Institutional Incentives

The programs and policies offered in the preceding chapters if implemented comprehensively across campus would deliver the cost savings and social benefits consistent with sustainability's promise. Yet given sustainability's infancy as a unifying doctrine, few organizations are structured appropriately for seamless implementation of these evolving policies and programs. CU-Boulder is no exception.

Other universities have followed various approaches to implementing sustainability. At Arizona State University, for example, a Special Advisor to the President works to both integrate internal systems that enhance campus sustainability and to increase external partnerships that advance the university's position as a sustainability leader.

Harvard University's Green Campus Initiative works throughout the organization to increase the sustainability performance of campus infrastructure by systems and behavioral enhancements. Harvard has also eliminated disincentives that discouraged conservation by returning savings—or adding cost increases—to unit budgets responsible for their accrual. Harvard enabled cost savings through a revolving loan fund for sustainability projects that has saved the University $889,000 per year with an average project ROI of 27.9% in two years.

The business world has also increasingly integrated sustainability principles and practices into core business values. Proctor & Gamble, 3M Corporation, and Intel are among hundreds of recognized sustainability leaders so rated by the Dow Jones Sustainability Index. Launched in 1999, Dow Jones foresaw the profitable trend toward corporate sustainability—and its sustainability index and outpaced Dow Jones global indexes in the years since inception.

Like universities, businesses are transitioning their internal organizational structures in a variety of ways to meet the sustainability challenge. Among these models, each invariably seeks a common outcome: an organizational culture that embraces and visualizes sustainability and thus improves the bottom line and profitability. In that capacity, CU-Boulder is ahead of similar organizations given the commitment to sustainability values and realized costs savings is well evidenced by decades of student, faculty and staff achievement.

Given that a significant culture of sustainability already exists at CU-Boulder, the *Blueprint's* vision for shifting organizational systems to fully embrace sustainability aims at structural, policy-setting and mechanistic changes that "*identify and promote incentives to overcome institutional and structural barriers to the implementation of economically and environmentally beneficial decision-making and action.*"

Economic Signals That Support Sustainability

One of the questions facing CU-Boulder as it attempts to transition toward greater sustainability is whether the way we make financial decisions actually supports sustainable decision making, by individuals, departments, and the campus. There are several aspects to this issue:

1)   Does the "internal marketplace" of the campus send the right signal to individual or departmental decision makers?

In many cases, users do not pay the full costs of activities with substantial impacts; instead these costs are "socialized," paid for by the campus general fund, or spread across all users. This subsidy encourages greater consumption. While this is a problem throughout society, it is also reflected in the campus market. However, there has been some significant progress since the original 2000 Blueprint.

For example, the original Blueprint found that "Printing is "free" in public computer labs (or rather, the costs are spread across all users in the form of a flat computing fee). Consequently, there is no incentive for individual users to conserve paper. For some perspective, compare this to copying--this is analogous to having free copiers all over campus. It would be quite feasible to charge a user's account for each page that is printed from public computer labs. This user fee could be entirely revenue neutral."

Since that time, the campus began the Campus Printing Initiative, converting public computer labs to a new "pay as you go" system. Under the new system, individual users must pay additional pages printed above their free allotment given each semester. Under the old system, paper use in these labs was increasing nearly 20% annually, but in the first year after the conversion paper use fell by 50%.

The original Blueprint found that "parking is under priced," pointing out that this leads to a larger number of people choosing to drive to campus thus creating associated traffic, land use, air emissions, safety, and related impacts. Since then, the campus has seen a gradual increase in the cost of parking permits, and the cost of the faculty/staff EcoPass program has been gradually built into parking permit rates. However, parking permits (on the order of $35/month) are still well below the marginal cost of adding a new parking space on campus (on the order of $200/month). According to the draft transportation micro-master plan of Parking and Transportation Services, adding parking to campus would require a structure costing approximately $20,000 per space. Another step supporting full cost pricing is to segregate parking fine revenues and require that the revenue from parking permits and meters fully cover the cost of the system. This is the approach taken by the University of California and California State College systems, per the California state law. These schools boast high mode-shares of alternatives such as bicycling and busing, which are largely made possible by said fine revenues.

Another approach is larger financial incentives for individuals who reduce their vehicle use. For example, Cornell University reduces the cost of parking permits for carpoolers, and even pays a monthly bonus to staff members if four people share a carpool. Stanford University pays a monthly benefit to employees who choose to not purchase a parking permit – because it is far cheaper to pay employees not to park than it is to expand the parking supply. CU-Boulder is now implementing a pilot carpool incentive program at parking lots being affected by construction. Lots that lost capacity due to construction have reserved carpool spaces near building entrances, which become open to single-occupant users after 10:00 am.

Building energy use is another area where there is a mismatch between what users pay and the actual costs. For many campus departments, energy costs are fully paid by the general fund. While the Facilities Management department has been very active in energy efficiency efforts, no financial incentive exists for departments or individuals to reduce energy costs. Auxiliary departments do pay their own energy costs, which has lead a number of them (such as the Recreation Center and the Housing Department) to take aggressive steps to reduce energy use. Energy conservation is a particularly difficult issue for research buildings, which often have very inefficient, high demand equipment.

