

Final Recommendations from the “Shout Out for Sustainability” Forum

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Event Overview:

- There were over 70 event participants
- The majority of participants were students
- Campus decision makers were in attendance including: Leon McClinton, Steve Mouras, Denny Cochrane, Scott Reed, SGA executive board members, and others
- Representatives from Sustainable Blacksburg and the Blacksburg Transit were also in attendance
- There was strong support for the action items that are currently in the VTCAC&SP
- The following are recommendations made by participants on how we can become a more sustainable campus:

Buildings

- A LEED Platinum building:
 - We should immediately announce a program to build the first LEED Platinum Certified Building on campus as a gesture towards our commitment to transform ourselves into a campus that is ‘treading lightly on this planet’.
 - Having just one LEED Platinum building on campus, even a small one, will have a big significance. All building programs to follow will be forced to be measured against this one – and the bar would have been raised, subtly but surely.
 - If we go out to our donor-base (the alumni etc.) with a request to be part of the very first LEED Platinum building on campus I feel confident that the money will not be an issue – everyone wants to be part of the ‘very first’.
- We are a special case:
 - VT is an institution with a president who is an architect. We should be the trendsetters in environmentally conscious campuses.
- Making the Invisible Visible:
 - Let us choose one building on campus (example: one of the student dorms) and display its energy use, in real time, at a few public location via large screen monitors (the Campus Metabolism program can be a guide as to what is monitored and how it is presented).
 - Next, let us put some renewable energy sources (PV panels, wind turbines, electric generation from organic waste from dining halls etc) to offset some of the building’s energy use and show on the monitor the dollar value of the money saved.
 - Let us divide the dorm into roughly equal zones (by floors, wings, quads etc.) and have each zone sub-metered, showing on the displays the comparative energy use by the different zones.
 - The data can be processed for display in various time intervals (real-time, weekly, and monthly). It could be fed into the VT website for all to see as well.
 - Let there be a competition amongst the zones for the ‘lowest energy user’ of the month/semester and give everyone on that zone a reward – 10% of the money saved, let’s say. The remaining 90% saving shall go to pay-back the cost of implementing such a system.
 - With inter-departmental collaboration (like the solar decathlon project) such a system could be largely built by the students themselves as part of their capstone project.
- A Campus-wide completion and reward/recognition scheme:
 - Let us ensure sub-metering of individual buildings so the its energy use can be monitored
 - Let there be a reward/recognition system to the various departments / programs who show progressive improvement in their energy efficiency over time

- Pursue LEED Silver *certification* or better for all buildings
 - Make sure that there is designated funding to cover the extra costs associated with LEED.
 - There should be a goal of LEED Platinum certified.
- Eventually have monitors in each building or Residence Hall that has a screen showing energy usage and a comparison to how much was used the year before (or another time frame). This will make people more aware of the buildings energy consumption.
- Pair these signs with challenges to reduce energy.
- Make windows larger in all future Residence Halls. This could reduce lighting and heating loads.

Transportation

Parking and Vehicle Use

- Stop the ‘New Garage Program’ and seriously assess the need for them:
 - Parking garages will encourage more people to drive and will destroy campus life and sense of community.
 - Before this can be allowed to happen the students should demand the study showing all other options to solve the parking problem fully considered and found to fail.
 - We are not thinking ‘outside the box’ enough if building a new parking garage has come up to be the only solution.
 - How about a park-and-ride service (or park-and-bike service) from all the big parking lots at the local shopping malls. At a fraction of the cost of building a new parking garage VT can provide frequent shuttle bus services from these satellite parking lots. The local business at these shopping malls may participate happily because of the prospect of increased sale.
- Raise parking pass fees – this will decrease the amount of passes sold and decrease parking demand.
- VT Police should use electric cars in addition to parking services. This would set a good example.
- More parking needs to be made available for scooter and mopeds on campus. Allowing them to park next to bike racks is preferred.
- Look into using the Cspot method in a pilot program for commuter parking (a new system of parking management)
 - Allows drivers to bid on parking reservations in advance online
 - Leverages a variety of technological solutions to monitor and enforce parking remotely
 - Each meter is designed to function independently, and is powered exclusively through solar energy. This means that installing the system will leave virtually no carbon footprint.
 - The certainty of reservations will diminish the number of drivers circling for spots, which will have a positive impact on emissions.
 - Cspot has developed several unique strategies to promote carpooling; the site will suggest carpool groups based on class schedules, and students can bid on reservations as a carpool group.

Pedestrians

- Make the drillfield a “pedestrian only” zone – no vehicles at all with the exception of emergency vehicles. Look into doing this when the BT central hub is moved to Perry Street.
- Make campus more pedestrian friendly instead of building more parking garages to make it more vehicle friendly.

