GREENING THE ORANGE

For SU the future is now when it comes to embracing sustainable practices

By Carol L. Boll
Nearly four decades later, with a kick-start from the global-warming documentary *An Inconvenient Truth* and increasingly ominous data from the world’s scientific community, the environment has stormed back into the national spotlight. And Syracuse—along with other colleges and universities across the country—is again embracing the cause. From Columbia University to Cal Tech, “sustainability” and “green” have morphed from buzzwords into a way of life. “Green report cards” measure schools’ efforts to model and promote sustainable ways of doing business. Even the *Princeton Review*, a favorite guide among college applicants, launched a “Green Rating” system last year to show the degree to which an institution embraces eco-friendly policies.

At SU, sustainability—loosely defined as living in a way that meets the needs of today’s generation without compromising those of future generations—has made its way into all areas of campus life. And the University’s efforts have drawn national notice: The Sustainable Endowments Institute in 2007 named SU a Campus Sustainability Leader, giving it high marks for, among other things, its overall administrative support for sustainability measures and use of renewable energy credits. In 2007 and 2008, the U.S. Environmental Protection Agency honored SU for purchasing more green power (20 percent) than any other school in the Big East conference. And *Kiwi*, an eco-friendly magazine for parents and children, listed SU in its “2008 Green College Report: Fifty schools that will help your kids help the planet.”

Unlike that first Earth Day, support for green initiatives on campuses today extends beyond student activists; it’s coming from the highest echelons of campus administrations. After all, in an era of wildly fluctuating fuel costs, dwindling resources, and movement toward a new “green economy,” those tasked with preparing students for life in the decades ahead recognize that sustainability is more than just good business. It’s also the right thing to do.

“As educators—‘intellectual explorers’ and stewards of the next generation of leaders—universities have a moral and professional obligation to develop and model solutions to the challenges posed by global warming,” says Syracuse University Chancellor Nancy Cantor. “In a real sense, a university is a microcosm of larger society, and we have an extraordinary opportunity to model how society can work collaboratively as citizens from many backgrounds, professions, and political stripes. Sustainability is a perfect example of the kind of complex challenge we can work on together as a community of experts, sharing what we know about how our everyday practices leave an imprint not only on our community, but on the country and the planet.”

Cantor believes Syracuse is well equipped to address sustainability issues and contribute to ongoing solutions. “One of our
greatest strengths," she says, "has been our history of accomplishment in finding technological solutions to environmental challenges and our tradition of leadership in environmental policy, with collaborations and ventures that extend across the University and beyond. Every school and college is making its mark."

**A National Challenge**

While some sustainability measures—recycling, for instance—are nothing new to SU, the University stepped up as a national leader on the issue in 2007, when it was among the first institutions to sign the American College and University Presidents Climate Commitment (PCC). The PCC is an initiative created by higher education leaders who have committed to reducing their institution’s greenhouse gas emissions—a primary cause of global warming. Their ultimate goal is to achieve carbon neutrality, a state at which the emissions are, in effect, eliminated entirely. To date, more than 600 leaders in higher education have signed the PCC. “This turn to sustainability is definitely a rapidly growing phenomenon among institutions of higher learning,” says Judy Walton G’97, director of the Association for the Advancement of Sustainability in Higher Education, a PCC coordinating organization (see “Voices for Sustainability,” page 29). She cites a number of reasons for that, including concern over energy prices and energy scarcity, and growing awareness of global warming in general. “Students are very much aware of these issues, in terms of both the environment and social justice,” Walton says. “They’re concerned about protecting the environment for existing generations and leaving it a better planet for those yet to come.”

Why should institutions of higher education help lead the charge? “Because they are such role models in their community,” Walton says. “They’re excellent incubators—places of innovation and experimentation, and terrific labs for ideas on the green economy and social justice. Finally, it’s really part of their mission—to lead society and to advance ideas toward bettering civilization.”

Cantor agrees. “None of us is alone in facing questions of environmental justice,” she says, “but we at universities bear a special responsibility in helping find answers. At SU we can do that not only through groundbreaking research on issues like indoor air quality, water resources, and renewable energy, but also by equipping our students with the skills they will need to live responsibly.”

