SUSTAINABILITY PROGRAM
GO GREEN

2016–17 Office of Sustainability Annual Report

VIRGINIA TECH™ | FACILITIES DEPARTMENT

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Overview

The **Office of Sustainability** was established in accordance with the Virginia Tech Climate Action Commitment (VTCAC) and is responsible for monitoring energy usage, Green House Gas (GHG) emissions, overseeing the implementation of the VTCAC&SP and the Sustainability Plan, coordinating programs for campus sustainability, and managing a campus-wide student internship program.

Virginia Tech is a member of the Association for the Advancement in Higher Education (AASHE) and we utilize their Sustainability, Tracking, Assessment and Rating System (STARS) as our management tool to measure our sustainability progress. In 2014 Virginia Tech received a STARS Gold Rating earning 71.02 points for its efforts to promote campus sustainability.

Virginia Tech is rated by the Association for Advancement of Sustainability in Higher Education (AASHE) and their **Sustainability Tracking Assessment and Rating System** (STARS). In 2014, Virginia Tech scored a Gold rating with **71.02 points** for its efforts to promote campus sustainability.

Climate Action Commitment

Virginia Tech serves as a model community for a sustainable society. Sustainability is an integral part of the fabric of the university as it pursues enhanced economic stability and affordability, diversity and inclusion, environmental stewardship, expansion of knowledge, and education of future leaders.

1. A **Leader** in Campus **Sustainability**
2. Represent VTCAC&SP in **Strategic Plan**
3. Reduce **GHG emissions** to 80 percent below 1990 emission level by 2050
4. Improve **energy efficiency**, reduce energy waste, replace high-carbon fuels, etc.
5. Maintain a sustainability office
6. **LEED Silver Certification or higher** for all new construction and major renovations
7. Electricity and heat efficiency
8. **Minimize waste** and achieve a 50 percent recycle rate by 2020
9. **a.** Purchase or lease Energy Star equipment and maximize practicable recycled content paper

   b. Consider a product's life cycle cost and impact when making purchasing decisions
10. **Engage students, faculty, and staff** to develop and implement innovative strategies for efficient and sustainable use of energy, water, and materials in all university-owned facilities
11. **Transportation energy efficiency** through parking, fleet, and alternative transportation policies and practices
12. Develop and implement innovative sustainability-related **academic programs** in instruction, research, and outreach
13. **Monitor energy use** and GHG emissions and change internal and external conditions, prepare an annual 'report card' showing progress towards targets
14. **Provide funding** to support sustainability programs

Our Partners

To achieve the university's energy and sustainability goals, the Office of Sustainability works collaboratively with the following groups:

Departments

Alternative Transportation

Sustainability Institute – College of Natural Resources and Environment

Dining Services

YMCA at Virginia Tech

Residential Leadership Community

Housing and Residence Life

Forest Resources and Environmental Conservation

The Arboretum Committee

Green Engineering Program – College of Engineering

Virginia Tech Corps of Cadets

Environmental Policy and Planning – College of Architecture and Urban Studies

Student Groups

The Campus Kitchen at VT

The Green Program - Study Abroad at VT

Society of Renewable Resources

Environmental Coalition

Environmental Student Organization

Residence Hall Federation

Students for Sustainable Practice

Student Government Association

Sustainable Food Corps

Community Groups

Sustainable Blacksburg

Town of Blacksburg

Energy

Demand Side Management

Demand Side Management promotes energy efficiency by upgrading, retrofitting, and commissioning mechanical, lighting, and electrical systems in the buildings. The Office of Energy Management launched a **Five Year Energy Action Plan** to address the energy efficiency improvements with 50 of the most energy intensive buildings.

On-Going Projects

- Combustion testing of boilers and furnaces
- Electric sub-metering of chiller plants
- Fume hood energy reduction program
- Greenhouse lighting technology improvements
  Thermal imaging of campus buildings
- Lighting bulb/fixture replacement
- Steam Trap Survey Program
- Thermal insulation on steam pipes, fittings, and equipment

Energy Efficient Design

To establish university standards which go beyond the applicable VA Energy Code, the Facilities Department has added a section to Virginia Tech's **"Design and Construction Standards"** that speaks to "Guidelines for Energy Efficient Design."

The guide applies to all new construction and new addition and renovation projects and will over time make significant advancements to energy reductions and savings.

Five Year Energy Action Plan

2016	2017	2018	2019	2020
Convert the north chiller plant to variable primary flow	Connect 10 energy intensive buildings to the EMCCSP	Connect 10 energy intensive buildings to the EMCCSP	Connect 10 energy intensive buildings to the EMCCSP	Connect 10 energy intensive buildings to the EMCCSP
Install chilled water meters for all buildings connected to the north chiller plant	Retro-Commission 10 energy intensive buildings	Retro-Commission 10 energy intensive buildings	Retro-Commission 10 energy intensive buildings	Retro-Commission 10 energy intensive buildings
Purchase and install an energy management and continuous commissioning tool (EMVVSP)	Energy audits for 10 energy intensive buildings	Energy audits for 10 energy intensive buildings	Energy audits for 10 energy intensive buildings	Energy audits for 10 energy intensive buildings
Implement campus electric demand management program	Install steam meters in campus buildings	Install steam meters in campus buildings	Install steam meters in campus buildings	Install steam meters in campus buildings
	Implement energy retrofit projects based on previous year's audit	Implement energy retrofit projects based on previous year's audit	Implement energy retrofit projects based on previous year's audit	Implement energy retrofit projects based on previous year's audit

The Office of Energy Management recently conducted a benchmarking analysis of campus buildings which identified

fyi

Following this study, a comprehensive **Five-Year Energy Action Plan** was developed in collaboration with the Office of Budget and Financial Planning. The plan guides the facilities operations to achieve significant reduction in energy cost. The program will concentrate on 10 "energy hog" buildings per phase with a goal of completing all in five years. An **energy cost savings of approximately $4.5 million** is estimated.

50 energy intensive buildings

Representing

35 percent of the university structures

these building account for

70 percent of the main campus utility cost

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5,452,560

pounds of waste kept out of the landfill since 2009

416 tons of composted food waste was collected in 2016-17

Waste Disposal, Composting, and Recycling

Composting On Campus

Dining Services has been composting food waste since 2009 and, to date, the composting program has diverted **over 5,452,560 pounds** of waste from the landfill. In 2016-17, **416 tons** of composted food waste was collected from our **11 dining facilities**. The university consolidated the waste at a central storage facility on campus and delivered the waste to a regional composting facility, **Royal Oak Farm**, a family operated facility located in Evington, Virginia. The university negotiated a contract with Royal Oak Farm in 2017, whereby a food waste storage container will be provided on campus, and full containers of food waste will be hauled to their location. With this arrangement, annual composted food waste is expected to increase **from 550 to 600 tons**.

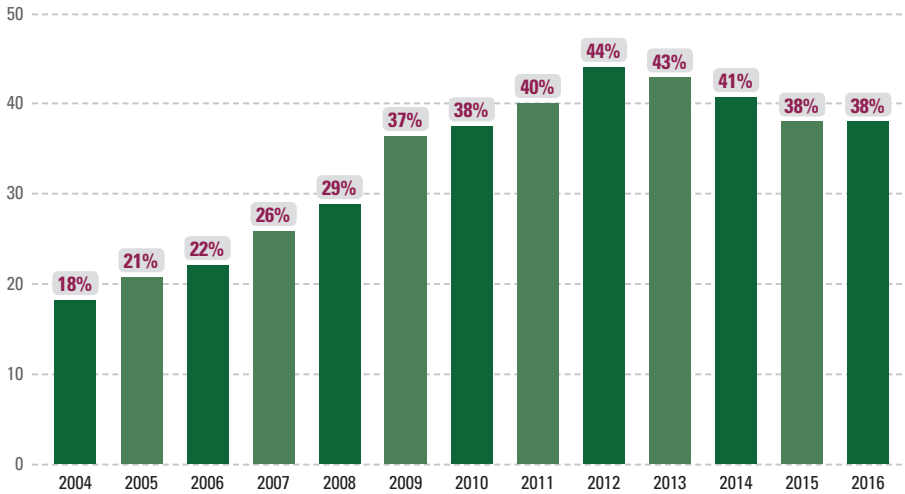
Single Stream Recycling

Single Stream Recycling began in the summer of 2015 for the Blacksburg campus. Standard Single Stream Signage (left) is being used on all single stream advertising on campus.

