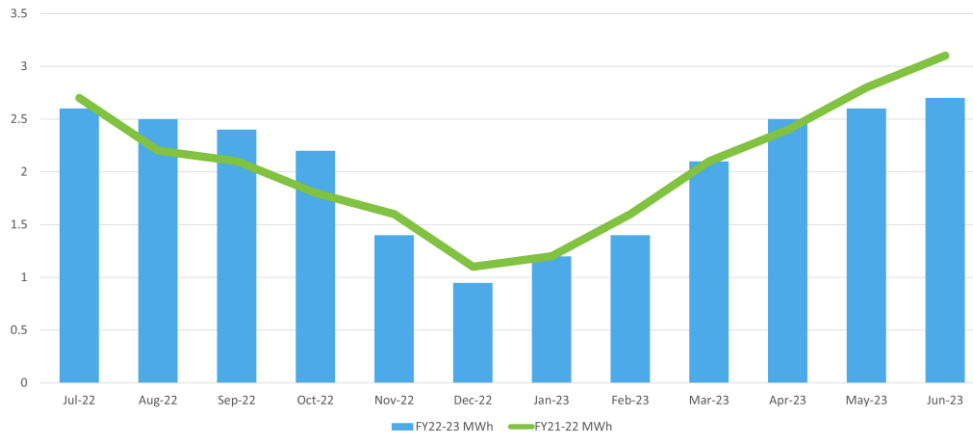


INVEST IN ON-SITE CLEAN ENERGY

ON-SITE SOLAR INSTALLATIONS

Two solar-powered hot water heating systems are installed at the Currey Tennis Center and at the David Williams II Recreation and Wellness Center. Solar panels installed on the roof collect the sun’s energy to heat the water for the building. Additionally, a 20kW solar panel system is also installed on the roof of Currey Tennis Center. The solar panels generate electricity from the sun’s energy, which is fed into the Vanderbilt electricity grid. A dashboard of the solar panel system can be viewed [online](#) with the login: sustainvu@vanderbilt.edu and password: VU*Tennis.

Currey Tennis Center Solar Production



INVEST IN OFF-SITE LARGE-SCALE RENEWABLE ENERGY

GREEN INVEST PROGRAM

Following the [BlueSky Energy Vision Study](#) and the [Large-Scale Renewable Energy Study](#), in 2019, Vanderbilt entered into a pioneering agreement with the Tennessee Valley Authority and Nashville Electric Service to procure off-site large-scale renewable energy to help mitigate the campus' greenhouse gas emissions.

FLIP THE SWITCH VIDEO <https://youtu.be/IAhluDgmB1I?si=eA40sPgV9JaRzpUM>



The first solar farm of the agreement, the 35-megawatt Vanderbilt I Solar Farm in Bedford County, opened on April 11th, 2023.

The solar facility is a significant step by Vanderbilt toward the ambitious goal it announced in 2019 to power its campus entirely through renewable energy and become carbon neutral by 2050. The renewable energy generated from the Vanderbilt I Solar Farm will offset approximately 70 percent of the university's annual indirect greenhouse gas emissions from electricity purchased through Nashville Electric Service, or the equivalent of enough power to help serve more than 6,000 homes for one year. A planned second solar farm in Moore County, Tennessee, is projected to supply enough renewable energy to mitigate the remaining 30 percent of emissions.

The agreement is also anticipated to provide hundreds of new jobs during the construction of the solar projects as well as unique educational and research opportunities for the Vanderbilt community with both solar farm locations within close proximity to the Nashville area.

Vanderbilt University's Green Invest Program partnership with the Tennessee Valley Authority and Nashville Electric Service was [recognized](#) with a 2021 Governor's Environmental Stewardship Award. The annual honors are considered the most prestigious environmental and conservation awards in Tennessee.



Figure 5 Vanderbilt I Solar Farm in Bedford County, Tennessee.

CLEARLOOP

Vanderbilt University will further offset its carbon footprint by investing in the development of solar energy projects that will expand access to clean energy in the southeast. A new, multiyear collaboration with Clearloop, a silicon ranch company, builds on Vanderbilt's commitment to powering its campus entirely through renewable energy and maintaining carbon neutrality.

Vanderbilt's investment initially supports a solar farm in Panola County, Mississippi, in the town of Batesville—a community at the intersection of the Mississippi Delta and the Appalachian foothills. This solar farm will provide access to clean energy to approximately 1,000 Panola County homes. Vanderbilt will receive the carbon offset credits for the life of this solar project, and it is expected to offset the university's entire carbon footprint for FY21-22.

Two more solar farms are planned as part of Vanderbilt's collaboration with Clearloop.



Figure 6 Groundbreaking team for Vanderbilt and Clearloop Panola County solar farm