Bicycles

- Collaborate with the Town of Blacksburg to instate a bike share program for the whole Blacksburg community. This type of program would be most effective if you could use the bikes in and around town in addition to on campus.
- There needs to be a significant increase in the number of bike racks on campus – they are always full.

- There needs to be covered bike racks as well. People would be more likely to bike if there were covered bike racks - they will seem more sleek and advanced which could lead to more people using them.
- It needs to be made easier and more convenient to bike or scoot to campus rather than easier to drive (parking garages).

Blacksburg Transit

- Work with the BT to use waste oil from the Dining Halls for fuel.
- Seriously look at the costs of the real time GPS system for the busses.
 - Would need to ensure that students would use the website and make the program worth while
- Make sure that any biodiesel that is used on campus is from a local provider and produced locally. There should also be investigation to make sure that the production process and end product is sustainable (for example – not coming from corn and increasing food prices).
- Have some system that tracks how many times people ride the BT through their Hokie Passports. Give rewards for those who choose to ride the bus more frequently.
- Purchase and use electric busses on campus. Chattanooga, Tennessee has been using them for 12 years.
- In the long term, look at making the BT on an electric rail line.

Campus Community, Culture, and Engagement

- Establish an Office of Sustainability.
- Update and engage the university community annually with a “report card” on emissions reduced, consumption reduced, projects worked on, and an overall assessment of sustainability on campus. This should be released and discussed at an open forum for the university community to be able to ask questions and have their voices heard.
- Make things that are not visible more visible. These visual reminders will help shape behavioral change.
- Instate a student green fee. This will not only help to raise the needed funds, but will build culture around sustainability efforts.
- Instate the green development fund.
- Have a meter and screen on campus that tracks and displays how much energy, GHGs, and money has been saved since the signing of the VTCAC. This will give solid numbers on the impacts made by the plan. Make sure its solar powered, so that it does not increase energy consumption.
 - Making the progress that has been made very visible will encourage even more improvement in efficiency and more sustainable living practices. This is very important.
- Have sustainable room checks in residence halls. A student could come in and check energy efficiency in the individual rooms and make recommendations to the residents.
- Move forward with the Sustainability Advisors program idea.
- Make sure to include and engage the mining school in education and awareness.
- VT should partner with the Town and officially participate in Earth Hour together next year.
- Encourage the use of tablet PCs to save the use of paper in classes and for assignments and note taking. This is already a requirement by the College of Engineering.
- Engage the Greek community on campus in sustainability efforts. Encourage them to take on sustainability as an annual project or as a Greek-week event.
- Teamwork must be a part of every initiative.
- Provide reusable bags for all students.
 - Need to make sure that there is education and encouragement paired with this to ensure students use them for grocery shopping and taking items to go.
- Distribute a sustainable living guide to all students – this will give them important information on how to live more sustainably.
- Visibility of efforts and impacts is crucial to affecting behavior and campus culture.

Procurement

- Make all toilet paper and paper towels used in every building on campus be 100% post consumer recycled content.
- Use 100% post consumer recycled content paper for all paper used on campus. Use this for all school letters and brochures, everything printed, all paper used in the offices, and all paper used by instructors.
- Check into where the timber for our paper resources comes from. Is it sustainably produced?
- Look at all products through a life-cycle lens, and choose the products with the least impact.

Curriculum

- Host forums to educate instructors and other faculty on sustainability and techniques they can use to reduce their impacts.
- Have a sustainability literacy requirement for all students. Set up as a part of the Curriculum for Liberal Education (CLE) requirement system that all tech students have to fulfill to graduate.
- Develop a sustainability minor or concentration that is open to any student regardless of major.
- Work with Professors to integrate small sustainable practices in their instruction practices. For example – distributing items electronically instead of in paper form, encouraging the submission of assignments electronically, making sure all documents are printed on both sides, encouraging students to print on both sides, using recycled content paper, decreasing the margin sizes, and using sustainability related information in data sets and example problems.
- Work with all Professors to have a sustainability or environmentally related assignment in each class once during the semester.
- Create the virtual school of sustainability.
- Make more choices of “sustainability classes” available that will link into more majors. Also, make it easier to find out about these classes and when they re offered by creating a link on the sustainability website.
- Truly integrate the concept of “green” within student projects. Include cross-disciplinary projects and make sure that sustainability is a priority from the beginning instead of adding it in as an afterthought.
- Increase research focused on “green” design.

