# Strategic Communication to Achieve Carbon Neutrality within the University of California

Report of the TomKat Strategic Communication Working Group

Executive Summary

July 5, 2018

# Preface

The University of California's Carbon Neutrality Initiative (CNI) is a response to the existential threat of human-induced warming of the global climate. Carbon dioxide ($CO_2$) emissions from the burning of fossil fuels are the main cause of climate change, a global phenomenon with widespread harmful—potentially devastating—effects. Although no institution alone can halt global warming, local entities can lead the effort by cutting their own emissions and demonstrating technologies and behaviors that others can emulate and adapt to their own conditions.

Historically, the State of California has been at the forefront of efforts to manage environmental pollution, including greenhouse-gas emissions, and its policies and technologies have been widely adopted elsewhere. The University of California (UC) system has played a significant role in California's climate leadership. Its researchers are at the forefront of climate science and technology as well as the design and evaluation of policies and strategies for targeted climate action. In 2007, all 10 UC chancellors signed the American College and University Presidents' Climate Commitment, pledging to "set a target date for achieving carbon neutrality as soon as possible," thus taking a leadership role in shaping a sustainable society[1]. In keeping with its legacy of energy and climate leadership, and its three-fold mission of research, teaching and public service, UC President Janet Napolitano launched UCs Carbon Neutrality Initiative in 2013, setting 2025 as the target date for net-zero UC carbon emissions from on-campus combustion and purchased energy (i.e., Scope 1 and 2 emissions)[2]. The goal of the UC Carbon Neutrality Initiative (CNI) is to reduce emissions and use the university's extensive infrastructure as a setting for applied research to demonstrate how deep decarbonization can be achieved practically within very large, diverse, and complex institutions.

To provide oversight, research, and recommendations for the CNI, UC President Janet Napolitano convened experts from across the university, including faculty, students, administrative leaders, and operations staff. The primary advisory group is the Global Climate Leadership Council (GCLC), formed in 2014. The GCLC subsequently established an Applied Research Working Group which, in early 2016, formed the Task Force on Carbon Neutrality Financing and Management to study the barriers impeding progress toward the goal and to recommend potential solutions. The Task force identified internal UC communication as a critical gap, and recommended that well-planned strategic communication around the CNI be initiated.

In early 2016, the TomKat Foundation made a grant to the UC Santa Barbara Institute for Energy Efficiency to establish the TomKat UC Carbon Neutrality Project, a research effort to develop solutions to two of the most challenging aspects of achieving carbon neutrality. The TomKat Natural Gas Exit Strategies Working Group explored how to eliminate campus reliance on natural gas, the main source of on-campus $CO_2$ emissions. The TomKat Strategic Communication Working Group, whose research and recommendations are the subject of this report, has researched ways to improve communications and foster broad-based awareness and participation in UCs Carbon Neutrality Initiative.

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# Executive Summary

## Introduction

The University of California (UC) has pledged to achieve net-zero carbon emissions from on-campus operations and purchased energy by 2025. This Carbon Neutrality Initiative (CNI) is in keeping with UCs legacy of energy and climate leadership, and its three-fold mission of research, teaching and public service. Through the CNI, the university's extensive infrastructure will serve as a setting for applied research to demonstrate how deep decarbonization can be achieved within a very large, diverse, and complex institution. The CNI's success requires that high-level participants have the knowledge and authority to act, and also that the UC community make it a priority. Strategic communication is essential to developing this knowledge and support.

In early 2016, the TomKat Foundation made a grant to the UC Santa Barbara Institute for Energy Efficiency to establish the TomKat UC Carbon Neutrality Project, a research effort to develop solutions to two of the most challenging aspects of achieving carbon neutrality: natural gas exit strategies and communication. The TomKat Strategic Communication Working Group, whose research and recommendations are the subject of this report, has researched ways to improve communications and foster broad-based awareness and participation in UCs Carbon Neutrality Initiative. We addressed recommendations from the CNI Finance and Management Task Force and also benefited from the recommendations of the parallel TomKat Natural Gas Exit Strategies Working Group.

We investigated attitudes toward the CNI among students, faculty, staff and administrative leaders across all campuses; and developed a plan that UC can use to build the needed understanding and motivation. Our working group included experts in communication, education, political science, public opinion, psychology, sociology, engineering, sustainable design, and public policy as well as energy and sustainability practitioners. As a first step, we identified and defined the primary UC audiences related to the CNI. Working with those audiences, we then identified concerns, potential barriers, and opportunities; and developed recommendations.

