AN INTEGRAL APPROACH TO INSTITUTIONALIZING SUSTAINABILITY IN HIGHER EDUCATION: A CASE STUDY OF COLORADO COLLEGE

By

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2010

MP Advisor's signature

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ABSTRACT

Recently, institutions of higher education (IHE) have moved toward greening their campuses and incorporating sustainability principles into strategic planning, operations, education, research, and public engagement. While many IHE have some form of sustainability initiative, project, or policy, there are no examples of an institution that has successfully achieved a whole-systems transformation or institutionalized sustainability.

Using qualitative case study methods, this Masters Project analyzes the catalysts and barriers to institutionalizing sustainability at Colorado College. I then apply a theoretical framework adapted from Integral Theory to evaluate the degree of institutionalization and whole-system change at Colorado College. Further, I extend the successes and lessons learned from the case, arguing that the integral model of institutionalization is applicable and useful to sustainability transformation in many IHE.
ACKNOWLEDGMENTS

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My advisor, Professor Charlotte Clark, helped me from the start of this project to wade through the complexities of the research questions, methodological approach, and theoretical inquiry. I am thankful for her positive support and thorough guidance, without which, none of this would be possible.

Of course, I must thank my partner Chris Barlow, and family for standing by my side through this program.

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I. INTRODUCTION

Recently, institutions of higher education (IHE) have moved toward greening their campuses and incorporating sustainability principles into strategic planning, operations, education, research, and public engagement. In a time of economic transition, when green jobs, alternative energy, and climate change have entered the common discourse, higher education stands as a key arena to provide appropriate training and education to future leaders in the move toward a green economy and more resource constrained world. Additionally, as cutting-edge institutions of knowledge and research, colleges and universities offer a unique opportunity to act as living laboratories for embedding sustainability into their organization. Moreover, the dichotomy between operations and curriculum provides a huge opportunity to cross-pollinate organizational change. In the words of David Orr (2002), “no other institutions in modern society are better situated and none more obliged to facilitate the transition to a sustainable future than colleges and universities” (p. 96).

This movement, which began almost twenty years ago with the Talloires Declaration - the first official statement issued by university leaders committing their institutions to environmental sustainability - has garnered significant participation and gained exciting momentum in the past five years. Many campuses and universities have joined the movement to address environmental degradation and social justice in myriad ways. The visibility and importance of issues such as recycling, green building, energy efficiency, and sustainable procurement have been greatly enhanced within the higher education sector. These projects suggest a shift in values and operations toward environmental goals; however they do not prove long-term systemic change or

1 http://www.ulsf.org/programs_talloires.html
transformation to becoming a sustainable organization. Leith Sharp (2002) illuminates this important distinction, stating that, “it is critical to distinguish between project success and institution transformation. The journey to succeed in building a showcase green building at your university is a very different journey to successfully institutionalizing a university-wide commitment to have all future buildings built green . . .” (p. 4). While many IHE have some form of sustainability initiative, project, or policy, there are no examples in the literature of an institution that has successfully achieved a whole-systems transformation toward sustainability.

This progression toward sustainability is complex and nebulous, requiring significant and widespread organizational change. Furthermore, while IHE are centers for innovation and learning, they tend to be resistant or move slowly to institutional change (Bartlett and Chase, 2004). IHE are complex decentralized organizations, described as a ‘loosely coupled,’ body of autonomous sub-systems (Weick, 1976). Decision-making in a college or university does not follow a simple top-down model; rather there are “numerous subcultures of decision-making styles” with no single “control-center” or focus point (Sharp, 2002, p. 6). Thus, transitioning from isolated and fragmented greening initiatives to incorporating sustainability into the fabric of the institution can be challenging to achieve. No one has yet fully measured the extent to which this has occurred through a systemic shift in culture, behavior, values, and structures in IHE or given a roadmap for how to get there.

Using Colorado College as a case study, this Masters Project aims to investigate organizational change with respect to sustainability to better understand the drivers and barriers toward institutionalizing sustainability within IHE. Drawing on literature from
systems thinking, organizational learning, and integral sustainability, this report analyzes the history and current status of Colorado College’s sustainability initiatives using an evaluative framework adapted from Wilber (2000), Brown (2005), and Cacioppe and McDermott (2009) coupled with sustainability indicators outlined by AASHE’s STARS tool. From this analysis, I provide strategic recommendations to key decision-makers and sustainability change agents at Colorado College on how to move forward to overcome barriers and leverage existing strengths. I then discuss how the lessons learned from this case study and final model of sustainability institutionalization can be applied to the broader movement of sustainability in IHE.

1.1 Objectives

This Masters Project aims to meet the following objectives:

1. Examine the history of Colorado College’s approach to sustainability. Who were the key players; what were the institutional drivers and barriers; what were the catalysts for change?

2. Investigate the current circumstances facing the implementation of the Campus Sustainability Plan and the recent signing of the ACUPCC. Identify the factors and potential challenges involved in institutionalizing sustainability at Colorado College.

3. Provide recommendations to the college in moving forward with institutionalizing sustainability on campus. What does institutionalization of sustainability look like at Colorado College? What organizational challenges does the college face toward institutionalization? What existing strengths, leadership, and networks can be leveraged to further this process?
4. Develop a framework to conceptualize and evaluate the process of sustainability institutionalization in an IHE. Apply this framework to Colorado College. Discuss the model’s broader applications to institutional change toward sustainability.

II. BACKGROUND TO SUSTAINABILITY IN HIGHER EDUCATION

2.1 Defining Sustainability within an Organization

In response to rising global environmental and humanitarian concerns, the United Nation’s World Commission on Environment and Development issued the Brundtland Report, entitled “Our Common Future,” in 1987. From this report, the notion of sustainable development and sustainability emerged, which articulated the goal of “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland Report, 1987, para 2). Since then, businesses, organizations, and government have increasingly adopted principles and practices of sustainability and social responsibility. Sustainability has thus become a catch phrase that has been overused and diluted to the point where its ambiguity renders it nearly meaningless to managers and decision-makers (Hart, 2005, p. 57). Consequently, defining the term and concept of sustainability within an organizational context is a vital first step in evaluating an institution’s sustainability performance and strategy.

A common framework employed in the business world to conceptualize sustainability is the triple bottom line, which reflects the importance of balancing economic, social, and environmental health. Derived from traditional economics and organizational accounting, the triple bottom line expands the notion of capital to include
natural, human, and social capital. Broadening this definition of capital induces the organization to move its focus beyond purely economic performance and ensure that it invests in its natural and social capital as well, ultimately measuring performance on these three indicators. The most common method for achieving this goal is to use natural and social capital efficiently, referred to as eco-efficiency and socio-efficiency. While such strategies help to reduce negative impacts resulting from operations, they may only lead to relative improvements, as organizations are still operating under the traditional economic and management paradigm (Dyllick and Hockerts 2002, p. 132-136).

As such, researchers and leaders in sustainability management have argued that sustainability requires a complete change in the economic and management paradigm, one in which we move from a linear “take-make-waste” model to a circular “borrow-use-return” model (Doppelt, 2003). Several frameworks such as the cradle-to-cradle production cycle, the Natural Step approach, and the zero waste model, propose this paradigm shift, all of which change the focus from how to be more efficient to what can be done differently from the start. Thus, sustainability comes to embody the concept of eco-effectiveness and socio-effectiveness, in which products, processes, and services are aligned with the goal of replenishing, restoring and nourishing nature and human society” (Doppelt, 2003, p. 47). This alignment does not mean that the ideal vision of sustainability has been achieved – few if any organizations have actually accomplished this. Rather, such a transition entails a complete systems-wide transformation of the organization that infuses a vision of sustainability into the individuals and culture of the organization, organizational systems, structures, policies and procedures (Doppelt, 2003, p. 212).
An Integral Theory of Sustainability

The integral theory of sustainable development provides a compelling lens and roadmap to conceptualize this whole-systems transformation. Integral sustainable development, first adapted by Brown (2005) from Wilber’s (2000) integral theory, outlines an “All Quadrants, All levels” framework that details all of the realms of an organization that will influence and be influenced by a sustainability initiative. It presents a four-quadrant map of the myriad subjective and objective dimensions and interactions between individuals, societies, and their environment. These quadrants are: individual interiors such as psychology and consciousness; collective interiors such as culture and shared vision; individual exteriors such as behavior, skills, and technology; and collective exteriors, which are the systems and processes that guide action and structure (Brown 2005, p. 9). Practitioners of this integral approach posit that for environmental and social sustainability initiatives to be successful they must become embedded in each quadrant and supported by actions in each of the other quadrants. Cacioppe and McDermott (2009) applied integral sustainable development to an organizational unit of analysis, outlining organizational change toward sustainability within the four-quadrant model. Figure 1 illustrates this model.

In addition to the four quadrants, integral sustainability proposes that an organization can progress through increasing levels of development. Cacioppe and McDermott (2009) chart six levels that represent the extent to which sustainability has become “embedded into the deeper fabric of the organization” (p. 5). Using these successive stages, they can then analyze how deeply sustainability principles are rooted into the attitudes, behaviors, culture, systems, infrastructure, and strategy of the
organization. At the lowest level, the organization is simply complying with environmental regulations. At the highest level, the organization has achieved zero net negative impacts, which is reflected in its strategy, mission and vision, and entire culture and products or services of the organization.

FIGURE 1: Integral Sustainability

While many organizations have taken some steps to reduce their environmental impact and to invest in human and natural capital, few have succeeded in truly operationalizing and institutionalizing sustainability principles, policies, and practices. Doppelt (2003) found that “few leaders fully grasp the deep-seated paradigm shift inherent in sustainability” (p. 16). Therefore, integral sustainability can be used as an effective model for aligning organizational change toward sustainability and identifying
tools for transformation within each realm.

2.2. Sustainability in Higher Education

Higher Education is one specific sector of a whole host of organizations and institutions to which the theory of sustainability can be applied. Thus, it is important to outline more specifically what sustainability looks like in IHE, as this sector must not only green their operations but more importantly, incorporate principles of sustainability into its core mission: education and research. Perhaps the most concrete and comprehensive method for arriving at a picture of sustainability is to work backward from how it is commonly assessed. In the business world, numerous organizations have incorporated sustainability and corporate social responsibility scorecards into their strategic planning and implementation of environmental and social goals. Metrics and assessments are an important method for benchmarking and comparing within the sector over time. Additionally, they provide a comprehensive definition and present a common vocabulary for sustainability practitioners. Thus, using an accepted scorecard or assessment tool can support an institution’s journey toward sustainability by offering tangible metrics and indicators towards which to work.

The new Sustainability Tracking, Assessment and Rating tool (STARS) developed by AASHE (the Association for the Advancement of Sustainability in Higher Education) is the best example of such an assessment in the higher education field. Defining sustainability as the balance between social justice, environmental vitality, and economic viability, the STARS assessment tool maintains consistency with many scorecards within the business world, yet tailors the assessment specifically to the higher

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2 http://stars.aashe.org/
3 AASHE’s mission is to advance sustainability in higher education and provide support to institutions through resources, professional development and networking. www.aashe.org
education realm. It provides a practical framework for integrating sustainability into all areas of the campus, outlining three distinct focal areas: education and research, operations, and planning, administration and engagement. Institutions are scored based on an analysis of sustainability indicators by topical category and given a rating dependent on their overall performance. These ratings are STARS Bronze, STARS Silver, STARS Gold, STARS Platinum, and a category for STARS Reporters who wish to participate in the program but do not want to pursue an overall rating. Using this framework, an IHE can identify areas where sustainability indicators are present and those where they might be lacking, thus arriving at a comprehensive picture of institutional transformation. Furthermore, it allows for the IHE to see the nexus between various projects and how they might interact on an institutional level.

What this assessment tool indicates is that a truly sustainable institution must achieve integration within each realm. Clearly, this requires a wide-ranging strategy that targets myriad fronts and issue areas. The fundamental question thus lies in how to go about addressing these issues such that change occurs and is sustained.

TABLE 1\(^4\) illustrates the breakdown of categories and sub-categories used in this tool. A more detailed version of the metrics that comprise each category is presented in the Appendix A.

\(^4\) Based off of STARS Version 1.0 Technical Manual, January 2010, AASHE
In a subjective and brief investigation of IHE in the United States, two institutions stand out as leaders in field and can provide a real picture of how sustainability might materialize in an organization. It is fair to say that Oberlin College is a sustainability leader in the United States. It not only was a first signatory of the President’s Climate Commitment in 2006, but also had already issued an environmental policy statement and incorporated sustainability into its overall Strategic Plan prior to that. The college’s mission includes nurturing a “sense of social consciousness and environmental awareness” and moving toward environmental sustainability is one of the seven strategic initiatives that the college outlined. Additionally, Oberlin’s culture of students, faculty, and staff reflects this commitment to sustainability in its courses, student life, and external marketing. Clearly, sustainability has become embedded into institutional


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<tr>
<th>CATEGORY 1: Education and Research (ER)</th>
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<tbody>
<tr>
<td>Co-Curricular Education</td>
<td>18</td>
</tr>
<tr>
<td>Curriculum</td>
<td>55</td>
</tr>
<tr>
<td>Research</td>
<td>27</td>
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<td><strong>Total Points Available</strong></td>
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<th>CATEGORY 2: Operations (OP)</th>
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<tr>
<td>Buildings</td>
<td>13</td>
</tr>
<tr>
<td>Climate</td>
<td>16.5</td>
</tr>
<tr>
<td>Dining Services</td>
<td>8.5</td>
</tr>
<tr>
<td>Energy</td>
<td>16.5</td>
</tr>
<tr>
<td>Grounds</td>
<td>3.25</td>
</tr>
<tr>
<td>Purchasing</td>
<td>7.5</td>
</tr>
<tr>
<td>Transportation</td>
<td>12</td>
</tr>
<tr>
<td>Waste</td>
<td>12.5</td>
</tr>
<tr>
<td>Water</td>
<td>10.25</td>
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<tr>
<td><strong>Total Points Available</strong></td>
<td><strong>100</strong></td>
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<tr>
<th>CATEGORY 3: Planning, Admin. &amp; Engagement (PAE)</th>
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<tbody>
<tr>
<td>Coordination and Planning</td>
<td>18</td>
</tr>
<tr>
<td>Diversity and Affordability</td>
<td>13.75</td>
</tr>
<tr>
<td>Human Resources</td>
<td>19.75</td>
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<tr>
<td>Investment</td>
<td>16.75</td>
</tr>
<tr>
<td>Public Engagement</td>
<td>31.75</td>
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<td><strong>Total Points Available</strong></td>
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policies and practices, strategic decision-making structures, curriculum, and culture. Such widespread evidence suggests that sustainability has indeed been institutionalized at Oberlin, and structures of learning and governance are in place that would foster the process of further transformation.

