THINK GREEN SUSTAINABILITY ANNUAL REPORT 2013

UPSTATE MEDICAL UNIVERSITY

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1. A closer look at the history and focus of Upstate's sustainability program.

Yes. SUNY Upstate Medical University has a long-standing sustainability program with a sound strategy to ultimately accomplish long- and short-term goals. The history of Upstate's recycling efforts begin in the late 1990s and those efforts continue today and are stronger than ever before.

In 1997, then Upstate Medical University President Gregory Eastwood, MD, began Upstate's pilot recycling program. This program began with convenient collection points for both cardboard and metal materials. The success of this program quickly blossomed into a more comprehensive recycling program that covered the institution's academic and clinical settings.

More recently, the Upstate Medical University Sustainability Task Force was developed in 2008. The Sustainability Task Force was charged with leading the campus-wide sustainability initiative. Collectively, its goal was to engage the entire Upstate community in its sustainability program and goals.

The sustainability program has made significant progress since its inception and is now a key element within the University's strategic plan. To underscore Upstate's commitment to sustainability, President David Smith signed the American College and University President's Climate Commitment in March 2009. Signing the Commitment formally committed the University to develop, publish and update a written plan that identifies specific measures Upstate will undertake that will result in carbon neutrality. Since then, Upstate has submitted its first Greenhouse Gas Emission Inventory and also submitted its first Climate Action Plan Report in 2011.

Today, three active sub-groups lead the effort on specific program objectives. They include: Education and Awareness; Building Construction & Technical Operations; and Products, Equipment, Materials & Services. The chair(s) of each subgroup plus key Upstate leadership form an Executive Committee, which provides program direction, institute policies and overall leadership to the Sustainability Initiative.

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TIMELINE

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SUNY Upstate Medical University President Gregory Eastwood, MD, launches a recycling program - the first of its kind at the university.



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Upstate Medical University Sustainability Task Force developed. The campaign is called "Think Green."



2009

Green Fair

President David Smith, MD and
Upstate hosts 1st annual Think

Climate Commitment signed by



2010

Upstate Medical University launched campuswide recycling program: "Recycling Starts with You." Goal: recycle 2/3 of the estimated 2,000 tons of paper, plastic, glass, food, packaging and other items added to the waste stream each year.





The Onondaga County Resource
Recovery Agency certified
Upstate as a "Blue Ribbon
Recycler," a designation given
to the county's top recyclers.



More than 52,000 lbs of compost generated at Upstate are converted into mulch and used throughout Onondaga County.



This year launched the use of EPIC, which is used to store electronic medical records, orders and patient files. This eliminates limitless scores of paperwork.





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To demonstrate the commitment Upstate has made to sustainability, the following programs, initiatives and accomplishments have been highlighted. These highlighted elements by no means represent the entire program as it grows in scope and impact with each passing month.

Upstate's substantial capital projects program includes major renovations, new construction and expansions that support the University's mission. Currently the capital program includes over 80 active projects totaling over \$300 million. To integrate the University's sustainability goals into the capital program, key written operating tenants have been established that, as applicable, are applied to every capital project. They include:

- LEED Silver ratings
- Onondaga County Save the Rain
- Energy Conservation
- Campus-wide energy conservation measures
- Building management systems optimization
- Employee education and carbon footprint reduction

Upstate has employed many other initiatives as part of the sustainability program. A key Upstate guiding principal and a key element to the President's Climate Commitment is to reach out to the community we live in to foster sustainable habits and lifestyles. A sampling of the measures implemented to date include:

- Bottled water reductions
- Recycling
- · Hybrid and alternate fuel vehicles









The following are Upstate Medical University Sustainability Task Force Sustainability Principles, which identity signature sustainability efforts.

1. Operations will be aggressively managed to reduce Upstate's dependence upon fossil fuels and feedstock.

Natural gas: During the past five years, while overall use has increased, the growth rate in the consumption of natural gas on campus has slowed. Part of this reduction is due to new construction and renovation of existing facilities with greater energy efficiencies – building envelope improvements, higher efficiency equipment, energy recovery and better occupancy controls.