## Key Findings

1. Potential champions of the CNI need concrete and actionable information about measures to achieve carbon neutrality, including the pros and cons of each.

2. Administrative leaders are expected to take the first steps, and to facilitate but not mandate. The campus communities want to have a voice.

3. Significant tradeoffs such as inefficiencies, inconveniences, and diversion of resources, that may compromise teaching, research, or patient care are viewed as undesirable.

4. Local solutions are highly valued, including on-campus energy efficiency and renewables. Market-based mechanisms such as offsets are viewed with skepticism, especially if they divert resources from on-campus measures.

5. Decision making needs to weigh organizational, psychological, and sociocultural considerations together with economic and technical factors to develop carbon solutions that foster engagement.

### CNI Strategies

Given the magnitude of UCs system-wide emissions, reducing emissions to net zero will require all campuses to engage in multiple strategies, including investments in infrastructure both on and off campus, as well as market-based solutions. UC is addressing four main areas:

- reducing campus demand for energy,
- planning growth around net-carbon-neutral construction,
- replacing high-carbon energy by investing in renewable solar, wind, and biogas energy
- supporting projects that prevent greenhouse-gas emissions elsewhere, or sequester carbon dioxide.

In addition, presenting UC as a living laboratory, or "collaboratory" for carbon neutrality is gaining support. This concept was articulated in the Bending the Curve report published by UC in 2015, and in the 2017 CNI

Finance and Management Task Force report. The TomKat Natural Gas Exit Strategies Working Group strongly recommended pursuing and communicating solutions that are scalable or forge new paths.

### Prior Work

Our research and recommendations expand on findings from the CNI Finance and Management Task Force, whose report emphasized that the transition to carbon neutrality will hinge on securing broad internal support, and that it must respect campus autonomy. They identified three types of concerns that may account for the lack of broad-based support. The first addresses how to take the actions that the UC community will support. The CNI competes for scarce resources on campuses, there is uncertainty about which actions to take, and the connection between carbon neutrality and the university's core mission is unclear. The second area concerns framing. CNI branding is uninspiring, and the goal seems impersonal and does not engage the broader UC community. Third is acceptance of specific top-down decisions. The university's response to the student-led divestment campaign made some student groups wary of participating in university-led climate-change efforts; and many campus stakeholders are dismissive of using offsets to achieve carbon neutrality.

Up to now, UCs communication program has focused more on external audiences, with building support for the CNI goals by engaging faculty, students and staff across UC campuses being secondary. The UC Office of the President (UCOP) Marketing Communications has focused on increasing external awareness of UC as a global leader on climate change solutions and clean energy, and increasing external awareness of UCs efforts to achieve carbon neutrality, as a model for other institutions and municipalities and as a source for scalable solutions.

## Opportunities

1. Students, faculty and staff who participated in our research were generally supportive of sustainability initiatives, and thought UC should exert leadership. Even though they did not feel they knew enough about the initiative or what next steps to take, they want to help make changes.

2. Many staff are already invested in achieving the CNI goal and only need stronger engagement on the part of campus leaders and the community, additional administrative support, or resources to help them advance toward the goal.

3. Linking carbon neutrality to themes such as social justice, health, responsibility, or leadership can be effective in tapping into what matters most to audiences on some campuses.

4. Most everyone we surveyed wanted more data about energy use and placed a high value on transparency of information and progress toward goals. Providing such information could be a relatively straightforward communication adjustment.

## Research Design

Our working group undertook five main areas of research.
1. **News analysis.** We analyzed campus news coverage, focusing on how campus-sustainability and public-communication offices portray the CNI and integrate it with other sustainability themes.
2. **Administrator interviews.** We interviewed administrative staff and managers, focusing on campus-level CNI decision making and implementation. These data provided insight into perceptions of the CNI's costs and benefits, effective communication and engagement, and opinions about the role of UCOP versus campuses in the CNI.
3. **Faculty survey and interviews.** We used surveys and interviews to explore faculty attitudes and perspectives. Faculty play a critical role in campus initiatives like the CNI because of their involvement in campus decision making, interaction with students, leadership in relevant research, and thought leadership in regional, state, federal, and global forums.
4. **Focus on students.** We assessed student attitudes and perspectives using surveys, a workshop, and focus groups. Student support brings visibility to initiatives they value, and UC students have a long history of driving institutional and social change.
5. **Data visualization tests.** To understand best approaches to data visualization that will be used support engagement with the CNI, we assessed data needs and tested design concepts for campus energy dashboards that can help connect individual actions to broader goals.