Harvard University, an organization that could not be more different in infrastructure and size from Oberlin, shows signs of a similar commitment to sustainability. Harvard’s sustainability initiatives began in 2000 with the intention of establishing a strategic sustainability program. In 2008, a report to the President from the Greenhouse Gas Taskforce suggested several strategic actions that would enable sustained effective progress toward achieving greenhouse gas reductions, emphasizing the need for higher orders of change within the institution. These recommendations included: creating an adaptive approach, in which learning, reflection, and assessment of performance were central to the strategy; building organizational capacity to manage sustainability efforts, and adapting the governance structures of existing sustainability mechanisms to the new needs of the University.6 As such, the Office of Sustainability was created in 2008, staffed by 16 people, and sustainability now has a wide presence in departments and offices, curriculum, research, and operations. While these efforts have not been fully integrated into the culture of the institution and may still exist as a separate arm of the university, capacity exists to continue moving sustainability into the realm of what the institution stands for and how it makes decisions.

2.3 Literature

A wealth of literature (primarily case studies) exists on sustainability initiatives in colleges and universities (Shriberg, 2002; Calder and Clugston, 1999; Eflin, Koester, and Vann, 2006; Pearce and Uhl, 2003; and Ferrer-Balas, 2008). Much of this literature focuses on organizational drivers and barriers toward successful implementation of specific sustainability projects (Shriberg, 2002; Ferrer-Balas, 2008).

Shriberg (2002) explored the organizational factors in IHE conducive for producing sustainability leaders as well as the barriers most commonly cited in sustainability laggards. He identified collaborative decision-making structures, image-seeking behavior, and a progressive and liberal political orientation as the most consistent indicators that led to the success of sustainability on campuses. In addition, he found that sustainability was most likely to be integrated into the institution when framed in the context of personal ethics and strategic positioning rather than regulatory or financial motives.

Ferrer-Balas et al. (2008) used a systems transformation analysis to compare sustainability transformation across seven universities. Their Framework-Level-Actor analysis outlined a multidimensional approach helpful to compare case studies. They identified the presence of ‘connectors’ and networks along with influential leaders as key ingredients for positive change, while lack of incentives and financial resources were primary barriers to success.

In an exploration of the evolution of sustainability in higher education, Clugston and Calder (1999) concluded that, “a key indicator of long-term success for any sustainability initiative is the extent to which it has been institutionalized, whether through official policy, budgeting, or permanent staff positions” (p.13). Several studies
have thus explicitly focused on the process toward institutionalizing sustainability within universities and colleges (Pearce and Uhl, 2003; Eflin et al., 2006). Much of this research concludes that successfully institutionalizing sustainability entails using a whole-systems approach, one that integrates students, faculty and staff with operations, curriculum, research, and strategic planning.

Increasingly, the notion of systems thinking and organizational learning as a means for cultivating transformative change in higher education has been proposed in the literature (Sterling, 2004; Sharp, 2002; Pittman, 2004; Lidgren, Rodhe, and Huisingh, 2006). In a comprehensive examination of organizational change in IHE, Boyce (2003) emphasizes that many change initiatives are often ineffective or short-lived, therefore she suggests that successful institutional change requires a twofold approach: changes in structure and institutional actions, but also “shifts in values, assumptions, and approaches to inquiry” (p. 124-125).

Sterling (2004) integrates the notion of systems thinking with principles of organizational learning, arguing that “sustainability does not simply require an ‘add-on’ to existing structures and curricula, but implies a change of fundamental epistemology in our culture and hence also in our education thinking and practice” (p. 50). Using a theoretical model of systemic learning, he asserts that higher levels of learning lead to a higher degree of change toward sustainability. He outlines three levels of responses that IHE’s may experience in regard to sustainability. The first is accommodation in which ideas of sustainability are added to existing systems. The second is reformation in which sustainability becomes “built in” to existing systems, which may be characterized as institutionalization. The last and most profound is transformation, which involves a
complete paradigm shift from a traditional top-down and mechanistic perception to viewing the institution as a learning organization and living system (p. 59). Undeniably, this deeper level of learning is challenging to achieve within individuals, let alone institutions. Sterling concedes that although “there is evidence of such change . . .” it is “unsurprisingly, less at the level of entire institutions than of micro-situations” (p. 61). Nevertheless, such examples shed light on the possibility of cultivating deep systemic learning and the transformative effect it can have on both institutions and the sustainability imperative.

Sharp (2002) uses Harvard as a case study to reveal the most important conditions necessary for systemic change toward sustainability. These include a “high competency in listening, communication, relationship building, vision development, responsiveness and continuous strategic adaptation” (p. 6). Employing language and concepts of the learning organization introduced by Senge (1990), she asserts that successful, systemic institutional change requires broad participation, continued dialogue to break down mental models, identifying counterproductive systems archetypes, and developing personal mastery within every change agent.

Indeed, most of the literature linking systems-thinking and organizational learning to sustainability in higher education is theoretical rather than empirical. This suggests that (1) many change initiatives fail to achieve deeper levels of organizational learning; or (2) identifying instances of organizational learning in the change process through research is challenging. At present, Gudz (2004) is the only author to directly link the theory of organizational learning to empirical work. She analyzed the development of a sustainability policy at the University of BC through the lens of organizational learning,
identifying ways in which the university incorporated learning into its transition toward sustainability. She identified isolated anecdotes and instances of organizational learning, especially within one department, but believed that ultimately the university was held back by traditional modes of decision-making, which appeared to stymie most of the sustainability initiatives.

The potential and necessity of achieving systemic change and adopting qualities of a learning organization in institutions of higher education’s sustainability change process is echoed in the literature. Success lies not only in implementing effective programs and policies, but also in fundamentally reorienting individual values and the organizational culture to reflect this move toward sustainability. Thus, understanding how to embark on systemic change that roots sustainability into all realms of the institution is the first step toward successfully transforming the institution. While it is beyond the scope of this Masters Project to analyze organizational learning at Colorado College, this study provides insight into the application of organizational learning in assessing sustainability change in higher education, yet also highlights the need for more research on the subject.

III. METHODS

3.1 Case Study Approach

For this Masters project, I employed an in-depth explanatory case study to explore the history and present state of Colorado College’s sustainability initiatives. A case study is appropriate when the “phenomenon under study is not readily distinguishable from its context” (Yin, 2003). It allows the researcher to investigate an event, experience, or process holistically and within its natural context. This method is appropriate in the
context of organizational change and sustainability initiatives, as exploring the myriad factors influencing the success of the initiative is vital to fully comprehending the process and outcome.

I conducted semi-structured interviews with twenty-two individuals within the Colorado College community from various areas of the campus (e.g. administrators, faculty, staff, board members, students, and community members). I collected basic demographic and attribute data from respondents, but most of the interview questions were open-ended discussions about the research topic. These interviews were tape recorded with respondents consent, and then transcribed for analysis. Additionally, in the role of sustainability fellow for the college from June to December 2009, I collected field notes through observation and participation in day-to-day aspects of the Office of Sustainability and the Campus Sustainability Council (CSC). Finally, I obtained written historical materials from the sustainability movement at Colorado College, including the 2000 meeting minutes from the working group on campus sustainability, letters to the President requesting support of various sustainability initiatives and projects, and survey data collected on campus in 2003 by an external consulting company. Such triangulation of data provides more credibility and validity to the research design (Denzin, 1978).

3.2 Interview Data

Subject Selection

Interviews with numerous stakeholders who had varying levels of knowledge and participation with the sustainability movement at Colorado College, but who also had a unique perspective on the organization, culture, and decision-making at the college were central to the case-study design. I compiled a list of individuals with whom I wanted to
interview, and then sent them a formal invitation. Twenty-two of twenty-seven of those invited agreed to an interview. I chose many of the respondents based on their high-level positions, (e.g. Chair of the Board of Directors, the President of Colorado College, Director of Purchasing, VP of Business and Finance) or on their role as actors and change agents in the sustainability movement (e.g. Co-Chairs of the CSC, the Sustainability Coordinator, and faculty and staff members of the CSC). I also targeted several people who did not play an active role in sustainability but represented an important domain of the college (e.g. admissions, Dean of Faculty, and Campus Activities). I attained several outside perspectives from a community member involved with sustainability and an external consultant who had worked with the College on its environmental audit. I did not interview any students, as my unit of analysis aimed at understanding the college decision-making, organization and management of sustainability, and the history of the initiative. Table 2 shows the interview respondents and their positions on campus.

<table>
<thead>
<tr>
<th>People</th>
<th>Position/Involvement</th>
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<tbody>
<tr>
<td>Bruce Coriell</td>
<td>CC Chaplain, Sustainability Coordinator, Co-Chair CSC</td>
</tr>
<tr>
<td>Howard Drossman</td>
<td>EV Professor, Co-Chair CSC</td>
</tr>
<tr>
<td>Beth Brooks</td>
<td>Assistant to the President</td>
</tr>
<tr>
<td>Emily Wright</td>
<td>CC alumna ’04, Sustainability Consultant and interim Coordinator, CSC</td>
</tr>
<tr>
<td>Walt Hecox</td>
<td>EV Professor, State of the Rockies, CSC</td>
</tr>
<tr>
<td>George Eckhart</td>
<td>Assistant Director of Facilities, CSC</td>
</tr>
<tr>
<td>President Dick Celeste</td>
<td>CC President</td>
</tr>
<tr>
<td>Diane Benninghoff</td>
<td>Advancement, CSC</td>
</tr>
<tr>
<td>Robert Moore</td>
<td>VP Business and Finance</td>
</tr>
<tr>
<td>Tom Nycum</td>
<td>Former VP of Business and Finance</td>
</tr>
<tr>
<td>Randy Stiles and Kris Jones</td>
<td>Vice president for Information Technology, Director of IT, CSC</td>
</tr>
<tr>
<td>Susan Ashley</td>
<td>Dean of Faculty, Dean of College</td>
</tr>
<tr>
<td>John Lauer</td>
<td>Director of Residential Life, CSC</td>
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<tr>
<td>Gina Arns</td>
<td>Director of Purchasing, CSC</td>
</tr>
<tr>
<td>Linda Kogan</td>
<td>UCCS Sustainability Coordinator, CSC</td>
</tr>
<tr>
<td>Jack Pottle</td>
<td>Trustee, CSC</td>
</tr>
<tr>
<td>Sue Woolsey</td>
<td>Chair of the Board of Trustees</td>
</tr>
<tr>
<td>Steve Crosby</td>
<td>Director of Outdoor Education</td>
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<tr>
<td>Mike Edmonds</td>
<td>VP of Student Life/Dean of Students</td>
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<td>Amy Van Tassel</td>
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<td>Judy Dorsey</td>
<td>Brendle Group</td>
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Potential Biases

As many of the interview respondents had directly participated or engaged with sustainability initiatives on campus, responses may be biased in regards to the value of sustainability itself and the degree to which Colorado College should embrace these initiatives. I attempted to correct for this bias by interviewing people who did not have active involvement with campus sustainability, but who still understood the organizational culture of the college.

Additionally, by not interviewing students, the data does not provide first hand descriptions of student experience with campus sustainability. This may seem like a hole in the research design, as students’ efforts were fundamental in pushing sustainability into the forefront of decision-makers’ agenda. However, I was attempting to ascertain the level of institutionalization, which is situated much higher than the student level whose population changes over by 25 percent each year. I was able to gain the student perspective through my other modes of data collection such as observation and informal dialogue in my role as Sustainability Fellow, and survey data from 2003 and a pilot survey that was distributed in October of 20097.

Interview Guide

Below is the outline of questions that I used in each interview. This guide gave me structure, but I allowed each session to deviate from the specific questions and become an interactive dialogue between the interviewee and myself. Such flexibility enabled a

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7 In my role as Sustainability Fellow, I developed and coordinated a pilot sustainability champions and Eco-Reps program, a behavioral change campaign utilizing a peer-to-peer outreach strategy. We implemented a survey before and after the pilot-phase to determine general environmental concern and attitude as well as specific behavioral issues and challenges.
richer depth to the discussion and directed my research toward topics and issues I had not previously considered when formulating my questions.

### Interview Questions and Format

**Questions:**

1. Please describe your position on campus and how you became involved with campus sustainability.

2. What is your definition of sustainability? How do Colorado College’s initiatives meet or reflect that definition?

3. How and why did sustainability become an important issue at Colorado College? What is driving the current momentum of these sustainability efforts?

4. What is unique about Colorado College that enables it to be an environmental leader? How would you characterize the political and demographic orientation of the college?

5. In your opinion, whose responsibility is it to guide and implement sustainability on campus? How are decisions made and do you think they are effective?

6. What areas of the campus seem to be most involved in sustainability? What areas seem to be least involved? What are some of the reasons for why people are not involved?

7. What do you think are the strengths of the way campus sustainability is organized and managed around campus? What do you think are the weaknesses of this organization?

8. How do you feel about the recent signing of the President’s Commitment on Climate Change? What is your responsibility in implementing this commitment and how do you think you will manage this responsibility? What barriers do you foresee?

9. Do you think sustainability has been institutionalized at CC?

10. If you could suggest something different or changes to the way sustainability is managed on campus, what would they be?

11. What do you think are the next steps for CC in its sustainability efforts? What is your vision for CC in the future?

12. Any other information, opinions, or additions you would like to share?

### 3.3 Additional Data Collection
I held the position of Sustainability Fellow at Colorado College from June 2009 until December 2009. In this position, I attended weekly steering committee meetings of the campus sustainability council, which was comprised of five people including myself; monthly campus sustainability council meetings; and worked on day-to-day projects in the Office of Sustainability. Within this role, I observed the current organization of sustainability on campus; how actors communicate, set agendas, and made decisions; and what specific challenges were faced. I recorded these observations through field notes, meeting minutes, and reflection.

To obtain more information about the history of sustainability at Colorado College, I reviewed documents from 2000-2006. These included correspondence between sustainability champions and decision-makers, presentations to the Board of Trustees by the working group on campus sustainability and the CSC, and requests from the CSC that sustainability issues and initiatives be given high-level support. These data did not enter into my coding structure; rather, they provided background and insight that guided my research.

In my role as Sustainability Fellow, I developed and coordinated a pilot Sustainability Champions and Eco-Reps program, a behavioral change campaign utilizing a peer-to-peer outreach strategy across student, faculty, and staff sectors. As a means of evaluating the pilot-phase of the program, I issued a survey that was given to staff, faculty and students in the fall of 2009 and again in February 2010. The survey requested data about broader campus opinions and behaviors regarding sustainability. To ascertain individuals’ environmental orientation, I used the new environmental paradigm scale (NEP), first introduced by Dunlap and Van Liere (1978) as a general measurement of
environmental concern. The second part of the survey asked questions about individual behaviors relating to conservation, purchasing, and habits. Additionally, it asked open-ended questions about the biggest challenges facing sustainability on campus. These data were also used in the broader case study to examine opinions and behaviors.

3.4 Data Analysis

I used Nvivo8, a qualitative analysis software program, to analyze the interview transcriptions, field notes and observations, and archival materials. I used both inductive and deductive analysis to code my data. Prior to analysis, I created a coding structure based on the theoretical framework of integral sustainability and organizational learning, presented below. If themes emerged that seemed important but did not fit into the pre-existing nodes, I created new nodes during the analysis.

_Evaluative Framework: Four-quadrant model_

Adapting the framework established by integral sustainability theory, this Masters Project proposes an integral model for institutionalizing sustainability, which guided the data analysis. I established a coding structure prior to analyzing the data, based on the four quadrants presented in integral sustainability theory, which is shown in Table 3.

