

# Facilities

## Sustainable Purchasing and Practices



at



HOBART AND WILLIAM SMITH COLLEGES



# What is Sustainable Development?

Sustainability goes beyond philanthropy and good intentions. It is about the choices we make as a business and requires measurable results. We are rethinking the way we operate and actively seeking opportunities to:

- Protect and restore our environment
- Promote health and wellness, and
- Support local community development

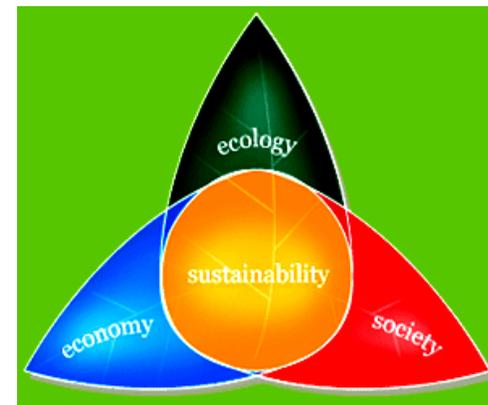
*"sustainable development is that which ... meets the needs of the present without compromising the ability of future generations to meet their own needs."*



# Eight Guiding Principles for Sustainability

- There is interdependence between ecological, economic and social factors in achieving sustainability.
- The concept of waste can and should be eliminated.
- Healthy natural systems are the basis for sustainable communities and economies.
- Future generations should be equal partners in decision making.
- Local decisions have regional and global implications.
- Incentives are necessary to create sustainable behavior.
- Investment in the design phase of a process or product drives sustainable outcomes.
- Human relationships and a collaborative approach lead to sustainable solutions.

“Leave the world better than you found it, take no more than you need, try not to harm life or the environment, make amends if you do”. -Paul Hawken





High Visibility effort to make campuses more sustainable through institutional commitments to reduce and ultimately neutralize greenhouse gas emission on campus.

The education community can play a determinant role in leading the effort as it fits the education, research and public service missions of educational institutions, "tomorrows leaders and policy makers are attending our schools today."

The President's Climate Commitment provides a framework for Americas schools, colleges and universities to become carbon neutral.

Develop a comprehensive plan of actions leading to campus climate neutrality.

# Facilities Service Approach at Hobart and William Smith Colleges

## Supporting Maintenance and Operations initiatives:

- Use of Automated controls
- Temperature set backs
- 68 degrees in winter
- Critical area is 72-74 degrees; non critical areas at set points of 74-76 degrees in summer
- Install efficient lighting, fluorescent and LED "light emitting diodes"
- Install motion sensors
- Preventive maintenance practices that ensure optimum performance
- Purchase energy star certified appliance
- Filter Changes
- Educate campus community regarding plug load
- Develop community sensitivity
- Develop community understanding
- Develop community commitment
- Utilization of Green Seal products
- Use of unbleached/recycled paper products
- Support recycling efforts
- Utilization of equipment (vacuums, etc.) that minimize dust and contaminants
- Utilize equipment that reduces water consumption (mop equipment, etc.).

# Certifying Organizations



Green Seal provides standards for green products and services in more than 40 categories. Products that earn the seal satisfy standards for human toxicity and reduced smog production potential.



The program compares products / services with others in the same category, develops rigorous and scientifically relevant criteria, and awards the EcoLogo<sup>™</sup> to those that are environmentally preferable throughout their entire whole life a thorough evaluation and auditing process.



TCLP stands for Toxicity Characteristic Leaching Procedure. The TCLP test was designed by the EPA to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphase wastes. This test is used to determine if a waste meets the definition of EPA Toxicity, that is, carrying a hazardous waste code under RCRA (40 CFR Part 261) of D004 through D052.



Restriction of Hazardous Substances Directive (RoHS) 2002/95/EC Restricts the use of the following six substances: Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBB), and Polybrominated biphenyl ether (PBDE).



The GREENGUARD Environmental Institute (GEI) is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program<sup>SM</sup>. The GREENGUARD Certification Program<sup>SM</sup> is an industry-independent, third-party testing program for low-emitting products and materials. GEI establishes acceptable indoor air standards for indoor products, environments, and buildings. GEI's mission is to improve public health and quality of life through programs that improve indoor air.



Energy Star is a designation for electrically-run products like appliances. It is a government-backed program that helps protect the environment through energy efficiency.



OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health.



EPA leads the nation's environmental science, research, education and assessment efforts. The mission of the Environmental Protection Agency is to protect human health and the environment. Since 1970, EPA has been working for a cleaner, healthier environment for the American people.



NEMA's "Call to Action" on hazardous substances will rest on the following principles.

- 1) NEMA's commitment to reducing the content of hazardous substances in electrical products is part of a comprehensive effort to demonstrate leadership in corporate environmental stewardship.
- 2) Safety, particularly in terms of risk trade-offs associated with alternative product designs, will always be the primary consideration in decisions that stem from this process.
- 3) NEMA expects all member companies to consider regulatory requirements and thresholds to be the starting point, not the endpoint, in determining how far to go in reducing the content of hazardous substances.



WaterSense, a partnership program by the U.S. Environmental Protection Agency, seeks to protect the future of our nation's water supply by offering people a simple way to use less water with water-efficient products, new homes, and services. Products and services that have earned the WaterSense label have been certified to be at least 20 percent more efficient without sacrificing performance.

# Sustainable Vendors



# Sustainable Service Providers

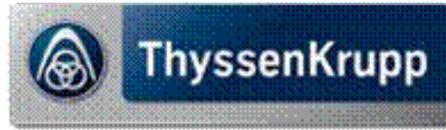


Heritage-Crystal Clean strives to build upon our history and experience in the industry to provide effective and environmentally conscious solutions that make a difference to our customers. At the heart of this is a dedication to service, safety and environmental and regulatory excellence.

## HCC Reuse and Non-Hazardous programs for used parts cleaning:

- Premium high flashpoint, low odor mineral spirits and removal & management of the used mineral spirits as non-hazardous waste.
- The HCC Reuse Program reduces the amount of hazardous waste generated, thereby reducing manifesting and other regulatory reporting requirements
- The HCC Reuse Program results in true waste minimization as encouraged by the Environmental Protection Agency and other environmental groups.

Reuse Program - Provide top quality, premium solvent on our regular, scheduled visits and remove the used solvent as a product -- not a waste -- to be used as an ingredient in a manufacturing process. This unique approach provides substantial benefits for our customers over the old method of waste disposal.



ThyssenKrupp Elevator Americas' overall sustainability plan is to reduce its carbon footprint by 20% by the end of 2015. "ThyssenKrupp Elevator Americas is committed to seeking innovative ways to reduce our consumption of resources in everything we do, from materials and energy to intangibles like time," said Brad Nemeth, director of sustainability. "Our vision is simple. Waste nothing!"

The company is implementing an approach to optimize the efficient use of all resources, such as lean manufacturing, time management and recycling, which touches all aspects of the business by reducing use of electricity, natural gas and propane in manufacturing, and by increasing operational efficiency..

- Inherently Biodegradable Hydraulic Oil
- Synergy
- Regenerative Drives
- Destination Dispatch
- Microban®
- Motor Efficiency Controller



Our clients benefit greatly from our programs in a variety of different areas:

- Increased roof life and lower life-cycle costs
- Better project management through a professional, streamlined process
- One source solutions to increase the clients control over their projects quality, price and safety
- Roofing and HVAC portfolio management to ensure optimal performance and effective documentation
- Peace of mind in knowing their assets are as protected and efficient as possible

As a result of better planning, preparation, service and products our clients receive an appropriate return on investment and increased profits by integrating their buildings assets and achieving a new form of revenue from increased building efficiencies.

Viridian Systems is a leading provider of quality roofing and building preservation, alternative energy, HVAC and remote energy management solutions designed for sustainability, maximum life cycles and operational effectiveness.

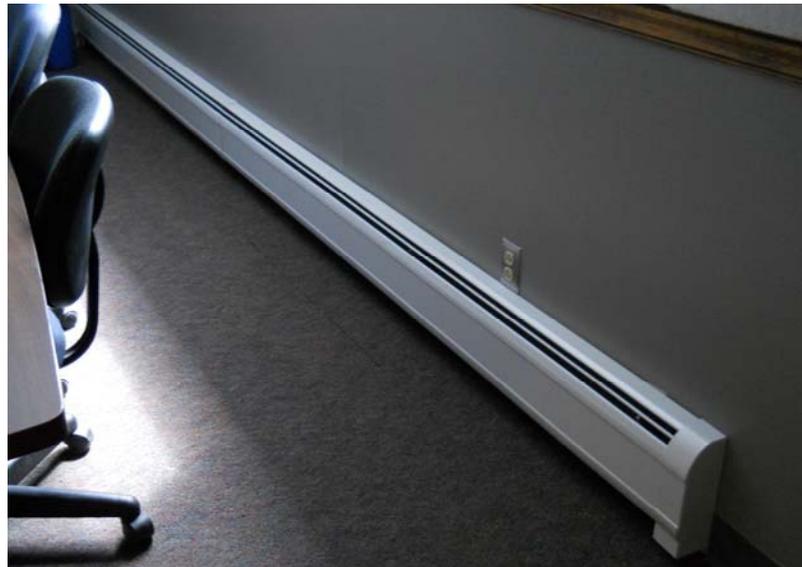
Many Viridian products are environmentally preferable and carry Energy Star® ratings, Cool Roof Rating Council ratings and can contribute to achieving LEED® certification





MCS specializes in energy conservation heating, ventilation and air conditioning systems for commercial, institutional and industrial users. Geo-thermal heat pump, heat recovery, and chillers can be evaluated for your application.

## VERSA-LINE COMMERCIAL FINNED-TUBE RADIATION FOR ENERGY-EFFICIENT HYDRONIC HEATING SYSTEMS



Example of system used in B&G conference room

## Green Initiatives



### Cintas' Sustainable Products and Services

- **Regeneration™ Suiting Collection** - Made out of 100% recycled polyester produced entirely from post consumer waste, this collection is exclusive to Cintas. One single suit is made out of approximately 25 recycled 2-liter plastic bottles.
- **Renewal™ Activewear & Spa Collection** - A retail-inspired, eco-friendly solution made from post consumer material. Approximately 10 recycled plastic bottles are diverted from a landfill for every item in this collection.
- **Momentum™ Suiting Collection** - This machine washable collection reduces the use of toxins and harsh chemicals used in the dry cleaning process to save up to \$1,000 annually per employee.
- **Modern Eco Stretch Pants Collection** - This collection uses Repreve® polyester yarn made of 100% recycled materials. On average, every pound of Repreve® yarn conserves the equivalent of half a gallon of gasoline, totaling 10 million gallons of gas that will be saved by 2010 making recycled yarns.
- **Earth Friendly Apparel** – Cintas' Sourcebook offers a variety of organic cotton or recycled materials items such as: t-shirts, polo shirts, jackets, fleeces and caps. Cintas has partnered with American Forests®, and through Global Releaf®, Cintas has committed to plant a tree for every Earth Friendly product order. Our contribution to American Forests® this past year was to plant 2,220 trees.

