Sustainability Report

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Quinnipiac
U N I V E R S I T Y

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Executive Summary

In December 2019, President Judy Olian appointed a Sustainability Committee, with membership drawn from administration, faculty, staff and students, to provide: 1) a vision and goals for what sustainability means for Quinnipiac, the University of the Future; 2) strategies that promote the most efficient and responsible use of resources in all of our operations to enhance sustainability; 3) opportunities to integrate principles of sustainability across the academic curriculum; 4) approaches to embed sustainable practices into the daily experiences of students, faculty and staff; and 5) metrics that enable measurement of progress against the university's sustainability vision and goals. This resulting report will serve to guide ongoing strategic planning at the university. It indicates directions for incrementally building a sustainable campus community and establishing an iterative process of study, action and reform to attain these objectives.

Following a series of town hall forums and other structured mechanisms for eliciting input from the community, and drawing on previous efforts to assess the direction forward for Quinnipiac in the area of sustainability,[1] the committee settled on a vision and framework that defines sustainability in three thematic and strategic areas: *learning, living* and *leading*. We envision a Quinnipiac that is a model for sustainability in Southern New England, building its practices and leveraging its campuses to promote a healthy regional ecosystem, and to engage in practices that equip current and future students, faculty and staff to embody sustainable practices in their personal and professional lives, equipping them to thrive in a world increasingly influenced and affected by environmental disruption.

PURPOSE OF THIS REPORT

In this report, we identify key pathways in these areas of learning, living and leading that include "realizable" first steps, encouraging audits of current campus resources and practices in student and campus attitudes toward sustainability, faculty expertise and activity in areas related to sustainability, and current practices that will enable the establishment of baselines and benchmarks to form the foundation of a more comprehensive process of sustainability planning and monitoring.

- To build educational opportunities for the development of 21st-century skills and knowledge for our graduates, the committee recommends the development of additional courses related to the environment and sustainability in the University Curriculum and across the programs and schools of the university—to include the gradual implementation of major programs of study in Environmental Policy and Environmental Science.

- To build the context for more sustainable living on campus, the committee recommends actions toward discerning and developing more sustainable operations and management of the grounds, facilities and campus activities in the areas of energy use, waste management, and transportation.

- To work toward the goal of achieving savings in material and energy inputs, the committee recommends the gradual implementation of a comprehensive monitoring system and "dashboard" to report progress to internal and external audiences. To ensure ongoing attention to and reporting of efforts in sustainability, the committee recommends the establishment of an ongoing structure for university planning and administration. This may start with the appointment of an ongoing committee and the assignment of oversight to one individual, and continue to the establishment of a full Office of Sustainability with a chief sustainability officer in the future.

Background

In Fall 2018, the Intergovernmental Panel on Climate Change (IPCC) released a highly publicized special report on climate change that delves into the differential impact between warming of 2.0 degrees and warming of 1.5 degrees centigrade above pre-industrial levels. The major takeaway from this report is that the extra half degree of warming would have a significantly more severe impact on the earth systems we rely upon as a species for maintaining an inhabitable climate, a steady and predictable food supply, diversity of land and ocean species and security for human settlements given extreme weather and sea level rise. "Climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C." (IPCC 2018, headline statements). Moreover, the window is very rapidly closing where action can be taken to keep us within even this more dangerous 2.0-degree rise.

Roughly six months after the IPCC report, another U.N. agency, the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) announced an unprecedented global acceleration of species extinctions, with "grave" expected impacts on people around the world. Climate change and land use were signaled out as prime movers of this rapidly transforming dynamic.

These ecologically significant dynamics—climate change and biodiversity loss—are likely to change the very nature of the world we inhabit, quite rapidly in terms of human experience. These trends and their predicted impacts challenge us to act today; they will challenge our graduates in every discipline and profession in the decades to come.

FACING THE CHALLENGES TO COME

Our students, prospective students and their families are well aware of these looming threats—and of the uncertainty and instability that they imply for their lives going forward. Quinnipiac itself—its built environment, its support systems, and its function as a community—will not be immune to the changes these dynamics portend.

Squarely facing the challenge of environmental sustainability provides opportunities. Capable organizations hold the potential to turn the inevitable restrictions required for environmental sustainability into opportunities for innovation. The Porter hypothesis, initially proposed by Michael Porter of the Harvard Business School, posits that environmental regulation can drive innovation in businesses, and subsequent studies leant credibility to this hypothesis (Leeuwen and Mohnen, 2017). Rising to this challenge stimulates creative problem-solving for a university and its students as well. As a community dedicated to modeling timeless values, a university bears particular responsibility—and has an exceptional opportunity—to model sustainability.

