From: Nicholas Bisignano, Peter Gross, Monica Nelson, Jonathan Simmons
To: Professor Cohen
Subject: Capstone Memo: Sustainable Development at Lafayette College
Date: December 6, 2013

Abstract: This project's main research question was: Can students at Lafayette College become more involved in sustainability projects? In order to address this question, the project examined the interests of Lafayette students as well as the needs of the college's infrastructure in terms of sustainability programs. Also, different means of reaching out to the community in order to bolster involvement were considered. It was found that the Center for Innovation, Design, Entrepreneurship, and Leadership, better known as the IDEAL Center, is positioned perfectly to serve as the basis for interdisciplinary sustainability projects. Working with IDEAL Center organizational staff helped to focus the project's direction. The conclusion of the project, summarized in the accompanying memo, was that a brochure linking outlines of potential interdisciplinary projects to the IDEAL Center would inform students about the opportunities of sustainability projects on campus in order to encourage student involvement. A brochure was created with the intention of its placement on the IDEAL Center website, as well as its display in campus hotspots and distribution to targeted audiences. Through the brochure, students will become interested in getting involved in the potential projects outlined, as well as inspired to innovate and create sustainability projects aligned with their own interests.

Introduction

Lafayette students do not know that they can initiate and run organizations and projects that utilize interdisciplinary skills through the Center for Innovation, Design Entrepreneurship, And Leadership, more commonly known as the IDEAL Center . Lafayette College, a school with renowned liberal arts and strong engineering programs, could institute multidisciplinary projects in which students and faculty from a wide range of disciplines can work together. These projects would benefit the community. They would be appropriate for interdisciplinary studies because real-world application of theoretical classwork requires contextual understanding of the surrounding environment. This is relevant to Engineering Studies (EGRS) majors, and the scholarly discussion of sustainability involving the social, environmental, and economic contexts that shape our technology and our world. As the goals of the IDEAL Center are aligned with the goals of EGRS students, it is fitting that as capstone students, we can promote sustainable development through the use of the IDEAL Center, a central hub for launching multidisciplinary courses and initiatives.

Research Question

Can students at Lafayette College contribute to sustainability efforts?

Background Context

      Economics is often defined as satisfying unlimited wants and needs with limited resources. Capitalism, currency, comparative advantage, and global trade have facilitated the progress of civilized society in developing nations, and have accelerated the development of technology and research. Although the economic system is successful for the development of civilized infrastructure, the goals of economic progress are not always in line with the goals of our society and environment. As a result of capitalism, there is a great disparity between wealthy and impoverished nations, polluted ecosystems, and individuals that struggle for the basic needs of food, water, and shelter everyday.

      While the development of technology can cause negative externalities, it can also create hope and relief for developing nations. In the spirit of altruism, or perhaps investment opportunity, there are outreach efforts to bring modern technology to undeveloped countries. The El Cajón Dam (Lucena, J., 2010, p. 118), completed in 1984 in Honduras, is a project that was backed by the World Bank in order to bring alternative energy to an underdeveloped area of the world. While the project intended to provide electricity that could be sold to benefit the Honduran economy, the size of the project was too big; the high cost left the Honduran economy in debt because oil prices did not rise as predicted, making the electricity from the dam less in demand and less profitable. Although the effort theoretically a progressive move for society, there were communication issues between the Honduran community and World Bank decision makers who failed to listen to local concerns about the potential risks of investing in one large project instead of multiple smaller dams. The dam cost the Honduran government millions of dollars in maintenance and repairs, and did not constitute as a 'sustainable' project because it cost more than it returned, not because it was harmful to the environment.

      Physical technology such as dams can be brought to different parts of the world, however, this does not guarantee that the technology will work within the context of a different place. Technology is not deterministic; technology does not always operate as designed, but relies on the implementation of people in different contexts.

      Understanding the context of a community is just as important as understanding technical designs in order to put a technology system in place. While art, humanities, and social science majors may not understand how the physical technology is put together, engineering majors may not be knowledge of how people will react to and use that technology. It is by working together, in an interdisciplinary fashion, that optimal sustainable solutions for technology can be realized.

