

The Practice of Sustainability at Colleges and Universities

By William R. Blackburn

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Summary

Colleges and universities that seek sustainability have a wide range of support organizations to draw upon for advice and tools. Such schools can also learn by studying the best sustainability operating system (SOS) practices adopted by their fellow collegiate institutions. The encouraging news is that some of these institutions are well on the way to establishing comprehensive, well-integrated sustainability programs. This Article, adapted from chapter 15 of *The Sustainability Handbook, 2nd Ed.* (ELI Press 2016), reviews the challenges and best SOS practices of collegiate sustainability programs and offers tips on how to sell the goal of sustainability to the school administration.

*Human history becomes more and more a race between education and catastrophe.*¹

—H.G. Wells

I. Impact of Collegiate Institutions on Sustainability

To some people, colleges and universities may seem like distant, isolated ivory towers, offering little practical help in the fight for sustainability. Nothing could be further from the truth. Collegiate organizations—like their governmental, nongovernmental organization (NGO), and business sisters—have an operations side, as well as a services and products side to their activities that greatly affect sustainability. The operations side for a college or university—the management of people, the running of buildings, the maintenance of grounds, streets, and utilities—is not very different than that of a small city. Like municipal bodies, some universities have quite sizeable staffs, land holdings, and procurement and building programs. And like their municipal counterparts, they too can have a significant effect on the economic, social, and environmental aspects of their communities.

The services and products side of the collegiate world—education and research—holds a special place in the quest for a sustainable society. As former U.N. Secretary-General Kofi Annan noted on World Environment Day 2000:

We need a major public education effort. Understanding of these challenges we face is alarmingly low. Corporations and consumers alike need to recognize that their choices can have significant consequences. Schools and civil society groups have a crucial role to play.²

Following up on the Secretary-General's remarks, the U.N. General Assembly declared 2005-2014 to be the *Decade of Education for Sustainable Development* to encourage national and international efforts on the matter.

To be sure, the world faces serious economic, social, and environmental problems that require new solutions, new knowledge, and new (holistic) ways of thinking—something collegiate institutions are best positioned to address. They have the focus, talent, and objectivity to evaluate sustainability issues of critical importance, and the credibility to help marshal public action on them. They are the ones who teach our decision-makers of tomorrow, the ones who must provide them with the

1. This quote, attributed to H.G. Wells, was reportedly made during an interview by the London Tribune. Wells was an English novelist and historian who lived from 1866 to 1946.

2. Kofi Annan, *quoted in* UNEP, Press Release SG/SM/7425, UNEP/68: *Secretary-General Marking World Environment Day, Sees "No Easy Solutions": Calls for Government Commitment to Conservation, Stewardship* (June 2000).

information, tools, and skills to secure long-term well-being for all. That is the role—in fact, it is the moral imperative—of academic institutions.

Infusing sustainability into a college or university means infusing it into the institution's (1) campus operations (buildings and grounds), as well as its products and services (i.e., (2) research and (3) educational curricula). This also means integrating sustainability into three overarching areas that as we will see, can touch on both operations and services, namely, (4) administration and planning, (5) student activities, and (6) community engagement. But obstacles must be overcome. As with companies, institutions of higher learning must find champions and leaders to move their organizations toward sustainability. In universities and colleges, champions are typically found among the faculty, although at a few schools the president, chancellor, or other high-ranking administrator, a student activist, or a big financial donor has led the way. Regardless of where they come from, the champions and leaders must create a vision of what must be achieved and sell that vision to the school's movers and shakers.

But having a vision is meaningless without execution. That's where the real work begins. Schools must undertake the planning and build the operating, accountability, and reporting systems that will bring the vision to life. To perpetuate the initiative, the university must deploy, integrate, and align efforts across the organization, through its administration, faculty, staff, and student body. The university, like a company, must incorporate sustainability considerations in its key decisionmaking, including purchasing and investment evaluations. Community outreach and other stakeholder engagement activities are important, too, since they generate the support from those who can make the institution successful. Such engagement also serves as a useful source of feedback on performance and priorities.

Fortunately, colleges and universities that seek sustainability have a wide range of support organizations to draw upon for advice and tools. Such schools can also learn by studying the best sustainability operating system (SOS) practices adopted by their fellow collegiate institutions. The encouraging news is that some of these institutions are well on the way to establishing comprehensive, well-integrated sustainability programs.

This Article reviews the challenges and best SOS practices of collegiate sustainability programs and offers tips on how to sell the goal of sustainability to the school administration.

II. The Challenges for Universities Seeking Sustainability

Visionaries who seek to align, deploy, and integrate sustainability across a collegiate setting will likely find the following institutional obstacles:

A. *Creating a Multidisciplinary Approach*

The first obstacle arises in attempting to build a strong multidisciplinary approach to teaching and research—something advocated in the local implementation provisions of Local Agenda 21, the U.N.-recommended action plan for achieving sustainable development established at the 1992 UNCED in Rio de Janeiro (Earth Summit).³ Such an approach is needed to overcome the complex, multidimensional problems standing in the way of sustainability. The trouble is, universities are organized by disciplines. Many of their grants and donations are earmarked for specific areas of study. Alumni are particularly interested in seeing their old departments highly rated since that enhances the status and value of their own academic degrees. School accrediting agencies reinforce traditional thinking, seeing no need to mandate cross-departmental courses on sustainability. Career advancement by faculty remains within disciplinary silos. The cultural bias reinforces these silos and discourages teamwork across them. Academics comfortable in their isolation may see little personal benefit to changing the status quo.

Because of the way universities work, a significant outside force may be required to prompt multidisciplinary action. An attractive research grant or alumni bequest demanding such collaboration can do the trick. Evidence that such cross-cutting programs are popular with students can also help. So can encouragement from governmental authorities and potential employers of graduates.

Granted, the move to integrated teaching must be done with balance. Specialization is required to reach the cutting edge of learning, and expertise by discipline must not be lost. But at the same time, disciplinary experts must become more team-oriented, better grounded in how their specialty relates to others from a sustainability perspective, and more open to discussing in class the interplay and interdependence among various sustainability issues.

B. *Creating a Multisector Approach*

The second obstacle to instilling a sustainability mindset within academia comes in trying to implement sustainability programs across multiple sectors—administration,

3. UNCED, Agenda 21, U.N. Doc. A/CONF.151.26 (1992) §36.5.

facility operations, education, research, student activities, and community outreach. The idea is to identify initiatives that can serve more than one constituency for optimal benefit. If a program is to be created, why not make the most of it? Students can learn more about sustainable development if they are given hands-on experience in working with real-world issues, and the university buildings and grounds department is a “living laboratory” where these issues can be found. What is more, operations staff, typically short on resources, can often use extra help. Both can join hands to address problems related to energy and water conservation, green buildings, biodiverse landscaping, on-campus violence, and binge drinking. Students can link with researchers on measures needed to bring about a sustainability culture within the institution. Community outreach efforts related to poor, elderly, or indigenous peoples can involve students and be incorporated into course work as well.

While much is to be gained from cross-sector initiatives, they require groups to adopt a new way of working. Administrative and facilities operations staffs may be reluctant to engage faculty and students in initiatives that the staff suspects will complicate decisionmaking, slow them down, impose extra costs or workloads, or otherwise be unreasonable. For this reason, faculty and students must be sensitive to the time, cost, and resource limitations of administrative and operations groups when designing a cross-sector program or crafting a sales approach for it. Advocates can lay a good foundation for these programs by finding a few enthusiastic, innovative, team-oriented participants from several sectors and bringing them together on a problem of great interest to all. Success followed by ample publicity and recognition from top management—subtly or overtly solicited if necessary—can encourage more cross-sector involvement later. For instance, students at the University of California at Berkeley started that school’s comprehensive sustainability program by focusing on the campus recycling efforts. Operations personnel were keen to achieve the state-mandated recycling rate of 50% and pick up some recycling revenues in the process; students were anxious to promote recycling as part of their environmental ethic. By working together, the two groups forged relationships that made it easier to proceed to other sustainability programs. Their superb results also brought support from the school administration and faculty for further action on sustainability.⁴

C. Securing Funding

Money makes the world go round—and it does at a university as well. As with the multidisciplinary approach, special funding pegged for multisector projects and programs can help. But funding is not always available. This is the third obstacle to pursuing sustainability at the collegiate level.

Of course, finances are no problem if you can locate a generous, progressive benefactor interested in sustainability as was done at the University of New Hampshire and University of British Columbia: the former snared a \$12 million endowment for its Sustainability Office; the latter arranged with its supplier, Fisher Scientific Canada, to annually fund committee-selected sustainability projects that benefit both sustainability and the university’s scientific community—the main users of Fisher’s products.⁵ Unfortunately for most institutions, supporters like these are hard to find.

There are, of course, other funding alternatives. For example, at the suggestion of the vice president of Facilities at Harvard, the university established a \$3 million interest-free revolving Green Campus Loan Fund—later increased to \$12 million—for financing green projects. Under this program, projects with a payback period of 5 to 10 years may receive up to \$1 million in loans, which must be repaid within 11 years. The program has exceeded expectations, with its first 200 energy conservation projects producing annual savings of \$4 million.⁶ At the Chapel Hill campus of the University of North Carolina (UNC), a student referendum was adopted accepting a \$4 per semester increase in student fees, which raises approximately \$200,000 annually to support the on-site installation of renewable energy technologies and the purchase of electricity from renewable resources.⁷ The school also used parking permit fees as a source of funding for fare-free mass transit on campus.

Some national governments are stepping forward with modest financial support to help the cause. A few governments, such as those in Germany, the Netherlands, and the United Kingdom, have provided assistance to a wide range of organizations pushing sustainability in higher education.⁸ EPA issued a \$250,000 grant to establish a sustainability program at Michigan State University. The National Science Foundation funded a similar effort at Ithaca College in the state of New York. Unfortunately, these examples are rare; most national governments have taken little direct action to further the sustainability cause in universities and colleges.

The good news is that university administrators are increasingly seeing the value of sustainability initiatives and are finding room for them in their budgets. A 2012 survey of approximately 450 sustainability professionals working at North American collegiate institutions found the vast majority of their positions were created since 2008 and that on average over 80% of the funding for their sustainability programs—primarily “offices of sustainability”—were from the school’s general or operating funds.

4. See Lisa Bauer, *Bridging the Great Divide at UC Berkeley*, presented at the Environmental Management for Sustainable Universities Conference, Monterrey, N.L., Mexico, June 9-11, 2004.

5. University of British Columbia, *Scientific Fisher Fund 2012*, at <http://riskmanagement.ubc.ca/http%3A/%252Fwww.riskmanagement.ubc.ca/environment/green-research/fisher-scientific-fund> (last visited May 21, 2015).

6. Harvard University, *Sustainability, Green Revolving Fund*, at <http://green.harvard.edu/programs/green-revolving-fund> (last visited May 21, 2015).

7. UNC at Chapel Hill, *Renewable Energy Special Projects Committee*, at <http://resp.web.unc.edu/> (last visited May 21, 2015).

8. See Wynn Calder & Richard Clugston, *Education for a Sustainable and Secure Future*, PLANNING FOR A HIGHER EDUC., Mar./May 2003.

Four percent came from grants and sponsorships, and a like amount from student sustainability or green fees.⁹ So the best chance for funding may be based on selling upper management on the value of sustainability at the university, an important topic discussed below.

III. Helpful Organizations

While most national governments haven't been particularly supportive, some other organizations have been. Many of them are listed in Figure 1. These networks can be extremely useful sources for sustainability tools, benchmarking information, and advice for colleges and universities seeking their own sustainability programs. Each network has its own strengths, and a few may even provide hints on potential sources of funding.

IV. Selling Sustainability to the Administration

To help ensure a collegiate sustainability program will be successful, advocates must convince school decision-makers to support it. Such support is critical to securing the priority, funding, and personnel time needed to transform the institution in a permanent way. Indeed, prioritization, funding, and time were shown in three studies to be among the biggest challenges for collegiate sustainability programs.¹⁰ Given the importance of the discussions with upper management, some homework should be done. As with building a corporate program, the champion should start by recruiting a core of solid supporters from diverse parts of the organization. One or more organizations like those listed in Figure 1 may be able to provide helpful information and speakers. The presentation for management must then be carefully prepared, and presented by someone who is credible with the management team.