Given all these factors, the importance of institutional leadership in environmental sustainability is essential for an institution of Quinnipiac's stature. Not only does Quinnipiac represent a community of approximately 10,000 individuals who work, live and interact on any given day, but it is an institution dedicated to educating and preparing future generations to lead and succeed. Its location in the watershed of the Mill River, adjacent to some of the few open spaces remaining in the region, entrusts it with a responsibility for stewardship; as one of the larger institutions in the region, Quinnipiac can lead the way in developing new strategies for living with less impact on the environment and adapting to the challenges of uncertain and unstable times to come.

During this time when the university and its community are impacted by the COVID-19 pandemic, it may be tempting to relegate environmental concerns and sustainability to a lower level of consideration. To the contrary, the urgency of the underlying issues only increases with time. As the university adjusts its institutional practices and commitments to confront this unprecedented challenge and the larger concerns driven by the shifting higher education market in our region, it is imperative to build sustainability into the planning and restructuring taking place now.

This report recommends that Quinnipiac adopt a clear vision of ecological and sustainable learning, living and leading.

Introduction

Quinnipiac University's Strategic Plan, published in May 2019, opens its preamble with: "The world that shaped Quinnipiac is changing; we must change to become a university that shapes the world." All four pillars of Quinnipiac's Strategic Plan engage sustainability as a central value: sustainability-mindedness will be essential to 21st-century careers and lives, particularly a conception of sustainability that is intentionally inclusive of the way all communities experience the environment and environmental disruption. In fact, personal and institutional care for the environment must be central to the way that Quinnipiac contributes to the communities in which we are embedded, including the community of our own faculty, staff, students and alumni as they engage with Quinnipiac throughout their lives. As the University of the Future, Quinnipiac is dedicated to nurturing a healthy campus community and promoting environmental sustainability in all its practices, in balance with the available resources and the great diversity of our local and regional ecosystems.

Five years previously, in May 2014, an ad-hoc committee for sustainability completed its work when an external contractor, Resonate, LLC, delivered three reports outlining a current state of Quinnipiac's sustainability, and making recommendations for the future. Reports on Campus Culture, Benchmarking, and Related Curriculum established a useful base for undertaking this report (See Appendix C). Recommendations for leveraging student interest in the environment through programming and an "eco-rep" program, creating vision, strategic directions and administrative oversight for sustainability on campus, and integrating sustainability into the curriculum and the ELO (Essential Learning Outcomes) structure, were all largely shelved at the time, due to a short-term financial crunch. This report touches on many of those same points.

Sustainability has different meanings to different people and communities. Quinnipiac follows the definition promoted by the United Nations World Commission on Environment and Development: that environmental sustainability entails the ability to meet the needs of the present without compromising the ability of future generations to meet their own needs. At the same time, current visions of sustainable development recognize the deep connections between environmental preservation, economic health and social justice.

Environmental justice is grounded in the belief that all people have the right to a clean and healthy environment, irrespective of race, gender, income, ethnicity or educational level. Studies have demonstrated that low-income communities of color disproportionately bear the health and livelihood burdens of environmental destruction and decline. Thus, environmental sustainability is not separate from racial justice: Black, indigenous and people of color are affected by environmental racism, in addition climate-related disasters disproportionately affect these same marginalized communities. The university's recent 10-point Plan for Racial Justice lays out an ambitious agenda for institutional strengthening. As we work to advance racial justice through this plan of action, we must work equally hard to advance environmental equity and justice into our identity and actions locally, regionally and globally—advocating for both our planet and our people.

Ensuring an environment that meets present and future needs inevitably requires adjustments to the social and economic systems that depend upon and impact that environment. Quinnipiac will work to advance ecological learning, living and leading while remaining cognizant of the implications for the social and economic systems in which we are embedded.

A NOTE CONCERNING CURRENT CHALLENGES

In accordance with local and state legislation, Quinnipiac has recently adopted large-scale policies to retire the use of plastic straws in the dining services and the distribution of plastic bags on campus, which are being replaced with paper or compostable alternatives. Quinnipiac also has taken care in recent building initiatives to incorporate progressive standards for energy efficiency and other LEED-associated measures. Finally, Quinnipiac has been participating in meetings with area universities to collaborate on actions taken at the local and regional level and has been holding regular meetings of stakeholders on campus interested in sustainability.

