



ROOSEVELT UNIVERSITY
**STRATEGIC SUSTAINABILITY
PLAN 2015-2020**



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Letter from the President

Members of the Roosevelt University community:

The task of envisioning and creating a more sustainable world is immense and complex. Colleges and universities are not only well suited to engage in this important work through innovation, education, and community engagement; they are obliged to do so. Such a worthy task is before us at Roosevelt, a distinctive urban university long committed to advancing social justice and cultivating progressive leadership in its home bioregion of Chicago and beyond.

As a natural outgrowth of the University's greening efforts since 2010, a volunteer group of students, faculty, administrators, staff, and alumni assembled last fall to develop a historic first for our institution: a comprehensive Strategic Sustainability Plan that documents our accomplishments and sets important goals and priorities for the work we will undertake over the next few years. An inclusive collaborative effort that originated, remarkably, as a research proposal by one of our talented undergraduate students, the Plan was finished in November 2014; endorsed by the University Senate in January 2015; and unanimously approved for implementation by the President's Executive Council in February 2015.

The timing could not be more apt for Roosevelt to make itself more environmentally sustainable, economically viable, and socially just across every facet of its operations and mission. We are located in one of the world's great cities. We live in an age when the world is rapidly urbanizing: More than 50 percent of the global population now lives in cities and suburbs. Urban universities can play a special role in this time of rapid change and environmental crisis to develop new ideas for resource conservation, implement sustainable practices, and cultivate creativity and leadership among our students—the innovators of tomorrow.

These efforts will require the insights and efforts of all members of the Roosevelt community as we think of new ways to save energy, conserve water, produce food, mitigate greenhouse gas emissions, enhance biodiversity, educate students, collaborate with community partners, impact environmental policy, and cultivate an ethic of stewardship—to name but a few of the ways we can reduce our ecological footprint and at the same time create a more sustainable community. One of the great strengths of this Plan is that it fully acknowledges that sustainability is not just about buildings or technology; more critically, it is about people—how we behave and what we value.

As we move forward with our vision of creating a more sustainable Roosevelt in its physical operations, curriculum and research, campus and community engagement, and governance, I encourage all of you to get involved and contribute your talents and energy to this effort.



Chuck Middleton
President, Roosevelt University

Introduction

Sustainability is a paradigmatic 21st century issue, one that not only addresses issues of global importance—climate change, biodiversity, food production, environmental justice—but also impacts our everyday lives as citizens.

Consequently, sustainability perfectly aligns with Roosevelt University's historic educational identity and social justice mission. What could be more worthy of a goal of our University than to make our community more environmentally, economically, and socially sustainable, starting with ourselves?

Thanks to the efforts of Roosevelt University students, faculty, and staff these past four years, with key support from our administrative leaders, sustainability is now a high-profile component of RU's public brand and academic reputation.

Green is no longer just our school color; it's part of our institutional DNA.

Viewed properly, sustainability touches every part of the University's mission, identity and operation—from how our buildings use energy and water, what students eat in the cafeteria, to how faculty teach courses and perform research, what community partnerships we forge, and how we market ourselves.

Roosevelt's Strategic Sustainability Plan aims to be a comprehensive vision for the University that connects academics, operations, and community outreach in a holistic and interdisciplinary way.

“Roosevelt University is committed to being at the forefront of sustainability practices by continuously working to integrate measurable sustainability efforts throughout its campuses and by providing advice and leadership to the members of the University community.”

PRESIDENT CHUCK MIDDLETON

Framework

The “Three Es” of sustainability—Environment, Economy, and Equity—is a widely held conceptual framework for understanding the interdisciplinary nature of sustainability.

The model recognizes the complex interplay among environmental impacts, economic development, and social justice as we strive to create a more sustainable relationship with the natural world. It mandates a new way of understanding the processes of “progress” and “development,” whether at the local, national, or global level: sustainable economic development must entail the conservation (rather than mere consumption) of natural resources and the enhancement (rather than degradation) of humans' quality of life both now and for future generations.

As declared in 1987 by the **United Nations' Brundtland Commission**:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of “needs,” in particular the essential needs of the world's poor, to which overriding priority should be given, and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Vision

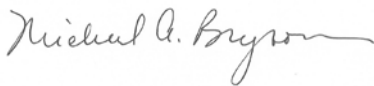
This intergenerational and social justice-focused perspective on sustainability forms the conceptual foundation of Roosevelt's Sustainability Studies undergraduate academic program; finds expression in the business world as "triple-bottom-line accounting"; and is a guiding principle for the Association for the Advancement of Sustainability in Higher Education (AASHE), the organization that encourages integration of sustainable practices in higher education and provides support for colleges and universities in this endeavor.

Sustainability is central to Roosevelt's identity and mission as an institution dedicated to the advancement of social justice for present and future generations.

Since 2010, the University has endeavored to green its operations, facilities, academics, governance, and community partnerships. Through the implementation of its Strategic Sustainability Plan during the 2014-15 academic year and regular updates thereafter, Roosevelt will prioritize its work in a rational way that involves the input and contributions of all constituents of the University. In doing so, it aims to further position itself as a leading urban university helping drive the most important transformation of higher education now happening: the greening of American colleges and universities.

Higher education institutions are in many respects microcosms of society. Moreover, since colleges and universities educate future leaders, perform original research, influence policy, and support communities through outreach, they can either be multifaceted drivers of progressive social change or supporters of the status quo.