DECREASE CARBON FOOTPRINT FROM VEHICLES

EMISSIONS SUMMARY

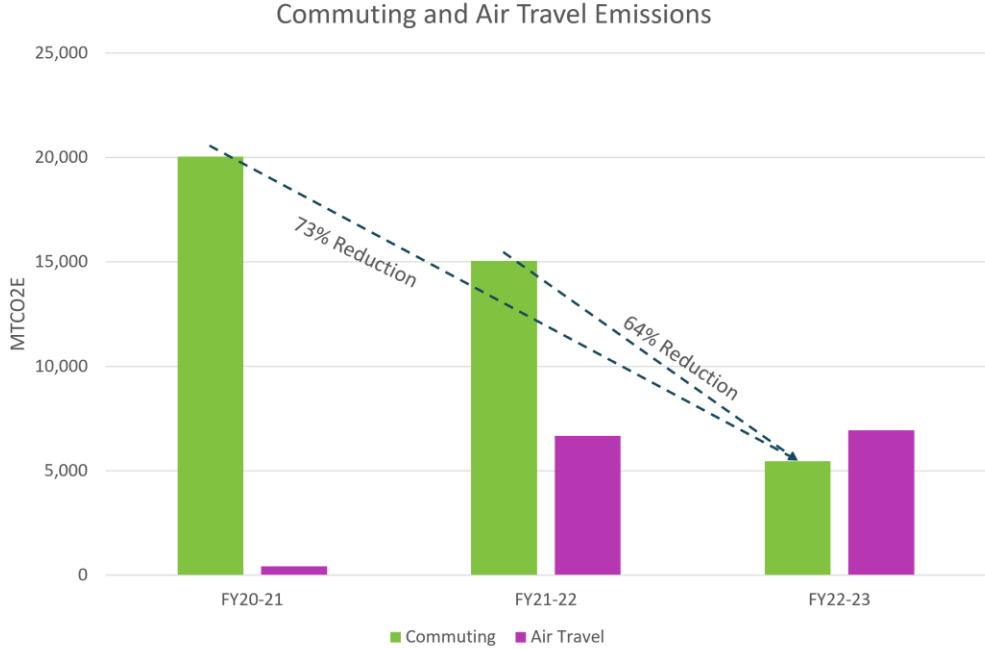
Vanderbilt is a major employer in Nashville. The university consists of close to 7,000 faculty and staff, is home to more than 7,000 undergraduate students, and is the place of study for more than 6,500 graduate and professional students. Data available about commuter behavior has significantly increased over recent years due to initiatives like the daily parking program and commute surveys.

The [2022 Commute Survey](#) revealed several commuting patterns that support a shift in commuting emissions:

- Overall, 40 percent of respondents reported they worked entirely on campus and 53 percent selected “hybrid” as their work status.
- The percentage of commuters driving alone to campus decreased from 79 percent of all commuters in 2019 to 52 percent in 2022.
- Approximately 12 percent of respondents say walking is their primary mode of transportation to campus. This is an increase of 6 percentage points from the 2019 survey, when only 6 percent of respondents reported walking as their primary transportation method. This increase was primarily driven by graduate/professional students and postdocs.

These additional insights into campus commuting, paired with shifting commuting patterns, has decreased emissions related to commuting by more than 60% between FY21-22 and FY22-23. Commuting emissions contributed 5,453 MTCO₂E to the University’s carbon footprint in FY22-23

Emissions related to air travel during FY22-23 remained relatively stable when compared to FY21-22. Transportation emissions are approximately 11% of Vanderbilt’s overall footprint.



MOVEVU

[MoveVU](#) is Vanderbilt's strategic transportation and mobility plan that falls under the [FutureVU comprehensive campus planning efforts](#). MoveVU goals align with FutureVU guiding principles to beautify the campus, preserve and enhance the park-like character people enjoy, create a walkable and sustainable campus and better connect areas of campus that feel disconnected. The MoveVU plan outlines ways the university can shift its mode share and reduce the drive alone rate to campus. Vanderbilt University's current drive alone rate for commute trips is 52%, which exceeds the drive alone rate goal of 55% by 2025. In the coming year, the Transportation and Mobility Office will create new MoveVU mode share goals to incorporate the commute survey results and the input received from Vanderbilt community members since the original mode share goals were established in 2019.

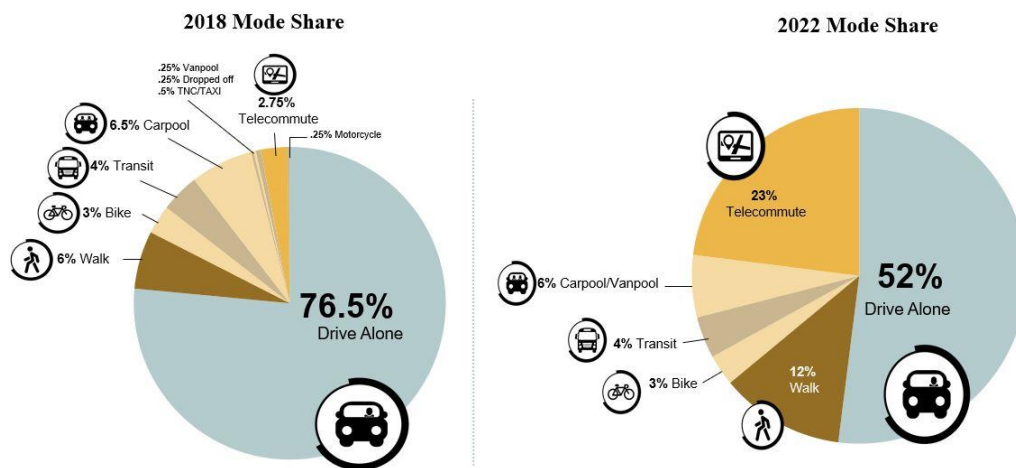


Figure 7 Pie charts illustrating the university's 2018 mode share and the current 2022 mode share (MoveVU)

The MoveVU program received the Tennessee Sustainable Transportation Award (TSTA) during the 2022 Tennessee Sustainable Transportation Forum and Expo, organized by the Tennessee Department of Environment and Conservation, the Tennessee Department of Transportation and Tennessee Clean Fuels.



Figure 8 Vanderbilt's partnership with WeGo Transit allows the Vanderbilt community to ride for free, including Mr. C!

