

Virginia Tech Sustainability Annual Report

2012 - 2013



Office of University Planning - Sustainability

September 9, 2013

Virginia Tech Sustainability Annual Report 2012-2013

The Virginia Tech Office of Energy and Sustainability is pleased to present the Virginia Tech Sustainability Annual Report for 2012 - 2013. The purpose of this report is to provide a summary status on implementation of the Virginia Tech Climate Action Commitment and Sustainability Plan (VTCAC&SP).

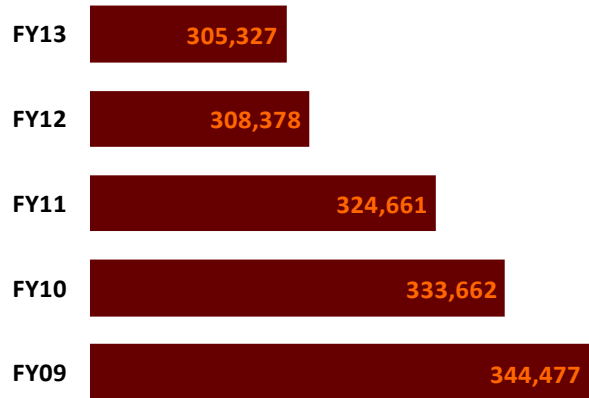
A. KEY SUSTAINABILITY METRICS

- 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

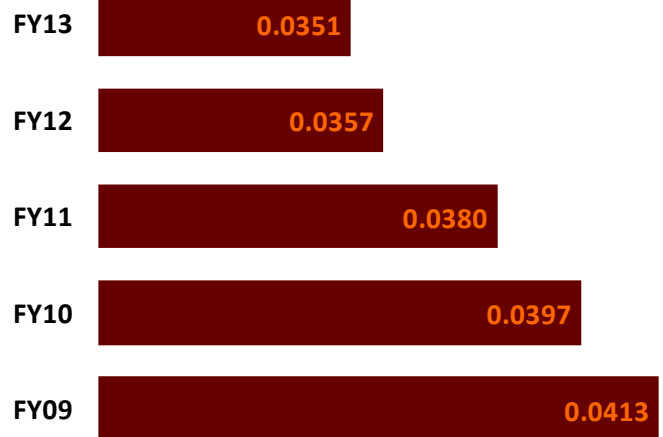
- **Slight overall reduction** (1%) from FY2012:
 - 13.8% reduction in boiler fuel-related GHG emissions due to increased natural gas (and comparably less coal) consumption
 - Reduction achieved despite continued full-year unavailability of VT turbine-generator
 - **Reduction achieved despite a much more severe winter** (22% increase in Heating Degree Days)
 - Favorable purchased electricity GHG emissions coefficient due to less coal-heavy APCO fuel mix

Total GHG Footprint (Tons CO_{2e})



GHG Footprint - Normalized (Tons CO_{2e} / GSF)

- GHG emission percentages by fuel source:
 - Purchased Electricity 58.0%
 - Coal 23.2%
 - Natural Gas – Steam Plant 6.9%
 - Commuting 5.6%
 - Natural Gas – Buildings 3.2%
 - All Others 3.2%



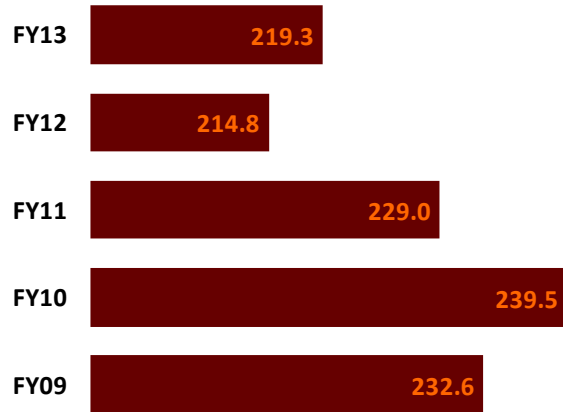
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2. **Energy Use Intensity (kbtu's/GSF):** "Virginia Tech will improve electricity and heating efficiency of campus facilities and their operations..." (VTCAC&SP)