All participants in our research were self-selected, and many were already involved in actions to address environmental or sustainability issues. Results thus inform strategic communications for the CNI, although we do not consider them to be generalizable to represent the perspectives of all UC students, faculty, and staff.

## Findings

Achieving the 2025 goal of system-wide carbon neutrality will mean engaging the UC community at all levels, across administrative leaders, faculty, students, staff. Our findings point to considerable communication challenges underlying the present lack of engagement in the CNI.

### News analysis

At present, limited information about the CNI is reaching the broader campus community, and coverage of the CNI does not associate it with the larger university mission. Public-communication offices, which host the majority of sustainability-focused news stories, often frame articles in terms of research discoveries or awards. Stories on sustainability-office web pages, though fewer, more often mention carbon neutrality. Overall, only 22% of analyzed stories that contained carbon-neutrality themes mentioned carbon neutrality explicitly, with energy efficiency and conservation being featured prominently and market-based mechanisms rarely appearing. Opinion pieces were also rare.

### Administrative interviews

Administrative staff involved with campus-level CNI implementation saw energy efficiency and on-campus renewables as the most-important carbon-neutrality opportunities. They expressed concern about the challenges of transitioning away from natural-gas-fueled combined-heat-and-power plants (also called cogeneration plants). Most respondents were also concerned that market-based offsets would divert funds from energy efficiency or on-site renewables projects. However, many would support locally purchased offsets as a funding mechanism for on-campus projects. Most respondents saw potential for improved communication and engagement around the CNI but voiced concern that the goal, the operational strategies for achieving it, and its relationship to the UC mission and values remain poorly defined. Alignment of the CNI with the institutional mission (research, education, public service, and, for medical campuses, patient care) was considered critical to the success of the initiative. Staff also viewed higher prioritization of carbon neutrality by campus leadership as a linchpin to the CNI's success.

### Faculty survey and interviews

Most faculty who participated in our studies had some understanding of actions that can be taken to reduce campus carbon emissions; however many were not familiar with the CNI. In addition, Scope 1 and 2 emissions, the subject of the CNI, are less salient to many faculty than other (Scope 3) campus emissions, such as travel. Faculty expressed strong support (including openness to spending more money) for UC taking a leadership role in climate change and environmental issues. They saw carbon neutrality and sustainability as the right thing to do, and representative of "who we are;" and they viewed universities as uniquely equipped to address such issues. Faculty placed high value on the education and research mission of the university, and most expressed a willingness to personally take actions that align with it. Faculty also suggested leading by action by making campuses "living laboratories" to test emission-reduction strategies, share best practices and engage the public. Faculty expressed a preference for consultative, collaborative decision making over top-down CNI management. They indicated that that better management and communication around campus facilities and operations would be essential if positive changes to campus infrastructure are to be made.

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### Key Recommendations

1. Create a campus-based, system-wide collaboratory to provide applied-research and education opportunities that align the CNI with the university mission. Actively engage faculty, staff and students so as to motivate broader involvement in carbon reduction solutions.

2. Develop information-rich communication resources that give CNI champions a big picture view of potential solutions and empower them to share ideas and engage others in creating solutions.

### Focus on students

Many of the students who participated in our research were among those already engaged with sustainability and climate issues. However, their familiarity with, and understanding of, the CNI was relatively limited. Most respondents expressed a need for more actionable information about the various strategies being pursued or considered. Key motivations for student support of actions to reduce campus carbon emissions include the need to address climate change and a desire for UC campuses to demonstrate leadership. Students viewed development of renewable energy on or near campus very favorably. They also expressed strong support for campus-infrastructure improvements and purchase of low-carbon goods and supplies. Support for market-based emission-reduction strategies was much lower, but improved when linked to specific projects. Students who expressed support for campus emissions reduction were also very likely to indicate that it is important for UC to divest from fossil-fuel companies. Students also perceived behavior-change and awareness-raising activities as important strategies for achieving carbon neutrality and questioned why these were not key elements of the overall UC strategy.

## Recommendations

Our findings lead us to two overarching recommendations: 1) use the CNI to create a campus-based, system-wide collaboratory that provides applied-research and education opportunities that align with the university mission, and 2) develop information-rich communication resources for campuses to help them better engage and to empower potential CNI "champions." These and other recommendations are described below.

