Penn State is a public research university that educates students from Pennsylvania, the nation and the world, and improves the well-being and health of individuals and communities through integrated programs of teaching, research and service. The University has embraced sustainability as a foundational principle that enriches all of its pursuits and missions, and is committed to advancing the understanding and resolution of sustainability challenges on campus, in our communities and around the world. Because of this need, the Sustainability Institute was created.

Penn State’s Sustainability Institute’s mission is to lead and support Penn State in the pursuit of sustainability across all functions: teaching and learning, research and discovery, outreach and engagement, administration and operations. Sustainability is defined as the simultaneous pursuit of human health and happiness, environmental quality and economic well-being for current and future generations.

This mission can be achieved by developing lifetime competencies for sustainability in our faculty, staff and students; enabling transformation and alignment of systems, policies and opportunities around sustainability; inspiring others through the communication of our successes, failures and learning; and demonstrating the value of this approach at the individual, institutional and global scales.

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SCC Director ......................................................... Michele Halsell

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Yunwen Wu, Greg Wenner, Sara Leach, and Michele Diaconu
(PHOTO 402 students)

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Greetings!

We are pleased to share with you the second annual report of the Sustainable Communities Collaborative, an initiative of Penn State’s Sustainability Institute. This report features over a dozen projects that were completed by students, guided by faculty, and in collaboration with our community partners in the 2014-15 academic year.

Our partnership with the Borough of State College continues to grow and provide mutual benefit. The Borough of State College is a recognized leader in sustainability in the state of Pennsylvania, having achieved a Platinum rating in the Sustainable Pennsylvania Community Certification program. The borough is working to maintain its status as a leader in sustainability, and looks to the Sustainable Communities Collaborative as a valuable resource. In 2014-15, Penn State students and faculty undertook projects in a variety of areas including stormwater management, waste management and energy.

In addition to the borough, the Sustainable Communities Collaborative was pleased to add new partners in 2014-15 including the Centre Region Council of Governments, Foxdale Village and the Boalsburg Farmers’ Market. These new partners represented an opportunity for the SCC to grow by working with non-profit and business partners who have a demonstrated commitment to sustainability and who play a vital role in helping the Centre Region thrive socially, economically and environmentally. We look forward to expanding this list and adding even more partners in 2015-16 and beyond.

As you peruse this report, we hope that you will be inspired by the work that is being done by our partners and our Penn State students and faculty to enhance quality of life in the region today and for generations to come. We think that you will be impressed by the breadth and depth of the work that the students have undertaken and that you will be filled with a sense of hopefulness for the future as these students graduate and assume leadership positions in communities far and wide.

Sincerely,

Dr. Michele Halsell

Director of the Sustainable Communities Collaborative
(814) 867-4578
mwh16@psu.edu

Image credit: Karen E. Segrave
## Keeping Score

<table>
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* Elements are “unique” and non-additive due to possible double counting.
The Sustainable Communities Collaborative (SCC) is a program of the Sustainability Institute that connects University Park faculty, students and staff with local communities to address sustainability challenges through an engaged, collaborative effort.

Through the SCC, students and professors work directly on high priority, sustainability projects of the community partner, ensuring that student ideas and learning are indeed relevant to communities and that real world complexities inform the University’s teaching and research. The overall goals are to: 1) provide students with real-world projects to investigate; 2) apply student and faculty knowledge to community challenges; and 3) provide valuable service and movement to a community ready to transition to a more sustainable future. While the idea is simple, its execution is complex, requiring considerable coordination and internal infrastructure to ensure that students have an enriching educational experience and that community deliverables are of the highest quality and carry the most significant impact.

This is a fairly radical re-conceptualization of the public university to do public good and is working across disciplines in ways that many think should happen, but rarely occurs in practice.

Partnering community leaders identify a set of projects that contribute to advancing their sustainability goals. These projects must be part of the community’s strategic agenda and are then matched with existing PSU courses that include an experiential learning element. Faculty-led student teams work on the identified projects as part of their coursework. This approach takes advantage of fresh student energy and perspectives in addressing challenging, community issues.

Projects are typically addressed in the time frame of one semester, although some projects may span two semesters and may involve more than one course, particularly if the project is multi-dimensional and would benefit from an interdisciplinary problem solving approach.