Lafayette College took the initiative to launch the Center for Innovation, Design, Entrepreneurship, and Leadership, an organization that gives students the opportunity to use their liberal arts education to solve real-world problems. The IDEAL Center has four co-chairs, Edward Gamber, David M., Linda Roth, and John Nestor. Linda Roth is a professor of economics and John Nestor is a professor of electrical and computer engineering. The center ran a simulation of a startup company as an opening project, and has an IDEAL program called Business Link which intends on educating students on how the global business world operates. The Center is still in the basic stages of growth and development.

As capstone EGRS students with an interest in taking on a sustainable development for our final project, we realized that we share the vision of the IDEAL Center in fostering student initiatives in a multidisciplinary nature. With a two month time frame, we believe that we are not be able to make a significant impact on sustainable development at Lafayette College, especially given that there are many existing sustainability clubs including Lafayette Environmental Awareness and Protection (LEAP,) and the Sustainability Committee. We concluded that we could have a most significant impact on sustainability at Lafayette College by spreading awareness of the importance of sustainable development, informing students about the current status of sustainable efforts at Lafayette College, and presenting students with the opportunity to get involved and make a difference.

Methods

Our group originally showed interest in different projects related to sustainable development. Aware of the emerging IDEAL Center, a resource center for multidisciplinary work that brings liberal arts and engineering students together, we as EGRS students, and as future engineering, "social-technologists", have the same goals as the IDEAL Center. We would like to bring together students from different fields with specialized knowledge of each context so that technology systems can be developed in a way that minimizes negative externalities.

We have researched and identified clubs, initiatives, policies, and systems in place related to sustainable development on campus. We found most of of our information from other students on campus and the Lafayette College website. We designed a brochure for sustainability at Lafayette College with a compilation of several sustainability efforts we believe are most important and will attract the interest of most students. We advertised the IDEAL Center on the back of the brochure as a place for students interested should go to start their own sustainability initiative or get involved in existing clubs. The brochures can be distributed on campus to target demographics as well as exposure to a large portion of the student body in Acopian Engineering Center, Farinon Student Center, and Skillman Library.

Description and Analysis

While some sustainable development efforts concentrate on bringing sustainable technology to developing nations, other initiatives have the goal of reorganizing current modern education with emphasis on sustainability. The contexts that govern sustainable technology are closely overlapped. The educational context involves the teaching of working technology and the significance of sustainable technology in terms of cost and environmental degradation. The community will be educated as well as benefit from the implementation of sustainable solutions to community problems. Efficiency, in terms of durability, is the technical component of the contexts. Efficient technology systems will use cost-benefit analysis to balance cost and quality of outputs with environmental effects quantified and accounted for as well. By operating with all three of these contexts in mind, we can achieve a sustainable technology that uses efficiency the better the community and educate people now and for future generations to come.

Significant research was done on green curriculum, specifically sustainable learning in higher education, by Willa Louw, University of South Africa (Unisa). Louw quotes A. E. J. Wals, "Our search for a more sustainable world requires cutting edge new thinking that can break the cycle of unsustainable knowledge creation and transfer unsustainable technological development and unsustainable consumption patterns tied to unsustainable economic principles" (Louw, W., 2013). Wals believes that institutions should take advantage of their position by break traditional habits of learning for tests, and implementing real-world learning for our future. For universities, the impact of the environment should be taken into considerations with all decisions. This also gives students and faculty the opportunity to take part in sustainable discussions. This will better university public image as well as create a new standard for acceptable practices.

There are people that struggle for food and water everyday around the world while you complain about your cell phone not getting good enough service. This perspective often changes attitudes toward consumerism; we are grateful to be born into such a developed area of the world. Quality of life does not always reflect happiness. There are many risks of having cell phones. Drivers may divide their attention between the phone and road leading to car accidents. Having a cell phone makes you a target for muggers. There is debate as to whether or not cell phone waves can cause cancer. However, cell phones also have a tremendous number of beneficial effects as well such as ease of communication. From emergencies to business calls, cell phones have revolutionized the way the world communicates and operates. While once considered socially disrespectful, and on certain occasions it still may be, using cellphones while out to dinner, or just enjoying the company of friends, is now considered the norm. Our minds and our attention are being pushed past traditional limitations. Cell phones are a recent technology; only mass consumed in the last 15 years. Everyone from grandparents that were once set in their old ways to children that lack responsibility were making changes in their lives to have cell phones. Children rely on cell phones for their social life, and can easily communicate with pedefiles, drug dealers, and

