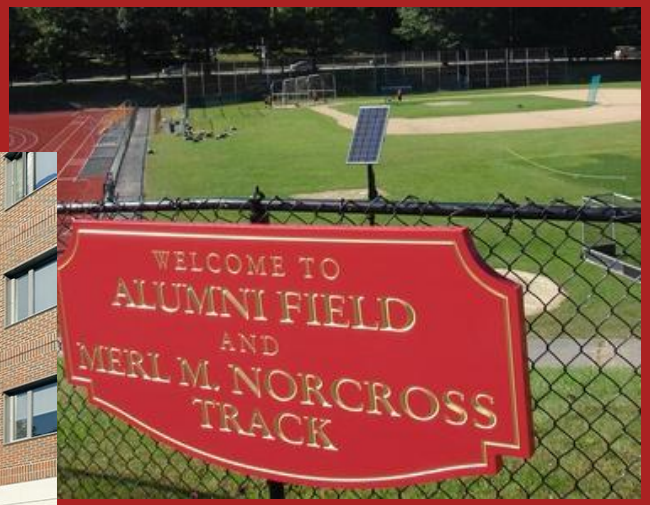


Campus Sustainability Report 2010

Table of Contents

A Message from President Berkey

In the three years of its existence, the President's Task Force on Sustainability has done an admirable job coordinating all of the myriad efforts toward sustainability on this campus. The following report is just one example of the Task Force's good work. A common misnomer about sustainability is that it implies merely going green. Environmental responsibility is just one aspect of sustainability, albeit an important one. As you will read in the pages that follow, WPI remains fully committed to sustainability in the broadest sense. It guides us in so much of what we do: the conscientious way new buildings are constructed here, the academic courses and projects in which students learn about and apply sustainable practices, the smart operation of our beautiful 80-acre campus, and the way we engage with—and have an impact in—the local community. Certainly, sustainability is more than a buzz word at WPI. I am proud to be part of a campus community that places such value and emphasis on this important work.

Dennis Berkey, President

Sustainability Reporting

Sustainability at WPI

The President's Task Force on Sustainability was established in 2007 to provide leadership and coordination for WPI's campus-wide efforts directed toward enhancing the long-term sustainability of WPI's activities and in support of our educational mission with regard to sustainability.

The Task Force defines sustainability as an integrated, three-part approach for achieving the goals of environmental preservation, economic prosperity, and social equity for all members of society. WPI is proudly engaged in each of these critical and overlapping areas through our learning, research, service, and administrative operations. WPI actively seeks to foster a community that produces innovative ideas and practical solutions to the complex problems associated with each part of the sustainability puzzle.

For more information about the Task Force and sustainability at WPI, please visit www.wpi.edu/+sustainability.

This Report

This Sustainability Report for Academic and Fiscal Year 2009-10 is the first of its kind at WPI. Sustainability reporting has become a common practice in private industry and recently a number of universities have followed suit and published reports. To track progress, **indicator** data are chosen to represent the university's performance in specific areas such as energy use and water use.

By understanding the accomplishments that have been made and highlighting areas most in need of improvement, this report will help to direct further efforts toward sustainability at WPI. By presenting this information in the form of a series of indicators, the institution can visualize the data and make appropriate decisions regarding policy in each of these areas such as waste or energy use reduction.