If our communities are to become truly sustainable—if we are to change how we use land, produce power, consume resources, grow food, design products, transport people and goods, and mitigate climate change so that we may inherit a world worth living in—universities such as Roosevelt must help set the agenda, develop solutions, and educate dynamic leaders for that sustainable future.



Michael Bryson
Director and Professor
Sustainability Studies
Roosevelt University



Paul J. Matthews
Assistant Vice President
Campus Planning & Operations
Roosevelt University

The Plan

The Roosevelt University Strategic Sustainability Plan is a natural extension of the momentum created over the first five years of sustainable action at Roosevelt University. Armed with a clear vision and framework, a volunteer team comprised of Roosevelt students, faculty and staff gathered to create the plan over three, half-day sessions in 2014.

Inspired by Hitchcock & Willard's *The Step-by-Step Guide to Sustainability Planning* (2008), the approach to plan development was collaborative, efficient and built upon the solid foundation of substantial green building, restored landscape and sustainability academic programs already in place.

The Strategic Sustainability Plan at Roosevelt University:

- is based upon advancing prioritized goals and actions
- has measurable outcomes captured through AASHE STARS
- is funded from savings realized
- is reassessed and updated annually

This plan, its organizing structure and engagement process were the output of the three sessions. It will be achieved through volunteer Action Groups, addressing four main areas of focus:

- Climate & Energy
- Education & Outreach
- Waste & Natural Resources
- Economics & Governance

Each Action Group is organized around achieving specific goals and is comprised of students, faculty and staff. Meeting monthly, each has a leader who reports progress at quarterly Roosevelt University Sustainability Committee meetings. The Committee is charged with overseeing plan progress and acts as an approval body.

Plan Assessment

It is one thing to develop a strategic sustainability plan as an educational institution. Living up to it is another thing altogether. The Plan is a guiding document that prioritizes the work we do at the University to enhance sustainability across all of our operations: academic, physical, administrative, and collaborative. Once we begin this work, we need to systematically document what we're doing, assess its effectiveness and impact, and reflect on how said efforts may be improved in the future. Thus the creation of a Strategic Sustainability Plan (SSP) necessitates a process of self-reflection and evaluation on a regular basis.

The Association for the Advancement of Sustainability in Higher Education (AASHE), the leading professional organization on sustainability for colleges and universities, has developed a comprehensive and versatile tool called STARS: Sustainability Tracking, Assessment, and Rating System. Now available in its 2.0 version, STARS provides a standardized and widely endorsed means for Roosevelt to document and assess its current and future work on all sustainability initiatives, and to benchmark itself against the many community colleges, four-year institutions, and comprehensive universities currently using the system.

The STARS assessment covers four major areas, each of which contains several subcategories. The scope of these categories allows an institution to analyze its progress on sustainability measures across every facet of its operation.

- **Academics:** curriculum and research
- **Engagement:** campus and public
- **Operations:** air & climate, buildings, dining services, energy, grounds purchasing, transportation, waste, and water
- **Planning & Administration:** coordination, planning & governance; diversity and affordability; well-being & work; and investment

Utilizing STARS metrics will provide a regular and systematic review of our progress on the SSP's goals and also inspire us to consider revisions to the Plan over time. STARS allows capture of consistent and comparable data; and its rating system (bronze, silver, gold, platinum), provides incentive for continuous improvement. Roosevelt will begin using the STARS metric as a "reporting institution" in 2015 to document its progress to date, without being rated or having its information publicly available. When Roosevelt is ready for a formal STARS rating on its sustainability indicators, it may do so.

Plan Contributors

LEADERS

Paul J. Matthews, staff
Michael Bryson, faculty
Thomas Shelton, staff
MaryBeth Radeck, student and facilitator

COLLABORATORS

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Planning, facilitation and project management for this Strategic Sustainability Plan was donated by

greenIDEAmachine

a sustainability marketing consultancy interested in furthering sustainable action through partnering with like-minded organizations and individuals. Contact **mb@greenideamachine.com** for more information.

Organizing Structure

Action Groups for 2015

Climate & Energy

Paul J. Matthews, Leader
Colleen Dennis
Rebecca Quesnell
Diedra Sharp
Thomas Sliwinski

Education & Outreach

Michael Bryson, Leader
Yessenia Balcazar
Maria Cancilla
Karen Craig
Stephanie Eisner
Lauren Miller-Hill
Rebecca Quesnell
Mary Rasic
Emily Rhea

Waste & Natural Resources

MaryBeth Radeck, Leader
Yessenia Balcazar
Michael Bryson
Maria Cancilla
Karen Craig
Colleen Dennis
Mary Rasic
Emily Rhea
Noe Villagomez

Economics & Governance

Thomas Shelton, Leader
Karen Craig
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Emily Rhea

STARS Assessment Team

In Spring 2015, Roosevelt's Sustainability Studies program offered a special topics course, SUST 390: Sustainable Campus, which utilized the talents and energy of 19 undergraduate student researchers to gather and analyze data for the entire spectrum of STARS assessment criteria. This class project was complemented by students' in-depth research on 19 other U.S. colleges and universities that already have earned high STARS ratings, as a way to ensure that Roosevelt is following best practices in its self-assessment process.

This student-led effort has jump-started the University's participation in the STARS rating system and served as a professionally relevant collaborative research experience for the students. It also enables the sustainability leadership team at Roosevelt to move forward with its STARS rating application during the latter part of 2015. The project identified institutional strengths and weaknesses to build upon and address as we begin implementing the Strategic Plan in 2015-16.