For starters, the presentation can explain sustainability and the SOS, and touch on many of the relevant sales points mentioned in *The Sustainability Handbook*. Like many corporate executives, school administrators, as well as many faculty and students, may misconceive that sustainability is merely synonymous with environmental responsibility—energy conservation, climate change, waste prevention and recycling—and bears no relationship to diversity, campus safety or other social matters, and is completely separate from the financial concerns of the school and its students.

For this reason, the history and meaning of sustainability should prove useful. In addition, those advocating for a sustainable campus can cite the scope of the popular STARS[®] from the Association for the Advancement of Sustainability in Higher Education (AASHE) to underscore that sustainability is about more than just the environment. Additional evidence can be found in the breadth of the public sustainability reports prepared by universities under the highly regarded *Sustainability Reporting Guidelines* of the Global Reporting Initiative.

The sales presentation can also speak to growing participation of peer schools, as evident from the increasing ranks of the many networks listed in Figure 1. Information on the growth of sustainability programs at other universities can also be provided from the latest survey of collegiate sustainability staffing and programs published by organizations like AASHE,¹¹ and from the list of schools achieving an AASHE rating under its STARS program. Then too, the presentation should mention the special moral imperative of academic institutions to help others understand sustainability and its growing complexity.

The presenter should show how the drive for sustainability fits within the institution's own culture. The initiative should be couched not as a way to force new practices and thinking but rather as a new framework in which to empower and strengthen many existing programs. A point can be made about using an SOS to strategically position the school as an institution that both talks and walks along the ethical high ground—an argument that may have great appeal among school officials. These officials also should be sympathetic to points about regulatory compliance, and about cost savings through waste reduction, resource conservation, and accident prevention.¹² The presenter should add examples of the sizeable savings realized by other schools through energy and waste reduction, using examples of nearby collegiate institutions or those in the same conference, if available. The benefit of strengthening community relations may resonate with management, too, especially if tensions already exist between the school and the surrounding community. The increasing interest of large corporate employers in sustainability can also be raised. In addition, advocates can relay any interest in sustainability topics that may have been expressed by students, government funders, and important private donors. Finally, the sales presentation can refer to some best sustainability practices at a few other leading schools in the region to reinforce the academic and operational legitimacy of the initiative.

V. Best SOS Practices Among Collegiate Institutions

A wide range of best practices on various elements of an SOS discussed in *The Sustainability Handbook* can be

9. THE ASSOCIATION FOR THE ADVANCEMENT OF SUSTAINABILITY IN HIGHER EDUCATION (AASHE), SALARIES AND STATUS OF SUSTAINABILITY STAFF IN HIGHER EDUCATION: 2012 (2013), available at <http://www.aashe.org/publications/surveys/staffing-survey/2012> [hereinafter AASHE STAFFING SURVEY 2012].

10. *Id.* at 31. University Leaders for a Sustainable Future (ULSF), *Research: Talloires in Action: Creating Leaders and Laggards in the U.S.*, PUBLICATIONS, Dec. 2002 [hereinafter *Talloires U.S. Survey*]. See MARY McINTOSH ET AL., STATE OF THE CAMPUS ENVIRONMENT: A NATIONAL REPORT CARD ON ENVIRONMENTAL PERFORMANCE AND SUSTAINABILITY IN HIGHER EDUCATION 115 (survey for the National Wildlife Federation's (NWF's) Campus Ecology[®] program undertaken by Princeton Survey Research Associates, 2001) [hereinafter NWF CAMPUS SURVEY].

11. See, e.g., AASHE STAFFING SURVEY 2012, *supra* note 9.

12. See *Talloires U.S. Survey*, *supra* note 10.

Figure 1
Organizations That Can Help Universities Pursue Sustainability

Academy of Business in Society Aspen Institute Business and Society Program Associated Colleges of the South Programs in Sustainability and the Environment (ACSPSE) Association for the Advancement of Sustainability in Higher Education (AASHE) Alliance for Global Sustainability American Association of Community Colleges (AACCC) Australasian Campuses Towards Sustainability Baltic University Program Campus Consortium for Environmental Excellence Copernicus Alliance Disciplinary Associations Network for Sustainability (DANS) Environmental Association for Universities and Colleges (EAUC) Good Campus (U.K.) Globally Responsible Leadership Initiative (GRLI) Global University Network for Innovation Higher Education Sustainability Initiative (HESI) International Association of Universities (IAU) Higher Education for Sustainable Development (HESD) Portal	International Alliance of Research Universities (IARU) Campus Sustainability Initiative International Sustainable Campus Network (ISCN) Mediterranean Education Initiative for Environment and Sustainability (MEDIES) National Council for Science and Environment (NCSE) National Wildlife Federation's Campus Ecology® Group Net Impact New Jersey Higher Education Partnership for Sustainability Oikos International Promotion of Sustainability in Postgraduate Education and Research Network (ProSPER.Net) Pennsylvania Environmental Resource Consortium (PERC) Second Nature Sierra Youth Coalition Students' European Network for Sustainable Development (SENSD) University Leaders for a Sustainable Future (ULSF); U.S. Partnership for the Decade of Education for Sustainable Development World Student Community for Sustainable Development (WSCSD)
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found among colleges and universities, and many are readily available from the networks listed above. Such practices exist in a number of areas, including: (1) structure and deployment; (2) personnel selection, development, and motivation; (3) policy and codes; (4) auditing; (5) planning; (6) sustainability programs within the various sectors of university activity (administration and planning, campus operations, education, research, student activities, and community outreach); and (7) indicators and transparent reporting. These best practices deserve a closer look.

A. Element 1: Structure and Deployment

I. Teams

To achieve sustainability objectives, a university must structure its organization to provide focus and accountability on these objectives and to facilitate their deployment down into the lower levels of the institution. But how can sustainability be achieved in these areas of concern: (1) curricula; (2) faculty development; (3) research; (4) operations; (5) student activities; and (6) community outreach? One way is to form six working teams—one focusing on each area—with a small executive or steering committee providing oversight and coordination for all. The executive team can also help identify opportunities for inter-area collaboration, secure needed resources, and, if resources are short, decide priorities or at least recommend them to management. It can also draft a master strategic plan on sustainability and monitor progress against it. For small schools, one or two working teams may handle it all. Regardless of school size, each working team should contain representatives from each relevant

academic and administrative department and student group. Members of the various teams coming from the same department can also meet from time to time for further intradepartmental coordination across areas. External experts may be added to teams if desired. An executive director or other designated leader for sustainability can shepherd things along.

Other approaches can work, too. Ball State University of Muncie, Indiana, structured its sustainability planning around nine teams, each focusing on a provision of the Talloires Declaration (the first official statement made by university administrators of their commitment to environmental sustainability in higher education, composed during an international conference in Talloires, France). Each team was made up of faculty, students, operations personnel, and community representatives, as appropriate. A planning committee of two co-chairs and three support personnel oversaw and coordinated the work of the teams. A steering committee consisting of the planning committee and team chairs evaluated the team recommendations and selected 10 high-priority items for action. The Council on the Environment now oversees the implementation of the selected projects and serves as a clearinghouse for other sustainability initiatives. Council members, include people from each of the university's academic colleges and vice presidential areas, along with student and community representatives.¹³

13. GREEN COMMITTEE 2, BALL STATE UNIVERSITY, GREEN 2—FINAL REPORT: IMPLEMENTATION OF THE TALLOIRES DECLARATION (2001) [hereinafter BALL STATE TALLOIRES IMPLEMENTATION REPORT]. Ball State University, Council on the Environment (COTE): *A University-Wide Clearinghouse for Sustainability Initiatives*, at <http://cms.bsu.edu/academics/centersandinstitutes/cote> (last visited May 21, 2015).

At UNC at Chapel Hill, a cross-sector team, called the Sustainability Coalition, was organized into seven *task groups* focusing on: (1) academics; (2) business operations; (3) energy; (4) land and buildings; (5) transportation; (6) water; and (7) outreach, respectively. The coalition's job was to promote sustainability practices across the organization. A sustainability advisory committee, which reports to the vice chancellor for finance and administration, guides the initiative from a strategic level. The committee is composed of high-level decision-makers who broadly represent all constituencies in both the operations and academic sides of the institution. The purpose of this group is to recommend and provide management support for long-term sustainability goals and the strategies for implementing them.¹⁴

The University of Texas at Arlington formed a university sustainability committee bringing together faculty, staff, student body and community representatives to develop and recommend policies and strategies to advance the school's sustainability commitment. The committee is further divided into the following functional working groups to examine and flesh out specific proposals: (1) curriculum, research, and community engagements; (2) buildings and development; (3) climate; (4) dining services; (5) energy and water; (6) landscaping and habitat; (7) management systems; (8) purchasing; (9) transportation; (10) waste reduction; and (11) administration and outreach.¹⁵

Unity College, a 600-student institution in Maine, formed a sustainability committee of faculty, staff, and students to prepare a sustainability plan for the school. The committee evaluated sustainability in its educational programs and named subcommittees to study four areas: (1) grounds; (2) food service; (3) energy and transportation; and (4) materials and purchasing. Later it created a sustainability office to coordinate the school's sustainability efforts. The office has 3 employees, 2 student interns, 13 work study positions, and 1 part-time energy consultant.¹⁶

To guide its sustainability programs, Michigan State University created a university committee for a sustainable campus with members drawn from operations, relevant student groups, and each of its colleges. Later it transitioned to its own office of sustainability, which leads research, data collection, programming, outreach, and communications for the sustainability initiative.¹⁷ Similar teams were also

created at Middlesex, Newcastle, and Queen's Universities in the United Kingdom; the University of British Columbia in Canada; and Harvard University and the Universities of California at Berkeley and Santa Barbara in the United States.¹⁸

2. Leaders, Staff, and Student Coordinators

A study of nine schools within the U.K. Higher Education Partnership for Sustainability (HEPS) program identified several criteria for team success:

- (1) The team is actively chaired by a high-level administrator of the school, such as the vice chancellor or pro vice chancellor.
- (2) The team reports directly to the vice chancellor or senior management team.
- (3) The team is formally charged with planning and monitoring progress against a sustainability policy.
- (4) Progress is frequently and widely communicated.
- (5) Members of the team include senior representatives from the central planning office, grounds, and maintenance; purchasing and finance; human resources; marketing and press office; academic planning; and career services. Other members include the deans of key departments, student body leaders, and community representatives (governments, NGOs, and others).¹⁹

Top-level support of the type suggested by criteria 1 and 2 is a critical element identified in other studies, as well. According to an Australian survey of 52 universities from around the world, the lack of executive commitment was identified as one of the key obstacles to progress on sustainability. Others were the absence of a policy and shortage of funding.²⁰

The importance of identifying someone to oversee implementation of collegiate sustainability programs should not be underestimated. Many programs start well with the help of enthusiastic volunteers only to fail later because the volunteers leave the school or are diverted to other matters. By naming contacts with formal responsibility who are compensated by the school, the initiative can be institutionalized and momentum maintained. Sustainability managers are now much more common at universities than they were just a few years ago. Some collegiate sustainability departments consist only of one or two paid staff, but it is increasingly common for such schools to have more.

14. UNC AT CHAPEL HILL, UNC SUSTAINABILITY INITIATIVE (2006). SUSTAINABILITY OFFICE, UNC AT CHAPEL HILL, SUSTAINABILITY ADVISORY COMMITTEE (2014), available at <http://www.sustainability.unc.edu/Leadership/SustainabilityAdvisoryCommittee>.

15. UNIVERSITY OF TEXAS AT ARLINGTON (UTA), TRANSFORMATIONS: SUSTAINABILITY ON CAMPUS AND BEYOND: 2012 SUSTAINABILITY REPORT AND ENVIRONMENTAL ACTION PLAN 12, 13 (2013), available at http://www.uta.edu/sustainability/_downloads/sustainability-report-2012-executive-summary.pdf [hereinafter UTA SUSTAINABILITY REPORT 2012].

16. UNITY COLLEGE, THE 2001 SUSTAINABILITY REPORT (2001) [hereinafter UNITY COLLEGE SUSTAINABILITY PLAN]. UNITY COLLEGE, STARS REPORT (2011), available at <https://stars.aashe.org/institutions/unity-college-me/report/2011-08-02/>.