Electricity: Due to the energy intensity of hospital and health care operations, electrical use on campus has grown overall in the past five years. Per capita use has declined overall.

Purchased Steam: During the next five years, use will continue to decrease with the implementation of dedicated energy projects in existing facilities that focus on energy efficiency, energy recovery and adding or rezoning temperature controls to provide improved occupancy scheduling and night setback.

2. The energy and carbon footprint of facility construction, space utilization, and all aspects of staff commuting will be minimized.

Upstate mandates that all new construction and major renovation projects comply with New York State Executive Order 111. The goal is to reduce energy by 30% above code in new buildings through improved building envelope design, better system efficiencies, energy recovery, and advanced energy control strategies. This will impact all future renovation and new construction projects. To date, more than 10,929,333 mmBTU/Y have been realized in total energy savings across several recent energy projects, including the campus's main research laboratory exhaust fan retrofit, and comprehensive hospital and parking garage retrofits.

In 2012, Upstate launched a ZipCar car-sharing program for students, faculty and employees. Expansion of teleconferences and virtual meetings in lieu of travel also helps to reduce daily commuter traffic which thereby reduces the carbon footprint.

3. Cradle to grave management of purchased supplies will consider energy,





carbon footprint, and recycling equal with pricing.

- Within the clinical areas, there are two themes that are used in determining management of supplies: Can the item be re-used (waste minimization)? and if not, can it be recycled? An example of recent decisions for each include reusable oximeters and hard cases for storing sterile goods where possible. The hard cases reduce the waste generated by the blue sterile wrap. Upstate is also considering a system to compress the blue sterile wrap and ultimately made into recyclable cubes that have a market value.
- 4. All Upstate staff, students, patients, suppliers and vendors will be engaged in the sustainability effort.
 - The sustainability effort is carried out and is very much an active part of the daily operations with students, patients, supplier and vendors.

 Examples include the annual Think Green Fair, new student housing that is of 100% renewable energy, access to the ZipCar program and Community Garden. Within clinical settings, filtered water is used vs. bottled water to eliminate the use of bottles and several items are reprocessed and/or recycled in operating rooms which yields substantial savings.

Recycling and reprocessing of specific clinical equipment is done in collaboration with vendors and suppliers. In addition, on-site vendors divert 13 tons of food waste per year for composting.

- 5. Invest at least 10% of capital construction funding in energy conservation projects that demonstrate leadership or with an ROI <20 years.
- Energy conservation is an ongoing and very comprehensive program.

 Upstate has a full-time energy engineer that optimizes existing systems within buildings, and the institution has recently begun the NYPA program a \$20 million investment to replace and/or modify HVAC, pumping and lighting systems. By 2015, when the program is scheduled to be complete, it is expected to reduce overall energy consumption by close to 10%.
- 6. Partner with SUNY and sister institutions to enhance creation of





procurement of renewable carbon free energy.

Upstate is part of a group purchasing organization with other SUNY campuses to enhance our purchasing process and develop common purchasing standards to be used by all campuses involved in the group. As this group is relatively new, it has focused on other common procurement challenges, but intends to widen the standards that will include carbon footprint issues as many campuses are signatory to the President's College and University President's Climate Commitment.

Upstate Medical University has also become a member of the Association for the Advancement of Sustainability in Higher Education . AASHE is an association of colleges and universities in the U.S. and Canada working to create a sustainable future. It was founded in 2006 with a mission to promote sustainability in all sectors of higher education—from governance and operations to curriculum and outreach—through education, communication, research and professional development. Businesses, NGO's, and government agencies can participate as AASHE partner members.







2. The techniques and programs implemented to facilitate the growth and development of Upstate's sustainability program.

SUNY Upstate Medical University, located in Syracuse N.Y., is one of only 127 academic medical centers in the United States. Upstate has four colleges: Medicine, Nursing, Graduate Studies (Biomedical Sciences) and Health Professions. The main campus of the university has approximately 2 million SF of building space on about 50 acres within the City of Syracuse. Upstate University Hospital, a 409-bed Level 1 Trauma Center that treats the most severely ill and injured patients, and Upstate Golisano Children's Hospital, the only children's hospital in the region, are part of Upstate's Syracuse campus. Upstate Medical University is Central New York's largest employer, with more than 8,000 people working in patient care, teaching, research and support roles at the hospitals and clinics on and off the main campus. Student enrollment is currently about 1,500.