Members of the Sustainable Campus STARS Student Research Team in Spring 2015:

| | | |
|-------------------|-------------------|--------------------|
| Cassidy Avent | Kyle Huff | Rebecca Quesnell * |
| Yessenia Balcazar | Reece Krishnan | Emily Rhea |
| Maria Cancilla | Tom Lewallen | Deidra Sharp |
| Shannon Conway | Melissa Maslowski | Sera Sousley |
| Colleen Dennis* | Ana Mollado * | Jesse Williams * |
| Jordan Ewbanks* | Kelsey Norris * | |
| Courtney Hackler | Jennifer Paddock | |

**Graduated May 2015*

Starting in Spring 2016, sections of SUST 390: Sustainable Campus will focus on implementing selected high-priority projects to advance the goals of the Strategic Plan. In doing so, sustainability students will work closely with the Physical Resources Department, the new Roosevelt Urban Sustainability Laboratory, Student Services, and other campus programs and departments.

Climate & Energy Goals & Initiatives

To join in action on these initiatives, contact Action Group Leader, Paul J. Matthews at pmatthews@roosevelt.edu.

| Category | STARS value | Prioritized Goals | Initiatives |
|----------------|-------------|--|--|
| Energy | 10 | Reduce energy usage by 10% in 5 years. | <p>Retro commissioning of the AUD/WB Building complex and Schaumburg Campus through funding provided based on prescriptive and custom Energy Utility Programs; equipment replacement or upgrades will be decided on rates of return (payback) for implementation.</p> <p>Continue the Retrofit Chicago Program for the Auditorium Building for 5 years. Capture energy usage with USEPA Energy Management Portfolio.</p> <p>Create an Energy Management Plan.</p> |
| Green Building | 8 | Use USGBC and SERF Systems as basis for evaluating building processes. | <p>Chicago Campus to be SERF Certified in 5 years.</p> <p>“Green” Schaumburg Campus over 5 years.</p> <p>Maintain Green Campus Princeton Review Recognition annually.</p> <p>Maintain memberships in USGBC and SERF.</p> |
| Transportation | 7 | Implement DIVVY Bike and Alternate Fuels Vehicle Programs. | <p>University discount to annual DIVVY bike membership program commencing 2015.</p> <p>As vehicles reach end of life cycle, purchase alternative fuel vehicles and install refueling stations if and when needed to encourage community implementation, added funding by Illinois Department of Commerce & Economic Opportunity.</p> |
| Air & Climate | 11 | Use AASHE STARS or similar evaluation system by 2015. | <p>Continue membership in the USEPA Green Power Partnership Program through purchase of Renewable Energy Credits (RECs).</p> <p>Maintain AASHE STARS or similar evaluation program for 5 years.</p> <p>Complete a Climate Action Plan by 2019.</p> |

For previous achievements in this area, see p. 13.

Education & Outreach Goals & Initiatives

To join in action on these initiatives, contact Action Group Leader, Michael Bryson at mbryson@roosevelt.edu.

| Category | STARS value | Prioritized Goals | Initiatives |
|------------------------------------|-------------|--|--|
| Education: Academics | 40 | Establish RU as a leader in sustainability education among urban universities by investing in sustainability-related academic programs. | <p>Inventory sustainability-related courses across university (spring 2015).</p> <p>Expand Sustainability Studies undergraduate program and strengthen ties to other departments (2015-17).</p> <p>Create an academic Center for Sustainability that connects faculty and students across disciplines and fosters curricular innovation, research, educational outreach, and service/experiential learning initiatives (2015-16).</p> |
| Education: Campus Engagement | 20 | Create a sustainability minded culture and conservation ethic among students, staff, and faculty. | <p>Develop co-curricular sustainability-themed activities for students, including basic sustainability literacy for orientation (2015-16).</p> <p>Educate staff on energy conservation, recycling, and other green initiatives (2015-2020).</p> |
| Education: Community Engagement | 22 | Develop strong partnerships with local organizations to advance sustainable urban development. | <p>Collaborate with environmental organizations, public/educational institutions, and local communities to expand experiential/service-learning opportunities for students (2015-20).</p> <p>Foster collaboration among RU entities such as Mansfield Institute, Policy Research Collaborative, SENCER science education courses, Joseph Loundy Project, and the proposed Center for Sustainability (2015-16).</p> |
| Research | 18 | Encourage and support research on sustainability, science, and policy that supports RU mission and fosters sustainable urban development. | <p>Connect faculty (and student) research interests and projects to needs of local communities through service learning courses, applied research, and grant-writing; RU partners: Policy Research Collaborative, Mansfield Institute, Loundy Human Rights Project, etc. (2015-20).</p> <p>Inventory sustainability-related faculty research across university (spring 2015).</p> |
| Social Justice/ Diversity | 10 | Sustain RU's historic legacy of opportunity and access for diverse students. | <p>Expand social justice / transformational service learning opportunities across the curriculum for all students (2015-16).</p> <p>Recruit a diverse student body, especially from minority and low-income groups, for sustainability, environmental, science, and policy majors (ASAP).</p> |

For previous achievements in this area, see p. 14-15.

