

SUSTAINABILITY @ BUCKNELL

Update



Fall Semester 2020 Edition



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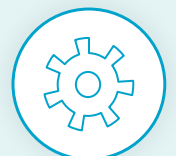
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DIRECTOR'S MESSAGE



In many ways, sustainability has to do with a community's social, technological and environmental endurance and resilience, including circularity of material usage. It involves operational, tactical and strategic activities related to compliance, cost savings, innovations and maturity.

Before the pandemic, the draft Sustainability@Bucknell Plan was on target to be published in April 2020. Our four Sustainability Working Groups (SWGs) were identifying implementation activities as supported by the Office of Campus Sustainability (OCS). But Covid-19 halted everything. However, as covered in this Update, Bucknell cannot be deterred. We continue to progress academically and progress with sustainability activities.

Before Covid-19, the Bucknell Center for Sustainability and the Environment (BCSE) was accelerating watershed sciences & engineering, place studies and sustainable technology research. The Bucknell Farm was providing the community with on-campus natural food production opportunities. Our Facilities Department was engaged on all aspects of sustainability along with the SWGs.

Then the crisis! We had to go remote, thus minimizing operational and some tactical aspects of campus sustainability. We had to focus on the strategic aspects by working with external service providers, attending webinars, and considering options to be implemented upon the "new normal". Before long, we were back on campus and are on track to complete the Fall 2020 Semester.

During this pandemic, we had leadership changes in the governance of campus sustainability. This was due to the departure of the AVP of Facilities & Sustainability and the VP of Finance & Administration (VPF&A). Both of these administrators were Ex-Officio members of the President's Sustainability Council (PSC). With these changes our focus shifted to the process of evaluating what external service providers have done and are doing for other universities before and during the pandemic.

The draft Sustainability@Bucknell Plan seeks to holistically achieve carbon neutrality (Scopes 1, 2 & 3) by 2030, attain zero waste status and ensure ecological system balance through socially responsible investing. To this end, leveraging and maximizing existing strategic sustainability assets is a critical success factor in this journey.

This is a trajectory towards decarbonization, digitalization and decentralization of resources and processes. Our most important asset in this journey is the joint expertise of students, faculty and staff in the SWGs. The OCS continues to coordinate input from external service providers, the SWGs, BCSE, Facilities, Bucknell Farm and the local community on our trajectory towards a more sustainable future.

Although there has been an uptake in food packaging waste across campus due to the safety and health concerns of Covid-19, our Custodial Teams are working harder than ever to separate waste from recycling as appropriate. Professor Kat Wakabayashi is working on "Raycycle" to minimize plastic waste. The Pathway to Zero Water SWG will review the overall waste flow for an enhanced end-to-end process design. BCSE is offering outdoor activities to engage students as they manage through this pandemic.

So, despite this crisis, Bucknell sustainability activities are progressing. Faculty and staff worked together to ensure a favorable solar ordinance in East Buffalo Township. A 1.6 MW on-site solar project contract has been signed. Membership of the PSC is changing consistent with the charter to include new students, faculty and administrators. The SWGs are slowly regrouping as things stabilize. Student interns and the Bucknell Student's Government (BSG) Sustainability Committee are contributing. At the BOT level, the Environmental, Social and Governance (ESG) Subcommittee has been established, focusing on the importance of innovative sustainability projects.

Sustainability@Bucknell is not at a standstill, we are actually going strategic during this pandemic. While some of the results and impacts of sustainability activities may not be immediate, we have to continue the journey and make individual contributions, such as following the signs and messages displayed on campus. In this update, we have placed an emphasis on waste management throughout campus.

We hope that this second edition of our newsletter provides the needed information on our activities and inspires everyone to join the effort in helping to create a more sustainable future. When the pandemic is over, Bucknell will be stronger, more sustainable and will continue to thrive. Ray Bucknell! Ray all of our Herds!!

Victor Udo, PhD



PRESIDENT'S SUSTAINABILITY COUNCIL (PSC)

The PSC is the strategic leadership forum for campus sustainability. They provide oversight and serve as the decision making platform for the implementation of high level sustainability projects recommended by the Sustainability Working Groups (SWGs). As illustrated in the diagram on the top right hand of this page, we are all working together to ensure campus sustainability.