The individual quadrants refer to the people that make up the organization while the collective quadrants denote how these individuals organize themselves within the organization. The internal quadrants refer to a level of reality that is subjective and specific to the individuals and culture within the organization. The external quadrants refer to the objective, measurable and observable qualities of the organization. For example, one’s personal values cannot be observed, but one’s actions are often visible and measurable.
TABLE 3: Four-Quadrant Coding Structure

<table>
<thead>
<tr>
<th></th>
<th>INTERNAL</th>
<th>EXTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDIVIDUAL</strong></td>
<td>Psychological Influences:</td>
<td>Behavioral Influences:</td>
</tr>
<tr>
<td></td>
<td>- Personal definition of sustainability</td>
<td>- Personal actions/behavior</td>
</tr>
<tr>
<td></td>
<td>- Personal commitment</td>
<td>- Personal mastery and skills</td>
</tr>
<tr>
<td></td>
<td>- Connection to place and the environment</td>
<td>- Technology</td>
</tr>
<tr>
<td></td>
<td>- Values and beliefs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Awareness</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Education</td>
<td></td>
</tr>
<tr>
<td><strong>COLECTIVE</strong></td>
<td>Cultural Influences:</td>
<td>Systems Influences:</td>
</tr>
<tr>
<td></td>
<td>- CC culture</td>
<td>- Strategic objectives</td>
</tr>
<tr>
<td></td>
<td>- Faculty, Staff, and Student culture</td>
<td>- Decision-making processes</td>
</tr>
<tr>
<td></td>
<td>- Colorado Springs Community</td>
<td>- Decision-making structures</td>
</tr>
<tr>
<td></td>
<td>- Shared vision</td>
<td>- Communication and Information</td>
</tr>
<tr>
<td></td>
<td>- Societal culture</td>
<td>- Office of Sustainability/CSC</td>
</tr>
<tr>
<td></td>
<td>- Team learning</td>
<td>- Policies</td>
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<td></td>
<td></td>
<td>- Management and Staffing</td>
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<td></td>
<td></td>
<td>- Infrastructure and Equipment</td>
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<td></td>
<td>- Resources</td>
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<tr>
<td></td>
<td></td>
<td>- External structures and motivations</td>
</tr>
</tbody>
</table>

Recognizing that the interviews also covered perspectives on the history of sustainability at CC and other content outside of the four quadrants outlined, I created nodes entitled *history, process of change, institutionalization, accountability, challenges, and successes*. Through these various nodes and my internal understanding of the organization, I used the STARS tool as a rough outline to identify in which categories the college had made significant progress, and where it needs to focus more energy. This broader framework enabled me to glean important information from the data that went beyond the integral model and to construct a complete case study of the phenomenon under investigation. Additionally, using an established rubric for evaluating institutional sustainability coupled with a theoretical model enabled richer depth to the analysis while also increasing external validity.
3.5 Limitations and Considerations

When conducting qualitative research, the researcher must remain aware of their own subjective tendencies that may influence their research design and interpretation of data, often referred to as positionality. Since I am a graduate of Colorado College and worked as the Sustainability Fellow concurrent to conducting my research, this issue is particularly relevant to this study, as I have a particular orientation on how I view the institution and what I hope it will achieve in terms of sustainability. This adds strength and potential biases to both the research process and the resulting report.

The decision to choose Colorado College as a case study originated from my disappointment in not seeing them represented at the 2008 AASHE conference. Thus, I felt personally compelled to find out what they have accomplished since my graduation in 2005. My connections enabled easy access to both the fellowship and case study site, and I did not have a period of adjustment to my new surroundings and culture. Indeed, this added significantly to the efficiency of data collection.

When conducting interviews, I sensed that my position as a CC alumna helped to develop rapport between the interviewee and myself. Additionally, I was able to converse with them easily about the college culture and background, because I have an intimate knowledge of the college. I believe that this added to the depth of the interview and allowed a very conversational approach, which made the respondents less nervous or inhibited. Conversely, my position influenced the questions that I would ask or issues that I thought were particularly important. In anticipation of this bias, I ensured that I asked questions regarding negative aspects of the college and sustainability. I also chose some respondents who did not take an active role with sustainability in order to obtain
varied opinions and perspectives.

My work during the period of my fellowship was focused on continuing to move sustainability forward. Specifically, I and one other intern developed the sustainability champions and eco-reps network, wrote and received a grant for the programs, and worked individually with the participants. As such, I am deeply invested in the success of sustainability at Colorado College, which ultimately guides the recommendations that I make in this report. Moreover, I confronted many of the challenges firsthand, experiencing my own frustration with how they were impeding or complicating sustainability initiatives. This perspective is valuable in that my own experience yielded data and guides my deep understanding of how sustainability is organized. It must also be recognized as a strong bias. I worked to mitigate this bias by constantly reflecting on my experience, writing notes while observing and analyzing data, and acknowledging it in the report.

Ultimately my methods provided me numerous angles to approach the subject of the research. In qualitative research, bias is not a shortcoming of the outcome, as it is so inherent in the methodology itself. However, my position within this study is integral to the data that was collected and therefore such bias must be recognized and considered in the resulting analysis and recommendations.

IV. SUSTAINABILITY AT COLORADO COLLEGE

Colorado College has a rich history and culture of environmental activism, civic engagement, and place-based and experiential learning. In the past ten years, it has joined the movement toward institutional sustainability with notable progress in the form
of signing the American College and Universities Presidents’ Climate Commitment, committing to an ambitious goal of carbon neutrality by 2020, increasing external rankings from the Princeton Review’s Green Honor Role and the Sustainable Endowments Report Card, and drafting a comprehensive campus sustainability plan which targets all realms of the campus strategies and practice. Despite these achievements, the college still has a long journey toward fully institutionalizing and realizing its sustainability aspirations.

This section describes the movement toward sustainability at Colorado College, drawing on interview responses, archival data, and observations. All direct quotes are in italicized boxes.

4.1 Background

Established in 1874, nestled at the base of the southern Rocky Mountains in the city of Colorado Springs, Colorado College is a small private, residential undergraduate liberal arts college. Characterized by the block plan, which provides a unique academic structure, students embark one course at a time, on rigorous and experiential study while also involved in numerous extracurricular activities. This distinctive structure cultivates a strong sense of community and student engagement on campus.

As an outcome of its location and academic structure, a particular type of student, faculty, and staff member are attracted to Colorado College. Almost every respondent agreed that the college is made up of environmentally oriented, outdoor enthusiast individuals. As a result of this type of person, there inherently exists a strong sense of environmental concern and personal commitment to sustainability on campus.
“I think our location is a major factor. We attract students who want the out of doors. But we attract students because they can bike, run, climb, board, ski, whatever it is. They live as much outside as in. And I’ve looked at a survey that’s done every year for entering students called the NESSY survey, and I’m not sure where they put student activism, we are absolutely the highest for environmental issues. Students who come to CC, almost by definition, bring more attention and a deep interest to the environment.”

“You might say this college is very proud of the environment in which we live, and it’s part of our learning environment.”

“It’s one of our distinctive aspects that we are in the beautiful Rocky Mountains. That’s a lure for students. If we’re not taking care of our own back yard, we’re doing something really wrong. We also have opportunities in our curriculum, from our location and the block plan, the way we deliver learning, to incorporate all kinds of components of sustainability; environmental, etc. It seems like we are, in some ways, uniquely positioned, to make that really central to what we do, even in the core of our mission, which is education.”

The College Culture

As with any organization, an internal culture exists that is distinctive from any other. Numerous respondents spoke about an ethos of the college that has persisted through time, which has surely affected and shaped sustainability initiatives from the beginning.

Something about just the fact that this place was founded in the middle of nowhere - the picture of Cutler Hall on the prairie, and that was it - that was all there was. To have that kind of maverick spirit, to come out here from the East and say, “this place needs a high quality institution of higher learning.” And to read some of the words of general Palmer and other early leaders of the college, you can almost take those words and translate them to now. I don’t know; it’s this essence of this place.

As is expected of an institution of higher education, the college has a particularly educated constituency that supports innovation, an entrepreneurial spirit, and creativity. In striving for educational excellence, the college thrives on inclusion and consensus, but also tends to operate in silos, especially between faculty, staff, and students. It is a culture resistant to policies or top-down management, which is reflected in the very fact
that the college has few actual policies. Decision-making is often an opaque and relationship-based process, in which clear and systematic procedures for decisions are rare or not well understood. The quotes below illustrate this point.

There is something about this place that brings people together and people reinforce each other.

There has been a very strong resistance to policies, this rugged individualism of you can’t tell me what to do. But I think we are maturing, to say, that there is a value to having things written down.

The college culture is doing things by consensus and involvement. No policy is going to have things happen. It’s got to be more than a policy, it has to be a participative culture and people have to be motivated through involvement.

Our greatest strength is that we are a relatively small and intimate institution, which means that things center on relationships. It is probably our greatest hindrance as well because some of the processes aren’t always as clear and concise as they might be at a large institution.

The main strengths for CC - because of the culture and behavioral norms that have been established - they tend to be very transparent and inclusive and also critical in seeking out good best practices and analytical.

There is definitely a campus culture that people don’t like to be told what to do; they like to feel that they’ve chosen what it is they’re doing.

Clearly, successful initiatives are those that gain broad-based support and rise up through the institution rather than flowing down from senior-level administrators. Such a culture has supported creativity, innovation, and risk-taking among students, staff, and faculty alike. This has led to a rich array of extracurricular and interdisciplinary opportunities on campus.

4.2 Early History of Sustainability
One of the things that I think is really crucial about this history is the absolute centrality of student influence on environmental issues and more recently on sustainability.

Under this unique backdrop, a concern for the environment and the campus’s impact began to emerge from the student base over forty years ago. EnAct, the first student group on campus, was formed after Earth Day 1970 to create a forum intended to raise awareness on campus and within the Colorado Springs community about environmental and social issues. This spawned a grassroots culture of students sensitive to environmental issues who organized numerous campaigns, outreach, and projects to effect change. Such student engagement and activism developed into the notion of service learning on campus in which administrators and faculty began to respond by offering support in the form of funding, expertise, and organization. In the 1980s, the Center for Service and Learning was created, a structured effort to institutionalize service learning on campus.
What we did in terms of building support for student organizations was to try to create the kind of structures that let them do what they wanted to do. Maybe that was finding a little bit of budget when they would spend all of their time trying to find just a little bit of money, or it was helping them to arrange and work out the details that people thought were impossible, like arranging van transportation. So, it took some of that kind of support underlying that to really help them expand and thrive, and at the same time, provide some type of reflective structure. Our philosophy when we were getting started [with the center for service and Learning] was that it was student initiated and student organized, and it’s not our job to organize, but what we’re here to do is provide base.

Supplementing student energy, passion and creativity with some resources and structure has contributed to tremendous growth and participation in service learning and extracurricular activities. Presently, the college heralds itself for its strong civic engagement, with over 80 percent of the student body participating in community service.\(^8\)

### 4.3 Origins of Institutional Sustainability

Environmental issues, while given much attention at the grassroots level and in the domain of several departments and faculty, were not regarded as within the purview of the institution for much of the 1970s, 80s and 90s. The college did make improvements on the operations side in terms of recycling, energy efficiency, and historic preservation, but these initiatives were viewed as distinct projects aimed at improving the efficiency of operations and facilities. On the academic side, the Environmental Science Department was created and growing quickly, yet it was still viewed as one of many academic disciplines that the college offered rather than a core issue area that all students should be exposed to.

In the early 2000s, then current President, Richard Celeste, began his tenure at the college. Soliciting input from the entire campus while developing his strategic plan,

\(^8\) “Colorado College by the Numbers,” [http://www.coloradocollege.edu/internal.asp](http://www.coloradocollege.edu/internal.asp), accessed 30 August 2009.
VISION 2010, feedback emerged that indicated the importance of the college taking a stance on environmental and social responsibility. Specifically, a core group of faculty, Walt Hecox, Professor of Economics, and Howard Drossman, Professor of Chemistry and Environmental Science, and students approached the President requesting that principles of sustainability be included in the college’s core values.

The two of us got together and decided that we need to approach Dick and since the college was doing strategic planning, we didn’t want sustainability to be left off the list. We felt that it was an opportunity. We asked if we could have a meeting with him. We asked him, as part of strategic planning, to form a working group on campus sustainability, which he would endorse, and he did. We moved forward, and set our own agenda. We were kind of not part of the strategic plan but parallel to the plan. Dick had pretty much set up a structure for all of the things he wanted in the strategic plan and all the information he wanted. Sustainability wasn’t really a specific piece that had people aligned. Where a lot of stuff came out of the president’s office and people knew where they were going with strategic planning, it seemed that sustainability was kind of delegated to us. I don’t know if it’s because they felt that they had appointed us or if it wasn’t on their radar from the start – hard to say.

Howard Drossman

A significant accomplishment of this effort was the incorporation and articulation of environmental and social responsibility in two of Colorado College’s statement of core values, italicized below. The core values state that (italic emphasis added),

“As a member of the Colorado College community, we share a commitment to:

1. Honor the life of the mind as the central focus of our common endeavor
2. Value all persons and seek to learn from their diverse experiences and perspectives
3. Practice intellectual honesty and live with integrity
4. Serve as stewards of the traditions and resources of the college
5. Nurture a sense of place and an ethic of environmental sustainability
6. Encourage engagement and social responsibility at local, nation and global levels
7. Seek excellence, constantly assessing our policies and programs"9

From this strategic planning process, the President endorsed and commissioned a Working Group for Campus Sustainability (WGCS) to advise him on how issues of campus sustainability could best be integrated into the campus strategic vision moving forward. The WGCS was comprised of eighteen members including representatives from all sectors of the campus: faculty, staff, administrators, current students and alumni. Their first major task resulted in encouraging Celeste and the Board of Trustees to sign the University Leaders for a Sustainable Future’s (ULSF) Talloires Declaration10 as a symbolic act of institutional commitment to sustainability and join an international cohort of colleges and universities dedicated to advancing sustainability in higher education. They commissioned ULSF to conduct an internal survey of campus sustainability perceptions, awareness, and desires for the future from faculty, staff, and students.

The survey’s impressive response rates (64% full-time faculty, 52% full-time staff and administrators, and 47% students) indicated the high level of interest in sustainability on campus. Only 3% of responses felt that the college should not become a signatory to the Talloires Declaration, and many felt that the college needed to support its vision with actual commitments and actions. Despite the push to become a signatory to the Talloires, the Board and President choose not to sign on at that time. President Celeste reflects on this decision:

> It felt amorphous to me, like “We believe in God and Country and Apple Pie.” So What? Then you were called upon to participate in a variety of things. My sense was that we had to focus on the campus and do things on campus, and ultimately, it is in the interest of Colorado College to be totally sustainable, to be an off the grid campus, we would be really well served.