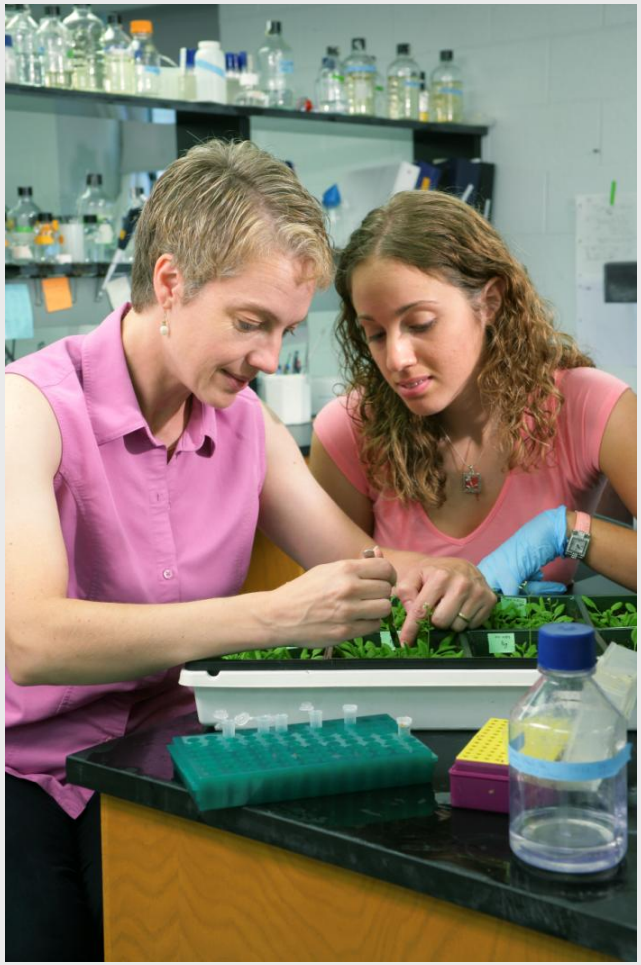
This report focuses primarily on three major areas: academics, operations and community engagement. The **Academics** section examines the role of sustainability education at WPI by reviewing the sustainability focus of coursework, student projects and scholarly research. The **Operations** section deals with physical data such as energy and water use. The **Community** section examines WPI's impact on its local and global communities. This section is made up of two indicators, reported community service by students and donations to charitable organizations.

This report was drafted as part of an Interactive Qualifying Project by Nicholas Alden (ChE, '10), Juan Gomez (BB, '11) and Shigeng Shang (ChE, '12) and revised by the President's Task Force on Sustainability.

Academics

Students gain knowledge at WPI through their coursework and also through real-world experiences. These experiences are achieved through the focus on projects that have tangible benefits and through physical learning tools such as the East Hall green roof or the small-scale wind turbine that was installed in the summer of 2008 on the roof of Atwater Kent.

In this section, we will examine how sustainability theory and practice are taught at WPI. A review of the current course offerings at WPI by examination of the course catalog as well as a departmental inquiry survey helped to determine the importance of sustainability in courses offered in the past year. The inquiry also revealed current sustainability-related research and projects.



WPI's Mission

"WPI educates talented men and women in engineering, science, management, and humanities in preparation for careers of professional practice, civic contribution, and leadership, facilitated by active lifelong learning. This educational process is true to the founders' directive to create, to discover, and to convey knowledge at the frontiers of academic inquiry for the betterment of society. Knowledge is created and discovered in the scholarly activities of faculty and students ranging across educational methodology, professional practice, and basic research. Knowledge is conveyed through scholarly publication and instruction."

Projects and Research

Theory and Practice

Projects at WPI provide students with a unique learning experience that sets WPI's curriculum apart from those of other universities. Two required projects, the Interactive Qualifying Project (IQP) and the Major Qualifying Project (MQP), not only teach students how to develop effective team dynamics, but also to solve real problems that the world is facing today. With the recent addition of the Great Problems Seminars for first-year students, which focus on problems such as world hunger and alternative energy, WPI students are engaged in learning about and addressing real-world problems throughout their undergraduate careers.

There are numerous MQPs and IQPs which focus on the environment, green energy or community development, to name a few. IQPs allow students to apply their knowledge to technical and societal problems around the world through the Global Perspective Program with sustainability focused project centers located in Namibia, Puerto Rico, South Africa, Costa Rica and Worcester, among others.

Making a Difference

Each year, five IQPs that exemplify the goals of the program in their focus on the relation between science, technology and societal needs are nominated for the WPI President's IQP award. This past year, five sustainability-focused IQPs were recognized:

- *Water and Sanitation in Monwabisi Park, Cape Town* by Christopher Lizewski, Marcella Granfone and Daniel Olecki. Advisors: Scott Jiusto and Robert Hersh; 1st place winner
- *Hydroponic Farming in Marhsarakham: Integrating Hydroponics into the Agricultural Curriculum While Introducing Entrepreneurial Skills* by Aubrey Ortiz, Hilary Rotatori, Elizabeth Schreiber and George con Roth. Advisors: Chrysanthe Demetry and Richard Vaz
- *Leicester Energy Study* by Christopher Gabrielson, Stephen Hanly and Laura Monville. Advisor: Fred Looft
- *Wind Generation on Nantucket* by Diana Berlo, Jennifer Hunt, Amanda Martori and Justin Skelly. Advisor: Michael Elmes
- *Mapping as a Foundation for Spatial Redevelopment in Monwabisi Park* by Debra-Ann Franck, William Mayo, Mathew Tomasko and Yanxuan Xie. Advisors: Scott Jiusto and Robert Hersh

A list of other sustainability related projects from the past several years can be found at http://www.wpi.edu/about/Sustainability/wpiprojects.html.