Waste & Natural Resources Goals & Initiatives

To join in action on these initiatives, contact Action Group Leader, MaryBeth Radeck at mb@greenideamachine.com.

| Category | STARS value | Prioritized Goals | Initiatives |
|----------------|-------------|---|---|
| Waste | 10 | Advance recycling and composting efforts University wide to achieve 50% overall diversion rate by the end of 2015. | Engage a student-led recycling team for a gap analysis, recommendations and promotion to improve recycling and upcycling at Wabash and also to connect RU with outside recycling sources that offer an ROI. Engage student-led recycling team to research and recommend an on-site composting solution for both Chicago and Schaumburg campuses. |
| Local Food | 3 | Start (a) sustainable, local food business(es) at RU which supports hands on education and social justice mission by 2016. | Research local food opportunities and identify two approaches which provide a return on investment in 2015; create a plan to raise funds and implement in 2016. |
| Landscape Plan | 4 | Expand community and rooftop gardening accessible to the Chicago Campus by 2015. Continue prairie restoration and recognition. | Engage a SUST student-led team to identify interest and viability of community garden locations and options for student, staff and faculty engagement at the Chicago Campus. Continue to expand prairie restoration at the Schaumburg Campus. Continue to engage in certifications and national green recognition through landscape at Schaumburg (eg, Tree Campus USA, Arboretum, Certified Wildlife Habitat) |
| Water | 9 | Raise awareness of water conservation to students, faculty and staff on campus and implement an on-going promotional program in 2015. | Create a water awareness marketing campaign to feature water-saving technology and promote a change of habits. Research opportunities to capture rainwater and use for irrigation at Schaumburg Campus. |

For previous achievements in this area, see p. 16.

Economics & Governance Goals & Initiatives

To join in action on these initiatives, contact Action Group Leader, Thomas Shelton at tshelton@roosevelt.edu.

| Category | STARS value | Prioritized Goals | Initiatives |
|----------------------------|-------------|---|---|
| Governance & Policy | 8 | Create an Office of Sustainability at Roosevelt University within 3 years. | <p>Secure a funding source and structure for the future office, connected with all departments and colleges at the University.</p> <p>Create mission and responsibilities for the future office, including oversight and reviewer roles for purchasing and sustainability tracking.</p> |
| Purchasing | 10 | Formalize a University Green Purchasing policy within 3 years. | <p>Review all current and potential University vendors with future Office of Sustainability and Purchasing Office on green practices.</p> <p>Create green vendor commitment and review program.</p> |
| Health & Well-Being & Work | 7 | Coordinate health and well-being programs with Human Resources (HR) and Residence Life. | <p>Promote health and well-being through HR, consolidating programs together in an easy format and offering incentives to faculty, staff, and students to participate and track progress.</p> <p>Increase stairwell, fitness center, nature walk and alternate transit use by all members of the community.</p> |
| Investment & Innovation | 11 | Create a single funding account for sustainable activities at Roosevelt University within 5 years. | <p>Explore and secure funding sources for the Office of Sustainability, incentive programs, and other sustainability projects.</p> <p>Maintain existing memberships and secure new memberships with organizations providing access to grants or rebates relating to sustainability and energy efficiency.</p> |

For previous achievements in this area, see p. 17.

Affiliations

Roosevelt University is affiliated with the following national, regional and local organizations:

- United States Environmental Protection Agency (US EPA)—Green Power Partnership
- United States Green Building Council (USGBC)
- USGBC Illinois—Higher Education Green Schools Committee
- Association for the Advancement of Sustainability in Higher Education (AASHE)—Member Organization
- National Arbor Day Foundation—Tree Campus USA
- Great Lakes Bioneers
- National Wildlife Federation—Certified Wildlife Habitat
- Chicagoland Network for Sustainability in Higher Education (CNSHE)
- The Alliance for a Greener South Loop
- Metro Chicago Higher Education Energy Efficiency Retrofit Project
- Seven Generations Ahead Green Town Sustainability Conference—Planning Committee
- One Earth Film Festival
- Morton Arboretum—ArbNet Interactive community of Arboreta
- IFSC—Illinois Food Scrap Coalition
- Retrofit Chicago Commercial Buildings Initiative
- Bright Horizons Schaumburg Early Childhood Education Center
- Institute of Continued Learning at Roosevelt University
- Chicago Architecture Foundation
- Fermi National Accelerator Laboratory
- Boy Scout Troop
- Field Museum of Natural History
- Friends of the Chicago River
- Center for Humans and Nature

The University Sustainability staff contributes to the:

- CNSHE and CNSHE Bike Planning Committee
- USGBC-IL Green Schools Higher Education Sub-Committee
- Higher Education Energy Efficiency Retrofit Committee
- Retrofit Chicago
- Green Town Planning Committee

Climate & Energy Highlights through 2014

53.9% electricity certified
“Green” from 2012-2014

Automating temperature in
one building will remove 60
metric tons of GHGs annually

Replacing bulbs in exit and
safety signs with LED reduc-
es energy use by 50%

Energy Efficiency and Green Power

53.9% campus electricity certified “Green” and derived from solar, wind, geothermal, biogas or eligible biomass and low impact hydroelectric sources in 2012-14. Committed to continue at least 50% renewables through 2015.

Electricity providers must derive at least 10% of RU's electricity from renewable sources under current contracts. The remaining 40%+ are purchased in the form of Renewable Energy Credits (RECs).

Bidding to upgrade insulation from R8 to R20-25 for the Schaumburg Campus will begin in spring 2015.

Building Automation System—Schaumburg & Chicago

Installation of Phase 1, automated control of HVAC equipment scheduled for December, 2014. Upon completion in 2018, automation will save up to 87,000 kWh energy annually, reducing greenhouse gas emissions (GHGs) by 60 metric tons. Upgrades to automation systems at the Auditorium Theatre and Building will also save energy.

Motion Sensors, Power Strips and LED Lighting

Installation of lighting motion sensors in all offices and classrooms is in progress, as well as adding smart power strips for computers. Upon completion in 2016, 12,900 kWh energy will be saved annually, reducing GHGs by another 8.9 metric tons.