4.4 Moving toward Institutionalization

Campus Sustainability Council

While the college decided not to sign the Talloires Declaration due to its vague and lofty goals alongside requirements for endowment transparency, it catalyzed increased visibility of sustainability issues on campus and fostered a more organized and collaborative effort. Consequently, the President formed a permanent Campus Sustainability Council (CSC) out of the Working Group for Campus Sustainability, originally co-chaired by Walt Hecox and Howard Drossman. This democratic committee of appointed staff, faculty, students, board members, and community advisors served to further inform the President and CC community on sustainability issues. Specifically, the CSC had the mission to:

1. Promote environmental awareness among faculty, staff, board members and students; and

2. Make recommendations to the President to:

   - ensure a safe and healthy environment for all who live and work on the Colorado College campus;

   - maintain biodiversity and wildlife habitat, restore damaged ecosystems, prevent pollution, safely manage hazardous waste, and safeguard the beauty of the landscape in the outdoor environment directly under the college’s care;

   - promote throughout the CC community conservation of resources, energy efficiency, waste reduction and recycling, pollution prevention, increased reliance on renewable resources, and other measures consistent with sustainable living;

Thus, the CSC became the official organizing body for collaboration and organization across campus of sustainability initiatives. From its inception, the council
has been an inclusive committee to advise, advocate, and organize sustainability ideas, initiatives, and their implementation. Its strength lies in its diverse representation and collaborative process. This helps to break through some of the silo mentality by working across functions, departments, and constituents.

It is a very inclusive process. Students, faculty are involved, motivated staff, trustee involvement, our president. I think that is part of a small liberal arts college, you would hope that this would be a major community initiative and not just one sustainability coordinator up there trying to champion everything or two or three motivated students trying to make all this happen. I sense a decent amount of momentum coming from a broad representation of groups. And I think the sustainability council I think represents that well.

One of the things that I like about the way that the CSC works; it actually reflects a resilient network. You have different nodes of activity and a pattern activity that is dispersed and diverse. This tends to be more creative than a hierarchical structure where one person is guiding and telling everyone under them what to do. So that distributed network of activity is actually really productive, although it can sometimes be difficult to know what’s going on and keep everyone communicating.

Despite the positive attributes of the council, it is purely an advisory council to the president and has very little decision-making authority. Moreover, the council lacks any specific funding or operating budget, and must look toward alternative resources within department budgets, facilities services, or elsewhere to fund many of its initiatives or projects.

Expanded Sustainability Projects

Operating in parallel, several key projects and successes related to residential life, campus operations, and building infrastructure emerged during the time period from 2003 to 2006. In student life, the residential theme house “Synergy” was formed by a core group of students wishing to create a living community that revolved around the
principles of sustainability, acting as a living laboratory to measure resource-use and impact.

Additionally, in 2005 a student received external grant funding from the NWF campus ecology fellowship to install the campus’s first Earth Tub composter to be attached to the major dining hall. This spawned what is now a well-established dining composting program in which students directly collaborate with facilities to manage and harvest compost. Presently, plans are in the works to procure a second composter.

In 2003, the college built its first LEED certified building, the Tutt Science Center, which also had the distinction of being the first LEED certified building in the city of Colorado Springs. This new building created a venue for the campus to showcase its environmental image and housed the Environmental Science Department.

Enhanced Curriculum

The Environmental Science Department began experiencing increased interest from incoming students in their program offerings as well as more diverse interests in environmental issues. Although some internal politics slowed the process, the Department was ultimately transformed to the Environmental Studies Department, an interdisciplinary program that offered a new major and minor, Environmental Policy and Environmental Issues respectively, in addition the traditional Environmental Science major. The program took on a more interdisciplinary focus, with both majors overlapping on three courses: Environmental Inquiry, Environmental Management, and Environmental Synthesis. It was a major success and has continued to attract a rising number of incoming students.

*I think the environmental studies program is a huge triumph. We were able to create what I think is one of the best programs in the country. Now, it has this overarching*
rubric, which is not unusual, but it has these two posts, one which is environmental studies and one is environmental policy, and the post intertwine at three stages: a common entry course, a middle course, and an exit course. So, the people who are on the science side will touch down three times, at least, with policy. The people on the policy will touch down three times with science, in an integrated way. Then they may take some complementary courses in science itself or policy itself. I think that’s a great liberal arts approach. In terms of curriculum, that is a very huge initiative, it is exactly what we should be doing.

The department also began to conduct extracurricular research opportunities and co-curricular events, most notably the annual State of the Rockies Report Card. Clearly, by broadening its purview, the Environmental Department has become a hub for collaboration and activity.

Examining subjects through an environmental lens was not isolated to just the Environmental Studies department. Course offerings such as Environmental Sociology, the History of Nature and Society, Environmental Economics, and Sustainable Development, to name a few, illustrated that the academic offerings covering topics on environmental and social justice issues were plentiful, diverse, and dispersed throughout many disciplines within the college. Still, however, students were not required to take a course with sustainability, environmental ethics, or social justice as a focus, something that other colleges and universities have begun incorporating into their general education requirements. Few institutions thus far have mandated a sustainability course in order to graduate, however examples of creatively linking environmental and sustainability issues into core curriculum are increasing.¹¹

¹¹ Unity College and Oakland Community College appear to be, at present, the only institutions that have truly infused sustainability into their core curriculum. At Unity College, students have a general education requirement focusing on five eco-literacy courses and an environmental stewardship capstone course. At Oakland Community College, sustainability has been part of the core curriculum for over 10 years. Other examples include the College of the Menominee Nation, which requires each student to take a course in Sustainable Development; Furman University requires students to take a general education course entitled
Grassroots Activism: The Cornerstone Arts Center and President’s Climate Commitment

In 2007, several issues mobilized student grassroots energy and compelled them to make clear public demands to the president and the Board of Trustees that the college lives up to its core values and mission. One was a new building under construction and the other was the President’s Climate Commitment.

Part of VISION 2010 entailed the construction of a new Arts center. Plans were already underway to construct the building with LEED qualities and pursue LEED certification. However, during the course of construction, the college realized that they had under-budgeted and decided to move forth with the Cornerstone Arts Center employing LEED standards, but not pursue the actual certification. A group of students were outraged and organized, with faculty and CSC support, a comprehensive document detailing the costs and benefits of getting LEED certification. They presented their report to the Board of Trustees and the President, demanding that the college maintain accountability and “walk the talk” with regards to sustainability.

There were a couple of major debates, I would say, three years ago as we were getting ready to put Cornerstone out for bid. The final bid from subcontractors came up much higher than we had anticipated. Instead of being $25 million it came back to $35 million. We had to cut it back, and one of the things we said we would do was eliminate our effort to qualify for LEED certification. We didn’t want to hire a contractor and go through that process. The students became very concerned about that and they put together a project, supported by the CSC, to evaluate what the real additional cost of LEED certification might be. And they concluded that we could go for basic certification and maybe silver with an investment of only $140,000, and they made a very sound case that we should do that.

Recognizing the importance of this issue, the Board permitted the building to move forward with full certification. In late 2009, the new Cornerstone Arts Center received full LEED Gold status.

When asked why the Cornerstone Arts Center was so important, one respondent explained:

For one thing, it’s highly visible. But, I suppose, just the formalization of the intent, in a way. To say, “well, don’t just do a do-it-yourself model. You’ve got to put the money where your mouth is. Even if it costs money to get the certification, it is still worthwhile.”

As the campus sustainability movement gained traction and momentum, another key Presidential commitment emerged that propelled the college to consider its strategic positioning. The American College and University Presidents’ Climate Commitment (ACUPCC, from here on out the PCC) articulated a goal for IHE to move their campuses toward carbon neutrality. The CSC identified this pledge as a powerful target to further advance CC’s sustainability mission. They approached the President and Board of Trustees with a proposal to become an early signatory. This enhanced visibility of the issue rallied a significant grassroots response. In 2007 students organized a petition urging the President to join the ACUPCC. In just two days, over half of the student body had signed the document, signaling widespread support of the pledge.

Many respondents reflected that the President’s Climate Commitment was one of the most important catalysts for change on campus, as it presented a concrete and salient goal with an external accountability component that could encapsulate the role of an institution in confronting the environmental crisis. This sentiment is reflected in the quote below.
When you sign on, it becomes a part of your culture. It’s a defining moment on your campus, that you have made a national commitment that others can see and audit. You have made a commitment to monitor your approach to carbon neutrality and make the documents public. All of a sudden, you’ve agreed to be audited at a level you have not had before, and agreed to book keeping and accounting that you haven’t.

The President’s Climate Commitment

Confronted with this widespread push to sign the PCC, President Celeste reflected on what this would truly mean for the campus and how CC would effectively meet that goal. With the intention of finding the answers to these questions, he organized another advisory committee, the PAC (President’s advisory Committee) on climate change. This group of alumni, parents, and other stakeholders consisted of high-level experts in the field of energy, environmental management, finance, building, and climate change.

In order to fully evaluate the implications of moving CC toward carbon neutrality, the college determined to commission an external audit of the campus. Faced with the choice to conduct a greenhouse gas inventory or carry out an entire environmental audit, senior decision makers determined that it was in the college’s best long-term vision to get a comprehensive assessment of the college’s environmental performance and impact. The college wanted to produce a high quality report that provided data and recommendations that went beyond just carbon neutrality. Thus, the Vice President of Business and Finance allotted $100,000 to hire the Brendle Group, an environmental consulting company out of Fort Collins specializing in sustainability management. The Brendle Group employed a former CC alumna, Emily Wright ‘04, as the sustainability consultant to work on the ground collecting both quantitative and qualitative data concerning all aspects of sustainability, from the built environment, greenhouse gas emissions, and strategic planning.
Concurrently, the CSC began pushing for a staff coordination position on campus to organize sustainability initiatives. However, there were internal tensions between administration and faculty that had resulted in a temporary hiring freeze. Additionally, consensus on the need for a new staff position did not exist within the CSC or other sustainability stakeholders. Many respondents noted that once you hire somebody who has the sole responsibility of promoting sustainability on campus; it can have the effect of taking the responsibility and accountability away from everyone else. On the other hand, people accepted that organizing everything through volunteers and having no central coordination point neglected to satisfy the demands of day-to-day operations, especially with the increased level of activity in the past few years. This tension is illustrated in the quotes below.

Right now we have this beautifully decentralized leadership model where all these different people are taking different pieces and nobody seems to be attached, or nobody seems to need to get the credit, and it’s working. I don’t want to lose that, but you can only sustain sustainability for so long without the right kind of staff support.

I’m not sure that we need a full-time position for a place this size. I think that somebody who has that responsibility as part of their portfolio. To me, the real driver is the council. It’s the place where people get together who share this interest and work at the problem.

Should there be someone other than a committee who it’s their sole responsibility? Probably so, if the college wants to make continued, progressive improvements. Is the sustainability coordinator, that’s housed in facilities services going to make all that impact, I’m not sure. I think that’s a tall order.

I’ve come to believe that if you hire somebody to do it, it allows everybody else to kind of sit back a little. It’s hard for one person pushing something. We’re much better off, I think in this culture, as I understand it, to have a committee volunteering to push, that that’s a stronger place to be.

I believe that anything that needs to happen every day shouldn’t be managed by volunteers.
To fulfill the needs of sustainability coordination without creating a new position, the President appointed the Campus Chaplain, Bruce Coriell, as a part-time sustainability coordinator for two years while also maintaining his role as Chaplain. Bruce formed the Office of Sustainability, staffed with several undergraduate student interns, and garnered a budget of $12,000 each year. The Office functioned as a support for the CSC, providing resources, research, and enhanced administrative capacity. The CSC had also recently created the Ecofund, an internal funding source for student, faculty, or staff projects promoting sustainability on campus. This fund was thus maintained through the Office of Sustainability. Bruce also took on the role of Co-Chair for the CSC alongside Professor Howard Drossman. In addition, his unique position as part administrator part faculty enabled coordination across these two dimensions, which added to the effectiveness of his role.

After the completion of the Brendle Report, the college was able to find some of its own funds from facilities to keep Emily Wright on as a consultant to help draft a sustainability plan and begin its implementation. Emily, who, while a student at CC, had conducted an Ecological Footprint of the campus, brought an expertise in quantitative analysis coupled with first-hand knowledge of CC’s history and culture. Her work to support Bruce in his role as sustainability coordinator and the Office of Sustainability was pivotal in maintaining the dedicated energy and consolidating much of the activity and information that was dispersed on campus.
Another significant accomplishment during this time was the creation of the CC Farm and an increased focus on locally sourced and organic food. In 2006, a group of students, alumni, and faculty created a “farm within a farm” on a local organic farm in Colorado Springs. In 2008, they submitted a proposal to the CSC and President to move this permaculture garden on campus and receive funding from the Ecofund to support its operations. The CC Farm is currently located on 1.3 acres behind the President’s house, employing student interns to practice organic permaculture gardening techniques, animal husbandry, and agro forestry.

In addition to the farm, CC switched its food service provider from Sodexo to Bon Appétit, a company well-known for its socially responsible and sustainable practices. Bon Appétit strives to source most of its food locally and has partnered with the CC Farm to create an on-campus closed-loop food system.

I also think that a key event was moving away from Sodexo to Bon Appétit. To get Sodexo to purchase consciously was extremely difficult because they got everything from Sysco. Bon Appétit supports the CC farm, it tries to purchase local, and it just fits better with our vision and has been a good influence on the college. It added momentum when there already was some movement there.

This CC Farm project and its relationship with campus dining is one of the best examples of how sustainability can serve an operational and educational function, using the institution as a living laboratory for sustainable systems and practices.

4.5 Recent Developments

From 2008 to 2009, much of the momentum and action related to sustainability began to gel into realized progress and change. The council had a landmark year in which it completed a draft of the comprehensive sustainability plan, launched a semester-
long conservation and behavioral change campaign, and convinced the president to sign the PCC, all in the face of one of the worst economic downturns of our time. Much of this success can be attributed to the groundwork that had been laid in the previous years. Some of it was simply the timing, in which sustainability issues and climate change especially have gained national prominence. However, much can be attributed to the leadership within the council united with key champions who had expertise and motivation to move things forward.

When Bruce came in, when Emily came in, those were two really significant players, because then the work could get done and then you also had the spirit that Bruce brings to things, that’s just kind of effusive, excited, non threatening, in a way. It changed so much. I’ve seen people so much more invested and willing to work on stuff.

The balance between Bruce Coriell’s approachable and soft-spoken demeanor coupled with Howard Drossman’s persistence in pressuring the institution to enact change created a dynamic in the council that was extremely motivating, supportive, and ultimately exceptionally productive. Emily’s expertise with the Brendle Report and measuring and assessing the college’s operational footprint was also a critical resource.

In addition, George Eckhardt, assistant director of facilities services, had recently joined the council. A long time advocate for historical preservation and energy efficiency, George brought a personal commitment and passion to sustainability combined with the resources and support of facilities. George reflects that:

After I joined [the council] we had the best year we’ve ever had because we had some active people. I think it wasn’t just me, I think the make-up of the council changed and got a lot more truly involved in what was going on around campus and got a lot more people involved. Early on, I think they just did a lot of brainstorming and talked a lot about ideas but didn’t have any means of implementing. So when I got involved and got some budgeting, we were able to start doing some things.

George Eckhardt
Clearly the combination of people and inspirational leadership coalesced into an extremely effective year of action and tangible progress.