Over the course of two years, the SCC has partnered with the borough and other partners in two dozen projects involving over 300 students and 16 faculty members.
About Our Community Partners

State College Borough

The State College Borough is a second year partner with the Sustainable Communities Collaborative after serving in the 2013-14 pilot program. The borough is home to roughly 42,000 residents of which 70% are Penn State students. Projects between the SCC and the borough over the past two years have helped to meet sustainability goals outlined in State College Borough Resolution 944 from 2007. (www.statecollegepa.us)

Centre Region Council of Governments

The Centre Region Council of Governments is a voluntary association that represents the State College Borough and College, Ferguson, Halfmoon, Harris, and Patton Townships. Centre Region COG is comprised of seven committees that include a member from each of the locales. The committees include: Executive, Finance, Human Resources, Parks Capital, Public Safety, Public Services & Environmental and Transportation & Land Use. Together, the committees and locales develop fiscally responsible and high quality programs for their 93,000 constituents. (www.crcog.net)

Boalsburg Farmers’ Market

The Boalsburg Farmers’ Market is a year-round, “producers only” market. This means that the products sold at the market are locally grown and never produced by third parties. Roughly twenty purveyors participate with goods ranging from cut flowers and homemade soaps to vegetables and salmon. The Boalsburg Farmers’ Market takes place on Tuesdays from 2-6 p.m. at The Pennsylvania Military Museum in the summer season and at St. John’s United Church of Christ in the winter season. (www.boalsburgfarmersmarket.com)

Foxdale Village

Foxdale Village was founded in 1985 as a not-for-profit, Quaker directed community. Foxdale occupies a 21-acre campus that gives its 252 residential living residents a beautiful and comfortable place to call home for continued care in retirement. The Sustainable Communities Collaborative worked closely with the resident led “Green Committee.” Members work with both the apartment and cottage living communities to enhance existing environmental efforts and hold discussions around sustainability. (www.foxdalevillage.org)
Kick-off and Closing Celebrations

The Sustainable Communities Collaborative and community partners worked together to plan and hold four events throughout the past academic year. The two events each semester included a Kick-off and Closing Celebration and were held in the State College Borough Building.

The Kick-Off Celebration started off each semester and served as a valuable tool for students to learn more about the mission of the Sustainable Communities Collaborative and preview the semester’s projects. It also acted as a venue for students to meet their community partners and other students involved in the program. The fall and spring events were held September 11th and January 27th.

The Closing Celebration ended each semester and served as a platform for students to share their experience and deliverables with community partners and members and Penn State faculty, staff and students. Formal presentations as well as informal poster displays of projects were incorporated into the Closing Celebration. The fall and spring events were held December 10th and April 23rd.

“\textit{I enjoyed the SCC Closing Ceremony. I learned a lot about different initiatives going on at Penn State in collaboration with State College.}”

- Student, Spring 2015

Image credit: Greg Wenner, PHOTO 402 student
In the Media

The Daily Collegian, a Penn State student directed newspaper, published a five-part series featuring SCC projects in fall 2014. The project profiles ran from December 1-5 and were covered by Meghan Garrity and Meagan Parker. The articles included:

- “For State College, fossil-free future in the works”
- “Law school class hopes to resolve flooding from stormwater downtown”
- “Photography students documenting sustainability projects”
- “Students develop plans to mitigate stormwater in public parks”
- “Engineering Leadership Society envisions net-zero energy future for State College”

The Daily Collegian continued coverage into the spring semester as well, specifically highlighting the work of students in BA 442 (page 21). The article, “Penn State students work with the State College Borough to promote sustainability” was written by Tyler Arnold and appeared in the April 14, 2015 Daily Collegian.

Penn State News published “Sustainable Communities Collaborative kick-off event to be held January 29.” Not only was the article an open invitation to community members and Penn State faculty, staff and students, it shed light on the overall mission and benefits of the SCC to participants. Penn State News reported:

“Being able to take what I learned in the classroom and apply it to a real life situation was extremely beneficial and it is an opportunity that all students should try to take advantage of.”

- Mackenzie Schrock, junior, labor and employer relations major at Penn State

Voices is a non-profit, community building organization that publishes monthly newspapers for Central Pennsylvania readers. Voices published the first of many features to come about Boalsburg Farmers’ Market purveyors. The articles were written by students working in collaboration with SCC and the Boalsburg Farmers’ Market to promote local foods and connections between community, food and economy. More information regarding the project can be found on page 23.

The May 2015 edition highlighted ‘Cow-a-hen’ farmer, Bill Callahan in the article “Sustainable farming keeps the farmer alive” by Penn State student, Pamela Gramlich.

Image credits: The Daily Collegian, Penn State News, and Voices
Stormwater and Erosion Remediation

BE 467: Design of Stormwater and Erosion Control Facilities
Professor Heather Gall
College of Agricultural Sciences
Fall 2014

Community Partners
- State College Borough
  - Amy Kerner, Borough Engineer

Course Objectives
BE 467 presented students with a hands-on experience in planning and designing stormwater and erosion control systems. Students learned to evaluate the impacts of land use and land management on runoff and develop plans to mitigate its effects on receiving water bodies. The course also set out to educate students on Pennsylvania’s regulatory framework as all projects were developed within its bounds. Students were also exposed to Low Impact Development practices that could be introduced as alternatives to conventional stormwater management techniques.