SUNY Upstate Medical University faces unique sustainability challenges. Upstate's hospitals alone account for 75% of the university's energy resources and solid waste generation. Rapid changes in health care technology, including clinical diagnostic equipment, substantially impact our carbon footprint. To counteract growing electrical and cooling demands, Upstate has undertaken an aggressive and holistic approach to employing sustainable practices in the clinical environment.

Our program always puts patient care and safety first. Then, it targets any aspect of our clinical operation where energy-savings can be realized. Key measures include:

- Infrastructure improvements including re-lamping and installing variable-speed drives on motors and pumps.
- LEED Silver. All major renovations and expansions will meet the criteria with a focus on energy conservation and indoor air quality.
- Electronic medical records. The conversion to digital records in 2010 saved 116.5 tons of paper.
- Enhanced recycling in all clinical areas. Upstate is the first clinical facility designated a "Blue Ribbon Recycler" by the local solid waste authority. This program increased our recycling volume by 129 tons to 671 tons.
- Food composting. On-site vendors will divert 13 tons of waste per year.

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Other waste minimization practices within clinical areas have reduced our biological waste stream content:

- Reprocessing single-use devices. Compression sleeves, oximetry probes, titanium clamps, tourniquet cuffs and other items are recycled and repurchased at substantial savings. In 2010 we reprocessed 40,000 items.
- Fluid Waste Management. Streamlined collection from clinical areas reduces amount of plastic buckets, solidifier products and packaging.
- Hard-sided containers. These reduced the use of polyethylene wrap in clinical areas by 23% (60,000 wraps).
- Filtered water stations. Thirty-two have been installed in clinical areas; bottled water has been eliminated at campus events.
- "Flat mop" cleaning. This system uses fewer chemicals and saved 912,500 gallons of water over five years.



- Reuse of "sharps" containers. This eliminates 25,000 plastic containers from the waste stream.
- Recycling printer cartridges and cell phones. A program with a local vendor diverts four tons of waste and generates \$16,000 per year for our children's hospital.

All sustainability efforts in our clinical areas have required a \$10 million investment, but have yielded annual savings of nearly \$600,000 and diversion of 95 tons from the waste stream.

These efforts reflect the goals of Upstate's Strategic Plan and show progress toward our Climate Action Plan benchmarks.

Other initiations for sustainability include:

Upstate Payroll Services Department's Shift to Electronic Records

 Replacing paper timesheets with the Self-





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Serve monthly electronic system saves 73,488 sheets per year.

- Fully implementing the Kronos time and attendance system saves 162,552 documents per year.
- Electronic management of records of non-Upstate employees (voluntary faculty, public safety officers, food service workers, student nurses, etc.)

saves "tens of thousands of pieces of paper a year."



Upstate's Information Management and Technology (IMT) organization is committed to the principles of green technology and green computing.

• IMT's Green Technology Initiative focuses on utilizing energy efficient computers, recycling old equipment, reducing the amount of paper used,

changing work habits, and collaborating with companies that utilize green manufacturing and shipping practices.

- IMT is working towards reducing energy costs, waste and trash and shrinking Upstate's carbon footprint.
- IMT has been moving to utilize virtualization (a technology that reduces the number of physical computers used to deliver programs and data by optimizing the use of more modern, faster and powerful computers and software) to save energy and space.
- A new energy efficient cooling system is being installed in the data center.
 If the outside air temperature is below 60 degrees, some of the system's compressors will shut down and save energy. If the temperature falls below 40 degrees, all of the compressors will shut down thus providing free cooling to the data center.
- The computers Upstate purchases from Dell are Energy Star 4.0 and 5.0 compliant. They deliver 30% better performance with a power savings of 40% over previous generations of Intel processors. Dell is also a carbon neutral company.