strangers under certain conditions. However, children are also much more aware of such dangers and are more likely to avoid these situations as well. Many drivers also claim that using cell phones while driving makes them drive much more cautiously because they are much more aware of the risks they assume. The effects of technology take place on the personal level and shape the behavior of people on the aggregate. The effects of technology are complicated and should be designed to avoid negative consequences.

Historically, we learn from the past to avoid making the same mistakes. Technologies that fail will usually make more of an impact on future policies and practices. In the case of natural disasters, proper storm surge infrastructure and evacuation plans are not always in place because some areas of the world experience storms of great scale every 100 years. We have formed the habit of responding to disasters after they happen, and have become experts at insurance instead of prevention. People will replace their cell phones immediately when the phones are lost, broken, or outdated because they are dependent on their phones for survival; most phones are insured because the cost of smart phones can range from $300 to $800.

Electronic waste, "E-waste", is an example of a negative externality of technology. E-waste can be disposed of properly, instead of being sent to landfills, harming our environment, and putting our lives at risk.

Polluting our own air can cause global problems such as natural disasters in other places of the world. Developing nations are suffering from the economic greed of first world countries. It is our responsibility as a society to consider global consequences of proliferating global warming through use of many different technology systems.

A sustainable technology is often characterized as being more efficient in the use of its resources. Sustainable technology can be optimized for life span, energy usage, cost, or a varied set of parameters. As an interdisciplinary college, our school took the initiative to launch the Center for Innovation Design, Entrepreneurship, and Leadership (IDEAL), an organization that gives students the opportunity to use their liberal arts education to solve real-world problems. This will allow them to develop leadership skills necessary to thrive in the business world. As EGRS majors, we analyze the context surrounding the implementation of technology, technology that is used to solve real-world problems. Having knowledge of technical details and non-technical issues, we are qualified to work with the IDEAL center to establish itself as a resource for faculty and students to connect with real-world applications related to their area of study. We will emphasize that center projects utilize sustainable alternatives and sustainable thinking throughout the process of their endeavors. Our aim is to give the center a purpose great enough such that teachers, faculty, and advisors willingly utilize it for their courses and their convenience year after year. We will lay the groundwork and blueprint for future students to participate in the IDEAL center for academic and personal growth.

Can EGRS students develop successful sustainable projects on campus?

We will work with Christine Schatz, the coordinator of the IDEAL Center in order to become more informed about the structure of IDEAL projects, so that we can mold our work into something more feasibly and readily incorporated into the program. Also, we want to find out more about the type of projects they are looking for and how we can direct our sustainability ideas in a productive and efficient way, so that future IDEAL students can use them as a guideline and can expand on what we have created. Our work will not only include some concrete examples of projects that students can work on, with groundwork and research laid out, but also will provide organizational systems for future projects that students may be interested in creating.

One organizational system we plan to implement is a filing system to store all information related to IDEAL projects. This way, incomplete projects can be reopened and expanded on by new students. Since EGRS Capstone projects seem to align well with the IDEAL goal, we may be able to use past capstone project ideas to start our archive, and help jump start the number of projects that are available for expansion. We will also keep history of other completed IDEAl projects that can be accessed by students who may be starting relevant projects and could benefit from insight of previous student experiences.

Conclusions

The distribution of a "Sustainability at Lafayette" brochure throughout campus invites people to use the IDEAL Center for interdisciplinary community projects. Brochures can be included in informational packets sent to prospective and accepted students, families, and alumni to promote Lafayette's commitment to environmental responsibility.

Recommended Next Steps

We recommend enhancing the existing IDEAL website to provide students with resources for community research and outreach programs. Students and faculty can work with the IDEAL Center to get others to join existing clubs that benefit the community or start their own initiatives that are sustainable organizations on campus.