Community Objectives
State College Borough sought solutions to three major stormwater management concerns: the Edgewood Circle Sinkhole, Holmes-Foster Park and Upper Orchard Park.

The Edgewood Circle Sinkhole group identified two input flows in this map: surface runoff from the watersheds surrounding Orchard Park (purple line) and within Southgate Drive (pink line).

The Holmes-Foster Park group recommended a channel beginning at the indicated parking lot and ending at the second indication where a rain garden would be placed to alleviate erosion.
The Projects

Students in BE 467 divided into three groups to tackle the borough’s concerns. Each met with the borough contact, Amy Kerner, conducted analyses of site conditions and performed on-site visits to generate the best possible plan of action for each site. With these resources, the students were able to develop three final designs:

**Edgewood Circle Sinkhole Project**

The students working on the Edgewood Circle Sinkhole focused on relieving stormwater runoff that consistently flowed into a fenced-off sinkhole in Orchard Park. The sinkhole was located near a playground and housing development and was clearly suffering from erosion. The students noted that sinkholes are a stubborn problem in State College due to its position on top of a karst system, a carbonate geological feature that leaves State College prone to sinkholes.

The team decided that the installation of two infiltration basins would be the best option for erosion alleviation. With the additional basins, the borough would be able to redirect at least one of the inflow pipes that flow into the sinkhole. The group suggested using water absorbing plants in the basin and creating an informational board for educational purposes. The students believed that these additions would not only alleviate stormwater issues, but would also create an area for State College residents to enjoy. They estimated the total cost to be around $5,600.

**Orchard Park Project**

The Orchard Park team was faced with the challenge of reducing the stormwater flow into the park from a filled sinkhole in Ferguson Township. The runoff tended to be full of salt and sediment, which led to erosion of the park’s soil. In addition, the site was becoming overgrown and leaves were blocking the pipes that were intended to reduce flooding.

After evaluating these issues, the team decided that a grass-lined channel leading into a rain garden would be an effective project. The students suggested that native plants be included to attract bees and butterflies as well as a seating area for parkgoers to enjoy the space. Finally, the students recommended an informational plaque alongside the garden to explain its purpose. The project was estimated to cost roughly $9,000.

**Holmes-Foster Park Project**

A visit to Holmes-Foster Park made it apparent to the students that the area had persistent stormwater issues that were causing soil erosion. The students set out to alleviate these issues and add educational opportunities for park visitors. While keeping the borough’s need for a cost-effective solution to these problems, the students suggested the creation of a trapezoidal channel leading into a rain garden in the park. This would collect stormwater runoff, create new wildlife habitat and with signage, teach children about the environment through the new structure. Students estimated the cost to be roughly $12,000.
Facilitating Stormwater Discussions

SKILS 972: Mediation of Environmental and Public Conflict
Professor Lara Fowler
Penn State Law
Fall 2014

Community Partner
◦ State College Borough
  ◦ Amy Kerner, Borough Engineer

Course Objectives
SKILS 972 intended for law and graduate students to build negotiation, mediation and facilitation skills in the context of environmental and public issues. In contrast to the litigation techniques of lawyers, students were encouraged and taught to engage multiple stakeholders in dispute resolution processes. Students also learned to identify possible ethical issues related to resolution processes.

Community Objectives
The State College Borough sought advice on addressing stormwater management and flooding. Specifically, the borough was eager for a method to tackle the problem in well-established neighborhoods developed before stormwater management requirements were in place.

The Project
Students were not only challenged to research ways to create dialogue and conversations about stormwater issues in State College neighborhoods, but also to coordinate communication themselves. The SKILS 972 course consisted of 14 students at both the University Park and Carlisle campus, meaning they could not all be physically together each week as students would be in a typical class. This did not impede progress on the project, however. Students quickly worked together to research stormwater, participate in in-class role-playing activities, interview stakeholders and perform a situation assessment. The students also helped facilitate discussions at the November 3, 2014 Centre County Watershed Summit.

Stretches of Atherton Street in downtown State College are known locations of poor stormwater management.

Image credit: Michael Page, www.statecollege.com
After participating in these activities and learning exercises, the students created a guide for the borough to use when facilitating discussions about stormwater. First, the students suggested that critical issues be identified:

- What is the extent and impact of stormwater?
- What happens when it floods?
- What areas flood most?
- What is the damage?
- How much land is impervious?

