

Lebanon Valley College

**Sustainability Task Force
2009-2010
2010-2011
Summary Report**

September 2011



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SUSTAINABILITY TASK FORCE BACKGROUND

At the start of the 2008-2009 academic year, President MacDonald authorized the creation of a new Sustainability Task Force (STF):

The President charged the group to investigate the following issues and provide responses by the end of the 2008-09 academic year:

- What is the College doing now to use energy resources efficiently and wisely? What more could it do in the short run (over the next two years) to use its resources better? Are there long range solutions that the College should begin to consider?
- What conservation and environmental initiatives are currently being undertaken by students and faculty and other campus groups that we need to publicize and (perhaps) coordinate? Are there additional initiatives that we might begin (such as recycling)? How are we to determine the costs of such initiatives?
- Do opportunities exist for collaboration in environmental projects with other institutions (other colleges and schools) or other parties in Annville?
- Should LVC commit itself to the President's Climate Commitment, a national initiative to which more than 500 colleges and universities have signed on?

The Sustainability Task Force finalized the *Sustainability Task Force 2008-09 Summary Report* in May 2009. That report included a summary of sustainability efforts as well as an assessment of the feasibility of meeting the President's Climate Commitment. The summary report included a number of recommendations that formed the basis for continued work during 2009-10 and 2010-11. These items recommended action items are summarized below:

2008-09 Summary of Recommended Action Items

President's Climate Commitment

Plan to sign the President's Climate Commitment at the end of the Spring 2010 semester, only after developing a draft climate action plan. This process should include a review of the tangible actions that are the most cost-effective as well as an assessment of costs in order to determine whether costs of participation are unacceptably high.

Carbon Inventory

Project carbon emissions out to 2020 and develop a carbon reduction target. If the Commitment is signed, this target is already set – net climate neutrality. After the projection / target are determined, an action plan should be developed. The action plan will necessarily outline methods and strategies for reducing the College's carbon footprint.

In the coming year, the Sustainability Task Force should continue and enhance current programs which reduce the College's footprint such as:

- Recycling
 - Continue informing the campus of the new recycling methods and monitoring progress on recycled volumes
 - Disseminate the information of improvements in recycling volumes to the campus community
 - Consider participation in Recyclemania
- Buildings
 - Look into getting individual metering for buildings. This will allow us to do many things in the future (such as competitions to reduce energy use) and provide us with a better understanding of where energy is used
 - Become familiar with grants and other subsidies from state government that support energy efficiency measures
- Transportation
 - Consider bus passes for commuters and staff
 - Consider extensive bike racks on campus and a number of community bikes
 - Offer competitions for car pooling
 - Consider four-day weeks during summer
 - Minimize the number of vehicles used on College-sponsored trips
- Grounds
 - Consider a community garden
 - Improve composting on campus
- Energy
 - Investigate the possibility of installing solar energy, wind power, geothermal energy, or similar carbon reducing technologies on campus.
 - Consider buying Renewable Energy Credits for a percentage of the College's purchased electricity.
 - Become familiar with grants and other subsidies from state government that could support the College or the College's community to install or purchase renewable energy.
- Develop a detailed estimate of the costs of achieving climate neutrality

Mission and Planning

LVC should consider incorporating sustainability into the stated mission of the College as well as the development of a formal document indicating the long-term future initiatives (which would use the carbon inventory and action plan), including a target reduction in carbon and action plan to achieve the target carbon reduction.

Education and Curriculum

LVC should develop a document that describes the institution's current educational offerings (curricular and extra-curricular) related to climate change and sustainability and develop planned actions to make climate neutrality and sustainability a part of the curriculum and other educational experiences for all students.

Outreach

LVC should continue to provide information to local municipalities about climate change in Pennsylvania, continue to assist local organizations with sustainability efforts, continue and enhance LVC service days for sustainability initiatives, and consider collaborating with Annville-Cleona communities on recycling and other sustainability initiatives.

The information detailed throughout this report provides responses to these items and direction for the future of environmental sustainability initiatives at Lebanon Valley College.

MISSION STATEMENT FOR ENVIRONMENTAL SUSTAINABILITY

As a learning institution, Lebanon Valley College embraces the goal of environmental sustainability and commits itself to efforts that will ensure sustainability for our local and global community. To this end, the College, with the direct support of the Sustainability Task Force, will work to:

- *Establish academic courses and other curricular/co-curricular programs related to environmental sustainability*
- *Foster environmental stewardship and encourage responsible consumption*
- *Implement environmentally sustainable practices in our facilities, operations and capital projects*
- *Raise the environmental and sustainability awareness of all members of the campus community through programs and the dissemination of information*

SUSTAINABILITY TASK FORCE SUMMARY OF 2009-2010 AND 2010-11 ACTIVITIES AND OUTCOMES

Completion of 2008-09 Proposed Climate Action Plan and 2009-10 Carbon Inventory (see Appendix A and Appendix B)

Review of President's Climate Commitment

The completion of the proposed climate action plan reflects that achieving climate neutrality by 2020 will likely require the purchase of renewable energy credits (RECs). Although the Task Force Plan hoped that we might sign the President's Climate Commitment at the end of the Spring 2010 semester, the climate action plan reflects that this would require a commitment to additional resource allocations. The recommended agenda for 2011-12 includes an ongoing review of the carbon inventory and climate action plan to determine whether participation in the President's Climate Commitment is cost-effective.

Facilities Efforts on Campus

Information on trash versus recycling pulls is included in Appendix C.

Mund LEED Certification

Stanson Hall Construction

Campus Outreach E-mails

2009-10: Jeff Ritchie sent a message to faculty and staff, asking them to communicate any current or potential projects on campus that contribute to the sustainable practices of the campus. Responses can be found in Appendix D, "2009-10 Campus Initiatives Responses".

2010-11: Jeff Ritchie sent a message to faculty, informing them of campus's paper consumption from the past year. He asked faculty to share efforts in reducing/recycling paper, but there was no response.

Electronics Recycling Day

2010-11: LVC and the STF hosted an electronics recycling day during the Saturday of ValleyFest, April 16, 2011. Mike Zeigler teamed up with Free Geek Penn to accept electronics for recycling at no charge from township residents, College students, and employees. Jimmy Kroll '11 gathered student volunteers to help load the electronics onto the truck. Results can be found in Appendix E, "Electronics Recycling".

Earth Day Activities

2009-10: The STF and SAFE collaborated efforts in creating the 2010 Earth Week schedule (see Appendix F, "Earth Day Schedule 2010"). A theme, Paper=Trees, was used to kick off new efforts throughout the upcoming academic year. Giveaways for select activities included Sustainability water bottles.

2010-11: With the new efforts of the sustainability communication intern, the STF took a different approach to Earth Week in 2011. Efforts included the addition of "Green Man" and "Enviro Boy" who appeared in video clips, educating students about ways they can become more

sustainable. Various activities were held throughout the week. Giveaways included CFL keychains and CFL light bulbs. To view a complete list of Earth Week activities, see Appendix G, “Earth Week Schedule 2011”.

Green Tickets

2010-11: At the end of the 2010-11 academic year, Jeff Ritchie and STF Intern, Shea Matthews produced “green tickets” to use as an awareness tool. These tickets are good-natured citations that indicate a student or staff member has not turned off an electrical appliance. The goal is to make them aware of the costs of their behaviors and to reconsider them. See Appendix H, “STF Green Tickets Proposal” for more information.

Battery Recycling

2010-11: Drop boxes were placed in high-traffic areas around campus to promote battery recycling. Battery Warehouse provides the boxes and takes all recycled batteries.

CFL Recycling

2010-11: All residence halls have CFL recycling stations within the buildings.

Development of Student Internships

2009-10: STF created a proposal for two internships—Data Intern to work on the Carbon Inventory and the Communications Intern to work on STF media/outreach. See Appendix I, “Sustainability Task Force Internships” for a full description.

2010-11: Two data interns were hired, Amber Keeseman ’11 and Jamie Frye ’13, and completed the 2009-2010 carbon inventory. STF also hired one communications intern, Shea Matthews ’12, who maintained the blog and created new media outlets.

RECOMMENDED SUSTAINABILITY TASK FORCE AGENDA FOR 2011-12

The *Sustainability Task Force 2008-09 Summary Report* included proposed future initiatives in an effort to provide an outline of the long-term path to sustainability for Lebanon Valley College. These proposed future initiatives form the basis for the following recommended 2011-12 agenda.

Carbon inventory and action plan

Continue to complete an annual formal carbon inventory and use this as a measure of LVC's environmental footprint that we can target and reduce into the long-term future. This formal carbon inventory should include four steps:

- Carbon Inventory
- Projected carbon emissions out to 2020
- Target reduction– in consultation with key stakeholders
- Action plan

Develop a formal document indicating potential long-term future initiatives (which would use the carbon inventory and action plan).

Develop a detailed estimate of the cost-benefits of achieving climate neutrality.

Review the advisability of signing the President's Climate Commitment based on potential long-term future initiatives and the estimate of the cost-benefits of achieving climate neutrality.

Formal incorporation of sustainability in the College's strategic direction

Develop established targets and assessment measures that can be used to determine success toward the 2009-2016 strategic plan goal related to sustainability.

Education

Consider how best to include sustainability in the educational experience of students. Teaching students about sustainability is a major component of the path to sustainability because we will be producing future alumni who know how human activity impacts the environment and thus future generations and are in a better position to make informed socially responsible decisions.

- Develop a document that describes the institution's current educational offerings (curricular and extra-curricular) related to climate change and sustainability.
- Develop planned actions to make climate neutrality and sustainability a part of the curriculum and other educational experiences for all students.

Outreach/community leadership

Continue outreach to the LVC and local community to improve their knowledge of sustainability and help them implement programs that reduce their ecological footprint.

Develop a document that outlines LVC's current initiatives related to outreach / community leadership.

Lebanon Valley College Climate Action Plan Proposal

By: Lauren DuBois '10, Lauren Train '10, Amber Keeseman '11, and Dr. Neil Perry
Final Edition, June 1, 2010

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Executive Summary

- Total emissions for the 2008/09 academic year were 11,130.8 MTeCO₂. As usual, emissions from purchased electricity were the major source of our emissions.
- Assuming the number of students at LVC peaks at 1750 within the next few years, LVC's net emissions (without making any changes) will increase to 12,098.9 MTeCO₂ in 2016. After 2016, the net emissions remain the same without mitigation efforts.
- Several mitigation strategies can be used to reduce LVC's carbon footprint and we have analyzed the impact from trayless dining (already in place), a hard Winter break shutdown, a Photovoltaic Solar Array, a reduction in Landfill Waste (already in place), and behavioral changes.
- Trayless Dining has no cost and leads to 204.8 MMBtu of natural gas saved, 10.98 MTeCO₂ saved annually, and 270.9 MTeCO₂ saved over its 25-year lifetime.
- A Winter Break Hard Energy Shutdown has an annual cost of \$200 for advertising and educational signs. It leads to savings of 202 MMBtu of natural gas annually, 300,000 kWh of electricity annually, 160.6 MTeCO₂ annually, and 4,015.4 MTeCO₂ over its 25-year lifetime.
- A 5-6 megawatts Photovoltaic Solar Array has an annual opportunity cost of \$6,000. It leads to savings of 7,000,000 kWh of electricity annually, 3,498.3 MTeCO₂ annually, and 87,458.4 MTeCO₂ over its 25-year lifetime.
- Reducing LVC's Landfill Waste has a net savings of \$40,000. It leads to other savings of 162.2 tons of landfill waste, 175.9 MTeCO₂ annually, and 4396.8 MTeCO₂ over its 25-year lifetime.
- Behavioral changes require the installation of individual metering in each of the 10 dormitories on campus which has a one-time cost of \$10,000 (\$1,000 per dorm). It leads to savings of 1,101,417.8 kWh per year, 550.4 MTeCO₂ annually, and 13,761.2 MTeCO₂ over its 25-year lifetime.
- There are several strategies that can be used to decrease LVC's carbon footprint down to 0 MTeCO₂. LVC can consider purchasing renewable energy credits (RECs) and hybrid or better fuel efficient cars. As a college community, we can modify behaviors by traveling less as commuters, and we can consider further energy efficiency measures in buildings and composting.

- In order to undertake the proposed projects, it would cost approximately \$11,215 in start up costs. However, our projected annual savings are between \$75,691 - \$298,457.
- In order to be completely carbon neutral, the annual cost of carbon offsets for the remaining 6,903.8 MTeCO₂ would be \$75,941.8. As more mitigation strategies are implemented, the cost of carbon offsets would decrease.
- It is hard to ignore the large benefits possible to Lebanon Valley College through reduced emissions. There are little to no startup costs for most of the proposed projects and they provide significant savings. Financially they are great investments.
- The College will also gain through education benefits such as the significant education opportunities of a solar array. Media attention from this and other projects raises awareness of LVC in the community and nation, and in many ways is required to keep up with our competitors. It could also be argued that we have an ethical responsibility to reduce emissions and help others in the local community do likewise. There seems to be little downside to reducing emissions to the point we have suggested in the climate action plan, but plausible significant returns that go beyond the numbers.

Introduction

Lebanon Valley College (LVC) has been completing a carbon inventory for the past three years (2006/7, 2007/8, 2008/9) with a one year lag of data collection and analysis. The College intends to continue to complete a carbon inventory into the indefinite future in two year intervals which is consistent with the requirements of the signatories to the President's Climate Commitment (PCC).¹ Again, consistent with the PCC, LVC uses the Clean Air-Cool Planet's Campus Carbon Calculator.² The purpose of this report is to provide the updated carbon inventory, project emissions out to the future, and consider the costs and impact of emission reduction strategies.

In order to show the College's dedication to environmental sustainability, and without signing the PCC, the College must establish projects that reduce our carbon footprint. While the goal of complete carbon neutrality, required under the PCC, may not be possible for LVC in the near future, we can still reduce our emissions significantly at minimum cost. In the long-run, the goal for LVC will be to continue these efforts using projects with longer payback periods and higher upfront costs and perhaps also offset any remaining carbon emissions to achieve climate neutrality. This report describes the costs and impact of the low-hanging-fruit methods.