17. See OFFICE OF CAMPUS SUSTAINABILITY & UNIVERSITY COMMITTEE FOR A SUSTAINABLE CAMPUS, MICHIGAN STATE UNIVERSITY, CAMPUS SUSTAINABILITY REPORT (2003). See also Michigan State University, *Be Spartan*

Green, at <http://www.bespartangreen.msu.edu/news.php?id=2015-03-13-sustainability-announces-fellows-program> (last visited May 21, 2015).

18. SARA PARKIN ET AL., HIGHER EDUCATION PARTNERSHIP FOR SUSTAINABILITY, ON COURSE FOR SUSTAINABILITY: REPORT OF THE HIGHER EDUCATION PARTNERSHIP FOR SUSTAINABILITY 2000-2003 (Forum for the Future 2004) [hereinafter UK HEPS REPORT].

19. *Id.*

20. See SARAH BEKESY ET AL., ENVIRONMENTAL BEST PRACTICE IN AUSTRALIAN AND INTERNATIONAL UNIVERSITIES 18 (University of Melbourne 2001) [hereinafter AUSTRALIAN BEST PRACTICES SURVEY].

Over 4 in 5 respondents to a 2012 survey of more than 450 sustainability staff in higher education in Canada and the United States said that their institutions had one to five full-time equivalents of paid, non-student sustainability staff. One-sixth had six or more. The vast majority of the positions (85%) were full time—an increase of 10% from just two years earlier. The survey also reported that more than one-third of the sustainability programs were led by a chief sustainability officer or sustainability director, and nearly half by a sustainability manager or coordinator.²¹

The campus sustainability office at the University of British Columbia is led by an associate provost and has responsibility for oversight, administration, communications and stakeholder engagement on all university sustainability initiatives. The office also oversees a center for sustainability research. This structure is complemented by a teaching, learning, and research office, focusing on infusing sustainability into mainstream academics and research; a communications and community engagement office; and an operational management group, covering buildings and grounds and procurements. Student volunteers assist the sustainability office with communications, training, and other programs, and serve as “residence sustainability coordinators” at undergraduate student residence halls. The university’s sustainability steering committee, made up of the school’s senior leaders responsible for finance, research, academics, faculty, engineering, and strategic partnerships, provides strategic guidance and high-level oversight to the initiative.²²

Like the University of British Columbia, the University of California at Berkeley has a network of student volunteers called “residential recycling education coordinators.” The University of Melbourne and Royal Melbourne Institute of Technology (RMIT) in Australia provide part-time compensation for their student representatives.

While many higher education institutions have full-time sustainability directors or managers, other sustainability-related positions are often present too. Recycling coordinators; energy conservation coordinators; EHS managers; and green purchasing coordinators are frequently found at schools. Some have community relations officers, transportation coordinators, sustainability research coordinators, and academic managers for sustainability curriculums.

B. Element 2: Personnel Selection, Development, and Motivation

Academic organizations, like others, are only as good as the people working at the institution. If an organization wants to enhance its chances of meeting a goal, it must coax the right people to join the effort, and ensure that they are properly trained and developed. It must, however, also motivate these people so they will do their best and

stay involved. This is certainly true when the goal is infusing sustainability across an institution.

I. Selection Criteria

Selecting the right people at a university entails several objectives. It means hiring faculty and staff and accepting students who have the necessary education, skills, and experience required of the position. Granted, experience in a sustainability endeavor cannot compensate for a lack of required academic credentials; nevertheless, it should be an important selection factor. Such experience is often a sign of self-motivation, teamwork, and good citizenship—characteristics prized by any recruiter. Unfortunately, only one in five schools reporting in the Australian survey said they used a staff member’s contribution to sustainability as a criterion in decisions involving hiring, tenure, and promotion.²³

Selecting the right people also means choosing those who possess values consistent with the ones that the school is attempting to foster. These values would include, among others, accepting people of different backgrounds, embracing new ideas, respecting the environment, and teamwork. Individuals with values and experiences that align with these and other sustainability-oriented attitudes can certainly make a difference for the school: approximately one-half of the U.S. schools in a National Wildlife Federation (NWF) survey said that student, faculty, or staff interest had a role in encouraging the campus to implement environmental programs.²⁴

Finally, selecting the right people means ensuring those who are chosen reflect a diverse mix of individuals across the organization. Campus diversity by gender, race, religion, ethnicity, age, sexual orientation, and physical ability is a positive force that encourages people to look at the world with new eyes. It enriches the non-classroom side of campus learning. Various studies reveal that students who interact with a diverse group of peers show greater growth in critical thinking skills and more satisfaction with their college experience. They are also more likely to stay enrolled in school and seek graduate or professional degrees.²⁵ Moreover, diversity is a catalyst for innovation and multifaceted thinking—the very things needed for sustainability solutions.

Diversity-oriented, nondiscriminatory hiring and promotion practices are essential for showing respect for others—practices at the core of sustainability. Yet few universities and colleges cover these topics on their sustainability website or in their sustainability reports. Most focus on environmental and community outreach activities, but not social issues. One institution that did openly discuss and address these topics is the University of Florida. Its *Sustainability Task Force Report*, which helped launch its

21. AASHE STAFFING SURVEY 2012, *supra* note 9, at 3, 14, and 34.

22. University of British Columbia, *UBC Sustainability*, at <http://sustain.ubc.ca/> (last visited May 21, 2015).

23. AUSTRALIAN BEST PRACTICES SURVEY, *supra* note 20, at 35, 39.

24. See NWF CAMPUS SURVEY, *supra* note 10.

25. See UNIVERSITY OF FLORIDA SUSTAINABILITY TASK FORCE, FINAL REPORT app. xli-xlii and the various studies cited therein (2002) [hereinafter UNIVERSITY OF FLORIDA SUSTAINABILITY TASK FORCE REPORT 2002].

sustainability program, presented the following goals and recommendations for implementing them:

Goals

The University of Florida should set aggressive hiring and retention goals to ensure the University reflects society's racial, ethnic, and gender diversity. The University should also strive to ensure that all personnel are rewarded with at least a living wage with benefits appropriate to a world-class institution.

Recommendations

1. Require all academic and administrative units to develop student recruitment and faculty and staff hiring and retention policies that will bring the University of Florida to a position where its students, faculty, and staff reflect the State of Florida's racial, ethnic, and gender diversity.
2. Increase the levels of gender and equity training of all personnel working at or hired by the University of Florida.
3. Ensure that a minimum of a living wage with good benefits is paid to all University employees.
4. Engage University faculty and staff in decision-making and formalize this process.
5. Increase the level of investment in the training of University employees.
6. Take steps to improve campus climate by increasing the campus' exposure to diverse groups.²⁶

Notwithstanding the U.S. debate about racial quotas on incoming students, institutions of higher learning that want to embrace the full spirit of sustainability cannot ignore this example. To do their part, the University of Miami created a multicultural student affairs office and the University of Central Florida created an office of diversity initiatives. The president of Emory University near Atlanta, Georgia, established a commission on the status of minorities, a forum for recommending and supporting programs to improve the representation, development, and success of minority people at the school. The University of Newcastle in Australia and the University of Victoria in Canada addressed diversity concerns directly in their institution-wide strategic plans.

2. Orientation; Introductory Workshops

Once people with the right skills, values, and diversity are on board, they must be developed so they can contribute to the sustainability effort. This is typically done by giving them appropriate training and learning experiences. Incorporating sustainability into orientation would seem an easy way to introduce students and new hires to the topic, but schools often overlook this impor-

tant task. An introductory workshop on sustainability for faculty can also be worthwhile, but representatives of the group targeted for training should be engaged as much as possible in planning and presenting it. Without participant involvement and buy-in, turnout can be disappointing.

3. Research and Mentoring Programs

The development of faculty—as well as staff and students—may also be accomplished through participation in research teams on sustainability topics. Although more time-consuming than simple training, this hands-on learning can be highly effective. Students may benefit from mentoring programs, too. The University of British Columbia's Social Ecological Economic Development Studies (SEEDS) Program provides students with real-world sustainability experience, skills, and knowledge while they earn course-based credit. Students work collaboratively with faculty and staff to develop and implement projects, such as evaluating the feasibility of using biodiesel fuel in campus vehicles, assessing strategies for non-chemical weed control, and mapping and analyzing vandalism. Each of these projects builds on the theme of “the campus as a living laboratory” to address campus sustainability challenges.²⁷

4. Motivational Techniques

Developmental learning for campus personnel is a never-ending process, and so is motivating them to stay involved in sustainability initiatives. Without motivation, people lose interest, programs wither and die. Attention to sustainability must in and of itself be sustainable. Motivating faculty and staff is in many respects similar to motivating company employees; it turns on accountability, recognition, and caring. Of course, it's nice for faculty and staff to receive awards and write-ups for their contributions to sustainability, but if their activities are in addition to their current responsibilities and are not compensated, problems may arise. One must not forget that these employees have bills to pay and families to support, and the pressures of money and time can be overwhelming. If the university is undergoing a budget cutback and employment is being trimmed, the intensity of these pressures can be compounded.

Certainly more needs to be done to spur action toward sustainability on campus. Operations and academic managers can do much to create a climate for action by working with their subordinates to set clear expectations and performance goals and by regularly providing them fair and candid feedback. One expectation on campus should be that behavior aligns with the organization's sustainability policy. The City University in the United Kingdom does this by referring to its policy in the job description for each new position. Universities that really want to show sustain-

26. *Id.* at 15.

27. The University of British Columbia, *SEEDS Program*, at <http://sustain.ubc.ca/courses-teaching/seeds> (last visited May 21, 2015).

ability is a priority will need to do what is done with any other highly valued area of study: reflect that priority in seeking grants and making budgetary decisions.

Motivating students can be more challenging since they are the “paying customers.” Academic credits with good grades are the products they seek. Still, some will feel rewarded with internships, part-time jobs, or positions of leadership. And there are other less formal ways to stimulate a student’s desire to excel, such as by openly recognizing their accomplishment, valuing their teamwork, or appreciating their altruism. Often it is enough that students see they can be a force for positive change. But when it comes to voluntary activities or service-learning opportunities for those who are less passionate, these people, too, may succumb to pressures of limited money and time. Those who design sustainability programs for students need to bear that in mind. Special funding for students can help. Modest student grants for environmental projects are available through the Campus Ecology Fellowship Program of the NWF. On-campus internships can sometimes be funded by corporations, as BC Hydro did at the University of British Columbia. The University of New Hampshire, Harvard, and others schools hire student interns for their own sustainability programs.

A number of rewards have been established to encourage excellence in sustainability performance in colleges and universities. The Australian National University created the Annual Environmental Achievement Award for the individual or group that has excelled in environmental management. Ball State University’s Council on the Environment—the benchmark institution regarding recognition—annually presents several types of sustainability awards. Their Green Initiative Awards are given to people who lead individual events or engage in other discrete everyday activities that move the university toward sustainability. Their Exemplar Awards recognize individuals or groups with significant accomplishments in promoting sustainability and environmental protection. The Council on the Environment Exemplar Lifetime Achievement Award is presented for outstanding and continuing contribution in those areas.²⁸

Awards from outside organizations can also be used to encourage university sustainability efforts. The NWF recognizes a number of campuses each year that have done exceptional work in demonstrating environmentally sustainable practices.

C. Element 3: Policy and Codes

Effective, efficient collegiate sustainability programs, like corporate ones, depend upon marshalling the right resources to address priorities planned around clear principles. Ideally, visionary principles would be identified first and endorsed by top management. Next would follow, in

hierarchical order, strategic planning and then the tactical planning of projects and actions. In the real world, though, broad sustainability programs may evolve from the bottom up. They may start with a proclamation or noteworthy project pressed by some passionate faculty or student champion, which eventually catches the eye and imagination of management. At the University of Michigan a sustainability policy endorsed by student body resolution played a prominent role in moving their programs forward.²⁹ A similar resolution by the faculty council at UNC at Chapel Hill had the same effect.³⁰

The Harvard program began not with a sustainability resolution or policy, but with a focus on waste reduction and resource conservation. These measures delivered attractive economic savings and built a foundation of broad-based support. Only later did the idea of developing a university-wide sustainability policy emerge, and that policy was clearly slanted toward the environment—a common practice among schools first initiating a sustainability program. Over time, as the concept of sustainability becomes better understood at such schools, their attention will likely shift to other aspects of sustainability—initiatives where the payback is more in risk control, reputation, and ethics than in bottomline savings. This step-by-step progression is not a bad thing. It’s certainly better than adopting a broad sustainability policy only to find little institutional will or resources to implement it. Eventually, however, the target of all those efforts—the overall marching orders of the organization—must be defined in a policy, vision, or other statement. This is the document that will foster understanding and commitment from those who are helping make the university sustainable—the vision around which they will align their plans, goals, and tasks.