**Sustainability at Work**

At SU, two groups bear primary responsibility for overseeing sustainability initiatives. The Campus Sustainability Committee, headed by Lou Marcoccia ’68, G’69, executive vice president and chief financial officer for the University, directs initiatives related to day-to-day business and operations—for example, adjusting thermostats; purchasing fuel-efficient vehicles; and adopting policies promoting alternative transportation. The PCC Steering Committee, chaired by Maxwell School Dean Mitchel Wallerstein G’72, monitors all University initiatives, both operational and curricular, to ensure that SU is on track to satisfy the PCC.

As SU’s chief sustainability officer, Steve Lloyd leads the effort from the trenches, implementing measures related to business and operations, and raising awareness—on campus and off—of related activities, policies, and initiatives. “I knew we could carry the PCC commitment out and do a good job of it because this is the kind of stuff we believe in, and we want to be leaders in it,” says Lloyd, who credits Haudenosaunee faithkeeper Oren Lyons ‘58, a family friend, with awakening his interest in sustainability issues. Among the most significant measures so far: completing a campus greenhouse gas inventory; establishing a computerized campus energy management system that controls heating, cooling, and ventilation systems; purchasing low-impact hydropower for 20 percent of the University’s electrical energy needs; and adopting a policy requiring that new construction of more than $10 million be certified under the U.S. Green Building Council’s Leadership in Energy and Environmental Design (LEED) rating system. Lloyd also speaks to students and conducts departmental energy audits on request. “Nothing is too small,” he says. “We

The University established a partnership with Zipcar to offer an on-demand car-sharing program, providing an alternative to keeping a car on campus. Through a series of sustainable transportation initiatives, the University encourages employees to ride bikes, carpool, or take the bus to campus.
BEFORE SETTING FOOT ON CAMPUS LAST fall, Luke Lanciano '12 decided to go green by joining the Sustainability Learning Community (SLC)—a group of entering students who reside in Skyhall 1 with a shared commitment to pursuing a sustainable lifestyle. At the start of the school year, Lanciano and his SLC colleagues pledged to such eco-friendly practices as turning off the water when brushing their teeth, clicking off lights when leaving their rooms, and recycling materials. “It caught me off-guard,” Lanciano says. “I never thought about how I could be doing these things all the time to be helping the environment in a really easy way.”

Students are learning small actions equal big results. In November, for instance, residence halls vied against one another in the second annual Saving Juice in the ‘Cuse competition to recycle the most tonnage and save the most electricity. Carissa Matthews ’09, the event’s student chair, hopes the race sparked green habits across campus. “Even though it might feel like you’re not making a difference by throwing one bottle in the recycling bin, if we all band together, we will make a difference,” she says.

The competition was part of the “Be Orange Think Green” campaign sponsored by the Office of Residence Life’s civic engagement and sustainability committee, which promotes environmentally conscious living on campus through education, says committee chair George Athanas, an assistant director in the Office of Residence Life. The committee helped get more bike rooms in residence halls, promoted Food Services’ program to replace Styrofoam dining hall take-out containers with reusable ones, and posted eco-friendly tips all over campus.

Students also practice sustainable habits through such initiatives as Ten Tons of Love, a donation drive organized by the Division of Student Affairs for the past 14 years to collect used clothing, non-perishable food, and other usable unwanted items for distribution in Syracuse. “It’s really reducing the amount of waste,” says event chair Darya Rotblat, assistant director of the Office of Off-Campus Student Services.

From more discussions in residence halls to more bikes on the Quad, sustainability efforts at SU raise awareness of environmentally friendly habits. Matthews notices more conversations about sustainability and more individuals making small changes. “As college students,” she says, “we’re supposed to be leading change and thinking toward the future, so that should start with a simple action.”

—Sarah DiGiulio
SCHOOL OF ARCHITECTURE ALUMNI are joining faculty and students in bringing the green building revolution to Syracuse's Near West Side (NWS). Among those taking a hand in making the old neighborhood new is Rick Cook ’83 of Cook+Fox Architects, whose innovations in environmentally conscious design have led some critics to characterize his 54-story Bank of America Tower as “the first sustainable skyscraper.” (See “Voices for Sustainability, page 29.) Cook’s proposal for a single-family home on a vacant parcel was among those chosen for construction in “From the Ground Up,” a green design competition staged by UPSTATE: A Center for Design, Research, and Real Estate. While Cook’s Syracuse project may seem “low-profile” in the shadow of a Manhattan skyscraper, the architect’s commitment to the principles of sustainability promises to be no less intense or creative. “It is not so much the different scales of the two projects, but what they have in common that is important,” Cook says. “Whether the project is a high rise in New York City or a one-story home on the Near West Side of Syracuse, the goal is the same—to make a difference.”