Appendices

Appendix A: Annotated Bibliography

Alrassi, J., Mikol, A., Sarr, M. (2013, May 9). Final Memorandum for EGRS
Capstone
Project. Retrieved from
http://sites.lafayette.edu/egrs451-sp13/files/2013/02/LaFarm-to-Dining-
Information-Management-System.2013.pdf

Aras, G., & Crowther, D. (2011). Corporate Sustainability Reporting: A Study in
Disingenuity?. In S. Sethi (Ed.), Globalization and the Good Corporation (pp.
279-288). Journal of Business Ethics, Volume 87, Supplement 1, 2009. New York
and Heidelberg: Springer.
In recent years, the green movement has become popular among corporations.
Sustainability policies have been adopted by businesses that claim social
responsibility to the environment. Many businesses believe that sustainable
practices help save money and conserve resources. Guler Aras and David
Crowther expose how serious of an attempt corporations make to address
environmental sustainability, and how sustainable policies are made to improve
image to stockholders , investors, and customers rather than to better the
environment.

Bonnet, H, Quist, J., Hoogwater, D., Spaans, J., &Wehrmann, C. (2006, May).
Teaching
Sustainable Entrepreneurship to Engineering Students: The case of Delft
University of Technology. European Journal of Engineering Education, 31 (2),
155-167.
This article is about a 1996 case study that discusses the implementation of a
'sustainable entrepreneurship and technology' curriculum for engineers at the
Delft University of Technology. This program combined principles of
entrepreneurship, sustainability, and project education while providing strong
insight on the development of successful business plans. It emphasizes the
importance of interdisciplinary learning for engineers and their nontechnical
counterparts. This article will be useful in further research because it discusses
both engineering education and sustainability.

Bulchandani, Suyash. (2012). "Technology in Sports Equipment: Understanding
the
Influence of Technology on Athletic Performance." Dartmouth Undergraduate
Journal of Science Fall 27-29.
This article discusses the importance of equipment development in recent years in
sports. They focus on gear for rowing, cycling, swimming, and tennis. They
discuss how new swimsuits have made swimmers faster and have contributed to
broken records. Improving the interaction between athletes and their clothing is

an important goal of sports engineering. The article is limited to those four sports, so more information on innovations in other sports would be helpful.

Caines, H. (2012, May). Food Miles and Our Carbon Footprint.
Retrieved from http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Caines.Food-Miles-and-our-Carbon-Footprint.pdf

The Center for Ecoliteracy. (2013). "What is Education for Sustainable Living?".
Retrieved from http://www.ecoliteracy.org/discover/what-education-sustainable-living.
The mission of "ecoliteracy" is to educate students on sustainable living so we can address future environmental and social challenges. This page provides information on what sustainability is and how it is taught in the classroom. Learning about sustainability will play an important role in shaping the future of engineering and technology. The page was a little brief on the education aspect, so additional conversations about specific classes will be necessary.

Cessna, Stephen; Neufeld, Douglas Graber; Horst, S. Jeanne. (2013). Natural Sciences
Education, v42 n1 p36-42 2013. 7 pp.

Clark, Woodrow W. (2009). Sustainable Communities. New York, NY : Springer New
York.

Cohen, A. (2013). Sports and Recreation Facilities Remain a Challenge for Proponents of
Sustainable Design. Athletic Business.
http://www.athleticbusiness.com/articles/article.aspx?articleid=2349&zoneid=1

Andrew Cohen discusses the difficulties in providing sustainable sports facilities in this article. He focuses on buildings that lack green materials and energy efficiency. This could be an important project for the IDEAL Center to pursue, as our sports center is quite large, and large strides could be made in reducing its footprint. It will be important for any projects of this nature to be conscious of potential problems, as well as the benefits it will provide for the community.