In addition to bottles and cans, paper products and light cardboard can now be placed into the **Big Belly Solar Trash Compactors** for recycling. Furthermore, new **Large Outdoor Recycling Containers** (right) have been placed outside residence halls and 10 new sets of Indoor **Single Stream Recycling and Waste stations** were placed in McBryde Hall. The McBryde Indoor Waste Stations consisted of 10 pairs of metal containers placed inside the main entrances on the 1st, 2nd and 3rd floors. The Single Stream Recycling Container is painted blue and contains the standard single stream signage decal on the front face. The Trash Container is painted black and contains the landfill decal on the front face. Magnets hold the two containers together and both are anchored to the floor to meet fire code.

These waste station guidelines are now officially in the University Design Standards, and remain an example of the highest standard across campus. University design standards state: "Indoor waste stations will consist of an appropriate number of pairs of non-combustible collection containers placed side-by-side with one designated and labeled for "single stream recycling" and the other designated and labeled for "trash". Ideally, containers will be recessed into the interior walls of the building so as to not protrude into the hallway space. If that is not possible, the containers should be placed on the floor and secured to the building structure to meet fire code. A waste management collection station should be placed in common areas that generates a large volume of recyclable material such as mail rooms, break rooms, and meeting rooms."

Recycling Rate Percentage



Sustainable Dining

The Farms and Fields Project:

The Farms and Fields Project in Owens Food Court offers a seasonal menu highlighting **local, sustainable, and organic foods**. From farm-fresh butternut squash lasagna to local sausages and bagels, Farms and Fields gives students a unique look into what it means to eat with the seasons.

Dining Services Farm at Kentland Farm:

Beginning as a quarter acre herb plot in 2009, the Dining Services Farm at Kentland Farm now occupies over six acres. Under the leadership of the Sustainable Food Systems Production Director(a position jointly funded by Dining Services and the Department of Horticulture) the farm grows fruits, vegetables, and herbs specifically for Virginia Tech Dining Services. To date, the Dining Services Farm has **produced over 180,000 pounds of produce**, and crop production includes everything from basil and sweet corn to garlic scapes and butternut squash.

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Kentland Farm has produced over

180,000

pounds of produce

Reusable To-Go Container Program in Three Dining Centers

Reusable To-Go Program:

The Reusable To-Go (R2G) program represents a collaboration between the Office of Sustainability, Student Government Association (SGA), and Housing and Residence Life (HRL). In academic year 2016-17, **nearly 32,000 meals were served in R2G containers**, thus helping reduce waste and cut costs associated with compostable to-go containers. For the fall of 2017 (in collaboration with SGA and HRL) Dining Services also secured over **$20,000 in funding** to distribute **9,500 Reusable To-Go containers** to all on-campus residents.

Waste Reduction:

Dining Services works with the Campus Kitchen at Virginia Tech to divert unused food to those in need within the New River Valley. Since beginning that relationship in 2015 the program has **diverted over 20,000 pounds of food**.

Alternative Transportation

Bus, Bike, Walk, and Carshare

Alternative Transportation promotes and encourages the use of alternative modes of transportation (e.g., bicycling, walking, vanpooling, carpooling, riding transit) to get to, from, and around campus.

The **Hokie Bike Hub** serves as a bicycle maintenance and commuter education center. Cyclists have access to tools and resources for self-service bike repair. Cyclists can also attend bike-themed workshops and learn how to maintain and repair bikes. The Bike Hub has become the home of bicycling on campus and serves as a social space for cyclists to interact with and learn from one another.

Employees of Virginia Tech can participate in an official university **Vanpool** Program. Benefits of the program include shared costs, reserved parking space, reduced cost fuel at **Fleet Services**, and regular van maintenance.

Zimride and **Zipcar** are two alternative transportation options for both students and employees to share rides or rent vehicles hourly, encouraging everyone to cut down on fuel use.

Green Building: LEED Certifications

(Leadership in Energy and Environmental Design)

Henderson Hall Renovation and Theatre 101 Addition	Gold	2/1/10
Football Locker Room Addition	Silver	10/1/11
ICTAS II (Institute for Critical Technology and Applied Science)	Gold	11/1/11
Visitors and Undergraduate Admissions Center	Certified	8/1/12
Academic and Student Affairs Building (Lavery Hall)	Silver	4/1/13
Vet Med Instructional Addition	Silver	6/1/13
Ambler Johnston Hall	Gold	11/1/13
Chiller Plant, Phase I (Southwest Chiller Plant)	Silver	11/1/13
Center for the Arts (Moss Arts Center)	Gold	5/1/14
Human and Agricultural Biosciences Building I	Gold	4/17/15
Indoor Athletic Training Facility	Silver	10/5/15
Signature Engineering Building (Goodwin Hall)	Gold	10/28/15
Renovate Davidson Hall	Certified	3/11/16
Upper Quad Residential Facilities (Pearson Hall)	Silver	12/16/16

Total GSF = 1,173,072

Virginia Tech also has a number of future LEED Certified buildings under construction and in design.

Sustainability Week

Sustainability Week is a **partnership between Virginia Tech, the Town of Blacksburg, and Sustainable Blacksburg** that highlights sustainability efforts in the town and on campus. More than twenty events were scheduled the week of September 18-25, 2016.

Some of the highlights include:

"Caught Green Handed"–Volunteers traveled throughout the community catching people in the act of making more sustainable everyday choices such as biking to work, using a reusable coffee mug, or recycling.

Active Commute Celebration–This event is hosted by the Office of Alternative Transportation and highlights information about Blacksburg Transit, the Virginia Tech Office of Sustainability, the Blacksburg Office of Sustainability, and many others.

"20x20 Night"–Eight guest speakers presented in rapid fire format, 20 slides and 20 seconds per slide, on their sustainability topic of expertise. Featured topics included: The Creative ReUse Center, Healthy Streams – Vibrant Community, What Color Is Water?, Stinkbugs, Green Burial, and more!

Community Garden and Solar Homes Tour–The Hale YMCA Community Gardens hosts 70 families and uses sustainable, organic gardening practices. Participants toured the gardens and solar greenhouse, tried locally grown food, and also toured a nearby solar home.

10th Anniversary Tree Planting–2016 marked the 10th anniversary of the green partnership between the Town of Blacksburg, Virginia Tech, and Sustainable Blacksburg. Virginia Tech President Tim Sands, Blacksburg Mayor Ron Rordam, and Sustainable Blacksburg President April DeMotts provided remarks and participated in the planting of a White Oak tree on Henderson Lawn, an important community gathering space in the heart of downtown Blacksburg and on the edge of the Virginia Tech campus.

In April 2017, Virginia Tech, the Town of Blacksburg, and Sustainable Blacksburg won a **Silver Governor's Environmental Excellence Award** in the Sustainability category for their role in the planning and execution of Sustainability Week for the past 10 years. Representatives from all three entities accepted the award at the 28th annual Environment Virginia Symposium in Lexington, Virginia.

Earth Week

With the mission to "build a more just and sustainable community through education, action, and appreciation for our world," Virginia Tech's annual Earth Week events are led by The Environmental Coalition at Virginia Tech, with support from nearly a dozen other groups, including:

- Virginia Tech Office of Sustainability
- Virginia Tech Students for Sustainable Practice
- Virginia Tech Environmental Student Organization
- Sustainable Food Corps
- Sustainable Dining at Virginia Tech
- Virginia Tech Office of Alternative Transportation
- YMCA at Virginia Tech
- Veg Club of Virginia Tech
- Blacksburg Farmers Market

Each day of Earth Week is themed around an important sustainability topic, such as clean energy, waste and recycling, local food, social justice, and community. The particular events change each year, but the basic mission to take action for and celebrate a sustainable campus and beyond is carried through year to year.