“From the Ground Up” began in 2008 with a project aimed at rehabilitating three moribund residences in a two-block area of the NWS. Before soliciting proposals, architectural surveys of the properties had to be made, so ideas for green innovation could be matched to structural realities. Needing expertise in single-family home renovation, Architecture Dean Mark Robbins G’83 called upon Lea Ciavarra G’95 and her business partner Anne Marie Lubrano of Brooklyn-based Lubrano Ciavarra Design LLC to teach a professional practice studio in conjunction with the three renovation projects, so students could become involved. “The course was a hybrid—a class for students to learn skills and work on real projects,” Ciavarra says. “It was as if our firm suddenly had a satellite office in Syracuse.”

Asked about the condition of the houses when she arrived, Ciavarra laughs. “Well they have ‘good bones,’ as we say, and there are some I would love to live in,” she says. “But many have been vacant for years and they were in pretty rough shape. I was very encouraged when I saw how fully the students embraced the challenge to create eco-conscious design, and I was impressed by the quality of the ideas they submitted.” For example, one student suggested installing a new solar heating system that makes use of molten salt, a substance capable of storing heat for up to two weeks at a time. Another proposed “Gree nsulate,” a material manufactured from mold and resin that can be used to make roofing and siding. Its effectiveness as an insulator is comparable to petrochemical-based materials.

Megan Yasigian ’09, who took the Lubrano-Ciavarra studio and then served a summer internship with the firm, recalls her first look at one of the rehab candidates. “It was a little scary—crumbling foundations, deteriorating walls, and lots of mold,” she says. “But I saw the project through to the preparation of construction documents, and it helped prepare me professionally.” A fifth-year architecture student, Yasigian says her experience on the NWS reaffirms her belief that familiarity and facility with green technologies are part of the future of her profession. “Green is not just a trend,” she says. “It has become a key to design. It forces you to look at how you can make a building fully cohesive. It’s been years in the making, but it’s standard now.”

— David Marc
Steve Lloyd serves as the University’s chief sustainability officer, raising awareness about eco-friendly practices and implementing business and operations measures designed to conserve energy.

firmly believe that. We’re trying to change a culture here. But we’re patient. That’s another thing you learn from the Haudenosaunee—to be patient.”

Lloyd estimates that lowering thermostats by two degrees during cold months has already saved 4 percent on utility costs. Other measures in the works—campus-wide lighting controls, for instance—promise additional savings. But Marcoccia says cost savings are not the driving force behind SU’s efforts. “We’re doing these things because it’s the right thing to do,” he says. “Where it’s cost-effective, that’s great. But green doesn’t always mean cheaper. What we have to do is look at each item carefully and determine what we can afford to take on.”

Under the PCC, SU must file, by September, a climate action plan for achieving carbon neutrality. The PCC does not, however, impose any deadline by which carbon neutrality must be reached. PCC Steering Committee chair Wallerstein acknowledges the difficulty of that task. “This is a very long-range goal,” he says. “There’s no reasonable expectation that SU can achieve carbon neutrality in the near term. But there are many things we can do in the near term to make the campus more energy efficient: better insulation in our buildings, designing new buildings to be LEED-certified, providing more efficient modes of common transportation for faculty and staff.” The climate action plan, he says, “will be designed to evolve over time as new technologies become available and new ideas emerge.”

