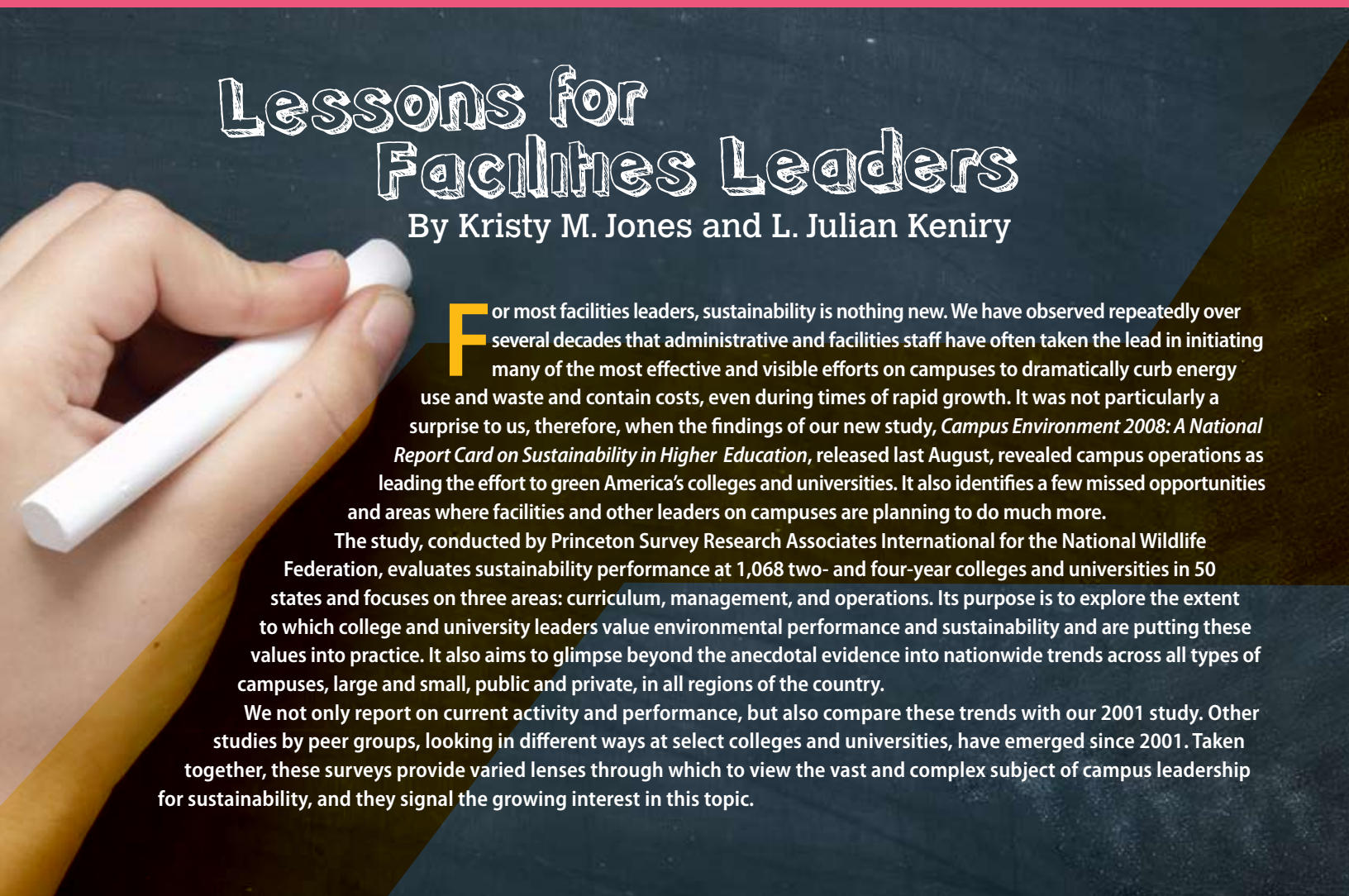
NATIONAL TRENDS IN SUSTAINA PERFORMA



Lessons for Facilities Leaders

By Kristy M. Jones and L. Julian Keniry

For most facilities leaders, sustainability is nothing new. We have observed repeatedly over several decades that administrative and facilities staff have often taken the lead in initiating many of the most effective and visible efforts on campuses to dramatically curb energy use and waste and contain costs, even during times of rapid growth. It was not particularly a surprise to us, therefore, when the findings of our new study, *Campus Environment 2008: A National Report Card on Sustainability in Higher Education*, released last August, revealed campus operations as leading the effort to green America's colleges and universities. It also identifies a few missed opportunities and areas where facilities and other leaders on campuses are planning to do much more.

The study, conducted by Princeton Survey Research Associates International for the National Wildlife Federation, evaluates sustainability performance at 1,068 two- and four-year colleges and universities in 50 states and focuses on three areas: curriculum, management, and operations. Its purpose is to explore the extent to which college and university leaders value environmental performance and sustainability and are putting these values into practice. It also aims to glimpse beyond the anecdotal evidence into nationwide trends across all types of campuses, large and small, public and private, in all regions of the country.

We not only report on current activity and performance, but also compare these trends with our 2001 study. Other studies by peer groups, looking in different ways at select colleges and universities, have emerged since 2001. Taken together, these surveys provide varied lenses through which to view the vast and complex subject of campus leadership for sustainability, and they signal the growing interest in this topic.