There are great educational benefits from reducing our carbon footprint, especially through recycling campaigns, behavior modification, and the installation of onsite power generation such as the proposed PV solar array. A secondary major benefit is to raise environmental awareness in the College's students, faculty, and administration, and also the community. Increased green activity on the College campus is likely to spread throughout the local community through educated students, commuter students, and awareness projects. Ultimately, the campus can incorporate the local community into its environmental awareness projects. In addition, Lebanon Valley College has an ethical responsibility to reduce their emissions. The PCC mission states the following:

“The Commitment recognizes the unique responsibility that institutions of higher education have as role models for their communities and in educating the people who will develop the social, economic and technological solutions to reverse global warming and help create a thriving, civil and sustainable society.”³

LVC will also see a reduction in costs, especially through reduced energy usage from behavioral modifications. Other projects will combat the rise in energy prices from the removal of rate-caps in Pennsylvania. The College will also benefit from increased media attention due to their green endeavors. The result should be increased website traffic or at least maintenance of current traffic. In the current environment, it is almost necessary to have a strong environmental commitment to keep up with our competitors.

¹ Implementation Guide for the American College and University Presidents' Climate Commitment (http://www.presidentsclimatecommitment.org/pdf/ACUPCC_IG_Final.pdf).

² See Clean Air – Cool Planet's website for additional information on the carbon calculator (http://www.cleanair-coolplanet.org/for_campuses.php).

³ ACUPCC, Mission and History (<http://www.presidentsclimatecommitment.org/about/mission-history>)

Green Efforts Already in Place

Lebanon Valley College has already commenced many green activities on campus. A new recycling program was introduced in Fall 2008 and the trayless dining program was introduced in Spring 2009. Facilities services has made a number of changes to existing and new buildings to improve the energy efficiency and water usage of buildings. Many of these programs are highlighted on LVC's Sustainability webpage (<http://blogs.lvc.edu/green/>).

Earth Day has been used as a source for educating students and the programs for the last two years are included on the webpage. This will continue to be an integral part of yearly campus activities.

LVC has also established the Sustainability Task Force (STF), a collection of administrative officers, faculty, staff, and students. The STF meets regularly throughout the academic semesters to discuss environmental issues and LVC's progress towards Environmental Sustainability. The Mission of the STF is available on the webpage. The STF also works closely with the student environmental group (SAFE) and continued involvement between students, faculty, and administration is essential for achieving environmental sustainability.

In addition, LVC has shown its commitment to environmental sustainability through its membership in the Pennsylvania Environmental Resource Consortium (PERC). PERC is a collection of 57 colleges and two state government departments dedicated to greening campuses across PA.

Carbon Inventory Overview

During the 2009/2010 school year, a carbon inventory was completed for the 2008/2009 academic year. In the program this is designated as 2008.

The program breaks down emissions into three categories: Scope 1, Scope 2, and Scope 3. Scope 1 emissions are direct emissions from sources owned and/or controlled by Lebanon Valley College. LVC has complete control over these emissions such as the fossil fuel combustion of campus fleet vehicles. These are the direct responsibility of the college.

Scope 2 emissions are indirect emissions from sources that are not owned or operated by Lebanon Valley College. However, these sources are directly linked to the energy used by the campus. The best example of an item from this category is purchased electricity. While the College is not directly responsible for these emissions, the emissions arise due to the needs of the College.

All other emissions are attributed to the Scope 3 categories. These emissions arise due to the direct financing or encouragement of the College, but are not from sources owned or operated by LVC. Some examples include emissions arising from study abroad travel and faculty, staff, and student commuting.

The carbon inventory process started with the collection of data in as many areas as possible. This can be quite a challenge but as creating a yearly carbon inventory becomes routine, data collection will become easier and faster. The accuracy will also improve, since departments are now aware of the information that we are requesting. It will be possible to improve the inventory in the future as we request new information to be tracked by the College.

Once results were collected, they were entered into the Clean Air-Cool Planet Carbon Calculator. This program provided us with analysis and breakdowns of our emissions. From this point, we were able to enter a custom trend in order to project future emissions. The projection involves LVC's current growth plan, which includes a cap at 1750 students. The program assumes that the College grows each year until it reaches that limit; therefore, we projected our emissions to max out at roughly 12,099 MTeCO₂.

The projection does not involve the projects that LVC has planned to undertake. As more and more efforts are carried out to reduce emissions, the carbon inventory will be a fantastic way to monitor our efforts.

It is important to remember that the process is not exact, but it is a great start to creating a greener campus. The process does not end here; however, it can be improved upon to create more accurate data collection. To create an environmentally friendly campus, it requires large support for monitoring and improving.

Carbon Inventory Results Summary

Before any mitigation strategies, the total 2008 emissions for all 3 scopes were 11,130.8 MTeCO₂. Figure 1 shows the breakdown of emissions by scope, but Figure 2 shows a more detailed breakdown. It appears Scope 2 is the most significant contributor to our total emissions according to Figure 1. Figure 2 shows purchased electricity is the most significant contributor to our total emissions.

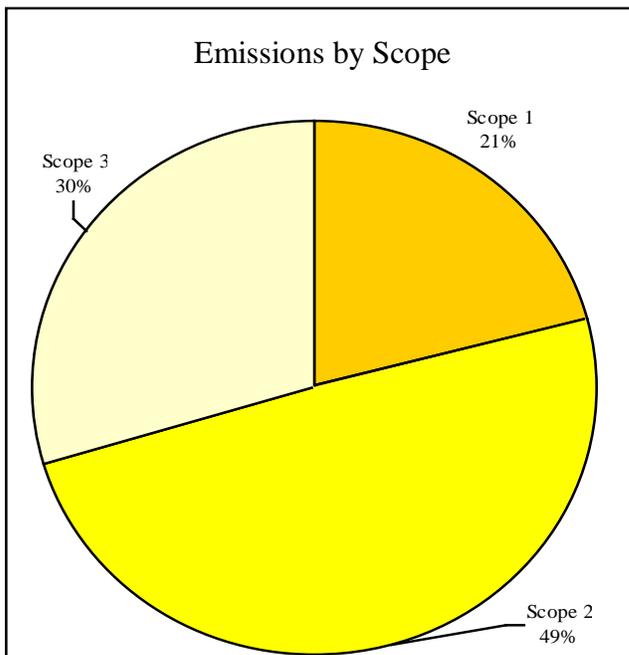
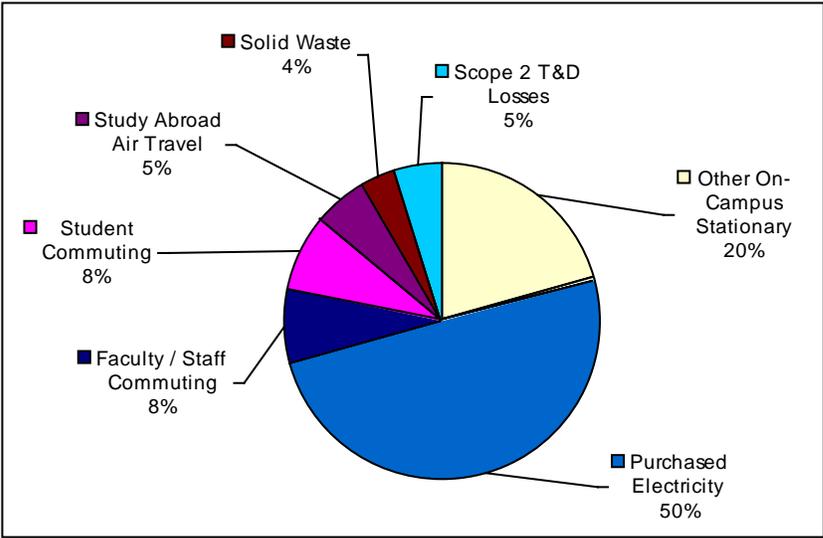


Figure 1: 2008 Emissions by Scope

Figure 2: Emissions by Source



The most significant Scope 1 emissions are from Other On-Campus Stationary, which includes distillate oil and natural gas. It makes up 20% of total emissions and is equivalent to 2,275.5 MTeCO₂.

Scope 2 emissions consist solely of purchased electricity, which makes up 50% of total emissions and is equivalent to 5,504.5 MTeCO₂. The majority of our mitigation strategies aim to decrease our electricity emissions since it is such a significant part of LVC’s carbon footprint.

Scope 3 emissions contribute 30% of total emissions. Faculty, staff, and student commuting make up 16% of Scope 3 emissions. Faculty and staff commuting contribute 886.7 MTeCO₂ and student commuting contributes 873.9 MTeCO₂. Table 1 provides a breakdown of the various components of our carbon emissions.

Table 1: 2008 Emissions by Scope and Source

Select Year -->	2008	Energy Consumption	CO ₂	CH ₄	N ₂ O	eCO ₂
		MMBtu	kg	kg	kg	Metric Tonnes
Scope 1	Co-gen Electricity	-	-	-	-	-
	Co-gen Steam	-	-	-	-	-
	Other On-Campus Stationary	42,568.4	2,268,726.3	230.7	5.1	2,275.5
	Direct Transportation	352.6	25,121.7	3.2	1.2	25.5
	Refrigerants & Chemicals	-	-	-	-	-
	Agriculture	-	-	-	72.2	21.4
Scope 2	Purchased Electricity	66,225.5	5,473,224.3	53.5	101.4	5,504.5
	Purchased Steam / Chilled Water	-	-	-	-	-
Scope 3	Faculty / Staff Commuting	12,336.7	865,053.1	173.0	59.6	886.7
	Student Commuting	12,159.3	852,619.6	170.5	58.7	873.9
	Directly Financed Air Travel	-	-	-	-	-
	Other Directly Financed Travel	-	-	-	-	-
	Study Abroad Air Travel	3,093.8	607,422.4	6.0	6.9	609.6
	Solid Waste	-	-	16,924.3	-	389.3

	Wastewater	-	-	-	-	-
	Paper	-	-	-	-	-
	Scope 2 T&D Losses	6,549.8	541,307.9	5.3	10.0	544.4
Offsets	Additional					-
	Non-Additional					-
Totals	Scope 1	42,921.1	2,293,847.9	233.9	78.5	2,322.5
	Scope 2	66,225.5	5,473,224.3	53.5	101.4	5,504.5
	Scope 3	34,139.6	2,866,403.0	17,279.1	135.2	3,303.8
	All Scopes	143,286.2	10,633,475.2	17,566.5	315.0	11,130.8
	All Offsets					-
						Net Emissions: 11,130.8

By examining the above table, we can analyze where the work needs to be done in order to reduce our emissions. By knowing where the emissions are coming from, we design mitigation strategies specifically for Lebanon Valley College.

Projected Carbon Footprint

While there is still much work to be done to refine the accuracy and depth of data included in LVC's carbon inventory, we can project our carbon emissions into the future assuming no changes were made to decrease our carbon footprint.

Our previous data only goes back to the 2006-2007 school year. With 3 years worth of data, we have established a projected trajectory of campus emissions growth if no action is taken. The projected gross emissions trajectory levels off after 2016 because LVC is committed to remain a small campus and has plans to cap the number of students at 1750. Therefore, once the 1750 students is reached, we assume there will be little increase in LVC's carbon footprint based on students. Figure 3 depicts our total gross emissions trajectory while Figure 4 splits the trajectories into the three different scopes.

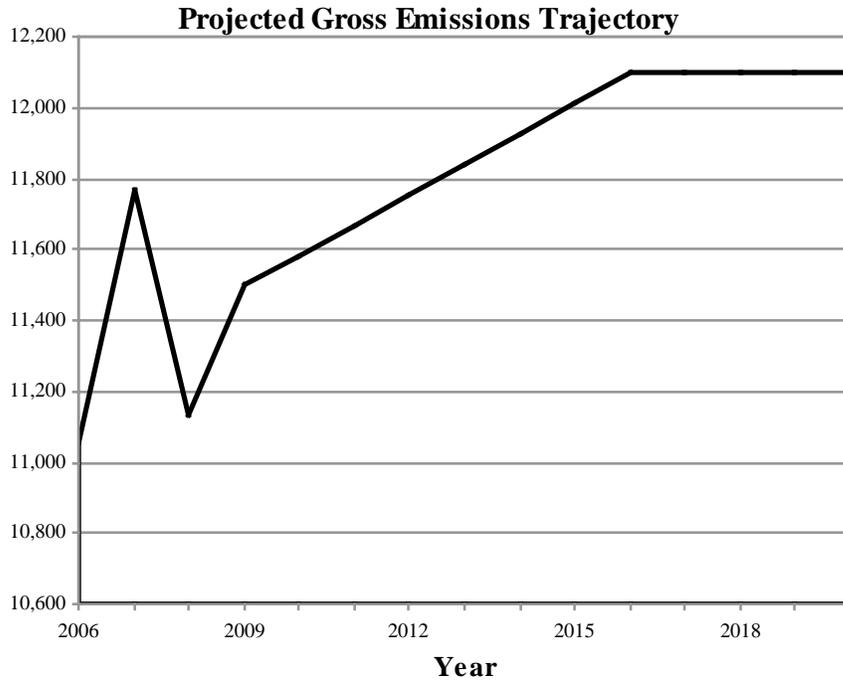


Figure 3: Projected Gross Emissions

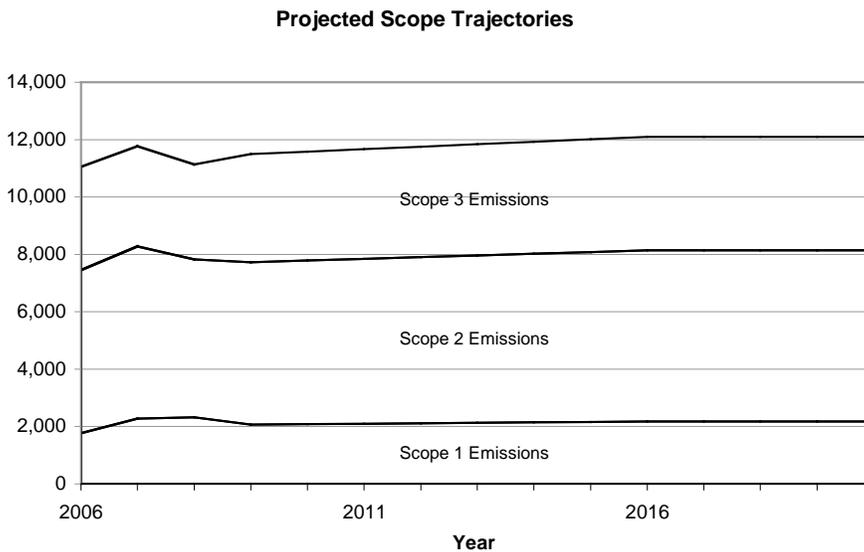


Figure 4: Projected Scope

Our total emissions trajectory is projected to increase 9.5% from 2006 to 2020. However, this is a conservative estimate due to the lack of accuracy in previous carbon inventories. The dip from 2007 (2007/8) to 2008 (2008/9) may result from LVC's existing efforts to improve environmental sustainability. We must now use strategy and focus to accelerate our success.

