BUILDING CAMPUS SUSTAINABILITY ON THE STRENGTHS OF INSTITUTIONAL AND CULTURAL IDENTITIES: AN EXAMPLE

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ABSTRACT: Institutions of higher education are constituted through networks of particular, multiple, overlapping identities. In the paper we focus on the relationship between those identities and the possibilities for institutional change towards bringing sustainability on campus. In particular, we present Calvin College as one example or model of how these identities can provide resources for institutional change with respect to sustainability. First we will briefly outline the various identities, and then we will show how Calvin’s various efforts at building campus sustainability draws on the strengths of those identities.

Keywords: identities, Calvin College, institutional change, campus sustainability

Introduction
Institutions of higher education are constituted through networks of particular, multiple, overlapping identities. In the paper we focus on the relationship between those identities and the possibilities for institutional change towards bringing sustainability on campus. In particular, we present Calvin College as one example or model of how these identities can provide resources for institutional change with respect to sustainability. First we will briefly outline the various identities, and then we will provide a number of examples of ‘greening the campus’ from our home institution, Calvin College, and show how Calvin’s various efforts at building campus sustainability draws on the strengths of those identities.

Cultural and Institutional Identities
The first identity we note involves the culture of sustainability in our particular city, Grand Rapids. Grand Rapids has taken issues of sustainability very seriously over the years and has recently been recognized as an environmental leader. For example, according to Haya El Nasser (2007), “Grand Rapids boasts the most LEED-certified buildings per capita of any U.S. city.” In October 2007 Grand Rapids will open the first LEED-certified art museum in the country, a significant accomplishment given the importance of temperature control to maintain works of art (Bernstein, 2007). Furthermore, the city established the Community Sustainability Partnership, an organization that encourages a diverse network of community organizations to focus on the triple bottom line—restoring environmental integrity, improving economic prosperity and promoting social equity. As a result, in 2007 Grand Rapids, in part because of its Community Sustainability Partnership, was the first city in the U.S. to be designated by the UN University as a Regional Center of Expertise (RCE) in Education for Sustainable Development (grcity.us, n.d.). These and other reasons give the city an emerging identity around sustainability, one that is supportive of campuses that seek to become more sustainable. Calvin’s own efforts benefit by being embedded in this community identity.

A second identity is related to Calvin’s long tradition of being a liberal arts college (established in 1876). This identity has provided resources for our work on institutional change toward sustainability. Big questions are the lifeblood of liberal arts education with its emphasis not only on the disciplines, but also on the connections between the disciplines and contextual study. Seeing connections between one area of study and another can lead to further inquiry. Liberal arts education, at its best, goes beyond simply knowing about reality or simply and narrowly acquiring competence in some field. Knowing entails responsibility and competence includes caring, for example, about issues of social justice and real-world change. More recently, Calvin has increasingly recognized that such caring involves its local place and has been working on a project funded by the Teagle Foundation to explore how to strengthen liberal arts education by emphasizing place and particularity. Sustainability has emerged as an important issue within “our place” and has captured the interest of faculty across
many liberal arts disciplines. The liberal arts identity, especially renewed in the way envisioned by the work on the Teagle project, helps support building campus sustainability.

A third identity revolves around valuing pedagogical practices and student learning. Calvin evolved primarily as a four-year undergraduate teaching college, with a strong emphasis on small class size, quality teaching, and serious student learning. Believing that teaching was an activity to which one was called, preparation for teaching was neither an afterthought nor an intrusion into the ‘real work’ of faculty. And believing also that learning was not merely for credentialing but that students were called to learn, students historically have been very serious about their studies. But part of serious teaching and serious learning was the recognition that knowledge needed to be applied to ‘real life’ problems and settings. And so, this complex identity has been a resource for the emerging efforts towards sustainability on campus.

Although a teaching college, Calvin also has a strong institutional tradition and commitment to research and scholarship. A significant number of Calvin’s faculty have been nationally and internationally recognized in various disciplines, including history, philosophy, the sciences, and mathematics. But research and scholarship is ubiquitous among faculty, and it is a normal expectation for Calvin faculty for reappointment, tenure and promotion.