RECENT SUSTAINABILITY ACCOMPLISHMENTS

Each SWG is co-sponsored by a faculty member and an ex-officio member of the council. As we slowly return to the “new normal” in our sustainability praxis, SWGs and/or the subgroups are being reconvened at the discretion of the Co-Sponsors and the Director of Campus Sustainability. The full PSC meeting will be reconvened by President Bravman at the appropriate time.

PSC MEMBERSHIP STATUS

Due to the recent departure of two administration members and the resignation of one faculty member from the council, in addition to the need to enhance students participation, the following membership changes has been made consistent with the charter.

EX-Officio Membership

- Dave Surgala is replaced by Eileen Petula (VPF&A) who is also the Co-Sponsor with Professor Neil Boyd of the Socially Responsible Investing Working Group.
- Ken Ogawa is replaced by Jeff Loss who is also the Secretary of PSC and Co-Sponsor of the Carbon Neutrality and Pathway to Zero Waste SWGs along with Professors Peter Jansson and Kat Wakabayashi respectively.

Student Membership – New selection by the BSG

- Molly O’Neil ’22; Environmental Studies/Italian
- Chris Mangano ’21; Environmental Studies/Psychology
- Nick Murphy ’22; History, Anthropology/Russian.

Faculty Membership – New interim invitation in consultation with Faculty Council Chair; Kat Wakabayashi is replacing Duane Griffin who resigned from the PSC this semester. The other three members remain.

Staff Membership – Two of the three members are serving on interim basis to be revisited in April 2021.

All other members of the councils will serve their terms as outlined in the charter. Faculty and staff members that are interested in joining PSC should express their interest through Faculty Council and Staff Council respectively.

LEED O&M Platinum Award

In May, Academic West earned LEED Platinum Certification for Operations and Maintenance. Platinum is the highest possible rating from Green Business Certification Inc. This award is the first to be awarded in the North East! For more information, click [here](#) to view the news article.

LEED Gold Certification

Academic East recently earned a Gold Certification, bringing total number of Bucknell buildings with such rating to six.

Tree Management Recognition

Bucknell was one of the recipients of the Tree Campus Higher Education Schools recognition by the Arbor Day Foundation. To obtain this recognition, Bucknell University met the five core standards for effective campus forest management, including establishment of a tree advisory committee and the sponsorship of student service learning projects, among others.

Solar Power Ordinance

A joint effort of faculty and staff under the leadership of Facilities & Sustainability and the Legal Council resulted in the passage of a solar ordinance by the East Buffalo Township.

On-site 1.6MW Solar Contract Signed

Bucknell signed a contract with Encore Renewable Energy (an alumni owned company) to install an on-campus solar PV system. The system will reduce carbon emissions (Scope 2) while also reducing utility costs. Construction is planned for the spring of 2021.

Also, a Lease Option was signed with a solar project developer for 20 acres at Chilisquaque Creek Farm. While Bucknell will not receive energy from the project, it demonstrates our commitment to supporting renewable energy in our community.

WEBSITE ENHANCEMENT

Sustainability@Bucknell is a shared objective of every individual, team and organization across campus. We are currently working with the Communications Division to enhance our website and electronic presence in general. Please click [here](#) to review the existing web page and provide your input!





STUDENT INVOLVEMENT

BUCKNELL STUDENT GOVERNMENT (BSG)

BSG is a major force on campus that identifies problems and effects change. Over the past few years, BSG has taken on a number of initiatives to improve sustainability across Bucknell's campus.



Molly O'Neil
BSG Vice President

One such initiative was an implementation of a film series on topics like climate change and recycling, aiming to inform the student body on environmental issues. In addition to the film series, BSG has been posting flyers with information on Bucknell's recycling and waste management programs. In

light of the pandemic, BSG has transitioned to digital posters using several screens around campus.

As with so many other aspects of life, the COVID-19 pandemic has disrupted sustainability efforts on campus. Last year, BSG began a light usage study to evaluate how energy is being used on campus. This semester, continuing this study is proving challenging due to all the safety precautions.

To mitigate detriments to campus sustainability during this pandemic, BSG has been focusing on the waste produced through the dining facilities. For safety and health reasons, the use of "to-go containers", disposable utensils, and plastic bags has increased our total food related waste.