Dining Services

- Move student run farm initiative from mid-term to short term. Students are trying to get this off the ground this summer.
- Integrate a co-operative aspect to the farm that would allow students to “rent” plots cheaply and grow their own vegetables for consumption at home.
- Define “local” to incorporate sustainable and socially just systems, not just food mileage. The definition needs to include both social and environmental requirements. This is to ensure that large-scale industrial facilities are not deemed “local and sustainable,” even if they are close in proximity.
- Increase the amount of locally and sustainably produced foods used in the dining facilities. Make it a goal to use as much as possible.
- Eliminate all Styrofoam use on campus.
- Instate a reusable to-go container system or use biodegradable containers with an efficient collection system.
- Develop an efficient composting system that is integrated into all of the dining halls.
- Develop a composting facility on campus and use the compost from campus on campus. This will create a closed loop system.
- Make reusable glasses, mugs, and cups available at all of the dining facilities – especially at West End.
- Donate all of the left over food from all of the dining halls to a local food bank.

- Eliminate plastic bags in all of the dining halls – only make reusable options available.

Energy

Energy Consumption

- Create a way to view “Campus metabolism” – a web-based meter that displays energy usage on campus at all times and shows the percentage coming from renewable sources. See Arizona State University as an example.
- Set goals for consumption reduction and engage in residence hall and academic department competitions to reduce energy use.
- Install an electricity and steam consumption meter on every building on campus.
- Track energy consumption and progress made in reducing it. Highlight those who have reduced their consumption the most.

Renewable Energy

- Incorporate solar panels into energy production methods on campus. This will impact campus culture.
- Look at ways to increase sustainable energy production on campus including using solar, wind, and geothermal.
- Talk with AEP and try and see if they can incorporate some renewable energy into their energy portfolio – they are our main source of electricity and we are a large consumer. Can we use our purchasing power to request a larger percentage to come from renewable sources?
- Look into a solar energy power purchase agreement model for renewable implementation on campus in short term.
- Have spin bikes and treadmills produce energy for the gyms that they are in. Japan has self-sustained gyms using this technology and has back up generators on site.
- Use geothermal heating and cooling systems for new buildings.
- Still set a target year for reaching carbon neutrality. Focus on renewable energy production on campus.
- Solar College Initiative – www.solarcollege.org

Coal Use and Mountain Top Removal

- Address the issue of Mountain Top Removal with AEP. Make a public statement about the practice being not environmentally or socially sustainable and strive to not use any MTR produced coal as soon as possible.
- Move off of coal as soon as possible.
- Set a timetable and goal for when to be coal free and make it visible.

Energy Efficiency

- Install motion sensors for lights in all bathrooms on campus.
- Install motion sensors in the residence halls and academic buildings to save energy.
- Have hallway light motion sensors to dim the lights when hallway is not in use – George Washington University does this. Consider giving hallway lights the ability to shut off at night.
- Work with Professors to encourage opening the blinds on sunny days to use natural light in the classroom versus artificial light that requires electricity use.
- Conduct energy audits of every building and identify strategies to reduce waste and increase efficiency.

Recycling

- Ensure that there is adequate funding for recycling every year.
- Make recycling mandatory everywhere on campus.

- Paper recycling needs to be made available in every residence hall.
- Engage RHF hall councils in a student run paper-recycling program. Make this a permanent program.
- Make recycling available outside on campus – for commingled and for paper. All of the bins are currently located inside buildings.
- There needs to be a major educational campaign on what can and cannot be recycled – not knowing leads people to throwing things away that could be recycled.
- For all of campus, make the system more efficient. Make “stations” of trash, commingled, and paper versus individual scattered bins – this will increase convenience. It will also build culture around recycling.
- Measure how much waste is produced on campus in addition to how much is recycled. Work to reduce the amount that is going into the landfill, as well as to increase recycling rates.
- Competitions should be held between Residence Halls on recycling rates versus waste production. Use RecycleMania as a catalyst for competition here on campus.
- Look into single stream recycling on campus.
- Consider setting up a station on campus to be able to recycle plastics number 3-7. This could become a partnership between VT and the YMCA around the Waste Management project.
- Provide a trashcan to every residence hall room so that people will stop using the provided recycling bins for trash.
- Something needs to be done about students using them for trash, and we could even consider a program with the RA’s to supervise this instate a small penalty for this behavior.
 - Consider giving students a JR when they are caught not recycling or using their recycling bin as a trash can. This will stop this behavior almost immediately.
- Make recycling in the residence halls easier – consider installing a chute that students can put their commingled items in

Water Usage, Efficiency, and Impacts

- Develop a greywater and rain collection system for campus. This water could be used for toilets and irrigation.
- Replace toilet fixtures with variable rate flushers.
- Decrease the amount of impervious surfaces to reduce impacts on storm water flow.
- Increase storm water mitigation on campus and work to counteract all impacts with retention and infiltration basins around campus.

Campus Landscaping and Canopy

- Plant more trees! Increase campus canopy significantly and engage the campus community in planting them.
- Use food waste from the dining halls that is composted for campus landscaping.
- Use more native vegetation.