Students Overlooking a Town in Namibia

Students Surveying Land in Thailand

Outside of projects, students and faculty do a substantial amount of research, much of which pertains to sustainability.

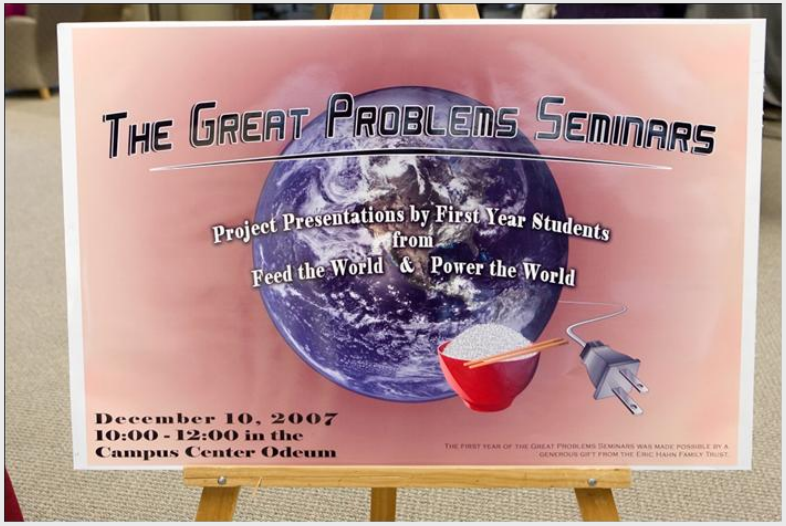
- The Civil and Environmental Engineering Department focuses on water and wastewater management as well as various aspects of environmental engineering.
- The Chemical Engineering Department researches alternative energy sources and the remediation of pollutants.
- The Biology and Biotechnology department works with bioremediation and biofuels.
- Interdisciplinary and Global Studies professors actively participate in sustainability research including economic development as it pertains to sustainability, climate change strategies, new urban knowledge infrastructures, resource management, and experiential education.
- The Social Science Department examines policy and engages in research dealing with System Dynamics in regards to sustainability.

Academic Year Highlights

- Sustainable Metals Recovery and Recycling – In coordination with the Colorado School of Mines, WPI established a research center devoted to the development of technology to assist in the recovery and recycling of metals.
- Professor Diran Apelian, Director of the Metal Processing Institute at WPI and a Howmet Professor of Mechanical Engineering, was selected to chair a national blue ribbon panel on materials and energy with specific focus on sustainable choices such as energy efficiency and security. The panel will explore the role of material sciences in meeting energy and climate challenges facing the country.
- The Great Problem Seminar Program entered its third year in the fall of 2009, but it is already gaining recognition outside of WPI. During a poster presentation for the top projects, GE Foundation President and Chairman, Bob Corcoran, endorsed the program saying "I firmly believe that WPI's Great Problems Seminars should be part of the university's core curriculum."

Further Work and Future Goals

Regarding student projects, it is recommended that sustainability-related projects be identified at both the proposal and final report stages, and that results be catalogued and publicized, perhaps via a Sustainability Project Coordinator in the IGSD. Regarding research, it is recommended first that WPI's research strengths in sustainability-related areas be identified and publicized internally. Each year, the Task Force should also identify a small number of priority sustainability topics that it will encourage and support student and faculty to address through targeted proposals and projects.



Sustainability in Coursework

Training the Future Workforce

As a technical institution, WPI is in a strong position to train future scientists and engineers to become leaders in their workplaces and communities, and to bring a sustainability perspective to decision-making in their future careers. The environmental, social and economic impact of "technical" decisions are of great interest in modern companies and teaching sustainability is one of many ways that WPI fulfills its mission "to create, to discover, and to convey knowledge at the frontiers of academic inquiry for the betterment of society."