In response to the COVID-19 pandemic, Quinnipiac has implemented some practices that have temporarily reduced our impact on the environment. Since mid-March, domestic and international travel has been curtailed, decreasing our carbon footprint from travel. In addition, non-essential employees worked remotely for six months, a practice that has continued as the work of the university has resumed in the Fall 2020 semester. All this has reduced the impact of single-user ground transportation in traveling to or between our campuses. Remote working also reduces the institutional consumption of electricity and fuel, the generation of food waste and solid waste, the use of water, classroom, office, medical and laboratory supplies and light pollution. At the same time, the necessities presented by public health concerns have required an increase of single-use packaging in food preparation and delivery, much of it using plastics. As Quinnipiac moves forward into a newly configured operational reality, it has an exceptional opportunity to reflect and build upon these recent experiences. We will continue to work with interested members of our community, alongside leaders in Hamden and the state of Connecticut, to build on temporary and coincidental progress and to neutralize the more negative environmental aspects of our response to COVID-19, while adhering to evolving legislation and proposing new, innovative policies to build sustainable practice.

Vision

Consistent with the university's Strategic Plan, our community advances environmental sustainability by being a model steward of our own natural resources and by educating our students, faculty and staff to be proactive in their efforts to advance sustainability in their professional and personal lives. We partner with local and regional communities to achieve outcomes that support the long-term sustainability of our larger culture, in a way that recognizes and seeks to eliminate existing barriers to full participation in and enjoyment of the environment for all members of the community.

We envision a Quinnipiac that is a model for sustainability in Southern New England. In communication and collaboration with other area universities, it promotes a sustainable transportation infrastructure, leverages its campuses to promote a healthy regional ecosystem, and engages in practices that demonstrate to current and future students, faculty and staff work environments, lifestyles and practices that will help to reverse decades of environmental harm, prepare to weather the effects of climate disruption, and promote an ethic of care for and repair of natural systems.

Strategic Directions

As the model for a sustainable University of the Future, Quinnipiac pursues sustainability in three areas: *learning, living* and *leading*.

LEARNING

▶ **Vision**
QU students, faculty, staff and alumni are agents of sustainability for the communities they engage and enrich locally and beyond.

▶ **Mission**
QU promotes a culture where students gain and develop an understanding of environmental sustainability appropriate to their majors. Students learn about complex connections among natural environments, built infrastructure, and social and cultural institutions. Learning occurs within the curriculum and through engagement in co-curricular activities.

The primary function of any university is to educate. As the University of the Future, Quinnipiac is dedicated to educating students to serve as global citizens. It is clear that environmental sustainability is and will continue to be a presence in the future of all our students, regardless of their intended career paths. Learning related to sustainability will occur using a diversity of means that include curricular, co-curricular and extra-curricular engagement. Enhancing the visibility and instructive efforts contributing to QU's sustainability presents an opportunity for co-curricular learning, while programming in the residence halls and student life can further support extra-curricular engagement. By emphasizing education around sustainability within Quinnipiac's varied programs, we will better prepare students for success post-graduation.

LIVING

▶ **Vision**	▶ **Mission**
In both physical presence and action, QU serves as a responsible steward of its natural resources and supports the long-term environmental sustainability of humanity on Earth.	QU community members live and engage in sustainable practices, which contribute to the creation of a more resilient and environmentally sustainable campus.

Members of the QU community directly live in and engage on facilities, grounds, classrooms, labs, offices and residence halls. They exercise and compete in a number of arenas constructed for this purpose; they conduct research, learn and relax in a built environment that should promote the sustainable practices that contribute to lifelong resilience. These campus facilities must function sustainably, minimizing their negative impact on surrounding ecosystems while maximizing positive impact. Accomplishing this requires consideration of several factors, including: building standards; waste, composting and recycling; power sources and efficiency; and environment-friendly grounds maintenance; among others. It also entails careful construction and maintenance of living environments that support the development of healthy, environmentally enriched lives, including: residence halls, dining services and on-campus food vending, health and wellness facilities, recreation facilities and programming areas. Finally, a sustainable living environment necessitates campus layouts that fully integrate with surrounding natural environments. This requires the integration of "natural areas" into campus design, consideration of circulation on and between campuses (footpaths, shuttles), and support for alternative forms of transportation (bicycling, public transportation).