Comments

- 2.1% increase over FY2012:
 - Boiler fuel held flat despite a 22% increase in Heating Degree Days
 - Slight reduction (1.4%) in overall campus electricity consumption
 - Full-year **unavailability of VT turbine-generator estimated to have negative impact** of 7.9 kbtu/GSF
- ESCO Performance Contract project (\$5.33 million for energy reduction projects across five campus buildings) approximately 80% complete at fiscal year-end

**Energy Use Intensity (EUI)
(kbtu's / GSF)**

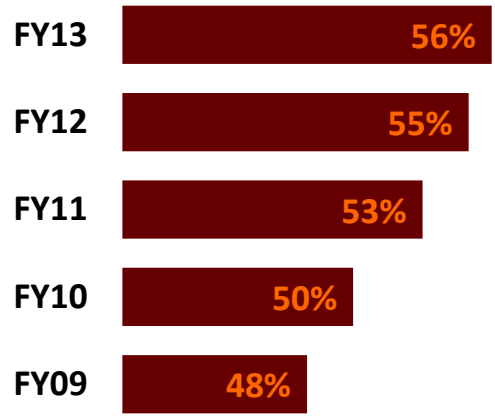


3. **Alternative Transportation Use:** "Virginia Tech will improve transportation energy efficiency on campus through parking, fleet, and alternative transportation policies..." (VTCAC&SP)

Comments

- Virginia Tech again recognized nationwide with a **Gold "Race to Excellence" award** by The Best Workplaces for Commuters; a program managed by National Center for Transit Research and designed to encourage sustainable transportation.
- Virginia Tech among 58 colleges and universities in 30 states designated a **bicycle friendly university**. This recognition was given by League of American Bicyclists, which designated Virginia Tech at the Bronze Level for the commitment to promoting and providing a more bicycle friendly campus.
- The percentage of faculty & staff that use AT for FY 13 is 22% and the percentage of undergrad and graduate commuter students that use AT is 72%.

**Alternative
Transportation Use
(Total % of Campus Population Using
Alternative Transportation as Primary
Access to/from Campus)**



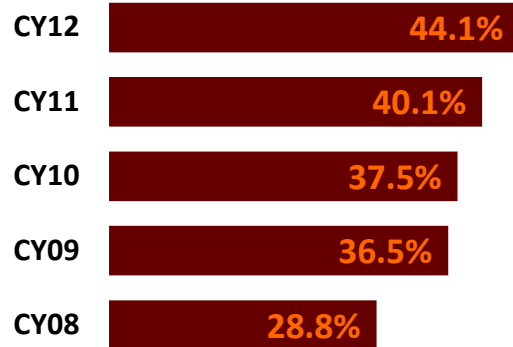
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4. **Recycling:** “...Virginia Tech Recycling will adopt a goal of **35% recycle rate by 2012** and 50% by 2025.” (VTCAC&SP)

Comments

- Calendar Year 2012 achieved a 44.1% Final Recycling Rate which marks **the fourth consecutive year of surpassing the 2012 goal** of a 35% recycle rate.
- Principal Recyclable Materials (PRMs) increased 15.4% to a record 2,341 tons.
- Dining Services food waste **composting increased by 43%** to a record 548 tons.
- Waste Diversion Rate (percentage of waste material kept out of the local landfill) was 84%.
- Trash was reduced by 103 tons (2.8%)