Course Offerings

A preliminary review of the WPI undergraduate course catalog yielded a list of courses that were sustainability-related or focused based on a set of definitions from the Association for the Advancement of Sustainability in Higher Education (AASHE). *Sustainability-focused courses* place a strong emphasis on questions of sustainability connected to many or all aspects of the course curriculum, while *sustainability-related courses* incorporate smaller aspects into the coursework or simply focus on one sustainability principle. The analysis identified:

- 25 sustainability-related courses and 12 sustainability-focused courses currently offered, out of over 700 listed courses.
- The environmental studies program, established in the 2008-09 academic year, offers students a concentrated course of sustainability-focused study.

There is currently no policy to increase the number of sustainable courses within the next few years. Most of the departments' focus toward sustainability is through student projects and professors' research.

Academic Year Highlights

CE591: Environmental Engineering Seminar – Introduced this year, this course focuses on environmental engineering decisions as they related to various aspects of sustainability including greenhouse gases, water reclamation and a sustainable community.

Lectures – This year, WPI featured four major lectures from prominent figures in the sustainability movement.

- Professor Julian Agyeman is the co-founder and co-editor of several international journals that focus on sustainability and environmental justice.
- Michael Dolan, ExxonMobil senior vice president, WPI graduate, and WPI Trustee spoke about the role of fossil fuels in our energy future.
- Stephanie Pincetl from UCLA spoke about urban sustainability.
- Vincent DeVito, Executive Director of the Institute for Energy and Sustainability, spoke about the green energy market.