Elements of the MoveVU program recognized by the TSTA award include:

- [MoveVU Commute Hub](#), an essential tool for making a daily decision about how to commute to campus
- [Daily parking and sustainable commute incentives program](#)
- [Guaranteed Ride Home program](#) for sustainable commuters
- [Free service on WeGo local and regional buses](#) for all VU community members
- [VandyRide](#) shuttle service improvements
- [Automatic pedestrian crosswalk signals](#) at five major intersections around the university
- Installation of [traffic-detection technologies](#)

FLEET ELECTRIFICATION

In 2023, Vanderbilt launched an all-electric multi-vehicle shuttle fleet for [VandyRide](#), becoming the first University in Tennessee to reach the achievement. The transition to these EV shuttles will help Vanderbilt further reduce its direct emissions. In addition to being environmentally friendly, the new shuttles are quieter and smoother than traditional buses, providing a more comfortable ride for passengers. The fleet consists of six 14-passenger ZEV4 electric shuttles, each with a range of up to 130 miles on a single charge.



Figure 9 Vanderbilt's new all-electric shuttle busses

INCREASE GREEN SPACES ACROSS CAMPUS

A guiding principle of FutureVU is that Vanderbilt resides in a unique and distinctive park-like setting. The plan looks to balance the distribution of open lawns throughout campus through careful evaluation of built and open space targets. The FutureVU framework calls for an overarching campus-wide target of 50% green space, 25% hardscape and 25% building footprint. As of the end of FY22-23, the current campus breakdown is 37% green space, 33% hardscape and 30% building footprint.

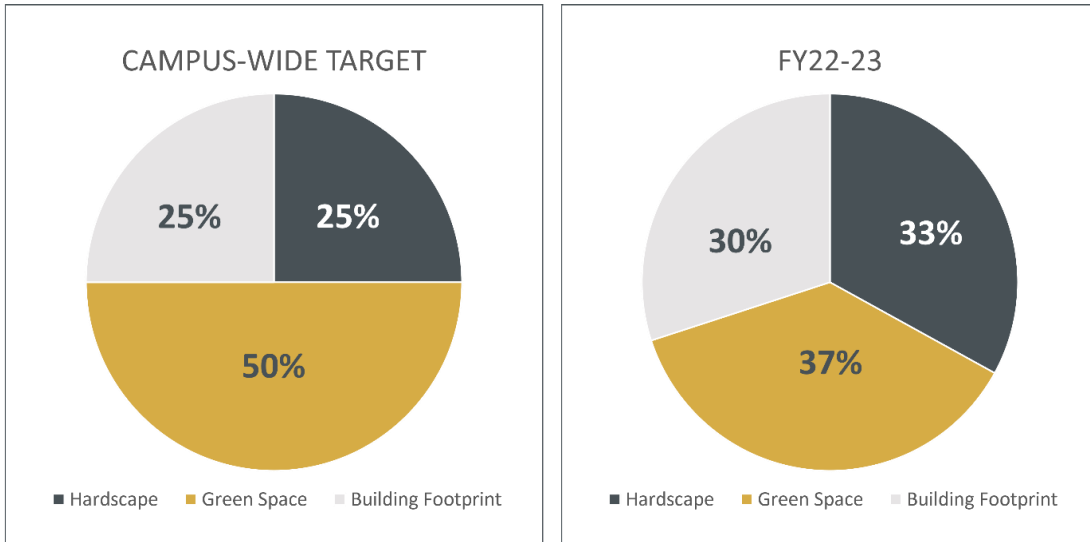


Figure 10 Comparison of campus-wide targets and current status of campus open space targets

To achieve this expansion of green spaces across campus, Vanderbilt has a variety of initiatives underway, including the expansion of a greenway network, the community garden, stormwater management practices, a landscape master plan, stormwater management practices, and green roofs, detailed below.

VANDERBILT ARBORETUM

When Bishop Holland McTyeire oversaw the planting of more than a thousand trees on Vanderbilt’s campus nearly 150 years ago, he set in motion a time-release canopy that now provides widespread shade for the university community. Vanderbilt’s entire campus is designated as a Level II [Arboretum](#) and is home to over 6,500 trees and nearly 200 species of trees and shrubs.

As steward of today’s arboretum, an [official tree replacement policy](#) was developed to ensure that Vanderbilt’s tree canopy is preserved when possible and replaced whenever lost through construction.