Institutions of higher learning that want to draft their own sustainability policy can obtain ideas from the lists of policies found at websites maintained by AASHE and the International Institute of Sustainable Development.³¹ The external policies listed in Figure 2 can also offer ideas. UNESCO, COPERNICUS, ULSF, IAU, and collaborative regional groups should be able to provide further examples and guidance. The model corporate sustainability policy presented in *The Sustainability Handbook* may help, too, if one considers the “products” of concern to be education and research, and the key stakeholders to include staff, faculty, students, funders, governments, and accreditation bodies. Ideally, the policy should build from the school’s existing policies and cover all dimensions of a collegiate program: curricula, faculty development, research, operations, student activities, and community outreach.

28. Ball State University, *2013-2014 COTE Awards*, at <http://cms.bsue.edu/academics/centersandinstitutes/cote/awards/1314cote> (last visited May 21, 2015).

29. Student Assembly, University of Michigan, *Striving for Sustainable U of M*, (resolution passed Dec. 11, 2001).

30. UNC AT CHAPEL HILL, FACULTY COUNCIL RESOLUTION 2002-2006: A RESOLUTION URGING THE UNIVERSITY TO COMMIT ITSELF TO SUSTAINABILITY MEASURES IN ITS INSTITUTIONAL POLICIES AND PRACTICES (2006).

31. AASHE, *Campus Sustainability Policy Bank*, at <http://www.aashe.org/resources/campus-sustainability-policy-bank/> (last visited May 21, 2015). IISD, *Sustainable School and Campus Policies*, at <http://www.iisd.org/leaders/policybank/> (last visited May 21, 2015).

Colleges and universities can evaluate various external codes on sustainability, either as a source of ideas for their own policy or for consideration for endorsement. Over the years, several conferences of university representatives produced internationally recognized codes or “declarations” that defined the vision for sustainable development in higher education. Some of the more important documents of this type are listed in Figure 2. The advantages of endorsement in terms of reputation, peer support, networking, and benchmarking may warrant a school to adopt one or more of these external policies even if they already have their own sustainability policy.

Figure 2
Sustainability-Related Codes for Collegiate Institutions

The American College and University Presidents' Climate Commitment (ACUPCC) Copernicus Charter Declaration of Commitment to Sustainable Practices of Higher Education Institutions	ISCN/GULF Sustainable Campus Charter Kyoto Declaration Principles for Responsible Management Education (PRME) Talloires Declaration
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D. Element 4: Auditing

After the vision has been spelled out in an internal policy or external code endorsed by senior management, an assessment should be conducted to identify the gaps between that vision and the status quo. On the other hand, if it has been difficult convincing university authorities to adopt a vision, then an audit against best practices may be just the tool to persuade them that action is needed and that a vision should be articulated to guide the way. This is precisely what Pennsylvania State University did. It jump-started its sustainability program with an extensive assessment led by a group of students, faculty, and staff which identified significant gaps in performance. With the audit report as a backdrop, the group drafted a sustainability policy or “ecological mission.” The draft was circulated to 150 university leaders for input and finally shaped into a document that was unanimously adopted by the faculty council and signed by the university president. Next, a single, high-profile building on campus was selected for a detailed evaluation showing how its ecological footprint could be reduced while saving money. Finally, a series of short policy papers were drafted, routed for comment, and adopted, thus extending across the campus the lessons and practices derived from the building study. In this methodical way, the beginnings of an environmental/ sustainability culture were institutionalized at the school.³²

Once a university decides to conduct an audit, it has a wide range of techniques to draw from. Formal internal or third-party audits may be conducted to evaluate operations with respect to compliance with legal and policy requirements, management systems standards, and good risk management practices. If improvements in productivity are desired, waste, energy, and accident-reduction opportunities may be studied. Audit tools and processes used for business organizations can be readily adapted for this purpose with some adjustments for special issues such as campus cafeterias and transportation.

But sustainability performance is not just about the environmental conditions of university operations. Fortunately, some assessment tools and processes can be used for evaluating collegiate institutions against a broader range of sustainability criteria, going beyond operations to consider education and research as well. Some of the more noteworthy tools for evaluating collegiate sustainability programs are listed in Figure 3.

Figure 3
Sustainability Assessment Tools for Collegiate Institutions

Website listing many assessment tools: Platform for Sustainability Performance in Education	Learning in Future Environments (LiFE) Index (U.K.) Sustainability Tracking, Assessment & Rating System™ (STARS®) (AASHE) ULSF's Sustainability Assessment Questionnaire (SAQ) U.K. EcoCampus
Some specific assessment tools: Dutch Assessment Instrument for Sustainability In Higher Education (AISHE) EPA's 20 Questions for College and University Presidents Green Plan (Plan Vert) Assessment (France)	

The selection of the audit tool to be used in a given situation will be based on a number of factors. The scope and objectives of the audit are two important considerations. A sophisticated audit of legal compliance and systems will demand a different tool than a review to provide a preliminary grasp of major issues. The time and money available for the review will dictate its detail and depth, which in turn should favor some types of tools over others. The qualifications of the auditor may make a difference, too, since some tools can only be effectively used by someone with considerable knowledge and experience. Still others may be quite appropriate for some students. Finally, tool selection should be based in part on the degree of support and cooperation to be expected from the audited entity. This is because some approaches require an extensive collection and explanation of data and therefore are only appropriate where this cooperation can be assured.

32. See Joshua M. Pearce & Christopher Uhl, *Getting It Done: Effective Sustainable Policy Implementation at the University Level*, PLANNING FOR A HIGHER

EDUC., Mar./May 2003 [hereinafter Pearce & Uhl on Penn State Program].

E. Element 5: Planning

After the current status is assessed against policy objectives, then strategic and tactical plans should be developed for closing the gaps. The plans can be organized in a variety of ways. The University of Florida's draft plan, consisting of broad strategic goals and detailed tactical recommendations to management, was framed around seven elements:

- (1) Campus operations (land management and biodiversity, buildings, energy and resource use, waste management, procurement, and investments).
- (2) Education.
- (3) Research.
- (4) Community outreach and integration.
- (5) Campus community personnel (faculty, staff, and students).
- (6) Organizational policies and practices.
- (7) Implementation.³³

La Trobe University in Australia organized its *Sustainability Plan 2013-2017* in sections dealing with its key sustainability impact areas:

- (1) Sustainability management and governance.
- (2) Education for future generations.
- (3) Research for future generations.
- (4) Our environmental impact.
- (5) Our social impact.
- (6) Our economic and supply chain impacts.

Actions, goals, and targets were developed for each plan category after extensive engagement with on- and off-campus stakeholders. A senior managers' sustainability policy and planning group, chaired by the senior deputy vice chancellor, monitors and publicly reports progress against the plan.³⁴

The University of Michigan structured its plan around four elements: (1) guiding principles; (2) education and research; (3) administrative items; and (4) physical operations. Thirty recommended actions were presented, with eight identified as high priority. The plan was laid out in tabular form, showing the significance, benefits, implementing personnel, and benchmark/reference institutions for each suggested action.³⁵ The sustainability plan for

Unity College contained goals developed by each of its four planning subcommittees. Its plan also detailed specific actions for implementing each goal, and names the people responsible for carrying them out.³⁶

Ball State University's Green Steering Committee used a modified *Delphi process* (discussed in Chapter 6 of *The Sustainability Handbook*) to identify 10 priority action items from the 186 items suggested by 9 working teams. Thereafter, the university annually reported on progress against the first 10 action items as well as a second tier of 10.³⁷ Ball State's sustainability initiatives are covered in the unit-level and university-wide strategic plans, helping establish the integration and alignment necessary for effective implementation. Eight of the U.K. HEPS universities and colleges did the same.³⁸

The combined office of campus planning and sustainability at the University of Victoria in Canada, which reports to the school's vice president of finance and operations, ensures that sustainability is integrated in campus planning and operations. The office acts as a coordinator and resource for students, staff, faculty, and administration working toward shared sustainability goals, and it also facilitates the advancement of sustainability in teaching, research, and community partnerships.³⁹

The University of British Columbia's sustainable development strategy, called *Inspirations and Aspirations*, was drafted after stakeholder consultation with 20 departments, all of the faculties, and all major student organizations. The plan had nine key objectives organized around three categories: place, people, and process:

Place

- Reduce pollution: air, water, and land.
- Conserve resources: use energy, water, and materials wisely and efficiently.
- Protect ecosystems: limit the impact on natural systems.

People

- Improve health and safety: enhance quality of life.
- Develop a vibrant community: enable everyone to achieve their highest potential.
- Promote learning in the community: interact with Canada, Vancouver, and the world.

33. See UNIVERSITY OF FLORIDA SUSTAINABILITY TASK FORCE REPORT 2002, *supra* note 25.

34. See LATROBE UNIVERSITY, IMPACTING FUTURES: SUSTAINABILITY REPORT 2013 (2014) [hereinafter LATROBE REPORT 2013].

35. UNIVERSITY OF MICHIGAN, THE "SUSTAINABLE UNIVERSITY OF MICHIGAN": SUGGESTED IMPLEMENTATION STRATEGIES (2000). See also Sandra I. Rodriguez et al., *Sustainability Assessment and Reporting for the University of Michigan's Ann Arbor Campus* (Center for Sustainable Systems, University of Michigan, Report No. CSS02-04, Apr. 2002) and UNIVERSITY OF

MICHIGAN, OFFICE OF CAMPUS SUSTAINABILITY, BUSINESS PLAN AND ANNUAL REPORT OF ACTIVITY (2010), available at http://ocs.umich.edu/pdf/OCS_Business_Plan.pdf.

36. See UNITY COLLEGE SUSTAINABILITY PLAN, *supra* note 16.

37. See BALL STATE TALLOIRES IMPLEMENTATION REPORT, *supra* note 13. E-Mail from Robert Koester, Chair, Ball State University Council on the Environment, to William R. Blackburn (Jan. 3, 2005).

38. *Id.* See also BALL STATE UNIVERSITY, 2013 GLOBAL REPORTING INITIATIVE SUSTAINABILITY REPORT FOR BALL STATE UNIVERSITY (2014), available at <http://cms.bsu.edu/academics/centersandinstitutes/cote/sustainability/gri> and Ball State University, *Sustainability*, at <http://cms.bsu.edu/academics/centersandinstitutes/cote/sustainability> (last visited May 21, 2015). See UK HEPS REPORT, *supra* note 18, at 25.

39. University of Victoria, *Campus Planning and Sustainability*, at <http://www.uvic.ca/campusplanning/> (last visited May 21, 2015).

Process

- Ensure economic viability: secure the financial resources to fund our vision.
- Promote an open, inclusive model: keep stakeholders aware of, and participating in, the university's sustainability plans.
- Champion progress: develop an infrastructure that promotes and embodies sustainability.

The University of British Columbia's planning documents listed individual projects and other initiatives for each of the nine objectives.⁴⁰

Portland State University's Institute for Sustainable Solutions and its partners across campus developed a "sustainability playbook" for 2013-2018, a seven-page list of the school's overarching sustainability goals set by the playbook process, plus a combination of tactical and institutionalization strategies illustrating how each goal will be achieved within the five target years.⁴¹

Regardless of how the sustainability plan is developed, its success will depend upon top management support and appropriate resources. Sound integration, alignment, and deployment will also be needed. But even with all that, a collegiate sustainability program can still wither and die if the sustainability planning is viewed as a one-time exercise. Periodic reassessments and plan adjustments are essential to keep the program current, alive, and moving forward.

F. Element 6: Sustainability Programs Within Various Sectors of University Activity

Ultimately, a collegiate SOS and associated sustainability initiatives must be integrated into and implemented by the six sectors of school activity. These sectors are (1) administration and planning, (2) campus operations, (3) education, (4) research, (5) student activities, and (6) community outreach activities. Below is a review of how a number of colleges and universities have addressed sustainability within these sectors.