BSG is working on solutions for problems that the pandemic has created. We are looking into a reusable bag initiative to replace the plastic take out bags, in addition to an overall movement away from plastic whenever possible. In partnership with the OCS, we will be producing a video to educate the campus community regarding waste flow processes.

Students are encouraged to volunteer in the SWGs to gain practical experience with decarbonization, zero waste and ecosystem balancing process. Additionally, the Sustainability Certification Program is administered by students.



BUCKNELL FARM

The Bucknell Farm grew over 4,000 lbs of food in 2020, including butternut squash, potatoes, sweet potatoes, and more. Farm produce supplements B-Eats, the student food pantry. (ELC 217, open to all.)



Jen Partica
Civic Engagement, Farm & Garden Coordinator

This semester, the Farm is collaborating with 23 classes and 3 Res Colleges, including over 700 students. The Farm provides hands-on learning opportunities to learn about climate change, renewable energy, water conservation, food access and more. Much thanks to the Office of Religious and Spiritual Life and Facilities

Grounds Crew for collaboration on building a new Labyrinth for walking meditation. And further gratitude to the Class of 2020 for gifting the new fire pit at the Farm.

Students, faculty and staff are invited to participate in regular Farm Hours on Wednesday afternoons and Saturday mornings through the end of October. Anyone interested in the Farm might also enjoy getting involved with the Lewisburg Community Garden on Tuesday and Thursday afternoons. Signups for both are required ahead of time.



Potatoes grown at the farm

[Click here to sign up for Farm Hours](#)

Questions? Email:
farm@bucknell.edu

[Click to sign up for Garden Hours](#)

Questions? Email:
plantgrowfeed@gmail.com



Mark Spiro
*Bucknell Farm Faculty Director
and Co-Sponsor of the Ecological
Conservation & Restoration SWG*

SUSTAINABILITY CERTIFICATION

This program helps in the decentralization of sustainability processes and accountability to housing, dining, events and classroom levels. Although the program has been affected by the pandemic this semester, it will be repositioned and enhanced upon a "new normal" campus operations.

Students, faculty and staff will volunteer to be champions to ensure that their work and living spaces (housing, dining, events and classrooms attain sustainability certification. Certification criteria will be reviewed and updated regularly to ensure consistency and buy-in of the stakeholders.





SUSTAINABILITY WORKING GROUPS (SWG)

The four SWGs are the engine rooms of Sustainability@Bucknell. Leadership (Co-Sponsors, Chair and the Subgroup Leaders) of three of the four SWGs have reconvened thus far this semester. Each SWG is reviewing and prioritizing the implementation tactics listed in the draft sustainability plan for compliance, cost savings and innovative solutions towards maturity. These windows of sustainability opportunities are illustrated on the diagram to the right column of this page.

CARBON NEUTRALITY SWG

Carbon Neutrality SWG Co-Sponsored by Jeff Loss and Professor Peter Jansson, is focused on three critical areas: 1. Renewable Energy/Powering Campus led by Jim Knight. 2. Efficiency/ Transportation led by Dana Mims. 3. Carbon Pricing/Carbon Offset led by Professor Ken Field.



Peter Jansson

BCSE Faculty Director & Co-Sponsor of Carbon Neutrality and ECR SWG

ECOLOGICAL CONSERVATION & RESTORATION (ECR)

This SWG is Co-sponsored by Peter Jansson as the faculty director of BCSE and Professor Mark Spiro. ECR is also focused on three important areas: 1. Hydrology/ Aquatic environment under the leadership of Dr. Ben Hayes. 2. Soils/Terrestrial space under the leadership of Mark Spiro and TJ Willoughby. Nature/ Wildlife environment led by Bud Hiller and Jamie Piperberg.