2)   How can life cycle costing aid budgeting?

One of the challenges facing the campus is how to make appropriate choices when making significant capital investments in buildings, grounds, and equipment. In many cases, a higher initial investment in energy efficiency, water efficiency, or green design can lead to lower operating costs, such that the total cost to the university over the lifetime of the investment is lower. However, the university often chooses the lower initial investment, rather than the lower life cycle cost. This reflects several factors.

One such factor is the mismatch between the source of funds used to pay for capital and the source of funds for operating costs. Typically, for a new building, a department or school will capitalize costs with a combination of public funds and money raised from private donors. The operating costs, however, will come from general fund dollars allocated to Facilities Management. This means that there is no incentive for the project sponsor to spend money up front to lower operating costs.

There are several ways this lack of accountability could be addressed. One would be to set a policy requiring decisions to be made on the basis of minimum life cycle costs. Another would be to shift the costs of operating the facility to the departments that are using it; this would assure that the sponsoring department is more cost-accountable and so have more interest in lowering ongoing operating costs.

Another approach that has shown great return on investment is the use of a revolving loan fund for sustainability improvements, either for existing or new facilities. This could give access to capital for projects which meet some financial criterion, whether that is some simple payback, positive net present value, or other. Harvard University's revolving loan program has returned a very high savings rate for participating campus units.

3) How to "capture savings" to increase additional cost savings

Another issue is how to "capture" savings to allow some portion to be reinvested in additional sustainability projects. A recent report documented that the CU-Boulder campus is avoiding several million dollars per year in net costs, due to the range of sustainability programs that have been implemented. But what happens to these savings? In the current system, if a department reduces its operating costs, the effect is usually that its budget will be cut due to the reduced need. While there is certain logic to this, it has two unfortunate effects. One is that it reduces the incentive for departments to find ways to reduce costs. The other is that it makes it more difficult to fund sustainability initiatives which may not have a strong financial payoff on their own.

As an example, *the 2002 Business Plan Review of Recycling* demonstrated that the Boulder campus is enjoying about $200,000 per year in net savings due to reduced solid waste disposal costs. *While the majority of these savings have not been made available for investment in additional waste diversion efforts, they do create savings which go into the campus' general pool of funds to support the role and mission of the university, such as faculty salaries.*

A few solutions for increasing savings are:

- Allow the sponsoring department to retain some portion of savings

- Require that some percentage of savings be reinvested in additional sustainability projects (for example, savings from energy efficiency improvements could be directed into additional efficiency improvements)

- Allow programs or projects to be considered in the aggregate, with a requirement that the total meet some financial criterion, rather than requiring that each individual program or project meet the criterion. This would allow investments with quick paybacks to generate savings which could help pay for programs with much longer paybacks. A common approach, for example, would couple high payback energy efficiency investments with longer payback renewable energy projects.

Organizational Structures That Improve Stability

The original *Blueprint* identified the need for higher-level integration of sustainability into campus decision as follows:

"There is no high level, centralized support system for improving CU's environmental performance. Nor is there an entity on campus that exists to review the environmental impact of campus policies, building projects or programs, or to create new environmental policies. While there are many individual entities that fill parts of this role, this does not provide comprehensive review. Many changes get implemented with no consideration of environmental

impacts or discussion of alternatives…The creation of a campus environmental council which could serve to advise the chancellor, with staff support, would be an important step toward implementing the master plan and this blueprint."

Since then, two important committees have been formed – a campus environmental council (CEC), and a campus resource conservation committee (CRCC). The chancellor also signed a campus environmental policy in 2004. The CRCC has a focus on energy and water efficiency, and has been active and in developing and implementing a strategic approach to reduce energy and water demand. The CEC has focused primarily on collecting and organizing information on campus environmental issues and formulating the campus Environmental Management System. We believe that there is further need to effectively use the CEC to integrate sustainability into campus decision making and set strategic policy.

The Campus Environmental Council can be made more effective by:

- Defining CEC role more explicitly as including focus on sustainability

- Establish process for referral and comment from CEC on major decisions, which may have environmental implications

- Assess structure and function of other existing or potential campus environmental committees. Consider relationship and reporting structure to Environmental Council (i.e., purchasing taskforce, Recycling Financial Advisory Board, Integrated Pest Management program, green building taskforce, utility rates commission, Campus Resource Conservation Committee, Hazardous Materials Advisory Board, Boulder Campus Planning Commission)

Another area for further consideration is whether there is a need for a campus sustainability office, officer, formal partnership or program. In some ways, this role is being filled in a decentralized fashion, with positions such as the campus energy officer, environmental center director, and transportation modes coordinator and with various operational departments including EH&S, PTS, Facilities Management, and Environmental Center all fulfilling pieces of this role. But the question remains whether this work could be more effectively accomplished, and integrated into the decision making processes of the university, if there were higher level sustainability coordination at the campus and/or system level.