LEADING

▶ **Vision**	▶ **Mission**
The presence of environmental sustainability in all pertinent practices is a hallmark of QU in the eyes of all stakeholders. External communication and internal execution of sustainable practices benefit from focused, continuous administrative support and executive-level interest.	QU *supports* sustainable practices institutionally. It creates the administrative structure needed to embed such practices throughout all pertinent facets of the university, and actively works to measure progress and communicate results.

A more environmentally sustainable living and learning community cannot emerge at QU without sustained leadership and coordination. Central to that point, communication both internal and external to the campus community will convey the meaning of sustainability at Quinnipiac, and it will show how every citizen of the QU community can engage in practices that will improve our environment. Internal and external communication will emphasize increasing awareness of

Quinnipiac's efforts to become a leader in sustainability. This awareness leads to and recognizes sustainable actions made by the university. At a minimum, consideration of sustainability must be fully integrated into all institutional decision-making; progress toward sustainability goals must be recognized and communicated (internally and externally); and cooperation must be pursued with other area institutions—academic, community and business.

Baselines and Benchmarking

Much of QU's immediate and direct contribution to advancing environmental sustainability results from the way the campus community lives, works and uses the facilities and resources of the university. One can model this system using the basic components needed to represent all systems: information, material and energy. Each of these areas (information, materials and energy) exists as a flow or as a stock (pool). Information acts as an important signal that directs the actors within the campus system (students, faculty and staff) over both short and long terms. These actors determine the materials and energy needed to sustain the university's function. The flows and stocks of material and energy associated with the QU campus system, in turn, dictate that system's environmental sustainability.

Appropriate signals contain information that students, faculty and staff use to inform behavior. Such signals reinforce desirable (positive feedback) or discourage undesired (negative feedback) behaviors. These signals may guide simple, daily actions such as properly disposing of a used item; they may appear in annual staff performance reviews (Wesleyan University) or influence planning over a multi-year period. They take multiple forms: explicitly stated guidelines posted for all to see, a price signal, policy directives for select university groups or even general ideas communicated by influential campus figures.

A university's materials influence its contribution to environmental sustainability. Monitoring a targeted set of materials demonstrates a university's progress toward a more environmentally sustainable state. The stock of material invested in a university's buildings and grounds influence multiple factors driving its environmental performance, and environmentally responsible educational institutions improve this stock through environmental certification of new buildings, renovated spaces and improved operations. Materials supplied to the university drive upstream environmental impacts while those released by the university affect local, regional and global environments. Monitoring a targeted set of material inputs and outputs, therefore, provides a physical sense of a university's progress toward a more environmentally sustainable state. Corporate environmental leaders such as Interface and PepsiCo are driving strategic change by focusing on the elimination of material wastes in operation. Institutions also monitor greenhouse gas (GHG) and other gaseous emissions, water usage and solid wastes using a host of measures.

Energy animates a campus and its occupants; it transports occupants to and from the university. However, acquisition and use of that energy comes with environmental consequences. Such is the environmental importance of energy that responsible institutions such as CalTech often place energy measures as foremost among sets of key indicators. One mitigates environmental consequences by using less energy and less environmentally damaging forms of energy. As part of its campus culture assessment in 2014, Resonate conducted a curricular audit and met with facilities before providing future benchmarking. It has been six years since those reports were generated; to set future benchmarks, the committee recommends that an implementation committee, under the direction of an employee specifically charged with overseeing campus sustainability efforts, conduct several audits to determine the current baseline of these stocks at Quinnipiac. These audits are critical to understanding QU's contributions to greenhouse gases, landfill waste and pollution. These audits will help us gain an understanding of the environmental initiatives that our faculty, staff and students participate in, and can build on the data provided in the 2014 Resonate reports. We suggest as starting points, audits in the following areas:

Faculty expertise: conduct a survey to identify faculty with an area of expertise, a secondary area of expertise, or an interest in sustainability that could be utilized to develop UC courses.

Campus culture: conduct a faculty/staff/student survey to provide an updated assessment of interest and knowledge around environmental issues and sustainability topics. The 2014 Campus

Culture survey indicated that students in general knew about sustainability, but were unaware of QU's initiatives around sustainability, but had a willingness to be involved in efforts promoting sustainability (55%).

Current environmental initiatives: assess faculty research, student engagement and experiential opportunities, facilities and ground operations, dining service, and community collaboration efforts in areas related to environmental sustainability. Communicate these initiatives to the external and internal community through a dedicated website to increase awareness of QU's sustainability initiatives.