Bud Hiller

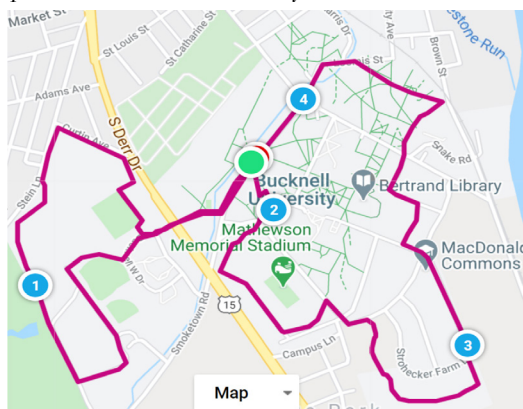
Manager, Technology Desk and ECR SWG Subgroup Lead



Jamie Piperberg

Technology Support Specialist

Campus Trail under consideration by the ECR SWG:



An upcoming Ecological Conservation & Restoration project. This proposed trail will be 4 miles spanning the edges of our main campus!

Windows of Sustainability Opportunities:

<u>Innovation</u>	<u>Maturity</u>
<ul style="list-style-type: none"> Responsible Investments Technology Deployment 	<ul style="list-style-type: none"> Carbon Neutrality Zero waste Ecological Balance
<u>Compliance</u>	<u>Cost Savings</u>
<ul style="list-style-type: none"> Risk Management Safety and Health Social Responsibility 	<ul style="list-style-type: none"> Efficiency Conservation Litigation Avoidance

SOCIALLY RESPONSIBLE INVESTING

The third SWG is the Socially Responsible Investing (SRI) SWG Co-Sponsored by Eileen Petula, VPF&A and Professor Neil Boyd. The SRI SWG started in the spring of 2020, and so far, began a study of what other Universities have done and what Bucknell has done according to Professor Boyd. The spring closure of Bucknell put a temporary pause on the group's efforts.



Eileen Petula



Neil Boyd

Bucknell has already made some great progress, but like any organization, there is always more that can be done. The SRI SWG is made up of a dedicated group of students, faculty, and staff who will work towards the overall improvement of campus sustainability. Many stakeholders within the University are committed to this topic and with perseverance, we will advance our SRI capacity and improve on a variety of sustainability fronts.

PATHWAY TO ZERO WASTE

Our fourth SWG is Pathway to Zero Waste which is Co-sponsored by Professor Kat Wakabayashi and Jeff Loss with four subgroups:

1. Messaging led by Dr. Milton Newberry III of the BCSE.

2. Food Waste/ Composting led by Carol Pavlick.

3. Landfill led by Mike Schreffler. 4. Recycling lead by Brent Schreffler. In this edition of Sustainability @ Bucknell Update, we present two perspectives on waste - as staff perspective by Dr. Milton Newberry and a faculty contribution by Professor Kat Wakabayashi.



Jeff Loss



CAMPUS AND PUBLIC ENGAGEMENT

CAMPUS ENGAGEMENT

Bucknell continues to thrive as a local-to-global sustainable living-learning community in our academic majors, research opportunities, facilities management, civic engagement efforts/initiatives, and small businesses development support. Sustainability involves every Bucknellian from the students, faculty, staff, and Board of Trustees (BOT) to the parents and alumni. It is community work that never ends, even during a pandemic – “we are still in”!



Like other progressive organizations, Bucknell’s BOT has established Environmental, Social and Governance (ESG) Subcommittee. At the campus level, the PSC provides strategic leadership for overall sustainability. The President’s Diversity Council (PDC) provides leadership for the social inclusion, equity and justice aspects of sustainability while safety and health is supervised by the Legal Council.

The Office of Campus Sustainability (OCS) coordinates the establishment and implementation of the sustainability plan through the four trans-disciplinary cross-functional SWGs consisting of students, faculty and staff. Bucknell’s Center for Sustainability and the Environment (BCSE) provides research and academic leadership for sustainable technology, place studies and overall ecological conservation and restoration.

A draft 5-year plan will be presented to the BOT in April 2021 as per the University Strategic Plan. The April 2020 presentation was suspended due to the pandemic. The draft plan has several initiatives, tactics and measurable key performance indicators (KPIs) in four strategic priority areas:

1. Ensuring environmental sustainability from local-to global at Bucknell
2. Enabling social sustainability (behavioral changes) through enhanced governance processes
3. Enhancing technological sustainability (infrastructure deployment) for environment
4. Governing and managing assets management to deploy technology and enable behavioral changes

The PSC is expected to adopt the draft plan and ensure full implementation after a “new normal” has been established for the University.