A fourth identity centers on institutional governance. Already since the 1970s, Calvin has been run by an effective faculty-run organizational structure. With dozens of oversight and decision-making committees, ranging from personnel, curriculum, faculty development, and an overarching faculty senate, Calvin has an identity of faculty involvement and decision-making that is conducive to creating faculty-organized changes with respect to decisions about sustainability.

A final identity is Calvin’s religious affiliation. It was a college established over 125 years ago by a group of Calvinist immigrants from the Netherlands. Its identity was and remains within a Reformed (Calvinist) faith tradition. Although there are many ways to articulate this faith tradition, it has several resources that are often used for thinking positively about sustainability. First of all, it believes that all occupations are vocations to which one is called. Thus teaching, learning, research, are all serious business in part because one is engaged in one’s calling when one undertakes these. Second, the tradition has a high view of creation, by which it does not mean an alternative theory to evolution, but the perspective that this world is our home and that it belongs to God. As a result, the reformed tradition has a long history of emphasizing stewardship, a caring for the creation in a responsible manner, including a frugal use of resources, simple living, and a critique of a consumerist life-style (Wilkenson, 1980). Third, the reformed faith has recognized that not only are individual people affected by sin, but that societal patterns and institutional structures are ‘fallen’ as well (Wolterstorff, 1983). This implies that a critique of social patterns of behavior and institutional organizations are just as important as individual habits and life-styles. The Reformed tradition has, as a result, resources from within that resonate with building campus sustainability: a need to critique the way the school as an institution goes about its business, a recognition that unsustainable use of resources goes against God’s will, a belief that the natural world has intrinsic value and not just instrumental value, and that one’s work as a faculty member (or student) is obedient to God’s will when it is involves calling an institution to task for non-sustainable practices.

Our premise is that successful institutional change towards sustainability occurs when the new practices resonate with aspects of the overlapping, multiple identities that shape the institution’s current structures and practices. In other words, successful change is more than externally-generated organizational finesse and policy setting – it involves the very identities of institutions, including faculty, students, and administrations.

The focus of the paper will be the positive changes towards sustainability at Calvin College over the last ten years. In the process we also highlight some of the ‘prehistory,’ stretching back to the 1950s when the present physical campus was first envisioned and to the 1970s and 80s when significant first steps were taken that are now recognizably working towards sustainability. However, we will focus more on describing the last ten years, making visible a rich variety of initiatives that have bubbled up from ‘rank and file’ faculty in response to issues of environmental sustainability. These grassroots initiatives stretch the gamut of teaching, research, service and operations.

**Examples of Building Campus Sustainability**

This sets the stage for our narrative of some examples of action towards campus sustainability at Calvin. We will describe six initiatives:
(i) Curricular initiatives including an innovative ‘sustainability across the curriculum’ initiative called the Calvin Environmental Assessment Program (CEAP) where faculty from a wide variety of disciplines embed in their courses modules of actual environmental research with the campus or the community as its focus.

(ii) Outreach initiatives including Calvin’s key role in the Plaster Creek Working Group (PCWG), a partnership working collaboratively on environmental issues associated with a local watershed.

(iii) Organizational structure or governance issues including the creation of a faculty Environmental Stewardship Committee whose mandate is to plan for, foster and oversee campus environmental stewardship on campus. We highlight its comprehensive “Statement on Sustainability” document which has been adopted by the Faculty Senate and the Board of Trustees.

(iv) Student and faculty environmental action initiatives including negotiating with the administration to save a unique woodlot in the center of campus which was at risk of complete destruction because of a building project.

(v) Operations initiatives within the college, including the conception, planning and building of a gold LEED-certified building on campus.

(vi) Finally, environmental and sustainability research initiatives, including the erection of wind turbine designed, planned and actually built this past year. These examples and more portray successful initiatives taken by a variety of faculty, staff and students which are slowly building sustainability into the fabric of the institution.

I. Calvin Environmental Assessment Program (CEAP)

Calvin’s multiple identities set the stage for the creation of an innovative program, called the Calvin Environmental Assessment Program (CEAP, n.d.), which combined creative teaching, important research, and significant student involvement. Furthermore, this program was based on the belief that as we care for the particular place we live, we both enrich our skills at caring, but also build a context in which to form partnerships with those in the urban setting around us.