Waste and energy: utilizing the data from the 2006 audit as our baseline and the building automation and management system (BMS) where appropriate, compile information on the waste and energy streams in our current facilities and operations. This data will allow for future benchmarking.

Water: conduct a water usage audit to determine the top water users at Quinnipiac and utilize this data to define water reduction targets and water conservation efforts.

Transportation options: in conjunction with other New Haven-area institutions, assess the public transportation, private shuttle and personal vehicle use of students, faculty and staff. Assess demand for and viability of alternative forms of transportation for use on campus, between campuses, and to connect Quinnipiac's campuses to area homes and businesses. Assess interest in and demand for alternate-fuel vehicular support (i.e., charging stations).
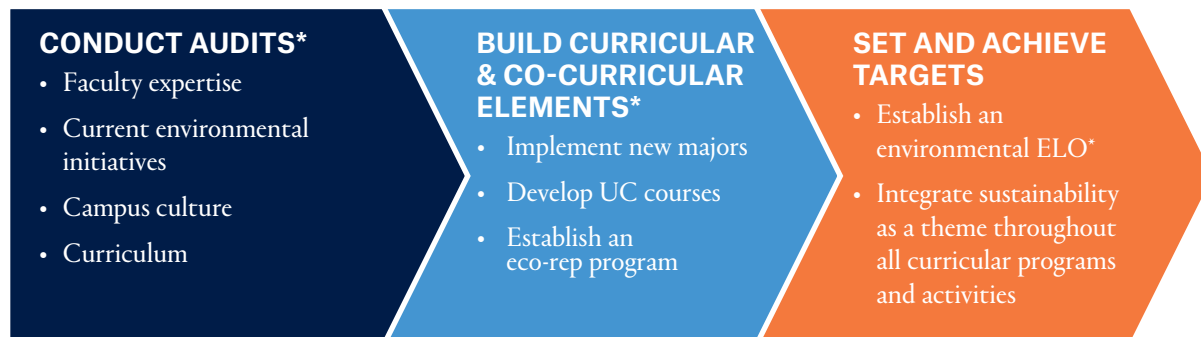
Use of plastics: gather data to understand which plastics are being used on campus, which items are most frequently used and where are they procured from, where single-use plastics are disposed of on campus and who is using single-use plastics on campus. Gathering this information will allow the implementation committee to make future recommendations around the use of single-use plastics.

Curriculum: compile data related to environment-related courses, and the availability of these courses, in the University Curriculum (UC). The audit completed by the director of general education and resonance in 2014 reported 21 courses related to environment and sustainability at Quinnipiac (Law and Medicine courses were omitted). This accounted for less than 1% of all courses offered; none of these courses were in the UC.

Aspirational Goals and Timelines

The committee has identified several aspirational goals that can be integrated into the next stages of planning. For each aspirational goal, education and communication around these efforts are essential elements for successful progress and implementation. These goals and actions can be sequenced such that initial steps can lay the groundwork for more significant long-term change. Directions of change identified by the committee include the following aspirational goals.

LEARNING

CONDUCT AUDITS*	BUILD CURRICULAR & CO-CURRICULAR ELEMENTS*	SET AND ACHIEVE TARGETS
• Faculty expertise • Current environmental initiatives • Campus culture • Curriculum	• Implement new majors • Develop UC courses • Establish an eco-rep program	• Establish an environmental ELO* • Integrate sustainability as a theme throughout all curricular programs and activities

Opportunities for funding partnerships, to be developed over time.

Build the environment and sustainability into the curriculum

Actions:

1. Introduce new majors in Environmental Policy and Science.

2. Build on audits of environmental expertise to increase environmentally themed course options in the University Curriculum.

3. Introduce environment and sustainability knowledge into the structure of Essential Learning Outcomes (ELOs) used to assess curricular and co-curricular programming.

Shift the institutional culture at QU

Actions:

1. Build relationships with Students for Environmental Action and other student groups, who could sponsor or co-sponsor events on campus (i.e., a recycling campaign).

2. Develop eco-reps to integrate the goals of sustainability through the campus culture and into the lives of students. This was recommended in the 2014 Resonate report and has been successful at our peer and aspirant institutions.

3. Work with RAs/OLs/admissions staff and eco-reps on sustainability messaging and values.

4. Increase education around environmental-related topics, these could include faculty, students staff or guest lecturers.

5. Create a sustainability website for internal communication. This site could house the dashboard and include QU's vision of sustainability, policies, best practices and future sustainability progress reports.