The Library Sustainability Initiative

 All computers in public areas have been programmed to go into sleep or power-save mode after 20 minutes of inactivity. This reduces electrical





consumption from 100% down to 10%.

- Staff are powering down their personal computers nights and weekends.
- The Library is closing computer classrooms during the summer when the students are not here.
- Printers with double sided printing capability are being made more accessible.
- The four copiers in the Library have the power save mode enabled.
- Thermostats will be lowered to 74 degrees (summertime.)
- Exit lights will be replaced with LED exit lights.
- Stair sconce lights being investigated for replacement of their internal bulbs with an LED.

Recycling and trash containers are conveniently placed across our campus in the following areas:

Public areas and lobbies (116 locations)

Two slot containers for mixed recycling and trash

Conference rooms (45 locations)

- Two slot containers for mixed recycling and trash
- Select areas include a container for paper

Offices

Individual containers for trash and mixed recycling

Central Recycling Locations (124 locations)

- Two bins: one for mixed recyclables, one for trash
- Returnable bottles and cans placed in 8 locations
- Locations include hallways and "Back of House" locations, such as soiled utility rooms, resident lounge, staff lounges, and select kitchenette areas.
- Significant increase in the number of recycling receptacles (for returnables) across the entire Upstate campus planned for 2013.

Additional efforts include:

Recycling

Used computers, monitors and electronic equipment





- Plastic, glass, aluminum and paper
- Construction & demolition debris
- Tires
- Batteries
- Motor oil
- Organic materials, such as leaves, wood chips and grass clippings

Promoting

- Recyclable Sharps programs
- Double sided printing & copying
- Use of neutral cleaners & chemical dilution systems

Separation of medical waste from solid waste

- A mop system that reduces fresh water use by 400 gallons/day
- Use of wash rags and squeegees for cleaning instead of paper towels

Buying

- Recycled floor mats
- Floor care machines that use less water & chemicals
- Seeking out contracts for cheaper materials and services, such as purchasing bathroom products from the NY State Deaf/Blind program

Planning & Research

- Creating campus wide sustainability groups and recycling awareness campaigns
- Reviewing new products to recycle, such as disposable curtains and sterile wrap
- Developing a mercury reduction program that seeks to replace mercury thermometers and pressure cuffs with less hazardous, digital & alcohol thermometers
- Reviewing light systems and fluorescent bulb recycling programs
- Investigating a collaborative recycling partnership with the Upstate Foundation and Wal-Mart to collect used cell phones and printer cartridges, with proceeds that benefit Upstate.

Donation of Construction Materials

 Upstate Medical University has donated approximately 120 gallons of paint to Habitat for Humanity that was left over from the original construction project.





Elimination of polystyrene cups

• Departments are beginning to eliminate disposable polystyrene cups, and promote the use of ceramic mugs.

Reuse/recycling of office furniture

- Upstate operates 10,000 square foot warehouse filled with recycled and recyclable office equipment, furniture and electronic components.
- Some items accepted at the warehouse are ready for immediate reuse or may need some repairs; other items are sent to recycling centers or transfer stations. If there is no need for the furniture at the Upstate campus, the items are first made available to other SUNY institutions, then to state agencies and local municipalities. If they are still unwanted, items go to the state Office of General Services, which tries to sell them on eBay.

Last Out Lights Out Campaign

• Stickers have been placed on scores of light switches in offices, conference spaces and meeting rooms to promote energy conservation.

Clean Out Day

The annual event at Upstate is designed to promote the review of all spaces to identify which items can be recycled, reused or discarded.

Epic

By 2014, all sites with Upstate's massive campus structure will be using electronic medical records via Epic software. This eliminates paper copies for orders, patient notes and additional files.

Green Fairs

The annual Green Fairs are hosted at Upstate to promote the Think Green initiative. The fair is free and open to the public, and includes:







- Energy-saving and healthy living ideas.
- Displays on "green" initiatives on campus and in the community.
- Information on Upstate's Climate Action Plan.
- The Upstate Community Garden.
- Demonstrations, giveaways and prizes that reflect healthy living.