CEAP’s inception was in 1997 when the Science Division Faculty Coordinator for Service-Learning, a Geography professor, and the Director of Academically-Based Service-Learning organized a 3-day summer faculty development workshop to explore the idea of building a campus environmental assessment model to promote service-learning in the sciences (Curry, 2002; Curry, Heffner, & Warners, 2002). The planning group felt that many campus environmental assessment projects that had been attempted before or elsewhere had serious drawbacks in that they were either expensive, involved few students and lacked comprehensiveness, scientific rigor, and continuity. The CEAP model that evolved from this initial workshop provided a cost-effective instructional method for integrating service-learning into the sciences while meeting the need for an on-going, comprehensive environmental assessment program.

The initial CEAP group included nine faculty from Geography, Physics, Biology, Chemistry, Math, and Computer Science. They developed a working input-output model of the campus environment, which helped to identify different areas that would benefit from data collection and monitoring, and to visualize the environmental context in its totality. Faculty members then re-designed specific lab assignments from existing courses to contribute to the data collection on various aspects of the assessment. The college also received a Universities as Citizens grant on the basis of CEAP’s development as a service-learning model. Yearly CEAP workshops have continued and incorporated student leaders, staff, and other faculty. At the workshops, the entire campus has been invited to attend a session where the "state of the research" is presented. This has brought new and potential CEAP faculty up-to-date and aided them in identifying a piece that would fit well with their interests and course material. Working groups are also formed through these discussions, where new directions are defined.

CEAP’s overall goals are divided into two areas—curricular goals and those of social and institutional transformation. The curricular goals include: (i) engaging students and faculty, particularly in the sciences, in service-learning that is well integrated into the curriculum; (ii) encouraging creativity, collaboration, and curriculum change across campus; (iii) engaging students at all levels and across disciplines in meaningful learning and quality research in a real-life context in terms of application of course material and group work experiences. These goals embody several of the identities previously mentioned, namely the importance of research, student involvement in such research, ‘real-life’ learning, and taking teaching seriously.

CEAP is also guided by a set of goals for social and institutional change. These goals are: (i) transforming internal institutional structures; (ii) developing a habit of stewardship based on attentiveness to place; (iii) providing a context in which students, faculty, and the administrative planning process on campus are meaningfully linked with the surrounding community; and (iv) providing data for an overall environmental
assessment of Calvin College and its surrounding neighborhoods and link this data with larger environmental networks. Again, these build on particular identities, including Calvin's reformed worldview which understands that institutional structures may well be flawed and require transformation and the recognition of being called to transform society generally towards human flourishing.

CEAP has been a successful program as a way to integrate environmental sustainability into the liberal arts curriculum. It has successfully involved faculty and students in interdisciplinary study, undergraduate research, and academically-based service-learning. Calvin students have the potential of encountering CEAP through many classes as a curricular springboard for enhancing social change through individual transformation as well as institutional change through increased visibility and accurate data collection. It has provided a concrete context for student and faculty engagement with the larger neighborhood and the larger Grand Rapids urban area, connecting to and building on the city’s identity of sustainability. For example, in studying the issue of planning on Calvin’s campus, CEAP faculty and students encountered the larger issue of mass transit in the Grand Rapids region. Likewise, the CEAP garbology project which tracked the nature of Calvin College's trash and challenged recycling behavior on campus and its relationship to the regional recycled material market.

Overall integration among participants has happened at several levels. CEAP participants are required to attend and present at end-of-the-semester poster sessions in which all data collected during that semester are displayed. A keynote address focusing on environmental issues starts off the event. The neighbors surrounding Calvin College, regional environmental groups and the larger community are specifically invited to these events. A website has been developed to serve as a depository for research results and it builds continuity for all involved serving as a source of information for faculty, students, administrators, and people from outside the campus. CEAP blurs the boundaries between academic learning and student life, between academic programs and campus planning, as well as between the campus and the surrounding community.