System-wide decision-making is also an issue. Given the financial and environmental savings associated with many of the programs that have been implemented at UCB, it would make sense to at least evaluate the potential for similar programs at all four campuses. And, some issues such as environmentally preferable purchasing would clearly be better addressed at the system level.

Metrics To Improve Campus Sustainability Programs

   The quantitative assessment of campus performance has significantly advanced recently through the Environmental Management System. Yet while the EMS sets baseline measurements it does not offer desired targets. The EMS has shown its value in campus environmental management; however, a more robust approach to campus sustainability requires a broader based metric.

   To boost CU-Boulder's integration of sustainability into all facets of campus life, a diverse campus coalition should be formed to research and identify pragmatic and measurable goals for environmental, educational, fiscal, and social initiatives. This sustainability reporting initiative approach has become an accepted element of organizational sustainability in business, government, and higher education. It bears fruit in several ways.

   First, the practice of sustainability reporting offers a consensus building opportunity for campus stakeholders to identify metrics and contemplate goals. The consensus building process itself stimulates individuals to buy in to shared outcomes and innovate creative solutions to structural barriers.

   Second, once adopted, sustainability metrics allow for broader fiscal interpretation of return on investment. This provides fiscal managers with increased defensibility of initiatives with perhaps weaker bottom lines but quantifiable "soft" paybacks in other agreed upon sustainability parameters.

   Likewise, for a complex organization such as CU, sustainability metrics can help promote a shared sense of mission across the many disparate campus organizations, groups, and individuals. Providing highly visible and frequent feedback of key sustainability indicators serves to keep interest and participation keen. And sustainability metrics provide longitudinal stability toward long term objectives that survive inevitable shifts in campus leadership.

   Accordingly, campus leadership should empanel and support a sustainability reporting task force from an array of campus interests and charge them with:

- Researching and evolving a sustainability reporting format such as the Global Reporting Initiative or similar framework that is appropriate and applicable to higher education

- Determining specific parameters' relevance for measuring progress towards sustainability goals as envisioned in the *Blueprint* as well as those performance metrics set by the Environmental Management System.
- Gathering data for those parameters found to materially reflect the organization's progress towards the *Blueprint* sustainability goals

- Soliciting comment and guidance from all interested campus stakeholders regarding additional goals, determine their appropriate metrics, and acquire those data

- Publishing a report and setting into place a reporting system for five year updates and reviews.

The axiom "what gets measured, gets managed" informs a sustainability report's value as a campus management tool. In short, we can't deliver sustainability unless we can measure it. This is not to say that measurement alone will make sustainability materialize. However, a sustainability reporting initiative induces a "say it, do it, prove it" approach to institutionalizing sustainability and is therefore a crucial step toward the successful implementation of this *Blueprint.*

Systems Thinking And Change

Achieving a sustainable campus will require concerted effort at every level, from the highest levels of administrative policy making to the day to day actions of individual students, faculty, and staff. This means that individuals and decision makers on campus need to understand the implications of their choices – whether a student deciding to drive to campus, a departmental secretary deciding what type of paper to buy, or a lab proctor deciding what type of equipment to purchase.

The university can facilitate this process by providing appropriate information to the campus community. This requires integrating education on sustainability into processes such as student and employee orientation, employee training programs, specialized training for employees with particular roles (such as those who make departmental purchases), and integrating sustainability education into the general curriculum.

These efforts will help promote the necessary "systems thinking" that is counter to the discrete silos of thought and operation that characterize a typical university academic and research structure. Academia's focus on reductionist understanding of increasingly focused subject areas is anathema to a systems thinking model for a typical campus. Hence, university staff and leadership must evolve and visibly model the overarching strategic and tactical responses necessary to deploy sustainability systems that engage the broader campus community. The university must signal its sincere commitment to sustainability through its actions and statements. Adopting an overarching sustainability policy is a key step, one that must be followed up by its consistent application.

Of critical importance to the success of education and outreach vehicles is that they reach the campus community both on the basis of facts and values. As the environmental community has learned, facts alone will not carry the day. A shared set of common values supportive of sustainability must be identified, understood, and accessed if community buy in is to occur. Here again, that CU-Boulder is leagues ahead of most organizations as a supportive culture is already well settled.

The *Blueprint* aims to identify and develop more integrative pathways between sustainability's three spheres. As discussed in the introduction, this focus is aimed largely at the better integration of social equity into decision making and action. This critical piece of campus and community life has great potential to connect peoples' values together with moving and powerful bonds. The result is a common value language informative of sustainability's principles and practices that must be widely embraced by the campus community.

We believe CU-Boulder is uniquely inventoried with the values, skills, talent, and desires to pioneer sustainability's doctrine to the level of maturity, understanding, and effectiveness so crucial for our civilization. The rewards of this leadership will return substantial internal benefits and external recognition. Clearly, the coming decades will bring dramatic changes to organizations worldwide. CU-Boulder's implementation of *Blueprint 2006's* recommendations now will position the university as a global leader in coming years. We can think of no better legacy for this great university.