2016-17 Office of Sustainability events include:

- EKOCENTER with Coca-Cola
- Pop-up Farmers Market with Blacksburg Farmers Market
- Tree Planting at Hillcrest Lawn
- Spring Game Green Tailgate

fyi

2016 football season

10,000

pounds of recycling was collected

Game Day Green Tailgate

The **"Game Day Green Team"** promotes tailgate recycling during home football games by passing out blue recycling bags to tailgaters in the six highest impact parking lots surrounding Lane Stadium, including the Coliseum, Stadium, West Stadium, Track and Field, Chicken Hill, and Litton-Reaves parking lots. The Green Team educates tailgaters on what can and can't be recycled, and how to green their game day experience. During the 2016 football season, **nearly 10,000 pounds of recycling** was collected!

Ways to green your gameday:

1. Carpool to the game
2. Use propane to grill
3. Bring reusable plates/cups/utensils/grocery bags
4. Recycle bottles, cups, cans, cardboard in bags provided by volunteers!
5. Buy in bulk - not single serving snacks (reduces packaging waste)
6. Buy local from the Blacksburg Farmer's Market

Green Request for Proposals (RFP) Program

At a Glance

The **Green Request for Proposals Program** provides university funds to student-generated sustainability projects. This program solicits proposals from recognized student organizations that promote sustainability on campus. Proposals that are funded by the university support the Virginia Tech Climate Action Commitment and produce realizable savings.

Since 2010, 53 student proposals have been approved and **awarded more than $525,000**. The following projects were funded in 2015-16 and installed during 2016-17:

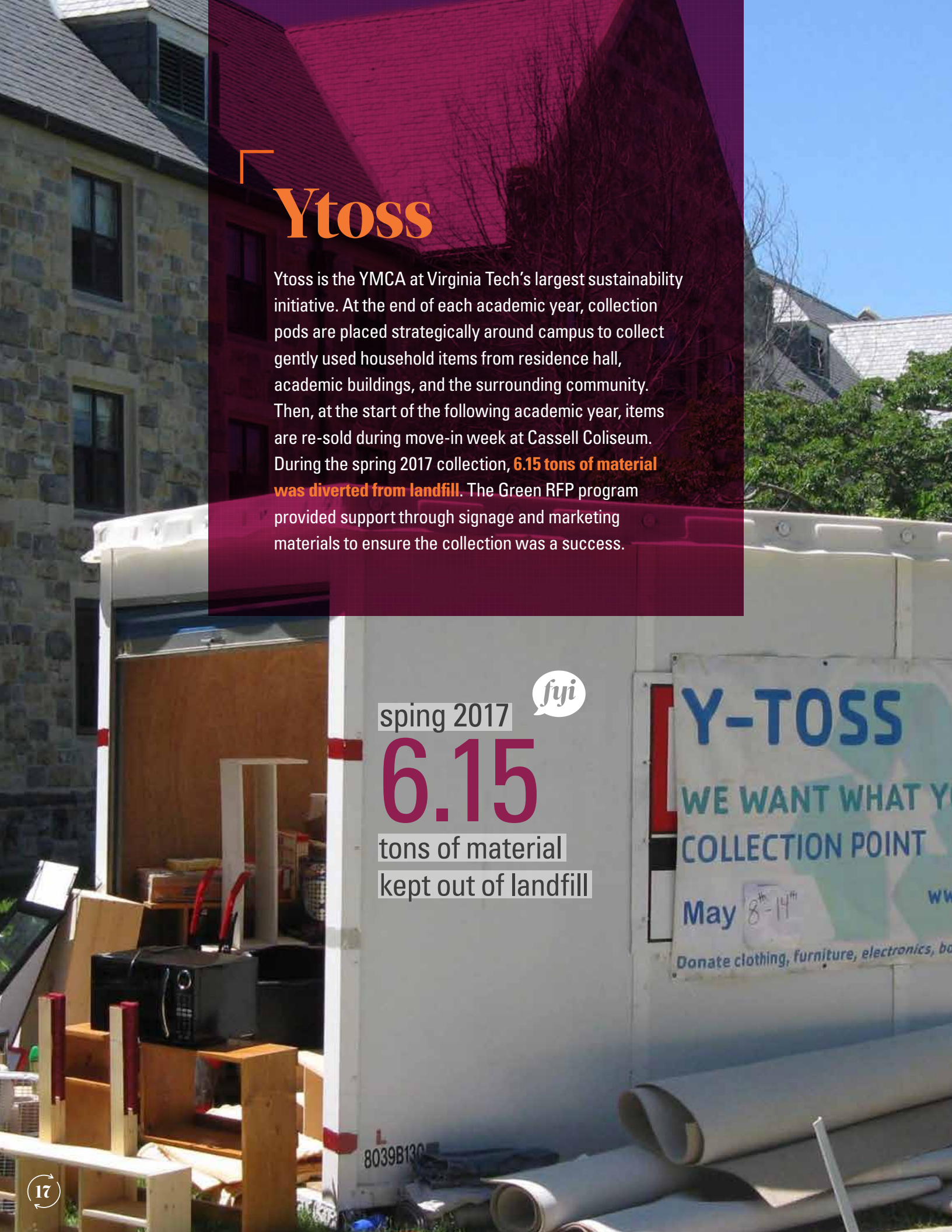
- Additional LED street lamp upgrades
- Additional OZZI reusable to-go machines and Hokie Passport readers
- Indoor waste stations for McBryde Hall
- Shut-the-Sash fume hood stickers
- Bicycle parking hubs
- Rainwater catchment system for Urban Horticulture Center
- Water bottle refilling station in Smyth Hall
- Native trees for Sustainability Week
- Bicycle fix-it stations
- Ytoss signage

The following projects were funded in 2016-17 and will be installed during the 2017-18 academic year:

- LED Lights in the Burruss Hall Tunnel - $4,500
- Stroubles Creek Riparian Restoration Buffer Project - $6,223
- ICTAS II Automatic Fume Hood - $3,500
- OZZI Reusable container expansion - $4,880
- LED Lighting in Squires Scene Construction Shop - $7,160
- Solar Charging Table - $13,500
- Water Bottle Refill Stations in Pamplin and Major Williams Hall - $5,000
- Energy Saving Light Switch Stickers - $300
- Bike Racks for Residence Hall Areas - $16,500
- Bike Shelter for Oak Lane Community - $7,000

Since 2010 *fyi*

53 student proposals approved and awarded more than **$525,000**



Ytoss

Ytoss is the YMCA at Virginia Tech's largest sustainability initiative. At the end of each academic year, collection pods are placed strategically around campus to collect gently used household items from residence hall, academic buildings, and the surrounding community. Then, at the start of the following academic year, items are re-sold during move-in week at Cassell Coliseum. During the spring 2017 collection, **6.15 tons of material was diverted from landfill**. The Green RFP program provided support through signage and marketing materials to ensure the collection was a success.

fyi

sping 2017

6.15

tons of material kept out of landfill

Energy and Sustainability Committee

Committee Purpose

The **Energy and Sustainability Committee** is part of the university governance structure. The committee reports to the Commission University Support which reports to University Council.

In 2016, the Energy and Sustainability Committee set forth to change their committee charge to best reflect their work surrounding sustainability. The new charge reads: "To review and provide advice to the University Administration on broad policy issues relating the university's pursuit of environmental quality through action, education, and engagement to address current needs without compromising the capacity and needs of future generations."

The Committee presented a Sustainability Overview to the University Council in May 2017. Also briefed the UNiversity Council in May 2017 to inform the university policy-makers of the exciting sustainability work that is taking place at Virginia Tech.