**Overall Recycle Rate
(%)**

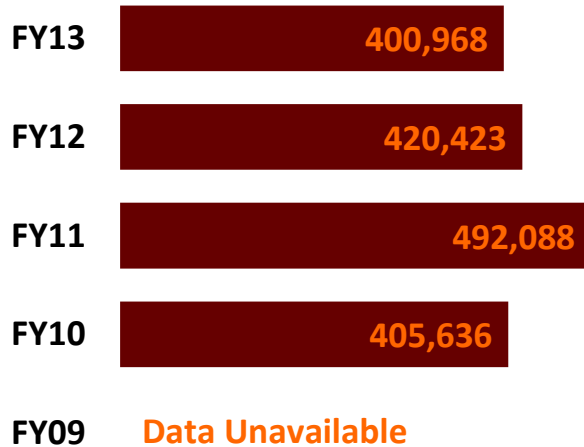


5. **Water Consumption:** “Virginia Tech will engage students, faculty and staff through education and involvement to reduce consumption of energy, **water**, and materials in academic and research buildings, dining and residence halls, and other facilities.” (VTCAC&SP)

Comments

- Xeriscape landscaping techniques continue to be used, including the selection of **drought tolerant plants**. The Virginia Tech Campus Design Principles document specifies many drought-resistant trees and shrubbery native to the Appalachian Mountains for use on campus
- The three campus areas, including the Virginia Tech Golf Course, are irrigated using non-potable water from the Duck Pond. The Inn at Virginia Tech uses a rain sensor to automatically adjust its irrigation schedule.

**Water Consumption
(Thousands of Gallons)**



Office of Energy & Sustainability
2013 Highlights



2013
SUSTAINABILITY
Annual Report





Virginia Tech Climate Action Commitment and Sustainability Plan

Energy & Sustainability Committee

Revised May 9, 2013

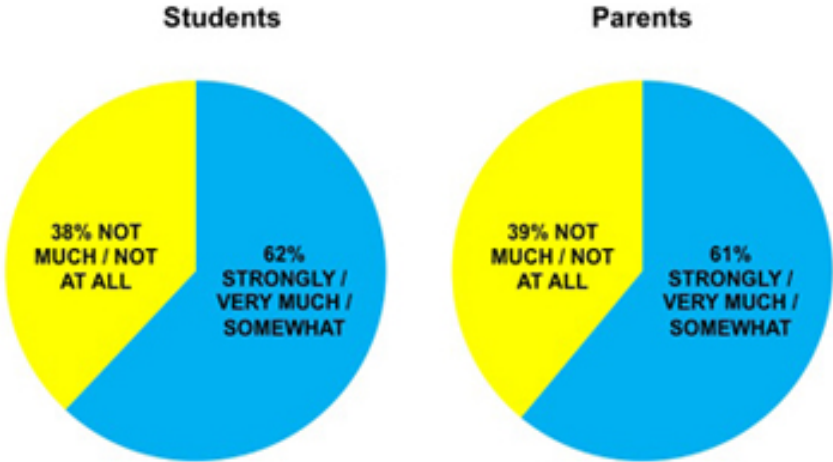
***Sustainability Annual Report to be provided per:
Presidential Policy Memorandum No. 262 Revision 1
May 9, 2013***

VTCAC&SP Incorporates Three Objectives:

1. Statement of Virginia Tech's Climate Action Commitment **specific to the university**
2. Action plan to **achieve the goals of commitment**
3. Action plan to **enhance sustainability programs & culture**

Excerpt from The Princeton Review's 2013 "College Hopes and Worries Survey"

If you (your child) had a way to compare colleges based on their commitment to environmental issues (from academic offerings to practices concerning energy use, recycling, etc.), how much would this contribute to your (your child's) decision to apply to or attend a school?



Students Care

Among respondents overall (students and parents combined), a solid majority, 62%, said having such information would contribute "Strongly," "Very Much," or "Somewhat" to their decisions while 38% of them said it would contribute "Not Much" or "Not at all." Students have placed higher value in knowing about colleges' commitments to the environment than parents have.

GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARD



2013 GOVERNOR'S ENVIRONMENTAL EXCELLENCE AWARD

Virginia Tech

WHEREAS, Article XI of the Constitution of Virginia states that "it shall be the Commonwealth's policy to protect its atmosphere, lands, and waters from pollution, impairment, or destruction, for the benefit, enjoyment, and general welfare of the people of the Commonwealth;" and

WHEREAS, the Commonwealth seeks to recognize those who have demonstrated leadership, innovation, and commitment to implement pollution prevention practices to reduce environmental impacts and improve our natural environment; and

WHEREAS, pollution prevention is a cost-effective and environmentally sound approach to environmental management that strives to eliminate or reduce pollution at its source by minimizing the use of energy, water, and other natural resources through increased efficiency and conservation;

NOW, THEREFORE, I, Robert F. McDonnell, Governor, do recognize Virginia Tech as a Gold Medal recipient of the 2013 Governor's Environmental Excellence Award for its demonstrated commitment to the stewardship of Virginia's natural resources through its Sustainability Program.


Governor


Secretary of Natural Resources



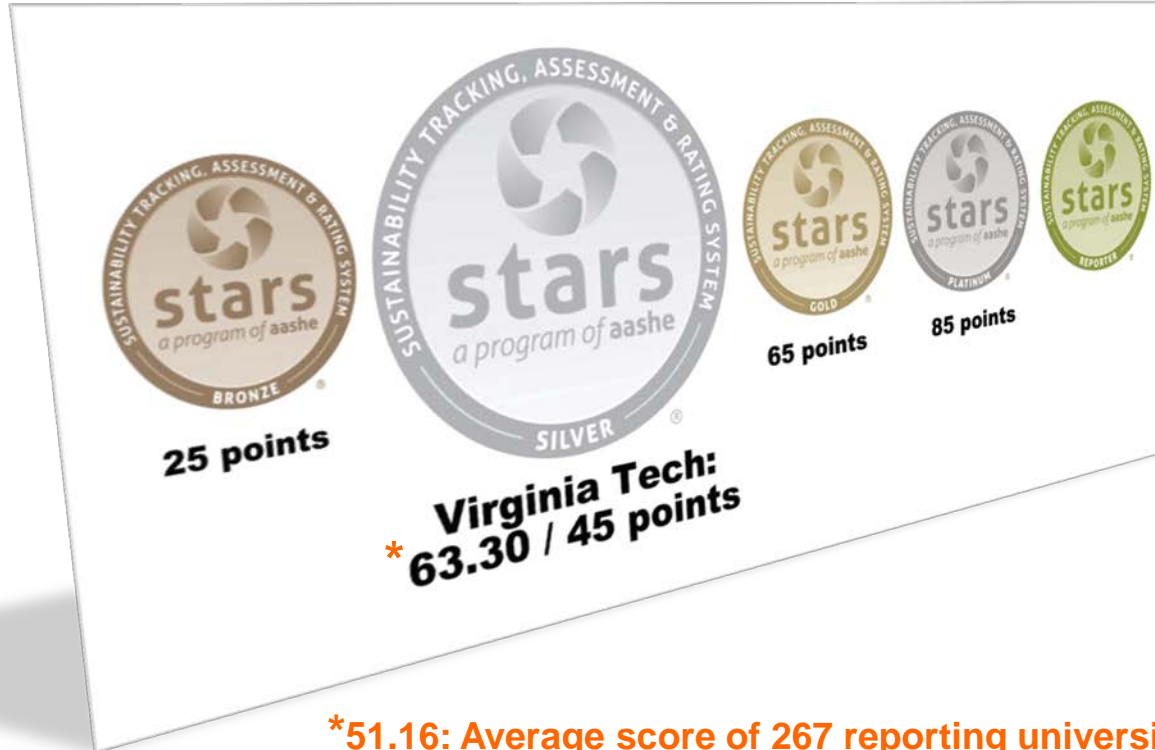
Award recognizes **Environmental & Conservation Leadership** in 2 categories: **Sustainability & Land Conservation.**

Selection based on: **Environmental Benefit, Stakeholder Involvement, Public Outreach, Transferability, & Innovation.**



VIRGINIA TECH'S BRAGGING RIGHTS

- **Score increased** from its first rating in 2011, **just missing a Gold Rating by < 2 points**
- VT is in the **top 20%** of all 267 reporting universities
- Score is the **highest achieved to date by any college or university in Virginia**
- Score is the **3rd highest among Atlantic Coast Conference institutions**



*51.16: Average score of 267 reporting universities

What is STARS?