Curriculum, Research, and Outreach
While modeling sustainability on a day-to-day basis is critical, PCC member institutions also commit to supporting educational, awareness, and research initiatives related to sustainability and climate change. At SU, many of those processes are well under way. A University-wide inventory compiled last year by Dean Wallerstein lists more than 140 courses touching on sustainability and 12 campus institutes and centers with programs related to climate change and sustainability. The University also is the home and engine for more information about sustainability measures at SU, visit Greenuniversity.syr.edu.
For more information about the Presidents Climate Commitment, visit Presidentsclimatecommitment.org.
GETTING DOWN TO BUSINESS

WHEN IT COMES TO EDUCATION ON sustainability issues, Syracuse University faces no shortage of resources. Among them is the Sustainable Enterprise Partnership (SEP), a collaboration among the Whitman School of Management, SUNY ESF, and the Syracuse Center of Excellence in Environmental and Energy Systems. The SEP combines coursework, seminars, and research to address business issues in a way that considers both environmental responsibility and the economic bottom line. “Businesses are embracing, either reluctantly or enthusiastically, the sustainability imperative,” says Elet Callahan L’84, Whitman professor and faculty director of the SEP. “Our goal is to prepare students for the business opportunities it presents and ensure that they have a systems-based understanding of sustainability.”

Founded in 2007, SEP offers graduate and undergraduate courses and has proposed a program leading to a certificate of advanced study in sustainable enterprise. Under that program, SU and ESF graduate students would combine environmental and business studies with a final project that involves performing consulting work for a local organization. Other SEP initiatives include a mini-grant program for research on sustainable enterprise and outreach seminars that focus on the purpose and profitability of sustainability for businesses and other organizations of all sizes.

Callahan says SEP’s integrative approach and the involvement of the Center of Excellence set it apart from similar programs offered at other business schools. “This isn’t a partnership in name only,” she says. “Each partner brings significant expertise and resources. We feel we have a meaningful—and meaningfully different—program.”

—Carol L. Boll

of the Syracuse Center of Excellence in Environmental and Energy Systems (SyracuseCoE), a federation of more than 200 firms and institutions whose research and development work focuses on indoor air quality, clean and renewable energy, and water resources (see “An Ecosystem for Green Innovations,” page 25). SU’s schools and colleges host lectures, seminars, and speaker series; and the University Sustainability Action Coalition—a grassroots organization comprising SU and ESF students, faculty, and staff—proposes policies and programs and sponsors informational events.

Outside the classroom, research and outreach projects address various facets of sustainability. To name just a few: The School of Architecture, in collaboration with SyracuseCoE and Home HeadQuarters, held a home design competition focusing on the most advanced green-building techniques (see “From the Ground Up,” page 22). Charles Driscoll Jr., University Professor of Environmental Systems Engineering, conducts world-class research into the effects of acid rain and is currently studying mercury pollution in Lake Ontario. African American studies professors Linda Carty and Kishi Animashaun explored the gender implications of environmental degradation by asking mothers and other caretakers on Syracuse’s South Side to define the term “environment” and use photography to document their visions for environmental improvements. And the SU-Syracuse City School District programs “Say Yes to Education” and “Partnership for Better Education” not only help young people achieve their potential, but also work to control suburban sprawl by enticing families to stay in, or return to, the city. “We have a lot of assets here,” Vice Chancellor and Provost Eric Spina says. “I think about our relationship with ESF and the cross-fertilization that’s occurred there. I think about our close proximity to the Haudenosaunee Nation and their strong relationship with the environment. It’s not surprising that there’s a lot of activity here.”

Coordinating the Curriculum

What’s been missing, Spina says, is a coordinated effort to ensure that all undergraduates have some educational grounding on the issue of sustainability. Last fall, Spina appointed a task force of faculty, administrators, and students representing each of SU’s schools and colleges to consider a University-wide approach to integrating sustainability into the curriculum. “The faculty, deans, and many other leaders at the University feel that we, as an institution of higher learning, must ensure that our students—whether they’re going to run a manufacturing plant, whether they’re going to write policy, whether they’re going to communicate through the media—know something about sustainability,” Spina says. “Exactly how that translates remains to be seen.” The recommendation could call for one or more required courses or leave schools and colleges free to set their own course requirements. Spina hopes to have a final proposal, broadly vetted across the University, ready to go before the University Senate Curriculum Committee by fall.