### Reuse and Recycling

- **Local Recycling** - Most Cintas facilities recycle hangers returned by customers, paper, cardboard, shrink wrap, floor mats, towels and garment scraps to avoid filling landfills.
- **Technology Equipment Recycling** - Cintas has a program to recycle computer equipment with Intechra, a company that has a "zero-landfill" policy. Proper disposal of technology equipment such as laptops, desktops, monitors, servers, printers, docking stations, port replicators and thin client devices is ensured from all US locations.

### Fuel Usage

- **Condensed Routes** - Almost half of Cintas' five day routes have been geo-coded and condensed into four day routes to save fuel and reduce the number of vehicles on the road.
- **Idle Shut-off** - Cintas has installed idle shut-off software on delivery trucks to reduce fuel consumption.



[www.cintas.com/green](http://www.cintas.com/green)



# Green Pest Control

Rentokil

Rentokil is committed to green pest control, which means we only use chemicals such as pesticide when absolutely necessary. It means taking a holistic approach to pest removal that looks for the source of the problem and providing a solution before anything is used to eliminate the infestation.

Rentokil pest control services are Green Pro Certified through the National Pest Management Association. We use a technique that finds the real problem and targets solutions that are friendly to the environment, using organic methods to rid residential and commercial property of pests.

## Green Pest Control Principles

We take our environmental responsibilities very seriously. We have developed principles that guide us in our pest control and pest removal service.

**We inspect** - searching your property to look for what could be causing pests to choose your home.

**We eliminate access points** - providing solutions to stop pests from coming back.

**We monitor** - one of the keys is to find trouble signs and take care of them before things get serious.

**We use the right materials** - using traps and bait to reduce the use of chemicals is important. We use this technique often on pests such as **termites**.

**We use pesticides selectively** - sometimes there's no other recourse, but we always turn to chemicals as a last resort. We make sure to use just enough to get the job done.

**We get rid of pests** - developing **heat treatments**, vacuuming and steam methods to physically remove the pests so that our prevention methods can take over from there.

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# Sustainable Purchasing



## EcoSource Purchasing

A Gradual Approach to Greening your Facilities.

We know that things don't happen overnight. Change, even positive change, takes time and needs to progress at a realistic pace. With EcoSource, adjusting your purchasing to incorporate more green products and practices can be a gradual process.



### Example of purchased product



Gerber® avalanche™ WaterSense® high-efficiency elongated siphon jet toilet bowl, 1.6 gpf/1.28 gpf, white



Gerber® avalanche™ WaterSense® high-efficiency toilet tank with 12 in. Rough-in, white, 1.28 gpf

### Example of purchased product



Recycled Content Boxed Facial Tissues- Tissues contain 20% post consumer and 75% recycled content. NEMA certified.

We were also one of the first companies to participate in the EPA's Green Lights Program. We also offer many of the products and services customers need to manage their own environmental programs. Grainger offers solutions that are recognized as ENERGY STAR®, Green Seal Certified, containing Recycled Content, and NEMA Premium



To provide a line of products that promotes our renewable resources and contributes to environmental improvement.

Example of purchased product



**Microfiber mops and cloths** - Ultra-thin fiber that can capture & retain more dirt particles. Reduces water consumption. Provide a non-toxic and chemical free cleaning solution.



**Prime Source Natural Roll Paper Towel**- Hand towels made from 100% recycled fiber certified by EcoLogo. The Colleges purchase approximately 1200 rolls per year.



RCP is committed to continuing to learn and act as a responsible steward of the environment. We have dedicated ourselves to creating more products that support sustainability. We have further invested in better processes and technology that have a lower environmental impact than that which was previously in place.

Example of purchased product



**Desk Side Recycling Container**- Recycling container contains post consumer Recycled Resin exceeding EPA guidelines.



## SV20 Rider Sweeper

The SweepMax™ dust control system lets you run longer with optimum performance.

Improving air flow filtration and dust control for sweeping, the patent-pending S20 SweepMax™ system uses a *3-stage dust control system*:

### STAGE 1

Keep bulky debris, water, and heavy dust in the hopper with the *first stage Perma-Filter™*.

### STAGE 2

Remove fine dust and moisture by redirecting it into the hopper with the *second stage cyclonic prefilter*.

### STAGE 3

Filter sub-micron dust particulates down to 0.5 microns at 99% efficiency with a *third stage, flame retardant, nanofiber surface loading canister filter*.

Greener alternative. High productivity cleaning of large areas with a quiet, fume-free battery, eliminating engine exhaust.





What is Sherwin Williams Green Sure Certification mean?

- \*Reduce demand for synthetic additives by switching to the sustainable use of raw materials, like soy and sunflower oil in paints.
- \*Reduced the amount of solvent in our formulations, so the vapors being emitted into the atmosphere are more environmentally friendly.
- \*New techniques in our manufacturing processes have helped produce less waste and we've implemented energy efficient methods in our plants.
- \*Streamlined national distribution processes, helping to conserve fuel, energy and other natural resources.
- \*Formulated many of our coatings to clean easily and to resist mildew and harmful bacteria improving the indoor and outdoor environments.



- Harmony paint is low-odor allowing newly painted spaces to be moved into immediately.
- Harmony contains less solvents and zero-VOC's (volatile organic compounds). Emitted fumes have a reduced environmental impact.
- The Colleges purchased approximately 400 gallons of Harmony a year.
- The product is Green Sure certified.



The Andersen Company is committed to the "Green Movement". Not only are we looking for ways to increase the content of recycled materials in our finished products, but we are also looking for ways to reduce our environmental footprint in other areas. Over the last several years, we have reduced waste going to landfills by 80%. We currently recycle most paper, metal, cardboard, plastic, carpet and rubber waste that we generate. Our boilers are fired with "Yellow Grease" which burns cleaner than other fuels. "Yellow Grease" is used cooking oil collected from restaurants.

**WATERHOG™ eco**   
we make buildings greener

Waterhog™ Eco Line is made from 100% recycled PET post-consumer recycled fiber reclaimed from drink bottles and 15% post-consumer recycled tires

**100%**  
customer satisfaction  
GUARANTEED

  
the andersen company



AAF understands the importance of Going Green. All AAF products are designed and constructed with energy savings, minimal carbon footprint, and superior performance in mind



- Product design minimizes base raw material consumption .
- VariCel filters with antimicrobial are designed specifically to improve Indoor Air Quality (IAQ).
- Air filters are designed to trap and concentrate particulate air contaminants including viable fungal and bacterial spores.
- Competitive pleated panel filters, manufactured using an electric charge to obtain the MERV 8 rating.
- The replacement filter's Precoat submicron technology reduces dirt and particles as small as 1/2 micron in size and reduces health contaminants such as asbestos fibers and Cryptosporidium and Giardia cysts.
- Features Micro-Pure II media with AgION™ antimicrobial protection which inhibits any potential bacterial growth.
- Reduces water-related ice machine problems caused by scale build-up from dirt and dissolved minerals.
- Self-contained scale inhibitor feed keeps ice machines functioning at full capacity.



Everpure I4000-2



Office Depot's commitment to an environmental vision to increasingly buy green, be green and sell green. Buy Green: Office Depot purchased recycled copy paper containing an average of 32% post-consumer recycled content for internal use. Be Green: 9.6% absolute reduction in greenhouse gas emissions associated with US transportation; close to 50% of materials recycled, rather than sent to a landfill in North America. Sell Green: \$1.6 billion estimated total sales of environmentally preferable products represented in the 2007 Green Book in the US and Europe .

### Example of purchased products



TOPS® Second Nature® 100% Recycled  
18 Lb. Writing Pads



Post-it® Recycled Paper Notes 100% total  
recycled content with 30% postconsumer recycled  
content



Office Depot® Green™ Recycled  
Hanging Folders contains 100%  
recycled content with a minimum of  
95% postconsumer recycled content



**essentials**  
*for everyday life™*

SCA, the manufacturer of Tork products, ranks as the second greenest company in the world.

Safe processes, resource efficient production, responsible forest management and fiber sourcing, and energy-saving measures distinguish SCA from competitors as the natural leader in the drive toward a cleaner life.

### Example of purchased products



**TORK – Multifold Hand towels –**  
Hand towels are made from 100% recycled fibers. They are certified EcoLogo and Green Seal Certified.



**TORK Advanced Bath Tissue -** Reduced stub roll means less waste. Fewer cores and no wrappers leads to source reduction. Less storage space is needed. Made from 100% recycled fiber provides environmental benefits

EPA standards were drafted in the 1970s and specify bath tissue contains 20% post consumer waste and at least 20% total recycled content when the national recycling rate was nearly non-existent.

## What does it mean if it's not 100% recycled?

*Some companies focus solely on post-consumer fiber. Be sure to ask what makes up the balance.*

post-consumer recycled

80%

20%





By participating in EPA's Climate Leaders program, Ecolab has pledged to develop a corporate-wide Green House Gas emissions inventory and to work with the EPA to set a GHG reduction goal.

#### Example of purchased products



**General Purpose Cleaner**- routinely used to clean common 'household' surfaces. Green Seal certified. Colleges purchase approximately 40 liters per year.

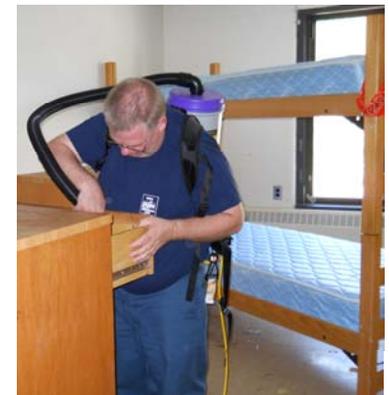


**Wash 'n Walk**- a no-rinse enzyme based floor cleaner. Green Seal Certified. Colleges purchase approximately 100 gallons per year.



Our commitment to education and Cleaning for Health® puts ProTeam at the forefront of the Green Cleaning movement. Our entire line of backpack vacuums, canisters, uprights and hip style and HEPA vacs meet and exceed industry standards for indoor air quality - and the comfort of those who use them.

- Eliminates pushing, pulling and dragging of heavy vacuums.
- Utilizes mountaineering-style backpack technology to carry the vacuum comfortably and ergonomically across the hips.
- Captures and contains more dust to virtually eliminate follow up dusting tasks.
- Intercept Micro Filters for Super CoachVac are thicker, won't shred, treated with antimicrobial organic agent.
- Double-pleated design gives
- 21% more filtration area.
- HEPA filter removes 99.97%
- of dirt and allergens from
- flooring and surfaces.





## ionator EXP



At Activeion we believe you can eliminate dirt and germs and still be safe for people, animals and the environment. We think our kitchen counters, dining tables and baby toys should be truly clean, with zero residue. We're passionate about protecting the ones we love not only against harmful bacteria, but against harmful chemicals as well. And we're determined to make our planet a clean, healthy place to live.

Designed for the professional cleaner, one ionator EXP replaces the shelves of general-purpose cleaners, killing 99.9%\* of germs and eliminating dirt.



Linda Contreras, our Housekeeping Ambassador using the Ionator EXP.