*Colorado College Sustainability Plan*

In August 2008, the Brendle Group completed its *Environmental Inventory and Sustainability Management Plan Recommendations*\(^{12}\), which provided a detailed audit of large building energy and water usage, a carbon footprint benchmarked against other colleges, and extensive data on campus activities and operations from dining, transportation, procurement, and curriculum. Additionally, the report outlined recommendations for a Sustainability Management Plan and a Carbon Neutrality Plan that provided a $30 million investment with a 15-year payback. From these recommendations, the CSC spent the first semester of academic year 2008/2009 drafting a Sustainability Plan tailored to CC’s unique cultural backdrop and style.

The Colorado College Campus Sustainability Plan\(^ {13}\) is intended to act as a living document to foster collaboration and continued measurement of its progress. Hosted on the sustainability website\(^ {14}\), the plan is organized around six topical areas: structure, financing, education, energy and carbon neutrality, natural resources, and building and landscape. Within these topics are numerous sub-categories. It is then organized in three hierarchically nested parts: strategic objectives, action items, and implementation plans. Each action item is labeled as completed, in progress, or proposed. This structure allows


\(^{14}\) [http://sustainability.coloradocollege.edu/](http://sustainability.coloradocollege.edu/)
for consistent auditing and re-evaluation of the plan which enables a constant evolution of the college’s strategy to achieve its sustainability goals.

The drafted plan operated on key assumptions about the financial situation of the college prior to the economic downturn, appearing realistic and promising. Yet in the first month of September 2008, financial markets collapsed and CC’s endowment significantly lost its value. The CSC realized it must either be adaptive to the new economic situation or fail. When the council took the finished plan to the Board in early 2009, they emphasized the no-cost or low-cost projects that would experience a quick return on investment, framing it as a beneficial financial opportunity for the college. One board member reflected on this strategic move.

If the council came in and said “we have to spend $10 million on a wind farm and it has to be done by 2009,” that would have never happened. Instead the plan said let’s do the stuff that makes huge economic sense first and as technology improves, it may be less expensive down the road, and let’s follow technology and make sure that we’re doing the things at the appropriate point and it makes sense for CC at the time. Rather than marching to the administration and saying we need 17 windmills next week. It was everyone recognizing that ‘here’s the way the world is working right now, and let’s get what we can done.’

Subsequently, on February 21st, the Board accepted the Sustainability Plan.

aCClimate 14

Moving forward with implementing the plan in the face of very few resources, in the second semester of 08/09, the CSC, Office of Sustainability, and EnAct launched a behavioral conservation campaign, aCClimate 14, based on the idea of reducing the campus’s carbon footprint 14 percent in 14 weeks through behavior change alone. Emily Wright reflects on the campaign’s inception:

Everyone always talks about low hanging fruit and savings that can be realized from behavioral changes and education and we were sitting there with a team of seven people and the challenge of trying to convince the president to make a commitment toward
Employing varied marketing and communication techniques, from weekly campus-wide GreenFlash emails, a large mural, posters and slides in the dorm, and eco-visualization strategies such as Trash Peak illustrating all of the campus waste and potential for large scale diversion, this campaign achieved significant participation and savings. Thus, it was extremely successful by increasing awareness and interest in a time of tension and hardship for the college. Each week focused on different daily habits, from recycling, computing, purchasing, to doing laundry and bathing. At the close of the academic year, CC estimated that aCClimate 14 saved the college $100,000 in utility costs and 613 MTCO2. Its success also lies in the increased visibility, participation and enthusiasm for sustainability issues on campus.

President Signs Climate Commitment

In the course of the semester, the CSC approached President Celeste about signing the PCC. They stressed the ability of the college to reduce its carbon footprint through low-cost measures in the short-term and actually save money while focusing on long-term renewable energy projects when the economic situation improved and still meet its 2020 goal of carbon neutrality. In April of 2009, Colorado College joined a cohort of 666 colleges and universities striving toward carbon neutrality as a signatory.

The long journey and groundwork laid to move toward a climate commitment made it an easy and logical next move for the President to sign. The college had already
completed the first two years of the commitment by conducting a greenhouse gas emissions inventory and drafting a climate action plan. This diligence demonstrated the authentic approach that CC took toward making commitments, ensuring that they knew what the PCC fully entailed and genuinely endeavored to live up to them. Thus, despite their late signature, CC was far ahead of many institutions that had signed it earlier.

The President was approached to sign it a long time ago and I think it was a good move to pause and think about what it really would mean for the college, and it is a good thing that we have done so much and are so far down the path. Now we understand the commitment and it is clearly there.

At the time of signing, we had already completed the first two years of required commitments, and were ahead of a lot of schools. As soon as that thing was signed, everyone in facilities was talking about “how do we cut 5% in a year?” It gave everyone such a tangible goal, that by 2020, I feel confident that CC will be there, if not long before that.

4.6 Challenges Moving Forward

Moving into academic year 2009/2010, the college had made significant visible strides to institutionalize sustainability. The CSC ended a year of uncertainty and adversity with considerable successes for their efforts. Yet Bruce Coriell was positioned to leave for a yearlong sabbatical and discussion of funding a full-time sustainability coordinator had been discontinued due to the economic crisis and hiring freeze. The CSC needed to figure out how to move forward with the Sustainability Plan and begin operationalizing the projects and goals articulated, despite the fact that the college was still in financial challenges and had suffered considerable human resource and budgetary losses. It is within this context that I began my research and fellowship with the Office of Sustainability.
V. DISCUSSION

Clearly Colorado College has experienced broad-based change in the past ten years with regards to sustainability. This is evident in increased student activism, an expression of these goals in the college’s core values and commitment to carbon neutrality, the creation of structures and increased capacity to address sustainability, and general operational changes that have reduced the college’s environmental impact. Still, CC has many areas that need to be addressed within all of the categories of academics and research, operations, and planning, administration, and engagement. These areas will be discussed later, but first it is important to glean the central elements of this change.

5.1 Catalysts for Change and Drivers of Success

You can’t get any of this done without advocacy, passion, engagement, but usually the change comes when structural support finally catches up to the advocacy.

Change is a process spurred by multiple complex interactions that are often difficult to disentangle or discern each factor’s particular influence. With this said, there are a few central issues, events, and conditions that clearly catalyzed an institutional response to address sustainability. These include grassroots activism, a larger international movement to introduce sustainability in IHE, the Cornerstone LEED certification decision, the President’s Climate Commitment, and the financial crisis.

First and foremost, the early grassroots movement that challenged individuals, the community, and the institution to consider environmental responsibility and social equity brought these issues to the table and enhanced their visibility. Still, this movement existed in isolated pockets and did not produce many changes at the institutional level.
Certainly a growing concern for the environment in society as well as increased awareness from incoming students strengthened this movement.

Such movements in society gave rise to an international response by IHE to the environmental crisis and call for sustainability. Not only did this movement provide credibility, but also generated tools and resources for change practitioners to conceptualize sustainability, how to strategically pursue it, and what measures and metrics were available to gauge success. The resources and tools offered by AASHE along with the collection of research and success stories on sustainability in IHE enhanced the capacity of actors and gave them mechanisms for leveraging change. Additionally, external report cards highlighted institutions that were more sustainably-oriented, suggesting a competitive advantage to those who promoted environmental and social responsibility as well as offered courses and majors in this field.

Internally, two events – the Cornerstone LEED certification and the PCC – served as catalysts to propel CC to advance its approach to sustainability. The LEED debate served to demonstrate not only the commitment of the student body, but the need for the college to hold itself accountable to its values. Thus, this issue turned into a symbolic statement of how the college chooses to make decisions. In a different vein, the PCC became a springboard for fully measuring the college’s footprint and creating a detailed plan for how to reduce this impact. This pledge has committed the college to annually measure progress, report results, and strive for an ambitious goal of carbon neutrality. Thus, it moved the issue of sustainability out of the symbolic into the operational realm.

Indeed, the economic downturn forced the college to reverse its culture of supporting multiple ideas and programs, requiring decision-makers to reevaluate the core
mission of the college and what its priorities were. Sustainability was one of those issues that became heavily scrutinized, especially projects that necessitated a large investment, such as renewable energy. While there is still lack of consensus on where the sustainability agenda sits in the hierarchy of priorities, the economic downturn compelled critical reflection of what sustainability would mean for the institution in the short and long-term. Conversely, the crisis had the effect of reinforcing the value of sustainability, specifically through the efficient use of resources and emphasis on social justice and responsibility. The council and change agents needed to become adaptive and resilient, which ultimately enhanced their effectiveness during this time.

5.2 Key Players

It is quite evident that CC’s student population is unique in their personal appreciation for and engagement with the environment alongside activist tendencies. Indeed, much of the energy and call for change emerged from EnAct and other environmentally oriented student-run organizations. Simultaneously, important faculty such as Howard Drossman and Walt Hecox surfaced to advance students’ efforts. Thus, having a core group of student activists who became supported by faculty created the momentum needed to approach decision-makers to begin considering sustainability as a larger institutional issue.

What appeared critical was to move sustainability from a fringe and purely grassroots issue into the realm of institutional planning, goals, and identity. Along the way allies across the campus, from faculty, administration, and staff supported by positive leadership were crucial. Having a president who was perceptive to these issues combined with support from facilities services, expertise from Emily Wright, the political
influence of Howard Drossman, and the personality of Bruce Coriell coalesced to address
the campus on these issues from varying fronts. Another prominent element was the
make-up of the Board of Trustees, in which a few key members really brought these
issues to the table and stressed their importance for the college.

5.3 Barriers to Change: Challenges Facing the Implementation of the PCC and
Sustainability Plan

Certainly sustainability change agents at CC faced myriad barriers to change
along the way and are still confronted with challenges. These barriers exist at the
individual level, community and cultural level, and institutional level. Moreover, some
are within the control and influence of the college and some are external structures or
circumstances that are beyond the purview of the college’s management and scope. This
section explores both these internal and external barriers.

Maintaining Momentum: Turning Goals into Action

Building upon the significant groundwork laid through varying levels of activity,
a lot of momentum has taken shape and given results in the last two years. The college
has a clear commitment to carbon neutrality, a detailed structure for implementing
sustainability, and a larger base of support and interest throughout the campus. One of
the biggest challenges will be to continue this momentum and translate articulated goals
into action. No clear solution exists to such a need, but respondents emphasized that the
council’s leadership remains effective, that support continues in the form of financial and
human resources, and that measures are taken to continually enhance the visibility both
internally and externally of the college’s commitment to sustainability.

On the level of action, many projects are implemented through volunteers, interns,
and champions. This has the benefit of mobilizing and empowering broad based
engagement and fostering creativity and diversity of ideas. However, the nature of the block plan with its cyclical time demands, the nine-month academic schedule in general, and significant student turnover can lead to the dissipation of the project over time. Because most of the action is volunteer-based, there is little accountability for individuals to produce a final outcome. This challenge will persist for the college and should be approached through prioritizing which initiatives need to be given continued support and daily or weekly attention, and which are more suitable to volunteer management.

**Competing Priorities**

Indeed, as an educational institution, the mission to provide an excellent education is fairly straightforward. However, how that is executed is fairly subjective to each individual and decision-maker on campus. This relates to sustainability with regards to how the college decides to direct its resources. There is an inherent tradeoff between investing in LEED certification and funding scholarships for disadvantaged students. Similarly, focusing on the arts, athletics, or any number of programs may be viewed as more central to the college’s core mission and values. These competing priorities not only exist within the internal stakeholders of the college, but also are present for potential funders, who often have explicit values towards which they wish to donate. The politics of diverse priorities can often play out in very subtle ways and throughout many nodes of decision-making. Even within the CSC, different members have a vision of which projects should take precedence over the other. Thus sustainability must be accepted as a fundamental priority of the college, and projects most central to this goal must be pursued.
Another venue where the tradeoff between the educational mission and sustainable practices plays out is through how that education is delivered. Clearly field trips, international programs, inviting expert speakers, etc. are very carbon intensive. However, these aspects are central to CC’s core values of education through rigorous inquiry and diversity of learning venues. Thus, the goal to be a sustainable campus cannot detract from the quality of education that CC provides or the sustainability and mission of the institution itself will become compromised.

**Funding, Resources, and Path Dependency**

In the same vein as competing priorities, the college has recently experienced a significant decline in its endowment. Many action items that were identified by the CSC with regards to improving the infrastructure on campus and pursuing renewable energy require a considerable up-front capital investment. As the college is presently budget constrained, alternative sources of funding will need to be explored or these projects will need to be postponed. A similar issue, however, is how the college chooses to make funding decisions. Does it behoove the institution to choose a lower-cost project in the short-term that may negatively affect it in the long-term? Thus, the college needs to truly consider the potential future cost savings through efficiency and better life-cycle performance. This mindset appears to be present in certain decisions, but does not permeate every big assessment or decision.

As a result of decreased funding, departments and offices have lost their administrative support staff. Not only are people at the college being overworked, but disagreement exists about the fairness of these decisions and the social equity issues that
arose during the personnel cuts. In order to perform as a sustainable institution, the college needs to focus on and support its human resources.

At present, significant funding has not been directed toward sustainability structures at CC. The CSC has no funding, the Office of Sustainability has an unguaranteed annual budget of $12,000, and funding for Emily’s position most likely will not exist in the coming years. Though the need for a permanent sustainability coordinator position is still debated, in order to ensure that implementation of action items, projects, and initiatives are being coordinated, the Office of Sustainability will most definitely benefit from more secure and increased funding.

*Siloed Organization and Communication Barriers*

Operating in silos is not unusual to IHE nor is it surprising; such operational structure is a natural outcome of physical isolation and specialization. Nevertheless, siloed operation has the effect of delaying information flows across departments and offices. In addition, the manner with which the campus communicates internally can be ineffective. The daily listserv is visually unappealing and can easily be glazed over without the reader ingesting all of the information. Other forms of communication are improving, such as visual slides in the student center and dorms showcasing important information about events and initiatives. The introduction of the sustainability website was an important development in reaching out to the community, but people peripheral to the movement are not yet familiar with that resource. With the need to reach every facet of the college, breaking down these barriers and fostering more collaboration, communication, and simply awareness is critical to successfully realizing cultural buy-in of sustainability goals.
Decision-making and Policies

The decentralized manner in which the campus operates coupled with a focus on relationships and consensus and an aversion to policies is not necessarily an entirely negative aspect of CC. This has enabled much of the buy-in for sustainability on campus, as it did not originate from a top-down approach. A consequence of this culture and structure of decision-making, however, is that there may not always be clear and concise guidelines and expectations about how to make decisions or what the college’s priorities are. As such, operationalizing sustainability becomes more difficult, as each department and office has their own way of doing things and a paper trail for best practices does not yet exist. This can have the effect of signaling mixed messages to the campus as a whole.

In addition, because of the aversion to top-down policies, sustainability must become ingrained into current incentive structures and the culture of decision-making. Although there may exist a history of sustainability activity, because it does not live in a policy or document, there is no guarantee that this activity will continue with new turnover. Thus, the college needs to work within this culture to find creative ways to promote continued and advanced sustainability practices.

