

CHAPTER 1

Sustainability and Campus Operations: Being a Model for the Community

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Community colleges occupy a unique position in the local educational, economic, and cultural ecosystem. For many students community colleges are the gateway to higher education, and as such, represent the first exposure to important concepts in environmental science, environmental policy, and sustainability. The community college, therefore, can be an important example for the community at large, operating as a living laboratory that can encourage innovation and fresh thinking. At the same time, community colleges operate under the constraints of often limited state funding, making innovative building design, reconfigured infrastructure, and costly initiatives extremely difficult to pull off. Through creative thinking, student engagement, and buy-in from administration and facilities staff, many community colleges are making strides towards the kind of behavior that is important to model for the community. In this chapter we describe some major issues and successful examples of integrating sustainability in community college operations.

A MINI-CITY

First and foremost every college campus, whether it is a community college, private college, or university, is a mini-city with a footprint that often includes multiple buildings, classrooms, laboratories, training facilities, faculty/staff office spaces, performance spaces, food services, and occasionally residential spaces. Many of these spaces are energy intensive, putting a strain on local utilities and generating an electric bill that would stretch any wallet to the breaking point. At a recent meeting of community college faculty and staff from institutions across the country, a quick survey revealed that in general the colleges rated themselves as only low to fair when it comes to integrating sustainability into campus facilities and operations. However, making improvements in this area can often be a financial boon to the college as well as an inspiration to the local community. By seeking operational improvements, colleges can save energy budgets, reduce greenhouse gases, and develop disaster and adaptive resilience plans. Campuses that have successfully embedded sustainability into their operations and facilities to accomplish these goals serve as models for the kinds of transformations that should be happening in the broader community.

TACKLING THE ISSUES

As state-funded institutions, community colleges typically work under a short time frame when it comes to funding, a key point in understanding the motivations and challenges behind community colleges' responses to sustainability initiatives. As one faculty member said, "Our operations people are green as long as it's 'green'." When the return on investment is long term and local Boards expect a shorter term payback, advancing sustainability initiatives can be a struggle. Even with such challenges, many community college facilities teams across the country are already considering some of the largest environmental and sustainability issues including energy and water use, waste management/recycling, and transportation/fuel/greenhouse gas emissions.

1. *Energy and Water*

There are many opportunities to encourage positive changes in the campus community with respect to the consumption of energy and water resources. Such changes may range from behavioral (turn out lights when leaving rooms, shut down computers when not in use, etc.) to pedagogical (course scheduling, time blocking, etc.) to structural (building redesign, retrofitting of fixtures, adding solar panels, etc.) and everywhere in between.

At Seminole State College of Florida for example, both pedagogical and structural changes have been implemented. In 2002, the summer teaching schedule was altered to include classes that meet only Monday through Thursday, eliminating Fridays as an instructional day. This has allowed the College to implement a four day work week during the summer months when temperatures are hottest allowing air conditioning levels to be lowered over the three day weekends and leaving lights off over three days instead of two. These serve the dual purpose of not only being "green" initiatives, but money saving initiatives as well. Additionally, state funding was secured to renovate one floor of a classroom building and an entire faculty office building. Both renovations achieved LEED Gold status by mitigating both energy and water use. This was achieved by:

- utilizing external windows that enhance natural lighting
- incorporating internal windows that allow light to filter into classrooms
- adding motion sensors that turn lights off if rooms are unused
- installing high efficiency restroom fixtures

At Bristol Community College in Massachusetts, parking lots were covered with solar panel arrays in what is described as New England's largest solar parking canopy (Bristol Community College NEWS). This project, completed in 2015, yielded a 3.2 Megawatt structure covering 800 parking spaces over five acres producing enough electricity to power half the campus' electricity needs. Not only does this public/private initiative avoid carbon dioxide emissions equivalent to the removal of 5,000 cars from the road, it is expected to generate \$1.75 million in energy savings over 20 years. Additionally it provides a covered parking lot that keeps cars out of the sun for easier cooling once the driver is ready to leave campus.

2. Waste Management/Recycling

The mitigation of waste products (trash, food, etc.) and the establishment of recycling programs can also represent a challenge on many campuses. Since most community colleges are commuter institutions with no residential life on campus, food service is typically limited to a few options, much of it meant to be consumed “on the go.” The food waste that does get generated is a prime candidate for a composting program, which can be a useful project for student involvement. Compost produced in such a program can be used elsewhere on campus for purposes such as growing plants in a biology lab, or supplementing soil for landscaping.

Other than food, the bulk of waste products involve paper and cans/bottles from vending machines. A strong recycling program can mitigate a great deal of this sort of waste from going to the landfill, but if facilities departments don’t take ownership of such programs, it often falls to concerned faculty/staff members and student clubs to monitor and maintain them. Since students often spend only a few years at community college, a high turnover rate in student club leadership can sometimes mean that such programs ebb and flow depending on who is in charge. Once initiated, appropriate training of facilities staff and consistent messaging are crucial, and placement of waste bins and recycling bins must encourage appropriate behavior in order to be effective. Apart from providing places to put empty plastic bottles, the prevention of their use in the first place can be facilitated by installing filtered water refilling stations around campus. Stations that include a running tally of how many plastic bottles have been eliminated provide additional inspiration and positive reinforcement for their use.