Uses Only  
Tap Water



100%  
Renewable  
Ingredients



Leaves  
no residue



Nothing to  
Throw Away



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# Sustainable Practices



# Sodexo's Better Tomorrow Plan

ENHANCE  
YOUR BRAND



Attracting, engaging and retaining a diverse workforce comprised of top talent **ENABLES GREATER UNDERSTANDING OF YOUR BUSINESS AND CUSTOMERS' NEEDS** while **DEVELOPING INNOVATIVE PRODUCTS and SERVICES** in a global environment.

IMPROVE  
QUALITY  
OF LIFE



Healthy employees mean **INCREASED PRODUCTIVITY, DECREASED ABSENTEEISM,** and **LOWER HEALTH CARE COSTS** for our clients.

ENGAGE  
YOUR LOCAL  
COMMUNITY



A strong community is a good place to do business. Partnering with Sodexo **ALLOWS CLIENTS TO SUPPORT LOCAL ECONOMIC DEVELOPMENT** and **ENHANCE THEIR BRAND IN THEIR COMMUNITIES.**

IMPROVE  
YOUR  
EFFICIENCY



Sodexo's energy and waste reduction services help clients **REDUCE COSTS,** **IMPROVE SUSTAINABILITY PERFORMANCE,** and **CREATE HEALTHIER and MORE COMFORTABLE INDOOR ENVIRONMENTS.**

The Better Tomorrow Plan is Sodexo's global strategy for a better future. Four priorities outline the areas where we can influence the most positive change in our business and include 18 measurable commitments to action. The Better Tomorrow Plan (BTP) includes each of our 419,000 employees, at 32,700 sites across 80 countries in one journey forward to a Better Tomorrow.

## About Sodexo and corporate responsibility

Sodexo has consistently been a leader, topping the Dow Jones Sustainability Indexes for 10 consecutive years, ranking #1 on the 2013 Top 50 Companies for Diversity list and named one of Fortune Magazine's 'Most Admired' companies in the Diversified Outsourcing Services sector.

Sodexo is credited for its transparency and reporting. The company shares information on its sustainability performance, including the Global Reporting Initiative (GRI) guidelines, and its external auditors report.



## Protecting Our Environment

We recognize that we have a tremendous responsibility and a unique opportunity to protect our environment so that future generations can enjoy the same quality of life we do today. To that end, we have focused on the following key areas: reducing waste, water and energy use at all of our locations and continuously working to increase our purchases of local, seasonal and sustainable ingredients and supplies.

## Water Best Practices



### Auto Shut-Off Irrigation

Automatic irrigation is often the single largest use of water in a city. Efficiency can be dramatically improved by using proper irrigation scheduling techniques.

At HWS the lawns are only irrigated when needed and it is done in the early morning so as not to lose much to evaporation. For the few irrigation systems that HWS does operate, one includes a rain sensor. The other systems are scheduled using weather data and personal inspection of soil moisture. They are set to run based on weather information, projected use, and monitoring of conditions.



### Drought Tolerant Landscaping

Using plants that are appropriate for your climate and are drought resistant allow you to save money on water costs, spend less time irrigating. All by supporting your local natural habitat by limiting run-off

B&G plants numerous varieties of trees that included elms, sugar and red maples, river birch and some fruit trees - apple, cherry and pear all over campus.

## Water Best Practices

Green Earth Planters support your commitment to the Environment.



- ✓ Conserves Water
- ✓ Contains Recycled Material\* and 100% Recyclable
- ✓ Rapid Wick™ uses recovered carpet material for its wicking system. This helps to eliminate some of the 5 billion pounds of carpeting that reaches our local landfills each year.

Watering Interval (saves labor)  
Refill every 4-8 Weeks

B&G uses several of these planters. In front of Scandling for example and they will be placed in front of the Gearan Center.



## Water Best Practices

### Use Housekeeping to Reduce Water Use

#### **ECOLAB** Floor Care Program used at HWS

- Driving Sustainability – The floor care program provides an optimized process that reduces labor, product waste and VOC, allowing you to minimize your environmental impact.
- The new flexible packaging reduces landfill waste by 83% compared to 5 gallon container. The closed loop system reduces product waste by 94% compared to the traditional mop and bucket application system. ISSA reports 33% labor savings.
- Increased employee safety; the ergonomic back pack system eliminates the heavy lifting of buckets. Prepackaged container eliminates cross contamination and minimizes the chance of chemical contact.
  - Greenhouse gas down 8%
  - Toxic releases decreased by 17%
  - Waste water consumption reduced by 50%
  - Plastic resin savings of more than 2.5 million pounds
  - Reduced ozone-depleting substances by 40%

## Water Best Practices



Energy Reduction- Comprehensive energy management system in place since 2000, reduce waste and emissions, eliminate general purpose cleaners. Chemical-free technology that cleans without the environmental and human health issues associated with producing, transporting, packaging, using and disposing of harsh cleaning chemicals. Increase productivity by as much as 30% . Use 70% less water and 90% less detergent than conventional scrubbing. Reduces mold and bacteria with Hygienic Tanks. Decrease noise levels – OSHA – recognized 67dBA. Complete solution recovery- even on 180 degree turns.

The T5 Scrubber is used to clean the floors in the Scandling Center at HWS.



T5 SCRUBBER

## Water Best Practices

### Low water cleaning

Microfiber cloths and mops are ultra absorbent and can hold up to nine times their weight in water and dry three times faster than normal towels.

The B&G Housekeeping staff utilizes these cloths on a daily basis.



### Cold Water Cleaning Techniques

The electricity needed to heat one gallon of water is about 0.17 Kwh. By using Wash n' Walk no rise floor cleaner the housekeeping department not only saves electricity but saves water by not requiring a rinse step.



The Housekeeping crew members use refillable spray bottles for all their cleaning supplies. This allows for bulk purchasing of product which saves money and produces less waste and uses less water.

## Water Best Practices

### Low Flush Toilets and Urinals

One of the quickest ways to reduce water waste in a building is through using efficient toilet and urinal devices. Ultra-Low-Flush (UFL) toilets use 1.6 gallons per flush vs. traditional toilets that can use up to five gallons. UFL urinals use 1.0 gallons vs. an average of 2.5 of a traditional urinal.

All major building renovations and new construction at HWS utilize water efficient fixtures, including low flow toilets, faucets, and showerheads. For instance, new tank style toilet installations, as well as replacements or upgrades are low flow (1.3 gallons per flush) models (approximately 170). 80% of the remaining flushometer style toilets have been upgraded to low flow valves (1.6 gallons per flush). There are approximately 300 showers on campus. Most of the existing (95%) and any new showers utilize low flow (1.5 GPM) heads B&G replaces the toilets and urinals on campus with items that use the WaterSense label purchased from Grainger.



WaterSense is independently and third-party licensed by organizations that certify that products meet EPA criteria for water efficiency and performance.

WaterSense labeled products on average use 20% less water than standard products.



## Water Best Practices

### Water Saving Aerators and Sprayers

Aerators and low-flow pre-rinse spray valves are on the easiest and most cost effective water saving devices available. They minimize water consumption and energy to heat water, sewer charges are also reduced.

High efficiency spray nozzles are using in the kitchens at Scandling and the Cellar Pub which use 40% less water than standard nozzles. Aerators are installed on all the faucets in the bathrooms on campus.



### Water Sub Meters

Installing sub-meters along with proper monitoring is reported to reduce water usage by 20 to 40 percent.

Sub-meters are currently being used in Emerson, Rosenberg and the Library.



## Carbon Best Practices

### Energy Efficient Lighting

Selecting the correct lighting solution can have dramatic positive effects by providing energy savings, extending the life of equipment and improving the light quality.

B&G uses compact florescent bulbs (CFL's) lasting an average of 10 times longer than traditional bulbs. T8 fluorescents are currently also used on campus which can result in 25-45% savings in energy costs. In a recent 12-month time period, LEDs were installed in 578 emergency lights, 200 fixtures in student rooms, 25 exit lights, six parking lot pole lights, and 40 troffer style lights in the library archive.

B&G is starting to switch from CFL's to LED's. The lights in JPR have all been changed as of 1/16. This is a difference of 10,000 hrs for CFL to 20,000 hrs for LED's

### Lighting Controllers

Facilities should have motion detection lighting in most all areas. It is useful in bathrooms, storerooms and walk-in refrigerators.

B&G installs motion sensors in all bathrooms which can save 30-90% of typical energy use and well as offices and classrooms which can achieve energy savings up to 40%. Conference rooms can see reductions as high as 70%



## Carbon Best Practices

### Consumer & Industrial Lighting



We have re-lamped (2700) lights in the Library, and (4000) In the Science buildings (1/09) -  
We continue to use these lights to re-lamp campus.

- Reduce energy costs over 43% vs. T12
- Ideal solution for high energy cost areas
- 2400 initial lumens vs. 2800 lumens for standard T8
- 36,000 hour rated life on IS ballast at 3 Hours/Start



Environmentally conscious: TCLP compliant, RoHS compliant, Energy Star complaint

## Carbon Best Practices



The "Premium" Bulb Eater®



- Crushes spent fluorescent lamps of any length into 100% recyclable material.
- Captures over 99.99% of the vapors released .
- Can hold up to 1350 4' fluorescent lamps.
- A three-stage filtering process removes hazardous particulates and gases.
- EPA and OSHA compliant.
- Bulb Eater® frees up valuable storage space normally filled with boxes of spent whole lamps, reduces handling and related labor costs, and typically cuts recycling costs by 50% or more.
- Compact light bulbs are currently sent back to the manufacturer in prepaid recycle containers.



## Sodexo's contract with Air Cycle offers a variety of sustainable recycling options.

- The Bulb Eater is a self contained unit capable of destroying over 1500 straight fluorescent bulbs and disposing of them in a cost efficient process.
- Easy Pak is a package system to dispose of all types of fluorescent lamps.
- Intact Lamp Recycling is a combined process to handle large quantities of lamp recycling.
- Millennium In-ground Waste Management System uses impermeable cylinders of plastic planted into the ground and has a capacity of 3-4 cubic yards of self compacting trash with the appearance of a regular trash can above ground.
- The BIO-EZ is a totally self-contained, continual feed, organic waste disposal system designed to biologically convert solid food waste materials into liquid and CO2.
- Air Cycle offers recycling on ballasts, batteries and electronic wastes.

Many clients are looking for not only "GREEN "solutions that are cost efficient. Air Cycle has an offering of several solutions that will meet both those demands. Sodexo's Air Cycle Program offers a central platform for the procurement of recycling programs and includes implementation, reporting and service of each unit's recycling solutions.

### *Benefits of Sodexo's Air Cycle Program include:*

1. Continually updated reporting of all recycling efforts.
2. Reference individual sites or entire portfolios at the click of a mouse.
3. Ideal platform for environmental messaging with presentations 24/7.
4. Management, measurement and marketing capabilities.
5. Comprehensive state-by-state regulations.
6. Enjoy the public relations benefits, government compliance and reduced liability that comes with "going green."

## Carbon Best Practices

### Programmable Thermostat

Using the proper settings of a programmable thermostat can save roughly one-fifth of your heating and cooling costs.