Behavioral Change and Lack of Awareness

While the campus culture might inherently support an environmentally oriented community and an institutional goal toward sustainability, many respondents recognized a widespread disconnect between individual’s values and their resulting behaviors. Numerous examples were given about students’ decisions to go on long trips for recreation over the weekends and breaks, opening the windows in the middle of winter, and opulent purchasing habits. Similarly, the campus faces challenges with all staff,
faculty, and students to create lasting habits with regards to turning off the lights and computers, purchasing environmentally friendly products, printing double-sided, and numerous other best practices that impact resource use.

Some of the biggest challenges attributed to changing behavior stem from lack of awareness or concern, stepping on people’s toes or creating more work for them, overcoming habits formed from an early age, and not having convenient structures in place to make it easy to switch to a different behavior. Additionally, there are disincentives built into the structure of the organization that impede altering behaviors, such as budgets and tuition not reflecting utility and resource use. Some of these challenges are illustrated in the quotes below.

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**Part of it is ignorance. Part of it is tradition or understanding, and part of it is independence like ‘they can’t tell me what to do.’**

**Putting limits in this environment, at that time, was very unpopular. If people wanted multiple computers for themselves, if they had labs or they wanted one in the office, one at home, and a third to carry around, they wanted the freedom very much.**

**It wasn’t until this year when one of the waste companies in town decided to go to single-stream recycling and so, in a single year we went from a 15% diversion rate to a 45-50% diversion rate, simply because the structure supported what we wanted to do.**

**I think there’s a lot more awareness at my level and the council’s level, and maybe it isn’t down to every staff level and student on campus yet. I think that both ends are working toward the middle; we’re going to involve the staff and students a lot more as we initiate more of these programs.**

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On the management and staffing level, people do not see sustainability as part of their job description. Sustainability considerations do not enter into hiring decisions, with few exceptions. Senior staff has not yet been told by the president that carbon neutrality is part of their job function, and few know the full details of the President’s
Climate Commitment. Most respondents agreed that if sustainability were to actually be operationalized, every individual on campus would need to see it as part of their personal responsibility. While many examples exist within faculty and staff, widespread permeation of sustainability into job descriptions and responsibilities has yet to occur.

Aligning individual practice with institutional practice is imperative in transitioning toward sustainability, yet possibly one of the most challenging. The college experiences a twenty-five percent turnover in its student body each year. New staff and faculty may not inherently hold sustainability as a value or have habits associated with resource conservation. On the other hand, people may simply not care or choose not to go out of their way to change habits. As such, the college needs to devote energy and resources toward raising awareness, identifying barriers to behavior change and finding incentives to address these barriers, and continue to cultivate a culture whose practice reflects the values of the institution. This strategy is reflected in the quote below:

*Sustainability thrives with the diversity of thought. You’re not going to stagnate with continual turnover. You build and ethos and resources and assets that tend to draw people to your college. Give them a clear path about how to engage, set the expectation - one of the biggest thing is the mindset for organizational change, students are inferring an ethos.*

*Academic Structure and Location*

The block plan and CC’s location as the only liberal arts institution of its kind in the Rocky Mountain time zone present challenges to reducing the campus’s carbon footprint. The academic structure requires that every classroom is in use from 9 a.m. until 12 p.m. on average, but then most rooms lay empty for the remainder of the day. Thus, this is a very energy intensive structure and inefficient use of building space. However, the block plan is central to CC’s learning environment. Similarly, the fact that
CC is the only college in its cohort located in the mountain time zone mandates that people travel further for conferences, athletics, and simply to go home. This adds a higher level of carbon intensity in terms of travel that other institutions do not have to confront. Therefore, these challenges need to be addressed creatively without compromising the educational mission of the institution.

Location in Colorado Springs

The infrastructure and political environment of the location and external community can also heavily influence the success of an institution’s move toward sustainability, such as municipal waste management, public transportation, and utilities. For example, in order to move forward with some of the commitments required by the PCC, Colorado College needs to move toward renewable energy as its primary source of electricity. As an institution situated within the city of Colorado Springs, negotiations need to be made with the local public utility to work toward this renewable energy goal. At present, this negotiation is slow moving and CC is facing resistance from the utility due to differing priorities, incentives, and resources between CC and Colorado Springs Utilities. Similarly, the college had met some of its targets for the PCC through a downtown shuttle that was in place. With the economic downturn, however, that shuttle is no longer running and public transportation in general has been reduced. The college is actively engaging with the city and community to push for more sustainable infrastructure, but its sphere of influence and ability to leverage external infrastructure is limited.
5.4 Institutionalization at Colorado College

Clearly, the college has been successful in articulating its vision for sustainability, and has begun aligning that vision with structures, programs, initiatives, and decision-making. Certainly the level of alignment and degree that sustainability is reflected in all of these realms varies across each dimension. Thus, the path to institutionalization has begun, but still faces considerable challenges moving forward. Several quotes below illustrate this point.

*If institutionalizing something means that every piece of equipment is in place, then no, it isn’t. Do we know that every new thing we do is going to take that into consideration – if that’s institutionalizing it, then I think yes.*

*I would say we are at least in phase 1 [of institutionalization]. There are probably about three phases. To be fully institutionalized would mean that we could have a lot of changeover of students, faculty and staff and still maintain things at the level that we have. I don’t know that we’re there. One of the issues that we have, our strength and weakness of depending on relationships, the pure institutional way end up being policy heavy – the antithesis of this place. Could we ultimately get to phase III, I don’t know. But I think we could move toward phase II where there is enough of a saturation of the values, that even with turnover and changes, general initiatives will live on. And I think we’re getting close to that. I think we’ll get an opportunity this year to measure that. Because I think Bruce was a powerful entity with the leadership that he gave and Howard, he’s got to try to keep that going on. We are losing one influential person for a year. It will be interesting to talk to Bruce when he comes back and ask him what he sees as different and what has carried on.*

*I think some of the first steps have been made to move in that direction with a campus wide commitment to carbon neutrality. This commitment to carbon neutrality did not, to me, translate as sustainability necessarily, but it is a statement, and once that’s made, it trickles down to different departments and different facets on campus and then embodied by them in their own unique way.*

*I think that some statements, like the signing and what we say about being a carbon neutral campus on KRCC, are auspicious and have institutionalized the culture and mindset that this is important and a good lifestyle. I don’t see that manifested in actual decision-making, other than the LEED buildings; those are impressive to me because we spent more money than we needed to for that purpose, and that gives me hope.*
I think that it’s been institutionalized with the CSC and environmental program and State of the Rockies. It’s part of the fabric now. But, a lot of work needs to be done to get it from 40% of the people to 100% of the people.

I think it is institutionalized in the ethos and culture very clearly, but in terms of policy, programs, and practice, it’s on its way.

I think if Celeste were to leave next year, there is a 50% chance that we would get a president who does not care much about sustainability, and though it’s written into our core values, there is no guarantee that the leadership at the top is going to move that on. And until we can put in place the power of making that an important decision at every top hiring we have at this place, then we’re not institutionalized.

These perspectives thus beg the question of what institutionalization actually looks like at Colorado College and if it is even an end goal? The definition of institutionalization is itself ambiguous, which became apparent through my interviews. One respondent had a very interesting perspective on the tension between maintaining the momentum of a movement and institutionalizing a movement. When asked what institutionalization would look like, they exclaimed:

*Probably creating an office, doing a study, commissioning a study, generating a plan, and then hiring somebody responsible for executing the plan if you don’t have somebody to do it already. And that does this (wipes her hands clean) to your movement. This is why I am opposed to it. It is everybody’s responsibility and you have to be part of the people.*

Thus, imposing a bureaucratic structure detracts from the strength of the movement itself and can have the effect of moving the authentic underpinning of change away from the grassroots base, isolating it within another silo of the institution. This concern was expressed elsewhere in several other interviews in which respondents claimed that the college could not simply buy its way to sustainability or mandate it from the institutional level down.
However, there must be a way to ensure that the efforts do not wane, that the college lives up to its commitments and values, and that there are significant resources available to facilitate and enable change. Once sustainability has moved into the institutional level, the scope is expanded such that maintaining its viability requires more formal structures, systems, and resources. Many respondents acknowledged this need and alluded to a goal that sustainability become part of the college’s identity and permeate every individual’s actions and decisions. This would effectively trickle up and be supported by institutional structures. As one respondent framed the issue:

How do you take this from the campus is committed to this and lots of people are working on it to making it so embedded in the fabric of the place that when people talk about Colorado College, that’s one of the first things they say?

At present, sustainability is far from institutionalized at Colorado College, a statement that is evident in many of the interview respondents and my own recommendations. Nevertheless, the college has begun its journey toward full institutionalization and has created a vision of how this might manifest. In this way, institutionalization comes to embody widespread change toward sustainability on an individual and cultural level, which is then supported by infrastructure, policies, and programs. The alignment between the two ultimately translates into actions and processes that the college can begin to operationalize. Whether it is making a purchasing decision or considering a field trip, sustainability enters into what the college stands for and how they make decisions.
VI. ANALYSIS AND RECOMMENDATIONS

This case study provides a comprehensive analysis and assessment of Colorado College’s journey toward incorporating sustainability into its institutional identity, mission, value addition, and operational practice. Indeed, this case study and assessment helps to identify events and strategies that were successful in catalyzing change as well as barriers confronted along the way and in the future. From this analysis, several important themes emerge that contributed to CC’s success and may be useful to other IHE in their path toward sustainability integration. These themes are detailed below, organized by general implications to increase institutionalization in IHE and evidenced by CC’s experience.

6.1 Key Successes, Insights, and Implications for IHE

- **Couple grassroots activism with top-down support.** Much of the energy to become sustainable is truly student driven. This base is important in creating the requisite momentum to spur cultural change. By providing support and resources, grassroots movement can be a powerful force for change.

  Colorado College has an impressive level of engagement and awareness at the grassroots level; this is one of its greatest assets. Such energy needs to be continually provided with support, resources, and structure so that creativity is still encouraged while moving forward with the sustainability priorities set by the college.

- **Infiltrate sustainability into the vision of the institution and ensure that clear leadership emerges that aligns with the vision.**

  By articulating sustainability as a core value early on, proponents for a move toward sustainability could point to these values as a means for engendering more tangible action from the President. After the college became a signatory of the PCC, this further mandated a level of accountability that ensured sustainability would be seriously considered. Such high level support signaled to the CC community that the college was taking a genuine commitment to sustainability at the institutional level. This also has the added benefit of formalizing this vision into the identity of the college, such that it exists past any turnover in leadership.
Create a compelling case for sustainability. The most effective strategy is the combination of widespread support for projects coupled with a detailed and rigorous analysis of the benefits to the institution.

High-level decision makers are faced with numerous competing priorities while trying to ensure that the sustainability of the institution itself is not compromised. Thus, they cannot make superfluous decisions that do not directly advance this goal. Furthermore, they do not have all of the information or capacity for detailed analysis about the various tradeoffs of different decisions. By presenting a comprehensive analysis of important projects such as the LEED certification and signing the PCC, sustainability actors were able to persuade decision-makers that sustainability is not a superfluous choice.

Collaborate across various stakeholders and sustainability champions. This not only has the advantage of creating an inclusive movement and empowering the community, but it leverages existing strengths, networks, and leadership that already exist.

As Colorado College, like most institutions, operates under fragmented and physically isolated departments, yet also has a culture of consensus-based decision-making, it was important to unite champions and leadership across campus. This is perhaps one of the greatest strengths of the CSC, in that it brings together a diverse array of expertise and experience, enhancing its capacity to reach a greater scope of the campus.

Create systems to audit and track metrics through time. Such benchmarking is a very concrete way to measure performance and communicate it to the community.

Once Colorado College had a comprehensive greenhouse gas and environmental inventory, it was not only able to make a tangible plan for reducing this impact, but it provided a concrete way to communicate progress to the community and decision-makers. This inventory also helps to prioritize actions in a hierarchy of greatest impact and greatest expense. Additionally, such benchmarking aids in assessing the institution’s position against others as well as creating venues for friendly competitions to change behavior (i.e. dorm competitions, department challenges, etc.)

Be resilient and adaptive to adversity. Turn challenges into opportunities to showcase the benefits of sustainability. Sustainability necessitates an adaptive approach as conditions are continually changing and new, unexpected challenges are presented. Reflecting this resilience reinforces sustainability as a guiding principle.

In the face of limited resources, the CSC was able to turn a bleak time into an opportunity to engage the campus in a positive way through aCClimate 14, enhance visibility of the college’s commitment, and show positive results.
- **Convert aspirations into practice.** Aligning goals with actual performance affirms a genuine commitment. An institution that espouses sustainability but does not devote resources or energy toward enacting change will lose its credibility quickly.

On multiple occasions, stakeholders mandated that Colorado College live up to and commit resources to its vision of sustainability. Still, decision-makers need to further align this vision with practice such that it is genuinely pursuing its sustainability aspirations.

### 6.2 An Integral Approach to Institutionalizing Sustainability in Higher Education

The term “institutionalization” can often times have negative connotations, alluding to bureaucratic systems that impose rigid and hierarchical structures. On the contrary, the concept of institutionalization can also be used to describe the process of making something – concepts, values, norms, or practices – become embedded and rooted into the organization or system. Thus, the term implies the internalization of an idea or notion into the entirety of the internal and external spheres of an organization. It is this definition that is most applicable and useful for sustainability in IHE.

A major objective of this Masters Project was to analyze the level of sustainability institutionalization at Colorado College; present a picture of what institutionalization might look like; and address how the college could get there. In addition, I aimed to extend the analysis to IHE in general, informing their path and strategy toward sustainability. Coupling my case study analysis with theoretical work, I propose an integral approach for conceptualizing and analyzing sustainability within an IHE, specifically at Colorado College. This model is derived from Integral Theory established by Wilber (2000), its applications to sustainability and sustainable development (Brown 2005; Cacioppe and McDermott 2009), and my own research. The integral model

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presented will hopefully frame the comprehensive landscape that sustainability in IHE is situated in, mapping the various regions that need to be addressed. I then apply the model to Colorado College to assess the level of sustainability institutionalization.

Integral Theory proposes a panoramic and holistic mode of inquiry that guides our understanding of a phenomenon using quadrants, levels, lines, states and types to create a comprehensive map of reality. Brown (2005) was the first to apply this theory to the dynamics of sustainable development, arguing that the integral framework allows the development practitioner to (1) identify the needs and capabilities of individuals or groups, and (2) tailor a specific response that addresses each unique situation (p. 2).

Building on integral sustainable development, Cacioppe and McDermott (2009) describe a vision of environmental sustainability and zero net impact in the business world, adapting the four-quadrant model to an organizational unit of analysis. Additionally, they outline a six-staged progression or levels of sustainability integration, moving from basic compliance to fully realized zero net environmental impact.

My model most directly stems from Cacioppe and McDermott’s (2009), as the scope of analysis and the vision of sustainability transformation within an organizational context are similar. Focusing primarily on the four-quadrant framework which maps the different dimensions of reality, I added or changed the terminology in each quadrant to customize the model specifically to sustainability in IHE. I also used the six levels diagram from Cacioppe and McDermott (2009) to display the continuum from campus greening to institutionalization, utilizing the same evolutionary progression as their original model, yet again rewording it to reflect IHE specifically.
This theory is useful as it provides a comprehensive structure to organize knowledge and understanding about an organization through various modes of inquiry and disciplines. As such, it allows the sustainability change practitioner to identify major internal and external dynamics which influence a progression toward institutionalizing sustainability, therefore enabling them to adapt an approach that directly addresses these complex challenges and optimizes existing resources. Figure 2 below demonstrates the realms addressed by each quadrant. It then suggests that full institutionalization requires alignment within each of these realms to the sustainability goals and initiatives.