As illustrated through the graph on the right, management of waste remains a short term challenge. Bucknell’s waste diversion through recycling was on the right track before the contamination driven crisis in 2019. As we moved towards the elimination of single-use plastic, the pandemic hit. To get back on track, OCS will continue to work with Facilities and Dining Service to explore food waste diversion solutions on our pathway to zero waste.

PUBLIC ENGAGEMENT

From local and state public policy makers to environmental activist groups, inclusion and collaboration are key. The Center for Alumni and Family Engagement, Small Business Development Center, Civic Engagement & Service Learning and OCS are partnering to seek community based solutions.

On the operational and infrastructural end, OCS is partnering with Facilities, BCSE and the SWGs to seek appropriate solutions for leveraging our existing sustainability assets through identification and partnership with external entities. These include energy and waste reduction service providers and organizations.

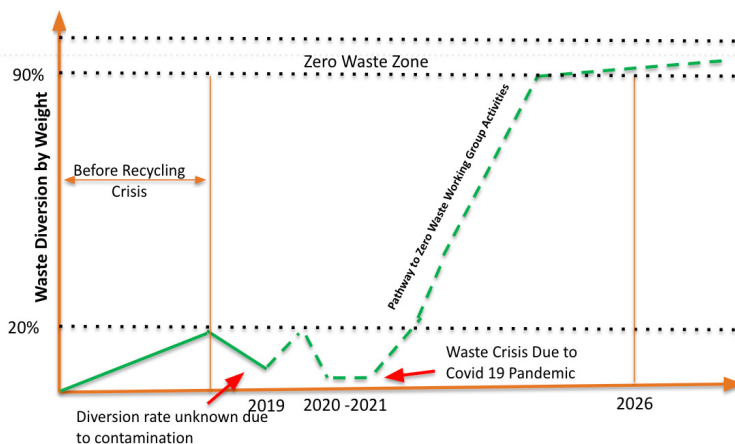
Before, during and after the pandemic, external engagement activities are and will remain critical aspects of campus sustainability. In the time of Covid-19, social justice initiatives, and the resulting political and economic challenges, engagement of external stakeholders is even more necessary now than before. We will continue to leverage our external affiliations.

Recently, energy service providers are beginning to offer their customers new types of sustainability project financing options, including service agreements, virtual power purchase agreements and Energy as a Service (EaaS) for infrastructural asset management.

For Bucknell, such strategic assets include space for up to 6MW of on-site solar and a larger piece of land off campus that can be used for solar projects. Our fleet of Facilities vehicles can be re-powered with potential electrification and battery storage for grid services.

Our Riverfront location and rich history of environmental activism can also be leveraged for ecological conservation and restoration. Bucknell owns waste disposal equipment and which presents the possibility of cost savings and digesting food waste to methane and capturing the same renewable natural gas as local sewage facilities. These are some of the future sustainability opportunities that the SWGs will explore with external service providers and stakeholders.

WE ARE STILL IN





FACULTY & STAFF PERSPECTIVES ON WASTE

KAT WAKABAYASHI

Associate Professor of Chemical Engineering



Another new zero waste initiative is the Raycycle program, which engages the Bucknell community and encourages them to collect plastic waste which is then recycled into Bucknell gadgets. This project was started

over the summer, and during the first weeks back on campus, all of the recyclables that people had collected were accumulated. It amounted to over 5 large bins!

Since then, the Raycycle team has sorted through all of the recyclables and grouped them based on type (plastic bags, bottle caps, etc.), and then started processing the grocery bags into raw plastic material and using that material to produce prototypes of our free Bucknell products. This was done using injection molding with steel molds that we are making with the help of Bucknell's Project Development Lab (PDL).



On the social side of this project, the Raycycle team have been working closely with the Bucknell Environmental Club (BEC) who have helped get the word out about the project. Once the team establishes a standard operating procedure for the manufacturing of the recyclables, they plan to write out instructions for how to carry out the process, and then partner with BEC to enhance membership involvement in the manufacturing process. They need as many people contributing shifts to the manufacturing as possible. To learn more about Raycycle, visit this link: raycycle.scholar.bucknell.edu

MILTON NEWBERRY, III

Director, Sustainable Technology Program

In many ways, Bucknell's campus is a microcosm of the country. The pandemic has revealed the gaps and flaws in sustainability efforts on a campus scale and a national scale. This time has also forced institutions everywhere to choose prioritizing the immediate health of communities over existing sustainability steps.