However, the importance and creativity of CEAP spills beyond its curricular banks and service-learning emphasis. Colleges and universities are institutions that have major impacts on their communities through their use of resources, the physical area they cover, and through their modeling of environmental stewardship. CEAP has deliberately focused on both the internal transformation of Calvin College's institutional structure and the external transformation of the surrounding neighborhood and beyond. Early in the development of CEAP faculty identified barriers to Calvin College's becoming a model of environmental sensitivity and planning, such as (i) the lack of visibility in those days of environmental issues, (ii) the lack of data on which to engage the campus planning process, and (iii) a weak organizational structure for incorporating environmental concerns. The emergence of CEAP helped solve the first of these barriers. Not only did hundreds of students very quickly become more environmentally aware of their surroundings, but the poster session speakers brought in large crowds. The administration (including academic, student life, community relations, and finance) was invited to attend poster sessions and had investment in the project as a model of curricular innovation. The placement of environmental goals in the College's most recent five year strategic plan was in part due to the existence and work of CEAP. These elements include the overall goal to "establish campus standards for both environmental stewardship and environmental health and safety, and develop a monitoring system to assess their impact" (Calvin College, 2001).

The second barrier to institutional change was the need for good data, especially temporally-connected longitudinal data. This also has begun to be addressed by CEAP. Prior to CEAP, discontent with the planning process was often expressed, but lack of data meant that alternatives could rarely be proposed. Nor did data exist on the impacts of the various actions proposed by the administration. CEAP and its faculty quickly began to be spokespersons for environmental issues because they had researched and developed the necessary data. The administration turned to CEAP for assistance in collection of data as well. Thus a mutually beneficial relationship has developed. The existing student environmental group, the Environmental Stewardship Coalition (ESC), many of whose students have been involved in CEAP classes, also has become more active and knowledgeable since the program's initiation. The third barrier, institutional structure, will be addressed in section III below.

In general, the Calvin Environmental Assessment Program (CEAP) builds on a need to learn habits of care and service through the process of paying attention to our place. CEAP is built on the philosophy that knowledge of what is closest at hand, our physical environment and sense of place, must be put to the service of the campus and the larger community since they are inter-connected in important ways. Ultimately, the goal of the Calvin Environmental Assessment Program is that students and faculty will become better caretakers and citizens of a piece of the creation right around them, connecting the life of the campus into the issues of the surrounding Grand
Rapids metropolitan area, and that they may in turn learn what it means to take care of the other places they encounter throughout their lifetimes.

II. Connection to the Grand Rapids community.

A second area that is contributing to campus sustainability efforts at Calvin is being fostered through our connections to the larger community. Calvin College has a long history of community engagement and has partnered with a number of community organizations to address sustainability issues. Building on the work begun by the Calvin Environmental Assessment Program (CEAP), some faculty have initiated research on various aspects of a local geographic region called the Plaster Creek Watershed which drains a significant portion of Grand Rapids, including part of the Calvin campus. Faculty have studied many aspects of this local area: some have mapped the floristic quality of the watershed; some have conducted macroinvertebrate studies; others have studied the geomorphology of streams in the watershed. Calvin faculty meet regularly with key organizations in Grand Rapids responsible for developing a Watershed Management Plan. Results of faculty research are vital in their planning. Of particular note is Calvin’s partnership with an action group called the West Michigan Environmental Action Council (WMEAC) in order to do stream surveys and stream clean-ups along Plaster Creek. This connection has built on the identity of Grand Rapids as a city interested in sustainability and Calvin’s emerging identity of the importance of place for a liberal arts college.

However, the connection to the community has other facets which impact sustainability. With funding from EPA to improve environmental education at local schools, Calvin has provided professional development to area high school teachers to create educational units that encourage students to use scientific inquiry to formulate, design, gather, and analyze and present information on the physical, biological and chemical water quality of the Plaster Creek Watershed. In addition, a new NSF-funded program has recently begun at Calvin called Team Researchers in a GLOBE-al Environmental (TRIAGE), designed to help middle school students develop authentic scientific research skills as part of a comprehensive focus on environmental sustainability. Calvin’s Bunker Interpretive Center (described below) is the central point of contact for over 100 students involved in TRIAGE, as they engage in various research projects in the community, including the on-going work along Plaster Creek.