FIGURE 3: An Integral Approach to Institutionalization

The individual interior relates to underlying values, connection to place, mental models and personal commitment to sustainability. This quadrant is measurable through subjective inquiry, such as qualitative research, personal reflection, or dialogue. The psychological realm is mostly exogenous to the organization, as values and worldview
are shaped at an early age. However, these can be changed and influenced by the organization as well through education.

The individual exterior represents the behaviors and actions of each individual within the organization. These are identifiable through quantitative inquiry, surveys, and external observation. Behaviors are directly influenced by individual values, group and community norms, education and awareness, and internal skills and education of an individual. However, there are numerous exterior factors that shape behavior, some of which are out of the purview of the institution. These include access to resources, physical infrastructure and available technology.

The interior collective denotes the particular culture and organizational norms, shared vision, and interpersonal dynamics of the institution. Again, this realm is measured through qualitative inquiry, but can also be investigated through publications and communications as well as the organization’s mission statement, core values, and leadership. The organizational culture exists through time and is distinct from the particular individuals who enter and leave the organization. Conversely, the culture can change and adapt to changing external factors or other realms within the institutional structure.

The final quadrant, the exterior collective, represents the level of institutional practice, organization, and structures. These include the systems, policies, procedures, management and staffing, and structures within the organization. These are externally and objectively observable. Table 4 further explains the four quadrants and tools for leveraging change within each realm.
TABLE 4: Integral Institutionalization: Areas Addressed, Evaluation and Tools for Transformation

<table>
<thead>
<tr>
<th>PSYCHOLOGICAL INFLUENCES - the internal reality of an individual - “what I experience”</th>
<th>BEHAVIORAL INFLUENCES - the objective, external reality of an individual - “what I do”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context:</strong> mental models; mindset; personal values and beliefs; commitment to sustainability; connection to place</td>
<td><strong>Context:</strong> behaviors; skills and capabilities; actions; resources of the individual; technology</td>
</tr>
<tr>
<td><strong>Areas Addressed:</strong> understanding one’s role in the community and impact on the environment; personal goals; educational level; emotional intelligence</td>
<td><strong>Metrics for Evaluation:</strong> energy and resource use and consumption; purchasing and consumption decisions; utility data; observational studies</td>
</tr>
<tr>
<td><strong>Metrics for Evaluation:</strong> environmental literacy; New Environmental Paradigm Scale; individual surveys</td>
<td><strong>Areas Addressed:</strong> environmentally/socially responsible actions; greening; eco-efficiency; purchasing; building; waste minimization</td>
</tr>
<tr>
<td><strong>Tools for Transformation:</strong> introspection and reflection to understand one’s mental models; formal and informal education; place-based learning; environmental literacy; awareness campaigns</td>
<td><strong>Tools for Transformation:</strong> education and training; policies and regulations; research; resources; sustainable technologies; staff performance evaluations</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CULTURAL INFLUENCES - the internal relationships of the organization - “what we experience”</th>
<th>SYSTEM INFLUENCES - the external structures and systems of the organization - “what we do”</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Context:</strong> cultural and organizational norms; shared values and vision; interpersonal dynamics; team learning</td>
<td><strong>Context:</strong> Organizational effectiveness; feedback loop efficiencies; eco-effectiveness</td>
</tr>
<tr>
<td><strong>Areas Addressed:</strong> overall college culture; staff, faculty and student culture; relationships within the community; relationships with the outside community; collective value of sustainability; mission and vision; stigmas; collective interpretation of power; inequalities.</td>
<td><strong>Areas Addressed:</strong> strategic planning; strategic objectives; communication and information systems; decision-making structure; management and staffing; reward and recognition; infrastructure and technology; resources of the organization</td>
</tr>
<tr>
<td><strong>Metrics for Evaluation:</strong> organizational learning; buy-in to organizational mission and values; qualitative inquiry; leadership qualities</td>
<td><strong>Metrics for Evaluation:</strong> STARS Rating System; system and feedback models</td>
</tr>
<tr>
<td><strong>Tools for Transformation:</strong> Leadership commitment; dialogue; participatory decision making; organizational learning; community visioning</td>
<td><strong>Tools for Transformation:</strong> systems-thinking; capacity building; increased communication and information flows (data visualization); policies</td>
</tr>
</tbody>
</table>

Adapted from Brown (2005)

Not only do these four quadrants influence the sustainability change process, but they influence one another as well. For example, one’s individual values and personal commitment directly affect their external actions and behaviors. Similarly, the culture of the organization supports the resulting operational and decision-making structures that
are most effective. Thus, each realm influences and is influenced by the organizational change process toward sustainability. For example, if an institution has a constituency oriented toward environmental and social responsibility embodied a shared vision and culture but has not moved to the level of action through behavior change or formalized this intent by providing resources or enacting policies, sustainability change will not ensue. Conversely, if an institution creates an office, hires a full-time sustainability coordinator, and mandates a top-down change that is not supported by the culture and individual values of the community, then the initiative will not gain much traction or result in significant broad based action or movement. In this manner, each quadrant must be considered during the organizational change process, and institutionalization has occurred when sustainability has been aligned with all four quadrants.

Levels of Change and Institutionalization

Organizational change toward sustainability is a journey whose end goal may never fully be realized. Consequently, there are various levels of change along the way that can help an organization benchmark their success. Cacioppe and McDermott (2009) outlined a six-level continuum of sustainability transformation, from basic environmental compliance to full integration and systems change toward sustainability. I adapted this framework specifically to the context of IHE, labeling the continuum of greening to institutionalization. These levels are presented in Figure 4 below.
The first level is one of compliance in which the institution is not considering environmental and social performance beyond regulations. In level two and three, the organization has embarked on greening their operations, facilities. Thus, greening is referred to an add-on rather than a transformation. Level two represents an organization that is beginning to consider environmental impact and has isolated pockets of activity, but has not yet entered into the realm of an institutional response. In level three and four, the organization is moving through measuring, benchmarking, and establishing the structures necessary to implement institutional sustainability goals. The difference
between these two levels is the degree that sustainability performance has permeated into all aspects of the organization; the stage of systematic organizational change. At level five, the institution has fully integrated and aligned sustainability into its identity, operating framework, and decision-making structures. Note that policies are not explicitly cited here, as an organization may not need official policies to have sustainability practices institutionalized as long as all leadership, decision-makers, and stakeholders consider sustainability. The final level represents an aspiration of zero net impact that few organizations will fully be able to achieve. Nevertheless, it is a target that can be used to guide the organization’s change process. As the organization progression in the above levels, sustainability permeates deeper into each quadrant.

I believe that this model captures the essence of sustainability transformation within an IHE. While it is not a formula or blueprint to implement, it can guide a comprehensive understanding of the landscape that will influence and be influenced by sustainability. By providing a holistic picture of reality, it organizes and integrates multiple perspectives and modes of inquiry to work synergistically and inform the sustainability change process. It also presents a framework for continually assessing and evaluating the institutions progress, benchmarking through time internal capabilities, successes, and accomplishments as well as areas for improvement and how to address them.

Assessing Colorado College Using the Integral Framework

The integral model to institutionalization provides a theoretical springboard from which to approach sustainability change in IHE as well as evaluate the current phase of an institution’s journey. Thus, I have applied this model to Colorado College as a way to
analyze and organize CC’s level of institutionalization. Table 5 presents a breakdown of this evaluation. Based on this assessment, Colorado College is strong in the internal change quadrants but needs to translate these strengths into external changes and practices. This disparity is most likely due to the amount of time that sustainability has been addressed in each quadrant. The college has been building a supportive culture of activism for almost forty years whereas institutional mechanisms to address sustainability have only recently entered the agenda.

Based on the levels of institutionalization presented earlier, CC is most closely at level 3 moving into level 4 if momentum and action are maintained and sustainability enters more fully into the educational mission and performance evaluations of the college. Clearly organizational change is a maturing process and the institution should not be faulted for where it is. As long as it is making continual progress and knows the direction that it wishes to travel and how to effectively address areas for improvement, it can continue to align sustainability into each quadrant and embed those values into the identity of the institution
<table>
<thead>
<tr>
<th></th>
<th>INTERNAL</th>
<th>EXTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INDIVIDUAL</strong></td>
<td><strong>Strengths:</strong></td>
<td><strong>Strengths:</strong></td>
</tr>
<tr>
<td></td>
<td>• Strong sense of environmental and social responsibility</td>
<td>• Proven changes in behavior change evidenced by aCClimate 14 results and increased waste diversion rate</td>
</tr>
<tr>
<td></td>
<td>• Personal commitment to place and the surrounding environment</td>
<td>• More and more initiatives and options on campus to promote sustainable practices (e.g. reusable to-go containers, local and organic food options, use of digital technology in the classroom, conservation tools such as kill-a-watt devices and shower timers available)</td>
</tr>
<tr>
<td></td>
<td>• More and more students are coming in with a concern and focus on the environment.</td>
<td>• Auditing and measuring campus footprint; increase in the use of sub-meters and eco-visualization</td>
</tr>
<tr>
<td></td>
<td>• An educated, generally liberal-minded, and progressive constituency</td>
<td>• Purchasing department, IT services, and facilities strive to promote sustainable procurement</td>
</tr>
<tr>
<td><strong>Areas for Improvement:</strong></td>
<td>• Not everyone bought-in to notion of sustainability</td>
<td><strong>Areas for Improvement:</strong></td>
</tr>
<tr>
<td></td>
<td>• Varying mental models exist on what sustainability means (e.g. carbon neutrality vs. ecological footprint, social vs. environmental)</td>
<td>• Disconnect between what people say and what they do – aligning the two is important</td>
</tr>
<tr>
<td></td>
<td>• Varying levels of engagement (i.e. people do not see sustainability as within their purview, not part of their function on campus)</td>
<td>• Convenience plays a large role in influencing behaviors – creates a difficult barrier</td>
</tr>
<tr>
<td></td>
<td>• The college has not focused on improving ecological literacy</td>
<td>• Built-in disincentives exist between resource use and budget (i.e. office and department budgets are not determined by utility costs)</td>
</tr>
<tr>
<td><strong>COLLECTIVE</strong></td>
<td><strong>Strengths:</strong></td>
<td><strong>Strengths:</strong></td>
</tr>
<tr>
<td></td>
<td>• Shared vision of sustainability and carbon neutrality articulated in core values and PCC</td>
<td>• Structures in place to support sustainability implementation (strong campus sustainability council, Office of Sustainability, PAC)</td>
</tr>
<tr>
<td></td>
<td>• Leadership supports and advocates this vision</td>
<td>• Brendle Report, the PCC, and Campus Sustainability Plan provide tangible actions and guidelines for moving toward sustainability</td>
</tr>
<tr>
<td></td>
<td>• Strong history of civic engagement and service learning</td>
<td>• Campus is working toward a more sustainable infrastructure (e.g. LEED buildings, Bon Appétit, CC Farm, composting, energy efficiency upgrades)</td>
</tr>
<tr>
<td></td>
<td>• Collaborative and consensus-based culture</td>
<td><strong>Areas for Improvement:</strong></td>
</tr>
<tr>
<td></td>
<td>• Horizontal governance structure – empowering organizational culture that encourages innovation and creativity</td>
<td>• Sustainability not prioritized in strategic planning and hiring decisions</td>
</tr>
<tr>
<td></td>
<td>• Board of Trustees supportive of sustainability</td>
<td>• Sustainability not included in staff training or job descriptions</td>
</tr>
<tr>
<td><strong>Areas for Improvement:</strong></td>
<td>• Full cultural change has not occurred- sustainability has not been articulated as a top priority</td>
<td>• Lack of resources devoted to support structures (small office budget, no full-time staff coordination position)</td>
</tr>
<tr>
<td></td>
<td>• Siloed operation and politics between administration, faculty, and students</td>
<td>• Few policies expressing sustainability purchasing or practice guidelines</td>
</tr>
<tr>
<td></td>
<td>• Lack of confidence in leadership from faculty members</td>
<td>• Fragmented communication systems (many not aware of initiatives, importance, events, etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• No clear procedures for decision-making</td>
</tr>
</tbody>
</table>
6.3 Recommendations to Colorado College

From this analysis, I propose several concrete recommendations to consider in moving forward. First and foremost it must be noted that a concise and clear vision of how sustainability should be manifested within Colorado College still does not exist. As such, these recommendations may not be in line with everyone’s values and priorities. Similarly, they are biased from my own personal commitment to the institution and experiences working with the Office of Sustainability during this research. Below is a list of the top actions that I feel will further advance sustainability at CC and leverage its existing assets. Some of them are already occurring but need to be further emphasized and implemented. I put an emphasis on actions that address the external change quadrants, as these are the areas that need to be most addressed and will leverage the most change. Table 6 represents where each recommendation fits within the four-quadrant framework.

1.) Support the Office of Sustainability. Commit annual funding to enhance the capacity of the Office and ensure its continued existence. Hire a full-time sustainability coordinator to facilitate collaboration, direct intern’s efforts, and communicate progress to stakeholders. The most effective place for this coordinator will be half faculty, half administrator such that they can navigate and act as a liaison between the two realms, as well as adding value to the educational component.

2.) Enhance the CSC’s authority and decision-making ability. This will not only provide more credibility to the campus and symbolize that sustainability has been identified as a priority, but it will increase the council’s capacity to act quickly and efficiently.

3.) Engage senior management. Facilitate an orientation of the President’s Climate Commitment for VP’s and key decision-makers. Emphasize each individual’s role and responsibility in moving this commitment forward.

4.) Create formal policies. Formally articulate a sustainable purchasing policy and LEED building policy. Disseminate this to offices and departments.
5.) **Incorporate sustainability performance into staff and faculty job descriptions and performance evaluation.**

6.) **Infuse sustainability into core curriculum.** As a signatory of the PCC, the college is required to take “actions to make climate neutrality and sustainability a part of the curriculum and other educational experience for all students and to expand research or other efforts necessary to achieve climate neutrality.” This presents a powerful opportunity to infuse issues of sustainability into the liberal arts pedagogy of the college. Identify all courses that have a sustainability element and include these courses in the alternative perspectives requirement for all students. Ensure that new student orientation material includes information about sustainability initiatives on campus and how to get involved.

7.) **Improve and enhance informal education.** Ensure that all new staff and students are made aware of sustainability on campus and given an orientation of key issues. Provide a forum for continued learning either through a seminar series or an inclusive “study circle” series.

8.) **Improve communication.** Enhance visibility of sustainability initiatives and successes to internal and external stakeholders. Market the website, continue producing the Office of Sustainability newsletter, and use new internet and social networking technologies (e.g. wiki site) to promote collaboration across campus.

9.) **Establish sustainable funding.** Seek financial mechanisms that will ensure projects can be funded in perpetuity. This could take the form of an endowment, revolving loan fund, or larger budget.

