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

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)

- **Total GHG Footprint**
  - FY09: 344,477
  - FY10: 333,662
  - FY11: 324,661
  - FY12: 308,378
  - FY13: 305,327

- **GHG Footprint - Normalized**
  - FY09: 0.0413
  - FY10: 0.0397
  - FY11: 0.0380
  - FY12: 0.0357
  - FY13: 0.0351

**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

- 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%
2. Energy Use Intensity (kbtu’s/GSF): “Virginia Tech will improve electricity and heating efficiency of campus facilities and their operations...” (VT CAC&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

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<tr>
<th>Energy Use Intensity (EUI) (kbtu's / GSF)</th>
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3. Alternative Transportation Use: “Virginia Tech will improve transportation energy efficiency on campus through parking, fleet, and alternative transportation policies...” (VT CAC&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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<td>FY09</td>
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4. **Recycling:** “...Virginia Tech Recycling will adopt a goal of 35% recycle rate by 2012 and 50% by 2025.” *(VT CAC&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%)

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<th>Overall Recycle Rate (%)</th>
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<td>CY12 44.1%</td>
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<td>CY11 40.1%</td>
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<td>CY10 37.5%</td>
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<td>CY09 36.5%</td>
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<td>CY08 28.8%</td>
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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.” *(VT CAC&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.

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<th>Water Consumption (Thousands of Gallons)</th>
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<tr>
<td>FY13 400,968</td>
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<td>FY12 420,423</td>
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<td>FY11 492,088</td>
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<td>FY10 405,636</td>
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<tr>
<td>FY09 Data Unavailable</td>
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Office of Energy & Sustainability
2013 Highlights
VTCAC: OVERVIEW

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?

<table>
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<th>Students</th>
<th>Parents</th>
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<td>38% NOT MUCH / NOT AT ALL</td>
<td>39% NOT MUCH / NOT AT ALL</td>
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<tr>
<td>62% STRONGLY / VERY MUCH / SOMEWHAT</td>
<td>61% STRONGLY / VERY MUCH / SOMEWHAT</td>
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</tbody>
</table>

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.
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

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

*51.16: Average score of 267 reporting universities
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 ANNUAL REPORT

EARTH WEEK 2013
COMING AT YOU APRIL 22-26
GO GREEN!

EARTH WEEK 2013
APRIL 22-26

The Environmental Coalition © Virginia Tech
Presenting...

SUSTAINABILITY EVENTS

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

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

YTOSS: 2013
A student-led sustainability program of the YMCA at Virginia Tech

For more information on sustainability events, visit www.facilities.vt.edu/sustainability

SUSTAINABILITY ANNUAL REPORT
Virginia Tech: Office of University Planning
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?