Farmers' Market

In an effort to promote healthy living, and local/organic produce and foods, Upstate hosts two Farmers' Markets each week through the summer/fall. The markets are hosted at the downtown and Community Campus locations, and are free/open to the public.

Recycling for a Cause
Printer cartridges, cell phones,
Blackberries and PDAs are recycled
and in a venture with Wal-Mart.
Upstate's Mail & Receiving Services and
Environmental Health & Safety host this
recycling program conducted through
interoffice mail. The proceeds from the
recycled items benefit Upstate Golisano
Children's Hospital. More than \$68,000
was donated back to Upstate Golisano
Children's Hospital since 2009.
Current Climate Action Plan energy
projects include:

Replacement of the East Wing's Vacuum, medical air and anesthesia gas evacuation systems. The new equipment provides substantial savings in water use and employs high-tech materials to eliminate the mechanical seal. The estimated









decrease in water use is more than 5 million gallons per year. In addition, the water cooling system keeps 5 million gallons of clean water out of the public sanitary system, thereby helping the Save the Rain program.

A recently installed energy recovery system has reduced the steam load from the existing heating coils by 40%. During the summer months, the system will also help to temper the unconditioned air and will provide complementary relief to high temperature/high humidity areas.

The installation of variable volume fume hoods are expected to reduce ventilation requirements by as much as 55% via the reduction of electrical energy used for fan motors, heating and air condition.

LED lights have been installed throughout the operating rooms on campus. In addition to reducing electricity, the new fixtures operate at a significantly lower temperature thereby lowering air condition requirements. Lowering the heat generated by the lights also reduce the convection from the fixtures and improve the efficacy of the ventilation system in that area.



Ric Burr, an electrician at the Institute for Human Performance, holds one of the new lighting units that have replaced costlier bulbs on the stacks above the building.





3. Measuring and tracking the progress and success of Upstate's sustainability program and using those statistics to establish goals and predict trends.

Upstate's sustainability program is committed to reporting on its programs, processes and successes.

Sustainability reports are generated every year and account for every aspect of Upstate - including non-clinical and clinical environments. Example reports include:

- 1. Annual recycling summaries (2012 report attached)
- 2. EO4 and EO18 reports (2011-2012 report attached)
- 3. Reprocessing savings reported annually
- 4. Sustainability Matrix is updated as needed to report on project status (attached)
- 5. Climate Action Plan (report attached)
- 6. The Think Green website publishes new programs and sustainability accomplishments.
- 7. The Climate Action Plan also details our commitment to track our progress, which will be measured annually via BTU/SF in energy consumption for each building and bi-annually compute our greenhouse gas emissions as part of our commitment to the ACUPCCC.

Upstate's sustainability website is a primary venue for distributing the information gathered in the above reports. Multiple marketing and communications publications as well as e-newsletters and e-mail announcements are also outlets for distributing this information to the public, staff, faculty, volunteers and students.

The "Sustain Upstate" initiative - now in development - will also highlight projects and accomplishments combining cost-saving and green/sustainable practices.

Within Upstate's strategic plan, sustainability is measured using two metrics: percent of recycled waste and energy consumption in terms of Btu/SF. However, at the campus level, many additional metrics either have been implemented or are in the process of being implemented. The recycling program, measures the rate of overall growth and reduction in the waste stream. Regarding the energy conservation program, installed sub meters have been installed into most buildings so as to measure energy trends at the building level and thus focus on anomalies more efficiently than is possible at the university level.



4. Communicating Upstate's sustainability program objectives and messages to its many audiences.

Upstate's comprehensive sustainability program includes a communication and awareness subcommittee. A key element to the overall program, the subcommittee is charged with producing and publishing activities, challenges and success of the program to Upstate at large.

The subcommittee is also responsible for creating ideas and programs for engaging the Upstate community this sustainability program. Using a myriad of outlets, communications regarding the history of recycling and sustainability, our future goals, and our current initiatives are disseminated to the large audience.