CONDUCT AUDITS*	ACT	ASPIRE
• Waste & energy	• Recycling education*	• Target reductions of single-use plastics*
• Water consumption audit	• Food recovery programs*	• Promote alternatives to single-occupancy vehicles*
• Transportation options	• Increase access to existing campus & regional transit services	• Build a flagship sustainable facility, using **Living Building Challenge** criteria*
• Use of plastic	• Conserve water in landscaping efforts	
	• Promote mindful behavior of water resources*	

Opportunities for funding partnerships, to be developed over time.

Reduce greenhouse gas emissions—Target: transportation

Between 2005 and 2014, college campuses in the U.S. reduced their greenhouse gas emissions by more than 6 percent, with many institutions in the coastal Northeast region averaging a reduction of more than 16 percent.[2] Fossil fuels burned for road, rail, air and marine transportation are the fourth-largest contributor to global greenhouse gas emissions and have significant implications in health and climate change.

Actions:

1 Promote alternatives to single-occupancy vehicles.

2 Increase access to on-campus and regional transit services, and enhanced on-campus bicycle and pedestrian pathways.

3 Reduce greenhouse emissions from transportation and fleet operations.

Reduce waste and expand sustainable purchasing

Human consumption is expected to double by 2050 and waste is expected to increase by 70%. The U.S. disproportionately consumes global goods and resources and generates more waste per person than any other nation on the planet. This is unsustainable.

Actions:

1 Encourage responsible campus events by applying sustainable event guidelines and waste reduction strategies.

2 Increase our recycling rate by standardizing receptacles and labeling, and increasing education and communication about how QU recycles. Through these practices, a reduction in recycling contamination is expected.

3 Continue the food recovery programs, diverting edible food to community members and community partners.

4 Coordinate best practices in waste management across all areas of the university, through a central environmental health and safety officer.

5 Create resource conservation strategies or reuse of items. These can include a reduction in paper products, printing, responsibly recycling electronics, clothing and other goods. Coordinate efforts around move-in and move-out utilizing RAs/OLs and eco-reps.

Reduce water usage

According to the World Health Organization, 80% of all diseases in the developing world are related to water. By 2025, it is estimated that nearly 30% of the world's population, residing in over 50 countries will face a water shortage. This would mean that 1.8 billion people would live in areas of extreme water scarcity. The biggest consumer of fresh water is agriculture and therefore is directly tied to food consumption and selection. The average American uses 88 gallons of water each day and the average family wastes 180 gallons per week.

Actions:

1. Determine the top water users at Quinnipiac and define water reduction targets for these areas.

2. Assess and implement water conserving landscape practices to enable performance tracking and water usage data.

3. Evaluate the feasibility of reclaimed water and wastewater technologies.

4. Promote mindful water use behaviors through programming and building design.

LEADING

RESEARCH/FORM
- Institutional memberships
- Comprehensive monitoring & report systems*
- Appoint a campus implementation leader and committee

INITIAL IMPLEMENTATION
- Hire an in-house environmental health & safety officer
- Apply a monitoring system to a limited number of campus facilities & activities*
- Join a membership organization

FULL COMMITMENT
- Seek recognition/ certification
- Expand monitoring and reporting*
- Fully establish office of sustainability with a CSO*

Opportunities for funding partnerships, to be developed over time.

Pursue institutional guidance for efforts in sustainability

Institutional guidance can provide informational resources, comparison groups for benchmarking, and expertise, as well as external recognition, as Quinnipiac moves to becoming a more sustainable institution. Such guidance can come through membership in organizations such as the Association for the Advancement of Sustainability in Higher Education (AASHE), the International Sustainable Campus Network, or the Northeast Campus Sustainability Consortium. Guidance also can come through seeking recognition from organizations like the Princeton Review, or the Sierra Club. The Sustainable CT program similarly provides a community of context that could guide Quinnipiac's efforts in sync with those of Hamden, which participates in that program. According to the 2014 Resonance Benchmarking Report, Quinnipiac was previously a member of AASHE, along with nearly all of the peer and aspirant institutions surveyed.