With sustainability efforts advancing on all fronts, both Wallerstein and Marcocia are confident the University will file a climate action plan by the fall deadline. Constellation Energy and the Syracuse-based environmental engineering firm O’Brien and Gere are assisting in that effort. Achieving carbon neutrality may be a daunting task, but like those students whose calls for clean air and water launched an environmental movement 40 years ago, Wallerstein believes we have no choice but to try. “There are many scientists now who are saying, with increasing urgency, that we’re close to the tipping point, and that if we don’t address certain aspects of this problem very soon—within the next five to 10 years—some of the effects of global warming will be irreversible,” he says. “This is no longer in the realm of debate, and it’s not in the realm of science fiction. This has to be addressed. It’s our students’ legacy, the world they will know their entire adult years. And it’s going to be an increasingly difficult world for them to live in unless we bite the bullet and take the steps we need to stop this from happening.”
A SUSTAINABLE FUTURE FOR HUMANS on Earth requires green innovations to address a broad variety of critical challenges. Global climate change, declining availability of oil, and contamination and depletion of water sources all drive needs for revolutionary new energy and environmental systems. Rising incidences of asthma, allergies, and other human health issues call for systems that improve indoor environmental quality.

This need for green innovations is compelling and urgent—and the race is on to develop them. While the competition is intense and requires marathon endurance, meeting the demand for new products and services offers historic opportunities for individual companies—as well as geographical regions. Currently, the Central New York (CNY) region is among the frontrunners in this race.

Ten years ago, the idea of sparking a Green Revolution in our area was just a dream. Today, it is becoming reality. Through strategic investments in recent years, our region’s firms and institutions are positioned to address 21st-century challenges for improved indoor environmental quality and reduced energy consumption, building on air-conditioning technologies born and raised in CNY and now used throughout the world. In water resources, local firms and institutions have world-class capabilities in key technologies needed for systems that will monitor and protect critical infrastructure for water supply and distribution, wastewater treatment, and storm-water management.

As we look to the future, it’s helpful to reflect on the deepest roots of our past. In 1142, five previously warring nations of indigenous people across upstate New York came together in peace and collaboration to establish the Haudenosaunee Confederacy, which continues today as one of the world’s oldest democracies. One principle of Haudenosaunee governance is that leaders consider the impact of their actions on the seventh generation in the future. The “Seventh Generation” philosophy is a key concept in the emerging global Green Revolution. Increasingly, Central New York lives and innovates with the seventh generation in mind. Our future is evergreen.

Ed Bogucz is executive director of the Syracuse Center of Excellence in Environmental and Energy Systems.
ITS NAME SOUNDS COMPLEX, PERHAPS even mystical, but transesterification isn’t a miraculous process—just a chemical one. Yet for Jessica Bohn, its transformative results are as amazing as any magic spell or potion. Bohn spends her workdays in a greenhouse on the SUNY College of Environmental Science and Forestry (ESF) campus, overseeing the process of turning used cooking oil into biodiesel fuel. On Mondays, working with a student volunteer, she makes the rounds to Syracuse University dining centers to pick up the oil, typically collecting between 50 and 100 gallons each week. The waste oil is placed in a reactor that heats and agitates it, and methanol is added. The methanol attaches to the fatty acids present in the cooking oil to form methyl esters. These methyl esters are the fuel. For every 55 gallons of waste oil, Bohn says, the process yields about 10 gallons of glycerol, a byproduct that can be purified to make soap and other products, and 45 gallons of biodiesel—a clean, inexpensive, and renewable fuel that can be used to run heaters, cars, and other machinery. “Even though it smells like French fries in here from the waste oil we use, the fuel itself doesn’t smell,” Bohn says. “There are no fumes, it is nontoxic, and it has good clarity and is more liquid than cooking oil, which lets it flow easily in an engine. That’s important, especially in cold weather.”

The small biodiesel processing plant serves as home base for an Enitiative-funded project (see “Environmental Entrepreneurship”) that brings together students and faculty from SU and ESF to develop a student green energy cooperative. Initiated by Michael Kelleher, director of renewable energy systems at ESF, the project will gather students from ESF and the Whitman School to plan and implement a cooperative that delivers the campus-produced biodiesel to ESF and SU for use in operating vehicles. Another hope is to eventually expand the business to serve additional customers. Students will develop a business plan, taking into account everything from production, research and development, and operations to pricing and transportation.