Donleavey, C., Lachapel, G. (2012, May 20). Analysis of Student Experience and Community
Development. Retrieved from http://sites.lafayette.edu/esarchive/2012/05/20/120/

Donleavey, C., Lachapel, G., (2012, May). "Student Experience and Community Development". Retrieved from http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Donleavy-and-Lachapel.Student-Experience-and-Community-Development.pdf

Erbil, A. (2011). Social acceptance of the clean energy concept: Exploring the clean energy
understanding of Istanbul residents. Renewable & Sustainable Energy Reviews, 15(9), 4498-4506
Turkey is a country that has increased its energy consumption in the past few years while remaining dependent on importing from other countries. Assuming people must be more energy conscious because of their foreign dependence, Asli Erbil surveys a random sample of 150 residents of Istanbul on their knowledge and the context of clean energy. The results of the survey show that gender, age, and income do not significantly affect social acceptance of clean energy while education and marital status are factors of people that are aware. Ninety percent of residents believe that clean energy is connected to environmental friendliness while only fifty percent understand that the context is related to renewability of energy. The author believes that if Istanbul residents are given the chance to use clean energy sources, they would be willing to pay a little bit more. A further study that examines the government and market attitude would have to be done to prove this. However, survey results are subject to uncertainty and bias.

Hindelang, J., Johnson, T. (2012, May). Student Led Sustainability Initiative; Highlighting Sustainability in Our Community. Retrieved from http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Johnson-and-Hindelang.Student-Led-Sustainability-Initiative.pdf

Hinze, Jimmie. Godfrey, Ray. Sullivan, James. (2013, June). Journal of Construction
Engineering & Management. Vol. 139 Issue 6, p. 594-600. 7p.

Huntowski, A., Kopera, A., Gurara, E. (2013, May 9). Project Memo – Green roof on New
Williams Art Center. Retrieved from http://sites.lafayette.edu/egrs451-sp13/files/2013/02/Green-Roof-Study-for-WVAB.2013.pdf

IDEAL Center. (2013, October 21). Project Handbook. Retrieved from http://ideal.lafayette.edu/files/2013/10/IDEAL_Project_Handbook_Draft_7.pdf.

International Institute for Sustainable Development, IISD., (2013) What is
Sustainable

Development?: Environmental, economic and social well-being for today and
tomorrow.

Retrived from http://www.iisd.org/sd/

Lafayette College. (2011). OverView: Campus Energy Policy. Retrieved from
http://facilitiesplanning.lafayette.edu/files/2011/09/LC-Energy-Policies.pdf

Lafayette College. (2013) Lafayette Selects Bon Appétit as Dining Services
Partner.
Retrieved from http://www.lafayette.edu/about/news/2013/05/02/bon-appetit-
dining-services/

Lafayette College Plant Operations and Facilities Planning & Construction.
(2011,
February 22). Recycling. Retrieved from
http://facilitiesplanning.lafayette.edu/files/2011/02/Recycle-Policy.pdf.

Lafayette College. (2013) LaFarm. Retrieved from http://garden.lafayette.edu/.

Lafayette College Ideal Center. (2013). IDEAL Integrates Liberal Arts and
Engineering.
Retrieved from http://www.lafayette.edu/about/news/2013/02/19/ideal-integrates-
liberal-arts-and-engineering/

Lafayette College Sustainability Committee. (2013, October 10). Sustainability
Committee Minutes. Retrieved from
http://facilitiesplanning.lafayette.edu/files/2009/10/2013-10-10-Sustainability-
Committee-Minutes.pdf

Louw, W. (2013). Green Curriculum: Sustainable Learning at a Higher Education
Institution. International Review Of Research In Open And Distance Learning,
14(1), 1-15.

Lucena, J., Schneider, J., Leydens, J. A. (2010). Engineering and Sustainable
Community

Development: Synthesis Lectures on Engineers, Technology, and Society.
Morgan & Claypool.

McFarlane, D. A., &Ogazon, A. G. (2011). The Challenges of Sustainability
Education.Journal
Of Multidisciplinary Research (1947-2900), 3(3), 81-107.