The replacement of LEDs in all exit and safety signs will reduce electricity use by 50%, and more with LED parking lighting upgrades.

Energy Efficiency Measurement

Roosevelt University tracks all energy and water use data via the EPA Energy Star Portfolio Manager System. In 2014, the City of Chicago mandated use of this tool to compare resource use of comparable buildings and promote efficiency. Results will be made public. Currently, the Auditorium and Wabash buildings are showcased.

Alternative Transportation

Students are automatically enrolled in the CTA U-Pass public transportation program for unlimited rides on buses and trains.

The 82-rack bike room at the Wabash Building is at full capacity and RU will offer a DIVVY bike sharing program discount to students in 2015. Participation in Bike 2 Campus competition, along with other colleges and universities, 2014. Planning for hybrid-only parking and EV Charging Stations in Schaumburg is underway.

Education Highlights through 2014

30 Sustainability Studies graduates in 4 years

Sustainability Studies majors author blogs and websites

Bennett Institute of Real Estate Graduate students won Eisenberg Real Estate Challenge, 2013 & 2014

Chicago Region's First Sustainability Studies Undergraduate Program, 2010

11-course interdisciplinary curriculum has graduated 30 students since 2011 and has 49 participating Sustainability Studies majors in the College of Professional Studies.

Sustainability Through the Curriculum

Courses across departments from biology to political science to hospitality that directly address sustainability from a variety of perspectives.

Civically engaged science courses through SENSER program are sponsored by the Department of Biological, Chemical and Physical Sciences.

Service-learning courses are offered through RU's Marshall Bennett Institute for Social justice and Transformation as well as green building development courses at the Marshall Bennett Institute of Real Estate.

Connections between sustainability, social justice and human rights are explored through the Joseph Loundy Human Rights Project.

Use of green science laboratory facilities at the Wabash Building.

Sustainability-focused internships are offered through the Field Museum of Natural History, Roosevelt University and the Center for Neighborhood Technology.

Student Accomplishments in Sustainability Research & Education

Graduate students from the College of Business' Bennett Institute of Real Estate won the prestigious Eisenberg Real Estate Challenge for creating sustainable redevelopment plans for vacant properties, 2013 & 2014.

Five Sustainability Studies and Business students have held internships at Roosevelt and participated in energy audits, community gardens, prairie restoration, community education and marketing efforts for Roosevelt University's sustainability initiatives. Sustainability Studies undergraduates are lead authors of the Schaumburg Sustainable Future website and contribute to SUST at RU blog.

Students in the Natural Sciences work on research projects, including the annual Spring Research Symposium featuring student research, 2014.

Outreach Results Highlights through 2014

Hosting Great Lakes Bioneers

Field Museum of Natural History partnership

Service learning through Chicago Lights Urban Farm Eden Place Nature Center Accelerate 77 Calumet is My Back Yard

Outreach to the larger community with respect to sustainability issues is woven into much of RU's educational activities through:

- hosting events and conferences that bring the public to Roosevelt; getting students and faculty out into the community doing research and/or service learning work;
- using communication tools such as journalism, blogging, and social media to engage in public debates about sustainability, environmental policy and social justice; and
- establishing partnerships with environmental organizations and institutions.

A few highlights of this multifaceted work include student and faculty consultation and involvement in:

- the Great Lakes Bioneers environmental conference in 2013, which offered nationally recognized speakers and was attended by environmental activists from across the nation, was hosted by Roosevelt, and was supported by the Sustainability Studies program and students;
- partnership with the Chicago's Field Museum of Natural History, with student interns and faculty acting as educational consultants on research/education projects such as Microplants; and
- service learning through Chicago Lights Urban Farm, Eden Place Nature Center, Accelerate 77 and the Institute of Cultural Affairs, Active Transportation Alliance, and Calumet is my Back Yard program.

Waste & Natural Resources Highlights through 2014

100% e-waste recycled,
50% of food waste is
composted

50% turf restored to prairie

8 types of gardens

Arboretum

Native Prairie

Butterfly

Herb

Rain

Community

Extensive green roof

Rooftop vegetable

Waste Diversion

Achieved 46% paper waste diversion at Chicago Campus and 28% at Schaumburg Campuses in 2014.

100% of e-waste is recycled.

80% of food waste at Wabash Dining Center is composted.

Land Use and Storm Water Management

Schaumburg's campus earned Level 1 Arboretum accreditation in 2014 from ArbNet, supporting over 25 different species of trees and woody shrubs.

50% of Schaumburg Campus turf restored to prairie in 2012. Only 8 acres of turf grass remain on Schaumburg's 27-acre campus.

100% of all parking lot storm water is detained on-site in a naturalized basin, slowing entry into Illinois streams and rivers. This preserves wildlife, improves stream quality and reduces erosion.

Currently testing pervious paving materials, 100% of Schaumburg's parking lot will be replaced by 2023. Pervious paving allows rain water to seep back into the water table and reduces community flooding.

Community Outreach and Education

There are eight types of educational gardens at Roosevelt University, as well as a nature trail. In addition to the Arboretum and native prairie, butterfly, herb, rain, community, extensive rooftop and vegetable gardens provide habitat for biodiversity in the urban landscape as well as local food for the community.

30-plot community garden grows local food and educates participants on the benefits of natural composting, drip irrigation, and the productivity of container and keyhole gardening.

100 lbs. of produce from the community garden in Schaumburg was served on-site in 2013 and 60 lbs. were grown on the rooftop at the Wabash Building and served in 2014.