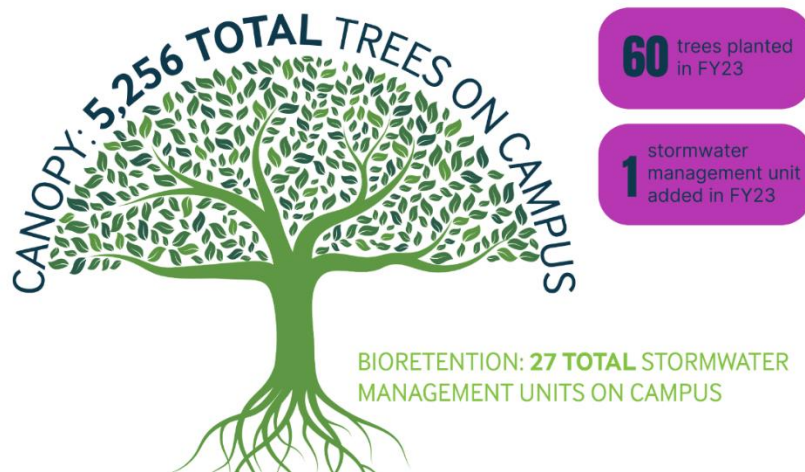


Figure 11 Vanderbilt arboretum statistics

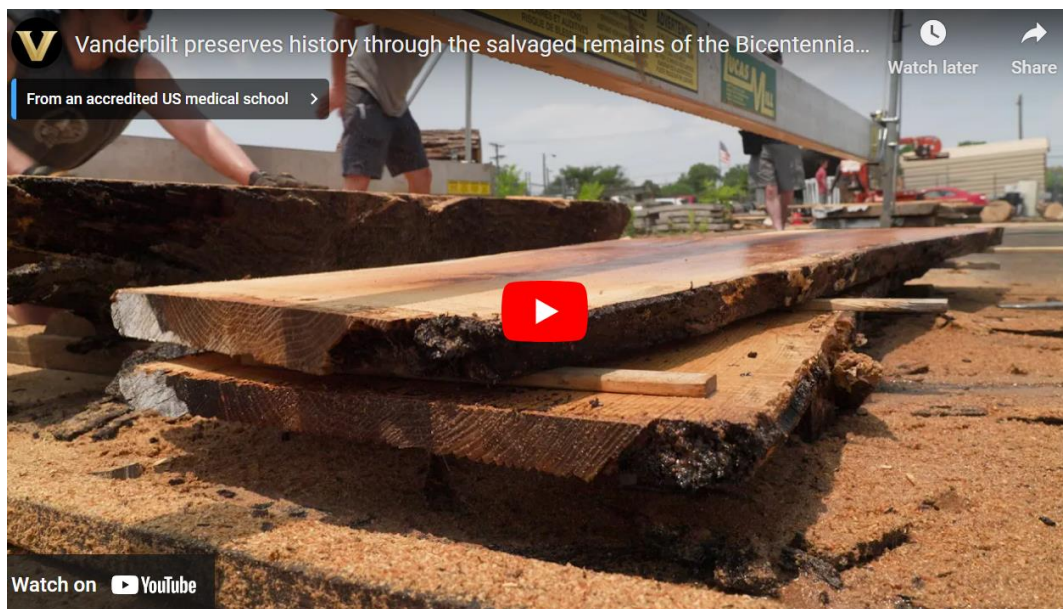
In line with canopy goals outlined through FutureVU, the new policy will help campus partners think critically about designs that would avoid removal or damage to the root zone of significant trees. If trees must be removed or the root zone damaged, the policy provides guidelines for how to replenish the canopy.

Project managers working on new construction now will submit a worksheet to the university landscape architect at the beginning of the project that outlines its impact on the site's trees before finalizing design and budget. If it is determined that a tree is impacted negatively, the sheet will detail the species and diameter of the tree to be removed, as well as what may happen to the wood.

If a project cannot replant all the required trees within its boundary, the policy provides for the creation of a "tree bank" so that trees may be planted elsewhere on campus. These funds can also be used to support the campus landscape, improvements to infrastructure on the landscape or to sponsor planting and maintenance of trees in the wider Nashville community. This work will be summarized and reported back to the Arboretum Advisory Committee.

The university landscape architect will inspect all removed trees to decide if logs may be used for fabrication of furniture or other items. All new building projects, with oversight by steering committees, are encouraged to look for opportunities to reuse wood, either from the university's stockpile or from trees removed during construction.

Outside of its capital projects, the university plants 30-40 trees each year independently to replenish losses due to environmental factors. The university landscape architect selects many of these by hand in partner nurseries in the mid-South region.



BICENTENNIAL OAK REUSE VIDEO <https://www.youtube.com/watch?v=i5OglLbPdJY>



Figure 12 Chancellor Daniel Diermeier attends a tree planting ceremony on April 24, 2023.

The [Bicentennial Oak](#), which was Vanderbilt’s oldest specimen at around 250 years old, [fell in 2022 due to age-related decay](#). Wood from the bur oak—which was five feet in diameter—[has been salvaged](#). Because of the significance of this special tree, a committee has been formed to assess possibilities for how to use the wood.

The planting of a Sesquicentennial Oak took place in April, near the site where the Bicentennial Oak once stood. The new bur oak was the first part of a robust plan to plant more trees in honor of Vanderbilt’s 150th anniversary.

STORMWATER MANAGEMENT/SMART IRRIGATION

Stormwater management practices are in place across campus. Nicholas S. Zeppos College collects and reuses rainwater from the roof to flush toilets. The 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. Many additional sites across campus include stormwater pollution prevention measures, including vegetated drainage swales utilizing native plants, reduction in the amount of impervious area (replaced by landscaping) and pervious pavement, and use of a “smart” management system which allows for on-demand, efficient water use.

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 a 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.



Figure 13 Green roof locations across campus

REDUCE CONSUMPTION AND WASTE

ZERO WASTE STUDY AND PLAN

The [Zero Waste Study](#) and [Master Plan](#) were developed in 2019 by the Zero Waste Advisory Committee to address the portion of Scope 3 emissions related to waste disposal and recycling and to help progress towards Vanderbilt's carbon neutrality goal. Of Vanderbilt's Scope 3 emissions, waste and recycling is responsible for 2,551 metric tons of CO2 equivalent (MTCO2E) or 2% of the total GHGs that Vanderbilt emitted in FY22-23.