At HWS, Nest Thermostats allow facilities staff to remotely monitor temperature in small houses around campus to maximize energy conservation, occupant comfort, and proper system function. Direct Digital Control (DDC) systems are also used on campus to monitor and adjust heating and cooling to maximize energy conservation, occupant comfort, and proper system function



### HVAC Filters

According to the US Environmental Protection Agency indoor air is two to five times more polluted than outdoor air. Some filters when properly maintained can remove 99.97% of airborne particles. By maintaining your filters you can save up to 6.72% of total energy.

B&G uses American Air Filter as our vendor for air filter replacements. All AAF products are designed and constructed with energy savings, minimal carbon footprint, and superior performance in mind. Buildings and Grounds using our monthly preventative maintenance program has all the filters on campus checked and changed as required.

## Carbon Best Practices

### Energy Efficient Equipment

Energy efficient equipment performs the same or better while using less energy, saving money and helping protect the environment.

B&G purchases energy star refrigerator which save \$55 per reach-in annually and freezers saving \$175 annually per solid door freezer.



As used in the Sill House Sustainable kitchen renovation.

### Central HVAC Controllers

A HVAC control system or on demand system is computerized and allows you to control and regulate the climate in a building automatically, saving energy, money while extending the life of the equipment. Improved efficiencies have been calculated to result in 5-20% in energy savings.

At HWS, the air handling units on have these controls.

## Carbon Best Practices

### Melink on Demand Hoods

An on demand hood like Melink will turn on and off and change speeds in response to heat or particulates, reducing costs and reducing wasted energy. Typical savings are between \$1,500 and \$11,000 a year and improved efficiency up to 50%

These types of hoods are currently in use in Scandling, The Cafe and Cellar Pub at HWS.



### Air Conditioning Economizers

Economizers are mechanized devices designed to reduce energy consumption while ensuring air conditioners continue to perform optimally. Energy is saved by using cool outside air as a means of cooling the indoor space.

HWS currently uses economizers on the roof top air conditioning units at Scandling, Bristol Gym and Winn Seeley.



## Carbon Best Practices

### Maintain Water Heater Flue Damper

Automatic flue dampers are found on high recovery commercial water heaters. When the thermostat signals that the tank needs to fire, the motor opens the damper as the electric ignition fires to start the water heating cycle. They contribute to energy savings and are required by law.

All of the commercial water heaters on the HWS campus have these dampers



### Insulate Hot Water Lines

Insulating your hot water pipes reduces heat loss and can raise water temperature 2-4 degrees Fahrenheit hotter than un-insulated pipes deliver, allowing for a lower water temperature setting and resulting in energy savings.

B&G insulates all old and new piping on campus providing more consistent temperatures while creating a safer and more comfortable work environment.



## Carbon Best Practices

### Preventative Maintenance Schedule

Frequently putting a small amount of effort into prevention can save lots of time and money down the road. Preventative maintenance at HWS is performed by the B&G staff weekly, monthly, quarterly and annually on the many pieces of equipment in the kitchens and buildings.



### Improving Printing Habits

Each year, the average American office workers uses 10,000 pages of copy paper, which means that 8 office workers use a tree a year in just their daily work activities.

Throughout B&G double-sided printing is the norm for all computers. An example of savings: B&G prints out monthly Preventative Maintenance (PM) Work Orders. Some of these work orders are two pages. For example in February there were 475 PM's printed. Normally this would have used four reams of paper. We used two reams of paper vs. four. By printing double sided we saved about 50%.

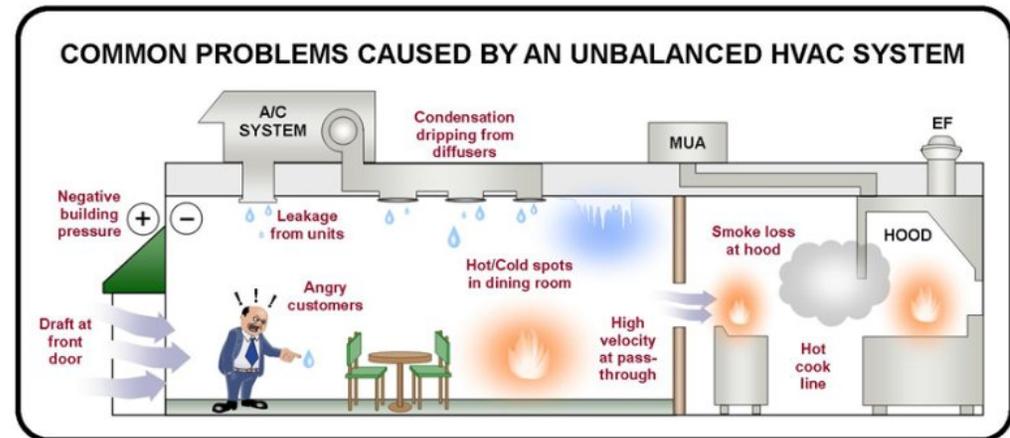


## Carbon Best Practices

### Rebalance Ventilation Systems

Rebalancing ensures that the exhaust system runs well which not only improves air flow, but reduces energy costs.

B&G uses Air Systems Balancing and Testing. This company does air flow testing in all the Lansing, Eaton, Rosenberg, Gulick, Bristol, Winn Seeley, Sport and Rec. Library, Elliott Studio Arts to name a few.



## Carbon Best Practices

A new copier leased by B&G in 2013 shows the sustainable advantages it provides.



## Environmentally Conscious Design

### Cartridge free

- No cartridge to discard or recycle

### Packaging for the planet

- Supplies packaging made from post consumer waste and 100% recyclable

### No mess

- No dust
- Safe and clean
- Non-toxic



### Compact storage

- Supplies can fit into a desk drawer

### Bio-derived

- 30% of ink derived from bio-renewable content



### Great print quality

- Recycled and lighter weight papers

## Supplies Advantage

ColorQube 8900  
58 lbs.



Typical Color Laser  
241 lbs.



## Waste Advantage

90%  
Less Waste



ColorQube 8900  
19 lbs.



Comparable Color Laser  
223 lbs.

## Healthy and Sustainable Foods and Environments Best Practices

### Green Cleaning



92% of the cleaning chemicals that Sodexo uses are “Green Seal” certified, concentrated or sustainable.



## Healthy and Sustainable Foods and Environments Best Practices

### Certified products being used by the Facilities Housekeeping Department

Ecolab QC51E –General Purpose Cleaner – Green Seal Certified

Ecolab QC52E – Glass Cleaner – Green Seal Certified

Ecolab QC91E – Neutral Bathroom Cleaner – Green Seal Certified

Ecolab QC31E – Neutral Cleaner – Green Seal Certified

Ecolab A 426 – N – Disinfectant – EPA Approved

Ecolab – Zinc Free Finish Remover – Floor Stripper – Green Seal Certified

Ecolab - Revitalize 151 – Carpet Prespray & Extraction – Green Seal Certified

Ecolab – Wash n Walk - Floor Cleaner – Green Seal Certified

Gojo - Biodegradable Foam Hand Soap – Green Seal Certified

Gojo - Biodegradable Foam Hair and Body Wash – Green Seal Certified

Spartan – Clean by Proxy – All Purpose Cleaner - Green Seal Certified

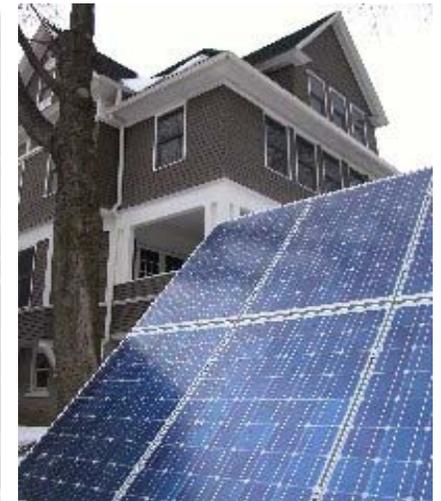


## Healthy and Sustainable Foods and Environments Best Practices

The Finger Lakes Institute received the 2009 EPA ENERGY STAR Small Business Award for increasing the energy efficiency of its facility through energy management improvements over a two-year period. Only six other small businesses across the country received the same honor in 2009

### Energy Systems

Students at HWS along with former project manager Rick Tice from the Buildings and Grounds Department designed the energy system used for the FLI building to operate completely on renewable energy resources. They include solar panels, wind, geothermal, low flow toilets, hot water supply, landscaping, such as a rain garden, synthetic decking, recycled materials such as recycled wine barrel staves, Icynene Insulation system which increases building heating efficiency by 30-50%, motion detectors and office composting.



## Facility Standards



# Leadership in Energy & Environmental Design

LEED certification (Leadership in Energy & Environmental Design):

Established in 1993, HQ in Washington, DC

- Independent third-party organization

Leadership in Energy & Environmental Design certification is a national benchmark for the design and construction of “green” buildings

Mission is to promote buildings that are:

- Environmentally responsible
- Healthy places to work and live

LEED promotes a whole-building approach to sustainability:

- human and environmental health
- sustainable site development
- water savings
- energy efficiency
- materials selection
- indoor environmental quality

LEED Certification levels:

- Certified (32-39 points)
- Silver (40-47 points)
- Gold (48-63 points)
- Platinum (64-85 points)

Fact: Chicago and Paris have same population. Paris uses 1/3 amount of land

## Healthy and Sustainable Foods and Environments Best Practices

### Green Building Practices

# Gearan Center for the Performing Arts



What makes the Gearan Center for the Performing Arts environmentally friendly?

- Low-VOC glues, sealants, coatings and paints
- Air delivery devices that are highly efficient, have heat recovery wheels to capture waste heat in the air stream, and measure CO<sub>2</sub>
- Ductwork that is sealed against dust during construction, is tightly sealed against air leakage during installation, and filter systems that keep the air clean during occupancy
- The building will be flushed out by continually circulating air for several days to evacuate dust, particles and VOCs prior to occupancy
- Windows that allow natural daylight, but have shades for comfort, and are energy efficient due to low-e coatings that reflect UV light, and argon gas filled panes for better thermal resistivity.
- Use of long life cycle of materials such as slate and brick, that have low embodied energy factors
- A tightly sealed building envelope that resists air and moisture infiltration
- Low flow domestic water fixtures including sinks, showers, and toilets

## Healthy and Sustainable Foods and Environments Best Practices



### Gearan Center for the Performing Arts

Slate is a natural product, quarried in nearby Vermont, with 100+ year lifecycle as a roofing material, and low embodied energy during production. These characteristics make it a sustainable building material choice



Variable speed drives control motors, and save energy by causing the associated pump or fan to run at precisely the speed required as opposed to the traditional on/off, or high-med-low settings. In this example, the VSDs control the fan motors on the main air handler, which supplies warm or cool air throughout the building



A worker is applying window trim over the silver air and moisture barrier that seals the building envelope before brick or metal panel are applied. In this image, vertical batten strips will be used to fasten metal panel siding. The tall windows allow desired natural light into the building, and also resist UV light and thermal loss

## Waste Best Practices

Food Waste – including used cooking oil- is an energy resource.