3. Transportation/Fuel/Greenhouse Gas Emissions

As almost entirely commuter institutions, community colleges have a large footprint when it comes to greenhouse gas emissions as students continually have to drive to and from campus, and sometimes between campuses, to maintain a class schedule. Even so, removing cars from the road and/or reducing fuel use and greenhouse gas emissions can still be accomplished in a variety of ways.

- Class Scheduling – Considering how classes are scheduled can have an important effect on facilities use and the college’s impact on the environment. Many colleges have altered class scheduling to a Monday/Wednesday, Tuesday/Thursday format, largely eliminating Fridays except for occasional once a week classes and limited weekend programs. Increases in online courses and hybrid sections also serve to decrease the amount of time students and faculty spend on the road. These options allow students to build schedules that may require them to drive to and from campus as few as one or two days a week.
- Public Transportation and Carpooling – Where public transportation is an option, the inclusion of bus or commuter rail passes as part of a student’s tuition package can

encourage the use of these resources instead of always using the family car. Even when public transportation options are limited (or nonexistent), student government-led initiatives to encourage carpooling to and from school can make a big dent in the number of miles individual students are spending driving alone.

- Fleet vehicles – The choice of vehicles used on the college campus for security personnel, facilities staff, groundskeepers, etc. can also play a part in lowering the carbon footprint. Electric golf carts, hybrid vehicles, and otherwise more energy efficient options can go a long way towards making campus operations more environmentally friendly.
- Grounds and Maintenance – A great deal of energy is spent making our campuses beautiful, and who doesn't want to come to work or go to school at a place that looks well-groomed and polished? Landscaping carries a price though, not only in terms of water usage, but also in terms of the extended energy and cost of acquiring the shrubs, perennials, annuals, and other greenery used to make campuses look inviting. If purchased at a nursery or other retail outlet, one wonders where they were grown? How much fuel/energy was spent preparing them and transporting them to the store? What is the transport cost of bringing them to campus? At Seminole State College of Florida a proposed program to mitigate these impacts includes utilizing compost produced on campus and establishing a greenhouse to grow plants on site to use for landscaping purposes.

COLLEGE POLICIES AND SUSTAINABILITY

There can sometimes be an unfortunate contradiction at the heart of college policies and college budgeting:

“Saving money is a sustainability incentive and making money can be a sustainability disincentive – we make money selling diet [soda], hamburgers, bottled water. That money is important to groups on campus; sometimes it is unclear where that money goes but if it's funding things like accreditation or student clubs, there is a disincentive to change anything about contracts.”

Maria Boccalandro, Cedar Valley College

Colleges often get bound into long contracts with big companies such as waste removal businesses which won't compost, or big soft drink companies which won't allow the elimination of bottled water. College business offices are often understandably protective of these contracts because they are money-makers that generate unrestricted funds that can be used in creative ways around campus. Additionally, community partners such as utility companies often are important and valued college donors, a relationship that may discourage the enactment of policies or practices that could impact their operations and profits. A key strategy, then, is to incentivize long term thinking and long term policies and contracts that reward sustainability. Students can often be drivers of this kind of change, and showing that

the college is moving in this direction has the added benefit of being a student recruitment and retention strategy.

THE BOTTOM LINE...AND THE GOOD NEWS

As colleges consider enacting programs that promote sustainability it's important to think projects through completely and in their entirety. Some important things to consider:

- What state are you in?
- What is the statewide context in terms of sustainability attitudes and impacts?
- What is your institutional context in terms of student population, local partners, and diversity?
- What is driving sustainability on your campus? Is it money? The greater good? Or both?
- Do you have a facilities director who is "on-board" with sustainability initiatives?
- Do you have a sustainability coordinator and/or a sustainability steering committee?
- What is your institutional framework or policy for decision-making that affects sustainability?

Navigating the sometimes rough waters associated with enacting institutional change has clear ties to the above questions. Many of the initiatives at Seminole State College of Florida have gained steam with the hiring of a Director of Facilities who is enthusiastic about embracing them. Context is key, and framing arguments around the needs and priorities of interested stakeholders may make or break the success of many initiatives. In general, successful programs must have buy-in from administrative leadership, multiple departments, and key individuals. The impact on local community partners and donors also plays an important role as colleges seek to maintain positive relationships with them. Many projects die on the vine because they are driven by only one or two crusaders who simply don't have the bandwidth to follow through with every initiative.

The good news is, there are many examples of successful initiatives at community colleges across the country and in varying regions for incorporating sustainability into campus culture:

- robust recycling programs
- water bottle refilling stations
- composting programs
- student organized farming projects
- reorganized class scheduling
- greener options for commuting that keep cars off the road
- use of alternative energy sources including solar and geothermal
- new building design incorporating sustainability principles
- and the list goes on and on.

Community colleges are in a unique position to be leaders in showcasing successful sustainability initiatives, and also to serve as a learning laboratory where new ideas can be tested. But campus operations are only a part of how sustainability can transform the college and become infused into the culture of the institution. As you will see in subsequent chapters, sustainability can breathe life into nearly every aspect of the community college mission. We've only just begun!



National Council for
Science and the Environment

Thank you for reading this chapter of the NCSE Community College Handbook for Sustainability Education and Operations.

Does your institution do something different in this area?
Do you have a project, program, or innovation in practice in this area?

[Please consider submitting a case study to NCSE.](#)

NCSE will review your case study and an NCSE team member will reach out to you for additional information. The case study may be included in the NCSE Community College Handbook for Sustainability Education and Operations.