One aspect of campus sustainability that has been hit hard by the pandemic is dining services and their sustainability efforts. Over the past year, dining services have made great progress. For example, there has been a push to ensure that food wrappings are plant based whenever possible to ensure quicker landfill breakdown. However, the pandemic has made it very difficult to carry out other changes that were proposed.

Dining services was also intending to phase out the plastic utensils and replace them with utensils made from recycled sugar cane and wood materials. However, the new utensils do not fit into the sanitary utensil dispensers, so this project had to be postponed. In terms of waste management during the pandemic, a focus has been ensuring the safety of custodial staff who are at risk due to campus-wide waste contamination. The pandemic has proved time and time again the importance of essential workers, and the risks that they are at every day. Their safety is a priority at Bucknell.

One primary focus of the Pathway to Zero Waste SWG has been to inform people and ensure that faculty, staff, and students are engaging in sustainable behavior. This is important in informing the campus on changes in rules or expectations - for example, the regulations surrounding recycling on a national and regional scale recently changed.

Since recyclables are no longer being outsourced out of the U.S. to other nations (e.g., China), it is essential that we sort through our own recycling and check for contamination. One contaminated item means all of the recyclable material in the entire recycling bin must be thrown away, so making sure people are aware of these guidelines is essential.

Another campaign the Pathway to Zero Waste SWG is focusing on is a more inclusive version of "reduce, reuse, and recycle". We have added "rethink, refuse, and repair" to the phrase, urging people to rethink the necessity of products before buying, refuse items they truly do not need, and to try to repair old items before immediately buying new ones and creating more landfill waste. This aims to challenge the consumerist society we live in by providing sustainable behaviors that are easy to engage in and maximize material usage and circularity.

In addition to working around the pandemic, a priority is staying current and keeping up with the national developments such as racial injustice. We recognize that it is the responsibility of organizations and institutions to hold themselves accountable and do better in terms of promoting diversity, inclusion, equity, and social justice as aspects of sustainability.





BUCKNELL CENTER FOR SUSTAINABILITY & THE ENVIRONMENT

NEWS

BCSE is celebrating our 15th year on campus. In our time here, BCSE has made great contributions to sustainability research, teaching, and involvement on campus. In our 15th year, BCSE is aiming to increase student involvement in the natural landscape in addition to increasing utilization of natural resources.

Bucknell was founded on the idea of fostering a living, learning environment. The university has access to a variety of natural resources, and BCSE is working towards encouraging students to take advantage of these unique resources and involve themselves in their environment.

In the face of a global pandemic, it is more important than ever to get students outdoors and facilitate learning outside of the classroom. Since physical classrooms are less feasible this semester, educational outdoor activities in accordance with health protocols are a great way to supplement remote learning.



Ben Hayes

*Program Director, Watershed
sciences & Engineering*

EVENTS

BCSE is offering a variety of in the field educational opportunities open to all students. These activities will be led by experts in the field, and are thus meant to be fun, engaging and also informative. Some activities include:

Kayaking and tubing in the Susquehanna

Star gazing via telescopes

Night owl watching

Fire pit discussions

Fishing trips centered around stream ecology/
restoration

Activities focused on the logging and forest
history of the area

The Sustainable Path

And more!

BCSE is working in collaboration with the CAP Center and OEL to support these trips. Students can sign up for these activities on the Student Message Center or the In Network.

Along with these student activities, BCSE is also working to incorporate in the field activities into curriculums.

As always, BCSE is keeping up with usual activities like field research, conducting labs and in class lectures, mentoring students through grants and independent studies, and staff participation in the SWGs. Our current focus is to encourage student involvement in the beautiful Central Pennsylvania landscape that we are located in.



Shaunna Barnhart

Program Director, Place Studies

In other news, the 15th Annual River Symposium will be held in November. The Symposium will be held **Friday, November 6 and Saturday, November 7** in a virtual format. It is open to all students, faculty, and staff. On Friday evening, there will be a livestream of the keynote speech, featuring keynote speaker **Cynthia Dunn, the Pennsylvania Department of Conservation and Natural Resources Secretary.**

This forum is only open to the Bucknell community.