Economics & Governance Highlights through 2014

\$490,290 in grants and rebates received over 3 years

Committed to sustainable purchasing & building practices to LEED standards and SERF certification

Compostable carry-out containers, flatware and cups

Purchase locally grown, cage-free, hormone-free and fresh

Economics

Over three years, \$490,290 in grants and rebates from commercial, regional and local sources are pending or received. This does not include savings realized as a result of energy efficiency or other programs.

Campus Planning & Operations has committed to sustainable purchasing practices, including:

- Integrated pest management using natural products
- Certified green cleaning products and procedures
- Sourcing locally grown food where possible and served at Wabash: includes cage-free eggs, hormone-free meats, and fresh produce
- 100% recycled dishware including carry-out containers, cups and flatware are compostable. Cooking oil is also recycled
- Cooking ventilation reduces kitchen effluent
- Office and bathroom paper products are 100% recycled fiber
- Individual printers have been replaced by multi-function devices and use of low waste soy-based color ink
- All vending machines are “reduced-energy” systems

Communication

The Roosevelt University Green Campus website (roosevelt.edu/greencampus) educates visitors on sustainable practices and provides links to tools to measure carbon footprints and its sustainability news blog.

The RU Green Pledge provides faculty, staff and students an opportunity to show commitment by doing their part to live in a sustainable way.

Governance

The Roosevelt University Sustainability Committee guides all sustainability efforts. Open to the entire Roosevelt community, it is comprised of: faculty from the College of Pharmacy, College of Arts and Sciences, College of Professional Studies, and the College of Business; Roosevelt University operations staff; Sustainability students and interns; the AVP of Campus Planning and Operations; and the Environmental Sustainability and Transportation Coordinator.

Green Building Commitment

Roosevelt has committed to building or remodeling to USGBC LEED standards and supports SERF certification for all buildings by 2018.

Recognition

Roosevelt University has been recognized for sustainability accomplishments by the following local, state, and national organizations:

- US EPA Green Power Partnership Leadership Club, 2012 & 2013
- Illinois Sustainability Compact Program, Silver Level, 2013
- USGBC Green Schools Emerald Award for Green Innovation, 2013, selected from 80 nominees
- Princeton Annual Review Guide to 332 Green Colleges, 2012, 2013 & 2014
- Alliance for a Greener South Loop, 2012 Greenest Institution & 2011 Greener Institution
- USGBC LEED Gold, 2012 for Wabash Building New Construction
- USGBC LEED Silver, 2013 for Goodman Athletic Center New Construction
- SERF Certification, 2013 for Wabash Building
- AIA Chicago SustainABILITY Leadership Honor Award, 2013 for Wabash Building
- Conservation@Work Award
- Tree Campus USA Award, 2012 & 2013
- National Wildlife Federation, Certified Wildlife Habitat 2013 for Schaumburg campus native prairie
- ArbNet Arboretum Accreditation Level 1, 2014
- Illinois Food Scrap Coalition, Gold Level as of May, 2014

References

Association for the Advancement of Sustainability in Higher Education. (2014). *STARS technical manual version 2.0, Administrative Update Two*. Retrieved from <https://stars.aashe.org/pages/about/technical-manual.html>

Hitchcock, D. & Willard, M. (2008). *The Step-By-Step Guide To Sustainability. How To Create And Implement Sustainability Plans In Any Business Or Organization*. Sterling, VA: Earthscan.

United Nations World Commission on Environment and Development. (1987). *Our Common Future: The Report of the World Commission on Environment and Development*. New York: Oxford University Press.

Energy Audits, 2012–2013

In 2012, the Environmental Systems Group conducted a detailed Facility Assessment energy efficiency study of Roosevelt's Auditorium Building that was paid for by a grant from ComEd. Five cost effective projects, if implemented immediately, were projected to have a payback in 7 years by reducing electrical usage. Savings will be compounded over the long term, generating an on-going payback to the University, too.

The five projects were:

1. Replace the fluorescent "Fire Escape" and "Stairs" signs with 5 Watt LED Signs. Cost \$4,750 - Completed
2. Replace all constant volume AHUs with variable air volume AHU equipped with VFD fan drives. Cost \$210K each
3. Upgrade BAS chillers. Cost \$29,600 – In Progress
4. Replace all old AC units with high efficiency units. Cost \$48K – when one needs to be replaced we are switching to a high efficiency unit.
5. Install occupancy sensors in 100% of the spaces. Cost \$216K

In 2013 the Smart Energy Design Assistance Center (SEDAC) conducted an energy audit for Roosevelt's Schaumburg Campus. The study was funded by the Department of Commerce and Economic Opportunity DCEO and conducted by the DLR Group.

The study recommended that the following energy savings initiatives be implemented to decrease the building's overall energy consumption. A total reduction of 361K kWh and 27K Therms could be achieved through the recommendations.

1. Install demand controlled ventilation for the kitchen hood. Estimated cost \$10K with 6.45 year payback.
2. Replace inlet vanes with VFDs. Estimated cost is \$67,838 with a 5.17 year payback.
3. Convert hot water secondary pumping to variable flow. Estimated cost is \$25K with a 4.08 year payback.
4. Convert constant volume fume hoods to variable flow. Estimated cost \$68K with a 5.4 year payback.
5. Convert to DDC. Estimated cost is \$23K with a 10.26 year payback.
6. Utilize smart power strips in offices. Estimated cost is \$4,500 with a 3.46 year payback. In progress beginning with the Schaumburg Campus. ComEd will rebate \$903 once the Smart strips have been purchased.