Based on past data, the Committee recommended that the university should aim for the following two goals, along with two supporting actions:

GOAL 1: Zero waste (90 percent diversion from landfill) by 2030

GOAL 2: Reduce waste generated 30 percent by 2030

Supporting Actions:

- 1) End institutional single-use plastic purchases by 2025, except in laboratories*; and
- 2) Expand food waste collection to include all dining areas and residential halls by 2025

*Laboratories are exempt due to lack of available alternatives and safety concerns.



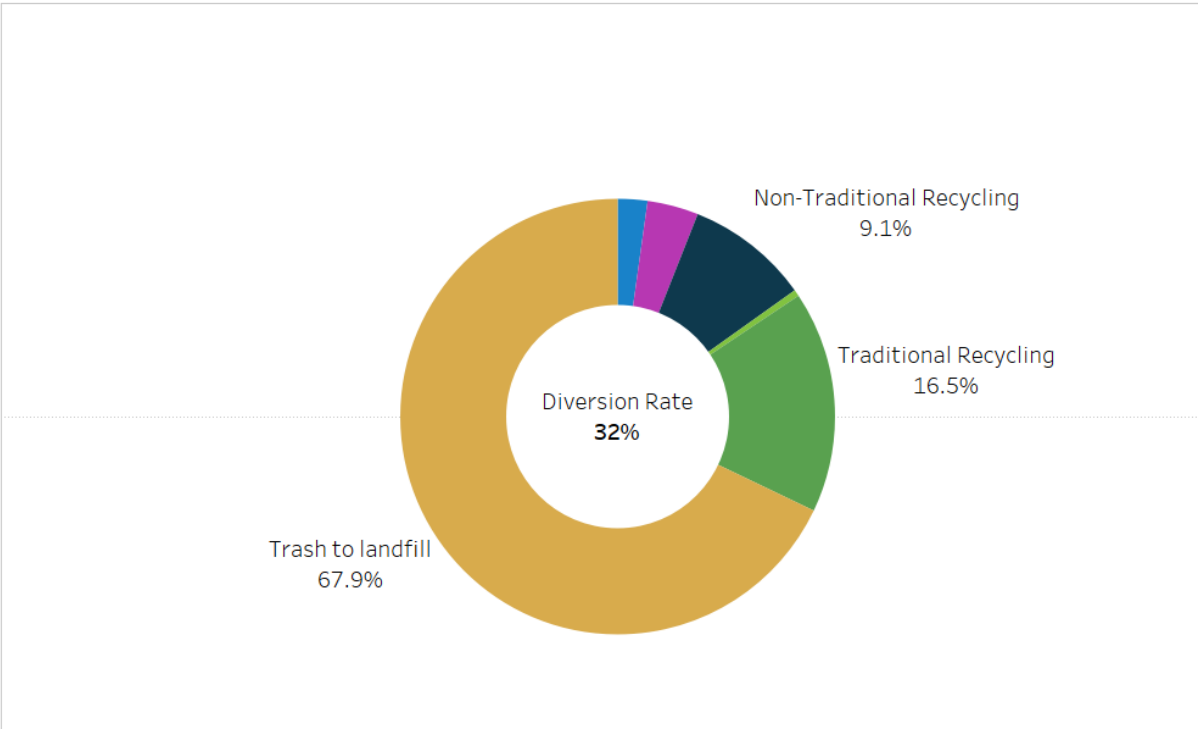
Figure 14 Vanderbilt zero waste goals

CAMPUS WASTE AND RECYCLING

Vanderbilt has a 30-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 has also made significant efforts to reduce waste from its dining facilities in the form of food waste reduction, and the reduction of waste from food service.

In FY22-23, Vanderbilt had a diversion rate for the University of 32%.

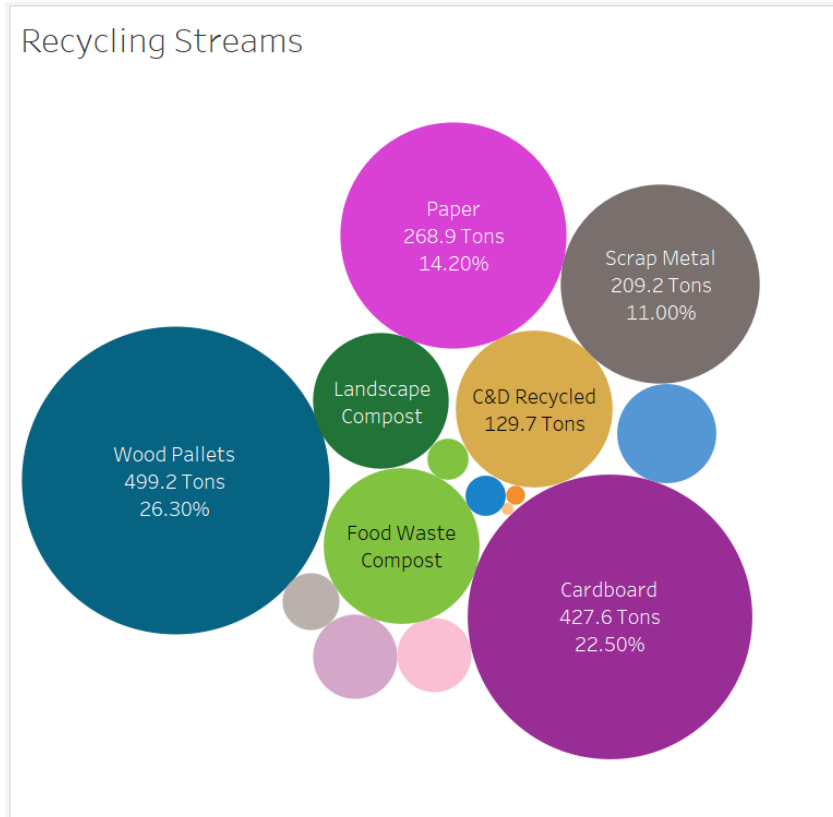
Recycling Diversion Rate



RECYCLING STREAMS

In FY22-23, Vanderbilt University generated 4,016 tons of waste and 1,900 tons of recycling. Waste disposal accounts for 2,551 MTCO₂E from Vanderbilt or about 2% of our total emissions.