I. Administration and Planning Sector

University administrative departments, including the office of president, are responsible for the overall planning and finances of the school, for administrative structure of multi-departmental teams and their leaders, and for the broad allocation of resources. Human resources policies, such as those on diversity, are also within their purview. As

noted earlier, these are all elements that come into play in establishing a successful, long-term sustainability initiative at a collegiate institution. In addition, the president and others in top management have a critical role in providing visible support for sustainability so internal and external stakeholders can see that it is truly important to the school and thereby be encouraged to provide their own support.

2. Campus Operations Sector

Operations—the support activities for the development and use of campus grounds and buildings—is typically the first focus of academic sustainability initiatives. Universities, like businesses, have seen the environmental aspects of their operations come under closer scrutiny by both regulators and the public. Many now realize that the reduction of energy use, resource consumption, and wastes in many cases translates into attractive cost reductions. The operations sector has a broad reach and may involve the following sustainability topics, among others:

- Solid waste recycling and reduction of generated and disposed quantities.
- Green chemistry, using less hazardous cleaning products and other substances.
- Energy conservation; use of renewable energy, energy-from-waste.
- Water conservation.
- Environmental performance in building design (LEED standards, etc.); reduction of indoor air pollution.
- Environmental landscaping program (integrated pest management, use of native plants, etc.).
- Purchasing environmentally preferable goods, adopting a sustainable supply chain program.
- Reducing GHG emissions and other pollution, offensive odors, and noise.
- Managing transportation demand, using green fuels, improving fuel economy and driver safety.
- Purchasing organic and locally sourced food; improving healthy choices on menu.
- Campus safety and security for faculty, students, and visitors.

The networks identified in Figure 1 and the leading schools within them can provide benchmarking information about how these issues are being addressed in practice. Collegiate sustainability standards and measurement tools, like the AASHE STARS program and others listed in Figure 3, also offer detail on what these issues mean in a collegiate sustainability context. Some NGOs can be of help, too. To encourage higher learning institutions to act on GHG emissions, Greenpeace published a toolkit of

40. See CHARLENE EASTON ET AL., UNIVERSITY OF BRITISH COLUMBIA SUSTAINABILITY OFFICE, UBC CASE STUDY: INSTITUTIONALIZING SUSTAINABILITY (2008/2009), available at <http://corostrandberg.com/wp-content/uploads/files/Case-Studies-Master-Institutionalizing-Sustainability.pdf>. UBC SUSTAINABILITY, SUSTAINABILITY AT UBC 2005-2010: INSPIRATIONS AND ASPIRATIONS: THE CAMPUS STRATEGY AND YOU (2011), available at <http://infohouse.p2ric.org/ref/40/39876.pdf>.

41. PORTLAND STATE UNIVERSITY, INSTITUTE FOR SUSTAINABLE SOLUTIONS, SUSTAINABILITY AT PORTLAND STATE UNIVERSITY, 2013-2018 (2013), available at http://www.pdx.edu/sustainability/sites/www.pdx.edu.sustainability/files/Playbook_DEC_final.pdf.

practical suggestions and useful references and forms for students who want to introduce energy/climate change programs at their schools.⁴² And Amnesty International and the Responsible Endowment Coalition developed a handbook for collegiate institutions on integrating environmental, social and governance issues into institutional investment.⁴³

Several strategies have been used by universities to cut energy usage. Duquesne University's School of Business recruited alumni, students, and faculty to work with a few energy experts and the school's facilities maintenance personnel to evaluate, design, and implement a 10-year series of energy-efficiency projects at the school's large, 50-year old headquarters building.⁴⁴ According to the NWF study, upgrades in lighting and heating, ventilation, and air conditioning systems have been the most common actions to trim energy use at such collegiate institutions. About one-half of the schools surveyed by NWF said they also developed energy-efficiency codes for new or existing buildings and used life-cycle analyses for evaluating energy projects. The NWF survey also found that water conservation, like energy conservation, was accomplished primarily through system and equipment upgrades. The financial and environmental returns on both types of conservation projects can be quite attractive.⁴⁵

Climate change, other air pollution, traffic congestion, and space constraints on parking have prompted a number of universities to reduce the environmental and social impacts of campus transportation. The University of California at Davis has 24 plug-in hybrid electric cars in its shared vehicle pool, 78 electric vehicles, approximately 200 that burn compressed natural gas, 165 that burn biodiesel B20, and 132 that run on E85 ethanol.⁴⁶ One in five schools surveyed by the NWF said they offered free or discounted bus passes to students, faculty, and staff. One in six had carpooling programs; one in eight offered incentives not to drive alone, and a like number provided bicycle paths. Sixty percent furnished bike racks.

a. Landscaping

Another aspect of university operations that affects sustainability is landscaping and other grounds work. The most

popular environmental landscaping programs reported in the NWF study were integrated pest management and the use of native plants. About one-third of the survey respondents had programs to create food and shelter for wildlife, restore habitat, or remove invasive exotic species.

b. Green Purchasing

University programs on green purchasing and environmentally responsible investing are not nearly as common as other operational green programs. Even so, a few universities have superb purchasing and investing initiatives. One is Rutgers University in New Jersey, which has a *Green Purchasing Policy and Guidelines* and uses EPP specifications. The school has been assertive with its suppliers, pressing them to minimize and remove waste associated with their products, thus reducing the university's burden and costs. It mandated that waste contractors place educational advertisements in campus publications and routinely update the school on the latest industry trends, products, and recycling markets. Besides building an extensive EPP website, the university also developed a green procurement training program for other schools, and has an extensive portfolio of EPP research projects to evaluate products.⁴⁷

Another type of contracting—the licensing of companies to produce items bearing school logos—also raises sustainability concerns. Over several hundred colleges and universities have committed to require their licensees to produce goods according to the workplace codes of conduct of the FLA or the Worker Rights Consortium.

Noteworthy programs also exist on the ethical investment of university endowments and pension funds. Columbia University in New York City appointed an advisory committee on socially responsible investing (SRI) to advise the school trustees on this matter.⁴⁸ Duke University adopted SRI guidelines. Its students and those at Yale University, Stanford University, and other U.S. institutions of higher learning have lobbied their administrations, demanding disclosure of environmental and social impacts of university hedge fund investments—investments not subject to U.S. Securities and Exchange Commission rules on public disclosure.⁴⁹

In 2014, the Stanford University Board of Trustees announced it would divest its \$18 billion in direct investments of endowment funds in publicly traded coal companies. In taking this action, the trustees endorsed the recommendation of the university's Advisory Panel on Investment Responsibility and Licensing, which includes representatives of students, faculty, staff, and alumni. Their recommendation had come on the heels of the panel's

42. GREENPEACE, GREENPEACE CLEAN ENERGY NOW! CAMPUS GUIDE: HOW TO STOP GLOBAL WARMING BY MAKING YOUR CAMPUS A LEADER IN CLEAN ENERGY (2007), available at <http://www.greenpeace.org/usa/Global/usa/report/2007/7/clean-energy-now-campus-guide.pdf>.

43. AMNESTY INTERNATIONAL AND RESPONSIBLE ENDOWMENTS COALITION, INTEGRATING ENVIRONMENTAL, SOCIAL, AND GOVERNANCE ISSUES INTO INSTITUTIONAL INVESTMENT (2007), available at <http://community-wealth.org/content/integrating-environmental-social-and-governance-issues-institutional-investment-handbook>.

44. E-Mail from Dr. Robert Sroufe, Duquesne University, to William R. Blackburn (Oct. 29, 2014).

45. See D.J. EAGAN & J. KENIRY, NATIONAL WILDLIFE FEDERATION'S CAMPUS ECOLOGY PROGRAM, GREEN INVESTMENT, GREEN RETURN: HOW PRACTICAL CONSERVATION PROJECTS SAVE MILLIONS ON AMERICA'S CAMPUSES (1998).

46. AASHE, STARS, *University of California, Davis, OP-14 Campus Fleet*, at <https://stars.aashe.org/institutions/university-of-california-davis-ca/report/1117/OP/transportation/OP-14/> (last visited May 21, 2015).

47. See Rutgers University, *Rutgers Green Purchasing*, at <http://greenpurchasing.rutgers.edu/> (last visited May 21, 2015).

48. See UNIVERSITY OF FLORIDA SUSTAINABILITY TASK FORCE REPORT 2002, *supra* note 25, app. xxxii.

49. William Baue, SocialFunds.com, *Students Call for More Disclosure on University Hedge Fund Investments*, Mar. 3, 2004, at <http://www.socialfunds.com/news/save.cgi?sfArticleId=1357> (last visited May 21, 2015).

extensive review of the social and environmental implications of investment in fossil fuel companies.⁵⁰

ShareAction (formerly FairPensions), a university staff campaign with 4,000 supporting academics and administrators at universities across the United Kingdom, promoted the ethical investment of the £19 billion in pension funds in the U.K. Universities Superannuation Scheme (USS). As a result, USS adopted a “socially responsible and sustainable” investment policy, hired a small staff to implement it, and regularly reports results. ShareAction remains involved in SRI and has taken shareholder action on issues such as climate change, pollution, large socially disruptive development projects, and access to vital medicines.⁵¹

3. Education Sector

Ideally, there are seven steps for incorporating sustainability into a university curriculum:

- (1) Identify and publicize the sustainability-related courses and degrees already in the curriculum.
- (2) Establish a network of academics who are interested in bringing sustainability to coursework in a more meaningful way, and work with them to achieve the following steps:
- (3) Integrate sustainability aspects into existing courses.
- (4) Work with communities, campus operations, businesses, and others to establish “service-learning,” internship, and other experiential courses.
- (5) Assess needs and create new academic degrees on sustainability.
- (6) Add sustainability to student orientation, and mandate certain sustainability coursework for all students.
- (7) Create opportunities for others outside the campus to learn about sustainability.

Let us examine each of these steps in more detail.

(1) Inventory and Publicize Courses

A first cut at identifying courses can be accomplished by doing an Internet search of university class listings for words such as “sustainability,” “sustainable,” “development,” “globalization,” “justice,” “social,” “community,” “population,” “peace,” “women,” “minority,” “ecology,” “biodiversity,” “nature,” “conservation,” “environment,” and “environmental.” An extensive list of such classes at

others schools has been compiled by the Aspen Institute at its *Beyond Grey Pinstripes* website.⁵²

Your inventory may uncover gaps, such as a lack of environmental or social content in teaching and engineering courses, a common problem of the past. Once prepared, the inventory can be posted under a sustainability umbrella and publicized among faculty, students, and management. But why do this? What does it change? Doesn't it just cast sustainability as all things to all people? While there may be some initial downsides to the inventory, in the end it will help campus people understand the multifaceted aspects of sustainability and the gaps in sustainability education at the school, and serve as a baseline for measuring progress to even more meaningful change.

(2) Establish Internal Network

The first place to recruit potential candidates for the network is among those who teach the courses on the sustainability list. Once formed, the network should open lines of communication with interested members of the school administration and student sustainability organizations. An early agenda item for the network is to inform members about the resources available from the Aspen Institute, AASHE, the Association of University Leaders for a Sustainable Future (ULSF), and other similar organizations. The University of Technology at Sydney (UTS), administers the Australian national *Teaching and Learning Sustainability* website that helps collegiate staff, students and faculty locate sustainability-related courses, subjects, and teaching resources in that country.⁵³ Your school may find it useful to create a website with appropriate links to academic resources like these. To accelerate progress further, the school can follow the lead of UTS and Portland State University by hiring an academic manager of sustainability teaching.⁵⁴ In any event, a network leader should be selected, and goals of the group clarified.

(3) Modify Course Content

After studying the issue, network members should meet with the university administration to discuss the meaning of sustainability and why it should be infused into the curriculum. Once any necessary management concurrence is obtained, network members can contact other faculty to orient them to the objective and consider how best to accomplish it. Funding can help move things along. At Ithaca College, \$1,000 faculty grants were awarded to induce the integration of sustainability content into courses on history, philosophy, writing, rec-

50. Michael Wines, *Stanford to Purge \$18 Billion Endowment of Coal Stock*, N.Y. TIMES, May 6, 2014, available at <http://www.nytimes.com/2014/05/07/education/stanford-to-purge-18-billion-endowment-of-coal-stock.html>.