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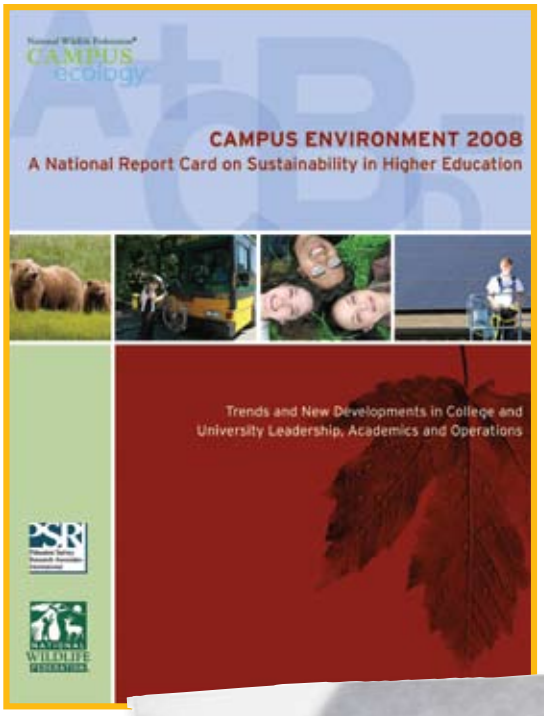
GREENER LEADERSHIP

The findings highlight areas where more emphasis is needed and where considerable progress is underway. In some cases, our findings challenge the claims of recently published articles about campus greening that suggest promising new trends based on a few anecdotal examples. In other cases, our findings corroborate such stories. Overall, in 2008, we found greener leadership of colleges and universities.

A welcome discovery, for example, is that university leaders value environmental, social, and economic sustainability considerably more than in 2001 and are putting structures in place to broaden and sustain engagement campus-wide. Indicators of this commitment include increased goal-setting for improving performance, more staffing for sustainability programs, and a rise in orientation programs for students, faculty, and staff on the "green" aims and practices of their college or university.



Since 2001, schools have stepped up efforts to hire personnel to focus on campus sustainability. More than half (57 percent) of the campuses surveyed, for example, have hired a recycling coordinator or manager, almost half (45 percent) have an energy conservation coordinator or manager, and about half (51 percent) have hired a staff person or administrator who leads sustainability issues. Colleges and universities are also committed to putting senior level management positions in place that are responsible for environmental and sustainability performance (e.g., 36 percent report having a director-level position focused on sustainability, and 23 percent report having a vice president or assistant vice president position).