Vanderbilt's 1,900 tons of recycling are broken down into specific streams below.



SINGLE USE PLASTIC

In line with Vanderbilt’s Zero Waste and single use plastic elimination goals [sustainability efforts](#), Vanderbilt University no longer sells single-use plastic water and soda bottles in its dining operations, including dining halls, markets, and athletics concessions. The collaborative effort involved reduces plastic waste by more than 430,000 plastic bottles per year and over 1.7 million bottles during a graduating class’s four-year experience. All undergraduate students are given a free, reusable water bottle and there are 134 hydration stations across campus. In further support of reducing single-use plastics on campus, Campus Dining has converted all disposable cups, containers, flatware, napkins, and bags to compostable.

REUSABLE CONTAINER PROGRAM

As part of Vanderbilt’s commitment to waste reduction, Vanderbilt Campus Dining launched a reusable container program in fall 2022, designed to significantly reduce the institution’s dependence on disposable to-go containers. Beginning in 2023, Campus Dining [partnered with ReusePass](#) to continue a reusable container program. ReusePass offers a straightforward process that empowers participants to effortlessly make eco-conscious dining choices and help curb single-use plastic waste.

ReusePass containers are available at the Commons Dining Center, E. Bronson Ingram Dining Hall, Rothschild Hall, and Nicholas S. Zeppos Hall.

The reusable to-go containers replace the compostable to-go containers that were previously available in dining facilities, reducing waste created on campus.



Figure 15 ReUsePass reusable container

FOOD WASTE REDUCTION

MINIMIZING FOOD WASTE

Campus Dining works on multiple fronts to reduce food waste. A software solution, known as Fusion, offers a complete food and nutrition solution from menu planning to production, food service operations, purchasing and cost management, and student mobile nutrition information. A second system called LeanPath tracks all pre- and post-consumer waste and records the information in a cloud base system allowing for department wide analytics and waste analysis. Working together, these systems help avoid overbuying and food waste.

In the event that unused food remains, it is donated to local non-profits to be redistributed to the Nashville community. Any food that cannot be donated is composted.

COMPOST

A program for composting food waste was started in October 2017 in the Common's Center Dining Hall. The program currently includes pre-consumer collection for all dining prep locations, as well as post-consumer collection at all dining halls. Food waste is collected and composted by the Compost Company, a local vendor. In addition to food composting, all to-go food containers (outside of the reusable containers), cups, flatware, and straws offered are made from compostable materials.

Vanderbilt reuses the compost created from our waste at the Compost Company to support our campus landscape, closing the loop on this waste stream.

SUSTAINABLE FOOD PRACTICES

SUSTAINABLE DINING

[VU Campus Dining](#) supports the well-being of diners and the health of our environment. Dining's sustainability program is designed to give diners information about Vanderbilt's kitchen principles and how they affect your environment, community, and well-being. VU is also a member of the [Menus 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.

Vanderbilt Campus Dining prioritizes increasing local purchasing to reduce our carbon footprint and support the local community. Inside the Commons Center, Campus Dining uses tower gardens to grow hyper-local produce, including lettuce and herbs. This produce is then used inside the Commons Dining Hall for meals like sandwiches and pizza. Another local vendor providing produce to campus is HydroHouse Farms, founded by Vanderbilt Alumnus Hassan Sharraff. HydroHouse Farms specialized in year-round hydroponic production of leafy greens and uses sustainable practices to reduce the amount of water needed for growing the produce by 90% compared to traditional farming techniques.

VIDEO FROM DINING ABOUT TOWER GARDENS <https://www.youtube.com/shorts/Ac5BqOiRIWI>



Additional local vendors include Bongo Java, Bobby John Henry Bakery, Kernels Nashville, Porter Road Butcher, and Frothy Monkey. Creation Gardens, who prioritizes sourcing from local and regional farmers and shares Vanderbilt's commitment to delivering the freshest and most nutritious ingredients, is a primary distributor for Vanderbilt Campus Dining. Creation Gardens provides an extensive range of local

and regional produce, meats, seafood, pantry items, and products that can be found throughout our Dining Halls.

INVEST IN SUSTAINABLE INFRASTRUCTURE

ENERGY EFFICIENCY PROJECTS

Greenhouse gas emissions normalized on a square foot basis have dropped more than 33% since FY19-20 due to a combination of ongoing energy efficiency improvements of existing buildings by [Plant Operations](#), green building techniques employed in new construction by [Campus Planning and Construction](#), and increased efficiency in the NES electricity grid.

These building practices are described in the sections below.

LEED

Vanderbilt University was honored with [a 2020 Leadership Award from the U.S. Green Building Council](#) for the institution's achievements in green building and its commitment to creating a healthy, sustainable future. The U.S. Green Building Council's Leadership in Energy and Environmental Design rating system, known as LEED, has become the nationally accepted benchmark for the design, construction and operation of high-performance sustainable buildings. The council noted in its award announcement that Vanderbilt places a high priority on incorporating sustainability into the university's construction and renovation projects.