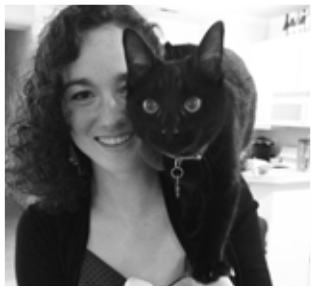




Internship Program





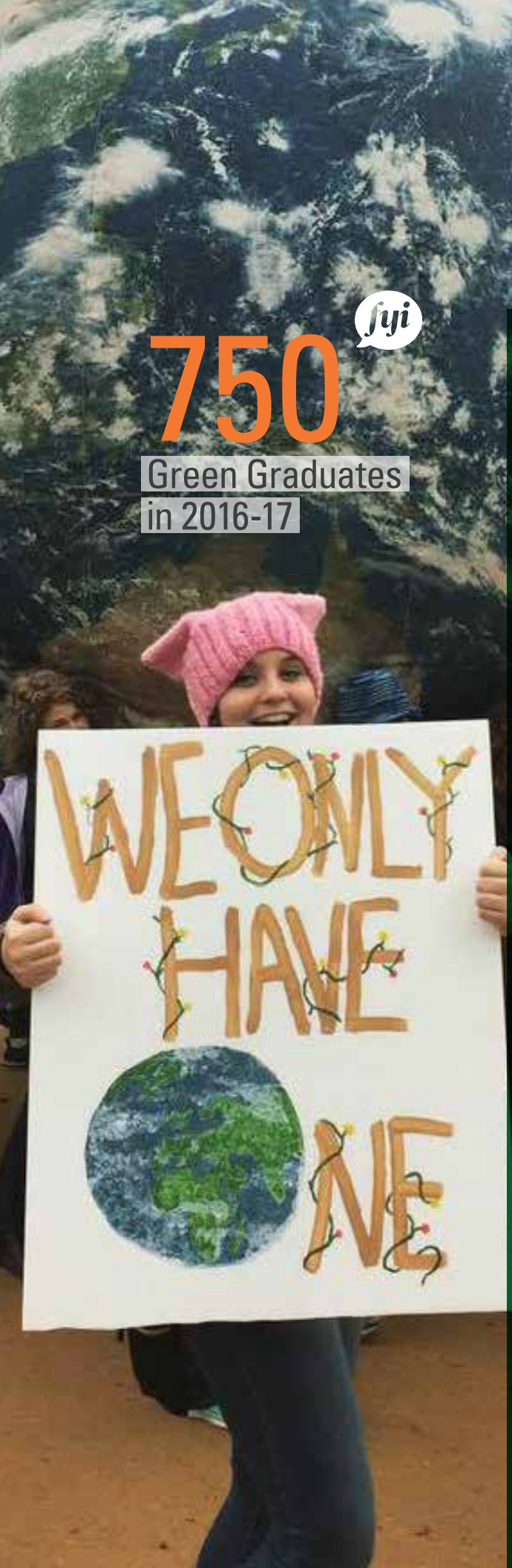





Intern Events

- Turn Down for Watt
- Thrift Swap
- Hallowgreen
- Did You Hear The Buzz?
- Pop-up Farmers Market
- EKOCENTER

Green Graduates



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750

Green Graduates in 2016-17

The **Green Graduates of Virginia Tech** program asks graduating students to take a personal sustainability pledge that encourages them to think about the environmental impact of their jobs, travel, and other adventures after leaving Virginia Tech. In 2016-17, Virginia Tech had over **750 Green Graduates**.

Frequently Asked Questions

Do other schools have a graduation pledge? Yes. Virginia Tech is part of the Graduation Pledge Alliance. There are more than 100 active pledge schools and 125,000 college graduates have taken the pledge.

How do I participate? To participate send a quick blurb of how you pledge to support a sustainable world and a photo of yourself (think "Humans of New York" project or just your standard selfie) to the Facebook page.

Do I need to be graduating to get the cord? Yes, we will only give cords to students who are set to graduate in the upcoming graduation ceremony.

Do you hand out cords for December graduation? Yes.

Do you have to be an undergraduate student to participate (rather than a Masters, PhD, etc.)? Not at all. Graduate students are also invited to participate.

What's the cost? The cord is free of charge, and only requires that you send your pledge and photo to commit to living a sustainable post-graduation life.

To view more, visit our Facebook page:
Green Graduates of Virginia Tech.

graduationpledge.org

Tree Campus USA

Since Virginia Tech was first certified in 2008 under the Tree Campus USA program, **over 625 trees have been planted** across campus. Plantings primarily take place during Sustainability Week in the fall semester and during Earth Week in the spring semester. Virginia Tech was one of the founding member schools of Tree Campus USA but as of spring 2017 over 300 universities were certified through this program.

TREE CAMPUS USA

STARS: Sustainability Tracking, Assessment and Rating System

Gold Rating since October 15, 2014

A Letter From President Sands to the Association for the Advancement of Sustainability in Higher Education (AASHE)

Virginia Tech is proud to be a charter participant in AASHE's STARS. We are committed to maintaining our leadership role in campus sustainability. It is my pleasure to endorse and affirm that Virginia Tech's STARS submission accurately reflects the sustainability initiatives and progress to date on our campus.

We actively use STARS as the primary tool for benchmarking our progress towards a more sustainable campus. Our commitment to sustainability was initiated by students in 2007. In 2009, our Board of Visitors unanimously approved the Virginia Tech Climate Action Commitment Resolution, which was accompanied by a Sustainability Plan specific to the university. This resulted in the creation of the Office of Energy and Sustainability, establishment of targets for the reduction of greenhouse gas emissions, an emphasis on energy efficiency, increased recycling and alternative transportation rates, an institutional commitment to pursue LEED Silver certification or better for all new construction and major renovation projects, and continued student engagement in campus sustainability. We are pleased to report that we have made tremendous progress toward our goals and are continually implementing additional initiatives to achieve a more sustainable future.

The STARS program continues to evolve and offer greater opportunities for colleges and universities. We will submit an application again under version 1.2 to advance our rating from Silver to Gold. Thank you for this opportunity to continue our participation in STARS and to learn from our peers as we work together to advance sustainability in higher education.

377-acre research and education site

Catawba

The **Catawba Sustainability Center (CSC) is a 377-acre research and education** site in Roanoke County, Virginia, that aims to inspire thought and discover solutions in environmental, social, and economic sustainability through research, education, and demonstration. The CSC works to advance environmental stewardship, community engagement, and economic growth by providing a living, learning environment for the teaching and demonstration of sustainable practices in land management, agriculture, and economics. The **CSC hosts over 1,000 visitors a year** and works closely with the academic, county, and community partners to promote its mission in the Catawba Valley.

Beginning Farmer, Education, and Food Access Programs

In conjunction with Virginia Cooperative Extension and the Virginia Young and Beginning Farmer/Rancher Coalition, the CSC continued its **small farmer incubator program** for another year by granting land access to five farmers during the 2017 growing season. CSC worked with those farmers to put over four acres under production to support their individual farm businesses. Another two acres were put in production in conjunction with a local high school to serve as an educational program as well as increasing access to healthy food in the region through the donation of that plot to a local food bank. Additionally, another half-acre was planted with a local "glean team" also for donation to a local food bank.

Conservation Credit for Agroforestry Production

In the early spring of 2017, the CSC along with faculty from the College of Natural Resources and Environment, demonstrated the potential of riparian and upland agroforestry systems to generate nutrient offset credits for sale in Virginia's water quality marketplace. **Over 1,300 trees were planted on over eight acres** of both hillsides and along the Catawba Creek designed to generate water quality credits, produce fruit, nut, and floral crops, and provide opportunities for research on tree establishment and growth. This project was funded by the National Fish and Wildlife Foundation and is a partnership between Virginia Tech, the Chesapeake Bay Nutrient Land Trust, and the National Agroforestry Center.

Cooperative Research Grants

In 2017, the CSC **awarded five cooperative research grants** to Virginia Tech faculty to implement projects on the ground. From the applicants, the new projects established include historical research into the first three decades of the farm property, the facilitation of drone use in agriculture to high school students, the construction of a weather station on the property, the use of a UAV-based LiDAR system on a drone to develop detailed digital maps of the CSC property, and the introduction of a non-timber forest product plot that involves the cultivation of medicinal and edible plants as well as mushrooms.

Multi-Modal Transit Facility (MMTF) and Sustainability Showcase

The **Multi-Modal Transit Facility (MMTF) is a partnership between the university and the Town of Blacksburg**. It will function as a transit hub and will serve multiple modes of transportation. The LEED project boundary spans from Stanger St. to West Campus Dr., and will transform Perry St. into an expansive pedestrian mall. The facility will provide amenities for users, facilitate public interface, disseminate information, and promote alternative transportation.