B&G collects used fryer oil from Scandling that is used in some of the lawn mowers and Kubota's.

### Fryer Oil Recycling for Biofuel

French fries to fuel. Indeed, our fryer oil is recycled into biodiesel that is used to power a variety of vehicles - from delivery fleets to farm equipment.



Before



After



- 50 gallons of strained used vegetable oil
- Total of 10 gallons methanol
- Separation and removal of 10-15 gallons of glycerin
- Net 45-50 gallons of biodiesel fuel

Common to use B-20:  
20% biodiesel  
80% conventional diesel

## Waste Best Practices



HWS Biodiesel Machine



Our lawnmowers and Kubota's are run on Biodiesel.



## Waste Best Practices



RecycleMania is a friendly competition among college and university recycling programs in the United States that provides the campus community with a fun, proactive activity in waste reduction. Over a 10-week period, campuses compete in different contests to see which institution can collect the largest amount of recyclables per capita, the largest amount of total recyclables, the least amount of trash per capita, or have the highest recycling rate.

B&G not only promotes recycling we practice it too. We use the no-sort recycling at B&G and toss all of our recyclables into one bin!

Cardboard  
Paper (white and colored)  
Magazines  
Newspaper  
File Folders  
Aluminum Cans  
Tin Cans  
Glass Bottles  
Plastic Bottles  
Paper Coffee Cups



Buildings and Grounds staff help the colleges each year with their Recyclemania Program that kicks off each year in February.

## Waste Best Practices



We strive to protect human health and the environment by offering battery recycling solutions for businesses, government and households. These battery waste management programs help companies and environmentally conscious consumers meet their environmental, health, safety and recycling objectives. Our success is a result of our knowledge, expertise, dedication and most of all passion for what we do.

### Recycled Battery Types

- Alkaline/Zinc
- Nickel Cadmium – Dry
- Nickel Cadmium – Wet
- Nickel Iron – Wet
- Nickel Metal Hydride – Dry
- Nickel Metal Hydride – Wet
- Lithium Ion
- Lithium Primary
- Mercury
- Silver Oxide
- Button Cells
- Lead Acid – Non-Spillable
- Lead Acid – Wet Cell
- Lead Acid – Absolyte
- Lead Acid – Steel Case



# Sustainable Driving

Club Car electric vehicles provide environmental benefits for our customers. They are the world's largest manufacturer and leader of zero emissions vehicles. Club Cars emit zero emissions and provides the same power of a traditional gas vehicle while reducing your year-over-year operating costs.



Some of the electric fleet , Club Cars and Bio-Diesel Kubota's in use by Buildings and Grounds.



#### SAVINGS EFFICIENCY

- 90% Maintenance-free with years and years of trouble-free service.
- Significantly reduced operating costs.
- Zero emissions.
- No gas required.

#### PERFORMANCE

- Brushless 3 phase induction AC motor.
- Battery life of up to 30,000 miles.
- Power assisted disc and drum brakes — powerful enough to make a quick stop.
- AC electric motor with plenty of torque and is constructed for performance and durability.
- Laminated front windshield safety glass.

We believe in the power of positive change and are working to make a positive change and are working to make a sustainable difference that will benefit the environment today and for generations to come.



Added to our electric vehicle pool October 2010

## transit connect electric



Driving a **world** of difference  
in a light-duty **electric** vehicle.



Added to the B&G fleet Spring 2011

To create the Transit Connect Electric, Azure integrates its proven Force Drive™ electric power train into the award-winning Ford Transit Connect. Utilizing an advanced lithium-ion battery from Johnson Controls-Saft, the Transit Connect Electric can achieve a range of 50-80 miles depending on auxiliary usage and drive cycle, and has a top speed of 75 mph. The battery is rechargeable using either a 240-volt or standard 120-volt outlet.

# Sustainable Grounds

*Sustainable landscape and grounds solutions should protect the integrity of ecological and social systems through noninvasive and carefully targeted solutions; maximum impact with minimal invasion.*

Shredded hardwood bark mulch is bark from local loggers, shredded and composted for up to 2 years, re-ground and delivered to us. All this happens within 5 miles of HWS. It's local and natural, using recycled wood products. All sustainable.



College Store Spring  
Landscaping

## Finger Lakes Institute Rain Garden

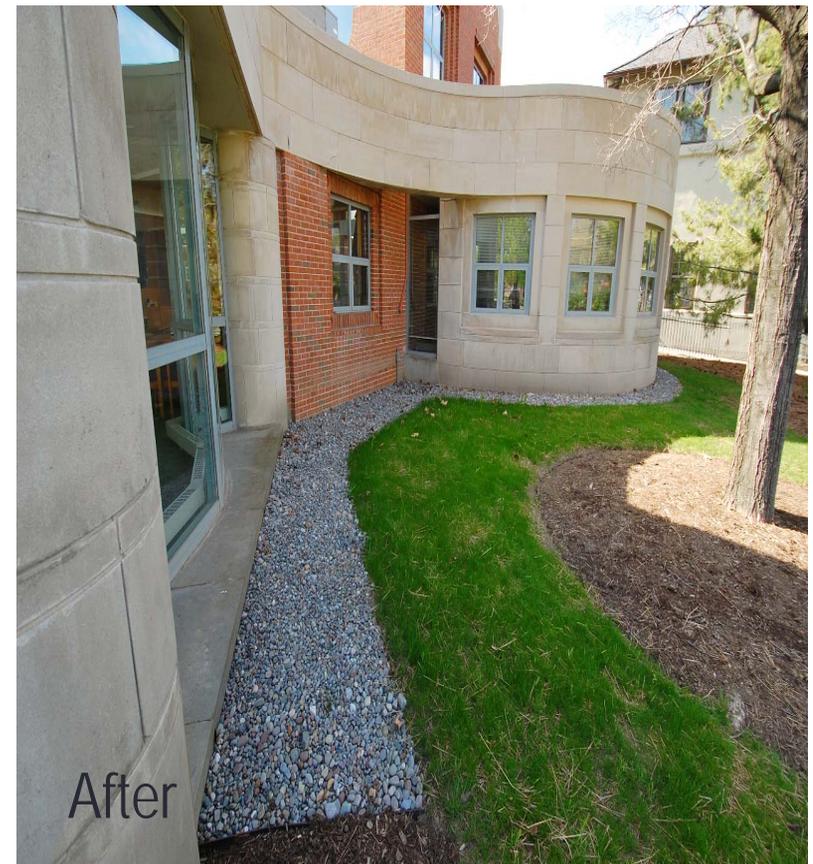


Rain gardens are shallow, pie pan-like depressions, specifically designed to soak up and store excess rainwater and snowmelt and filter contaminants, meanwhile attracting birds and beneficial insects. They reduce mosquito breeding by preventing standing water, sustain adequate flows to streams during dry spells, and reduce erosion of stream banks and lake shores as well as the need for costly municipal storm water treatment. (constructed by B&G)

## Ballast stone roof at Scandling



Roof stone: The ballast stone from roof replacement on Scandling center was recycled for use in stone "gutter" areas around Scandling to prevent mud from splashing on building and give a decorative edge to building.



## Sustainable landscaping.....

The Grounds Department also re-uses any material such as stone, topsoil, fill that comes from construction work on campus whenever possible to avoid the transportation and disposal off campus.



The Grounds Department mulches leaves with their mowing which adds organic matter to the soil. They only pick up excess leaves in Fall and then they compost them to be used as a soil amendment in two years.

They use recycler decks on the mowers to mulch the grass back into the ground.



They use a brush on a snow removal machine for sidewalks which lessens our need for salting.



## Leaves to Soil



Every Autumn we pick up excess leaves from campus lawns, beds and roadways. We try to mulch up as many as possible to add nutrient back into the turf, but there are too many.



These leaves are piled up at the leaf pit as they are collected.



Over the next 2-3 years, the piles are turned to aid the composting process and moved to make room for the next year's pile. Here is a pile from 2 years ago (foreground) and last year's leaves (background).

## Leaves to Soil



After the third year, the pile is moved to be screened to remove unwanted debris such as rocks and sticks and make more uniform.



Then it is ready for use in new seeding, planting bed improvement and general landscape installations.



With the demolition of the Brent House, Stucco, 295 Pulteney and Cloverleaf to make way for the new Gearan Center Parking lot 11 spruce trees were able to be saved and used at different locations on campus.



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# Energy Saving Projects



HWS has accepted the following general guidelines for energy decisions.

## Payback

< 3 years ~ Do the work now

3 – 7 years ~ Evaluate / Analyze

> 7 years ~ Hold

## Rosenberg 212



Rosenberg 212 requires a cooling set point four degrees lower than the building. In order to cool this space, the main air handler must cool the entire building to 70 degrees, and then reheat the remaining spaces (98% of the building). By putting in an independent AC unit, reheating is no longer necessary and the cooling set point can be raised. Savings are in both electrical and gas.



Buildings and Grounds staff meet with contractors who are installing a green roof on Comstock Hall. The pilot project was initiated by the Climate task force as a means to help with storm water management, reduce the heat island effect, and improve the insulation in the new Comstock renovation. (2011)

## Caird / DeCordova



By sub metering these residence halls the possibility of energy savings between the buildings is a reminder to all students to continue the energy saving efforts each year.

- Gas
- Water
- Electricity

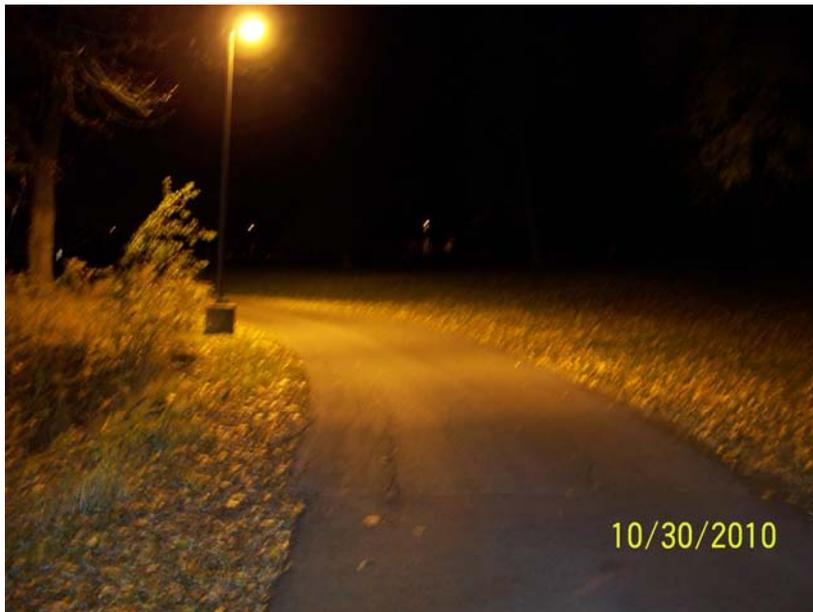
## Relamping the Campus



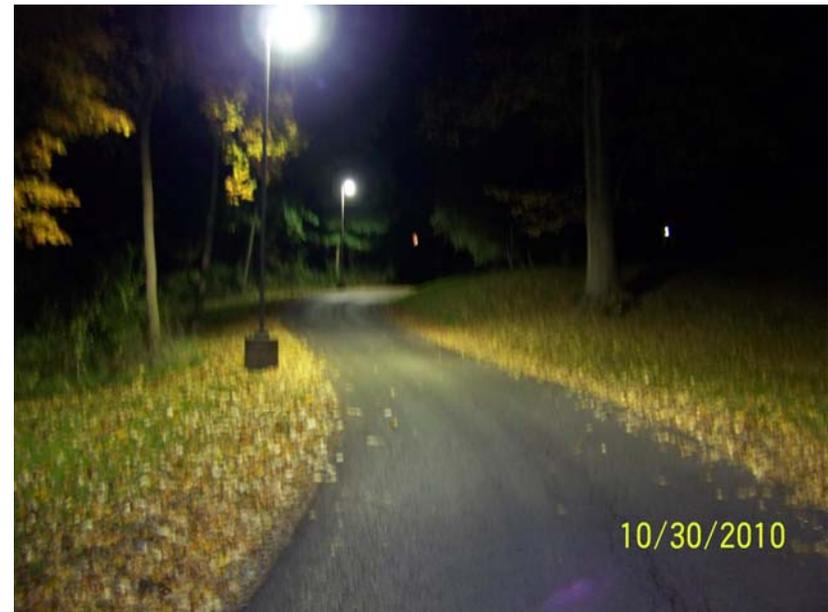
By converting campus lighting from HPS to MH lighting we will save energy and provide a quality of lighting that is safer. This initiative expands on the work of William Smith student Emily Earl.