A few example issues that the students identified were that much of State College was developed before stormwater regulations were implemented and that large storms lead to significant flooding in the area. Issues like these could be a foundation for initial discussion, and once they had been identified, students explained it was important to understand past efforts in order to sculpt plans for the future.

The students suggested the discussion continue into each step of the stormwater management process going forward. They identified many aspects that should be considered when discussing future plans such as, feasibility, jurisdiction, funding, affected stakeholders and identifying those with expertise on the topic. The students also suggested looking at other cities’ sustainability programs such as Portland, Oregon’s “Green Streets Program” and D.C.’s “RiverSmart Homes.” A few of the future plans that the class suggested were stormwater pilot programs in individual neighborhoods and the consideration for stormwater management plans when rebuilding roads. Regardless of the plan that the borough ultimately pursues, the class stressed the importance of monitoring and assessing the program to evaluate both its strengths and weaknesses in order to continue development.

Finally, through the class’ own research and discussions, they created specific stormwater management recommendations. These included that the borough:

- Continue to assess the issues surrounding stormwater;
- Explore and develop stakeholder engagement processes; and
- Continue to examine stormwater management issues through the SCC.
Homeowner’s Guide to Stormwater Management

Agriculture and Environment Center
Matt Royer, Director
College of Agricultural Sciences
Spring 2015

Community Partners
◦ Borough of State College
◦ Easterly Parkway Elementary School
◦ Penn State School of Law
◦ Penn State School of Visual Arts
◦ Behrer Landscaping

Center Objectives
The Agriculture and Environment Center (AEC) conducts research and engagement activities to understand and teach the impacts of land use and land management on environmental systems, specifically on land and water. The AEC is partners with stakeholders at all levels to achieve this goal. The Sustainable Communities Collaborative is one of the partners that offered an avenue for the AEC to engage stakeholders.

Community Objectives
The Borough of State College sought to educate the community about stormwater management on residents’ properties. Recognizing the value in reducing harmful runoff to surrounding water systems, the borough hoped to share the knowledge and skills necessary for community members to implement best management practices.

The Homeowner’s Guide to Stormwater can be downloaded at stormwaterguide.org.
The Project

Interns at the AEC led a three-part project with the main goal of educating borough residents about stormwater best management practices (BMPs). The first segment of the project included the creation of a manual for conducting workshops centered around stormwater BMP education. The manual was created utilizing “The Homeowner’s Guide to Stormwater” developed by the Little Conestoga Partnership, an alliance of multiple Pennsylvania watershed stakeholders that includes the AEC. The Homeowner’s Guide offers residents well-researched and feasible practices to mitigate stormwater in their own backyards.

The second piece of the project was to pilot a workshop based off of the AEC interns’ manual. The workshop was held at Easterly Parkway Elementary School where residents learned how to navigate the Homeowner’s Guide and surveyed the Elementary School’s property for areas where stormwater BMPs could be implemented. These included areas of ponding and steep slopes. The participants then created a stormwater management plan utilizing the Homeowner’s Guide and determined that a rain garden would be particularly helpful in an area that tended to collect an excess of runoff.

Finally, the AEC interns arranged a volunteer rain garden implementation project at Easterly Parkway Elementary School that utilized the resident developed stormwater management plan. The appropriate water-loving plants were purchased from the local business, Behrer Landscaping. Community members and elementary students successfully worked together to build the rain garden, and the finished product stands as an excellent example of a stormwater BMP that can be replicated on residential properties.
Net-Zero Energy Initiative Part I

LER 460: Human Resources Ethics
Professor Tom Hogan
College of Liberal Arts
Fall 2014

Community Partners
- State College Borough
  - Mark Whitfield, Director of Public Works

Course Objectives
LER 460 is intended for students in human resource management seeking a greater understanding of the role of ethics in management practices and policies. Students in the course analyzed situations using ethical theories, learned to articulate their own moral values, and developed their skills to recognize and resolve ethical dilemmas within an organizational setting.

Community Objectives
The State College Borough wanted to expand their knowledge about alternative energy options and what the path would look like to achieve a fossil fuel-free community. Currently, the State College Borough uses outside energy resources from Scranton, Greensburg and Snowshoe, Pennsylvania, and they are concerned about how this may be affected by climate change and potential energy shortages.

President Barron discussed the relationship between ethics and sustainability with students in LER 460.

Image credit: Jonathan Barden-Redavid, PHOTO 402 student
The Project

LER 460 evaluated the borough’s current conditions and generated suggestions for the community to become fossil fuel-free. In order to do this effectively and efficiently, the course split into five groups: researchers, writers, editors, PowerPoint experts and presenters.