The project began taking shape last fall, when students in Kelleher’s energy markets class conducted a business analysis to consider the cooperative’s viability. “Basically it would mean expanding our production capabilities to make greater use of the waste oil and generate more biodiesel,” Kelleher says. He is joined in the effort by Steve Lloyd, chief sustainability officer at SU; Craig Watters, entrepreneurship professor in the Whitman School; Neal Abrams, ESF chemistry professor; and representatives from the business community who will serve as advisory board members.

This spring, they plan to establish a nonprofit business entity, Kelleher says. He expects students will benefit from participation in a number of ways, including hands-on experience with sustainable technology and exposure to a real operating procedure, all of which will help them develop interdisciplinary skills. “To the extent that the project makes any money, it will be invested in other campus sustainability projects at the two schools,” Kelleher says. “The project also exposes students to the notion of trying to do good. So far, it looks very promising.”

—Amy Speach

Environmental Entrepreneurship

THE SYRACUSE CAMPUS-Community Entrepreneurship Initiative (Enitiative) is a collaborative partnership that provides contacts, resources, and funding support for entrepreneurial education and innovation in Central New York. It stems from a grant awarded to the University in 2006 by the Ewing Marion Kauffman Foundation.

Out of 110 projects supported by Enitiative grants, nine focus on green technologies. For example, the LEEDing Edge project provides opportunities to obtain accreditation as green building professionals. “Such projects are clearly the wave of the future, allowing entrepreneurs to have a commercial, social, and environmental impact,” says Bruce Kingma, associate provost for entrepreneurship and innovation and Enitiative leader. “Many people think about entrepreneurship in terms of the money you can make, but with green technologies, you can also serve a greater good by improving the environment and helping society.”
JOHN FOX ’92 CARRIES ANIMPORTANT value instilled in him by his mother—to put things back the way he found them. This principle forms the foundation of Fox’s work. As president and CEO of Innovation Fuels, a leading U.S. biodiesel manufacturer and a regional company with a global reach, he is among those leading the charge to make Earth a more sustainable place.

With a gift to the L.C. Smith College of Engineering and Computer Science (LCS), Fox has invested in the development of innovations and new ways to educate generations to come about the need for sustainability. He and his wife, Carol, who live in New York City, have made a commitment of up to $3.5 million to LCS to establish the endowed Professorship in Sustainable Energy Studies. Fox says the gift will advance three ideals that are important to the couple: preservation and promotion of the natural world, education, and a focus on renewable energy. He believes urgent problems such as global warming, dependence on fossil fuels, and environmental pollution require creative solutions developed by today’s students and future generations. “I’m a big believer in human ingenuity,” Fox says. “We need to build up technology, ethics, and mindfulness of what we want a sustainable world to look like in many aspects. We are still operating under the original energy infrastructure, and we have a significant opportunity to move to version two.”

Becoming an entrepreneur was not at the forefront of Fox’s plans when he came to SU in 1988. A political science and German major, he went on to earn an M.B.A. degree from Columbia Business School. He led the business development of a biogas technology company, the financing of an independent oil and gas company, and the product development of a Lucent Technologies company before starting a renewable energy project development company, Homeland Energy Resources Development Inc., in 2001. In 2005, he started Homeland’s biodiesel division, which has since merged into Innovation Fuels.

Based in Albany, New York, Innovation Fuels supplies biodiesel to regional customers and a network of international partners. The company is at the forefront of developing new sources for biofuels, and is currently exploring the potential use of pennycress, a high oil-content weed. In one study, the company has teamed with Morrisville State College to determine whether pennycress, familiarly known as stinkweed, can be grown in Central New York. But the process of intentionally growing a weed comes with its own challenges. “There is plenty of research on how to eradicate weeds, but very little on how to cultivate them,” he says.

Fox looks forward to working with LCS and the University in advancing sustainability from concept to practice. “I see this gift as a start,” he says. “Carol and I are proud to be able to seed the faculty and development of a sustainable program, but I see an opportunity to bring in even more resources.” Fox says he will be a champion for the program among his colleagues in the sustainable energy field. “We are going to get behind this program, promote it, and grow it,” he says.

—From Staff Reports

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ADVANCING SUSTAINABILITY

John Fox ’92 visits with Laura J. Steinberg, dean of the L.C. Smith College of Engineering and Computer Science (LCS). Fox recently established the endowed Professorship in Sustainable Energy Studies at LCS.
VOICES for Sustainability

In our exploration of sustainability, we called on several alumni who have taken leadership roles in remaking a world more friendly to its own needs, asking each to share insights on an area of personal expertise.