Energy Audits, 2012–2015

In November 2013, Peoples Gas and the ComEd Smart Ideas program funded energy audits of the natural gas systems in the Wabash and the Goodman Center buildings. In fall of 2014, ComEd-funded assessments were conducted for the Auditorium Building science laboratories and Data Center, and at the Schaumburg science and College of Pharmacy laboratories.

Peoples, Nicor Gas and ComEd Smart Ideas

In addition to the funding of the energy audits of the electrical systems in the Wabash and the Goodman Center buildings mentioned above, the ComEd Smart Ideas program provides a proportional rebate which paid for boiler tune-ups at the Chicago and Schaumburg campuses in 2013. A year-long retro commissioning program for the Auditorium and Wabash buildings is scheduled to start in 2015.

Joyce Foundation

Roosevelt is part of an 11 University study group receiving funding from the Joyce Foundation to share information on improvements to energy efficiency and retro commissioning. Some of the areas of review are: Data Center power usage, SEDAC sponsored facility assessments, conversion to USEPA Energy Portfolio Manager, green labs, retro commissioning, and power grids.

Through the Joyce Foundation, the ComEd Smart Ideas program conducted a data center and network closet energy use analysis and provided the following recommendations.

Data Center Analysis and Recommendations

In the Auditorium Building data center, the operations run 24/7 and support the main student information system, faculty email, and some network and telecommunications infrastructure. The load in the space peaks during business hours at around 150 kW. The space is served by an existing constant volume DX CRAC unit and has the code-required minimum OA provided by an adjacent unit. The floor tile in the space is new but only has cabling under floor; the HVAC is supplied from overhead and returned at the front of the CRAC unit.

The following are the recommendations for the data center space:

1. The UPS' were noted to be old and are sharing the load, lowering their overall utilization. New UPS' offer higher efficiencies and a central unit can allow for a higher loading on the machine, also improving the efficiency.
 - It was also noted that the batteries are old and may need to be replaced in the near term.
2. The DX CRAC unit serving the space is currently setup through a variance with the city to reject the condenser water waste heat to the domestic water which is then drained. A new unit is being looked to be added to the space for redundancy. If the University is able to obtain another variance to use the city water as a
 - a. cooling source, the new unit should be considered with just a chilled water coil or be a dual source unit operating in chilled water mode primarily.
 - b. While the city water temperature may vary in the summer, point #4 below would allow for more hours of 'chilled water' operation (or potentially year-round).
 - c. Since the practice of once-through cooling (i.e. rejecting heat into the city water and dumping down the drain) is typically no longer allowed, an alternate use would be to use the water to preheat domestic hot water. This would allow for a more environmentally conscious use of the city water and assist with avoiding some domestic water heating requirements.
 - The University would have to determine if the water would be able to be directly tied into the domestic water heater or would have to indirectly exchange heat with the incoming water.

- d. In addition to utilizing the new unit in a 'chilled water' mode primarily, the University should consider a unit with variable speed fans since it will greatly reduce the fan power energy consumption.
3. As an alternate to using the city water if the University is not allowed a variance by the city, utilizing the chilled water system of the new building's systems would avoid using domestic water as the cooling source.
 - It was mentioned that the existing building's chiller plant is at capacity and does not operate 24/7.
4. Increasing the room set-point will allow for more efficient operation of the HVAC equipment.
5. Additional server virtualization would improve the server utilization and reduce the inefficiencies of underutilized servers.
6. Desktop virtualization would allow for reduced energy consumption at end-use computers and optimize the utilization of central servers to perform processes.
7. Containment was reviewed and the layout of the room would make deploying containment difficult, but the right deployment could improve the air delivery. Additionally, there are products available to alter the return air path back to the front inlet so that the room air is pulled in from higher in the space rather than along the floor level where the cold air sinks to, which will help avoid mixing in the space.
8. It was mentioned that additional ductwork would be added to the space. The supply diffusers should be placed above the server inlets to avoid mixing of the cold supply and server outlet air.
9. Fire suppression was brought up in the space since the room currently has wet sprinklers. A double-interlock pre-action system (DIPS) system or a clean agent suppression system is typically best-practice for data center spaces.

The following is the summary of the network closet analysis and recommendations:

Network Closets

Unfortunately, the opportunities for improvements in the network closet spaces are limited given the locations of the various network closets. The ideal situation to properly cool and maintain the equipment would be to locate it in the central data center; however, given the number of wiring runs this might not be a feasible option given cost and logistics. Another option would be to review the recommended operating temperatures with the manufacturer to determine what an acceptable range is. There is excellent temperature monitoring in the majority of the network closets with historical trends that can be reviewed. It was noted that the target for the rooms is 70F; however, ASHRAE published recommendations for server inlet temperatures that are in the high 70s and above, which might be a good indicator that the equipment can handle higher temperatures. Additionally, some equipment was noted to be operating in temperatures in the upper 80s and low 90s.

For network closets located in a mechanical room with an air handling unit, there is an opportunity to provide some cooling to the network closets during the times when the units are operating, which coincides with the periods of higher activity on the network equipment. Exhaust fans have been added in a few of the rooms to provide some means of heat rejection and have improved the space temperatures.