In addition to joint work on the watershed, Calvin has worked in partnership with the West Michigan Environmental Action Council (WMEAC) to consider the relationship of food to sustainability. For example, Calvin has worked closely with WMEAC’s food program, called the Greater Grand Rapids Food Systems Council, with the objective of changing the conversation on campus about food and to foster sustainable agriculture more generally in the region. As a result, the college has begun to purchase more food from the local economy via local farms and has launched Food for Thought, a farm-to-college initiative. Local food procurement, for many institutions and businesses, offers a powerful opportunity to create an additional sense of enthusiasm about sustainability. Food connects the campus with people in the community and celebrates the campus’s sense of place. How a campus approaches its food touches on culture, economics, land use, seasonal change and the environment—all at once. Food for Thought is a new initiative at Calvin to provide local food in some of the campus eating venues as well as to weave food issues into the curriculum across various disciplines.

III. The Environmental Stewardship Committee

Despite a strong history and identity of faculty governance, the oversight of environmental matters at Calvin has, until recently, been structurally diffuse if not non-existent. The first effort to develop a formal structure for oversight on environmental matters involved re-designing a campus-wide committee that had a mandate to oversee environmental issues but had no budget and was totally outside the regular lines of authority and communication required for effective change. This committee had not been composed of representatives that understood or had knowledge of environmental issues in general or of the specific environmental issues facing the campus. Instead, members of this original committee were on a learning curve for understanding environmental issues, which actually was a barrier to moving toward recommendations or actions.

In part because of Calvin’s institutional identity as one that values faculty governance, changes in this Environmental Stewardship Committee’s structure occurred in the Fall of 2002. The most important change was the creation of a formal environmental oversight committee composed of faculty and others with knowledge about the environment and with data collection capacities. The composition of this re-organized Environmental Stewardship Committee included not only faculty with expertise but other ‘players’ from around campus, such as
representatives from the Ecosystem Preserve Board, CEAP (explained above), the Physical Plant, the Vice President for Administration, Finance and Information Services, and the Campus Architect (ex officio).

This restructuring was the first step in a three-stage plan. The second stage, facilitated by the first, involved the newly formed Environmental Stewardship Committee having some oversight capacities. This involved a planning process to establish guidelines for data management, recommending institutional structural change, and developing a philosophy of environmental management. This planning became instrumental in establishing the overall framework across campus needed to meet the goals of the strategic plan. It has resulted in a campus-wide energy audit that is nearing completion and whose results will be the basis of further action. And over the last two years or so the Committee has developed a “Statement on Sustainability,” a working document that creatively combines first principles, strategic planning, and concrete actions for the campus. In particular, the statement lays out concrete guidelines for teaching and research, purchasing and administrative services, solid waste reduction and recycling, energy purchasing, water and wastewater, hazardous materials, transportation, food and food services, campus grounds and land use, building construction (new and renovation), campus site planning, investment policies, and community outreach. In May of 2007, after open forums and other discussions, this statement was signed by the college president and passed by both Calvin’s Faculty Senate and its Board of Trustees.

IV. Preservation of a campus woodlot

In 1998 Calvin College released a blueprint of its Master Plan, which included a new Wellness Center facility that was positioned to replace a small but mature forested woodlot on campus. Many students and faculty reacted to these initial plans, speaking in favor of preserving the woodlot as a beautiful natural feature of the campus. During the ensuing years a variety of class projects and research studies – under the CEAP umbrella – were done to assess the natural value of the woodlot. It was found that the woodlot was home to trees that were in excess of 150 years old, a nesting pair of hawks, several species of songbirds, countless squirrels and 23 plant species (some of which are considered rare in Michigan) that are not present in the much larger Ecosystem Preserve which is also part of Calvin’s campus complex.

Detailed drawings of the proposed Wellness Center were released in 2004, with a modified building footprint that would require approximately 60% of the forest to be cleared. A concerted reaction ensued, largely motivated by the student group, the Environmental Stewardship Coalition (ESC), including a petition signed by over 50% of the student body. Motivated by student and faculty concerns, a series of meetings were held in the fall of 2004 that included faculty from the Biology and Physical Education departments, the college president and vice president, two college deans and the college architect. The result of these meetings was a modified plan that would necessitate slightly over 20% reduction in the woodlot habitat.