**THOMAS J. WILBANKS G’67, G’69** is an internationally recognized expert on sustainable development, energy and environmental technology and policy, responses to global climate change, and the role of geography in all these regards. He has served on the UN’s Intergovernmental Panel on Climate Change, which shared the 2007 Nobel Prize for Peace with former Vice President Al Gore. Since 1986, Wilbanks has been a Corporate Research Fellow at the Oak Ridge National Laboratory in Tennessee, where he leads the Global Change and Developing Country Programs that have facilitated more than 70 projects in 40 countries during the past two decades. He earned master’s and Ph.D. degrees in geography from the Maxwell School and taught there.

Does sustainability mean different things in developing countries than in industrialized countries?

To vastly oversimplify a lot of complex issues, I think in industrialized countries the priority is to assure environmental management with as little negative impact on economic development as possible, while the priority in developing countries is to assure economic development with as little negative impact on the environment as possible. A part of the power of sustainability as a conceptual umbrella for global discussions is that it can embrace both points of view, but a limitation is that it does not steer us toward strategies that reconcile the different sets of priorities.

What would be the best steps to take toward assuring that energy services are sustainable for the U.S. and the world?

Over the next half-century, we need to increase the supply of energy services to the world by a factor of three or more to reduce gaps between industrialized and developing countries. It seems unlikely we can get there by incremental improvements in the energy technologies that we know now. The only real hope is to stimulate transformational developments of new technologies. But the situation is urgent. Current observations indicate that climate change is on a trajectory toward severe impacts by the latter part of this century. Meanwhile, scientists tell us the world’s climates in 2080 will be largely determined by global emissions between now and 2030. It appears we need energy technology breakthroughs soon to avoid climate change impacts that would be catastrophic for many regions, systems, and peoples in this world.

**S. RICHARD “RICK” FEDRIZZI G’87** is founding chair of the U.S. Green Building Council (www.usgbc.org) and has served as its president and CEO since 2004. He also chairs the Green Building Certification Institute, which administers the Leadership in Energy and Environmental Design (LEED) rating system. A board member of the Syracuse Center of Excellence and the N.Y. Indoor Environmental Quality Center, Fedrizzi is a lifelong Syracuse area resident who earned an M.B.A. degree from the Whitman School.

With the collapse of the housing boom, how can we assure the next cycle of boom is tied to the concerns of sustainability?

Today’s struggling housing market is the ideal time for green homebuilding and renovations. Professionals recognize now, more than ever, that homeowners need to know that they are investing in something that will truly have long-term value. A home designed and built to use water and energy efficiently has the potential for tremendous operating-cost reductions during its lifetime. Dramatic fluctuations in gas prices mean that homes built as part of smartly designed communities, close to transit and pedestrian- and bike-friendly, will continue to grow in popularity. The USGBC is helping industry professionals become proficient in green best practices through a robust set of educational offerings, including in-person LEED for Homes workshops and online webinars at www.greenbuild365.org.

Have governments instituted LEED standards in building codes?

Across the country, local governments are leading the effort to drive green building into the mainstream, enacting creative, wide-ranging policies that strengthen the market for green building and incentivize sustainable development. Generally, we’ve seen two avenues for promoting green building: adoption of LEED by the public sector and financial incentives for the private sector. LEED initiatives were found in 44 states, including 172 localities, 31 state governments, 12 federal agencies, 15 school jurisdictions, and 39 institutions of higher education.

**JESSE FINK ’79, G’82** is co-founder of MissionPoint Capital Partners, a private investment firm focused on accelerating the transition to a low-carbon economy. He co-founded priceline.com and served as its founding chief operating officer from inception through IPO. Fink, who holds a B.S. degree from ESF and an M.B.A. degree from the Whitman School, and his wife, Betsy, an ESF graduate, manage the Betsy and Jesse Fink Foundation, which supports environmental and educational projects. The Finks created Millstone Farm, an organic...
farm in Wilton, Connecticut, as a platform to promote local, sustainable agriculture and to provide a venue for educational and outreach programs.