This project will be the first building at Virginia Tech to pursue LEED Platinum certification. Some of the sustainability showcase items that will be included in the MMTF include:

- Rainwater from the building will be collected in storage tanks and be reused for gray water purposes in the building.
- A wind turbine will be installed as a demonstration of wind energy.
- Extensive photo-voltaic panels will be installed in select bus slip canopies to provide renewable energy.
- A green roof will be installed to provide natural insulation, CO_2 reduction, and reduce rainwater runoff.

fyi

7.6%

decrease in our emissions in 2016

In Conclusion

The past year has been a "Sustainability Success" because of our achievements engaging our campus community and implementing a comprehensive Five Year Energy Action Plan. You can see these achievement in the faces of our faculty, staff, and students as they come together to make our campus even greener and in the results of our annual Greenhouse Gas (GHG) assessment showing a **7.6% decrease in our emissions in FY 16**. Virginia Tech continues to lead in Sustainability.

Appendices

Commonwealth of Virginia Locality Recycling Rate Report For Calendar Year 2016

Contact Information

Reporting Solid Waste Planning Unit: Virginia Tech

Person Completing This Form: Dennis C. Cochrane

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Address: Sterrett Center, Suite 48 (MC0529), 230 Sterrett Drive, Blacksburg, VA 24061

Phone #: (540)-231-5184 **Email Address:** denniscc@vt.edu

Summary: Virginia Tech, the Town of Blacksburg, the Town of Christiansburg, and Montgomery County are the four jurisdictional members of the Montgomery Regional Solid Waste Authority (MRSWA). Located in Christiansburg, Virginia, MRSWA operates a transfer facility that receives our recycling materials and municipal solid waste (trash). MRSWA and its jurisdictional members transitioned to a "Single Stream Recycling System" on July 1, 2015. With this system once recycling materials are weighed at MRSWA they are transported to "Recycling & Disposal Services (RDS) in Roanoke, Virginia, which serves as the recycling hub for the Roanoke and New River Valleys. Municipal solid waste is transported to the local landfill operated by the New River Resource Authority (NRRA) in Pulaski County. Virginia. Food waste for compositing is transported from our eleven dining facilities to an on campus storage facility for further transport to Royal Oak Farm (ROF) located outside of Lynchburg, Virginia. MRSWA prepares a consolidated recycling rate report for our region using this DEQ format. Virginia Tech uses this same format to record our data for calculating our recycling rate for our main campus in Blacksburg, Virginia.

Due to the complexity and difficulty in obtaining data, this report reflects the best efforts of the solid waste planning unit to represent its recycling efforts for **CY 2016**. Data in this report was collected from our recycling and solid waste facilities, and from other recycling sources, including non-governmental entities. I certify that I have personally examined and am familiar with the information submitted in this form and any attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. These records will be made available for auditing purposes, if requested.

Dennis C. Cochrane	Sustainability Program Manager	MARCH 28 2017
Authorized Signature	Title	Date

Locality Recycling Rate Report **For Calendar Year 2016**

PART A: Recycling Rate Calculation - Using the formulae provided below and the information reported on Pages 3, 4 and 5 to calculate your recycling rates.

Step 1: [(PRMs) / (PRMs + MSW Disposed)] X 100 = Base Recycling Rate %

1,904	/	1,904	+	3,867	X 100 =	33.0	%
TONS		TONS		TONS			

Step 2: CREDITS calculation

a. Total Recycling Residue	0 tons
b. Total Solid Waste Reused	10 tons
c. Total Non-MSW Recycled	1,541 tons
CREDITS	1,551 tons

Step 3: [(PRMs + CREDITS) / (PRMs + CREDITS + MSW Disposed)] X 100 = Adjusted Recycling Rate #1*

1,904	+	1,551	/	1,904	+	1,551	+	3,867	X 100 =	47.2	%
TONS		TONS		TONS		TONS		TONS		Waste Diversion Rate (Waste kept out of landfill)	

Step 4: ☐ **Source Reduction Credit does not apply; or**

☒ **Adjusted Recycling Rate #1 + 2% SRP Credit = Adjusted Recycling Rate #2***

47.2	%	+ 2%	=	49.2	%

Step 5: Final Recycling Rate* for Solid Waste Planning Unit = 38.0 %

*** Total credits resulting from Steps 3 and 4 may not exceed 5 percentage points above the Base Recycling Rate achieved by the Solid Waste Planning Unit.**

Locality Recycling Rate Report **For Calendar Year 2016**
PART B: DATA

Part I: Principal Recyclable Materials (PRMs): Report only PRM material generated within the reporting SWPU and recycled, NOT imported PRMs for recycling.

PRM TYPE	RECYCLED AMOUNT (TONS)	
Paper	444	(round to whole tons)
Metal	36	
Plastic	1	
Glass	0	
Commingled (also known as Single Stream)	503	
Yard Waste (composted or mulched)	250	
Waste wood (chipped or mulched)	150	
White Goods	0	
Tires	7	
Used Oil	11	
Used Oil Filters	1	
Used Antifreeze	0	
Batteries	9	
Electronics	24	
Food Waste Organic-Composting	416	
Waste Cooking Oil	38	
Fluorescent Lights/Bulbs & Ballasts	14	
TOTAL PRMs	**1,904**	**(PRMs)**
	(Enter Total on Page 2, Step 1)	

Listing of sources for PRM data ***(consider only Virginia generated waste material)***

1. Permitted solid waste facilities from which MSW disposed/recycled data was collected:
   a. Department of Facilities: Office of Sustainability
   b. Department of Facilities: Operations (Buildings and Grounds)
   c. Department of Facilities: University Design and Construction
   d. Department of Environmental Health and Safety
   e. Dining Services
   f. Fleet Services
   g. Department of Human Resources
   h. _____
   i. _____

2. Other facilities/operations (not included in #1 above) from which MSW disposed/recycled data was collected:
   a. Montgomery Regional Solid Waste Authority (MRSWA)
   b. YMCA at Virginia Tech
   c. _____
   d. _____
   e. _____
   f. _____
   g. _____
   h. _____
   i. _____

Part II: Credits by Category (see Credits Worksheet, Page 5)

A. Recycling Residue – "Recycling residue" means the (i) nonmetallic substances, including but not limited to plastic, rubber, and insulation, which remain after a shredder has separated for purposes of recycling the ferrous and nonferrous metal from a motor vehicle, appliance, or other discarded metallic item and (ii) organic waste remaining after removal of metals, glass, plastics and paper which are to be recycled as part of a resource recovery process for municipal solid waste resulting in the production of a refuse derived fuel. (§ 10.1-1400 of the *Code of Virginia*) (use only SWPU generation)

MATERIAL DESCRIPTION	FACILITY/OPERATION	(round to whole tons) TONS OF MATERIAL
_____	from _____	_____
_____	from _____	_____
_____	from _____	_____
	TOTAL RECYCLING RESIDUE	**0**

(Enter Total on Page 2, Step 2 a)

B. Solid Waste Re-Used

MATERIAL DESCRIPTION	REUSE METHOD	(round to whole tons) TONS OF MATERIAL
Furniture/Appliances	Ytoss 2016 (YMCA at VT & VT Recycling)	10
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
	TOTAL SOLID WASTE REUSED	**10**

(Enter Total on Page 2, Step 2 b)

C. Non-Municipal Solid Waste (MSW) Recycled

MATERIAL DESCRIPTION	RECYCLING METHOD	(round to whole tons) TONS OF MATERIAL
Construction Material	Concrete/Masonry (New Cadet/ New Class Bldg.)	1,485
EPDM Materials	Membrane and Roofing (Derring Hall)	6
Asphalt Material	Asphalt Removal (W. Campus Dr/Kent St)	50
_____	_____	_____
	TOTAL NON-MSW RECYCLED	**1,541**

(Enter Total on Page 2, Step 2 c)

D: A credit of two (2) percentage points may be added to the Adjusted Recycling Rate #1 if the Solid Waste Planning Unit has implemented a Source Reduction Program (SRP). Examples of SRPs include Grass-cycling, Home Composting, Clothing Reuse, Office Paper Reduction (duplexing), Multi-Use Pallets, or Paper Towel Reduction. The SRP must be included in the Solid Waste Management Plan on file with the Department:

SRP description: Dining Services continues to expand its Reusable To-Go Container Program using the 3 OZZI Machines with Card Reader feature. Funds approved for the purchase for 1 more OZZI with operation to begin summer 2017.