The Symposium will also include virtual poster sessions and discussions centered around questions like: How has the pandemic had implications on field work and research? What are actions that the environmental community can take to eliminate racism and increase diversity in the field? What are some ways to make scientific research more widely accessible and known?



Samantha Myers

Operations Manager



Sean Reese

Program Scientist





FACILITIES, ENERGY & UTILITIES

Facilities Leadership Team



Jeff Loss,
AVP for Facilities



Dawn Randler,
Administrative
Assistant to the AVP
for Facilities



Dominic Silvers,
Director of
Planning, Design &
Construction



David Eckley,
Associate Director,
Electrical Systems &
Projects



Greg Koontz,
Associate
Director, Utilities
Maintenance



Brian Fritz,
Associate Director,
Building Maintenance
& Projects



Megan Scherer,
Director of Business
Operations,
Facilities



James Knight,
Director, Energy
& Utilities



Chris Small,
Associate Director,
Operations

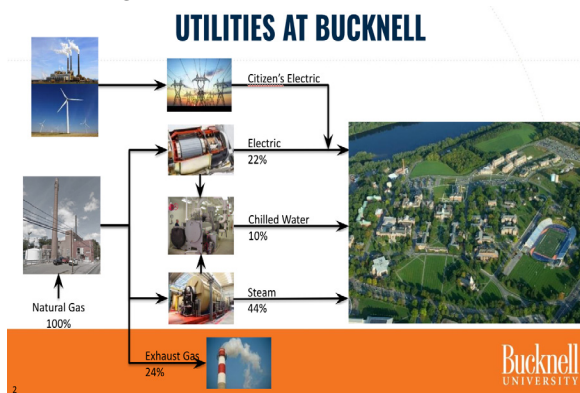
ENERGY UTILITY

Bucknell has been working on several initiatives to continue increasing campus sustainability throughout this pandemic. One instance is the chiller plant expansion project. This project aims to improve the university's carbon footprint by utilizing heat more efficiently and optimizing power plant efficiency.

Green Fund and other initiatives are aimed at conserving and more effectively using resources to provide improved air quality and save energy on campus. These projects also focus on student involvement to encourage campus wide sustainability innovation.

After Bucknell shut down last spring, several changes were made to various aspects involved in campus maintenance. The mechanical systems had to be adjusted to mitigate the spread of the virus, allowing air filtration to be improved. Ventilation was increased and air purifiers were added to many campus locations. Custodial crews were equipped with the necessary virus preventative tools.

This was all done in an effort to protect the Bucknell community and give our community the best chance of remaining on campus this fall. A priority was placed on people and maintaining the community's health. Facilities plays a key role in the transition towards decarbonization and decentralization, as illustrated by the Energy Utilities at Bucknell diagram below.



MANAGEMENT OF WASTE

Because of the global health crisis we are in, the environment and sustainability efforts are taking a hit. Safety precautions have resulted in the creation of more waste. For example, all of the campus hand dryers were replaced with paper towels to reduce the spread of germs through the air.

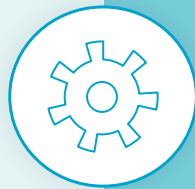


Stephen Durfee
Campus Energy Manager and
Member Carbon Neutrality SWG

Since everyone is being encouraged to wash their hands as much as possible, the paper towel waste levels are reaching new heights. Additionally, energy use is increasing because of the need for enhanced ventilation. The university has invested more money on heating to heat outside areas for safe gathering spaces. To assess our use of resources and combat the increase in waste, Bucknell is embarking on the benchmarking initiative. This is an initiative made up of higher education institutions focusing on gathering data from campus buildings and analyzing size, energy consumption, resource use, etc. This allows Bucknell to compare itself to other universities and gauge energy and resource use.



Currently we have two waste streams with single stream recycling. This situation contributes to contamination of the recyclable materials by food waste. We are constantly exploring ways to divert food waste. Going forward, we will create three waste streams to minimize recycling contamination. Food waste, as shown above, may be a necessary stream addition.