## Exterior Campus Lighting

All exterior lighting on campus is in the process of changing from 400w high pressure sodium lighting to 250 metal halide lighting. This will result in a \$5000/yr. estimated savings with a 1 ½ year payback. This work was all done by B&G electrician Ed Collins with help from General Mechanic Rob Griffin. This project was completed by Commencement 2011.



Before



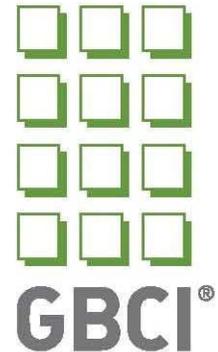
After

Kings Lane

During Earth Week 2009, Senior Project Manager Chris Button successfully passed the LEED Accredited Professionals testing for New Construction.



The LEED AP for New Construction exam track tests the candidate's knowledge of the LEED for New Commercial Construction and Major Renovations Rating System v2.2 and its application in practice. The LEED for New Construction exam track provides a standard for professionals participating in the design and construction phases of high-performance, healthful, durable, affordable, and environmentally sound commercial, institutional, and high-rise residential buildings.



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Buildings and Grounds  
*In the news...*

# HWS Honored by Arbor Day Foundation

March 25, 2016

Hobart and William Smith Colleges have been named a Tree Campus USA® by the Arbor Day Foundation for the fourth consecutive year. The honor recognizes the Colleges for meeting five core standards for effective campus forest management: a tree advisory committee, a campus tree-care plan, dedicated annual expenditures for a campus tree program, a student service-learning project, and an Arbor Day observance. Launched in 2008 by the Arbor Day Foundation, Tree Campus USA is a national program that honors colleges and universities and their leaders for promoting healthy trees and engaging students and staff in the spirit of conservation. Only 254 campuses across the U.S. hold the recognition.

During 2015, the Colleges continued to advance a strong commitment to the environment, sustainability and heritage of trees through several key areas, including planting 39 new trees, adding to the existing 1,800 trees on campus.

In addition, FLI intern Stacey Davis '15 completed a tree inventory and corresponding map of the 102 trees on HWS Fribolin Farm which current intern Patrick Ware '16 began to examine during the fall 2015 semester. The farm's tree inventory aided in the Finger Lakes Institute (FLI) Food Systems Program's "Sweet As Farming" as 10 of the maple trees were tapped for maple syrup in 2015 with the assistance of Abbe Lentz '15 and Maggie O'Reilly '16. Davis also completed a formal proposal to the HWS Farm Committee to create an edible forest at the HWS Fribolin Farm. The project complimented a plan previously crafted by Brendan Fitzgerald '15 and Daniel Budman '15.

Last year, a campus map of existing trees was updated to include more than 800 specimens. While conducting the tree inventory, data on each tree is added to i-Tree Streets, an urban forest analysis tool that's used to report the environmental services provided by campus trees, such as carbon sequestration linked to trees on campus.

Extending efforts to the community, about 30 HWS students also planted an edible perennial garden at Trinity Church in Geneva during one of the Colleges' Days of Service.

Recently, the Colleges were also named as one of three [national finalists](#) in the 2015 Arbor Day Foundation Tree Campus USA Service Learning Contest open to institutions with fewer than 15,000 enrolled students. The Colleges' proposal, submitted by FLI Food Systems Program Manager and Community Outreach Coordinator Sarah Meyer, called for the planting of 100 fruit trees in the City of Geneva to aid in hunger relief.

The Arbor Day Foundation has helped campuses throughout the country plant thousands of trees, and [Tree Campus USA](#) colleges and universities invested more than \$36.8 million in campus forest management last year.

The Arbor Day Foundation is a million member nonprofit conservation and education organization with the mission to inspire people to plant, nurture and celebrate trees.

Meyer and HWS Grounds Manager David Iannicello will attend the Tree Campus USA award ceremony on behalf of the Colleges. The event, hosted by the New York State Department of Environmental Conservation Division of Lands and Forests, will take place on Wednesday, March 30 in Albany.





### New EV charging station installed

Hello everyone- it is with great pleasure that on the Friday of Earth Week 2014 I can announce the installation of the **first Electric Vehicle charging station (2 ports) on our campus**. It is installed in the Medbery Parking Lot by the Campus Safety/ B&G building - Adam Mauer

- Adam worked in conjunction with Tom Bonacci, Project Manager in Building and Grounds to get the project up to code and running.



## Mark Adams

*by Jessica Evangelista Balduzzi '05*

A member of the Buildings and Grounds staff, Mark Adams (right) gears much of his workday around sustainability efforts on campus, often teaching members of the HWS sustainability task force about the latest technology utilized, such as the heating and cooling systems for Emerson and de Cordova Halls (he's pictured here in the basement of de Cordova with Sustainability Manager Jamie Landi '08 and Eco Reps Anna Hertlein '12 and Carly Ellis '14). An

HVAC technician, Adams is in his sixth year at HWS, having spent 25 years as an HVAC electrician at Kodak.

"In many ways the transition from Kodak to HWS was seamless. The goals are the same: find ways to reduce energy consumption and lower costs," says Adams, who lives with his family in Clifton Springs, N.Y. Buildings and Grounds recently partnered with the Office of Sustainability to form the Energy and Climate Committee to better integrate efforts and inform decisions in new construction, renovations and general physical plant management.

Adams helps monitor the environmental aspects of residential living spaces, such as energy use, recycling, broken fixtures and open windows.

"This job is a great balance between working in the field and on the computer," says Adams. "I am always learning something new and I'm never bored."





Grounds Manager, David Iannicello and other HWS members being recognized by Tree Campus USA for their efforts.

# Arbor Day Celebration Takes Root

*April 25, 2012*



The Colleges ushered in Arbor Day with an event that would have made college founder and noted nurseryman William Smith proud - the successful planting of more than 70 trees on the William Smith Hill as part of a 2012 Tree Campus USA tree planting event.

"There is a history and deep heritage of tree stewardship embedded in this college," remarked President Mark D. Gearan on Saturday morning when students gathered to help plant the numerous varieties of trees that included elms, sugar and red maples, river birch and some fruit trees - apple, cherry and pear.

"There have never been this many trees planted on this campus at once," Gearan told the crowd of students and staff assembled to help plant the young trees. "I hope that when you return to the Colleges 10, 20, 30 years from now, you will see this stunning array of trees that now dot the landscape and take pride in the fact that you were a part of this."

Derek Weiss '12 also addressed the planters, speaking to the Colleges' rich relationship with nature and William Smith's unique connection to the campus' greenery. "William Smith was a nurseryman, through and through, and the evidence of this persists to this day on our campus," said Weiss. "Our expansive mature trees are in large part thanks to him. Today we continue to be committed to this heritage of trees, and uphold a strong tradition of being stewards of our urban forest, making this campus community our own natural wonder."

Both Gearan and Weiss also extended their gratitude to the Colleges' Buildings and Grounds staff, whose hard work prepared the Hill for the planting - trees lined up, tagged and read to take root.

"We owe a huge deal of thanks to our phenomenal Buildings and Grounds staff," remarked Gearan. "This campus houses a frightening number of doors, countless feet of sidewalks and beautiful landscaping - there is a lot beautiful campus, and the upkeep is peerless."

In an effort to care for the newly planted trees, the Colleges have established a 13-member Tree Advisory Committee who will oversee a Campus Tree Care Plan. The campus now contains more than 1,500 trees from 42 genera and 73 species. Other greens-related initiatives on campus include a 2:1 tree replacement policy; mulching of plantings to conserve moisture; and recycling of leaves and grass clippings from campus grounds to compost and later add to soil as an amendment for planting.

# HWS Now a "Tree Campus USA"

*March 23, 2012*



Hobart and William Smith Colleges will be honored as a Tree Campus USA®, and one of only six such campuses in the nation to be chosen for a 2012 Tree Campus USA tree planting event. Volunteers will plant up to 75 trees on the William Smith Hill on Saturday, April 14 starting at 1 p.m. The tree planting will occur in conjunction with the HWS Day of Service led by the HWS Center for Community Engagement and Service Learning.

"Hobart and William Smith Colleges are honored and excited to pay tribute to the legacy of William Smith by planting these trees and proud to be selected by the Arbor Day Foundation to be a part of this event," says HWS Grounds Manager David Iannicello.

The Tree Campus USA® designation recognizes college and university campuses that effectively manage their campus trees, develop connectivity with the community beyond campus borders to foster healthy urban forests and strive to engage their student population utilizing service learning opportunities centered on campus and community forestry efforts.

HWS' selection as a Tree Campus USA® celebrates and recognizes the Colleges' commitment to natural resource conservation and greening initiatives which can be shown through a culmination of decades of environmental conservation on campus, inspired by nurseryman William Smith. After working for a Geneva nurseryman, Smith and his two brothers started their own nursery raising and selling ornamental plants. Smith eventually focused his efforts on plant breeding and acquiring a large collection of natural history specimens. In 1906, he donated nearly \$500,000 to establish William Smith College for women.

The campus now contains more than 1,500 trees from 42 genera and 73 species. Today multiple faculty, students, programs and departments influence the progress made toward developing a culture of environmental stewardship on campus.

"This is a terrific acknowledgement of our considerable environmental achievements and commitment to environmental stewardship," says Sustainability Coordinator and Tree Advisory Committee member Jamie Landi '08. "I'm very excited that Hobart and William Smith are receiving this recognition, and am looking forward to seeing the trees continue to be a vibrant part of our urban forest."