With an estimated 6% increase in LVC's student population over the next few years and the resulting increase in faculty and staff, we can assume there will be an increase in emissions.

Figure 5 displays the amount of emissions per student. Looking into the future, there is a slight increase until 2016 when the number of students is capped at 1750.

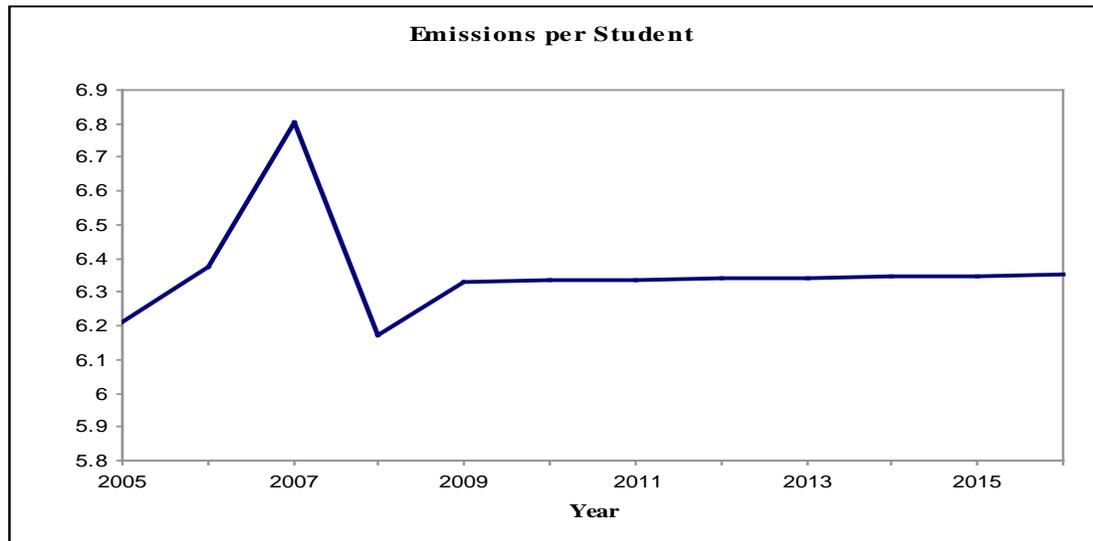


Figure 5: Emissions per Student

Mitigation Strategies

Although LVC has already taken the initiative to decrease its carbon footprint, a more strategic approach that emphasizes cost-effectiveness can be beneficial. There are many potential projects and mitigation strategies that could be used to achieve our goal. Each mitigation strategy must be carefully considered in regard to its capital cost, savings, greenhouse gas reduction, payback period, and associated social, environmental and educational impacts. In the following, we consider the effect of five strategies together and then detail the impact of each strategy.

The Clean Air-Cool Planet Calculator provides an Executive Summary of each mitigation strategy. Each project's monetary costs and savings, as well as energy savings were based on LVC's own estimates as well as estimates and similar projects at other institutions. These assumptions are not exact and do not depict a clear enough scenario to finance projects immediately, however, they give us a clear sense of each projects strengths and weaknesses. The Executive Summary also allows us to visualize the different projects and their impact on our net greenhouse gas emissions.

Five mitigation strategies were considered as strong potential projects for LVC. These include:

1. Trayless Dining
2. Winter Break "Hard" Energy Shutdown (labeled Winter Break)
3. Photovoltaic Solar Array (labeled PV Solar Array)
4. Landfill Waste Reduction (labeled Waste Reduction)
5. Individual Metering

Our mitigation efforts should not be limited to these five strategies. There are many other worthwhile projects, technologies, and strategies that are essential in helping LVC decrease its

carbon footprint. These projects can be considered as the low-hanging-fruit methods and in some cases have already been commenced at LVC. Table 2 shows an Executive Summary of the five mitigation strategies.

Table 2: Executive Summary: Project Financing, Reductions, Paybacks

Project Name	Start Year	Duration (years)	Units	Total Capital Cost	Annual Savings	Annual Costs	IRR	Discounted Payback Time (years)	Annual Reductions (MT eCO2)	Total Lifetime Reductions (MT eCO2)	% of Start Year Emissions	% of End Year Emissions	Discounted Cost per Reduction
Trayless Dining	2010	25	1	-	\$4,094		-	0.00	(10.8)	(270.9)	0.09%	0.09%	\$494
Winter Break	2010	25	1	-	\$18,954	(\$200)	-	0.00	(160.6)	(4,015.4)	1.38%	1.33%	\$318
PV Solar Array (no inflation)	2011	25	1	-	0	(\$17,733)	-	0.00	(3,498.3)	(87,458.4)	29.77%	28.91%	\$235
Waste Reduction	2010	25	1	-	\$44,861		-	0.00	(175.9)	(4,396.8)	1.51%	1.45%	\$255
Individual Metering	2010	25	10	(\$11,215)	\$7,782	(\$1,122)	1755%	0.06	(550.4)	(13,761.2)	4.72%	4.55%	\$347
Total				(\$11,215)	\$75,691	(\$19,055)	1755%	0.06	(4,396)	(109,902.7)	37.47%	36.33%	\$1,649

Figure 6 shows the reduction in emissions below the projected path due to the mitigation strategies. The total projected annual reductions from the 5 mitigation strategies is 4,227 MTeCO₂. For example, if already implemented, the 2008/9 emissions would decrease from 11,130.8 MTeCO₂ to 6,903.8 MTeCO₂.

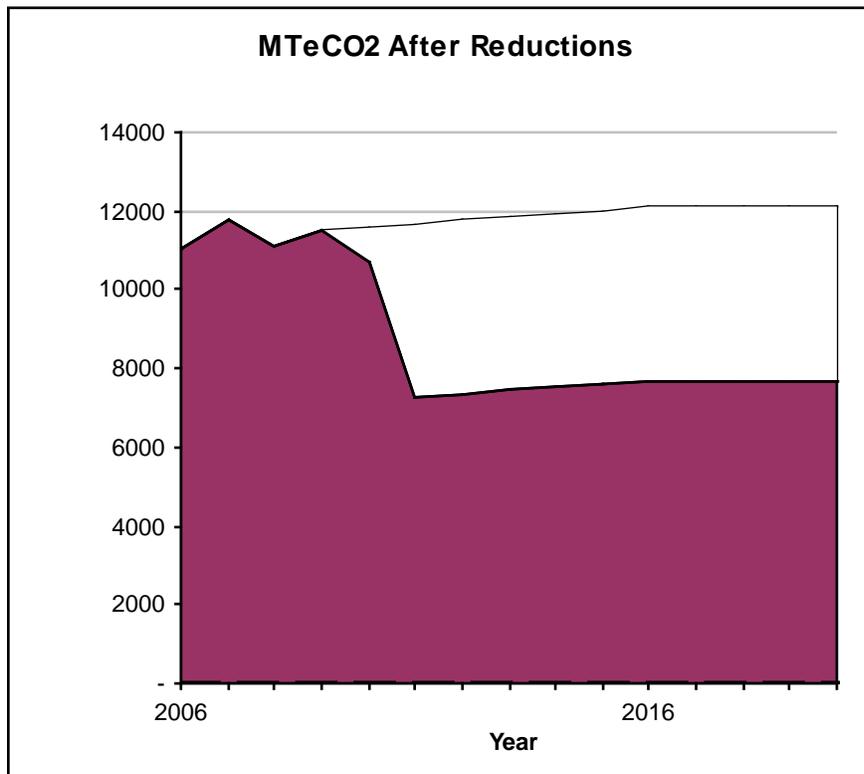


Figure 6: MTeCO₂ after Reductions

*** Note: All monetary values below are quoted in 2005 dollars (adjusted for inflation) unless otherwise stated.

Trayless Dining

Trayless dining has been introduced in the Dining Hall in Mund and has shown savings in water and electricity. Many campuses across the country have shown trayless dining to reduce food waste by 25-30% and have calculated a single tray requires 1/3 to 1/2 gallon of heated water to wash. Lebanon Valley College serves an average of 11,550 meals per week (Appendix B.1), which leads to an average of 5,775 gallons (Appendix B.1) of water a week that is saved. Not only are we decreasing the amount of gallons used and the electricity used to heat the water, but we are minimizing the discharge of detergents and dishwasher drying agents to the sewage system and our local waters. Since removing the trays is a behavioral modification, there are little or no costs involved in this mitigation strategy.

Data Assumptions:

Annual Cost: \$0 per year

Annual Savings:

Water: \$2,691.67 per year, which is equivalent to \$2,400 in 2010 dollars.

Energy: \$1,401.91 per year (\$1,250 in 2010 dollars) and 2025 CCF or 204.8 MMBtu natural gas savings (Appendix B.1).

Winter Break Hard Energy Shutdown

LVC already shuts down part of the campus over the four or five weeks of winter break. However, we are suggesting there be a more intense shutdown, which can be classified as a behavioral change. The shutdown may include setting back thermostats, turning off all lights, unplugging vending machines, turning off water heaters, and requesting that faculty, staff and students turn off and unplug computers, unplug other electronics and appliances. The hard energy shutdown is appealing because there is little cost and a considerable amount of savings.

Data Assumptions:

Annual Cost: \$200 for advertising and educational signs

Annual Savings:

Monetary Savings: \$18,953.86 (\$16,900 in 2010) assuming we save \$17,608.02 (\$15,700 in 2010) for electricity and \$1,345.84 (\$1,200 in 2010) for natural gas.

Electricity Savings: 300,000 kWh assuming we can have a 3 week hard shutdown and a less intense one or two weeks depending on when students return for athletic obligations. This estimate is for all dormitories except Mary Green, which uses natural gas.

Natural Gas Savings: 202 MMBtu, which is equivalent to 2,000 CCF (Appendix B.3). Assume we have a 3 week hard energy shutdown and a less intense shutdown the rest of winter break. Mary Green is the only dormitory that uses natural gas, so this estimate is just for Mary Green.

Photovoltaic Solar Array

Solar energy is a great alternative to decrease LVC's carbon footprint. LVC is considering a contract with no upfront cost. LVC can enter a 25-year contract with a company for a 5-6 megawatt PV solar array. This solar array can provide LVC with 7 million kWh per year and we already consume a little over 10 million yearly. There are benefits to this that we cannot estimate quantitatively. For example, no other college has a PV solar array this large, and thus LVC will

receive national attention. This could increase traffic on our website and increase interest in LVC. College students are becoming more interested in renewable energy technologies and green movements on campus with sustainable buildings and environmental programs becoming the norm at colleges throughout the US. Thus, LVC can at least maintain its position among competitors. The PV solar array also has significant educational and awareness benefits. Another benefit of the PV solar array is due to the expiration of electricity generation rate caps on December 31, 2010. This will increase electricity prices from .063 cents/kWh to approximately .089 cents/kWh and will greatly increase LVC's electricity costs (http://www.puc.state.pa.us/general/consumer_ed/pdf/Rate_Caps.pdf). We have two different assumptions for the cost of electricity without adding the PV Solar Array. We assume the cost of electricity will be somewhere between a constant \$.089 per kWh and this initial cost plus an indexing due to inflation. Therefore, we list potential monetary savings under both conditions. Actual savings will be somewhere between the two.

Data Assumptions:

Annual Cost: \$6,729.18 (\$6,000 in 2010) per year due to the lost income from the land currently rented to farmers.

Annual Monetary Savings (Costs) Without Inflation: We actually get an annual cost of \$11,003 (\$9,811 in 2010) assuming the cost of energy stays constant at .089 cents per kWh and the solar array energy increases by 3% yearly for 25 years (Appendix B.4)

Annual Monetary Savings With Inflation: \$107,185.74 (\$95,571 in 2010) assuming the cost of the energy starts at .0655 cents per kWh and increases by 3% each year for 25 years compared to .089 cents per kWh increasing due to inflation by 2% each year (Appendix B.4).

Annual Energy Savings: 7,000,000 kWh per year based on the PV solar array size of 5-6 megawatts. Note however that the savings in carbon emissions assumes that the renewable energy credits earned from the array are retired. At the time of completion of this report, we did have the required information to make any conclusions on this matter.

Landfill Waste Reduction

LVC upgraded its landfill waste reduction program. We now recycle a lot more and have decreased our yearly landfill waste from 521.22 short tons to 359.02 short tons. The number of times the dumpster is emptied (pulls) has also decreased from 118 in 2007-2008 to 74 in 2008-2009.

Data Assumptions:

Annual Cost: We were not privy to the contract with waste management experts.

Annual Net Monetary Savings: \$44,861.20 per year (\$40,000 in 2010). Decreasing the number of pulls a year as well as reducing our waste has contributed to this net savings.

Landfill Savings: 162.2 short tons in No CH₄ Recovery assuming before the reduction there was an average of 521.22 short tons and afterwards there were 359.02 short tons.

Individual Metering

Currently all LVC dormitories use the same meter for all electricity purposes. By switching to individual metering for each of the 10 dormitories, we will be able to have competitions between the dorms to try and decrease kWh usage. This should result in a behavioral modification for the rest of the school year once students realize how much money and electricity can be saved by turning off computers and lights, as well as unplugging electric devices when not in use. We can

also use the individual metering to educate students if we see any spikes in electricity uses and to also put into perspective how much electricity each student uses.

Data Assumptions:

Start-Up Costs: It is estimated that it will cost \$1,121.53 (\$1,000 in 2010) per dormitory to put individual metering in place. Once individual metering is in place, there are no additional costs.

Annual Monetary Savings: \$7,782.22 (\$6,938.93 in 2010) per meter (Appendix B.6), which is actually \$77,822.20 (69,389.32 in 2010) for all 10 dormitories combined. We assume there is a 10% decrease in electricity usage for the school year. Each kWh is priced at \$.063 per kWh, which is an underestimate since electricity prices are projected to increase to \$.089 per kWh after December 31,2010.

Annual Electricity Savings: 110,141.78 kWh per dorm, which is equivalent to 1,101,417.8 kWh for all 10 dorms. This is 10% of the 2008-2009 estimate of electricity, which is 11,014,178 kWh (Appendix B.6).