### Administrative leadership and communication

To become an administrative and operational priority, the CNI needs to be aligned with the UC mission, communicated clearly, and adopted by administrative leadership, particularly at the chancellor and vice-chancellor levels. A clear, economical, and pragmatic path to net-zero-carbon operations needs to be articulated by each campus, including financing strategies that work synergistically with other campus priorities. A key challenge for administrators will be to shift the "CNI narrative" from focusing almost exclusively on success stories, to more-balanced communication that frankly addresses tradeoffs and challenges, particularly the ambitious 2025 deadline and the likely need for offsets and other market-based measures that some stakeholders find problematic. Campus leaders will need communication tools to address the tradeoffs resulting from costs, particularly if such costs could affect students, teaching, or research. They must also be prepared to clearly communicate the strategy for carbon credits and offsets, including what they are, why they are important, and plans to ensure they are aligned with the UC mission.

### Internal Decision making and communication

Consultative, deliberative planning and decision making will be more effective in engaging the wider campus community than top-down directives. Campuses should develop an overarching platform and specific strategies for effective internal communication that focus on consultation, deliberation, and engagement with the wider campus community. We recommend that administrative leaders and project managers provide forums that give campus community members a chance to weigh in on specific actions that are being considered to help achieve carbon neutrality. Campuses should better leverage student government and organizations, the academic curriculum, special events, internships, and research opportunities as venues for engagement. Finally, students should be provided with clear pathways to get involved in planning and decision making related to energy use and carbon reduction.

### Information and data transparency

Our research indicates that few members of campus communities have even a basic understanding of carbon neutrality, including sources, and types of emissions (e.g., Scopes 1, 2, 3), UCs carbon neutrality goals, or the strategies that their campus is pursuing to achieve carbon neutrality. Further, many are skeptical about how much it will cost and how it will be financed. Campuses and the Office of the President need to make fundamental information about carbon neutrality available that defines carbon neutrality in the context of UCs initiative and frankly acknowledges the challenges, costs, funding sources, budget impacts, and other issues associated with it. A CNI Fact Sheet (see Appendix 6.3.2) has been prepared as the resource and starting point for this approach.

We recommend adopting a standard of data transparency that gives students, staff, and faculty access to current, distributed, disaggregated information on campus energy use and potential paths to carbon neutrality. Overall, campuses can create an active, community-driven learning environment by including data and information about what can be improved as well as what has already been accomplished. Robust interactive tools for understanding campus energy data, including energy dashboards, can help administrators manage internal CNI communication and empower CNI champions and end users. Campuses should provide data on personal and institutional energy use that students, faculty, and staff can adapt the data to their needs. Campuses can also accompany data with interpretive visuals, stories on campus energy use, sources, solutions, and actionable tips for improving energy sustainability. We also recommend that UC continue research on how to engage the campus community with the CNI, and develop a way to reliably assess progress toward campus carbon-neutrality goals through data collection.

### Messaging and story development

We recommend de-emphasizing the term "carbon neutrality" and emphasizing pragmatic paths toward a carbon-free campus, such as reducing departmental and individual energy use. Prioritize development of campus communications around three key areas. First is sources of carbon emissions, along with candid descriptions of the magnitude of the challenge. Second, address pros and cons of potential emissions-reduction strategies and tradeoffs, including offsets, renewable energy credits (RECs), and other market-based mechanisms. Third is frank acknowledgement of costs and financing options, including potential impacts on student costs. The approach should involve making more-effective use of campus media to create awareness and involvement by empowering potential champions with information that enables them to more effectively engage their own communities within their campuses. This can include targeted support for those already producing communication materials on campuses, such as:

- supporting sustainability officers in producing CNI-related news content,
- generating carbon-neutrality stories with discovery and profile themes,
- developing editorial coverage about challenges that need to be overcome to achieve carbon neutrality,
- providing information on market-based strategies and other less-frequently covered carbon-neutrality topics to those who write sustainability-themed stories for campuses, and
- providing carbon-neutrality angles for other stories.

We found that students are interested in learning about and making changes to their habits and lifestyle that support the goals of the CNI. We recommend further exploration of opportunities to increase CNI engagement and motivate individual-level behavior change through data transparency and broader on-campus sustainability events such as the Cool Campus Challenge.