51. See ShareAction, *Homepage*, at <http://shareaction.org/> (last visited May 21, 2015).

52. See Aspen Institute, *Beyond Grey Pinstripes: MBA Survey*, at <http://www.beyondgreypinstripes.org/> (last visited May 21, 2015).

53. University of Technology, Sydney (UTS), *Learning and Teaching Sustainability: Sharing Sustainability Education*, at <http://sustainability.edu.au/> (last visited May 21, 2015).

54. See Sarah Bekessy et al., *Universities and Sustainability*, 2 TECLA Env't, Econ. & Soc'y 29 (2003).

reation, management, biology, and physics.⁵⁵ Northern Arizona University established an interdisciplinary team, called the Ponderosa Group, to incorporate environmental considerations into courses. Participants attended an intensive three-day training workshop to learn about the topic, and then put their knowledge to use in revising course content and syllabi. These efforts produced impressive results: within a few years, the university had 31 departments that collectively offered 262 undergraduate courses; 116 liberal studies courses; and 97 graduate courses with an environmental orientation.⁵⁶ Examples like those developed by the Ponderosa Group can be persuasive, especially if the classes have proven highly successful. ULSF, the Baltic University Program, and other support organizations can provide information on how sustainability has been incorporated into other classes. Professional, trade, and regulatory groups may also assist with academic content. For instance, the Advertising Standards Authority in the United Kingdom has developed a training presentation on social responsibility for college marketing classes.⁵⁷

The Sustainability Curriculum Framework prepared by the Boston-based NGO, Second Nature, presents a short, useful outline of the following seven critical sustainability themes that should be integrated into coursework:

- (1) *Scale of sustainability effects* (time and geography).
- (2) *Human connections to the physical and natural world* (relationship of population, consumption, technology, and carrying capacity to the biosphere, etc.).
- (3) *Ethics and values* (equity, justice, precautionary principle, development that is sustainable, measurement of societal well-being, etc.).
- (4) *How natural systems function* (natural laws, ecosystems, interdependence, holism, etc.).
- (5) *Technological and economic relationship to sustainability* (efficiency, pollution prevention, conservation, use of renewable resources, design for the environment, etc.).
- (6) *Motivating environmentally sustainable behavior* (legal, economic, spiritual, cultural, and other motivators).
- (7) *Pedagogical strategies for integrating sustainability* (research, experiential, interdisciplinary, real-world learning experiences).⁵⁸

These themes should be incorporated in classes with several purposes in mind. First, the added content should help students understand the nature of sustainability. Second, the teaching materials should reveal what others have done around these themes, thus inspiring students to act. Finally, students should see what they themselves can do that will make a difference; indeed, they are not likely to be receptive to classes that leave them with a feeling of helplessness in the face of bleak sustainability trends.

(4) Establish Service-Learning and Internship Courses

“Service-learning” is one pedagogical strategy for integrating sustainability into class work. It is a term first coined in the 1960s to describe a learning program in which students and faculty were linked with authorities in Tennessee to study development projects in a waterway area. It has come to mean teaching methods that engage students in structured community projects to help solve real-life problems. Besides practical learning, another objective of service-learning is to instill within students a sense of good citizenship and show them they can effect positive change in society. This teaching technique is particularly important in orienting future graduates to the grass-roots challenges posed by sustainability. The National Service-Learning Clearinghouse of Learn and Serve America, a part of the federal Corporation for National and Community Service, claims to be America’s top library of service-learning resources for higher education as well as K-12.⁵⁹ In one innovative service-learning program, Unity College of Maine aligned with local groups to create courses regarding water quality and other aspects of nearby Lake Winnewood. This theme was used in a wide range of classes, including drama, biology, environmental studies, ichthyology, chemistry, geology, composition, history, law, and statistics.⁶⁰

With help from a National Science Foundation grant, Ithaca College in New York formed a three-way partnership with Tompkins County and Ecovillage at Ithaca (EVI)—a planned community dedicated to adopting sustainable practices—to develop service-learning opportunities. Four courses were developed: (1) sustainable communities; (2) sustainable land use courses, which provide on-site learning at EVI; (3) an energy-efficiency and sustainable energy course taught by an EVI resident experienced in green building; and (4) an environmental futures course involving the calculation of *ecological footprints* for EVI and an inner-city neighborhood.⁶¹

55. See Peter Bardaglio & Edward Quevedo, *Building a Sustainable Future: The Positive Growth Initiative at Ithaca College*, SUSTAINABLE DEV., ECOSYSTEMS & CLIMATE CHANGE COMM. NEWSL., Oct. 2004 [hereinafter Bardaglio-Quevedo: Ithaca College].

56. See Northern Arizona University, *The Ponderosa Project*, at <http://www2.nau.edu/~ponder-p/> (last visited May 21, 2015).

57. U.K. Advertising Standards Authority, *Education Resources*, at <http://www.asa.org.uk/News-resources/School-parent-resources.aspx> (last visited May 21, 2015).

58. Second Nature, *Sustainability Curriculum Framework*, at http://www.decd.sa.gov.au/efs/files/links/second_nature.pdf (last visited May 21, 2015).

59. See National Service-Learning Clearinghouse, *Homepage*, at <http://gsn.nylc.org/clearinghouse> (last visited May 21, 2015), and do a search for “sustainability,” “sustainable development,” and various sustainability topics of interest. See, e.g., SARENA D. SEIFER & KARA CONNORS, *COMMUNITY CAMPUS PARTNERSHIPS FOR HEALTH: FACULTY TOOLKIT FOR SERVICE-LEARNING IN HIGHER EDUCATION* (Sarena Seifer & Kara Connors eds., National Service-Learning Clearinghouse 2007).

60. SECOND NATURE, *EDUCATION FOR SUSTAINABILITY: CONTENT, CONTEXT, AND PROCESS OF LEARNING AND RESEARCH* (2001).

61. Susan Allen-Gil et al., *Community Partnerships for Sustainable Education: The ICEVI Model*, presented at the Conference on Environmental Man-

Clemson University's English department developed a client-based service-learning program for its business and technical writing courses. Workshops were held with clients and teachers to provide guidance on the roles of each group in the program and to match the clients' sustainability-related writing projects to classes. The clients included a few corporations and a number of university groups, such as Student Housing, the Farmers Market, the Sustainable Agriculture Field Lab, the Environmental Committee, and a nearby elementary school. For client projects, students prepared manuals, announcements, brochures, advertisements, reports, presentations, and websites, among other things. After a surge in popularity, the program experienced some growing pains as it transitioned from grant funding to financial support from clients—a move designed to spread the economic burden and make the program sustainable.⁶²

(5) Create New Courses and Degrees as Needed

The curriculum should be reassessed periodically, taking into account the sustainability challenges of society and its institutions. Input on academic needs should be sought from students, alumni, and faculty peers as well as representatives of businesses, agencies, NGOs, and others likely to hire graduates. The outcome of this review may single out courses that are antiquated or of little value, which should be cut. Unfulfilled needs may suggest new courses and degrees. Of course, new courses related to sustainability need not have "sustainability" or other similar buzz words in their name, although many do. Consider the courses listed on the AASHE and *Beyond Grey Pinstripes* websites, for example.⁶³ The latter is overseen by the Aspen Institute, which partners with master of business administration (MBA) schools around the globe to create an extensive database of sustainability-related MBA coursework information, including course descriptions and syllabi.

Some universities and colleges have gone beyond adding courses to create entirely new academic certificates and degrees related to sustainability. For example, Portland State University has a four-course *Graduate Certificate in Sustainability* for post-graduate students interested in gaining an understanding of the sustainability concept, and the strategies and techniques used to address it in the public and private sectors.⁶⁴ Harvard

has a similar five-course program. Duquesne University in Pittsburgh offers a top MBA program in sustainability. Other schools are offering full graduate and undergraduate degrees, too. The AASHE website has a listing of over 30 associate, 400 undergraduate, 450 master's, and 100 doctorate degrees.⁶⁵ The ULSF⁶⁶ has compiled another list, and still others may be found among the additional resources found in Figure 1.

Since sustainability issues cut across disciplinary lines, one avenue that should be explored in the curriculum review is whether the appropriate interdisciplinary approaches are being reflected in teaching. This is emphasized in Local Agenda 21, the Talloires Declaration, and other proclamations. There are signs that this concern is beginning to be recognized. One of the leaders in multidisciplinary academics on sustainability is Ball State University. The school created a "clustered academic minor in environmentally sustainable practices" under which students from different departments can obtain minor interdepartment degrees in such things as environmental policy; sustainable land systems, technology, and the environment; and the environmental context for business.⁶⁷ The Vanderbilt Center for Environmental Management Studies was formed among students and faculty from business, engineering, public policy, and law to create interdisciplinary degrees around environmental management.⁶⁸ Florida Gulf Coast University introduced team teaching between instructors from the English and environmental studies programs in a collaborative course on environmental literature.

(6) Mandate Training

A few universities with a serious commitment to sustainability have required students to take training on it. Florida Gulf Coast University requires that all students take *The University Colloquium: A Sustainable Future* as a condition for graduation.⁶⁹ This interdisciplinary course reviews how the concept of sustainability applies to a variety of forces in southwestern Florida, including those that are environmental, social, ethical, historic, scientific, economic, and political. Ball State University gives an orientation class on sustainability to all incoming students.

agement for Sustainable Universities (EMSU), Tecnológico de Monterrey, Campus Monterrey, Monterrey, Nuevo León, Mexico, June 9-11, 2004.

62. SUMMER SMITH TAYLOR ET AL., CLEMSON UNIVERSITY, FINAL REPORT: INCORPORATING SUSTAINABILITY PROJECTS INTO BUSINESS AND TECHNICAL WRITING CLASSES: EXPANSION AND IMPROVEMENT (2004). E-Mail from Patricia Jerman, South Carolina Sustainable Universities Initiative, to William R. Blackburn (Jan. 10, 2005).

63. AASHE, *Education and Research Resources*, at <http://www.aashe.org/resources/education-research-resources/> (last visited May 21, 2015). Aspen Institute, *Beyond Grey Pinstripes, Faculty Resources*, at <http://www.beyondgreypinstripes.org/faculty-resources> (last visited May 21, 2015).

64. Portland State University, *Graduate Certificate in Sustainability*, at <http://www.pdx.edu/sustainability/graduate-certificate-in-sustainability> (last visited May 21, 2015).

65. AASHE, *AASHE Academic Programs Database*, at <http://www.aashe.org/resources/academic-programs/> (last visited May 21, 2015).

66. ULSF, *Sustainability Degree Programs*, Feb. 15, 2012, at http://www.ulsf.org/resources_sust_degrees.htm (last visited May 21, 2015).

67. 67. Ball State University, Undergraduate Course Catalog: *Clustered Minors in Environmentally Sustainable Practices*, at <http://cms.bsu.edu/academics/undergraduatestudy/catalog/archive/201011catalog/collegesdeptprog/interdepartmental/clusteredminors> (last visited May 21, 2015).

68. Vanderbilt University, Vanderbilt School of Engineering, *Environmental Engineering, Management and Policy*, at <http://engineering.vanderbilt.edu/cee/GraduateStudy/EnvironmentalEngineering/env-mgmt-policy/index.php> (last visited May 21, 2015).

69. Florida Gulf Coast University, University Colloquium 2014-2015 Catalog Year, *The University Colloquium: A Sustainable Future*, at <http://www.fgcu.edu/Catalog/colloquium.asp> (last visited May 21, 2015).

(7) Provide Outreach Training

The final step to bringing sustainability to collegiate teaching is to share the school's sustainability learning and expertise with people outside the campus. This helps sharpen the skills of the instructors, exposes them to new ideas from the outside, and inspires them to improve their own programs.