Nieusma, D., & Donna, R. (2010, April). Designs on Development Engineering,
Globalization,
and Social Justice. Engineering Studies, Vol. 2, No. 1, 29-59.
In an effort to bring technology, and what may be seen as a better way of life to
developing nations, engineering for development programs are sent abroad to
work with locals to implement new systems and technology for their way of life.
In the two case studies cited in this article, many social and logistical barriers that
could not have been predicted prevent groups of Americans from bringing
technology to Nicaragua, and Sri Lanka. One of the authors was present on each
trip, and provides an in person detailed account of social barriers. While progress
on bringing technology to developing nations and overcoming barriers is
immeasurable by any quantitative data, the interdisciplinary nature of engineering
studies remains a practical way of educating individuals to become better at
solving issues that occur from social context, while implementing logistical
problems of engineering and technology.

Odusami, A., Neilson, J.(2012, May 1). Measuring the Efficiency of Lafayette's
Sustainable
Initiatives. Retrieved from
http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Odusami-and-
Neilson.Sustainability-at-Lafayette.pdf

Schuman, S., & Lin, A. (2012). China's Renewable Energy Law and Its Impact on
Renewable
Power in China: Progress, Challenges and Recommendations for Improving
Implementation. Energy Policy, 51(1), 89-109.doi:http://0-
dx.doi.org.libcat.lafayette.edu/10.1016/j.enpol.2012.06.066 +
For about the last ten years, China has implemented and amended their energy
policies in an effort to improve the utilization of renewable energy resources. In
2005, China required electric grid companies to buy all renewable energy
generated from plants, and China subsidized grid companies and renewable
energy companies. In 2009, China revamped their energy policies after noticing
inefficiencies in the practice of carrying out policies. They matched provinces
with surpluses of renewable energy with those that had shortages, and established
a national feed-in tariff (FIT) system. The authors then compare the renewable
energy sector of China to the renewable energy sectors of Europe and the United
States. While China has a top down government funded system, policies in places

like Germany encourage the start of small new renewable energy plants by adjusting FIT payments to the economies of scale large projects would produce. Currently the United States has production credits for existing companies and monetary grants for new companies which gives little direction and incentive for future clean energy goals. The authors then attempt to give their opinion on how countries can reach their energy goals by using quotas and penalties. By analyzing the policies of China, we can figure out a better system that uses government spending to give incentives for renewable energy development.

Slobodan Perdan, Adisa Azapagic, Roland Clift. (2000). "Teaching Sustainable Development to Engineering Students", International Journal of Sustainability in Higher Education, Vol. 1 Iss: 3, pp.267 - 279
This article is about a case study that looks at sustainable development education from a range of socio, techno-economic and environmental issues. This paper discusses how an interdisciplinary approach to teaching sustainable development to engineering students has been implemented in the Engineering Department at the University of Surrey, UK. This article will be a great source of important information for the Capstone Project is the group decides to focus on sustainable development and incorporating sustainable learning to classrooms in higher education.

Air Field Systems. (2013). Sports Field Damage. Retrieved from http://www.airfieldsystems.com/sports-field-drainage/

This source is the website for AirField Systems, a leading provider of synthetic drainage for sustainable sports fields. Both natural and synthetic fields require proper drainage to allow for a high-level of athletic performance. Working with the athletic department on sustainable sports fields could be a valuable project for the IDEAL Center. The site also includes information and reports on past projects.

Tilbury, Daniella. (1995). "Environmental Education for Sustainability: defining the new focus of
environmental education in the 1990s." Environmental Education Research 1.2 195-212. Print.
This 1990's article discusses the connection between changing concerns about the environment and its associated problems. Development concerns were increasing during that time so the authors sought to explain what is involved in the new focus of environmental education. Even though it is not the most recent discussion of this aspect of sustainability, it provides details on several approaches taken in the past. I believe historical context will be helpful for our project.