### Mission alignment

Our central communication recommendation is that campus and UCOP communications expand coverage beyond discoveries and profiles to highlighting the ways in which campuses serve as "living labs", or collaboratories, that actively develop inspiring, pragmatic, scalable solutions. Moving to a framework that places emphasis on the collaboratory and alignment with the university's core mission also provides an opportunity to place less emphasis on the term "carbon neutrality." This directly addresses critical tensions within the university community. For example, students already engaged in environmental issues want to see the CNI as part of a complete commitment to reducing climate and environmental impacts. Yet putting a strictly "green" or environmental frame on the CNI may dissuade individuals who value other campus priorities over carbon neutrality. Communicators should work with related initiatives and seek alternate ways to talk about carbon neutrality by reframing solutions and impacts. For some audiences, it would be more effective to connect the CNI to other UC environmental, social justice, and health initiatives, as well as to divestment and to a broader commitment to a sustainable future.

## The Collaboratory

The collaboratory approach is based on the premise that engagement of the campus community is essential for a transformative initiative such as achieving carbon neutrality. It frames carbon neutrality as an opportunity and not as a mandate, by offering an approach that 1) actively engages the campus community to pursue campus-based solutions, given known constraints, 2) spans multiple campuses to draw in a wider swath of

potentially interested individuals, and 3) remains true to the net-zero-carbon goal while potentially allowing a more-flexible timeline to resolve extreme challenges, such as campus natural-gas use.

This approach goes beyond typical branding and one-way communication and provides an explicitly inclusive, dialogue-based, engagement-centered platform for meaningful development and exchange of ideas. It highlights each individual campus as a "collaboratory" where ongoing research and case studies provide replicable and scalable solutions for UC and external organizations. Within such a collaboratory, potentially scalable modifications to campus infrastructure or administrative processes would be pursued as "experiments" to reduce carbon emissions, and members of the campus community would be engaged in designing, implementing, observing, and documenting the process. This emphasis on community-driven monitoring, goal setting, and program development to reduce impacts is foundational to the collaboratory approach.

### Focus on "campus energy solutions"

The UC collaboratory should position carbon neutrality within a broader sustainability context (Figure 1). Within this framework, we suggest making "campus energy solutions" the core focus to have the greatest impact on the CNI. A programmatic focus on campus energy solutions may help set aside confusion around the broader terms "carbon neutrality," and "Carbon Neutrality Initiative," which may be perceived as excessively challenging for the university. Focusing on campus energy solutions would highlight how actions to achieve carbon neutrality are linked to other sustainability goals, and it would focus the community on the immediate, tangible challenges of transforming energy sources and uses on campus. Additionally, because the phrase "campus energy solutions" doesn't have a specifically environmental connotation, it has the potential to engage those in the UC community who are less inclined to invest in strictly environmental goals, while also embracing those for whom the broader sustainability goal is a path to engagement with carbon neutrality and campus energy solutions. Using the collaboratory to develop scalable solutions for organizations outside UC is also an important feature that can promote external engagement and longer-term support.

Applied-research projects developed in the collaboratory will augment the work on energy solutions that is already occurring on UC campuses in the following ways:
1. Collaboratory research would focus on campus-level energy infrastructure, procurement, management, and energy-use behaviors.
2. It would partner university staff and researchers in designing, implementing, and studying changes to the university's infrastructure and practices.
3. It would be explicitly interdepartmental and interdisciplinary at all stages of research design, implementation, and evaluation.

### Collaboratory project criteria

Each collaboratory project should have the dual goals of 1) improving campus energy procurement and use, and 2) taking a leadership role in society by providing tested and documented solutions that other organizations and institutions can adopt.

The following criteria for collaboratory projects focus on energy management but can be applied more generally. Many of these criteria are already present on campuses.