Sharing may be done via regional partnerships with other schools, as discussed above. Or learning may be offered to people outside the regular student body through special extension courses. For instance, Harvard offers a course entitled *Strategies for Sustainability Management* and other related courses, which are given to in-class and distance-learning online extension school students.⁷⁰

Sharing may also be achieved through hosting or delivering presentations at public conferences. For example, the University of Cambridge's Program for Industry has developed the *HRH The Prince of Wales' Business and the Sustainability Program*, which offers executive seminars to share ideas and best practices about sustainability within business.⁷¹ Ithaca College in New York co-hosted a conference in which faculty, students, and staff joined with representatives of government, business, academia, and nonprofit and environmental groups to discuss the sustainability of local Tompkins County. Attendees heard reports on the outcomes of certain study group and community discussions on sustainability topics that had been held earlier. At the end, attendees decided to form teams to undertake a number of regional projects. These projects included creating a sustainability information resource hub and reviewing and reforming local resource and land use zoning regulations. Teams also agreed to develop regional sustainable transportation models and alternative fuel programs, and establish sustainability education and outreach programs with religious and arts groups.⁷²

Other higher learning institutions provide training through conferences around the same sustainability theme over a period of years. Rutgers University co-sponsors and helps present an annual conference on purchasing for governments, businesses, and academia, which features sessions on green purchasing.⁷³

4. Research Sector

a. Operational Concerns

Research has implications for sustainability in three ways. First, there are concerns related to research materials and

70. See *Harvard University Extension School*, at <http://www.extension.harvard.edu/courses/course-search> (last visited May 21, 2015).

71. Cambridge University, *The Prince of Wales' Business and Sustainability Program*, at <http://www.cisl.cam.ac.uk/Executive-Programmes/The-Prince-of-Wales-Business-and-Sustainability-Programme.aspx> (last visited May 21, 2015).

72. Bardaglio-Quevedo: Ithaca College, *supra* note 55.

73. Rutgers University, Center for Government Services, *45th Annual Rutgers University Public Purchasing Educational Forum in Conjunction With NIGP Region II Annual Conference*, at <http://cgs.rutgers.edu/publicpurchasing> (last visited May 21, 2015).

operations. Materials used in research can be associated with a variety of environmental, safety, and ethical issues. Adverse effects should be considered and minimized to the extent practicable when the materials are being specified and purchased. Testing and lab experiments may involve the use and disposal of dangerous substances that must be handled in a safe and environmentally responsible manner. Genetics studies and clinical evaluations with animals or human subjects are rife with ethical issues. An oversight group can be appointed to screen proposed research for these and other sustainability factors. Such a group armed with appropriate guidance and exercising proper scrutiny can help the university avoid potential legal, ethical, and public relations nightmares.

b. Framework for Success

A second way research can affect sustainability is less obvious: the design of research teams can lay the groundwork for sustainable solutions. Sustainability projects that involve undergraduate students or individuals from campus operations, government, business, or NGO groups can bring useful insights to people inside and outside the school. Projects that employ a variety of disciplines can help researchers see problems in a more holistic way. In short, research, if properly structured, can not only teach others, but encourage the type of multidisciplinary, cross-sector thinking that the complexity of sustainability demands.

c. Sustainability Solutions

Third, research can do what research does best: find solutions to tough sustainability problems. And these problems are some of the toughest. Solutions will require that we first improve our understanding of the issues, from a technological as well as sociological, economic, and political perspective. Then we need to understand what solutions—or, to be more precise, what *mix* of solutions—can solve our problems without causing even greater disruption. These problems are not just those associated with issues like climate change, resource depletion, population growth, world poverty, and AIDS. They also include the challenge of changing our institutions and culture. People and the organizations they run must appreciate the serious nature of sustainability issues and understand and accept the role they must play in solving them. But how can this be done? Research may be able to tell us. It is designed to sort fact from fiction and provide new insights to cause and effect. Hopefully it can deliver many of the answers we so desperately need.

d. Research Centers

Fortunately, some universities and colleges seem to be on the right track. Often universities concentrate these efforts in a research center or institute established to study sustainability or its environmental or social aspects. The

AASHE website lists a several hundred such centers from the United States and elsewhere grouped under the following categories: agriculture; business; development studies; economics; education; engineering; law; renewable energy; and urban studies.⁷⁴

Of course, without funding, research doesn't happen. A little seed money can go a long way, however. The University of South Carolina was able to use \$215,000 in "mini-grants" to fund the preparation of proposals and other preliminary work needed for soliciting larger grants. While some sustainability projects didn't succeed, others did. Within a few years, the original mini-grant investment had spawned \$2.27 million in additional external funding.⁷⁵

Having a designated sustainability research center on campus can make it easier to find cash, however. The center serves as a focal point for potential researchers and funders, alike—people who share a belief in the importance of the topic. With oversight from the center, good projects can be identified and properly managed. Center personnel can bring together various disciplines and sectors on individual projects to maximize benefits. They can widely publicize the results. Moreover, they can spend time with the administration to ensure that the sustainability agenda continues to receive top management support. If managed properly, sustainability research centers can become a source of great success, pride, and prestige for the school—a true symbol of modern thinking.

5. Student Activities

The primary reason colleges and universities exist is to teach students. They affect learning in the classroom and through the experiences and environment they create for students outside it. These outside experiences are valuable because they provide other benefits as important as knowledge in solving our difficult sustainability problems—they provide the confidence, passion, and tenacity to seek these solutions. Many schools of higher learning have student-focused sustainability programs or centers, but some have done better than others as an incubator for this non-classroom learning, spawning student groups, campaigns, projects, and programs.

Students for a Sustainable Stanford (SSS) is an example of what motivated students can do. The organization was formed by a small group of individuals who wanted to encourage green building and the reduction of GHG emissions on campus. They established a task force and mounted a large campaign to educate students, faculty, administrators, and the Board of Trustees. They published op-ed

articles and lobbied graduate and undergraduate student organizations to adopt statements of support. Ultimately this led to the creation of the Environmental Stewardship Management Group, a committee of students, faculty, and operations and administrative staff that hammered out the *Stanford Guideline for Sustainable Buildings*. Later, SSS recruited student representatives to raise awareness in their residence halls about reducing waste and resource consumption. The organization also worked closely with the dining services department to increase organic, local, and seasonal purchasing and to cut food and flatware waste. It pressed the school administration to hire a full-time sustainability coordinator and to establish a Harvard-like revolving fund for financing eco-efficiency projects.⁷⁶

Students at other universities and colleges have taken up activities like those of SSS. For example, the University of Victoria's Sustainability Project is a student-run organization that helps drive sustainability projects. Harvard established a Resource Efficiency Program, which hired student representatives to promote resource conservation in their dormitories. Their projects included improving recycling and energy efficiency, reusing discarded computers and furniture, and implementing green practices in laundry and dining rooms. The University of British Columbia has a similar student coordinator program staffed with volunteers, which helped save the school hundreds of thousands of dollars in energy costs over two years.

Student Recycling Residential Coordinators at Berkeley joined with their counterparts from other University of California locations to successfully press the Board of Regents to adopt the clean energy and green building policy discussed earlier. Spurred by their great success, these students formed an intercampus organization, called the California Student Sustainability Coalition (CSSC), which created a student-run class with outside speakers. The course requires participants to complete a campus sustainability project. CSSC is also working on green transportation issues.

Student action was also behind UNC at Chapel Hill's initiative to assess students \$4 per semester to pay for purchasing green energy and installing green power technology on campus. The Student Environmental Action Coalition there campaigned for a student referendum which garnered support from 85% of the voters. A student-led campaign at Michigan produced a student assembly resolution launching the school's sustainability program in 2001.

Student action on sustainability issues has also come in the form of protests. In the late 1990s, student sit-ins at Duke, Georgetown, Wisconsin, and Michigan persuaded school administrators to take more aggressive action on sweatshops that produced items bearing their school logo. Activists from these and other universities led the way in creating United Students Against Sweatshops and the Worker Rights Consortium. Student protests also helped convince Staples to begin selling forest-friendly

74. AASHE, *Campus Centers and Institutes on Sustainability*, at <http://www.aashe.org/resources/academic-centers-sustainability/> (last visited May 21, 2015).

75. SOUTH CAROLINA SUSTAINABLE UNIVERSITIES INITIATIVE, SOUTH CAROLINA SUSTAINABLE UNIVERSITIES INITIATIVE YEAR 4 ANNUAL REPORT (2002); also cited in Wynn Calder & Richard M. Clugston, *Progress Toward Sustainability in Higher Education*, 33 ELR 10003 (Jan. 2003), available at http://www.ulsf.org/pdf/dernbach_chapter_short.pdf.

76. See Students for Sustainable Stanford, at <http://studentsforsustainablestanford.weebly.com/history.html> (last visited May 21, 2015).

paper and Dell to begin sponsoring local computer collection and recycling programs.

One student campaign has been more personal. The Graduation Pledge has been promoted and endorsed by students at more than 100 universities and colleges—everywhere from Harvard, Stanford, Duke, Columbia, Clemson, and Ball State in the United States, to Dalhousie and York in Canada, the Chinese Cultural University in Taiwan, and INSEAD, a graduate business school in France and Singapore. The pledge reads: “I pledge to explore and take into account the social and environmental consequences of any job I consider and will try to improve these aspects of any organization for which I work.” Several hundred thousand students have signed this commitment over the years since it was created in 1987 at California’s Humboldt State University. The Bentley University Alliance for Ethics and Social Responsibility near Boston, now its chief advocate, is the center for the Graduation Pledge Alliance.⁷⁷ Besides tracking progress on the pledge, the alliance website helps students fulfill their pledge by providing an extensive list of links that can match students with socially responsible jobs, internships, and volunteer programs.

Another important organization focused on the sustainability aspects of students’ careers is Net Impact, which has over 50,000 student and professional leaders from over 300 volunteer-led chapters across the globe working to drive social and environmental change on campus and through their jobs.⁷⁸

6. Community Outreach Activities

As we saw earlier, engaging with the outside community on sustainability initiatives can provide useful service-learning opportunities to augment classroom study. Community-based research can provide a rich learning experience, too. But what about traditional voluntary community service not linked to either classes or research? That can be worthwhile, too, since it can strengthen problem-solving, team-building, leadership, and other skills for students, faculty, and staff alike. Moreover, most who are involved find such experiences popular and personally rewarding.

Universities can encourage voluntary community service in several ways. They can create websites that list community service opportunities, organizations, and contacts. They can also name coordinators to help identify community needs and match them with various campus organizations. And they can follow the University of Michigan in establishing an *Alternative Spring Break* program under which students take on community service projects during their time off instead of traveling to some popular watering hole.

Universities are increasingly extending their sustainability outreach activities beyond local borders. One of the most common ways they do that is through conferences and workshops open to outsiders. Indeed, major confer-

ences on sustainability have been hosted or sponsored by colleges and universities from all corners of the world.

Where needs are great, the university has a strong interest, and the workload is too heavy for a volunteer, schools should consider paying their own participants for the extra time they devote to outreach activities. This might be appropriate if, for example, the local community needed one of the university’s internal experts to provide extensive advice on community planning issues.

G. Element 7: Indicators and Transparent Reporting

Public, transparent sustainability reporting has not been a priority for academia. Most schools have seen little reason for it. Unlike corporations, universities are rarely the source of big national financial, social, or environmental scandals. NGOs don’t write exposés about them. Legislators don’t hold hearings on their potentially unethical practices. The Sarbanes-Oxley Act was not written with them in mind. Their most vocal critics have been their own students and faculty, and few of them have placed transparent reporting close to the top of their issues. What is more, those who have tried reporting don’t receive much acclaim for it. With little hoopla over the matter, universities—unlike many corporations—usually feel no pressure to excel in publicizing their sustainability performance.

To compound the problem, the internal reasons for sustainability reporting have not been well appreciated in collegiate circles. Few university executives have seized sustainability as a tool for constructive change. Even fewer have taken the high moral ground, supporting transparent public reporting as a symbolic statement of the importance of open and honest communication by organizations. With internal and external spotlights off, progress on sustainability has been restrained at most schools. This is unfortunate because the lack of reporting has left institutions of higher learning without a focal point for important stakeholder discussions, and without accountability for sustainability performance. Opportunities for improvement—and even leadership—in operations, education, and research have been lost.