Total Costs of Mitigation Strategies

Table 3: Executive Summary: Project Financing, Reductions, Paybacks

Project Name	Start Year	Duration (years)	Units	Total Capital Cost	Annual Savings	Annual Costs	IRR	Discounted Payback Time (years)	Annual Reductions (MT eCO2)	Total Lifetime Reductions (MT eCO2)	% of Start Year Emissions	% of End Year Emissions	Discounted Cost per Reduction
Trayless Dining	2010	25	1	-	\$4,094		-	0.00	(10.8)	(270.9)	0.09%	0.09%	\$494
Winter Break	2010	25	1	-	\$18,954	(\$200)	-	0.00	(160.6)	(4,015.4)	1.38%	1.33%	\$318
PV Solar Array (no inflation)	2011	25	1	-	0	(\$17,733)	-	0.00	(3,498.3)	(87,458.4)	29.77%	28.91%	\$235
Waste Reduction	2010	25	1	-	\$44,861		-	0.00	(175.9)	(4,396.8)	1.51%	1.45%	\$255
Individual Metering	2010	25	10	(\$11,215)	\$7,782	(\$1,122)	1755%	0.06	(550.4)	(13,761.2)	4.72%	4.55%	\$347
Total				(\$11,215)	\$75,691	(\$19,055)	1755%	0.06	(4,396)	(109,902.7)	37.47%	36.33%	\$1,649

The individual metering program is the only project with an initial startup cost. As you can see the IRR is extremely high and our payback period is very short; therefore, we will quickly earn our investment back. There is little reason from a monetary perspective that this project should not be undertaken.

Trayless dining, winter break, and waste reduction all have very low to zero startup costs. Advertising may be needed in order to encourage participation from the student population at first, but these costs would be insignificant compared to the amount of savings projected. Once again, it is obvious from a financial perspective that these projects are beneficial.

The PV solar array does not require any initial investment, besides the opportunity cost of lost rent. Assuming the actual outcome for electricity prices is somewhere between our two assumptions (the conservative, no inflation estimate is shown in table 3), the projected savings quickly overshadows the \$6,000 lost in rental income. Assuming that the current purchased energy price increases to .089 per kWh and the PV solar array allows us to buy energy at a price of .0655 per kWh, we could save up to \$107,185.74. The only caveat here is that the cost of the

electricity from the PV solar array is expected to increase at 3% a year, which is slightly higher than average inflation (2% annually). The cost of purchased electricity is unknown in the future, but we can estimate that it will increase by roughly 2% a year. As a result, it would take roughly 33 years for the price per kWh of the PV solar array to be greater than the price of purchased electricity (Appendix B.7). Without the assumption that electricity increases with inflation, we would have an annual cost of \$11,003. However, we estimate our savings or costs to be between the two numbers.

In order to reach complete carbon neutrality, we would need to buy offsets for the remaining emissions. After undertaking the proposed projects, emissions would be reduced to 6,903.8 MTeCO₂. Allegheny College purchased carbon offsets at \$11/MTeCO₂. Therefore, it would cost us roughly \$75,941.80 per annum to completely offset our carbon emissions. While this cost is large, it is important to note that as more projects are undertaken, the amount of carbon offsets needed will decrease.

Benefits and Conclusion

The non-monetary benefits of pursuing the projects outlined in this report are numerous. The photovoltaic solar array is a great example of the potential for educational benefits. The array could be incorporated into the curriculum of various science classes. It also provides benefits to the College and broader community in terms of awareness of new renewable technologies. The other projects also increase awareness of environmental issues and create more globally aware and community oriented graduates.

Although we cannot prove a monetary benefit from pursuing environmental sustainability, it is our belief that potential students are becoming increasingly demanding of a green college and LVC must pursue projects such as the ones outlined in this report to maintain its position among competitors. (See appendix B5 for some further points on this matter).

As outlined previously, as an educational institution, LVC has a duty to provide leadership on matters that are understood by the scientific community but are perhaps taken for granted in the community. Climate change is a reality and educational institutions must take a leading role in informing their own citizens and the community about the dangers and methods of control.

The projects outlined in this report are relatively low cost methods and actually lead to monetary savings in many cases. There seems little reason to delay their implementation and in two cases LVC has already commenced them. The carbon emission savings and monetary savings from the PV solar array require further investigation but given the national attention such a project would achieve, there is little reason to delay. Achieving climate neutrality may be beyond the College given the limited budget and the requirement that all carbon offsets (whether purchased or developed on campus) satisfy a strict additional requirement. That is, any use of carbon offsets should lead to an actual and new reduction in carbon that would not otherwise be achieved but for the offset project. However, the final recommendation of this report is that LVC should develop a comprehensive carbon emission target consistent with the global imperative to reduce global warming. This may end up involving certain projects that have an initial upfront cost. However, most, if not all projects will save the College money and have viable payback periods collectively and individually.

Appendices

Appendix A

Below are the details of the information provided to us by the college:

Don Santostefano, Senior Director of Facilities Management at dsantost@lvc.edu

- Trayless Dining costs & savings
- Winter Break Hard Energy Shutdown costs & savings
- Photovoltaic Solar Array costs & savings
- Landfill Waste Reduction costs & savings, Solid Waste No CH4 Recovery
- Individual Metering costs & savings

Victoria Trostle, Manager of Survey Response Operations for Facilities Services at trostle@lvc.edu

- Distillate Oil
- Natural Gas
- Electricity
- Gasoline fleet & diesel fleet (in the future this can be directly obtained from Nicole Duffy in the Business Office at nduffy@lvc.edu)
- Fertilizer (previous estimates were used again for this year)

Deb Fullam, Vice President for Finance at fullam@lvc.edu

- Operating Budget
 - Research Budget
 - Energy Budget
 - Total Building Space*
 - # of Full-Time Students*
 - # of Part-Time Students*
 - # of Faculty*
 - # of Staff*
- * provided on an LVC At A Glance summary sheet

Dana Lesher, Director of Payroll & Benefits Administration at lesher@lvc.edu

- Full-Time Employees zip codes
- Part-Time Employees zip codes

Jill Russell, Director of Study Abroad at russell@lvc.edu

- Study Abroad Travel

Jeremy Maisto, Registrar at maisto@lvc.edu

- Full-Time Commuter zip codes
- Part-Time Commuter zip codes

Appendix B

B.1

Meals:

- $2,000 * 5 = 10,000$ meals during the week
- 550 on Saturday
- 1,000 on Sunday
- Total per week is 11,550

Gallons:

- Assume we save $\frac{1}{2}$ a gallon per meal, so $11,550 * .5 = 5,775$ gallons of water per week that's saved

B.2

Energy Conversions:

- 2025 CCF = 204.8425 MMBtu according to http://www.energystore.com/es/toolbox/Gj_to_m3.cfm

B.3

Natural Gas Savings:

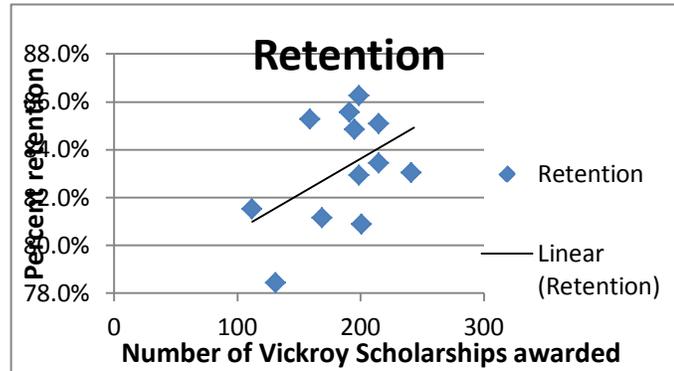
- The conversion was found on http://www.energystore.com/es/toolbox/Gj_to_m3.cfm

B.4

- Using the 7,000,000 kWh electricity that we're supposed to save by switching to solar energy, we found the cost of electricity based on whether we adopt the PV solar array plan or stay with normal electricity.
- We found a 10-year bond to have a current market interest rate of 3.625% and used this to present value the costs.
- Then we found the difference between the two different costs with and without the PV solar array. This gave us the average savings after present valuing it of \$107,185.74 (\$95,571 in 2010) with the electricity prices increasing with inflation.
- The same process was done under the assumption that electricity prices don't increase with inflation and we got an average cost of \$11,003 (\$9,811 in 2010).
- All these calculations are shown in the Excel Spreadsheet in Appendix C.1 and C.2.

B.5

- Data obtained from the Lebanon Valley College Admissions Office used number of Vickroy Scholarships as a standard measure of the quality of students attending LVC. The relationship between this measure of quality and retention is statistically significant at the 10% one-sided level of significance. The data is plotted below along with a fitted trend line:



- The following is the output of regression results on this relationship:

$$\text{Retention} = 0.7763 + 0.0003\text{Vickroys}$$

$$t = (1.686)$$

$$\text{Adjusted } R^2 = 0.1436 \quad N=12$$

- While we believe there is a relationship between sustainability efforts on campus and the demand for places at the institution, and that this leads to a higher quality student and better retention, there are too many variables and uncertainties to quantify the relationship and monetary benefit. For example, better students, should this arise, also leads to a greater payout in scholarship funds.

B.6

- 10% reduction in kWh: $11,014,178 * .10 = 1,101,417.8$
- Cost at \$.063 per kWh: $1,101,417.8 * $.063 = \$69,389.32$ in 2010
- Money saved per meter: $\$69,389.32 / 10 = \$6,938.93$ in 2010, which is equivalent to \$7,782.22 in 2005.
- kWh saved per meter: 110,141.78

B.7

- PV Solar array price starts at .0655 and purchased electricity starts .089 (known prices based on providers quotes)
- PV Solar array increases at 3% (based on contract) and inflation is roughly 2% a year
- Have: $.0655*(1.03^{31}) < .089*(1.03^{31})$ & $.0655*(1.03^{32}) > .089*(1.03^{32})$ therefore it would take roughly 33 years for the price to purchased to be cheaper than solar assuming 3% and 2% increases

Appendix C

C.1

Assuming no Photovoltaic Solar Array (PVSA) and no inflation.

Also, it's resulting difference from then adopting the Photovoltaic Solar Array

Year	Year #	Electricity	No Inflation	Cost No Inflation	PV No Inflation	PV for PVSA	Difference
2009	-	7,000,000	0.063	441,000			
2010	-	7,000,000	0.089	623,000	623,000	623,000	-
2011	1	7,000,000	0.089	623,000	601,206	445,838	(155,368)
2012	2	7,000,000	0.089	623,000	580,175	443,149	(137,026)
2013	3	7,000,000	0.089	623,000	559,879	440,477	(119,403)
2014	4	7,000,000	0.089	623,000	540,294	437,820	(102,474)
2015	5	7,000,000	0.089	623,000	521,393	435,179	(86,214)
2016	6	7,000,000	0.089	623,000	503,154	432,555	(70,599)
2017	7	7,000,000	0.089	623,000	485,553	429,946	(55,607)
2018	8	7,000,000	0.089	623,000	468,567	427,352	(41,215)
2019	9	7,000,000	0.089	623,000	452,176	424,775	(27,401)
2020	10	7,000,000	0.089	623,000	436,358	422,213	(14,145)
2021	11	7,000,000	0.089	623,000	421,093	419,666	(1,427)
2022	12	7,000,000	0.089	623,000	406,362	417,135	10,773
2023	13	7,000,000	0.089	623,000	392,147	414,619	22,472
2024	14	7,000,000	0.089	623,000	378,429	412,119	33,690
2025	15	7,000,000	0.089	623,000	365,191	409,633	44,442
2026	16	7,000,000	0.089	623,000	352,416	407,162	54,747
2027	17	7,000,000	0.089	623,000	340,088	404,707	64,619
2028	18	7,000,000	0.089	623,000	328,191	402,266	74,075
2029	19	7,000,000	0.089	623,000	316,710	399,839	83,130
2030	20	7,000,000	0.089	623,000	305,631	397,428	91,797
2031	21	7,000,000	0.089	623,000	294,939	395,031	100,092
2032	22	7,000,000	0.089	623,000	284,622	392,648	108,027
2033	23	7,000,000	0.089	623,000	274,665	390,280	115,615
2034	24	7,000,000	0.089	623,000	265,057	387,926	122,869
2035	25	7,000,000	0.089	623,000	255,785	385,586	129,802

Total Costs 245,272

Average Costs 9,811

The total savings of \$245,272 represents the amount of money LVC will lose over 25 years if they implement the PV Solar Array and normal electricity prices do not increase from \$.089 per kWh. The average cost of \$9,811 represents the average amount of money per year LVC would lose under this PV Solar Array scenario.

C.2

Comparing no PVSA with inflation to a PVSA both present valued.

Year	Year #	Electricity	Cost w/ Inflation & no PVSA	Total Cost	Present Value	Cost PVSA	Total Cost PVSA	PV for PVSA	Diff PV w/Inf
2009	-	7,000,000	0.063	\$441,000		0.063	\$441,000		
2010	-	7,000,000	0.089	\$623,000	\$623,000	0.089	\$623,000	\$623,000	\$-
2011	1	7,000,000	0.091	\$635,460	\$613,230	0.066	\$462,000	\$445,838	\$(167,392)
2012	2	7,000,000	0.093	\$648,169	\$603,614	0.068	\$475,860	\$443,149	\$(160,465)
2013	3	7,000,000	0.094	\$661,133	\$594,148	0.070	\$490,136	\$440,477	\$(153,672)
2014	4	7,000,000	0.096	\$674,355	\$584,831	0.072	\$504,840	\$437,820	\$(147,011)
2015	5	7,000,000	0.098	\$687,842	\$575,660	0.074	\$519,985	\$435,179	\$(140,481)
2016	6	7,000,000	0.100	\$701,599	\$566,633	0.077	\$535,585	\$432,555	\$(134,078)
2017	7	7,000,000	0.102	\$715,631	\$557,747	0.079	\$551,652	\$429,946	\$(127,802)
2018	8	7,000,000	0.104	\$729,944	\$549,001	0.081	\$568,202	\$427,352	\$(121,648)
2019	9	7,000,000	0.106	\$744,543	\$540,392	0.084	\$585,248	\$424,775	\$(115,617)
2020	10	7,000,000	0.108	\$759,434	\$531,918	0.086	\$602,805	\$422,213	\$(109,705)
2021	11	7,000,000	0.111	\$774,622	\$523,576	0.089	\$620,889	\$419,666	\$(103,910)
2022	12	7,000,000	0.113	\$790,115	\$515,366	0.091	\$639,516	\$417,135	\$(98,231)
2023	13	7,000,000	0.115	\$805,917	\$507,284	0.094	\$658,702	\$414,619	\$(92,665)
2024	14	7,000,000	0.117	\$822,035	\$499,329	0.097	\$678,463	\$412,119	\$(87,210)
2025	15	7,000,000	0.120	\$838,476	\$491,499	0.100	\$698,816	\$409,633	\$(81,866)
2026	16	7,000,000	0.122	\$855,245	\$483,791	0.103	\$719,781	\$407,162	\$(76,629)
2027	17	7,000,000	0.125	\$872,350	\$476,205	0.106	\$741,374	\$404,707	\$(71,498)
2028	18	7,000,000	0.127	\$889,797	\$468,737	0.109	\$763,616	\$402,266	\$(66,471)
2029	19	7,000,000	0.130	\$907,593	\$461,387	0.112	\$786,524	\$399,839	\$(61,547)
2030	20	7,000,000	0.132	\$925,745	\$454,151	0.116	\$810,120	\$397,428	\$(56,723)
2031	21	7,000,000	0.135	\$944,260	\$447,030	0.119	\$834,423	\$395,031	\$(51,999)
2032	22	7,000,000	0.138	\$963,145	\$440,019	0.123	\$859,456	\$392,648	\$(47,371)
2033	23	7,000,000	0.140	\$982,408	\$433,119	0.126	\$885,240	\$390,280	\$(42,839)
2034	24	7,000,000	0.143	\$1,002,056	\$426,327	0.130	\$911,797	\$387,926	\$(38,401)
2035	25	7,000,000	0.146	\$1,022,098	\$419,642	0.134	\$939,151	\$385,586	\$(34,055)
								Total Savings:	\$(2,389,286)
								Average Savings:	\$(95,571)

The total savings of \$2,389,386 represents how much LVC would save under the scenario of adopting the PV Solar Array and the cost of normal electricity increases with inflation from \$.089 to \$.146 over the next 25 years. The average savings of \$95,571 represents how much LVC would save annually over the next 25 years under this scenario.