Walsh, A., Keehn, M., (2012, May). "E-Waste at Lafayette". Retrieved from http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Keehn-and-Walsh.E-waste-at-Lafayette.pdf

Wilkinson, D. (2012, May). "Water Quality in the United States". Retrieved from http://sites.lafayette.edu/egrs451-sp12/files/2012/02/Wilkinson.Water-Quality.pdf

Wisnioski, Matthew H. (2012). Engineers for Change: Competing Visions of Technology
in 1960s America. Cambridge, MA: MIT. Chapter 7.
Chapter 7 of this book discusses engineering education. The change in engineering thought and sentiment towards technology in the 1960's sparked the change in young American's views of society, which then caused the reorientation of the higher education systems in regards to engineering education.   With these reforms came the hope that society would adjust to technology. Engineers in the 1960s began to question the affects of technology on society, and in response became the actors that bridged the gap and helped to shape the notion of 'technological change as the driver of history.' This chapter of the book will be a useful source in the further research for how engineering education came to be. It discussed the history and provides evidence of the first engineering schools to implement a multidisciplinary approach to the study of engineering and eventually sustainability.
Zande, Robin Vande. (2010). International Journal of Art & Design Education. Vol. 29
Issue 3, p321-329, 9p.

Appendix B: Final Sustainability Brochure

Front:

CAMPUS DEVELOPMENT

In 2008, President Daniel Weiss signed the American College and University Presidents' Climate Commitment (ACUPCC), promising to:

Evaluate and address environmental concerns
View sustainability as a continuous process
Develop an institutional action plan to achieve climate neutrality

GROSSMAN HOUSE
Gold Certified LEED Building

All future campus building projects will be designed to LEED Silver standards
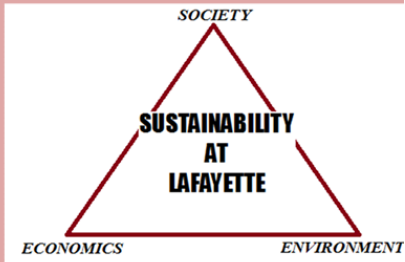
IDEAL CENTER
INNOVATION, DESIGN, ENTREPRENEURSHIP, AND LEADERSHIP

The Center for Innovation, Design, Entrepreneurship, and Leadership builds upon Lafayette's strengths in liberal arts and engineering by engaging students, faculty, and external partners to design and develop innovative solutions to complex social and technological problems. The center provides resources, curricular connections, and incentives that build and sustain a culture of creative collaboration.

SHARE YOUR IDEAS WITH THE LAFAYETTE COMMUNITY!

CONTACT THE IDEAL CENTER

Christine Schatz
Simon Center 123
(610) 330-3091
schatzc@lafayette.edu

With a beautiful campus in a great location near one of the world's top cultural centers, Lafayette has advanced and fully-equipped academic facilities that are well suited to new curricular initiatives and to the evolving demands of research as an

Back:

SUSTAINABILITY

"Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs." - *The Brundtland Report, 1987*

The planet is a system of social, environmental and economic contexts that shape the development of technology in society

Lafayette College is committed to improving everyday life in these contexts

BIKES

Lafayette College hopes to reduce car traffic on and around campus

Bike racks are located around campus as well as in the city of Easton

FUTURE

A bike share program would allow students to borrow bikes and reduce the number of cars on campus. There are close to 470 students who park their vehicles on campus as well as 892 employees. The bike-sharing program will encourage students to venture off of campus grounds and into the Easton community

DINING SERVICES

The Lafayette College Food Service Task Force selected Bon Appétit as the college dining service provider

The college works with Bon Appétit to produce nutritious meals that use sustainable practices to reduce food waste

Bon Appétit utilizes locally grown produce from the LaFarm in an effort to reduce dependency on mass produced food which may be processed and contain preservatives

RECYCLING

Lafayette College recycles glass containers, food and beverage cans, newspapers, plastic food and beverage containers, electronics (consumer, appliances and computers), white

A recent campus initiative aims to make waste bins available for the disposal of electronic waste in Farinon Student Center

Chemicals such as lead, mercury, chromium, PBDEs, PCBs, PCDDs, and PCDFS are released into the environment when electronics are placed in landfills

WATER

Reduce consumption to avoid depletion of important resources

Clean and filter for health and safety

Maintain bodies of water for a thriving local ecosystem

Plan for irrigation and flooding concerns

Bottle filling stations are installed across campus in an effort to provide students with an alternative to purchasing plastic bottled water

LaFarm

LaFarm is one of several sustainability initiatives at Lafayette. LaFarm Community Garden & Working Farm is a site for teaching, research, outreach, growing healthy food and building community. Our daily work and our long term goals aim to build an understanding of the critical role of food and farming in environmental stewardship.