Student researchers showcased communities that had previously established fossil fuel-free plans such as Kristianstad, Sweden and Masdar, Abu Dhabi. They researched these cities’ components and compared them to the borough’s needs. In addition to analyzing the positive and negative impacts of fossil fuel-free plans in these communities, the students identified the primary stakeholders in a fossil fuel-free State College plan. These stakeholders were identified as the borough’s current energy providers, the State College residents and local and state governments. After research on the stakeholders and similar communities were completed, the students began developing guidelines for a fossil fuel-free energy plan.

The students concluded that a net-zero energy plan focused on solar energy, wind energy and capturing methane gas emissions was the best choice for the borough. Additional suggestions the students had were to conserve water and reduce solid waste to landfills.

Students found it inherent that a net-zero energy plan would not be an easy or brief process to implement as well. For this reason, the students believed it very important for the borough to establish short-term goals that lead to being fossil fuel-free. A few of the students’ short-term goal ideas were to evaluate where sunlight is plentiful so solar panels could be installed, evaluate established areas for redevelopment and to educate and engage the State College community in discussion about a net-zero energy plan.

Specifically, the students believed that community outreach and education would be key. They included an interview with Al Matyasovsky, former manager of the Penn State Recycling Program, in their report for ideas on community engagement and suggested multiple open forums be utilized to explain the net-zero energy plan. The students also urged local officials to share the consequences of not being fossil fuel-free with community members.

This project is continued onto the next page...
Organization Objectives

The Engineering Leadership Society is a student organization focused on developing leadership and professional skills and cultivating innovation with an emphasis on project management and engineering. The student organization has roughly 500 members with 50 core participants. The partnership with ELS and the Sustainable Communities Collaborative sought to give students an opportunity to apply engineering skills and concepts to sustainability challenges.

The Project

Students in ELS took on the same mission as LER 460 but with a slightly different approach. Instead of conducting case studies and emphasizing the social elements of implementing a fossil fuel-free energy plan, ELS delved into the science of alternative energy. The students specifically researched hydroelectric, geothermal, solar and vibrational energy, lighting options and biofuel production.

Students suggested that hydroelectric energy be cultivated in unlikely places: sewage lines and water towers. They also recognized that the steam carried through Penn State campus pipes was an asset, recommending that it be utilized to heat surrounding buildings. Alongside these suggestions was harnessing solar energy through the use of solar panels.

A less well-known alternative method recommended was vibrational energy that would be collected via piezoelectric flooring panels. These panels would use the force of impact from passerbys’ feet to generate energy. Other recommendations were the transition from incandescent bulbs to LEDs to reduce energy use and the construction of an anaerobic digester to utilize organic matter for biofuel production.

The students presented costs and benefits of each alternative energy method in their research. With the borough’s analysis of its budget in relation to the research of ELS and LER 460, a net-zero energy plan could begin to form.

“Working on this project has made me think more about the sustainability of my own day-to-day activities, behaviors or choices. That was one of the best personal benefits I received.”

- Student, Spring 2015
Community Partner

- State College Borough
  - Mark Whitfield, Director of Public Works

*Objectives can be found on pages 7 and 9.*

The Project

LER 460 and ELS worked as a team to bolster the “Net-Zero Energy Initiative” plan designed by the course and organization in the fall semester. This meant further research into distinct methods for reducing the borough’s reliance on fossil fuels and cost-benefit analyses of these systems. Specifically, the class explored the use of biofuels, LEDs and piezoelectric flooring.

Students suggested producing biofuels with an anaerobic digester which provides greater environmental and economic benefits compared to other biofuel creation methods. The class used two examples of successful anaerobic digestion implementation on Pennsylvania farms and conducted a cost analysis using data of thirty-eight installations in the United States. In the end, the students stressed the importance of selecting each element of the anaerobic digester in a way that would allow for a positive return on investment.

The class also offered an extensive analysis of the benefits of converting outdoor lights in the borough to LED. The students believed that the extended lifespan, environmental benefits and decreased energy consumption effectively outweigh the high initial cost of investment compared to incandescent and CFL bulbs. Case studies on Boston, Massachusetts and Buffalo Wild Wings as well as cost and savings estimations provided support.

Piezoelectric flooring is the third fossil fuel-free method of energy production researched and included Sustainable Dance Floors, Sustainable Energy Floors (SEF) and SEF Solar. The class recommended an evaluation of the most trafficked areas in the community and the use of SEF Solar in these areas to get the most benefits from the installation. It would also be beneficial to provide a display with the floor tiles that would allow for community members to visualize the energy produced.