APPENDIX B: 2009-10 Carbon Inventory

Carbon Inventory Overview for 2009-10

During the 2010/2011 school year, a carbon inventory was completed for the 2009/2010 academic year. In the program this is designated as 2009.

The program breaks down emissions into three categories: Scope 1, Scope 2, and Scope 3. Scope 1 emissions are direct emissions that come from sources that are owned and/or controlled by Lebanon Valley College. LVC has complete control over these emissions such as the fossil fuel combustion of campus fleet vehicles. These are the direct responsibility of the College.

Scope 2 emissions are indirect emissions from sources that are not owned or operated by Lebanon Valley College. However, these sources are directly linked to the energy used by the campus. The best example of an item from this category is purchased electricity. While the College is not of direct responsibility of these emissions, it is the fault of the College for the need for these emissions due to demand.

All other emissions are attributed to the Scope 3 categories. These emissions are typically considered as “optional” and are harder to classify. Either these emissions are the result of direct financing or encouragement of the College, but are not from sources owned or operated by LVC. Some great examples of this would be study abroad travel and faculty, staff, and student commuting. This category must be carefully monitored so that emissions are not being “double counted,” since responsibility for these emissions is not clear.

The process started by collecting data in as many areas that we could. As the creation of a yearly carbon inventory becomes routine, data collection will become easier and faster. The accuracy will also improve, since departments are now aware of the information that we are requesting. It will be possible to improve the inventory in the future as we request new information to be tracked by the College.

It is important to remember that the process is not exact, but it is a great start to creating a greener campus. The process does not end here, however; it can be improved upon to create more accurate data collection. To create an environmentally friendly campus, it requires large support for monitoring and improving.

Carbon Inventory Results Summary

Before any mitigation strategies, the total 2009 emissions for all 3 scopes were 11,230.8 MTeCO₂. Figure 1 shows the breakdown of emissions by scope, but Figure 2 shows a more detailed breakdown. It appears Scope 2 is the most significant contributor to our total emissions according to Figure 1. Figure 2 shows purchased electricity is the most significant contributor to our total emissions.

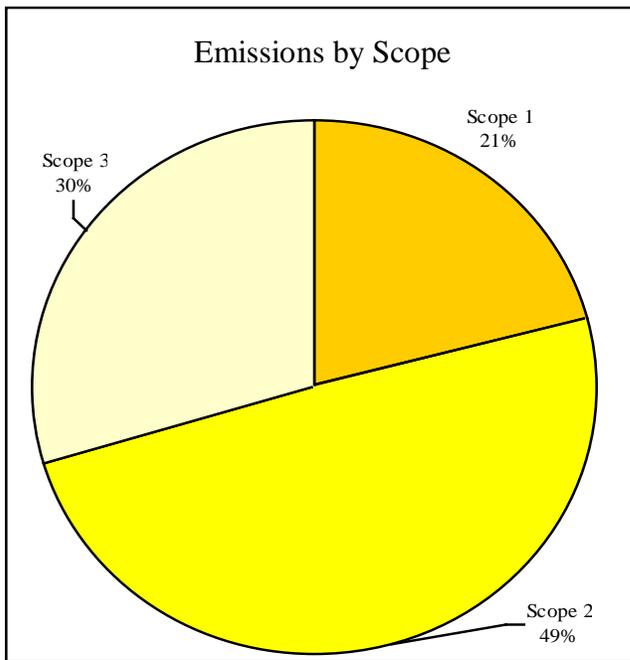


Figure 1: 2009 Emissions by Scope

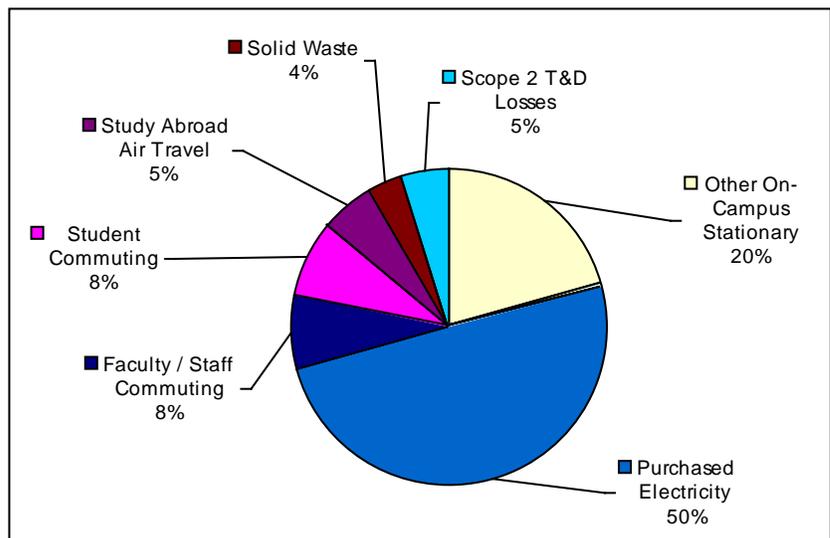


Figure 2: Emissions by Source

The most significant Scope 1 emissions are from Other On-Campus Stationary, which includes distillate oil and natural gas. It makes up 20% of total emissions and is equivalent to 2,246.16 MTeCO₂.

Scope 2 emissions consist solely of purchased electricity, which makes up 50% of total emissions and is equivalent to 5,615.4 MTeCO₂. The majority of our mitigation strategies aim to decrease our electricity emissions since it is such a significant part of LVC’s carbon footprint.

Scope 3 emissions contribute 30% of total emissions. Faculty, staff, and student commuting make up 16% of Scope 3 emissions combined which is equivalent to 1796.93 MTeCO₂.

APPENDIX C: RECYCLING DATA

(Provided by Waste Associates)

**Lebanon Valley College
Recycling Data**

Single-Stream

Year 2009			Year 2010			Year 2011		
Month	Pulls	Tons	Month	Pulls	Tons	Month	Pulls	Tons
Jan	4	4.94	Jan	3	4.05	Jan	-	10.00
Feb	3	3.68	Feb	6	5.67	Feb	-	10.00
Mar	7	9.08	Mar	7	6.78	Mar	-	10.00
Apr	5	4.72	Apr	6	5.71	Apr	-	10.00
May	8	9.95	May	8	7.30	May	-	10.00
Jun	4	7.54	Jun	5	5.46	Jun	-	10.00
Jul	2	2.60	Jul	2	2.99	Jul		
Aug	6	6.56	Aug	6	8.08	Aug		
Sep	7	6.78	Sep	6	5.79	Sep		
Oct	9	11.09	Oct	8	9.03	Oct		
Nov	8	8.56	Nov	8.00	7.30	Nov		
Dec	6	6.46	Dec	-	4.15	Dec		
Totals	69	81.96	Totals	65	72.31	Totals		60.00

Service was changed in December 2010 and is no longer being disposed of in roll off containers, therefore there are no pulls beginning December 2010. Tons for 2011 are estimated figures.

Lebanon Valley College

Data

Trash Stream

Year 2009			Year 2010			Year 2011		
Month	Pulls	Tons	Month	Pulls	Tons	Month	Pulls	Tons
Jan	5	22.29	Jan	6	22.43	Jan	-	28.46
Feb	5	22.19	Feb	8	27.25	Feb	-	20.07
Mar	9	35.71	Mar	10	30.75	Mar	-	30.61
Apr	6	22.69	Apr	11	31.71	Apr	-	32.35
May	8	28.01	May	9	22.70	May	-	32.35
Jun	4	27.38	Jun	11	35.96	Jun	-	38.89
Jul	6	38.12	Jul	4	8.75	Jul		
Aug	7	22.60	Aug	7	26.04	Aug		
Sep	6	33.31	Sep	9	20.81	Sep		
Oct	9	39.75	Oct	8	28.71	Oct		
Nov	11	43.61	Nov	10	32.10	Nov		
Dec	7	23.71	Dec	-	18.93	Dec		
Totals	83	359.37	Totals	93	306.14	Totals		182.73

Note: "Pulls" is number of times the dumpster is emptied.

Service was changed in December 2010 and is no longer being disposed of in roll off containers, therefore there are no pulls beginning December 2010.

Note: Beginning in December of 2010 the roll off's for recycling and trash were removed due to construction. Front load containers have taken the place of the roll offs. Totals are an estimate of the tonnage and based on full containers.

APPENDIX D: 2009-10 Campus Initiatives Responses

Name	Email	Phone	InitDesc	InitGoals	PeopleInvolved	Dates	DateSubmitted
Ann Hayes	hayes@lvc.edu	867-6416	One of the things we've been doing in HR is only accepting applications for open positions in an electronic format. With hundreds of applicants for open positions, it has significantly reduced the amount of paper we use. We rarely get an applicant who cannot submit their materials in an electronic format. In that case we do make an exception, but it happens only rarely.	Reduce paper consumption	Ann Hayes & Charlene Kreider	Ongoing	4/22/2010 12:00:00 AM
Marianne Goodfellow	goodfell@lvc.edu	717-867-6157	In my Soc 210 Social Problems class I have a unit on the environment, population, and global inequality. In addition, I have students complete their own "ecological footprint".	Awareness	Goodfellow	Included in all sections of Soc 210 Social Problem	4/22/2010 12:00:00 AM
Kristen Case	case@lvc.edu	6158	This semester I've been teaching a seminar on American Environmental Literature entitled "Writing the Environment." The students contribute weekly to a blog devoted to the class: http://writingtheenvironment.wordpress.com/	From the course description: in this class we will explore the concept of environment in American writing from the 19th century to the present. We will address fundamental questions about the relation between nature and culture at play in American thinking about the environment, and explore what it means to undertake the uniquely human practice of writing as a means to evoke, describe or connect to the non-human world. We will begin with Thoreau's Walden, and end with contemporary environmental writers including Barry Lopez and Annie Dillard. Students will develop their own writing practices, which will inform our on-going conversation about the meaning of environmental writing and its role in a contemporary, endangered world.	Mary Auker, Cody Shepp, Vincent Ransom, Carissa Mellinger, Jennifer Thornsburry, Julia Dunn, Sarah Grodzinski	Spring semester, 2010	4/22/2010 12:00:00 AM

Marianne Goodfellow	goodfell@lvc.edu	6157	At the end of the day I often find the lights in all the Humanities classrooms are still on. I go in one or two rooms and turn off the lights but I am not about to do that with all the rooms!! Can we either have timers installed OR a sign the says to turn off the lights when leaving he room. Marianne	Save energy, money. Signs to turn of lights will develop habits that will be carried into other contexts			4/22/2010 12:00:00 AM
Claudia Gazsi	gazsi@lvc.edu	6846	PT department goal is to post all ppt presentations on line through Bb in PDF format. Students encouraged to bring laptops to class and download PDF and use program such as "fox-it" for note-taking directly into/onto PowerPoint. We also only post handbooks and manuals electronically.	Reduce and eliminate handouts to students.	All PT faculty	AY 2010/11	10/29/2010 12:00:00 AM
David Lyons	lyons@lvc.edu	8676081	Save paper: Charge money for printers and copies. Put card swipers on copy machines and put authentication web pages for printing to make it easy. By the way, this is not a very useful web interface for submitting suggestions like this.	This is a silly interface. the goal is to use less paper.			10/29/2010 12:00:00 AM

APPENDIX E: ELECTRONICS RECYCLING

Electronics Recycling Day 4.16.2011 Results

Computer CPUs	97
Laptops	8
Monitors	97
Printers	104
Phones	
Cell Phones	11
Stereos	28
LCD TVs	
MP3 Players	
Games & Game Consoles	2
Other	75
Batteries	29 pounds



	Total Reams	Dell Toners Ordered	HP Ink ordered	HP Toners Ordered
2010-11 (Jul-Mar)	1030	33	25	18
2009-10	1930	27	34	26

APPENDIX F: EARTH DAY 2010 SCHEDULE

Earth Day Schedule April 22, 2010

-  Sunday, April 18 – **Movie - “Fresh”**; hosted by Lebanon Valley Conservancy and the Lebanon County Conservation District. Sponsors include Landisdale Farms and The Edible Schoolyard.
 - 1.30 pm. Allen theatre.
 - Students enter free with LVC ID. Adults \$10.
 - Followed by a panel discussion with Michael Tarsa (The Edible Schoolyard), Dan Landis (Landisdale Farms), and Ed Arnold, retired organic farmer.
 - FRESH celebrates the farmers, thinkers and business people across America who are reinventing our food system. Forging healthier, sustainable alternatives, they offer a practical vision of our food and our planet’s future. FRESH addresses an ethos that has been sweeping the nation and is a call to action America has been waiting for.