The AASHE is probably the most comprehensive organization working in sustainability for higher education. It provides networking and recognition, benchmarking and research resources, and professional development opportunities. Its STARS framework (Sustainability Tracking, Assessment and Rating System) is the industry standard for benchmarking, tracking and reporting progress. AASHE membership is available to higher education institutions in North America and abroad, as well as businesses and nonprofit entities that work with higher education institutions. AASHE members in Connecticut include: Connecticut College, Eastern and Southern Connecticut state universities, Trinity College, University of Connecticut, Wesleyan and Yale. Annual dues for an institution of Quinnipiac's size are EUR 1,500 (US$1,756).
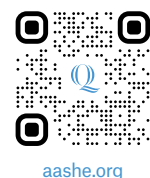
aashe.org

The **International Sustainable Campus Network** is an international forum based in Lausanne, Switzerland. It supports higher education institutions in the exchange of information, ideas and best practices for achieving sustainable campus operations and integrating sustainability in research and teaching. The network promotes projects that link member universities across national borders, and provides recognition for projects in the areas of Whole Systems Approaches, Partnerships for Progress, and Cultural Change for Sustainability. They hold an annual conference and make available resources such as Best Practices reports, and networking to other aligned organizations and resources. Member institutions from the U.S. include: Ball State, Brown, Carnegie Mellon, Georgetown, Harvard, MIT, Princeton, Smith and Yale. Annual dues for an institution of Quinnipiac's size are EUR 1,500 (US$1,756).

international-sustain-able-campus-network.org

The **Northeast Campus Sustainability Consortium** was established in 2004 to support the sustainability officers of higher education institutions in the northeast U.S. and maritime Canada. The consortium holds an annual meeting that affords opportunities for networking and professional development. There is no formalized structure; it is organized as a "collaborative, participatory network."

sustain.princeton.edu/north-east-campus-sustainability-consortium-necsc

The **Princeton Review's Green Guide** provides information on campus sustainability to interested students. It ranks the top 50 "Green Campuses" and reports sustainability information from 413 schools that achieve a high standard for sustainability (nearly 700 schools are considered for inclusion). Green rating is calculated on institutional data obtained from school administrators and 10 survey questions covering three categories: student quality of life in the areas of health and sustainability; student preparation for employment in an increasingly green economy; and environmentally responsible school policies. Universities in Connecticut included in the most recent ranking of top 50 campuses include Wesleyan (#18) and University of Connecticut (#29).

princetonreview.com/college-rankings/green-guide

The Sierra Club promotes its "Top 20 Coolest Schools," and ranks nearly 300. They collaborate with the AASHE to collect institutions' STARS data, which they then apply their own weighted calculation of an institution's Planning and Administration, Operations, and Academics and Engagement. In Connecticut, three institutions are ranked: Yale (#132), University of Connecticut (#5) and Connecticut College (#198).

The **Sustainable CT program** provides a municipal incentivization plan that provides funding and upholds standards to build "thriving, resilient, collaborative, forward-looking" communities. It provides a voluntary certification program and catalogs best practices for municipal sustainability in Connecticut. Hamden participates and has a dedicated officer in town administration to promote participation in this program. As a key institution in Hamden, Quinnipiac could coordinate its efforts with the town's to promote sustainability on a more regional basis.

sustainablect.org

Implement a reporting framework and monitoring system

To continue advancing sustainability goals and initiatives, the committee recommends the implementation of biennial reporting through an office of sustainability. This will facilitate both internal and external communication of QU's sustainability goals and progress. The office of sustainability would be well served to appoint a broad-based committee from various areas of the university, including Student Affairs, Faculty Senate, Student Government, Graduate Student Assembly, and Operations to set future benchmarks.

To assist in biennial reporting, and to promote transparency and knowledge around sustainability initiatives at Quinnipiac, the committee also recommends adopting a comprehensive monitoring system.

Dickinson College employs an interactive dashboard on its sustainability webpage, which displays data from 2008 through the present.[3] This allows Dickinson to "measure their impact, to hold themselves accountable to advance sustainability." Likewise, UCLA displays historical data, targets, initiatives and planning documents in each of its operation areas like climate and energy, food systems, water and zero waste. This outward facing communication is essential for the internal and external community; to begin this crucial step a monitoring system is necessary.

The committee solicited information on what this might look like. One local company provided us with a description that modeled one possibility for a comprehensive program that would allow for measurement, communication and integration of these activities into the ongoing operations of the university (See Appendix D). This approach allows for a multi-year phase-in, as our sustainability initiatives take hold. This company[4] prefers to partner with organizations to tailor sustainable actions to the goals of the university in a way that can creates opportunities for students engage with the ongoing monitoring (as, for example, campus employment opportunities or experiential learning opportunities). The model utilizes a three-legged philosophy that considers the economics, environmental and social aspects of sustainability. Regardless of the company or platform that is used for monitoring, it is essential that these three areas are included.