OFFICE OF CAMPUS SUSTAINABILITY (OCS)



Lydia Palumbo



Victor Udo



David Hare



Seang Am



Bennet Dahl



Sinet Kroch

OCS INTERN ACTIVITIES

As illustrated by the diagram on the right, we are focusing on three major sustainability trends (decarbonization, decentralization and digitalization). Circularity of products, resilience of systems and human endurance are all critical aspects of local-to-global sustainability. This semester, the OCS is hosting five student interns with specific assignments to contribute to and learn about sustainability management and leadership. Interns assignments and responsibilities are stated below.

LYDIA PALUMBO, 2021. Environmental Studies & Communications

Draft Plan and Sustainability Communications

I support the editing of the Sustainability@Bucknell draft plan in preparation for adoption by the PSC. I also work on the OCS newsletter, manage social media, and assist with office communications.

SEANG AM, 2023. Global Management

Sustainability Key Performance Indicators (KPIs) Tracking

I consult staff and faculty members to help compile and track the KPI of Sustainability @ Bucknell. I will use data from existing reports such as AASHE/ STARS and Second Nature websites to observe possible alignment with the SDGs.

BENNET DAHL, 2022. Managing for Sustainability

Emissions and Waste Data for Decentralization

My role is to help establish data driven sustainability accountability at the OMG Division level. We are preparing a reporting framework that will show waste and emissions produced by buildings to help in making management decisions.

SINET KROCH, 2022. Environmental Studies & Women's and Gender Studies

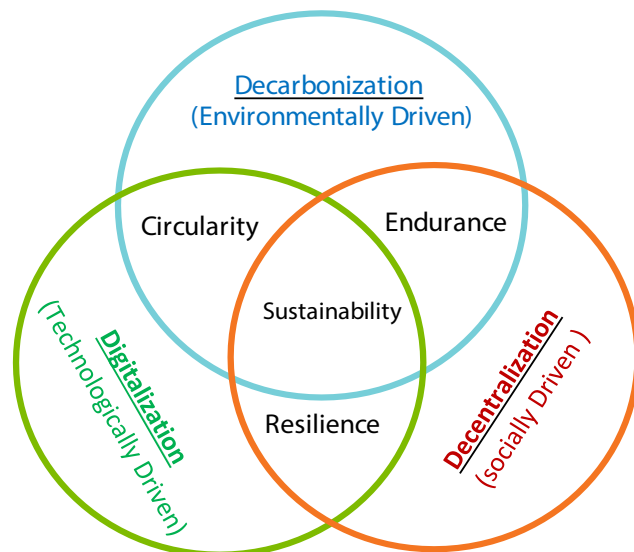
GIS Inventory Of Key Sustainability Related Assets

My role is to help translate sustainability related assets such as vehicles, standby generators, and waste processing equipment into GIS. This initiative will help the University in the digitalization, decentralization and decarbonization processes including potential "Digital Twins" in the future.

DAVID HARE, 2022. Managing for Sustainability

Documenting of Pathway to Zero Waste Process and Plan

I am documenting the processes and plan to make Bucknell a zero waste campus by sending less than 10% of our total waste to landfill.



OCS ONGOING ACTIVITIES

There are many learning opportunities as students, faculty and staff work together to address sustainability issues. Students gain experience as they work with faculty and staff across campus. Some expected results and long term deliverables of the OCS include:

- Redesigning waste flow processes to leverage existing resources for cost savings
- Engaging external service providers for sustainability driven innovation
- Identifying Budget Neutral Carbon Neutrality Projects

Working with Facilities, BCSE and the SWGs, OCS is also exploring longer terms projects such as:

- Diverting food waste to a sewage digesting facility for renewable natural gas attributes
- Farming/solar dual use of West Chillisquaque land
- Enhancing tree planting on the main campus and improving utilization of Bucknell land assets
- Ensuring campus Riverfront ecological conservation and restoration - the "last building" vision
- Electrification of wholly owned fleets of vehicles to reduce carbon emission
- Leveraging existing assets as a micro-grid (thermal storage, land for solar, standby generators and battery) towards decarbonization, digitalization and decentralization for a more sustainable future - social, technology and environmental circularity, endurance and resilience.

Progress reports on each of these projects will be covered in subsequent editions of this Sustainability@Bucknell Update newsletter.