Finally, the students’ expansion of the “Net-Zero Energy Initiative” advocated for education regarding these sustainability initiatives in order for there to be full community participation and optimal energy savings. Specific avenues for education included community seminars, interactive demonstrations, social media and outreach materials. The class recognized that these are time and money intensive recommendations and that reaching the net-zero energy goal will be an evolving process.
Community Contacts

- Pam Adams, Centre Region Refuse and Recycling Administrator
- Centre Region Council of Governments
- Regional Organics Committee
- Public Services and Environmental Committee

Course Objectives

CED 475 intended for seniors in the Community, Environment and Development program to reflect on the knowledge and skills they had acquired throughout their studies and to produce clear professional goals and personal philosophies. Students also had the opportunity to apply their education in a real world situation in order to practice applied research techniques that would be integral to their future career paths. The Sustainable Communities Collaborative was one of four practical-experiential group projects taken on by the class and fulfilled the course goals as it led to students’ personal and professional development in community work.

Community Objectives

The Centre Region Council of Governments (COG) was interested in establishing a compost collection service in Benner, College, Harris, Ferguson and Patton townships. COG looked to the borough’s successful curbside organics recycling program as a model and wanted to gauge the interest and willingness of its 14,800 potential customers to participate.

![Image credit: www.crcog.net](Image credit: www.crcog.net)
The Project

Students in CED 475 played a crucial role in determining the enthusiasm of Centre Region residents for a composting collection service by developing and administering a survey. The three key focuses of the survey were on the residents’ current recycling behaviors, township of residence, and their interest, concerns and willingness to participate in an organics recycling program. The Regional Organics Committee (ROC) assisted in the research process by collecting past related surveys to be referenced by the students. The CED 475 group then developed a final survey for review by Pam Adams, ROC and the Public Services and Environmental Committee (PSEC). After many weeks of scrutiny, the survey was open to the public on April 1, 2015.

The students made a strong media push to encourage participation through internet, television, and newspaper marketing via:

- the Centre Region COG website,
- C-NET,
- Ferguson and Harris Township Newsletters,
- Centre Daily Times,
- Centre County Gazette,
- and the Centre Region Parks and Recreation Active Guide.

Hard copies were also made available in the township buildings.

Students made recommendations to Centre Region COG at the end of April based on preliminary survey results. These included increasing education about organics recycling, addressing residents’ concerns and making information about the program transparent if it is implemented. The survey ended on May 31st, and results were analyzed in June with a formal report released in July. The final survey results are now published at the Centre Region COG website and shed greater light on the possibility for implementation of the program. Students found that 70% of the 733 residents that responded would use a curb side recycling program that includes yard trimmings and/or food scraps. They also found little variation between results from different townships and that the highest concern is for outdoor pests. While the survey results are positive, students caution Centre Region COG to be aware of the proportion of residents that did not respond. However, they acknowledge that “the number of respondents expressing such an interest is more important than the percentage of respondents doing so.”

A sample of the final survey results that can be found at www.crcog.net.
COMM 420: Research Methods in Advertising and Public Relations

Professor Lee Ahern
College of Communications
Spring 2015

Community Partner

- Foxdale Village Retirement Community
  - Julia Hix Elwood, Carolyn Hatley, Rich Lysle

Course Objectives

COMM 420 focused on various research methods in the social sciences as applied to Advertising and Public Relations. Examples of research methods included surveys, focus groups, content analyses and experimental designs. While the students learned the applications of these methods, they were also exposed to statistical techniques and software that would be valuable in their future careers. The course stressed the importance of consuming research critically and using this knowledge to aid the decision making process as well.

Community Objectives

Foxdale Village is a retirement community in State College that has a long and proud history of environmental stewardship. The Foxdale Green Committee oversees the recycling program. The Green Committee was concerned about lower participation than expected and was seeking a deeper understanding of the successes and failures of their program as well as recommendations for improvements.

Examples of the recycling bins provided at Foxdale Village.
The Project

Two teams of COMM 420 students were organized in order to gain greater insight into Foxdale’s recycling program. One team focused on qualitative research methods to discover why there was a lack of recycling and what motivations were behind recycling. This team conducted two focus groups with the Foxdale residents. They were roughly 45 minutes each with the first one consisting of Green Committee members and the other, non-Green Committee members. The results of the focus groups were surprising to the students, as it turns out that residents were not unmotivated to recycle but were inconvenienced or lacked the proper knowledge.

With this information, the students were able to make four recommendations:

1. Establish more convenient locations for recycling bins
2. Include reminders about Foxdale sustainability efforts and procedures in the Foxdale Flyer using graphics
3. Incorporate small recycling bins in residents’ apartments for easier sorting later
4. Update Foxdale TV’s “Green Tips” to include recycling education

The second group of students focused on quantitative methods to study the recycling program. To do this, a survey was randomly distributed to residents’ mailboxes requesting information such as gender, living location and recycling meeting attendance. The students received a 57% response rate and found a strong correlation between recycling meeting attendance and positive perception of the program. At the same time, gender appeared to play a role as women that attended meetings tended to increase recycling efforts afterwards while men did not. The most insightful data collected was the stark difference in ratings towards accessibility of the recycling program between residents living in cottages versus those living in apartments.