A transparent, self-reporting tool for colleges and universities to

MEASURE SUSTAINABLE PROGRESS

in the following areas:

**Education & Research, Operations,
Planning, Administration &
Engagement, and Innovation**



2013 LEED CERTIFICATIONS



Virginia Tech Research Center -- Arlington
LEED Gold Certified (Core and Shell) 2012
LEED Silver Certified (Interior) 2013



Lavery Hall -- Blacksburg
LEED Silver Certified (New Construction) 2013



Veterinary Medicine Instruction Addition
LEED Silver Certified (New Construction) 2013



SUSTAINABILITY EVENTS

EARTH WEEK 2013
COMING AT YOU APRIL 22-26
 Brought to you by the Environmental Coalition @ Virginia Tech
GO GREEN!

Sustainability Week
 VirginiaTech *Invent the Future*
Blacksburg TOWN OF
a special place
 Sustainable **BLACKSBURG**

The Environmental Coalition @ Virginia Tech Proudly Presents
EARTH WEEK 2013
APRIL 22-26
 ALL WEEK LONG: Fun events on the drill field every day. Dining Specials at Farms & Fields. Movies in the evening. Prizes. Get Involved.

Hokie Nation: Green Generation

Monday: April 22	Tuesday: April 23	Wednesday: April 24	Thursday: April 25	Friday: April 26
ENERGY	TRANSPORTATION	FOOD	COMMUNITY/ART	CLIMATE
08	08	08	08	08
09	09	09	09	09
10	10	10	10	10
11	11	11	11	11
12	12	12	12	12
01	01	01	01	01
02	02	02	02	02
03	03	03	03	03
04	04	04	04	04
05	05	05	05	05
06	06	06	06	06
07	07	07	07	07
08	08	08	08	08
09	09	09	09	09
10	10	10	10	10

Events on the Drillfield All Day! 10-3pm

Get In The Game: Recycle
Feb 3 - Mar 30, 2013
 Sponsored By:
 ☆ Office of Energy & Sustainability ☆ SGA
 ☆ Division of Student Affairs ☆ Environmental Coalition

VISIT:
www.facilities.vt.edu/sustainability

VirginiaTech *Invent the Future*

YTOSS: 2013

A student-led sustainability program of the YMCA at Virginia Tech



FOR YOUTH DEVELOPMENT
 FOR HEALTHY LIVING
 FOR SOCIAL RESPONSIBILITY



1 | YTOSS | ©2010 YMCA of the USA

- 🌱 Eco-Olympics
- 🌱 OES Internship Program
- 🌱 Game Day Recycling
- 🌱 Gobblefest
- 🌱 Power Down Lights Out
- 🌱 Sustainability Guide for New Students
- 🌱 New Student Orientation Leaders

SUSTAINABILITY ANNUAL REPORT

GREEN RFP PROGRAM

The intent of the Green RFP program is to direct a variety of existing university financial resources to **Student Driven Sustainability Initiatives** each year to promote sustainability at Virginia Tech.

- **22 student proposals totaling more than \$155,000** since FY 2012
- **10 student proposals totaling more than \$92,000** for FY 2013 = **60% > previous year**
- **Preference is given to proposals** that support the Virginia Tech Climate Action Commitment and Sustainability Plan and **that produce achievable savings.**



QUESTIONS OR COMMENTS?