1. Project teams should be transdisciplinary and cross operating units, bring together staff, students, and faculty, and bridge gaps between energy-management, facilities-management, and sustainability functions.
2. Projects must include applied social- or behavioral-science components in the research, design and observation phases. This human-centric approach will help ensure that solutions are ultimately adopted and that impacts on human behavior and well-being are documented.
3. Work should focus on one of several strategic areas relevant to carbon emissions, such as monitoring, on-campus or off-site renewable-energy generation, efficiency retrofits, revolving-energy funds, offsets or other market-based programs.
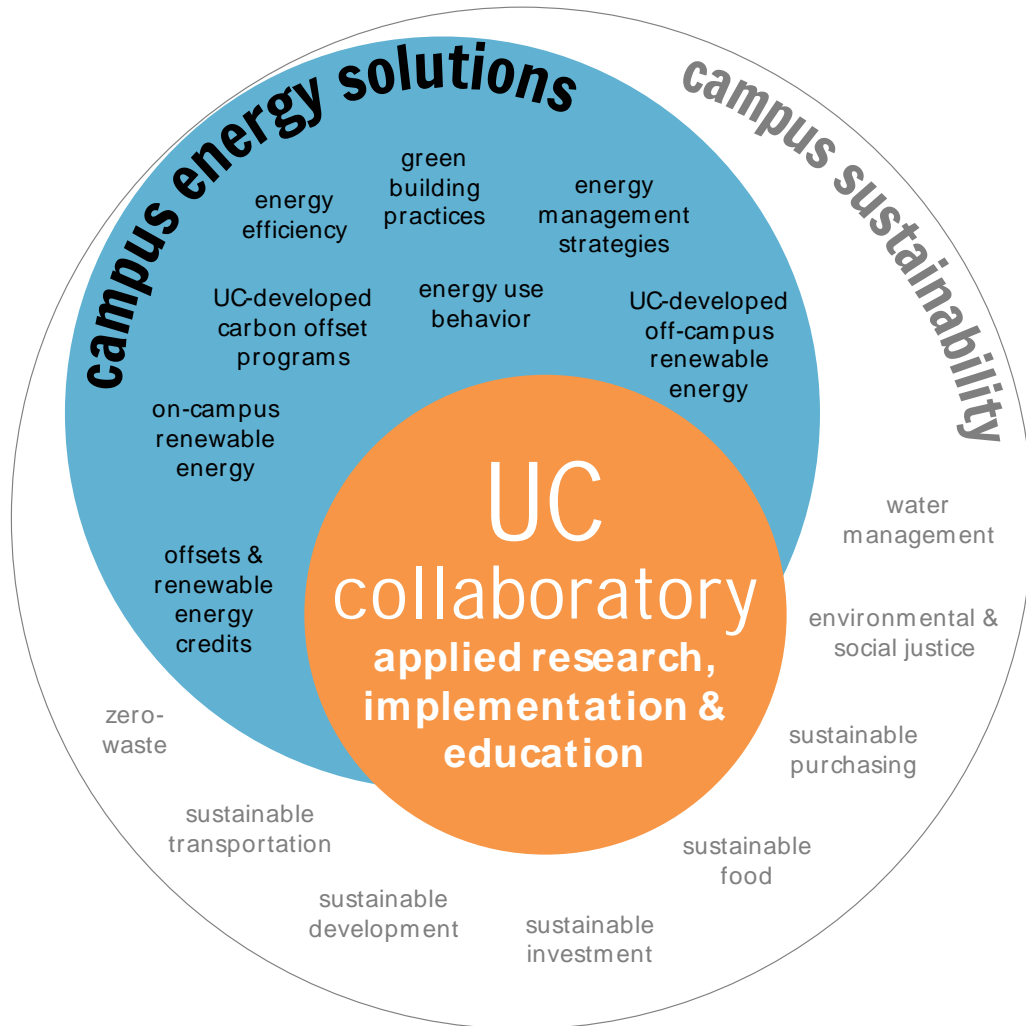4. Projects should be potentially scalable to other campuses, regions, the state, or more broadly.

*Figure 1. Relationship of the proposed collaboratory to energy solutions and broader sustainability themes on campuses and across the university.*

5. Each project must articulate a clear rationale and quantify the degree to which it will contribute to a specific campus goal (e.g., reducing carbon emissions). It should estimate budgetary impacts, explain benefits to campus operations, and describe how outcomes will inform campus planning.
6. Results should have application beyond one campus and should be communicated beyond traditional academic publications (e.g., news release, interview, open data, etc.).
7. Project data must be made available to all campus units and delivered in a way that subsequent projects can build upon. Ideally, data will be made a part of an ongoing data-transparency project for campus energy, available outside as well as inside UC.
8. Student involvement through research fellowships to undergraduate and/or graduate students will enable them to work with campus staff in sustainability, energy-management, communication, and other operating units.

We recommend that the collaboratory be a clear initiative with an applied-research agenda and opportunities for engagement through classes, energy-management projects, data management, communications and other aspects of the CNI. We envision using the collaboratory and associated projects as the focus of a larger communication campaign that aims to develop a foundational ethos for UC as an active, community-driven learning space. We suggest a communication strategy and messaging campaign to support the collaboratory that focuses on these values provides tangible opportunities for engagement.