These results allowed for the students to make clear observations about the program that will be helpful in further development. These are:

1. Residents that attend meetings see a greater importance of sustainability, have a higher regard for the program and are more educated about it.
2. Men attend meetings much less often than women in proportion to their percentage of the population.
3. For the men that do attend, they are less likely than women to change their recycling behaviors.
4. Residents in apartments have a more difficult time accessing recycling than those in cottages.

The collaboration between COMM 420 and Foxdale Village perfectly highlighted the benefits of the Sustainable Communities Collaborative as students were able to gain real world experience researching an issue and thinking critically about solutions. At the same time, the Foxdale community will be able to utilize the students’ findings in order to increase the success of their recycling program.
Compost Marketing Strategies

BA 442: Sustainability Behavior of Consumers, Firms, and Societies
Professor Erik Foley
Smeal College of Business
Spring 2015

Community Partners

◦ State College Borough
  ◦ Ed Holmes, Public Services Manager
  ◦ Ed Hicks, Centre County Recycling & Refuse Authority Customer Service Representative

Course Objectives

BA 442 provided a platform for students to examine and understand tools and methods for encouraging sustainable behaviors in companies, consumers and society. Specifically, the course highlighted theoretical and applied approaches to influence sustainable practices, market sustainability and understand consumer responses. The course intended for students to gain real-world experience studying sustainable behaviors and obtain knowledge and skills to be sustainability-minded business leaders as they enter the workforce.

Community Objectives

The State College Borough offers a compost collection service, free of charge to its residents. The compost is then sold to residents for $15 per cubic yard. While the program is wildly successful with over 1,000 tons of organics collected and 144 prepaid cubic tons for pick-up, there is an excess of what is being gathered versus being sold. The borough was looking for possible markets and strategies for selling their compost in order to break even or make profit on the organics recycling initiative.

Students began their research on the borough’s composting program by visiting the Glenn O. Hawbaker Recycling Center.
The Project

Students in BA 442 began their project by learning about the borough’s existing composting processes. This included visiting the Glenn O. Hawbaker Recycling Center, analyzing current residential composting statistics and conducting a survey of residents. The survey was completed by 44 residents and offered insight into how the borough could reduce barriers and increase purchasing of compost. It found that 80% of participants are willing to pick up the product versus paying to have it delivered and provided many customer suggestions for communication methods, incentives and program logistics. Specifically, a tiered system of rewards for participation and discounts for referrals were described.

The students then researched the efforts of out-of-town composting programs and discovered that compost certifications could open new markets and add value to the borough’s compost. Thus, they conducted a cost-benefit analysis and included detailed instructions on implementing each. These included:

- Pennsylvania Certified Organic
- Pennsylvania Association for Sustainable Agriculture Certification
- Seal of Testing Assurance for the US Compost Council

The students also believe strategic partnerships would be beneficial to increasing compost sales such as with the State College Farmers’ Markets. The borough’s addition on PennDOT’s Bulletin 15 would allow for its compost to be sold to PennDOT for various projects throughout the state as well.

BA 442’s final report offers insight into the borough’s current composting program and highlights multiple value adding and market opening strategies such as certifications and partnerships. However, the students recommended further analysis of these strategies in terms of environmental impact and current budget. They also suggested tapping into new markets and customers such as hospitals, nursing homes and local landscapers.

“Talking to those actually looking for solutions and then trying to work with them was special in my opinion.”

- Student, Spring 2015

Image credit: www.dot.state.pa.us
Farmers’ Market Narratives

SUST 200: Foundations of Leadership in Sustainability
Professor Susannah Barsom
Intercollege Minor in Sustainability Leadership
Spring 2015

Community Partners

◦ Boalsburg Farmers’ Market
◦ Peter Buckland, Grant Administrator for USDA FMPP

Course Objectives

SUST 200 served as an introductory course to leadership in sustainability. The course exposed students to sustainability concepts and leadership styles and challenged them to practice these elements within the context of place. The reflective nature of the lectures and assignments encouraged students to think differently about the world and their role in it. By the end of the semester, students were equipped with the skills and knowledge necessary to be sustainability leaders in their future endeavors.

Community Objectives

The Boalsburg Farmers’ Market provides the community with local and sustainably grown products year round. Roughly twenty farms participate and provide goods ranging from cut flowers and homemade soaps to vegetables and salmon. The Boalsburg Farmers’ Market sought to share the stories of its participating farmers as a way to promote its purveyors’ products and recognize the interdependence of people, food and the environment.