Hobart and William Smith Colleges have created a Campus Tree Advisory Committee and a Campus Tree Care Plan. The 13-member committee includes representatives from HWS faculty, students, facility management, the Finger Lakes Institute and the Geneva community.

Among the campus natural resource conservation and stewardship initiatives are a 2:1 tree replacement policy; mulching of plantings to conserve moisture; and recycling of leaves and grass clippings from campus grounds to compost and later add to soil as an amendment for planting. Additionally, trees are moved whenever possible prior to construction.

The Tree Campus USA tree planting events are sponsored by the Arbor Day Foundation, Toyota and the Association for the Advancement of Sustainability in Higher Education. The other five colleges and universities that received tree planting events this year include: Colorado State University; the University of Colorado Boulder; University of Illinois, Chicago; Virginia Commonwealth University and Purdue University.

April 2011

Admissions scheduled a meeting with the Genesee Elementary School to tour the HWS campus. During this tour which focused on sustainability, David Iannicello showed the students the kubotas that use the bio-diesel that is produced on campus. He also showed them the machine that makes the bio-diesel.

As noted from Sue Willard one of the students said, "this is the best fieldtrip I have ever been on in my life!"



April 2011

To help in promoting Arbor Day, Grounds Manager David Iannicello helped the 3<sup>rd</sup> graders at West Street School plant trees at the Washington Street playground.



## ACUPCC newsletter...

# "Sodexo Helps Hobart and William Smith Colleges Go Climate Neutral"

*August 2011*

On the shores of the pristine Seneca Lake in the heart of the Finger Lakes in northern New York, environmental sustainability is on everyone's mind. Enjoying nature and the outdoors are a part of life here, and residents want to keep it that way. So, when Hobart and William Smith Colleges (HWS) in Geneva, New York, decided to expand their student population, administrators wanted to ensure that the campus grew sustainably.

In September 2007, HWS signed the American College & University Presidents' Climate Commitment (ACUPCC), an effort by a network of colleges and universities to accelerate sustainability by pursuing climate neutrality. This involves finding ways to ensure a campus produces no net emissions of greenhouse gases (GHGs) by, for example, using renewable energy and conserving energy. Signing the commitment formalized the institution's obligation to cut carbon emissions, and in January 2010, HWS went a step further and published their Climate Action Plan, putting a 2025 deadline on campus climate neutrality. This is a tough target.

Sodexo, a long-time provider of dining services and facilities management to HWS, is helping HWS achieve that goal. Since 2008, we have worked with HWS to reduce energy consumption by 10%, and GHG emissions by 6%, as the student population has grown. "We have a great working relationship with Sodexo," said Jamie Landi, Sustainability Coordinator at HWS. "We don't think of them as a separate entity on campus. We're on the same team, and we both view sustainability as a top priority." Teamwork is essential. Shortly after signing the ACUPCC, HWS formed the President's Climate Task Force, a group that includes HWS President Mark D. Gearan, on-site Sodexo managers, students, and campus faculty and staff. The Task Force oversees planning and implementation of projects supporting the ACUPCC commitment.

Working with students HWS students embrace environmental stewardship. Hobart and William Smith administrators and Sodexo managers engage the student body in sustainability initiatives, and campus-focused sustainability research and projects are integrated into the curriculum. Students work directly with Sodexo employees to learn about facilities management, and to collect energy management data, and we collaborate to produce project proposals for review by HWS administration. For example, Sodexo teams recently worked with a student to develop and install an energy-saving green roof on a building converted from a dining hall into student residences - part of a \$1.1 million renovation project managed by Sodexo. HWS and Sodexo are considering installing a green roof on the performing arts center. We have also collaborated with students in the environmental studies program to conduct an energy audit, identifying excessive energy use in several campus buildings. The audit led to a Sodexo-managed retrofit project that saw installation of upgraded lights and air conditioners. And this summer, Sodexo employees are helping students research the viability of renewable energy credits and offsets, to be considered for purchase by the colleges.

### Measuring results

Sodexo measures and reports emissions reductions achieved as a result of individual projects, so the campus can see its progress toward climate neutrality.

"We share this information with Hobart and William Smith. This way, we're not publishing one big number, rather showing all the steps along the way and how each project, big and small, helps reach our goal," said Howard Simmons, Sodexo Director of Facilities.

So far, projects organized and implemented by Sodexo have paid off. Hobart and William Smith are now 27% more energy efficient than other colleges of a similar size, and annual campus energy costs have been cut by nearly 10%.

"Sodexo is a leader in sustainability. Their guidance allowed us to be really aggressive in laying out our plan for climate neutrality," said Landi. "We count on Sodexo's expertise to recommend projects that not only reduce emissions but also offer good return on investment."

# Colleges Continue to Go Green

*December 29, 2010*



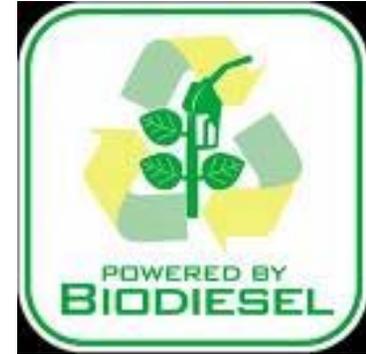
Did you know that Hobart and William Smith Colleges produce less carbon per student than several of the top liberal arts colleges in the country? In fact, the Colleges emit approximately 7.99 tons of carbon per student compared to Smith College's 11.59 tons per student and Middlebury's 14.5 tons per student (HWS Greenhouse Gas Inventory, 2007). Still, if you figure that HWS currently enroll 2,099 students, based on our 2007 per student emission level we are talking about 16,771 tons of carbon equivalent annually - a lot of CO<sub>2</sub>e!

The Colleges have, however, made steady progress toward reducing this number. Between the 2009 and 2010 academic years HWS achieved a 9 percent reduction in overall energy consumption leading to an estimated 6 percent reduction in its greenhouse gas emissions. Reductions were achieved through a wide array of initiatives happening all around campus. For example, 80 percent of the boilers on campus have been replaced with high efficiency boilers, a 68-70 degree heating set-point has been established to balance energy efficiency and comfort in buildings, and more than 95 percent of campus lighting has been switched to high efficiency variety - the Colleges are even trying out cutting-edge L.E.D. technology. Sustainability Coordinator Jamie Landi believes that the next big emission reduction will stem from 'front end' energy conservation -- students, faculty and staff doing the easy things such as turning off lights, keeping windows closed, and shutting down computers. Landi explains that building occupants have significant control over energy consumption and can, with very little effort and often times added comfort decrease the emissions that the building systems produce.

To that end, the HWS Goes Green Program launched the Issue of the Month Campaign. The issue of the month program was designed to "get out the word" about greenhouse gas reduction and the Colleges' commitment to eliminate emissions by 2025. In October they tackled the issue of electricity with a capstone light bulb exchange event. November's "Issue" was campus heating, and focused on the Colleges' first student energy inventory. December's Issue of the Month focused on alternative transportation and included a ZipCar questionnaire designed to assess the viability of the car share program at HWS. In addition, December's alternative transportation encouraged the Colleges' RideBoard Program and HWS supported shuttle services.

# The Colleges bump up alternative fuel

*January 15, 2010*



In keeping with the [President's Climate Commitment](#), the Colleges are continuing to make advances toward sustainability and environmental responsibility.

As of the fall 2009 semester, the HWS Buildings and Grounds Department has been running all of the diesel maintenance equipment on B20 Biodiesel, a blend of petroleum diesel fuel and a refined, clean-burning alternative fuel produced from the used fryer oil from dining services. With this new technique for fueling the nine diesel vehicles owned by HWS, Grounds Manager David Iannicello says, "We can claim a 28 percent reduction in our diesel purchases."

The nearly 6,000 pounds of discarded fryer grease per year translates to roughly 850 gallons, which, in turn, yields roughly a one-to-one ratio for diesel production. This means that those 6,000 pounds of unwanted fryer grease, which at one time needed to be hauled away by an outside company, now yields 850 gallons of biodiesel fuel. Those 850 gallons reduce the amount of petroleum diesel used per year by more than one third. To make the biodiesel, the used grease is first filtered, then pumped into a machine with reactants, which convert the grease into usable fuel. After the 24-hour reaction process and a 24-hour rinse cycle, the fuel is pumped into a tank, where it is mixed with petroleum diesel.

While there is a byproduct of the process, glycerin, it can be sold back to the supplier of the reactants, so, as Iannicello says, "There's no waste: every gallon of fryer oil we bring over gets used."

In addition, by replacing older gas trucks with diesel engine units, overall fuel usage has decreased by 6 percent. And, at roughly \$1 per gallon, the biodiesel is saving money as well as energy.

"All around, taking advantage of alternative energy sources is a good emissions reduction strategy," says HWS Sustainability Coordinator James Landi '08.

# EPA Awards FLI for Energy Savings



September 23, 2009

The Finger Lakes Institute (FLI) has received a top environmental award from the nation's foremost agency in energy conservation practices. The U.S. Environmental Protection Agency (EPA) named the FLI at Hobart and William Smith Colleges one of seven winners of the 2009 ENERGY STAR Small Business Award. Winners are recognized for reducing greenhouse gas emissions through effective energy management practices and innovative efficiency solutions. The FLI is the only facility in New York State to receive the award.

"As a signatory of the American College & University Presidents Climate Commitment, I am very proud that the Finger Lakes Institute has been recognized for its outstanding commitment to energy efficiency and environmental protection," says Mark D. Gearan, president of Hobart and William Smith Colleges. "It's fitting that this award should come as we celebrate the Institute's fifth anniversary helping to protect, promote and preserve the Finger Lakes."

According to the EPA, this year's award-winning organizations, as a group, reduced their annual greenhouse gas emissions in an amount equivalent to those produced from the average electricity use of more than 80 homes. The winners also demonstrated that improving energy efficiency is an effective, low-cost solution, even in the face of significantly expanded operations. Financial savings for this year's winners totaled more than \$180,000 in annual costs. "EPA is pleased to recognize the Finger Lakes Institute for its leadership in addressing global warming through greater energy efficiency," said Kathleen Hogan, director of EPA's Climate Protection Partnership Division. "They are showing their community that everyone can play a role in protecting the health of our planet." To achieve their energy savings, the Colleges, when renovating the building that now houses the Institute, installed 12, 165-watt solar photovoltaic modules on the southeastern side of the facility, to capture sunlight and convert it to electricity. It was predicted that solar power would generate approximately 20 percent of the FLI's total electrical energy. A geothermal heating and cooling system was also installed to regulate interior temperatures by transferring heat from 20, 100-foot wells drilled along the shoreline of Seneca Lake. This solar and geothermal energy is also supplemented by crediting blocks of wind energy from Fenner Wind Farm in Madison County.

ENERGY STAR qualified products and equipment-including office equipment, appliances, windows, lighting and insulation-were also installed wherever possible, funded in part by a federal grant through the efforts of former Congressman James T. Walsh. Synthetic lumber decking and miniature on-demand hot water heaters are among the other "green" products used in the facility.