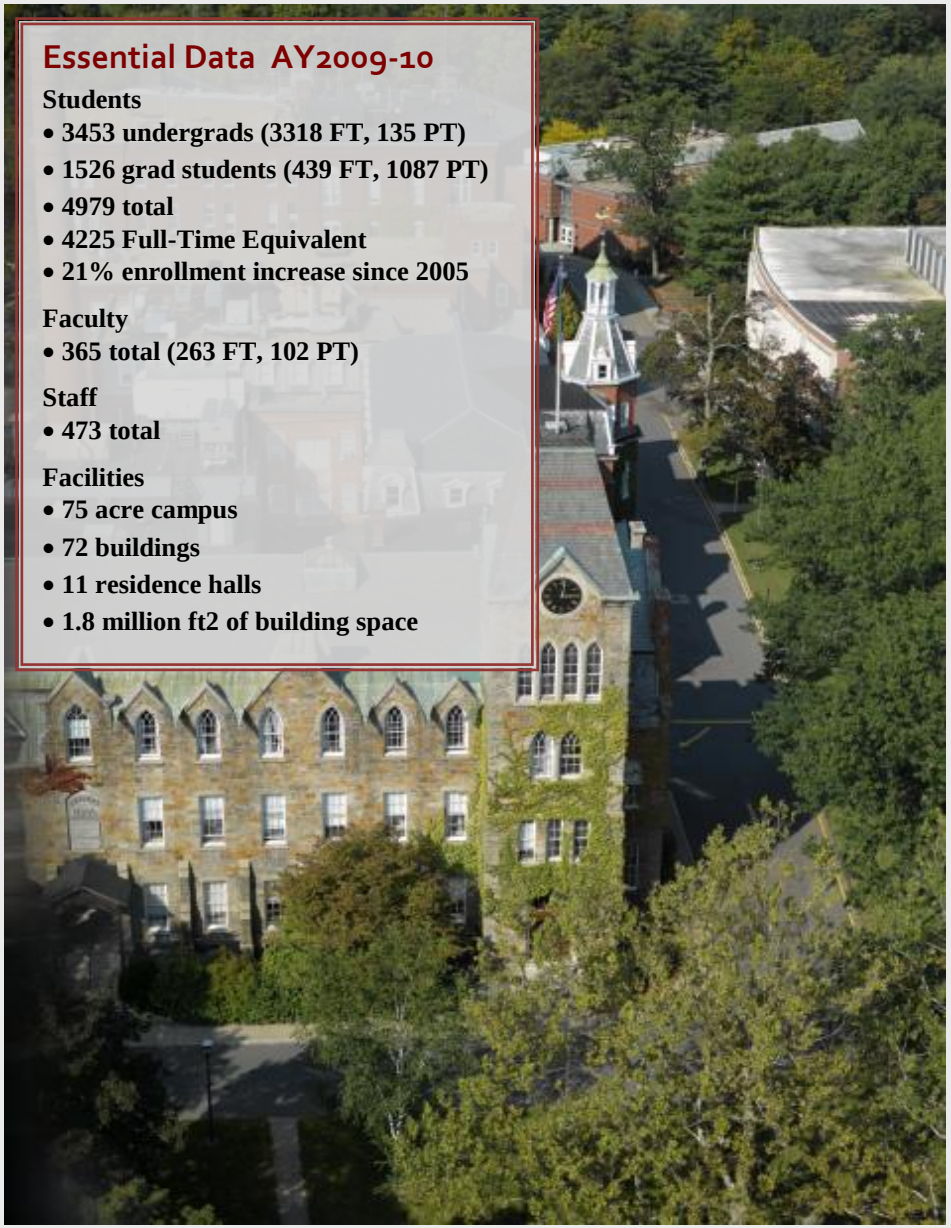
Further Work and Future Goals

Many courses include sustainability content, and knowledge of this content can be made more easily available to students. It is recommended that descriptions of "Sustainability Concentrations" be developed in as many areas as feasible. Through this process some academic areas where additional course content on sustainability would be desirable can be identified. These areas should be pursued with the relevant departments.

Operations

The WPI campus has an effect on the local environment similar to that of a town, requiring food, water, materials and energy, and producing waste. All of these activities have an effect on the local environment and contribute to global environmental change. The way the campus operates can also have a significant impact on the everyday lives of the people who work, learn and live in and around it. It can teach us how to apply sustainable practices in our daily routines and motivate us to find ways to improve the campus. Innovations in efficiency that are implemented on campus can inspire tomorrow's scientists and engineers to envision new sustainability breakthroughs.

In order to reduce its impact on the environment, WPI needs to track its use of resources, production of waste and greenhouse gases, recycling rates and how it treats the land on which it is built. The University is committed to reducing its environmental impact in several of the areas described in the following sections, even as it experiences significant growth in student population and facilities, including the new Life Sciences and Bioengineering Center at Gateway Park.



Essential Data AY2009-10

Students
- **3453 undergrads (3318 FT, 135 PT)**
- **1526 grad students (439 FT, 1087 PT)**
- **4979 total**
- **4225 Full-Time Equivalent**
- **21% enrollment increase since 2005**

Faculty
- **365 total (263 FT, 102 PT)**

Staff
- **473 total**

Facilities
- **75 acre campus**
- **72 buildings**
- **11 residence halls**
- **1.8 million ft2 of building space**

Campus Environment

Building a Greener Campus

WPI maintains a skillfully landscaped campus consisting of numerous buildings and several fields. The way the university builds its campus and maintains its grounds impacts the local environment. The last five years have seen the construction of the Bartlett Center, Gateway Park, East Hall and the renovation of Goddard Hall. New buildings provide the opportunity to create efficient and environmentally friendly living and work spaces. Features that save water, energy and promote sustainability in new buildings are a hallmark of commitment to sustainability. WPI's green spaces need water and may call for the use of fertilizers and pesticides, but because pesticide and fertilizers can harm the local ecosystem, sustainable grounds maintenance minimizes their use.

Policies and Practices

Green Buildings

WPI has pledged to build all future buildings with sustainability features sufficient to achieve LEED certification; two such buildings, the Bartlett Center and East Hall, have already achieved LEED Certified and LEED Gold status. These two buildings account for approximately 7% of the school's total built square footage. Though not LEED certified, several buildings on the main campus and the Life Sciences and Bioengineering building at Gateway Park do incorporate numerous sustainability features.

What is LEED Certification?

- LEED stands for Leadership in Energy and Environment Design.
- Developed by the U.S. Green Building Council in 1998 as a system to rate green buildings
- Rating is based on credits such as water and energy efficiency.
- A building can earn Certified, Silver, Gold or Platinum accreditation

Sustainable Grounds Keeping

In order to understand how WPI cares for its land, one must look to its grounds keeping practices. Pest control, water management and runoff prevention, landscaping waste reuse and recycling, as well as fertilization practices all show how WPI cares for its land and its neighbors' lands.