Taylor Ryan, SUST 200 student, interviews Jim Einstein of the Friends and Farmers Co-op.

Image credit: Sara Leach, PHOTO 402 student
The Project

Students in SUST 200 laid the groundwork to create stronger relationships between the Market’s farmers and Centre Region community members. Each student interviewed a producer and wrote a 500-750 word profile about the purveyor that highlighted his or her background, interests and challenges on the job.

A few of the farmers interviewed included Steve and Jenn Kurian of Wild for Salmon, Janet Robinson of The Piper’s Peck, and Bob Ricketts of Fasta & Ravioli Company. The stories are scheduled to be published in various media outlets.

Voices is one media outlet that has already shared one of the SUST 200 student projects. ‘Cow-a-Hen’ farmer, Bill Callahan, is highlighted in the May edition. Readers discover why Callahan first transitioned to sustainable farming, where his practice is now and what great sense of humor he bears. Callahan light heartedly jokes about the relationship he has with the animals by claiming, “The pesky ones we eat.”

It is hoped that as more articles are published sharing the stories of the Boalsburg Farmers’ Market purveyors, conversation will be sparked and awareness will be raised regarding people’s connection to the land through the food they consume.
Capturing Images and Narratives: Sharing the SCC Story

PHOTO 402: Photographic Narratives
Professor Steven Rubin
College of Arts & Architecture
Fall 2014 and Spring 2015

SCC Project Partners
- LER 460 and ELS: Net-Zero Energy Initiative Parts I and II
- SUST 200: Farmers’ Market Narratives

Course Objectives
PHOTO 402 introduced students to social documentary photography. This method of photography differs from studio and fashion photography as it is meant to capture moments and people in real time. The intent of the course was largely for students to use photography to engage with the world from others’ perspectives.

The Project
Students in PHOTO 402 worked in teams of two to share the story of Sustainable Communities Collaborative projects through photographs taken during the fall and spring semesters. In collaboration with SCC courses and their community partners, students created photographic narratives that can be found in the Sustainable Communities Collaborative Annual Report, Voices and the College of Agricultural Sciences’ website.

The Daily Collegian published an article on PHOTO 402’s initiative as well, quoting the instructor, Steven Rubin, “I love what they’re doing... It’s really exciting and it offers some great opportunities” (In the Media, pg. 6).

Interview with the owner of Good Intent Cider, LLC in Bellefonte.

Image credit: Ankit Gupta, PHOTO 402 student
AEC interns brought their SCC project to life as the community worked together to create a rain garden at Easterly Parkway Elementary School.

Image credit: Yunwen Wu, PHOTO 402 student

The Gemelli Bakery offers customers fresh baked breads and desserts.

Image credit: Greg Wenner, PHOTO 402 student
Testimonials

"I now know [the community partners] better on a personal level, and think that this kind of overall collaboration can a) lead to more projects, and b) better relationships.”
- Faculty

"Community driven projects are effective and provide students with opportunities to develop relationship management skills.”
- Faculty

"This would be a valuable partnership for any community that would participate.”
- Community Partner

“I think the borough does get new ideas and energy from the students. I think the connections made are important.”
- Community Partner

“The students had to work with real-world limitations. The project wasn’t hypothetical - it was tangible, and that is very challenging for students who are not used to working on real-world, out-of-the-box projects.”
- Faculty

“Now that momentum has been started with some of these projects, it would be great if future classes would continue to work on some of these projects.”
- Community Partner
Collaborators

State College Borough
Tom Fountaine, Borough Manager  
  Ed Hicks  
  Ed Holmes  
  Amy Kerner  
  Kevin Kassab  
  Lauren Muthler  
  Alan Sam  
  Mark Whitfield

Foxdale Village
Rich Lysle, Executive Director  
  Carolyn & Elwood Hatley  
  Julia Hix

Boalsburg Farmers’ Market
Peter Buckland

Centre Region Council of Governments
Jim Steff, Executive Director  
  Pam Adams

University Partners
Lee Ahern, COMM 420  
  Susannah Barsom, SUST 200  
    Erik Foley, BA 442  
    Lara Fowler, SKILS 972  
    Heather Gall, BE 467  
    Tom Hogan, LER 460  
    Tim Kelsey, CED 475  
    Kevin Magee, ELS  
    Anna Marie Nachman, AEC  
    Matt Royer, AEC  
    Steven Rubin, PHOTO 402

Sustainability Institute
Elly Engle  
  Nancy Franklin  
  Michele Halsell  
  Autumn Strausbaugh  
  Kayla Susko
Sustainability...

...is the simultaneous pursuit of human health & happiness, environmental quality, and economic well-being for current & future generations.

Penn State Sustainability Strategic Plan