In what ways are mounting environmental constraints driving a transformation in the way business is conducted?

The “business as usual” of the past is not business as usual for the present or future. The manner in which we’ve developed, with a fossil fuel-based engine of growth, cannot be sustained from a resource, environmental, or cost perspective. The example of the U.S. auto industry shows that businesses need to be aware of changes in consumer preferences as well as environmental externalities to succeed. This is a trend throughout the world. Our limited resources and changing value of natural resources, especially energy and water, are changing how we calculate the bottom line, and our responsibility toward future generations. A paradigm shift to a new energy economy is taking place as we forge new technologies, new business models, and changing consumer behavior with the underlying recognition of our reliance on the environment for sustained growth. A new world of “ecosystem services” will be established, with the most important being a cap on carbon emissions.

How can the transition to a low-carbon economy be accelerated?

I believe market-based solutions are at the core. They will need to be accompanied by thoughtful policies at all levels of government. We need policies that increase the flow of capital into sectors that will set us on the path to a new energy economy. We need policies to guide how we generate and use energy and other natural resources, so incentives are aligned to be resource efficient and put a cost on externalities. In sum, we need a price on carbon to align the true cost of commerce.

We do it now, or we pay a whole lot later in the form of adaptation expense and catastrophe. What a great opportunity for entrepreneurs, capital providers, and philanthropists to create our new energy future.

RICHARD A. “RICK” COOK ’83, a partner at Cook+Fox Architects, gave the world its most sustainable skyscraper, the Bank of America Tower at One Bryant Park in Manhattan, on track to become the first high-rise to qualify for LEED Platinum certification. Much in demand for his ideas, Cook has spoken at the UN, appeared on PBS and NPR, and was the subject of a National Geographic Channel documentary. A graduate of the School of Architecture, he serves on its advisory board.

Does the skyscraper have a role in the sustainable city?

The skyscraper has a central role because it addresses two issues crucial to the sustainable city: density and mass transit. Take the Bank of America Tower. Because of a whole series of measures, the building will use less energy and about half the water per year that a conventional building would use. We could have built that same building in the suburbs, and it would have achieved similar energy and water savings, and people working there would have had the same health and productivity benefits. But when we did the calculations, we realized that the essential advantage of this 54-story building was its function within the living organism of the city. It uses about one-twentieth of the total energy it would use in a suburban setting when you take into account how people get there.

Can sustainable high-rise architecture thrive in absence of a sustainable transit system?

Mass transit infrastructure is what makes the skyscraper an asset to the sustainable city. If the Bank of America Tower was designed to accommodate parking, as it would have been if located in a suburban area, it would require an eight-story parking garage or a horizontal area equivalent to Bryant Park. Habitat would be lost to accommodate all that parking, not to mention roads. Instead, we built 2.2 million square feet without a single parking space—not even a spot for a CEO limo. The building is situated in easy reach of train and bus terminals, and the subway stops at the door.

JUDY WALTON G’97 is executive director of the Association for the Advancement of Sustainability in Higher Education (AASHE). She has spoken on sustainability to colleges and businesses, assisted campuses with strategic planning, and organized national webcasts on sustainability and higher education. She earned a Ph.D. degree in geography from the Maxwell School.

What is the connection between social justice and sustainability and why should it be addressed?

Social justice is an integral part of sustainability. The very definition of sustainability involves thinking about future generations and about overcoming poverty and suffering in current generations. Some communities are unfairly impacted by the negative effects of our consumption, which are largely invisible to us. For instance, the e-waste we send to China is creating mountains of waste, and people are getting sick from it. It’s not even on our radar screen typically, but a lot of the responsibility lies with us as consumers. So even when we try to do good by recycling e-waste, it may just create problems somewhere else on the planet. We would do well to support fair trade, sustainable wages, and just production and disposal practices as part of our commitment to sustainability.

What is the greatest strength universities bring to the cause of sustainability?

Colleges and universities educate generations of citizens and leaders, and their communities. They have a tremendous influence on society, because, to reverse that famous phrase about Las Vegas, what’s learned on a campus doesn’t stay on the campus. It goes out into the community and into the world. Universities also have a huge economic footprint. Changing their purchasing practices alone can make a huge difference. They’re a leverage point that’s often overlooked.