LaFarm provides healthy food to the community, multidisciplinary student engagement through classroom participation and academic research.

LaFarm is located at the Metzgar Field Athletic complex

Appendix C: Sustainability Brochure Draft

Front:

Green Campus Development

Green Designs are construction practices that significantly reduce or eliminate the negative impact of buildings on the environment and occupants.

Environmental Benefits
• Reduce the impacts of natural resource consumption

Economic Benefits
• Integrated design allows high benefit at low cost
• Reduces operating and utility costs

Health and Safety Benefits
• Enhance occupant comfort and health

Community Benefits
• Minimize strain on local infrastructures and improve quality of life

LEED Certification

Buildings that score high on the LEED credit rating system in each of the main categories can earn LEED certification from the U.S. Green Building Council.

• Sustainable Sites
• Water Efficiency
• Energy & Atmosphere
• Materials & Resources
• Indoor Environmental Quality
• Innovation in Operations

LAFAYETTE IDEAL CENTER

INNOVATION, DESIGN, ENTREPRENEURSHIP, AND LEADERSHIP

The Center for Innovation, Design, Entrepreneurship, And Leadership (IDEAL) builds upon Lafayette's strengths in liberal arts and engineering by engaging students, faculty, and external partners to design and develop innovative solutions to complex social and technological problems. The center provides resources, curricular connections, and incentives that build and sustain a culture of creative collaboration.

At the IDEAL Center, students and faculty alike can get involved in on-campus sustainable development projects. Start your own multidisciplinary initiative now!

Contact IDEAL Coordinater

Christine Schatz

Simon Center 123

Easton, PA 18042

610-330-3091

schatzc@lafayette.edu

Sustainability at Lafayette College

Back:

Sustainable Development

"Sustainable Development meets the needs of the present without compromising the ability of future generations to meet their own needs."

-Our Common Future, The Brundtland Report, 1987

The planet is a system of social, environmental, and economic contexts that shape the development of technology in society. Sustainable lifestyle practices meet the needs of everyday demands within the limitations needed to provide for future needs.

Bikes on Campus

There are a number of benefits from riding bikes on campus including:

- Physical Benefits of Exercise
- Timely Form of Transportation
- Environmental friendliness
- Cost effectiveness
- Connecting to parts of campus

Bike Share Program

A bike share program would allow students to borrow bikes as needed to get around campus.

Dining Services

The Lafayette College Food Service Task Force selected Bon Appétit as the college dining service provider. The college works with Bon Appétit to produce nutritious student meals and to use sustainable dining practices to reduce waste of food. Bon Appétit utilizes locally grown produce from the LaFarm in an effort to reduce dependency on mass produced food which may be processed and contain preservatives.

Recycling and E-Waste

Lafayette College recycles glass containers, food and beverage cans, newspapers, plastic food and beverage containers, electronics (consumer, appliances and computers), white paper, cardboard, ink/toner cartridges, writing instruments and batteries. A recent campus initiative aims to make waste bins available for the disposal of electronic waste, "E-waste", in Farinon Student Center. Chemicals such as lead, mercury, chromium, PBDEs, PCBs, PCDDs, and PCDFS are released into the environment when electronics are placed in landfills.

Water

Clean water is a commodity often taken for granted in developed nations. The sustainable contexts of water are:

- Reducing consumption to avoid depletion of resources
- Cleaning and filtering for health and safety
- Maintaining bodies of water for a thriving Ecosystem
- Planning watershed and storm surges for flooding and irrigation

Bottle Filling Stations

There are drinking fountains installed across campus in an effort to provide students with an alternative to buying plastic bottled water.

LaFarm

"LaFarm is one of several sustainability initiatives at Lafayette. LaFarm Community Garden & Working Farm is a site for teaching, research, outreach, growing healthy food and building community. Our daily work and our long term goals aim to build an understanding of the critical role of food and farming in environmental stewardship."

"LaFarm provides healthy food to the community, multidisciplinary student engagement through classroom participation and academic research. LaFarm is located at the Metzgar Field" Athletic complex."