"Anytime a new or replacement purchasing decision is made we check for the ENERGY STAR label in that product category," says Sarah Meyer, FLI community outreach coordinator, citing the ENERGY STAR Purchasing and Procurement [Web site](#). "Our energy savings plan has been aggressive, recognizing that the building was renovated to be efficient and that the FLI and HWS needed to strive to maximize that efficiency." Since the opening of the building in 2004 the FLI staff has worked closely with HWS **Building and Grounds**, the HWS sustainability coordinator and involved faculty and staff to help the building live up to the energy-saving predictions and expectations. The FLI is located in a c.1860 historic home renovated with a grant from New York State garnered by Senator Michael F. Nozzolio.

In 2007, the Colleges enacted an ENERGY STAR Purchasing Policy, committing HWS faculty and staff to purchasing ENERGY STAR qualified products. Complete details on the FLI's energy saving efforts, the efforts of other winners, and more details on the ENERGY STAR program can be found [online](#) (click on "Award Winners"). In addition to a celebration for the Energy Star Award later this fall, the FLI will commemorate its fifth anniversary with various events throughout October. A complete listing is available on the FLI's Web site. <http://fli.hws.edu/workshops.asp>

"At times our energy savings plan has seemed more like an experiment," says Meyer. "Managing a green facility with state-of-the-art technology has meant challenges as well as solutions. We have made progress toward the goal of managing cost, maximizing efficiency and maintaining comfort. We're also achieving our objective of educating the public about energy efficiency, whether it's on the use of a unique system like geothermal, or what small steps, like adjusting a programmable thermostat, can have for achieving significant savings. We're on a much more efficient path today than we were two years ago, and we believe it can continue to improve."

# Sustainable is Attainable!

*September 16, 2009*



At first glance, one would never guess that the newly-renovated Sill House kitchen, home to Campus Greens, is nearly 100 percent sustainable. Bright paint, shiny cabinetry, and the kitchen's centerpiece – a concrete island countertop - manage to be both eco-friendly and aesthetically pleasing. "What a neat welcome-back gift for our students," remarked Tom Bonacci, project manager at Buildings and Grounds, as he and Sustainability Coordinator James Landi '08 surveyed the finished product, spearheaded by Project Manager Janine DeBolt.

The cabinets are made from solid strips of bamboo grass. The wood, salvaged from a rubber plantation, would have otherwise been wasted. Greenguard-certified NAUF Wilsonart International laminate countertops contain no added urea or formaldehyde. The pantry was recycled from Sill's old kitchen. The concrete island countertop is sturdy and able to seat the Green Team comfortably for a meal. A low-VOC, ProGreen paint in burnt orange adds to the décor.

Energy Star appliances, including a refrigerator and a dishwasher, not only conserve electricity, but save money in the long-run. The Colleges began installing Energy Star appliances in Odell's Village and have continued to do so all across campus. The kitchen also includes a recycling center and cloth shopping bags to cut down on waste. All of these renovations make sustainability an even more attainable goal. "This year, Campus Greens is very active with local and regional green efforts," said Landi. Comprised of 100 students -- 30 core members who live in Sill House-- Campus Greens is essential in getting HWS students up-to-speed with Green efforts. Placing a focus on local farmers, students will cook with local produce and host communal dinners, highlighting the Geneva Farmers' Market in the process. The Green House is a meeting place for students interested in learning new ways that they can help conserve the environment. The house residents sponsor projects such as composting, energy campaigns, learning how to properly recycle and on-going discussions of current events and issues that are environmentally related. House members serve as a model and reminder to HWS and the Geneva community of the importance in caring for the environment.

The group is supported by Sarah Meyer, Finger Lakes Institute Community Outreach Coordinator and last year's sponsor; Rev. Lesley Adams, the Colleges' chaplain who hosts sustainable dinners; and Landi, who works closely with the students on green projects.

## Rain Garden Demo at FLI

*June 17, 2009*



In suburban and urban areas, water runs off developed land such as driveways, patios, roofs and sidewalks and impacts local streams and lakes. Increasingly, rain gardens are being incorporated into landscape designs to protect water quality and limit the introduction of sediment into natural waterways.

On May 30, as part of the Finger Lakes Institute at Hobart and William Smith Colleges' public service program, volunteers from the HWS and Geneva communities planted a demonstration rain garden in the Institute's backyard overlooking Seneca Lake. Volunteers were given a brief overview of the purpose of the rain garden and the history of rain garden construction and design.

Rain gardens are shallow, pie pan-like depressions, specifically designed to soak up and store excess rainwater and snowmelt and filter contaminants, meanwhile attracting birds and beneficial insects. They reduce mosquito breeding by preventing standing water, sustain adequate flows to streams during dry spells, and reduce erosion of stream banks and lake shores as well as the need for costly municipal storm water treatment. Rain gardens can also reduce the potential for home flooding.

The Finger Lakes Institute garden, constructed by HWS Building and Grounds, incorporates a variety of flowering plants, sedges and grasses native to New York. The lake-facing side of the garden is a berm planted with Solomon Seal, intended to contain water during heavier rain events. It will be incorporated into future educational programs of the Institute designed to explain and recognize the benefits of storm water management, the identification of native plants, and value of environmental stewardship.

During this summer's Finger Lakes Exploration Camp, Education Coordinator Sheila Myers expects to review how rain gardens are used in watershed protection with middle school students from the Finger Lakes region. Community Outreach Coordinator Sarah Meyer hopes that, once the interpretive signage is installed, the garden will be regularly visited by college students, community members, garden enthusiasts, and naturalists alike.

# B&G Changes Cleaning Chemicals in the Move toward a Green-Friendly Campus

Sept '08



## CLEAN AND GREEN

HWS Dining Services uses only environmentally friendly cleaning products made by Ecolab and HWS Buildings and Grounds only uses cleaning chemicals that meet with Green Seal approval.

This fall marks a new era in the Colleges' commitment to the environment. Coinciding with President Mark D. Gearan's American College and University Presidents Climate Commitment, the HWS Buildings & Grounds department changed cleaning chemicals to those that meet with Green Seal approval. Green Seal "provides science-based environmental certification standards that are credible, transparent, and essential in an increasingly educated and competitive marketplace. [Green Seal's] industry knowledge and standards help manufacturers, purchasers, and end users alike make responsible choices that positively impact business behavior and improve quality of life."

With these new cleaning chemicals comes a new way of approaching the work of Buildings & Grounds. All vendors and suppliers working with B&G are being asked to provide green sensitive programs. "Education and training is one of the benefits that B&G realizes as they work with green sensitive companies," says Howard Simmons, Director of HWS Buildings & Grounds. Staff will be trained in the usage of the supplies. Dilutions may differ from previous products, and products may have different applications. Along with other environmentally friendly steps, these changes are part of a larger recognition of the Colleges' interest in the environment and are only one facet of the commitment to making a difference. Energy efficiency is one of the major goals of HWS Buildings & Grounds, and as such, B&G personnel are actively studying, understanding, and implementing ways to be more energy efficient, thus reducing the Colleges' overall energy usage.

There is more work to be done, however, and as Associate Professor of Economics and Environmental Studies Tom Drennen said, "It's not going to be easy, but it is the right thing to do — to begin down the path of making this campus more environmentally friendly."

# Library Makes Use of Energy Efficient Lighting

*Aug '08*

As of last week, brilliance will be found in more than just the library's books -- it will be in its lighting as well. Buildings and Grounds has been hard at work replacing over 2,500 inefficient 32 watt bulbs with eco-friendly 25 watt compact fluorescent bulbs. The change is thanks to the conceptualizing and planning of Provost Teresa Amott, Buildings and Grounds Assistant Director Scott Woodworth, Interim Library Director Sara Greenleaf and Mechanical Trades Manager Chad Bouffiou.

"As one of the largest buildings on campus, we knew that a lighting change in the library would make a substantial difference in lowering energy cost and usage," says Greenleaf. "However, we also knew how important lighting is in the library, so we chose bulbs that would be energy efficient but wouldn't sacrifice visibility."

"The bulbs being used for this project are very new to the market," explains Woodworth. "They're four foot General Electric low-wattage compact fluorescent tube bulbs that give as much light as the 32 watt bulbs that they'll replace. They will also save the Colleges 114,300 kWh of electricity, 11.1 tons of CO<sub>2</sub> and over \$12,000 per year."

"It may be just a seven watt difference per bulb but that amounts to a huge difference with over 2,500 bulbs," says Assistant Professor of Economics and Environmental Studies Tom Drennen. "These G.E. bulbs will pay for themselves in seven months with what they'll save the Colleges. It was an easy choice."

And in fact, the choice began with student research. "During a summer internship, senior Robert Reid studied the energy use on campus and proposed innovative ways to reduce energy use and carbon emissions," says Drennen. "The library's lighting was one of those recommendations."

With a future that is already bright, the eco-friendly changes in the library are far from over. "We've already converted the reference computers from unlimited printing to the typical quota-based printing for students in an effort to reduce paper waste in the library," explains Greenleaf. "We're currently planning a remodeling of parts of the library, and we've had the environment in mind since the earliest stages."

The lighting change in the library is one of many environmentally conscious initiatives started on campus after President Mark D. Gearan signed the American College and University Presidents Climate Commitment on Sept. 14.

"We're exploring what else technology can do to help our overall effort to reduce carbon emissions on campus," says Drennen. "Devices like motion-sensor lighting and other smart lighting could be an obvious first step."

## B & G Purchase Electric Utility Carts



*Spring '08*

This spring Buildings and Grounds (B & G) will begin to change the way they get around campus. "We recently bought two completely electric Club Car Carryalls, which are larger than a golf cart and have a sizable utility box behind its seats," explained B & G Assistant Director Scott Woodworth. "The carts will save the Colleges \$800 in energy costs and save the environment about 1,250 pounds of carbon per year."

The new eco-friendly carts run on a 28-volt rechargeable battery that will be recharged in the B & G facilities. "These new electric vehicles will help reduce the carbon emissions produced by the pick-up trucks that currently are being used," said Vice President for Finance Peter Polinak, who is co-chair of the President's Climate Commitment Task Force. Earlier this academic year, Hobart and William Smith became a charter member of the American College and University Presidents Climate Commitment, which aims to reduce green house gases.

"The vehicles are scheduled to arrive on campus in mid-April and will be used by our staff later in the month," said Woodworth. "Weather permitting, we plan to use these carts during the academic year from the middle of April to the middle of October."

But the "green" changes being made by B & G don't end there. "We're always looking for ways to reduce the campus' carbon emissions, which includes employee transportation, general energy consumption and switching to "green" products for our cleaning chemicals," said Woodworth. "We're also working with the Green Team and the President's Climate Commitment Task Force. Buildings and Grounds is determined to make a noticeable impact many years into the Colleges' future."

"One example of this is the recent lighting change in the library," said Woodworth. "We replaced over 2,500 fluorescent bulbs with more efficient ones and were able to save the Colleges 114,300 kWh of electricity, 11.1 tons of CO<sub>2</sub> and over \$12,000 per year."

Polinak agrees. "The entire campus is committed to studying, living and now working with the environment in mind," he said.





This is just the beginning!



**QUALITY OF LIFE SERVICES**