SRP description: University continues to replace non-operational and outdated water fountains with the extremely popular Water Bottle Refill Stations which saves water.

SRP description: University Design Standards contains specifications for outdoor and indoor Waste Stations for all new construction and major renovation projects.

(Certify on Page 2, Step 4)

Exclusions: **For the purposes of this report, the following materials are not considered solid wastes, and should not be included in any of the data categories utilized in calculating the recycling rate.**

1. **Biosolids –industrial sludge, animal manures; or, sewage sludge (unless composted)**
2. **Automobiles – unless part of the Inoperable Vehicle Program (DMV)**
3. **Leachate**
4. **Soils – contaminated soils, soil material from road maintenance**
5. **Household hazardous waste**
6. **Hazardous waste**
7. **Medical waste**
8. **Rocks or stone**
9. **Woody waste derived from land clearing for development, VDOT or easement tree trimming/clearing.**

Part III: Total Municipal Solid Waste (MSW) Disposed** - Report only MSW generated within the reporting jurisdiction(s), NOT imported wastes or industrial wastes.

MSW TYPE	**TOTAL AMOUNT of MSW DISPOSED (TONS)**
Household	_____ (round to whole tons)
Commercial	_____
Institutional	3,867
Other (DO NOT INCLUDE INDUSTRIAL WASTES)	_____
TOTAL MSW DISPOSED	3,867

(Enter Total on Page 2, Step 1 and Step 3)

***Note: MSW DISPOSED** for the purpose of this report means delivered to a permitted sanitary landfill, delivered to a waste-to-energy facility, or managed at a transfer station for transport to a landfill or waste-to-energy facility.*

Locality Recycling Rate Report **For Calendar Year 2016**

Credits Worksheet

I. Reuse of any Solid Waste

√		Material description	Tons	
___	PRM			(round to whole tons)
___	PRM			
___	PRM			
___	Industrial			
___	Construction			
___	Demolition			
___	Debris			
_X_	Other	Res Hall used furniture/appliances	10	
___	Other			
___	Other			
		TOTAL TONS	**10**	**(enter data on Page 4, Solid Waste Re-Used)**

II. Recycling of any Non-Municipal Solid Waste

√		Material description	Tons	
_X_	Construction	Concrete/Masonry (New Cadet Hall)	1,171	(round to whole tons)
_X_	Construction	Concrete/Masonry (New Class Bldg.)	314	
_X_	Roofing	EPDM Materials (Derring Hall)	6	
_X_	Roadwork	Asphalt Removal (Kent Street & West Campus Drive))	50	
___	Other			
___	Other			
___	Other			
		TOTAL TONS	**1,541**	**(enter data on Page 4, Non-MSW Recycled)**

III. Inoperable Vehicles Removed and Demolished – include number of vehicles that the localities received reimbursement from DMV under §46.2-1207 of the Code of Virginia.

# of vehicles removed/reimbursement received		
Average tonnage per vehicle	X 1 Ton each	
Total Tons	**0**	**(enter data on Page 3, PRMs, Inoperative Motor Vehicle Program)**

NOTE: Check "Exclusions" on Page 5 to avoid listing of those materials on this worksheet and/or in the data fields of this report.

Locality Recycling Rate Report — For Calendar Year 2016

Part C: Recycling Rate Report Instructions

Amended Regulations for the Development of Solid Waste Management Plans (9 VAC 20-130-10 et seq.) require that Solid Waste Planning Units (SWPUs) in the Commonwealth develop complete, revised solid waste management plans. Section 9 VAC 20-130-120 B & C of the Regulations requires that a minimum recycling rate of the total municipal solid waste generated annually in each solid waste planning unit be maintained. It also requires that the plan describe how this rate shall be met or exceeded and requires that the calculation methodology be included in the plan. Section 9 VAC 20-130-165 D establishes that every solid waste management planning unit with populations over 100,000 shall submit to the department by April 30 of each year, the data and calculations required in 9 VAC 20-130-120 B & C for the preceding calendar year. SWPUs with populations of 100,000 or less are only required to report every 4 years (CY years 2016 and forward).

NOTE: ONLY RECYCLING RATE REPORTS FROM AN APPROVED SOLID WASTE PLANNING UNIT (SWPU) WILL BE ACCEPTED FOR PROCESSING. JURISDICTIONS WITHIN A SWPU MUST SUBMIT THEIR RECYCLING DATA TO THE SWPU FOR INCORPORATION INTO THE ANNUAL REPORT.

It is requested that all amounts included on the form be listed in **tons (2,000 pounds)**, rounded to the nearest whole ton. If actual weights are not known, volumes can be converted to weight estimates. To assist you with these estimates, a standardized volume-to-weight conversion table is attached.

Contact Information Section: Please provide information on the Reporting SWPU and information on the individual completing this form. Under Member Governments, please list the local governments identified in the applicable solid waste management plan.

Calculated Recycling Rate Section: Using the formulae provided, calculate your recycling rates for the reporting period from information identified in the Recycling Rate Calculations Section.

Signature Block Section: Please provide an authorized signature prior to submitting the completed form. Authorized signatories include Executive Officer, Administrator, or other legally designated representative of the SWPU reporting entity.

Recycling Rate Calculations Section: Please provide the requested information:

Part I: Principal Recyclable Material (PRM) - Report the amount in tons of each PRM collected for recycling in the named jurisdiction(s) during the reporting period. PRMs include paper, metal, plastic, container glass, commingled, yard waste, waste wood, textiles, tires, used oil, used oil filters, used antifreeze, batteries, electronics, and other materials approved by the Director taken from the Municipal Solid Waste (MSW) generation. A one ton credit may also be entered for each inoperable motor vehicle for which a locality receives reimbursement from the Virginia Department of Motor Vehicles under §46.2-1207 of the *Code of Virginia*. The total weight in **TONS** of all PRMs collected for recycling is represented as **PRMs** in the Recycling Rate Calculation. **New for CY 2015: Provide source information for the PRMs reported on the report (permitted and unpermitted facilities).**

Part II: Credits - Report the amount in **TONS** of each material for which recycling credit is authorized in §10.1-1411.C of the *Code of Virginia*: (i) one ton for each ton of recycling residue generated in Virginia and deposited in a landfill permitted under §10.1-1408.1 of the *Code of Virginia*; (ii) one ton for each ton of any solid waste material that is reused; and, (iii) one ton for each ton of any non-municipal solid waste that is recycled. The total weight in **TONS** of all material for which credits are authorized is represented as **CREDITS** in the Recycling Rate Calculation. A credit of two percentage points of the minimum recycling rate mandated for the Solid Waste Planning Unit (SWPU) may be taken for a source reduction program that is implemented and identified in its Solid Waste Management Plan. Total credits may not exceed five percentage points above the Base Recycling Rate achieved by the SWPU.

Part III: Total Municipal Solid Waste (MSW) Disposed: Report the total amount in **TONS** of MSW that was disposed of by the Solid Waste Planning Unit (SWPU) during the reporting period for each of the source categories (Household, Commercial, Institutional, and Other). For the purpose of this report, "disposed," means delivery to a permitted sanitary landfill or waste incinerator for disposal, and excludes industrial wastes. Industrial waste and by-products should not be included in the MSW or Recycling calculation. The total weight in tons of MSW disposed is represented as **MSW Disposed** in the Recycling Rate Calculation.