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 25 LEED certified projects and was the first university in Tennessee to earn LEED certification.

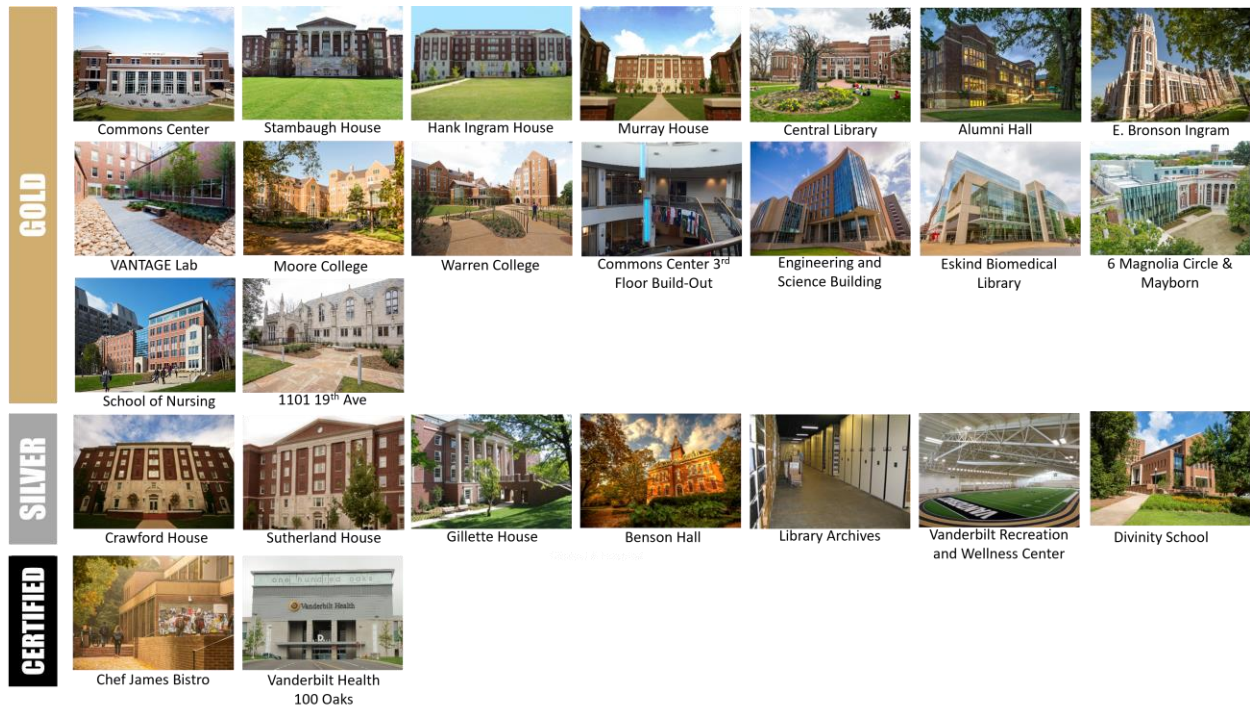


Figure 16 LEED certified buildings at Vanderbilt

WELL

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 achieving LEED Gold. certification [WELL certification](#) serves as a credible label for a building's effect on occupants' health and well-being.



Figure 17 School of Nursing building, Vanderbilt's first WELL certified building

LIVING BUILDING CHALLENGE

Vanderbilt is also exploring the [Living Building Challenge](#) certification, which certifies buildings that are regenerative and positively impact the environment. Vanderbilt's first petal certification pilot is planned for the Peabody Home Economics and Mayborn Hall building complex, which is pursuing the materials petal. The intent of the Materials Petal is to help create a materials economy that is non-toxic, ecologically restorative, transparent, and socially equitable.



Figure 18 6 Magnolia building, Vanderbilt's first building designed with a Living Building Challenge Petal Certification

WATER

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.

ENGAGEMENT AND EDUCATION

FutureVU Sustainability acts as the sustainability information hub for Vanderbilt University. Together with the FutureVU Sustainability website, newsletter, social media, and in-person education and training, FutureVU Sustainability has had the following engagement impact:

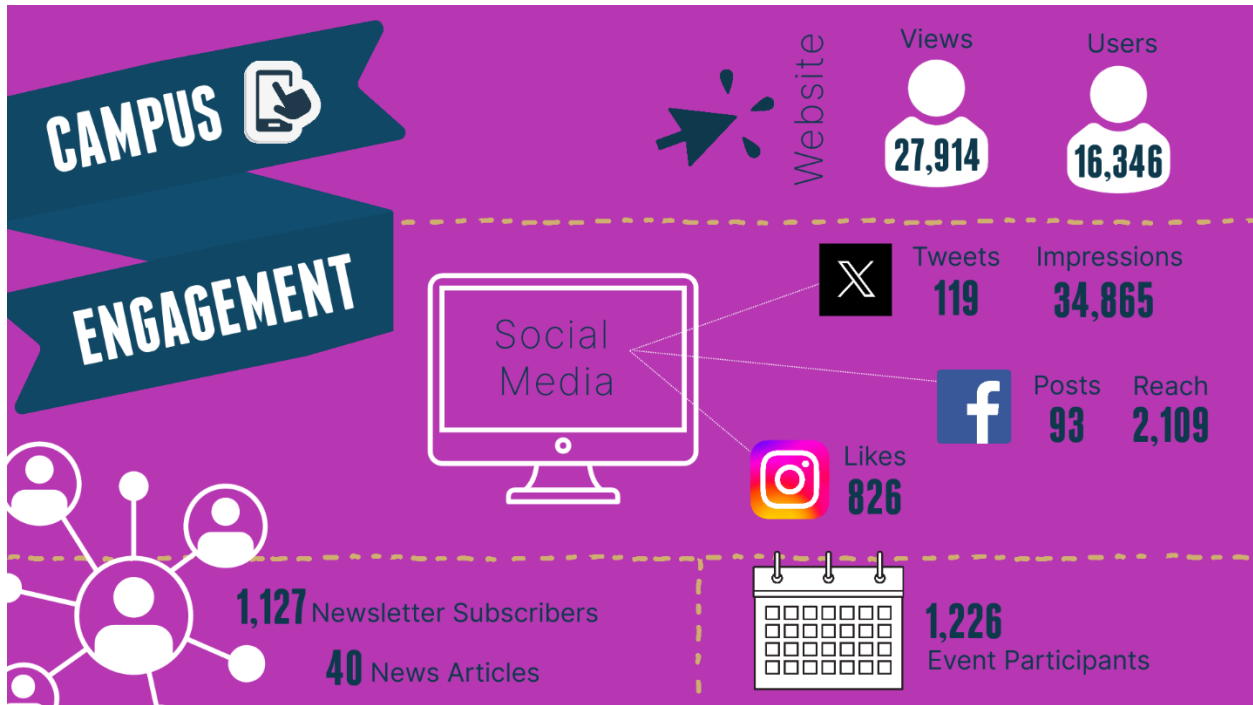


Figure 19 FutureVU Sustainability engagement impact

COMMUNITY ENGAGEMENT AND INNOVATION

Vanderbilt hosted various opportunities for climate innovation and sustainability engagement over FY22-23.

Nearly 700 higher education students representing 92 nations and 42 U.S. states gained expertise and inspiration from influential leaders to improve lives during the Clinton Global Initiative University 2023 annual meeting, hosted by Vanderbilt University in March 2023. The CGI U annual meeting was led by former President Bill Clinton, former Secretary of State Hillary Rodham Clinton and Clinton Foundation Vice Chair Chelsea Clinton. Vanderbilt participants included Jonathan Gilligan, associate professor of earth and environmental sciences. The working session titled “The Race Towards Climate Justice” addressed the disproportionate impact of the climate crisis on people across the globe.



The Wond'ry, Vanderbilt's Innovation Center, launched the [Climate Innovation Accelerator program in 2023](#), adding to the depth of its climate-focused programming. The accelerator was co-created and led by Jaclyn Mothupi, director of social innovation at the Wond'ry. This 10-week program engaged minority-led/owned nonprofits and small businesses to identify innovative sustainability opportunities within their mission to equip entities to be more future-fit and climate-ready for those they serve. The inaugural cohort included five local small businesses and six nonprofits with a diverse set of missions, products and services to illustrate how innovation can work in different sectors to advance climate solutions, from reimagining packaging, services, stakeholder education, reporting frameworks and greening supply chains.

To help small businesses and nonprofits with limited resources prioritize sustainability and innovation, the accelerator provided in-depth sessions on the topics and strategic frameworks to bring both to life.

VIDEO FROM CIA https://www.youtube.com/watch?v=E9tpHaDW6gU&list=PL6h2XDS2kn_xrndN7cjh2u-UOXJu9B3cU&index=1

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 Peabody Meadow includes native plantings that support pollinator gardens and soil health. Sensors included throughout the meadow measure soil temperature, moisture, electrical conductivity throughout the meadow, soil microbial activity, air temperature, wind speed, barometric pressure, humidity and rainfall at the location.



The Vanderbilt Community Garden engages the campus community in growing produce and flowers. Produce is donated to Shade Tree Clinic, who provides free, high-quality care to uninsured and underinsured individuals in the Nashville area.

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.

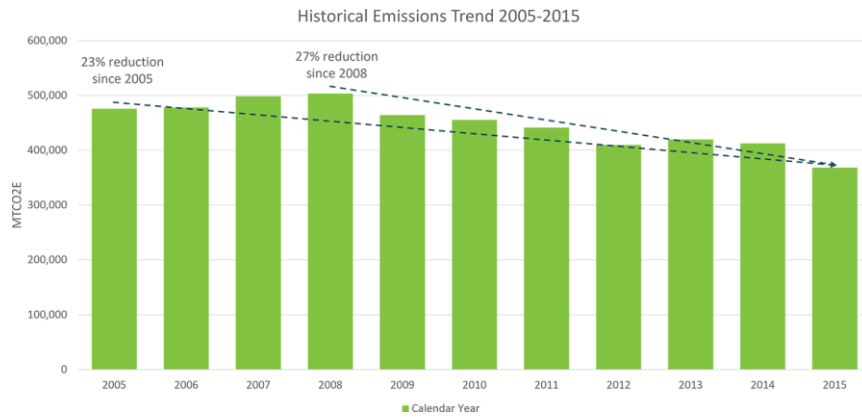
PAST REPORTS

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 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.

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.



CONTACT

Andrea George, PhD, BCEEM, CHMM, PMP
 Assistant Vice Chancellor, Environmental Health, Safety, and Sustainability
 Email: andrea.george@vanderbilt.edu

Steve Gild, MS, CHMM
 Program Manager for Environmental Compliance
 Email: steve.gild@vanderbilt.edu

Chelsea Hamilton, MS, LEED AP
 Sustainability Program Manager
 Email: chelsea.hamilton@vanderbilt.edu

Sustainability program contact
 Email: futurevusustainability@vanderbilt.edu