In 2007, a final ‘unchangeable’ draft of the building was released which surprisingly altered the former plan and required approximately 45% of the woodlot to be cleared. This development was met with further criticism from the student body and faculty, resulting in a final meeting in which unforeseen constraints and financial considerations were explained by the administration. While the final plan was a disappointment to those who wanted to maintain the woodlot, the strong opposition to this final design helped to stimulate a negotiated mitigation plan that financially supported the creation of four new woodland areas on Calvin’s central campus. Rescue efforts were also funded to salvage as many of the smaller trees as possible. In addition, two wildflower rescue days were organized in which over 100 students and faculty from a wide diversity of disciplines dug well over 2000 pots of wildflowers from the area that was planned for destruction. During the summer of 2007 and 2008 the rescued trees and wildflowers, together with hundreds of purchased trees and shrubs will be used in the establishment of the four new forested areas on campus. These mitigation efforts are the direct result of a growing concern among faculty and students that the College take environmental stewardship seriously and they reveal that a shift has taken place in the dialogue on campus around sustainability.

V. Calvin College Ecosystem Preserve and Bunker Interpretive Center

The immediate environmental context of Calvin College is the 400 acres upon which it is situated in West Michigan. This campus is on the edge of the city limits of the City of Grand Rapids, increasingly hemmed in by expanding suburban growth. Thus the Calvin College site is in a transition zone, subject to the dual concerns of deteriorating urban quality of life, and increasing urban sprawl. When purchased in 1956 much of the campus property was farm complex. Approximately one-fifth (80 acres) of the total campus acreage had been set aside
for what in 1985 would become formalized as the Calvin College Ecosystem Preserve, while the other 320 acres has undergone varying degrees of development. The general appearance of the college is one of sweeping lawn areas amid low-profile buildings, with a noticeable contribution of natural and semi-natural areas remaining, most of which constitute old fencerows and woodlots from the original farm. The main campus is open to the public and used by the community. Within the past two years a formal asphalt path around the campus has been developed. This has become a popular exercise route for community members. The quiet and semi-natural settings of the three campus ponds also attract community members for recreation, relaxation, fishing and bird watching.

Possibly the most significant landscape features of the property are its wetlands, which occupy positions near the headwaters of two separate watersheds. The Ecosystem Preserve incorporates a wooded area that includes a set of ponds that drain into the two watersheds. The Ecosystem Preserve contains ten ponds and three ponds are on the main campus itself. These wetlands vary from small vernal pools to a large kettle depression. In addition, recent construction in the vicinity of the Ecosystem Preserve has resulted in two more ponds that will serve as treatment basins for runoff before it enters the hydrological system of the Ecosystem Preserve.

The Ecosystem Preserve has a well maintained trail system and is open to the surrounding community. Beyond the more than 5000 annual visitors, a formal K-3 environmental education program is conducted at the Preserve in which college students are trained to lead school groups through the trails. This program attracts approximately 2000 school children per year. Summer camps and other special programs serve an additional 400 students per year.

The Preserve was formally instituted to achieve into four goals: (i) to preserve a representation of West Michigan ecosystems, (ii) to develop this Preserve in a way that promoted educational and research use, (iii) to make areas within the preserve available for nature-focused recreation that wasn’t too intrusive, and (iv) to provide a facility for the educational and recreational use of the larger community. The rationale for this proposal drew from several of Calvin’s identities. It appealed to Calvin’s faith tradition of a high regard for creation and its emphasis on being stewards also of natural areas like this for the good of the college and the larger creation. It appealed to the liberal arts identity of strong teaching that spilled outside of the classroom. And it appealed to the research tradition that was becoming more prominent at Calvin.

The original proposal in 1985 included building an educational and research facility that would allow Calvin faculty and students to take advantage of the academic potential of the preserve. Since its inception, the Preserve has function as a “nature center” not only for college undergraduates but also for elementary students in the area. This means that it is a regular part of the educational dimension of the campus. In the 1999, the College’s five-year Master Plan included a proposed education and research building for the Preserve, modeled as an interpretive center.

The building, which formally is called the Bunker Interpretive Center and was completed in 2004, helped meet the various goals already set out in 1985 for the Ecosystem Preserve more generally. Its 5000 square feet of space serves multiple functions. Its laboratory classrooms provide a study center for college faculty and students; its multipurpose room serves both as a lecture hall and exploratory space for elementary students; its display hallway serves the approximately 5000 casual visitors as a nature center.