Locality Recycling Rate Report Volume to Weight Conversion Table

Material	Volume	Weight in Pounds
Metal		
Aluminum Cans, Whole	One cubic yard	50-74
Aluminum Cans, Flattened	One cubic yard	250
Aluminum Cans	One full grocery bag	1.5
Ferrous Cans, Whole	One cubic yard	150
Ferrous Cans, Flattened	One cubic yard	850
Automobile Bodies	One vehicle	2,000
Paper		
Newsprint, Loose	One cubic yard	360-800
Newsprint, Compacted	One cubic yard	720-1,000
Newsprint	12" stack	35
Corrugated Cardboard, Loose	One cubic yard	75-100
Corrugated Cardboard, Baled	One cubic yard	1,000-2,000
Plastic		
PETE, Whole, Loose	One cubic yard	30-40
PETE, Whole, Loose	Gaylord	40-53
PETE, Whole, Baled	30" x 62"	500
Film, Baled	30" x 42" x 48"	1,100
Film, Baled	Semi-Load	44,000
Film, Loose	Standard grocery bag	15
HDPE (Dairy Only), Whole, Loose	One cubic yard	24
HDPE (Dairy Only), Baled	32" x 60"	400-500
HDPE (Mixed), Baled	32" x 60"	900
Mixed PET & Dairy, Whole, Loose	One cubic yard	32
Mixed PET, Dairy & Other Rigid (Whole, Loose)	One cubic yard	38
Mixed Rigid, No Film	One cubic yard	49
Glass		
Glass, Whole Bottles	One cubic yard	600-1,000
Glass, Semi-Crushed	One cubic yard	1,000-1,800
Glass, Crushed (Mechanically)	One cubic yard	800-2,700
Glass, Whole Bottles	One full grocery bag	16
Glass, Uncrushed to Manually Broken	55 gallon drum	125-500
Arboreal		
Leaves, Uncompacted	One cubic yard	200-250
Leaves, Compacted	One cubic yard	300-450
Leaves, Vacuumed	One cubic yard	350
Wood Chips	One cubic yard	500
Grass Clippings	One cubic yard	400-1,500
Other		
Battery (Heavy Equipment)	One	60
Battery (Auto)	One	35.9
Used Motor Oil	One gallon	7.4
Used Oil Filters (Uncrushed)	55 gallon drum	66 Lbs./Used Oil + 110 Lbs./Ferrous Metal
Used Oil Filters (Crushed)	55 gallon drum	16.5 Lbs./Used Oil + 368 Lbs./Ferrous Metal
Tire - Passenger Car	One	20
Tire - Truck, Light	One	35
Tire - Semi	One	105
Antifreeze	One gallon	8.42
Food Waste, Solid & Liquid Fats	55 gallon drum	412
Electronics: CRT/CPU/LapTop/TV	Each (avg wt from NCER)	38/26/8/49 respectively
This Table For General Guidance Only.		

Energy and Sustainability Committee
2016-2017 Members

CHARGE: To review and provide advice to the University Administration on broad policy issues relating to the university's energy supply and use, and resource conservation. Reports to: Commission on University Support.

Chair - President will appoint annually from among members of the committee

Denny Cochrane	Chair	2017

Ex Officio

Sherwood Wilson	Vice President for Administration	ex officio
Dwight Shelton	Vice President for Finance and CFO	ex officio
Chris Kiwus	Associate Vice President and Chief Facilities Officer	ex officio
Jason Soileau	Assistant Vice President for University Planning	ex officio
Frances Keene	Chief of Operations and Deputy to the Associate Vice President, Student Affairs	ex officio
Denny Cochrane	Sustainability Program Manager	ex officio

Two representatives from Facilities Services selected by the Vice President for Administration (three-year terms)

Vacant	Transportation Planning	2018
Byron Nichols	Power Plant Operations	2019

One representative from Virginia Tech Environmental Health & Safety Services selected by the Vice President for Administration (one-year term)

Rob Lowe	Environmental Health and Safety	2017

Four representatives from the Faculty Senate nominated by the Faculty Senate (three-year terms)

Bruce Obenhaus	Library	2017
Edward Lener	Library	2019
Sean McGinnis	Materials Science Engineering	2019
Timothy Baird	Geography	2018

Two representatives from the Staff Senate nominated by the Staff Senate (three-year terms)

Alex Guest	Engineering Education	2019
Judy Taylor	Provost-Administration	2019

One college dean selected by the Council of College Deans (two-year term)

Alan Grant	Agriculture and Life Sciences	2018

Two representatives from the Graduate Student Assembly nominated by the GSA (one-year term)

Kenneth Black	Architecture Design Research	2017
Alex Naar	Business Management	2017

Two representatives from the Student Government Association nominated by the SGA (one-year term)

Melvin Amos	Computer Science	2017
Charlotte Elwood	Business Information Technology	2017

VIRGINIA TECH LEED BUILDINGS STATUS AS OF 06/30/2017

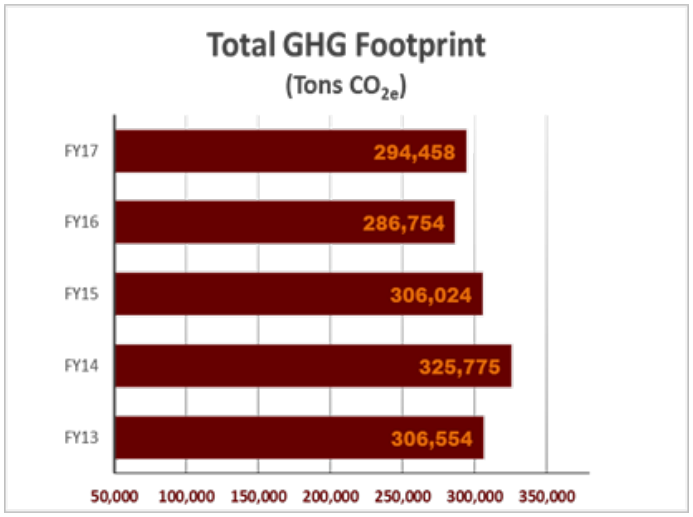
PROJECT	PROJECT #	BUDGET	GSF	CONSTRUCTION START	OCCUPANCY DATE	STATUS	LEED CERTIFICATION	DATE OF CERTIFICATION
PROJECTS COMPLETED - LEED CERTIFICATION ACHIEVED								
Henderson Hall Renovation & Theater 101 Addition	208-16758-001	$15,838,792	38,750	02/18/08	08/14/09	Project Complete	Gold	02/01/10
Football Locker Room Addition	208-L00016-000	$14,004,621	42,145	07/08/09	06/21/11	Project Complete	Silver	10/01/11
ICTAS II - Institute for Critical Technology & Applied Science Ph.II	208-17291-000	$34,587,710	42,190	04/08/09	04/06/11	Project Complete	Gold	11/01/11
Visitors & Undergraduate Admissions Center	208-L00012-000	$10,338,192	18,155	03/23/10	08/29/11	Project Complete	Certified	08/01/12
Academic & Student Affairs Building (Lavery Hall)	208-17859-000	$44,302,610	77,301	07/29/10	09/05/12	Project Complete	Silver	04/01/13
Vet Med Instructional Addition	208-19791-000	$12,343,316	24,600	07/26/11	11/05/12	Project Complete	Silver	06/01/13
Ambler Johnston Hall - Improve Residential & Dining Halls	208-17557-000	$66,968,679	269,463	05/26/09	06/25/12	Project Complete	Gold	11/01/13
Chiller Plant Phase I (Southwest Chiller Plant)	208-17657-000	$20,097,729	16,655	03/22/12	06/14/13	Project Complete	Silver	11/01/13
Center for the Arts (Moss Arts Center)	208-16758-002	$100,087,000	147,382	08/10/10	08/21/13	Project Complete	Gold	05/01/14
Human & Agricultural Biosciences Building I	229-17681-000	$53,759,344	93,860	12/22/11	03/10/14	Project Complete	Gold	04/17/15
Indoor Athletic Training Facility	208-17296-000	$21,300,000	91,600	04/23/14	06/25/15	Project Complete	Silver	10/05/15
Signature Engineering Building (Goodwin Hall)	208-17658-000	$95,218,249	154,935	09/13/11	05/29/14	Project Complete	Gold	10/28/15
Renovate Davidson Hall	208-17662-000	$32,003,099	44,845	02/17/12	06/08/14	Project Complete	Certified	03/11/16
Upper Quad Residential Facilities (Pearson Hall)	208-L00031-000	$45,500,000	111,191	10/14/13	01/24/17	Project Complete	Silver	12/16/16
Total GSF:			1,173,072					

Sustainability Annual Metrics Report 2016-17

The following report provides a summary status on implementation of the Virginia Tech Climate Action Commitment and Sustainability Plan (VTCAC&SP) for 2016-2017. The VTCAC&SP was developed in 2009 and revised in 2013.