The key audiences that the subcommittee works to engage are as follows:

- Upstate staff
- Upstate providers, physicians
- Upstate volunteers
- Upstate students and faculty
- Vendors/suppliers
- Local community

Communication tools and vehicles used include:

- Think Green website
- E-newsletter
- Upstate Facebook account
- Upstate Twitter account
- Upstate Yammer account
- **Posters**











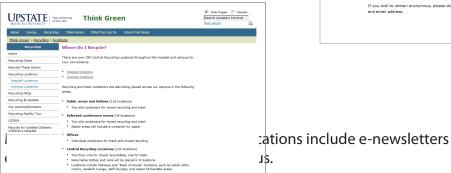


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The Think Green website also encourages visitors to submit ideas for recycling and sustainability.

The Think Green website also contains a comprehensive listing of all recycling collections points throughout the campus.





Institution-wide email announcements detail current sustainability programs and accomplishments.

Upcoming initiative called "Sustain Upstate" is now in development for further promoting and marketing the Think Green initiatives.

Large posters are used at the clinical campuses to promote various sustainability initiatives, goals and programs.

Flyers and posters are distributed throughout the Upstate campus for staff to post information about particular sustainability initiatives (i.e., ZipCar, Print Cartridge Recycling Program and Last Out Lights Out).



5. Upstate's sustainability program and its impact on the greater CNY community.

The greater community is involved and an active part of Upstate's sustainability program in a number of ways.

Recycling is available to patients and visitors in all clinical settings throughout Upstate's expansive campus structure.

The general public is invited to attend the annual Green Fair which focuses on recycling and sustainability.

The general public is invited to the weekly Farmers' Markets hosted two times per week during the summer and fall months.

Half of all proceeds from returnable bottles and cans collected throughout Upstate's campus structure are donated to local charities.

Unused/unwanted furniture from Upstate's 10,000 square foot warehouse is offered to SUNY institutions, then to state agencies and local municipalities. If the items are still unwanted, items go to the state Office of General Services, which tries to sell them on eBay.

Upstate Medical University has donated approximately 120 gallons of paint to Habitat for Humanity that was left over from the original construction project.

Compost material generated by Upstate is recycled into mulch, which is then used throughout Onondaga County.

Upstate heavily promotes the idea of recycling and sustainability at home, in addition to the workplace. The poster, at right, illustrates the myriad of suggestions that have been published to date to promote recycling at home, work and elsewhere.







6. Involving Upstate's senior leadership, board and employees in Upstate's sustainability program.

Sustainability at Upstate is not confined to one person, committee or task force. Instead, sustainability has gradually evolved into a culture that is influencing daily operations in a truly beneficial way.

When the sustainability program was initially formed in 2008, the Sustainability Task Force as it was called consisted of an executive committee that included the chairs of three designated subgroups, in addition to Upstate's senior leadership team. These subgroups include education and awareness; products, equipment, purchasing and services; and building construction and technical operations.

These subgroups consist of representation from all facets within Upstate's system - including clinical staff, facilities management, marketing and public professionals, and administration.

In addition, two active teams are working on sustainability initiatives. One is the recycling team which includes members from clinical operations as well as both hospital campuses. The second team strictly focuses on energy conservation. A third team is in its planning stages and will focus on printers and paper conservation throughout Upstate.

As these groups initiate various sustainability programs, it is then the responsibility of all staff, faculty and students to participate voluntarily. Our measured results have clearly illustrated the active involvement by all of these groups. In addition, these groups have also generated their own ideas for other sustainability programs - some are at the individual level while others at the department level.

In all, it is clear that the entire Upstate community is working hand-in-hand to uphold its Think Green mission on a daily basis.





ATTACHMENTS

- 1. Annual recycling summaries (2012 report attached)
- 2. EO4 and EO18 reports (2011-2012 report attached)
- 3. Sustainability Matrix is updated as needed to report on project status (attached)
- 4. Climate Action Plan (report attached and link below)

LINKS

1. Think Green sustainability website:

http://www.upstate.edu/green/

2. Climate Action Plan:

http://www.upstate.edu/green/889_cap.pdf

3. Save the Rain:

http://savetherain.us/

4. Zip Car Program

http://www.zipcar.com/upstate