-  Wednesday, April 21 – **EDGE Workshop: Green Leadership**
 - 7 p.m. in the Faculty Dining Room
 - Chase Ferrario ’12 discusses conversation issues and specifically addresses ways to be a “green” leader at LVC to support sustainability.

- **Monday-Friday, April 19-23 – Carbon Footprint in the College Store**
 - The bookstore will have computers set up for you to calculate your carbon footprint. Venture down to see how green you are, or are not and receive a coupon for 15% off of organic items in the store.

-  Thursday, April 22 – **Earth Day Teach-In. “Climate Change”**
 - The main event features Owen Moe, Diane Johnson, Jeff Ritchie and Neil Perry speaking about climate change, environmental issues and their disciplines
 - 11.00 am – 12.15 pm in Chapel 101
 - Other Professors will make their classes available throughout the day. To be advised.

- Thursday, April 22 – **Tree planting**
 - 12.15. Location to be advised.
 - Join SAFE and President MacDonald for a ceremonial tree planting. (President MacDonald’s participation not yet confirmed.)

- Thursday, April 22 – **“Think before you print”**
 - The theme of this year’s Earth Day at Lebanon Valley College is “Think before you print.” In an effort to reduce our printing practices, members of the Sustainability Task Force and Earth Day Committee will visually represent our impact on the earth by wrapping the number of trees we have collectively cut down with our paper use.

- Thursday, April 22 – **Dining services** will be displaying their sustainable practices prominently throughout the day and unrolling their new “Ecotainers”
 - A local produce company will also be utilized for the lunch and dinner menus.

- Thursday, April 22 – **Green Facts**
 - Throughout dining hours in the West Dining hall on Earth Day you can gain knowledge and tips about green facts and practices. A PowerPoint presentation will be on display for your viewing pleasure.

- Friday , April 23 – **Dumpster dive**
 - SAFE will be conducting a Dumpster Dive in the Academic Quad and, with Professor Taylor’s help, will be constructing a display from the recycled materials gathered throughout the day that were incorrectly thrown out in the trash.

-  Saturday, April 24 – **Quittie Creek Wildlife Reserve Service day**
 - In conjunction with the Quittie Creek restoration group, United Way, and Palmyra High School, LVC will be helping local groups mulch trails and remove noxious weeds as well as clean up the Quittie upstream.
 - 8.30 am - 12.00 pm. Meet Professor Perry at the Gazebo outside of Mund at 8.30am.
 - The event will be followed by a BBQ at Quittie Creek Wildlife Reserve for participants.

 All students who participate in an activity with this symbol will receive a free reusable aluminum water bottle

APPENDIX G: EARTH WEEK 2011 SCHEDULE

LVC Earth Week Schedule April 25-30, 2011

Monday, April 25

7 p.m.

Evening movie: *Cool-It*, Chapel 101

This film is based upon the book of the same name and lectures by Bjorn Lomborg, author of *The Skeptical Environmentalist* and the founder and director of the Copenhagen Consensus Center. Amidst the polarized opinions within the global warming debate, *Cool It* follows Lomborg on his mission to bring the smartest solutions to climate change, environmental pollution, and other major problems in the world.

Tuesday, April 26

11 a.m.-1:30 p.m.

Green Facts, West Dining Hall

Check out the green facts slideshow in the West Dining Room during lunch to brush up on your knowledge about sustainability and learn about this year's Earth Week activities.

1:45 p.m.

Tree Planting, west side of Miller Chapel

Join President MacDonald and members of the Sustainability Task Force during this brief tree planting to celebrate Earth Week 2011. All students in attendance will receive a Sustainability CFL Keychain.

Wednesday, April 27

10:45 a.m.-1:30 p.m.

Sustainable Food Services, East and West Dining Halls

Metz invites you to learn from their local vendors about the campus's sustainable food practices.

10:45 a.m.-1:30 p.m.

Vegetarian Options, West Dining Hall

Become a vegetarian for the afternoon and learn about the sustainability of vegetarianism. Carnivores can head to the deli line.

Thursday, April 28

11 a.m.-1:30 p.m.

Mund LEED Certification, Mund Lobby

Check out the tabletop presentation of the New Mund and how the building will become LEED (Leadership in Energy and Environmental Design) Certified.

7 p.m.

Evening movie: *Cool-It*, Chapel 101

This film is based upon the book of the same name and lectures by Bjorn Lomborg, author of *The Skeptical Environmentalist* and the founder and director of the Copenhagen Consensus Center. Amidst the polarized opinions within the global warming debate, *Cool It* follows Lomborg on his mission to bring

the smartest solutions to climate change, environmental pollution, and other major problems in the world. **All students who attend will receive a free CFL light bulb.**

Friday, April 29

All Day

Wear green to go green, on campus

Get caught by Green Man wearing green and receive a green gift.

Saturday, April 30

10 a.m.-Noon

Earth Day Campus and Community Cleanup and BBQ at Quittie Park

Help beautify campus and the surrounding Annville community. Sign up on Redbook, meet at the Gazebo at 9:45 am.

Things to look for throughout the week

In addition to specific events that will take place, the following will also take place:

- **DISCOUNTS at the College Store:**
 - Calculate your carbon footprint and receive **20% off** any LVC imprinted item
 - **15% off** all sustainable merchandise (reusable mugs, water bottles, Under Armour Catalyst, etc.)
 - **10% off** all Burt's Bees all-natural products
 - **Keep me out of the landfill sale: 50-70% off** normal retail price on liquidated merchandise such as random school supplies, gifts, etc.
- **Compact Fluorescent Light (CFL) recycling** available in all residence halls, Lynch, Mund, and Humanities
- **Rechargeable Battery Recycling** stations are located in the lobbies of Mund and Lynch
- **Dollar coffee refills** with Reusable mug at the Lynch coffee bar
- **Sustainable giveaways**
- **Green Man**, LVC's very own superhero

Green Courses/Academics (courses that will discuss a "green" aspect during class throughout the week)

- Bio 302: Plant Diversity, discussing adaptations that allow plants to thrive in aquatic and wetland environments and threats to these organisms, such as eutrophication, invasive species, and climate change
- CHM 112: Principles of Chemistry II, covering alternative energy sources
- CHM 312: Physical Chemistry II, covering reactions in the atmosphere related to climate change.
- ECN 102: Principles of Macroeconomic, studying building a sustainable, green economy
- ECN 202: intermediate macroeconomic analysis, studying building a sustainable, green economy
- ECN 321: public finance, studying building a sustainable, green economy
- SOC 240: Intercultural Communication, looking at globalization, the increasing diversity of populations in many countries, product packaging as a function of culture
- SOC 324: Medical Sociology, discussing the incorporation of less high-tech approaches to treating medical conditions

- Honors Art History Presentation, by Rachel Eck, *The Hospitable Earth: Humans as an Ecologically Expression in the Pastoral Imagery of Samuel Palmer*

APPENDIX H: STF GREEN-TICKET PROPOSAL

STF Green-Ticket Proposal

Goal: Use green-tickets as a good-natured citation that indicates that a student or staff member has not turned off an electrical appliance, the goal of which is make them aware of the costs of their behaviors and to reconsider them. These tickets will tie into the Turn it Off Campaign, focusing on trying to reduce electrical costs incurred from appliances and lights that are left on.

Targets: Students, namely residents, and staff members.

Dispersal of Tickets:

- Resident Advisors could easily issue tickets during rounds.
- The cleaning staff could also be helpful in issuing tickets for both public spaces (bathrooms, lounges, waste receptacles) and individual rooms.
- Campus security, who frequently turn off lights.
- Members of SAFE and other student groups could also volunteer.
- Selected staff and support staff members who are willing to help, can.

Infractions: Ticketing will be justified if:

- Lights are left on in a public or private space.
- A computer, television or electronic device has been left on.

Summary: The Green Tickets are a cheap, effective way to positively change student and staff behavior. Actively deterring people from wasteful habits through harmless “finger pointing” might be seen as a nuisance, but sustainable ends do justify annoying means. The purpose is to be a little edgy as well—which would appeal to a college-audience (for whom Southpark is the norm) and potentially draw media attention to the college’s sustainability efforts.

Cost

50 pads(3”x3”x 50 sheets) \$125⁴

Copy: Each ticket will include the following copy, which will focus on positive facts and a strong declarative statement to push our objective of behavioral change and to minimize off-message interpretation should this note be read out of context. The tagline suggests that the post-it note be re-used—as a bookmark, leave a note, etc.

Heading	Turn it off
Sub Head:	Over Winter Break, LVC saved \$12,990 by turning it all off. Do your part.
Tagline	reduce, reuse, recycle...reuse this post-it

⁴ Fedex Business Printing. <http://businessprinting.van.fedex.com/sticky-notes.aspx>

APPENDIX I: SUSTAINABILITY TASK FORCE INTERNSHIPS

Sustainability Task Force Internships

The Lebanon Valley College Sustainability Task Force seeks two interns to assist in campus-wide promotion and data collection of the Valley's sustainability efforts. Both interns must demonstrate an understanding and interest in sustainability. These yearly internships (spring and fall semesters) will offer each intern approximately 5-10 hours of paid work per week. Each intern's responsibilities will be determined by the Sustainability Task Force, acting as the internship coordinators. The interns' work often overlaps with each other, resulting in partnered efforts. The interns must attend Sustainability Task Force meetings and are strongly recommended to attend bi-annual PERC meetings. Main responsibilities and qualifications are listed below.

Web Content/Communication Intern

Supervised under the Digital Communications/English Departments

(Must have communications experience)

- Continuously work towards creating a sustainable-minded campus community
- Develop/propose programming ideas for initiatives and special events (i.e. Earth Day, Focus on the Nation Day, recycling program)
- Promote sustainability initiatives and special events (i.e. Earth Day, Focus on the Nation Day, recycling program)
- Maintain Sustainability Task Force blog; create a timeline of post ideas
- Network with other school's sustainability interns/coordinators for idea-sharing
- Create a weekly log of internship tasks and accomplishments (this accounts for independent hours worked and assists in knowing what their workload entails)

Data Intern

Supervised under the Business and Economics Department

- Collect information/data for Climate Commitment
- Complete the College's carbon inventory
- File LVC's recycling data
- Maintain energy data and train with IT to learn spreadsheet tools
- Review other institution's carbon action plans to develop ideas
- Network with other school's sustainability interns/coordinators for idea-sharing in efforts to reduce carbon footprint
- Gather information for special projects as needed (e.g. solar electric generation)
- Research state and federal grant opportunities
- Create a weekly log of internship tasks and accomplishments (this accounts for independent hours worked and assists in knowing what their workload entails)

These internship offerings can satisfy goals in the LVC Strategic Plan 2009-2016

7a. Develop curricular/co-curricular programs that encourage broad campus awareness and commitment to sustainability.

Goals: To establish academic courses or other curricular/co-curricular programs related to environmental sustainability so that students have the opportunity to consider the consequences of their choices and actions in relation to the environment. At least five such courses or co-curricular experiences will have been initiated by 2013.

APPENDIX J: SUSTAINABILITY TASK FORCE 09-10 MEETING NOTES

Sustainability Task Force Notes October 6, 2009

Present: Chase Ferrario, Deb Fullam, Marcus Horne, Greg Krikorian, Jen Liedtka, Neil Perry, Jeff Ritchie, Don Santostefano

Task Force Charge

Deb distributed August 14, 2009 memo from President MacDonald asking that the principal charge in 09-10 be preparatory work for the College's readiness to sign the President's Climate Commitment in Spring 2010.

Discussion centered around activities for the Fall 2009 semester in light of the charge.

- Determine tangible actions / initiatives
Begin planning early for Earth Day
Review options at future meeting
- Determine how to analyze costs of potentially achieving climate neutrality
Neil will contact colleagues at Albright, Juniata, E-town, Messiah, Susquehanna to ask about progress / costs
- Develop regular system of collecting campus information
Jeff will work with Jasmine to develop banner / web-based selection system
- Develop process to review proposed initiatives
Review options at future meeting

There was also discussion about establishing a "home" for sustainability. It was suggested that we might pursue a student intern to assist with sustainability efforts. It was also suggested that we might pursue grant opportunities.

DRF: November 2009

Sustainability Task Force Notes
October 27, 2009

Present: Chase Ferrario, Deb Fullam, Marcus Horne, Neil Perry, Jeff Ritchie, Don Santostefano

Initiatives / Tangible Actions

Chase reported that 3/22/2010 is World Water Day.

SAFE and Hunger Awareness Leaders of Tomorrow (HALT) are working on ideas for activities.

Chase reported that APO has proposed to establish a campus organic garden as their service project

Task Force members were very encouraging – Chase will develop proposal for small garden at Rohland Farm

The preliminary Mund renovation plan includes the option of whether to include LEED certification.

We still need to review / determine which PCC tangible actions should be recommended.

Potential Costs of Becoming Climate Neutral

Neil shared a list of PA institutions who have committed to the Presidents' Climate Commitment.

Neil will contact Dickinson, Juniata, Messiah, Ursinus, Wilson to ask about their progress toward PCC goals. He will ask specifically about obstacles, costs, suggestions, and progress.

Neil noted that there is a wealth of information that might be used to justify the benefits of using more sustainable practices.

Neil and Jen will work together to collect data to identify benefits.

Regular system of Collecting / Updating Campus Information

The STF report is currently not posted on the web and some web info is outdated. We may want to post the report and send a message to campus asking for updates.

Jeff will provide update on system to collect info at next meeting.

Process to Review Proposed Initiatives

Review options at future meeting

Internship / Grant Opportunities

LVC students have a variety of opportunities for experiential learning. In some departments, students may earn academic credit for internship / experiential learning. In other cases, students may choose to work for compensation in a field of interest. The current student wage scale includes a minimum hourly rate of \$7.25 / hour and a limit of 20 hours per week. If we were able to identify a student interested in working 15 hours per week, we would commit approximately \$5,200 in student wages. (approximately \$1,740 each Fall / Spring / Summer).

DRF: November 2009

Sustainability Task Force Notes
December 15, 2009

Waste Associates (Tammy) reported on recycling and refuse removal efforts.

Recycling

- Efforts at LVC continue to impress. 52% savings realized
 - A chart comparing '08 vs. '09 was provided. 21 more tons this year compared to last.
 - Suggestions included sticker/signage explaining process for recycling.
 - Stanson Hall identified as a big success to date in the use of recycling receptacles
 - Neil requested comparison (per capita) data on recycling efforts by other colleges serviced by the company.
 - Don will coordinate a meeting with Metz (Food Service) related to recycling/refuse.
 - Current price for baled cardboard is \$75 per ton.
 - A possible visit to the Palmyra Transfer Station will be planned for early spring for our group.
 - A recycling competition between residence halls in conjunction with Earth Day will be explored.