A. KEY SUSTAINABILITY METRICS

1. **Greenhouse Gas (GHG) Emissions:** "Virginia Tech will establish a target for reduction of **campus GHG emissions** to 80% below 1990 emission level (**38,000 tons**) by 2050…" *(VTCAC&SP)*



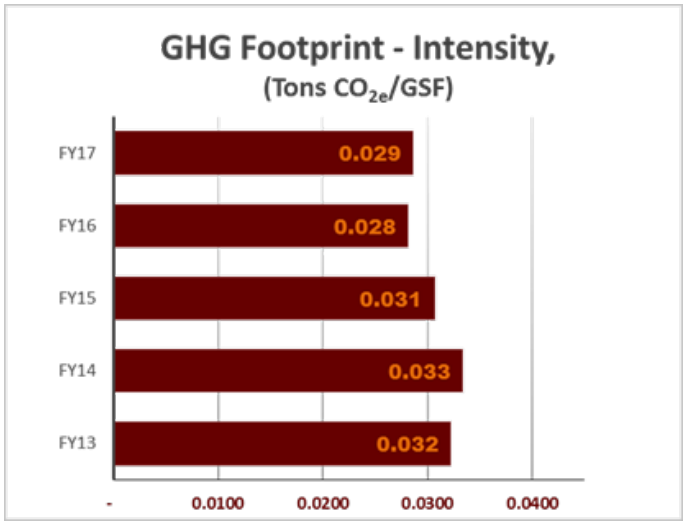
Comments

2.7% increase in FY2017 driven by:

- 4.7% increase in carbon emission rate from purchased electric energy compared to last fiscal year. This is due to reduction in AEP's nuclear energy generation and increase in natural gas generation

Comments

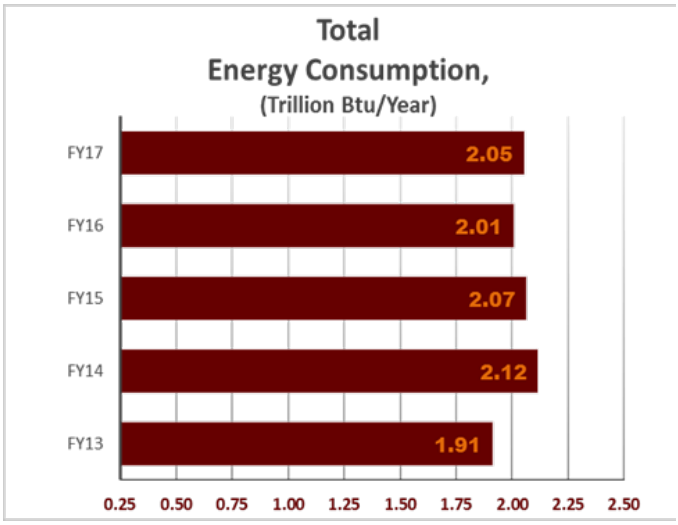
- The university added approximately 120,000 square feet in construction during FY17 (New Cadet Hall)



- GHG emission percentages by fuel source:
  - Purchased Electricity 52.6%
  - Coal 24.5%
  - Commute 5.7%
  - Natural Gas (Steam Plant) 11.4%
  - Natural Gas (Buildings) 2.3%
  - All Others 3.3%

2. **Energy Use Intensity (kBtu's/GSF):** "Virginia Tech will improve electricity and heating efficiency of campus facilities and their operations by improving the heating and cooling infrastructure and operation, lighting efficiency, equipment efficiency, and metering and controls of its existing buildings." *(VTCAC&SP)*

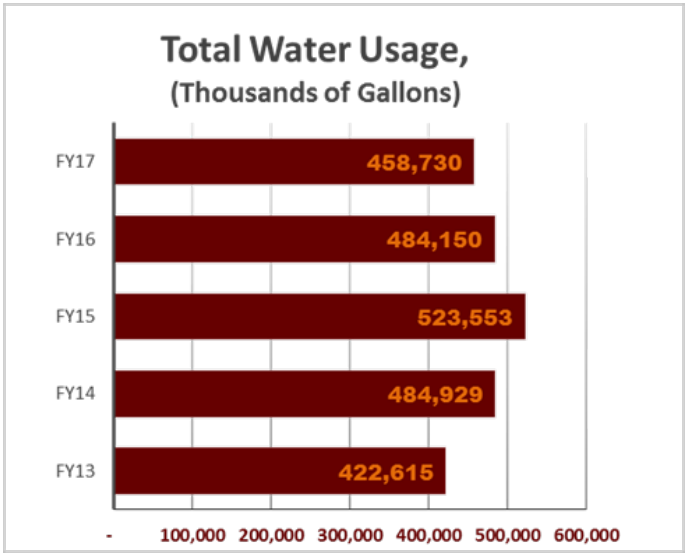
Comments



- 2.26% increase in overall energy consumption on campus driven by 1.58% increase in electric energy and 2.8% increase in combined fuel consumption in FY2017 over FY2016.
- The university added approximately 120,000 square feet in construction during FY17 (New Cadet Hall, Davidson II)
- To enhance the on-going efforts to operate more efficiently and reduce consumption of energy on campus, University has developed a 5-year Energy Action Plan. Central Administration has funded Phase 1 of the plan in the amount of $2.5 million and Phase 2 of the plan in the amount of $3.5 million.

3. **Water Consumption**: "Virginia Tech will engage students, faculty, and staff through education and involvement to develop and implement innovative strategies for efficient and sustainable use of energy, **water**, and materials in all university-owned facilities." *(VTCAC&SP)*

Comments



- **5.3% decrease over FY2017** driven by reduction in unaccounted water loss and better water management practices.

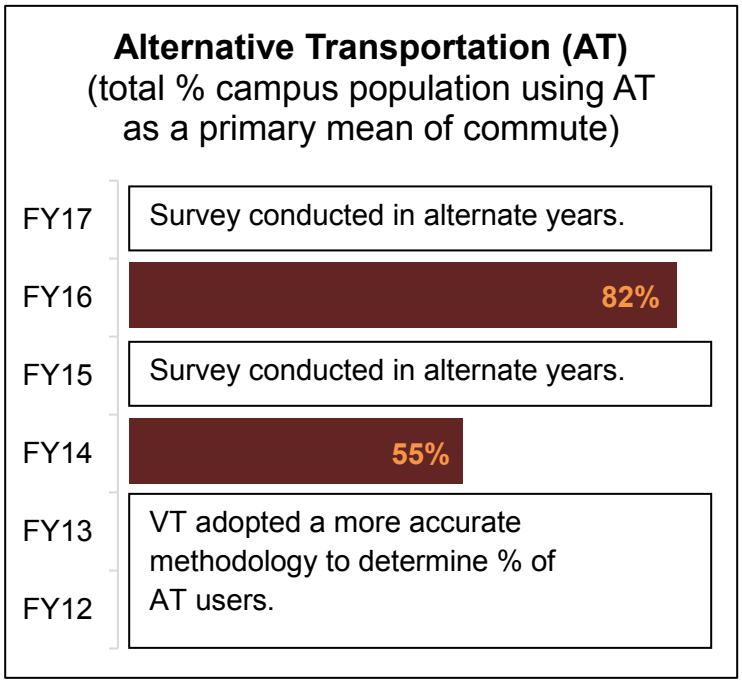
4. **Alternative Transportation Use**: "Virginia Tech will improve transportation energy efficiency on campus through parking, fleet, and **alternative transportation** policies and practices." *(VTCAC&SP)*

Comments

- Virginia Tech received its eighth straight gold award from the Best Workplaces for Commuters Race for Excellence, after having been named "Best Of" in the university category in 2014.

- The university has reapplied to the League of American Bicyclists for 2017 after being named a Bronze level Bicycle Friendly University in 2014. This is evaluated every three years.

- The office of Alternative Transportation conducted the second iteration of the biennial Commuter Survey in the spring of 2016. The survey results showed that 81.6% of campus affiliates (faculty, staff, and students) use at least one alternative mode as a primary transportation source.



2016–17 Office of Sustainability Annual Report

Office of Sustainability
Sterrett Facilities Complex
230 Sterrett Drive
Blacksburg, VA 24061

540-231-4300
facilities.vt.edu/sustainability.html

VIRGINIA TECH | FACILITIES DEPARTMENT