The incorporation of consistent measurement into an organization's sustainability practices can result in significant cost savings. Five examples of varying organizations (and organization types) that Two Owls has worked with include:

- MiLB AA Rockies—Yard Goats 2019–20 (Hartford, CT, Dunkin' Donuts Park)—A sustainability audit of the ballpark and incorporation of a sustainability dashboard to track key performance indicators (KPIs led to $18,000 in savings within just a few weeks.

- Louis Vuitton 2020—Embarked on a pilot project in Summer 2020 utilizing a monitoring dashboard, which led to achieving the intended goal at 30% under budget.

- NFL Super Bowl LII LIVE Fan Festival 2018 (Minneapolis, MN, U.S. Bank Stadium)—A 10-day fan event removed 40% of all material from the waste stream to be re-purposed/donated to charity, while achieving a 70% diversion rate and cut the estimated hauling bill by approximately $14,000, 52% less than budgeted/expected costs.

- USGA U.S. Men's Open Championship (Chambers Bay, WA)—Served as a sustainability liaison for the USGA U.S. Open between local municipalities, the EPA District 10, Green Sports Alliance, and FOX Sports. The efforts, including a vendor sustainability survey led to $27,000+ direct savings.

- PGA Traveler's Championship (Cromwell, CT, multiple past years)—Generated an average of $3,000 in aluminum/water bottle returns + savings through reduced hauling costs by removing the returnable material from the waste stream.

As a means of assessing the costs that might be incurred from the incorporation of a comprehensive system like this, the committee solicited this information from Two Owls. They quoted a per building cost including an initial cost for getting a building and the corresponding information onto the monitoring platform and then a reoccurring cost. The cost per building with 5 vendors and 2 updates/year is $3,225, so for onboarding five buildings, the cost would be $15,802.50, which reflects a 2% discount. The following years, the annual fee would drop to $1,800 per building.

**SHORT-TERM GOALS
(1-3 YEARS)**

- Conduct audits: curriculum, energy use, water/waste/plastic*

- Pursue institutional membership

- Initiate monitoring system/dashboard*

- Hire environmental health & safety officer

**MEDIUM-TERM GOALS
(3-6 YEARS)**

- Build curricular and co-curricular elements: major, UC, eco-rep program*

- Implement water conservation, transport options, food & waste stream efficiencies*

- Establish Office of Sustainability with CSO*

- Seek institutional recognition/certification

**LONG-TERM GOALS
(7-10 YEARS)**

- Reduce single-use plastics on campus*

- Build a flagship sustainable building*

- Establish an environmental ELO & begin reporting educational outcomes*

Opportunities for funding partnerships, to be developed over time.

Sustainability Scorecard

The following areas are suggested for measures of progress. The Association for the Advancement of Sustainability in Higher Education's (AASHE) STARS framework (Sustainability Tracking, Assessment and Rating System) is an alternative, industry-standard set of metrics that would become available should Quinnipiac re-establish our membership in the AASHE. More detail on suggested metrics is included in Appendix B:

Academics	Engagement	Operations	Planning & Administration	Innovation & Leadership
Academic courses	Assessing sustainability culture	Greenhouse gas emissions, green travel	Sustainability planning	Campus pride index
Learning outcomes	Community partnerships	Building operations & maintenance	Inclusive & participatory governance	Bicycle & pedestrian-friendly university
Employer satisfaction	Outreach materials & publications	Building energy efficiency	Support for underrepresented groups	Pay scale equity
Incentives for developing courses	Inter-campus collaboration	Food & beverage purchasing	Sustainable investment	Pest management certification
Research & scholarship	Participation in public policy	Landscape management	Employee compensation	Academy-industry connections
Experiential learning opportunities	Continuing education	Sustainable procurement & electronics purchasing	Workplace health & safety	Community stakeholder engagement
	Health & wellness activities	Support for sustainable transportation	Reporting assurance	Campus water balance

Endnotes

[1] In May 2014, Resonate, LLC, delivered three reports that culminated in a year-long study of sustainability at Quinnipiac. The three reports provided assessments of Campus Culture, Benchmarking and Curriculum for Sustainability.

[2] Weber, S.; Newman, J.; Hill, A., 2017, "Ecological regional analysis applied to campus sustainability performance," International Journal of Sustainability in Higher Education, Vol. 18 Issue: 7, pp. 974-994.

[3] dickinson.edu/homepage/780/sustainability_dashboard

[4] Two Owls Sustainability Partners, located in Branford, CT.

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