FACULTY AND STUDENTS LAGGING

Campus management and facilities leaders, the findings suggest, are leaping ahead of their faculty peers when it comes to fostering sustainability on campus—even more so than when this survey was first conducted in 2001. Although facilities staff have often done their part to set a good example in their operations (as well as serving as guest lecturers in the classroom), teaching capstone courses, or serving as project advisors to students, today's student is just as unlikely as in 2001 to graduate with exposure to basic ecological principles. Much less with an understanding of how the human-designed economy can work in harmony with natural systems. This is because most faculty have not formally incorporated sustainability into the classroom.

At only a minority of schools have 50 percent or more of the students taken a course on the basic functions of the earth's natural systems, and even fewer have taken courses on the connection between human activity and environmental sustainability. Areas such as business, engineering, health sciences, and teacher education still lag far behind the natural and physical sciences in offering environmental or sustainability courses within their disciplines. Relatively small percentages of campuses offer interdisciplinary degree opportunities in environmental and sustainability studies. Moreover, considerably fewer campuses today require all students to take courses on environmental or sustainability topics. In 2008, for example, only 4 percent report having a campus-wide requirement to take courses on environmental or sustainability topics, compared with 8 percent in 2001.

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ONE DAY AT A TIME

It is in the day-to-day operations where the effort to green the campus shines most brightly. Facilities leaders, together with students and faculty, have been instrumental in driving programs to conserve energy and water, increase the amount of clean energy used to power the campus and reduce waste. Almost all campuses, for example, are working to improve the efficiency of heating, ventilation, and air conditioning (HVAC) systems, which are responsible for the largest share of direct emissions of carbon dioxide (CO_2) into the atmosphere. In order of popularity, lighting upgrades once again top the list of energy and utilities efficiency programs, with 81 percent of schools reporting having implemented these types of projects on campus. This was followed by water improvements with 76 percent of schools, and HVAC upgrades at 73 percent.

Since 2001, a new movement to reduce emissions of CO_2 and shift to cleaner sources of energy has taken hold in a variety of ways. One-third (35 percent) of campuses report that they regularly set and review goals for reducing emissions of CO_2 and other greenhouse gases, and one-quarter of campuses (12 percent campus-wide and 15 percent in some campus units) have implemented formal plans for reducing greenhouse gas emissions; almost half report that they have plans to do more. These numbers are a bit higher than the number of campuses (613 as of this writing) that have formally adopted the American College & University Presidents Climate Commitment (ACUPCC), suggesting that many of the campuses that are working to reduce greenhouse gas emissions have yet to formally sign this important commitment.

A SHIFT

One of the most important steps campus leaders can take in reducing greenhouse gas emissions and other pollution is to shift to cleaner forms of energy. One-third (32 percent) of colleges and universities use off-campus renewable energy sources to meet some of their electricity, heating, and cooling needs, and more than 36 percent of schools say they have plans to generate more renewable energy on campus. Fossil fuels are the most common energy source used for on-campus generation, but a noteworthy number of schools are utilizing solar, wind, biomass, and other forms of clean energy to meet their energy demands.

In total, 12 percent of schools report using at least some form of clean energy to some extent for on-campus generation. Of the clean energy sources, 12 percent of schools report that at least some of the electricity generated on campus comes from solar electricity (photovoltaic), (5 percent from wind energy and 2 percent from biomass energy) and a total of 5 percent of schools report at least some of the electricity generated on campus comes from other clean sources, such as landfill gas or fuel cells. For on-campus heating and cooling, 14 percent of schools report using at least some energy from on-site ground-source (geothermal) heat pumps, direct-heat geothermal, solar, biomass, landfill gas, aquifer, or lake-source thermal systems.

Overall, campus use of clean energy sources (on- and off-campus) has increased since 2001; 6 percent report that their total electricity demand is met by off-campus renewable energy sources, compared with 1 percent in 2001. More than one-third of schools say they have plans to do more to meet their cam-

pus's electricity, heating, and cooling demand; this represents a nearly four-fold increase since 2001 (10 percent).