Refuse

- A new Garbage Disposal in Food Service has helped to eliminate tonnage.
- We have 12 less pulls (59 tons) in '09.
- Refuse goes to the Lebanon County Landfill

Other updates

Food Service-Metz Associates has a comprehensive plan dealing with sustainability; locally purchased products, reusable containers, trayless dining

Earth Day

- Possible Teach-in for Thursday the 22nd. 11 AM – 1 PM. Faculty recruitment is underway, topic Global Warming.
- Possible "Turn it Off" campaign to reduce energy usage.

The **Cost of the Presidents C.C.** (40-50 year period) Neil discussed some initial consideration in calculating cost of this to include:

- Energy efficiencies
- Renewable energy
- Off set's
- Staffing/man power

Environmental Studies Major/minor is being proposed/developed. A list of potential courses was provided.

Solar Farm-Don discussed the concept and possible location of this potential project. This is in the VERY early stages of investigation.

A new time for the Task Force to meet should be identified to accommodate class/student schedules.

GHK: 12/15/2009

Sustainability Task Force Notes
February 1, 2010

Present: Chase Ferrario, Deb Fullam, Marcus Horne, Greg Krikorian, Jen Liedtka, Neil Perry, Jeff Ritchie, Don Santostefano

Spring 2010 Schedule

Task Force will typically meet every other Monday at 11 a.m. Ann Pinca will follow up with Outlook invitations.

Recycling

- Visit to Palmyra Transfer Station

Don will determine whether we can visit on 2/15/2010.

- Recycling competition

Deb / Jen will get additional details for review at future meeting (summary follows)

The 2010 RecycleMania Competition will run from Sunday, January 17 to Saturday, March 27. Registration for the 2011 competition will open in fall 2010.

<http://www.recyclemaniacs.org/overview.htm>

- Food Service update

Metz representative will join our task force

Greg reported that an arrangement has been made to send food waste to a local farm which will reduce LVC trash stream. We are also looking to enter a new agreement to dispose of waste oil (will likely be used in making of biofuel)

Earth Day

- Planning group will include Neil, Michelle, Chase, Jen Evans, Jason Kuntz, Jeff.

Planning group will solidify plans for (1) teach-in, (2) speaker, (3) tree planting [one tree will be covered by grounds budget], (4) "turn it off" campaign (if feasible), (5) food service participation, (6) recycling initiative

Communication

- Jeff shared preliminary thoughts on content for the sustainability web page, including a note to the campus and collection form.

Task force members are asked to respond to Jeff with suggestions.

Don and Marcus will develop articles re: recycling updates, safety update, and campus improvements for hazardous waste disposal. We'll review at next meeting.

Greg will contact LaVie editor to suggest an article on sustainability efforts

2010-11 funding priorities

- Michelle shared a proposal for the development of a web content / communication intern and a data intern.

Deb will develop a budget priorities proposal for potential 10-11 funding. Funding priorities will include paid student interns and a small budget for educational programming initiatives related to sustainability.

CSA option

- LVC will again serve as a drop site for Landisdale Farm CSA if at least 10 individuals enroll.

Deb will work with Landisdale Farm and LVC Human Resources to provide publicity to campus.

Presidents Climate Commitment (PCC)

- Neil reported that action plans are now posted on the PCC site. He will review action plans to gather information regarding cost / benefit. He believes that there is likely to be some additional cost to purchase offsets in order to attain climate neutrality at some future date.

Neil, Don, Jen, Deb will meet in late February to further review cost / benefit related to PCC

Other

- Neil reported that environmental studies program has been developed.
- Don reported on the following:
 - The garden (near Rohland Farm) is tilled and ready to go
 - The potential third-party solar installation is still being pursued
 - Met Ed electric rates for 2011 are still unknown
 - Green Building Association of Central PA is looking for a faculty member to help organize student organizations – Emerging Green Builders. He'll provide more information as available.

NEXT MEETING – MONDAY, FEBRUARY 15, 11:00 a.m.

DRF: March 2010

Sustainability Task Force Notes
February 15, 2010

Recycling Update

Group is interested in a tour of the recycling transfer station. Don indicated that he would coordinate a visit to the York facility.

There was discussion of holding a recycling competition, and possible participation in Recyclemania.

Metz noted the following about their supplies and services:

- They have contracted with a firm that has delivered a container and will reimburse us to collect oil to then be used for bio-fuel.
- 95% of paper products are eco-friendly (corn-based).
- Trash bags are eco-friendly.
- Local suppliers are used for milk and produce.
- Metz is developing signs that highlight sustainable practices in the food service area.

It was suggested that LVC might consider serving as a site for hazardous waste pick-up for Annville or Lebanon County.

Earth Day Planning

The group reviewed plans for Earth Day activities, including a possible teach-in, speaker, tree planting, "Turn it Off" campaign, food service participation and SAFE activity.

Michelle noted that she is serving on the planning committee for the Green Expo, to be held at the Lebanon Fairground in April.

Ongoing communication

Presidents Climate Commitment / Action Plans

Neil, Don, Deb, and Marcus will review the plans from Allegheny and Wilson Colleges.

NEXT MEETING – MARCH 8, 2010

Sustainability Task Force Notes
March 8, 2010

Review of Presidents Climate Commitment / Action Plans

Neil noted that three students are working on future carbon footprint projections. He reviewed the Allegheny climate action plan which targets neutrality by 2020. Allegheny's planned method of achieving climate neutrality will be largely through RECs.

The questions was raised about LVC forest / farm land / wetlands (north of the railroad) as a possible offset. Might it be possible for the PA Game Commission to plant on the land?

There was also discussion and general agreement that it would be beneficial to complete an energy audit. Don will look at the SBS study and also look at options to complete an energy audit.

After discussion, everyone concurred that the signing of the Presidents Climate Commitment commits LVC to spend significant time to prepare an action plan. There would likely be staff resources required to prepare the plan, and it would require institutional discipline in order to achieve climate neutrality.

Recommendations:

- Evaluate options to complete an energy audit
- Continue to evaluate possible ways to prepare a climate action plan
- Consider how to incorporate sustainability targets into the LVC strategic plan.

Neil will continue to work with students on the carbon footprint projections.

NEXT MEETING – MARCH 22, 2010

Sustainability Task Force Notes
March 22, 2010

Recycling Update

Don will e-mail possible April dates for a visit to the recycling facility.

Metz provided the following update:

- Reusable takeout containers will be introduced for Earth Day.
- Recyclable containers and compostable spoons will be available for ice cream.

Earth Day Planning

The theme is "Think Before you Print"

SAFE will sponsor activities throughout the week:

- Movie – *Fresh* (4/18)
- Tree planting (4/22 at 12:15)
- Dumpster dive (4/23) – trash will then be 'displayed' in social quad

A teach-in is scheduled for Thursday.

Saturday is service day (Day of Caring) at Quittie Park.

The Green Expo will be held on 4/20 at the Lebanon Fairgrounds.

Ongoing communication

The banner is now up on the web page.

Presidents Climate Commitment / Action Plans

Neil reported that the carbon inventory is nearly done.

He is working with students to finalize calculations for projections / reductions, and also gathering additional data.

Other

Chase will follow up with SAFE regarding the garden.

Greg will talk to staff for options to minimize trash at year-end / move-out day.

NEXT MEETING – APRIL 12, 2010

Sustainability Task Force Notes
April 12, 2010

Earth Week Planning

Sunday – move, *Fresh*, followed by discussion

Wednesday – WITF move (history of Earth Day)

Thursday

Teach In (Chapel 101) – Owen Moe, Jeff Ritchie, Neil Perry – 11 – 12:10

Planting (near Lynch) – 12:15

Tree Wraps to indicate paper consumption – “Think Before you Print”

Local produce vendor / launch of ecotainer

Green Facts powerpoint running in dining hall

Friday – dumpster diving / displays

Saturday – service day at Quittie

The Earth Week schedule is posted on the blog

Ongoing communication

Blog has been updated.

Don / Marcus will complete an informational article by Earth Day

Presidents Climate Commitment / Action Plans

Neil reported that the carbon inventory is finished.

He is still working with students to finalize calculations for projections / reductions, and also working on a cost benefit analysis.

Other

Student Affairs staff is working on options for year-end garage sale / collection / donation initiative.

NEXT MEETING – APRIL 19, 2010

Sustainability Task Force Notes
April 19, 2010

Earth Week Planning

There was review of final preparations for Earth Day.

Other

A student group will be cording the end-semester garage sale / collection / donation initiative.

NEXT MEETING –MAY 3, 2010

Sustainability Task Force Notes
May 3, 2010

Earth Week Review

Earth Week activities were not well attended. The tree planting was sparsely attended, and 15 students participated in service day.

There was conversation about efforts that might increase turnout. Discussion ranged from scheduling activities at different times to scheduling one major event (music / competition). It may be helpful to begin planning in the fall and encourage broader campus involvement. Faculty might begin planning for course projects, and / or it might be useful to plan a campus activity to involve / engage students (rather than speaker / passive audience).

Presidents Climate Commitment

It is likely that the achievement of LVC climate neutrality would require purchasing offsets. The group agrees that we should recommend moving forward with initiatives to reduce emissions, and include water quality / usage in targets.

Recommendations:

- Continue working as a group, and move from task force to committee status
- Continue to consider the actions we might undertake in order to reduce carbon footprint
- Annually review the advisability of signing Presidents Climate Commitment, with a full cost / benefit analysis.
- Establish exactly what targets might be
- Establish two internships for fall, one for data collection and one for communication

Other

It would be interesting to work with the arboretum 'group' to develop a database or interactive PDF that includes campus trees / appropriate plantings.

NEXT MEETING –MAY 17, 2010

Sustainability Task Force Notes
May 17, 2010

Presidents Climate Commitment

The updated Climate Action Plan Proposal was reviewed.

Other

It was confirmed that 2010-11 funds were allocated to support two interns. Jeff, Michelle, and Don will work together on a process to solicit applications / interview / select students.

APPENDIX K: SUSTAINABILITY TASK FORCE 10-11 MEETING NOTES

Sustainability Task Force Notes October 12, 2010

Present: Deb Fullam, Marcus Horne, Michelle Krall, Greg Krikorian, Don Santostefano, Mike Zeigler

2009-10 Wrap-up

Deb will provide written report with recommendations in near future.

Sustainability Initiatives / Ideas

Group reviewed sustainability ideas provided by Jeff Ritchie / Shea Matthews (Communications Intern).

All agreed that the following **story ideas** had merit:

Coleman Park	SAFE
Paper=Trees	Mund LEED Certification
Metz sustainability efforts	Coke sustainability efforts
Facilities recycling – waste stream reduction / recycling pulls	

Earth Day (hold for spring 2011)

All agreed that many of the proposed **initiatives** sound interesting, but it would be useful to have additional information. We will discuss further at the November 2 meeting.

All agreed that the “Green Man” idea sounds interesting, but would suggest with a different approach to “violent intervention” to non-recyclers (perhaps “Green Man” could shoot green slime?). We’d like to discuss at the November 2 meeting.

Updates

Waste Management Recycling Center visits for up to 12 participants may be scheduled at 10 a.m. on Thursdays or Fridays through November 12.

Deb / Ann Pinca will follow up with potential dates.

2011 RecycleMania is scheduled to run between February 6 and April 2, 2011. There will be two weeks of pre-season “Trials” starting January 23.

<http://www.recyclemaniacs.org/overview.htm>

Deb has requested information on participation.

Michelle reported that the Annual Giving campaign for recent grads is a “Give Green / Go Green” video featuring Chase Ferrario. She will send us the link to the video.

PERC Conference

Michelle has registered to attend the October 20 PERC conference at Penn State.

Fall 2010 Schedule

Group will meet in early November and late November. Ann Pinca will follow up with Outlook invitations.

NEXT MEETING – TUESDAY, NOVEMBER 2, 2010, 11:00 a.m.

DRF: October 2010

Sustainability Task Force Notes
November 2, 2010

Present: Deb Fullam, Marcus Horne, Michelle Krall, Don Santostefano, Mike Zeigler, Bill Allman, Jeff Ritchie, Shea Matthews, Chase Ferrario, Jamie Frye

November 12 tour of recycling facility

- Plan to leave at 8:45 a.m. and return around 1 p.m.
- Don will find out if cameras (video) will be allowed
- Wear comfortable shoes and dress for the outdoors
- Currently have 8 people attending- also invite Jason Kuntz, Amber Keeseman, Student Government green committee, and additional SAFE members

Sustainability Initiatives / Ideas

The group discussed outreach initiatives in more detail, presented by Shea Matthews and Jeff Ritchie.

- Green Man Video
 - Shea has script and timeline (He will e-mail this to the group for review)
 - Superhero-type story
 - Video is geared for a student audience
- Green Dutchman certified office
 - Program for faculty/staff
 - Faculty/staff can get their office space certified as “green” by reading through a checklist of environmentally sustainable behaviors.
 - Shea to draft a proposal with basic ideas for the program (E-mail to group when ready)
 - This could also incorporate a “green course” component.
- Green “Tickets”
 - Program for entire campus
 - Individuals around campus could get “ticketed” for non-environmentally friendly behaviors (e.g. Computer screensaver instead of sleep mode, lights left on while no one is in the room, etc.)
 - Shea/Jeff to produce proposal for group to approve
 - This initiative would be a great effort for next year’s “Turn-it-off” campaign.

RecycleMania

- 2011 RecycleMania is scheduled to run between February 6 and April 2, 2011. There will be two weeks of pre-season “Trials” starting January 23.
- Group members are encouraged to review the RecycleMania website below and provide feedback at our next meeting:
 - <http://www.recyclemaniacs.org/overview.htm>

Campus Communication

Jeff will contact the web committee to request that Shea Matthews has direct access to posting information on the Sustainability Blog.

Spring Semester/Earth Day Planning

- At our next meet, members should bring ideas for Earth Week 2011. This will give us a head start in planning and developing ideas once everyone is back for the spring semester.
- Shea mentioned he contacted a representative from Coke that offered to be on campus at some point during Earth Week.

NEXT MEETING – TUESDAY, NOVEMBER 30, 2010, 11:00 a.m.