Through the planning stages, consensus emerged on campus that the Bunker Center should be built to LEED standards – with gold certification as a target. Its completion in 2004 saw this target realized, for the building meets the LEED gold-certified standard (Bunker Interpretive Center, n.d.). Important features to reach this standard include a photovoltaic array for generating electricity from sunlight (projected to service about 60% of the building’s needs), a gray water treatment system and composting toilets, a passive ventilation system, and native landscaping. Others are making use of low impact building materials wherever possible (certified lumber, recycled ceramic tile and carpeting, paints low in volatile organic compounds), employing low impact construction practices, including passive lighting and automated passive cooling, using a computerized environmental control system, incorporating a radiant heating system in the building floors, having the building’s ventilation controlled by occupancy sensors, heavily insulating walls and ceilings, and including a partially earth-bermed south wall for insulation.

The success of expending College resources on not only an interpretive center, but also on gaining gold LEED certification, shows the importance of the multiple identities at work. According to Randy Van Dragt, Director of the Ecosystem Preserve, the most controversial part of the building design – the one that both government agencies and Calvin administration was most skeptical about – was the composting system for
handling human waste and the internal gray water treatment system. Campus maintenance personnel had reservations about maintaining what to them seemed an unsanitary and experimental system. Yet it was Calvin’s multiple identities that helped realize this feature, for they eventually agreed that this approach was consistent with educational goals of the college. Furthermore, although Grand Rapids city officials were skeptical of the Japanese foam-flush toilets that were part of the system, they ultimately approved them. The county health department was unconvinced of the ultimate sustainability of the composting and gray water systems and required the installation of a large residential septic system that could be tied into when the other systems failed. Yet in the end, the educational identities of teaching, the strong research tradition, the emphasis on stewardship and care of nature, helped win the day to realize a gold LEED-certification for the building.

VI. Environmental and sustainability research initiatives

Finally, we mention an example of environmental and sustainability research initiatives which are having an impact on both college operations and public awareness. Over the past few years a Calvin engineering professor has engaged his senior-level power-systems design students in class-based research exploring what it would take in terms of infrastructure and financial resources to make a significant impact on Calvin’s environmental footprint, vis-à-vis energy. In the 2005-06 academic year, the key research question was: what would it take to get Calvin College ‘off the grid?’ This led to a follow-up research question in 2006-07: how can we make a significant impact on Calvin’s campus using wind energy? This upcoming year the research question will be: what would it take to make Calvin carbon neutral? This research has had significant pedagogical impact but perhaps even more significant is that this has led to measurable change at Calvin.

The imagination and creativity of students led to the creation of a new extra-curricular student interest group called the Calvin College Renewable Energy Organization (CCREO, n.d.). This group successfully planned, organized, and implemented a wind turbine project, the first in our region. They received a $6000 grant from the State of Michigan and additional in-kind resources from the College administration to build a small demonstration wind turbine on Calvin’s campus. The wind turbine is a small scale, hybrid interfaced, grid tied demonstration project that is now up and running. What began as a class research project progressed into the establishment of a student organization and after much hard work, it led to financial support from the college administration and the state government. Because the wind turbine is being used to educate the public about the technical and financial feasibility of small-scale wind power, its impact goes far beyond the college itself. This is just one example of many which portray successful research initiatives towards campus sustainability taken by a variety of faculty, and students, all slowly building sustainability into the fabric of the institution.

Conclusions

Our thesis is that these grassroots initiatives have bubbled up at Calvin College precisely because of its particular cultural and institutional identities. We argue that the initiation and successes of these initiatives are the result of drawing deliberately or implicitly on our particular multiple identities: a religious tradition that values “the creation” and a sense of “calling,” a scholarly tradition that values research, an egalitarianism that values an effective faculty-run governance structure, a high valuing of teaching and involving students, a city that itself has a robust sustainability agenda, and a long commitment to a broad liberal arts curriculum. We conclude that, from our perspective, it is important to build successful campus sustainability on the particular strengths of one’s institutional and cultural identity.

References