HEALTHY HABITATS

As a wildlife conservation organization, National Wildlife Federation is committed to protecting and restoring forests, wetlands, and other types of habitats on campus and beyond, and we are pleased to see this same commitment from colleges and universities. Healthy habitats play a key role in confronting global warming, while providing food, shelter, clean air, and water for people and wildlife. A sizable number of campuses are working actively to ensure healthy habitats and wildlife-friendly landscape management. A majority of schools maintain native landscaping and Integrated Pest Management (IPM) programs on campus – 34 percent of schools report landscaping using native plants or low-maintenance vegetation compared with 21 percent in 2001, while a solid minority of schools have implemented programs to provide food and shelter to attract wildlife, restore natural habitats on campus, and identify and remove exotic species.

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A small minority of colleges and universities have green-roof building programs in place, while a solid majority have also set aside at least part of their campus for natural areas such as a forest, wetland, nonagricultural fields, or prairie. Compared with 2001, there has been more than a four-fold increase in schools reporting plans to do more in landscaping with native species, IPM, and developing programs to provide food.

MORE OPPORTUNITIES

Facilities and other operations staff do have a ways to go, however, in fully seizing the potential to reduce waste and curb costs. One of the missed opportunities to curb waste and costs is to monitor energy consumption on a building-by-building basis through the use of utility sub-meters—only 29 percent report monitoring energy use in more than 50 percent of the buildings on campus.

Investing in generating clean, renewable energy on-site is another largely missed opportunity to curb costs long-term. Fewer than one-fifth of schools report using either on-campus clean sources for heating and cooling (14 percent of schools) or on-campus cogenerated heat and electricity (9 percent of schools), and the percentage generating clean electricity on-site (as noted above) is even lower.

Campus leaders generally think of recycling and composting as one of the first and most basic sustainability projects to launch, and as one of the areas in which campuses most excel, but the reality is a little different. While campuses continue to support and implement a variety of waste reduction and recycling programs, our study found that roughly 70 percent of waste generated ends up in landfills or incinerators. Schools show a high percentage of recycling paper, aluminum, plastic, and electronics (50 to 70 percent of the schools surveyed), but there is room for improvement in diverting waste such as

construction materials and food scraps from the landfill. Pacific University in Oregon, a campus we profiled in the report because of its leadership in this area, recycles more than 80 percent of total municipal solid waste, including organic wastes (pre-consumer food scraps from dining services and grass clippings are composted at the campus B-Street Farm).

As was the case in 2001, transportation remains one of the largely overlooked opportunity areas that often falls within the jurisdiction of administration and facilities. Little progress has been made to date in reducing the congestion, pollution, and other environmental impacts associated with staff and student commuting. The majority of faculty and staff and a large minority of students still drive alone to campus, with only 10 percent reporting in both 2001 and 2008 that they offer incentives to share rides.

MODEL CAMPUSES

For each case in which national collective campus performance levels are low, there are campuses with outstanding examples of practices in place that can serve as a model for others. Based on campus leaders' self reporting, we include a chart in the report listing exemplary projects in place at hundreds of responding schools. We also include 14 short profiles on schools with particularly strong programs in place in areas such as greener transportation, generating renewable energy on site, and integrating sustainability into the curriculum.

Taken together, the findings of the current survey are quite encouraging. While some areas are in need of significant improvement, there is a sense of real progress across the board. Endowed with excellent research facilities, libraries, inspirational educators leading a broad array of disciplines, energized students and experienced staff, colleges and universities enjoy a unique mix of resources that, when harnessed with vision and persistence, can help lead society toward a more sustainable future. *Campus Environment 2008* makes it clear that facilities staff leadership has been and will continue to be crucial in harnessing this potential.

To view the full report, go to *www.nwf.org/campusreportcard*.

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