MAK: 11/4/2010

Sustainability Task Force Notes
November 30, 2010

Present: Marcus Horne, Michelle Krall, Don Santostefano, Mike Zeigler, Bill Allman, Jeff Ritchie, Chase Ferrario, Jamie Frye, Greg Krikorian

November 12 tour of recycling facility

- Don has photos to share
- Shea took video
- Both photos and video will be posted online (Approval for Shea posting blog content is pending. This will be discussed at the next web committee meeting.)

Sustainability Initiatives / Ideas

- **Green Man Video:** Shea- please resend this to the committee and also copy Tom Hanrahan for approval by College Relations.
- **Green Dutchman certified office**
 - In addition to these efforts, it was suggested to send an update to everyone with various “green” practices or activities that are taking place in their work space. This should be sent a week or two into the spring semester.
 - If we receive a good response, we could list these on the blog during Earth Week.
- **Green “Tickets”-** Jeff will bring a drafted design for the ticket at the next meeting
- **Coke Challenge-** Greg will look into participating in the Coke challenge again this spring.

RecycleMania

- A decision on participation is pending. Discussion brought up a couple points- this requires manpower to meet the requirements of the competition and may be more work than we'd like, however, the program may create awareness and will allow the College to participate in a nationwide competition.
- By participating in the waste minimization component, LVC would receive a point towards the President's Climate Commitment.
- For more information: <http://www.recyclemaniacs.org/overview.htm>

Campus Communication

- Annual giving asked if they needed the sustainability task force's approval for their “Doing Good, Going Green” recent grad challenge. It was decided that as long as College Relations approves, there's no need for the group to get involved.
- There was discussion on reducing the number of flyers around campus. Jamie mentioned the use of a bathroom stall publication updated each week. One document is created to advertise information that would otherwise be posted on flyers. There was also discussion on installing flyer kiosks around campus.

Earth Week Planning

- Earth Week will be held the week of **April 25** (Earth day falls on Good Friday 4/22/11).
- We could tie-in an event during ValleyFest to kick-off Earth Week in order to expand our efforts to the surrounding community.
- Ideas presented by Chase and Jamie:
 - Blackout: because of last year's blackout, they'd like to keep the “tradition” going where one hour on campus, students can opt-in to turn everything off and conduct activities in the residence halls.
 - Dumpster Dive
 - Tree Planting
 - Movie on campus- talk to Jen Evans

MAK: 12/9/2010

- Speakers, teach-ins
- Incentives- Michelle to find out # of water bottles left.
- Educational flyers/sidewalk chalk
- Plants in old shoes
- Dr. Grant Taylor- recycled art
- Carry your trash around- involve other clubs?
- Park Clean-up with the community- Chase to reach out to Chaplain Fullmer
- Technology Drive
- Metz- local food show (buy local)

NEXT MEETING – TUESDAY, JANUARY 18, 2011, 11:00 a.m.

[Note: The January 28, 2011 meeting was not held]

MAK: 12/9/2010

Sustainability Task Force Notes
February 16, 2011

Present: Marcus Horne, Michelle Krall, Don Santostefano, Mike Zeigler, Bill Allman, Jeff Ritchie, Jamie Frye, Shea Matthews

Sustainability Initiatives/Ideas

- a. **Green Man Videos:** These will debut during Earth Week. Shea is writing the script and will send them through e-mail by the next meeting.
- b. **Green Dutchman Certified Office:** Shea to send link to Penn State's version and also slim down a list of qualifications. Jeff will send an e-mail to campus, asking for various "green" practices around their work space (as mentioned in the Nov. 30 minutes)
- c. **Green Tickets:** Jeff passed around a proposal for the sticky-note tickets. The task force liked the proposal and made the following suggestions. 1) Add public safety to the list of dispersal of tickets, 2) Slim the list of potential concepts down to three and use those three sticky-note sayings. 3) Deb should be able to find a way to fund this initiative (About \$100-\$200).
- d. **Coke Challenge:** Greg was not at the meeting, so this discussion was postponed for the next meeting.
- e. **Disposal of Batteries and CFL Bulbs:** Don will look in to the specifics for the battery recycling—is it recommended to recycle them and how to set up a drop box. Don, along with Mike, will look into the specifics on the proper disposal of CFL bulbs.
- f. **Updated Trash and recycling data** was handed out by Don.

Campus Communication

- a. Create a portal ad with a link to view the top ten ways to be more sustainable.
- b. The topic of reducing/eliminating the amount of flyers on campus was discussed. The discussion was tabled until our next meeting to decide what is it that we want to accomplish and how. Ideas included the bathroom stall ads and ads on flat screens around campus. Jamie suggested we could work with the SGA communication committee.

Spring Semester/Earth Week Planning: No discussion. SAFE has not met since the beginning of the semester to discuss Earth Week plans.

Appointment of Data Interns: There will be two data interns that will work together to create the carbon inventory. Amber Keeseman has agreed to conduct the research. The second intern selection is pending.

Task Force membership- replacement for Neil Perry: Two names were mentioned—Will Delavan and Rebecca Urban. No action will be made at this point.

Electronics Recycling: Mike confirmed the Saturday of ValleyFest with the township from 8 a.m.-1 p.m. A location was discussed to use the vacant lot behind N-G.

Next Meeting: 3/1 at 11 a.m. Committee would like to continue with Tuesdays at 11 a.m. for a meeting time.

MAK: 2/17/2011

Sustainability Task Force Notes
March 1, 2011

Present: Marcus Horne, Michelle Krall, Don Santostefano, Mike Zeigler, Greg Krikorian, Jimmy Kroll, Jamie Frye, Shea Matthews

Welcome Jimmy Kroll: Jimmy will attend our meetings as a representative of SGA's Green Committee (unsure of actual title).

Sustainability Initiatives/Ideas

- g. **Green Man Videos:** Shea sent out the almost final scripts. Please use track changes to provide feedback by Friday, March 4 and send back to entire task force. Shea plans to use the next few weeks to create the videos.
- h. **Green Dutchman Certified Office:** Shea sent an LVC checklist to the task force. Members mentioned we needed to look at wording of certain tasks. Mike Z mentioned setting computers to sleep mode disrupts the VPN, so they recommend setting your screen saver to a blank screen instead. Mike will help Shea come up with these descriptions/tweaks.
- i. **Incentive for Sustainable Practices:** Greg mentioned we should have an incentive for a group of people—whether it's a club, dorm floor, office, etc. that is making sustainable efforts. Jimmy mentioned this is similar to what the SGA Green committee was trying to develop—an incentive program to use the money saved from being sustainable as a donation towards something or a fun party/concert for students. Jimmy will continue working on this idea and prepare a proposal for the task force's review.
- j. **Coke Challenge:** Greg has been in contact with the representative and they're looking at an effort with Coke during Earth Week (4/25).
- k. **Disposal of Batteries and CFL Bulbs:** Don and Res. Life will discuss how to safely dispose of CFLs in dorms. Mike Z mentioned Battery Warehouse will provide a box for recycling batteries. BW already picks up batteries for facilities, so this would be an easy process. We could remind the campus community twice a year about the drop boxes.
- l. **Electronics Recycling:** Jamie and Jimmy are in charge of gathering students to help unload vehicles on Saturday, April 16 from 8 a.m.-1 p.m. The drop-off will be in the red lot beside the football field.

Campus Communication

- c. Shea mentioned he and Jeff have discussed a presence on facebook, twitter, and continuing the blog. More to come on these efforts.
- d. Mike Ziegler discussed the amount of paper used on campus—2.1 million impressions this year, 1.13 million of which are from students.

SAFE: Both Jamie and Greg are looking to connect with SAFE to see if they've made any progress on Earth Week efforts.

Appointment of Data Interns: Amber Keeseman and Jamie Frye are meeting with Michelle on Thursday, March 3 to discuss internship specifics.

Task Force membership- replacement for Neil Perry: Will Delavan and Rebecca Urban—Greg to contact Mike Green about this decision.

Earth Week: The week of April 25. Ask a rep from Res Life and Brooke D. to join next meeting.

On 3/15, the Task Force will focus on Earth Week only. We briefly discussed the following as activities to include during the week:

- a. **Community Service:** Greg will contact Paul about a day of service.
- b. **Tree Planting:** Don to look into tree planting specifics.

MAK: 3/2/2011

- c. **Visual:** Can we get a bale of recyclables as a visual on campus during the week?
- d. **LEED:** Is it possible to promote the LEED efforts for the new Mund?
- e. **Food Services:** Metz to advertise coffee discounts, sustainable efforts. Greg will ask Bill about food waste education during the week.
- f. **Teach-in:** Greg will talk to Mike Green about professors to conduct the teach-in
- g. Movie or activity during Monday when students arrive?

Next Meeting: 3/15 at 11 a.m.

MAK: 3/2/2011

Sustainability Task Force Notes
March 15, 2011

Present: Marcus Horne, Michelle Krall, Don Santostefano, Jeff Ritchie, Deb Fullam, Jimmy Kroll, Jamie Frye, Shea Matthews, Amber Keeseman

Sustainability Initiatives/Ideas

- m. **Green Man Videos:** Final scripts will be distributed via e-mail ASAP.
- n. **Incentive for Sustainable Practices:** SGA is working on a proposal.
- o. **Disposal of Batteries and CFL Bulbs:** Don and Res. Life will discuss how to safely dispose of CFLs in dorms.
- p. **Electronics Recycling:** Ready to go for 4/16. Jimmy is working with SGA for volunteers.
- q. **Green Tickets:** Post-it notes with "Turn it Off" campaign message. M. Samuels class working on design. They will electronically distribute the final design before moving forward. This will roll out for Earth Week. Will use RA's, etc. for "ticketing."

Campus Communication

- e. Still pursuing Facebook/Twitter. Could use main LVC facebook page with specific LVC Sustainability logo and link to blog each time.
- f. Jasmine Bucher will post an "Earth-themed" Lebanon Valley College on the homepage during Earth Week.
- g. Proposal for kiosks/posting areas- STF to work on guideline in postings on buildings/campus. We suspect that paper is more environmentally friendly than electronic boards.
 - a. Designate areas on campus
 - b. Communicate early in semester
 - c. Clean stickers in glass that include "approved" posting location?
 - d. Cafeteria table tents- reduce number?

Earth Week Schedule

- h. **Community Service:** Chaplain planning Quittie park clean-up with Jimmy K. Campus and community invited. BBQ after clean-up. Need to connect with Dave Lasky.
- i. **Tree Planting:** Location has been determined between Chapel and Lynch. To be held Tuesday, April 26 at 11 a.m.
- j. **Visual:** Don to contact Waste Management about obtaining a bale of aluminum/recyclables.
- k. **LEED:** Web presence, table with information?
- l. **Food Services:** Metz to advertise coffee discounts, sustainable efforts. Bill has plans for displays and local food vendors. Jimmy to inquire about coffee bar and discounts with reusable mugs. Would like to advertise on screens.
- m. **Teach-in:** Unsure of status.
- n. **Movie:** Wasteland and Cool it were suggested. Jimmy to find out about a screen or sheet to show movie outside.
- o. **Coke:** Need dates.
- p. **Green Facts:** Green facts PowerPoint for dining hall—Brooke.
- q. **College Store:** Carbon footprint calculator and discounts. Can also advertise for us.
- r. **Water:** Jamie to look for facts about plastic bottles vs tap water and reusable bottles.
- s. **CFL Bulb giveaway:** Don- Cost, Michelle- Keychain giveaways
- t. **Promotion:** Screens in Mund, Coffee Bar, and Arnold Sports Center. Banner ads, blog, several Large posters.

Next Meeting: 3/29 at 11 a.m.

MAK: 3/28/2011

Sustainability Task Force Notes
April 8, 2011

Present: Marcus Horne, Michelle Krall, Jeff Ritchie, Jamie Frye, Shea Matthews, Amber Keeseman, Rebecca Urban, Will Delavan, Mike Ziegler

Sustainability Initiatives/Ideas

- r. **Paper Usage:** Mike presented information on the campus's paper usage (to see full presentation, please contact him). Permission is pending to release these numbers to La Vie. Discussion included ideas of how to decrease usage, including:
 - a. Charge students after a certain amount
 - b. Student must have a discussion with an administrator about why they went over the quota
 - c. Each student has a budget and if they come under budget, they receive an incentive.Tabled discussion to return to the topic of Earth Week.
- s. **Electronics Recycling:** An e-mail was sent to campus. Mike will promote. We'd also like to include a facebook plug.
- t. **Green Tickets:** They will be here next Tuesday.
- u. **Battery Discussion:** Jeff would like to return to the discussion of recycling batteries after Earth Week.

Campus Communication

- e. Green Man will have a facebook page—in progress.
- f. Blog has been updated.
- g. New YouTube videos

Earth Week Schedule

Monday, April 25

Evening movie: The Lorax. Jimmy to find out about permission costs.

Tuesday, April 26

PowerPoint in West during Lunch with random "green" facts and to promote Earth Week events (Use white background and dark text because of light) Michelle will set up.

Tree Planting is at 1:45 p.m.

Wednesday, April 27

Food Services promos

Thursday, April 28

CFL Giveaway?

LEED info for Mund?

Friday, April 29

Coca-cola Representative?

Saturday, April 30

Quittie Clean-up

MAK: 4/8/2011

Throughout the week

- Keychain giveaways and water bottle giveaways as incentives for students to attend.
- The College Store will have the following promotions:
 - a. Calculate your carbon footprint and receive 20% off any LVC imprinted item
 - b. 15% off all sustainable merchandise (reusable mugs, water bottles, Under Armour Catalyst, etc.)
 - c. 10% off all Burt's Bees all-natural products
 - d. We're also thinking about a "Keep me out of the landfill" sale for merchandise that we need to liquidate prior to the store move (random school supplies, gifts, etc.) that will go for 50-70% off normal retail.
- Jeff will e-mail faculty to encourage them to incorporate "green ideas"

Next Meeting: 4/12 at 11 a.m. in the N-G Atrium Conference Room

4/20 at Noon in the N-G Atrium Conference Room

****Please note location change****

MAK: 4/8/2011

APPENDIX L: TASK FORCE MEMBERSHIP

2009-10

Chase Ferrario, student
Deborah Fullam
Marcus Horne
Michelle Krall
Gregory Krikorian
Neil Perry
Jeff Ritchie
Don Santostefano
(Metz-Robin attended, but I wasn't sure if she was a member)

2010-11

Bill Allman, Metz and Associates
Will Delavan
Chase Ferrario, student
Jamie Frye, student
Deborah Fullam
Marcus Horne
Michelle Krall
Greg Krikorian
Jimmy Kroll, student
Shea Matthews, student intern
Jeff Ritchie
Don Santostefano
Rebecca Urban
Mike Zeigler