Still, some enlightened colleges and universities are showing the way. Some have started by publicizing the results of their internal audits. A dozen or so have moved on to provide separate reports on their sustainability programs and performance. These reports tend to fall in four categories: (1) short online sustainability reports of limited scope; (2) comprehensive environmental reports; (3) STARS reports; and (4) GRI and other comprehensive economic, social, and environmental reports. Here are some examples of each:

I. Short Online Sustainability Reports of Limited Scope

Short on-line sustainability reports focus on environmental programs and performance or some other part of sus-

77. See *Graduation Pledge Alliance*, at <http://www.graduationpledge.org/> (last visited May 21, 2015).

78. *Net Impact*, at <https://netimpact.org/> (last visited May 21, 2015).

tainability. These reports are a good, inexpensive way to begin public sustainability reporting. Harvard's nine-page online *Sustainability Progress Report* for 2013 provides some graphics on a few key environmental measures and links on public health and the school's sustainable seafood purchasing program. Michigan State's *Sustainability Report 2013*, a 4-page online publication, and Sheffield (U.K.) Hallam University's 19-page report for 2012-2013 are also primarily focused on environmental matters. The International Alliance of Research Universities (IARU) published 2- to 5-page environmental reports for 2013 from five of its university members. Schools issuing such reports are likely to continue them until the administration becomes convinced that a more extensive report on economic, social, and environmental performance is expected of schools like theirs and is worth the resources needed to prepare it. Sheffield Hallam, for one, has already indicated it is moving in this direction. Over time, the increasing numbers of these more extensive reports by peer institutions will no doubt help persuade others.

2. Comprehensive Environmental Reports

Brown University's 55-page *Sixth Annual Sustainability Progress Report* issued in 2013 was also limited to environmental programs and performance, which is to be expected since it was prepared by the school's office of sustainable energy and environmental initiatives, facility management. The report was created as an accountability mechanism for the implementation of the school's (environmental) Sustainability Strategic Plan requested by undergraduate students. Brown's sustainability reporting is likely to evolve into social and economic matters, though, since the school is an AASHE member registered to use the STARS reporting tool.

3. STARS Reports

As of 2014, over 260 colleges and universities had voluntarily published reports on AASHE's website under the association's STARS. Nearly 700 schools had registered to use this assessment and reporting tool. Clearly STARS and the peer pressure from all the schools using it are having a great influence in moving collegiate institutions away from the old misconception that sustainability is simply about environmental responsibility. As schools complete their STARS reports, they witness the broader economic, social, and environmental reach of sustainability. Besides the traditional environmental measures, the report covers such social issues as diversity, health and safety, wellness, and employee satisfaction. Economic topics are addressed, too, including investment, school affordability, and employee compensation; although a critical element of economic responsibility—the financial viability of the institution itself—seems to have been overlooked. Infrastructure matters, such as sustainability planning, governance and purchasing programs, are also part of the tool. A section on

public engagement encompasses stakeholder engagement, community service, community partnerships and participation in public policy, among other things. Points are awarded based on the extent of the various sustainability programs in place, and total scores determine whether the reporting institution warrants bronze, silver, gold, or platinum recognition.

4. GRI and Other Comprehensive Economic, Social, and Environmental Reports

The GRI's *Sustainability Reporting Guidelines* have been the gold standard for public sustainability reporting since the first edition (G1) was published in 2000. GRI's report database contains links to over 17,500 sustainability reports that have been prepared using one of the five editions of GRI's guidelines issued since then, and more than 2,500 additional similar reports for which no declaration of GRI adherence was made. While the vast majority of these 20,000 reports were issued by companies, reports from a number of collegiate institutions have begun to appear. Roughly 20 to 30 schools reported according to GRI guidance in each of the years 2011-2013 and another 5 to 15 published comparable non-GRI versions.⁷⁹

UNC at Chapel Hill, long regarded as a pioneer in collegiate sustainability programs and reporting, has issued noteworthy annual sustainability reports for many years. While the reports claim no linkage with GRI, their content has clearly been influenced by it. The content also reflects the fact that the chancellor of the school declared in 2013 that "systematically integrating sustainability into our processes, administration, teaching, research, and engagement is a high priority of mine and the stated intent of the [UNC at Chapel Hill] Board of Governors."⁸⁰ Accordingly, the university's engaging 45-page 2013 sustainability report covered goals, progress, strategies and program descriptions for the following major topics: water management; climate; food, wellness and health; education and curriculum; affordability and diversity; innovation and entrepreneurship; research; and, engagement.

Another pioneer, the University of Florida, was the first university to publish a sustainability report (2001) prepared according to GRI's reporting guidelines (G1 edition).⁸¹ Their 50-page document was drafted by the director of the university's sustainability office and a doctoral candidate for the purpose of covering the university's *Greening UF Program*—a grass-roots initiative of students, faculty, and staff. Data collection was aided by support from the assistant vice president of administrative affairs.

79. See *Global Reporting Initiative*, at <https://www.globalreporting.org/> (last visited May 21, 2015).

80. UNC AT CHAPEL HILL, 2013 CAMPUS SUSTAINABILITY REPORT 2 (2013), available at <http://www.sustainability.unc.edu/Portals/Sustainability2009/CampusSustainabilityReport2013final.pdf>.

81. David Newport & Thomas Chesnee, *University of Florida Sustainability Indicators August 2001* (The Greening UF Program, M.E. Rinker Sr. School of Building Construction and Planning, University of Florida, 2001). See also UNIVERSITY OF FLORIDA SUSTAINABILITY TASK FORCE REPORT 2002, *supra* note 25.

Feedback on the draft was sought from 80 stakeholders on and off campus. Some noteworthy areas of the text covered diversity information, training budget, crime statistics, and sustainability-related research. In response to the report, the university president requested a follow-up publication with updated performance data, recommendations, and best practice information. That report was delivered the following year.

Nearly 70 collegiate sustainability reports have been prepared according to GRI's G3 standard (2006), and another 20 under the next edition, G3.1 (2011). Among these 20 are the University of Texas at Arlington's 57-page *2012 Sustainability Report and Environmental Action Plan* and the 25-page *Sustainability Report 2012-2013* published by the University of Calgary in Canada, which relies heavily on graphical depictions of performance. La Trobe University (Australia) also issued a G3.1 document (52 pages) for 2013, with planned targets and actions, responsibilities and resulting progress reported along with program descriptions and case studies. That report included a content index linked to the individual GRI indicators and was particularly noteworthy because 15 key metrics were externally assured under the AccountAbility AA1000 and ASAE3000 standards by the accounting firm Ernst & Young.⁸²

As of 2014, four universities reported under GRI's G4 guidelines of 2013: Deakin University (Australia) (34 pages); Ball State University (61 pages); University of California, Berkeley (64 pages); and Ateneo De Manila University (Philippines) (59 pages). These reports not only contain information on environmental, social and economic indicators similar to that found in G3.1 reports but present more insight on the approaches and processes for managing various sustainability issues and for working with stakeholders to select report content. The Ball State report excels in this regard, and in providing a content index linked to both the GRI standard and the STARS provisions. The Deakin report is among the more transparent, with candid disclosures of financial information, safety statistics, and information on campus security, diversity, and staff and student grievance procedures.

Looking at the few successful collegiate reporting programs suggests that a good sustainability report for a college or university can be expected to be between 30 and 60 pages and contain a good blend of economic, social and environmental metrics and program information. A longer comprehensive baseline report or audit may also be feasible for starters. Those constrained by budget and other resources may produce a more modest online report. Better to have a short, low-tech report than none at all. If all else fails, newsletters and other school publications should be tapped for communicating plans, goals, and progress.

While some university reports have offered glimpses of program weaknesses, few could be characterized as models of transparency. As with many of their corporate brethren, academic institutions often find it too unpleasant to con-

front and publicly discuss their difficult economic, social, and environmental issues. Few people talk candidly about their institution's funding crises, the impact of faculty tenure and compensation on the affordability of education, and the school's need to attract and enroll a more diverse student body. Unruly student celebrations, binge drinking, date rape, and unsavory athlete behavior are considered immaterial or out-of-bounds, although many stakeholders may think otherwise. Honest and open discussion of tough issues flagged through stakeholder engagement takes courage, to be sure, but it may be the most constructive action a school can take toward meaningful improvement and toward strengthening credibility with important stakeholders.

If universities are to report publicly, what parameters should they include? The reports discussed above provide good examples. Other ideas may be gleaned from the GRI guidelines and AAHSE's STARS standards. Because university operations for buildings and grounds are comparable to office, research, or agricultural complexes in the private sector, many of the social and environmental indicators recommended for companies are appropriate for universities, as well. Given the many options, schools must prioritize among their sustainability opportunities and risks to find those worthy of measurement and attention. The Deakin report mentioned above and the GRI reporting standards provide useful guidance on working with stakeholders to determine what issues are most important (material) to them and therefore warrant disclosure. Once the areas of focus are identified, performance indicators and goals can be selected. The best indicators are those that help the most in driving desired performance. For that reason, normalized metrics are worth considering, such as energy usage per square foot of building space, or grievance filings or water consumption based on the total campus population of students, faculty, and staff.

VI. Integrated Programs

Creating the "sustainable university" is not just about infusing sustainability into the curriculum, research, and operations. Nor is it only about auditing, planning, endorsing codes, or having a noteworthy program of community outreach. It is about doing all those things in an integrated way. It is about making sustainability part of the school culture—its lifeblood—rather than just stitching an extra appendage on the institution for appearance sake. Some schools—those mentioned most frequently in this Article—are moving closer to that goal. The real test of a sustainable university, however, is what the institution instills in the minds of its students, faculty, staff, and community members about sustainability—particularly what sustainability entails, how it affects them and they affect it, and why these effects will likely become more pronounced in the future. It is about serving as an incubator for hatching new behaviors that will help us grasp and better address the big sustainability challenges we face today—and the even

82. LA TROBE REPORT 2013, *supra* note 34.

bigger ones of tomorrow. A fundamental role of our collegiate institutions must be to do their part to help secure our economic, social and environmental well-being and that of future generations. The road map is clear.

Follow-Up Checklist for Action: Approach to Sustainability for Colleges and Universities

- » Identify those among the faculty, administration, operations, and student body who favor moving the school toward sustainability. Use this group to mobilize action on the steps below.
- » Contact support organizations and seek their guidance and tools for introducing, designing, and implementing a school-wide sustainability program.
- » Share with school administrative, faculty, and student leaders the potential benefits of pursuing sustainability through an SOS.
- » If appropriate, draft and seek approval of a student body resolution and/or one from the faculty council, calling for the school to establish an integrated sustainability program.
- » After securing support from top management and others, identify a leader/manager for the sustainability program—preferably a full-time paid employee—as well as a sponsor from the top administrative ranks.
- » Form a sustainability team or teams to help coordinate sustainability planning, reporting, and other activities. Assure the team has appropriate support from upper management and that its representatives cover all the school's main activities, including administration, operations (buildings and grounds), research, education, student programs, and community outreach. Also consider forming separate sub-teams for each of these areas of activity, or adopting one of the other structural examples described in this chapter.
- » Identify the key sustainability aspects of the school's activities, considering feedback from key stakeholders.
- » Adopt a sustainability policy related to the key aspects of the institution's administration, operations, research, education, student programs, and community outreach, drawing from the model policies and codes in *The Sustainability Handbook* and examples obtained from the AASHE and IISD websites, the other support organizations, and some of the schools mentioned in this Article. Consider endorsing an external code in addition to having the school draft and adopt its own sustainability policy.
- » Conduct a sustainability assessment of the school's operations, research, education, student programs, and community outreach activities. Base the audit criteria on the adopted sustainability policy, the best practices identified in this Article, and legal requirements, if possible.
- » Plan and implement an SOS appropriate for the school's sustainability aspects, its size and risks. Consider any audit results and stakeholder feedback that may have been obtained. Emphasize multi-disciplinary and multi-sector initiatives. Incorporate various goals, metrics, projects and accountabilities in the plan. Eventually, integrate sustainability planning into the institution's regular planning process.
- » Secure any needed funding to assure the continuation of the sustainability program.
- » Assure that sustainability considerations are integrated in the selection, development, and incentive programs for teaching, research, and operations/administrative personnel, and in student admissions policies.
- » At least annually, measure performance against the school's sustainability policy, plans, and goals. Prepare and communicate a sustainability report for the school after considering this performance, the stakeholder feedback, the sustainability reports of other universities and colleges, and the guidance provided throughout *The Sustainability Handbook*. Review the findings with upper management and the board and other groups as appropriate.
- » Periodically solicit input from various stakeholders on the organization's sustainability performance and communications. Focus on operations/administrative, education, and research employees, students, alumni, funders and community leaders. Determine what action should be taken on the feedback; at the very least, consider it during the next planning cycle.