10.) **Utilize community based social marketing strategies for behavior change.** Continue to bolster and support the sustainability champions and eco-reps program. Incorporate a level of accountability into the program, especially among students. This can be done through offering credit or a small work-study stipend. Employ and train RA’s to promote sustainable practices in the dorms and residential life.

11.) **Alter incentives and feedback structures for behavior change.** This will have the effect of reflecting the true cost of behavioral actions such that they enter into the individual’s decision-making process.

12.) **Benchmark Institutionalization Using the Integral Framework.**

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17 The champions and eco-reps program was in its pilot phase during the fall of 2009, coordinated by myself and another student intern. The purpose of the program was to promote peer-to-peer outreach and localize the aCClimate conservation campaign through a network staff, faculty, and student champions.
TABLE 6: Recommendations to Colorado College

<table>
<thead>
<tr>
<th>INDIVIDUAL</th>
<th>INTERNAL</th>
<th>EXTERNAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>▪ Infuse sustainability into the core curriculum</td>
<td>▪ Continue to support and enhance the Eco Reps and Sustainability Champions program</td>
</tr>
<tr>
<td></td>
<td>▪ Enhance informal education opportunities</td>
<td>▪ Alter incentive structures and feedback mechanisms</td>
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<tr>
<td></td>
<td>▪ Engage senior management and other faculty</td>
<td>▪ Support Office of Sustainability</td>
</tr>
<tr>
<td>COLECTIVE</td>
<td></td>
<td>▪ Hire full-time sustainability coordinator</td>
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<tr>
<td></td>
<td></td>
<td>▪ Enhance the CSC’s authority and decision-making ability</td>
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<tr>
<td></td>
<td></td>
<td>▪ Create formal policies for particular sustainability practices</td>
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<tr>
<td></td>
<td></td>
<td>▪ Incorporate sustainability into staff/faculty job descriptions and performance evaluations</td>
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<tr>
<td></td>
<td></td>
<td>▪ Establish sustainable funding</td>
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<tr>
<td></td>
<td></td>
<td>▪ Improve communication</td>
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<td></td>
<td></td>
<td>▪ Benchmark institutionalization using the Integral Framework</td>
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</table>

VII. CONCLUSION

The opportunity for IHE to take the lead toward fostering environmental and social citizenship through ecological literacy, social justice, and climate action is both an exciting and lofty charge. For these institutions to advance this movement and effectively cultivate a more sustainable society, principles and practices of sustainability must become embedded into all realms of the institution. The ACUPCC Guiding
Document on Education for Climate Neutrality presents a compelling vision of how this might manifest within an institution.

“A college or university would operate as a fully integrated community that models social and biological sustainability itself and recognizes its interdependence with the local, regional and global community . . . All parts of the college or university system are critical to achieving profound individual, institutional, and societal change that can only occur by connecting head, heart and hand. Profound change cannot be merely intellectual; it must be rooted in a place that is personally relevant and connected with an ability to take action.” (p. 5)

This quote embodies the need for a whole-systems approach. Integration of sustainability into higher education goes beyond making operational efficiency improvements, reducing resource consumption, or becoming carbon neutral. Sustainability implementation takes much more than creating an office, hiring a coordinator, or drafting policies that direct sustainable practices. While these are all components of becoming a sustainable institution, they are one piece of a larger systemic transformation, in which the institution fully embraces a new approach toward education, learning, and practice that reflects the guiding principles of sustainability: adaptability and resiliency, systems thinking and organizational learning, reliance on sustainable resources, socially and economically vibrant communities, creating a closed-system system of production and consumption, and maintaining the integrity of natural and social capital.

Colorado College stands as an excellent example of an institution grappling with this multi-faceted charge. Its long history of environmental awareness and activism coupled with its focus on an interdisciplinary, hands-on learning environment has positioned it to become a leader in the move toward sustainability. However, similar to most organizations, sustainability leaders and champions have confronted resistance in
the form of competing priorities, finite resources, and limited or inconsistent buy-in. Nevertheless, its journey sheds light on a progression that has ultimately garnered broad-based support and significant momentum toward moving sustainability into the institutional realm.

Clearly each institution will have its own path toward sustainability that addresses the unique capabilities and challenges inherent within it, yet there are elements common to all that can be considered and gleaned from this case study. Sustainability in higher education is a fairly new development and there are no examples of an institution that has successfully and fully institutionalized sustainability practices and actions. Such transformation is a maturing process and an idealized vision of the future. However, it is necessary to conceptualize what a whole-systems approach may look like. The most powerful movement occurs with the union of grassroots internal change at the individual and cultural level coupled with deliberate and planned institutional strategies and structures. The integral framework proposed captures the essence of this convergence and enables an assessment of the strengths and weaknesses represented in each quadrant, thereby providing a springboard for action.
WORKS CITED


Kezar, Adrianna, (2005), What Campuses Need to Know about Organizational Learning and the Learning Organization, In New Directions for Higher Education, no 131, Fall 2005. Wiley Periodicals


## APPENDIX A: STARS Table

### CATEGORY 1: Education and Research (ER)

<table>
<thead>
<tr>
<th>Credit Number</th>
<th>Credit Title</th>
<th>Possible Points</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Co-Curricular Education</strong></td>
<td><strong>Curriculum</strong></td>
<td><strong>Research</strong></td>
</tr>
<tr>
<td>ER Credit 1</td>
<td>Student Sustainability Educators Program</td>
<td>5</td>
</tr>
<tr>
<td>ER Credit 2</td>
<td>Student Sustainability Outreach Campaign</td>
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<td>ER Credit 3</td>
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<td>ER Credit 4</td>
<td>Sustainability Materials and Publications</td>
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<td><strong>Tier Two</strong></td>
<td><strong>Co-Curricular Education Tier Two Credits</strong></td>
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<tr>
<td>ER Credit 5</td>
<td>Sustainability Course Identification</td>
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<td>ER Credit 6</td>
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<td>ER Credit 7</td>
<td>Sustainability-Related Courses</td>
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<td>ER Credit 8</td>
<td>Sustainability Courses by Department*</td>
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<tr>
<td>ER Credit 9</td>
<td>Sustainability Learning Outcomes*</td>
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<td>ER Credit 10</td>
<td>Undergraduate Program in Sustainability*</td>
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<tr>
<td>ER Credit 11</td>
<td>Graduate Program in Sustainability*</td>
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<td>ER Credit 12</td>
<td>Sustainability Immersive Experience*</td>
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<tr>
<td>ER Credit 13</td>
<td>Sustainability Literacy Assessment</td>
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<td>ER Credit 14</td>
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<td>ER Credit 15</td>
<td>Sustainability Research Identification*</td>
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<td>ER Credit 16</td>
<td>Faculty Involved in Sustainability Research*</td>
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<td>ER Credit 17</td>
<td>Departments Involved in Sustainability Research*</td>
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<tr>
<td>ER Credit 18</td>
<td>Sustainability Research Incentives*</td>
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<tr>
<td>ER Credit 19</td>
<td>Interdisciplinary Research in Tenure and Promotion*</td>
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</table>

*credit does not apply to all institutions

### CATEGORY 2: Operations (OP)

<table>
<thead>
<tr>
<th>Credit Number</th>
<th>Credit Title</th>
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<tbody>
<tr>
<td><strong>Buildings</strong></td>
<td><strong>Climate</strong></td>
<td><strong>Dining Services</strong></td>
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<tr>
<td>OP Credit 1</td>
<td>Building Operations and Maintenance</td>
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<td>OP Credit 2</td>
<td>Building Design and Construction*</td>
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<td>OP Credit 3</td>
<td>Indoor Air Quality</td>
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<td>OP Credit 4</td>
<td>Greenhouse Gas Emissions Inventory</td>
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<td>Greenhouse Gas Emissions Reduction</td>
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<td><strong>Climate Tier Two Credits</strong></td>
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<td>OP Credit 6</td>
<td>Food Purchasing*</td>
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### Tier Two

**Dining Services Tier Two Credits**

<table>
<thead>
<tr>
<th>Energy</th>
<th>Possible Points</th>
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<tbody>
<tr>
<td>OP Credit 7</td>
<td>Building Energy Consumption</td>
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<td>OP Credit 8</td>
<td>Renewable Energy</td>
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**Energy Tier Two Credits**

<table>
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<tr>
<th>Grounds</th>
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<tr>
<td>OP Credit 9</td>
<td>Integrated Pest Management*</td>
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**Grounds Tier Two Credits**

<table>
<thead>
<tr>
<th>Purchasing</th>
<th>Possible Points</th>
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<tbody>
<tr>
<td>OP Credit 10</td>
<td>Computer Purchasing</td>
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<td>OP Credit 11</td>
<td>Cleaning Product Purchasing</td>
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<td>Office Paper Purchasing</td>
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<td>Vendor Code of Conduct</td>
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**Purchasing Tier Two Credits**

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<tr>
<th>Transportation</th>
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<tbody>
<tr>
<td>OP Credit 14</td>
<td>Campus Fleet</td>
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<tr>
<td>OP Credit 15</td>
<td>Student Commute Modal Split*</td>
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<tr>
<td>OP Credit 16</td>
<td>Employee Commute Modal Split*</td>
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**Transportation Tier Two Credits**

<table>
<thead>
<tr>
<th>Waste</th>
<th>Possible Points</th>
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<tbody>
<tr>
<td>OP Credit 17</td>
<td>Waste Reduction</td>
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<tr>
<td>OP Credit 18</td>
<td>Waste Diversification</td>
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<tr>
<td>OP Credit 19</td>
<td>Construction and Demolition Waste Diversion*</td>
</tr>
<tr>
<td>OP Credit 20</td>
<td>Electronic Waste Recycling Program</td>
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<td>OP Credit 21</td>
<td>Hazardous Waste Management</td>
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**Waste Tier TwoCredits**

<table>
<thead>
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<th>Water</th>
<th>Possible Points</th>
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<tr>
<td>OP Credit 22</td>
<td>Water Consumption</td>
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<tr>
<td>OP Credit 23</td>
<td>Stormwater Management</td>
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**Water Tier Two Credits**

*credit does not apply to all institutions

**Total**

<table>
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**CATEGORY 3: Planning, Admin. & Engagement (PAE)**

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<tr>
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<th>Credit Title</th>
<th>Possible Points</th>
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</thead>
<tbody>
<tr>
<td>PAE Credit 1</td>
<td>Sustainability Coordination</td>
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<tr>
<td>PAE Credit 2</td>
<td>Strategic Plan*</td>
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<tr>
<td>PAE Credit 3</td>
<td>Physical Campus Plan*</td>
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<tr>
<td>PAE Credit 4</td>
<td>Sustainability Plan</td>
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**Diversity and Affordability**

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<tr>
<td>PAE Credit 6</td>
<td>Diversity and Equity Coordination</td>
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<td>PAE Credit 7</td>
<td>Measuring Campus Diversity Culture</td>
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<td>PAE Credit 8</td>
<td>Support Programs for Under-Represented Groups</td>
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<td>Support Programs for Future Faculty</td>
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<td>10</td>
<td>Affordability and Access to Programs</td>
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<td><strong>Tier Two</strong></td>
<td>Diversity and Affordability Tier Two Credits</td>
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<td><strong>Human Resources</strong></td>
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<td>11</td>
<td>Sustainable Compensation</td>
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<td>Employee Satisfaction</td>
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<td>13</td>
<td>Staff Professional Development in Sustainability</td>
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<td>14</td>
<td>Sustainability in New Employee Orientation</td>
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<td>Employee Sustainability Educators Program</td>
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<td><strong>Tier Two</strong></td>
<td>Human Resources Tier Two Credits</td>
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<td><strong>Investment</strong></td>
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<td>16</td>
<td>Committee on Socially Responsible Investment*</td>
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<td>17</td>
<td>Shareholder Advocacy*</td>
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<td>18</td>
<td>Positive Sustainability Investments*</td>
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<td><strong>Public Engagement</strong></td>
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<td>19</td>
<td>Community Sustainability Partnerships</td>
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<td>Inter-Campus Collaboration on Sustainability</td>
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<td>21</td>
<td>Sustainability in Continuing Education*</td>
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<td>22</td>
<td>Community Service Participation</td>
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<td>Community Service Hours</td>
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<td>Sustainability Policy Advocacy</td>
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<td>25</td>
<td>Trademark Licensing*</td>
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<td>Public Engagement Tier Two Credits</td>
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<td><strong>Total</strong></td>
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## APPENDIX B: Colorado College Sustainability Plan

<table>
<thead>
<tr>
<th>Structure</th>
<th>Education</th>
<th>Energy and Carbon Neutrality</th>
<th>Natural Resources</th>
<th>Buildings &amp; Landscape</th>
<th>Financing</th>
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</thead>
</table>
APPENDIX C: Informed Consent Form

CONSENT FOR A PERSONAL INTERVIEW
COLORADO COLLEGE SUSTAINABILITY CASE STUDY
NICHOLAS SCHOOL OF THE ENVIRONMENT, DUKE UNIVERSITY

My name is Rebecca Schild and I am a Colorado College alumna and currently a Masters candidate at the Nicholas School of the Environment at Duke University. I am conducting research at Colorado College for my final Masters Project on sustainability in higher education. I will be interviewing members of the Colorado College community, from faculty, administrators, staff and students to gain a sense of how Colorado College has incorporated principles of sustainability into its organizational culture and decision-making. The purpose of this research is to provide an in depth case study on the process and context for moving toward a more sustainable campus.

Each interview will be a semi-structured conversation between the two of us taking no more than an hour of your time. The purpose of the interview is to gain an understanding of your opinions, experience, and perception of campus sustainability. I do not anticipate that any of the questions asked will be sensitive or confidential. This interview is completely voluntary and you may opt out of any question or end the interview at any time. Results from the interview along with other observations (e.g. meeting minutes of the Campus Sustainability Council, sustainability events, communications and publications) will be used to paint a picture of how sustainability has gained momentum at Colorado College and glean insights as to the successes and challenges that the college has faced.

The interviews will be taped recorded with your permission. All tapes will be locked in my office in which only I have the key. Once tapes have been transcribed onto my computer, they will be destroyed. All interview transcriptions will be password protected on my computer. Additionally, I will assign each participant a number, such that data cannot be connected to your identity and contact information. Again, only I will have access to this information. Your name and identity will not be disclosed in this report unless given your permission.

Please feel free to contact me at Rebecca.schild@duke.edu or at 303-810-4230 if you have any questions or concerns about this interview. Additionally, you may contact the director of Institutional Research at Colorado College, Amanda Udis-Kessler, at 719-227-8177 if you have any questions about your rights as a research participant. If you agree to this interview, please sign below. Please indicate whether you agree to the tape recording of the interview and if you would allow your name to be used in the final, published report.
Rebecca Schild

I have read the information in this consent form and have been given the opportunity to discuss it and ask questions.

[ ] I allow the discussion to be audio taped
[ ] I do not allow the discussion to be audio taped

[ ] I allow my name to be used in the final report
[ ] I do not allow my name to be used in the final report

Print Name: ______________________________________

Sign Name: ______________________________________ Date: ________________