Grants and Rebates Breakdown

The following chart summarizes current grant awards and rebates totaling \$490,290 pending or received funds to date. *This does not include savings as a result of energy efficiencies or other programs.*

| Schaumburg | | |
|--|-------------|---------------------------|
| ComEd/Nicor | | |
| Nicor/ComEd BAS Incentive | \$36,750.00 | Ongoing |
| ComEd BAS Incentive | \$32,328.00 | Ongoing |
| LED Lighting for Rotunda and Licht | \$85.00 | Received |
| College of Pharmacy Phase 1 | \$3,643.10 | Received |
| ComEd Laboratory Assessment | \$15,000.00 | Ongoing |
| Other | | |
| Schaumburg Village Rebate | \$5,000.00 | COP Received |
| AbiBow Paper Recycling | \$157.00 | Current |
| Creative Recycling Program (Ewaste) | \$371.15 | Current for 2013 |
| SEDAC Level 3 Energy Assessment | \$10,000.00 | Completed 5/29/13 |
| Chicago | | |
| ComEd/Peoples | | |
| ComEd ATRU BAS Upgrade | \$25,000.00 | Ongoing |
| ComEd Data Center Assessment | \$10,000.00 | Pending |
| ComEd Lab Assessment | \$15,000.00 | Pending |
| Facility Assessment – ESD | \$15,790.00 | Completed |
| LED Lighting Upgrade for Exit/Fire Escapes | \$6,250.00 | Received |
| ComEd and Peoples Smart Ideas | \$1,440.00 | Received |
| Data Center Assessment | \$1,500.00 | No action |
| Commercial Building Assessments 11/2013 | \$3,500.00 | Report for AUD/WB Pending |
| Boiler Tuneups | \$9,000.00 | Received for WB/WUD |
| Aud. Theater Chiller Replacement | \$18,000.00 | Received |
| Field House New Construction | \$5,487.00 | Received |
| Wabash New Construction LEED | \$54,736.00 | Received |

| Chicago (continued) | | |
|---|---------------------|---|
| IL Clean Energy Community Foundation | | |
| Wabash Commissioning/LEED | \$75,000.00 | Completed 2012 |
| Goodman Center Commissioning/LEED | \$75,000.00 | Completed 2014 |
| Energy Outside Lighting Upgrade | \$2,970.00 | RU approval pending 5/30/14 |
| Other | | |
| DCEO Grant | \$33,313.00 | Completed 10/30/13 |
| Joyce Foundation Grant \$188,000 | \$17,090.00 | 11 Universities in Study 2 years |
| Joyce Foundation Grant for Intern | \$2,000.00 | 2013 |
| Intern \$2,000.00 2013 TESTA Produce ES Assoc WS | \$17,340.00 | \$3,468 annually |
| SERF Certification for WB at no cost | \$10,000.00 | Completed 2013 |
| Internship for Marshall Bennet Institute | \$2,000.00 | |
| AASHE Funded Tom Shelton | \$1,200.00 | Conference Fee and Lodging |
| MAPPa Paul Matthews "LEED or not to LEED" | \$340.00 | Conference Fee Waived |
| Total Grants & Rebates | \$490,290.25 | Pending or received as of Nov 14, 2014 |

Gallery



Native prairie provides educational opportunities and supports biodiversity in Schaumburg's urban center.

©2014 MaryBeth Radeck



Tended by students and staff, the Wabash Building's rooftop gardens provide fresh food for the Chicago Campus dining center.



LED lighting retrofit at Schaumburg Campus.

©2014 MaryBeth Radeck



Biodiversity thrives in the naturalized prairie.

©2014 MaryBeth Radeck



"RURbanPioneers" contribute to Soil Service Day 2013 by spreading compost in preparation for another community gardening season at the Schaumburg Campus. ©2014 MaryBeth Radeck





Roosevelt students in SUST 240: Waste & Consumption conduct a waste audit of the Auditorium and Wabash buildings in October 2014. (Photo by Thomas L. Shelton)



Bright Horizons Arbor Day Tree Planting Event—April 2014 (Photo by Thomas L. Shelton)



Spring 2015 Annual Prescribed Prairie Burn returns nutrients to the soil and removes invasive species. (Photo by Thomas L. Shelton)

RU Green Pledge

RU created the RU Green Pledge for all faculty, staff alumni and students to show their commitment to doing their part in living a sustainable life.

Take the Roosevelt University Green Pledge:

- I will shut the lights off when I am the last person to leave the office or classroom.
- I will close any open windows when I am the last person to leave an office or classroom.
- I will turn off the air conditioner in my classroom or office when it is not occupied.
- I will shut off all copiers and coffee pots in my office each night.
- I will make sure that my computer (monitor and hard drive) is set to go into sleep mode during the business day after 15-20 minutes of inactivity.
- I will walk at least two flights up or three flights down instead of using the elevator if I am physically able.
- I will actively use the recycling containers.
- I will attend at least one free presentation, seminar, event or movie on environmental issues this year.
- I will only print when needed and I will print double sided if the option is available to me.
- I will recycle and/or refill printer and toner cartridges.
- At home, I will replace my light bulbs when they expire with Energy Star compact fluorescent ones or Light Emitting Diodes (LED).
- I will actively use public transportation, carpool, walk or ride a bike whenever possible.
- I will reuse as many items as safely possible and then recycle or donate them at the end of their use.
- I will actively seek out products that are recycled or identified as environmentally friendly.
- I will always run a full load of laundry and I will use less hot water while washing.
- I will shop using reusable bags and buy local and/or organic produce whenever possible.
- I will eat lower on the food chain by eating one less meat meal per week.
- I will turn off the water while brushing my teeth and I will shorten my shower time.
- I will insulate my home and turn my heat down and AC temperature up to save energy.
- I will register and vote.

Signed: _____