- WPI composts or mulches all of its grounds waste through an outside contractor, and this organic material is used in place of some of the fertilizer required to care for the grounds.
- Native plants are included in most campus gardens and lawns. These plants are well adapted to Worcester's precipitation patterns and local pests, so irrigation is less necessary and pest control is less intensive.

East Hall opened in 2008. It implements numerous sustainability features

Goddard Hall Renovation – The George I. Alden Center for Life Sciences

This past year saw the renovation of Goddard Hall that was made possible by a $6 million grant from the George I. Alden Trust. Goddard Hall features 21,300 square feet of laboratory space and is now the main facility for biology, biotechnology, biomedical engineering, chemistry, biochemistry, and chemical engineering education. During renovation, **93% of waste** from the project was either recycled or reused.

Related Student Projects

***Grounds Maintenance at Worcester Polytechnic Institute* (2006) by Michael Prestileo, Steven Furber and Ryan Flynn**

This project sought to organize and computerize WPI grounds information to assist in the analysis of lawn maintenance at WPI.

***Design of Recreation Center at WPI* (2009) by Charles Labbee, Jason Gray and Benjamin Erle**

This project investigated a number of design methods for the new recreational facility. Designs addressed support structures and foundations for the building and pool, as well as an analysis of green building design options to obtain LEED silver accreditation.

***Green Engineering – A Life-Cycle Cost Analysis* (2009) by Mark Watkins**

This project examined the lifecycle cost differences when a building was raised to LEED silver equivalent status.

2009 Highlights

East Hall

WPI's newest residence hall is also its greenest building; East Hall incorporates many sustainable features that have garnered it awards from prestigious organizations and LEED Gold status. For more information about East Hall, please visit the East Hall Building Guide. East Hall sustainable attributes include:

- Worcester's very first green roof
- Hallway lights are motion-activated and thus used only when needed
- Heating and cooling systems deactivate when not needed and when windows are opened, to prevent wasteful heating or cooling
- It is estimated that East Hall uses 32% less energy than a normal building of the same size
- Low-flow faucets and dual-flush toilets reduce water use by 31%
- Every room has recycling bins to promote recycling
- East Hall is designed to be cleaned with environmentally-friendly products.

East Hall's green roof absorbs sunlight to help cool the building in the summer; it also absorbs water to reduce runoff.

Because of these measures, East Hall was recognized by several organizations:

- LEED Gold certification from the Green Building Council
- Green Building of America Award from Construction Communications
- Building Project of the Year Award from the Construction Management Association of America
- Green Judges' Choice Winner 2009 from Green Education Design Showcase.
- East Hall has been cited as an example of WPI and universities as a whole "going green" in The New York Times and twice in US News & World Report.

Further Work and Future Goals

The Campus environment is dynamic and is constantly evolving. Our methods of evaluating building construction and renovation must evolve as well and incorporate the most efficient and effective sustainable features available.

Waste Disposal & Recycling

A Cleaner Campus

Proper disposal of hazardous or recyclable materials is a key to reducing WPI's impact on the environment. Most WPI trash eventually finds its way to a waste-to-energy incinerator and/or landfill, where decomposition by-products impact soil, air and groundwater. WPI seeks to reduce both the amount of waste material it produces and to increase the portion of it that is recycled through campus-wide initiatives and events like Recyclemania.

Waste Facts and Figures

Total Waste:

Despite considerable population growth, waste disposed of by WPI has declined since 2006, both in absolute terms (Table 1) and on a per student basis (Figure 1).

- In FY 2009 WPI generated 800 tons of solid waste, or 366 pounds per student.
- Total non-recyclable waste dropped 8.5% from 2006 to 2009, and recycled waste increased by over 50%.

Table 1: Waste generated by WPI since 2006 (in tons).

Waste (tons)	2006	2007	2008	2009
Total	723	730	726	801
Non-Recyclable	630	588	611	**576**
Recycled	143	142	133	**225**
Hazardous	5.3	2.8	3.7	2.3

Recycled Waste:

- WPI recycles paper, cardboard, aluminum cans, glass and plastic bottles and miscellaneous materials through Waste Management and the Institutional Recycling Network.
- In 2009, WPI recycled 225 tons of material (106 pounds per student).
- The recycling rate (the percentage of total waste recycled) in 2009 was 28%, a significant improvement over the 20% rate in 2006.
- Recycled waste per student increased 31% from 2006 to 2009.

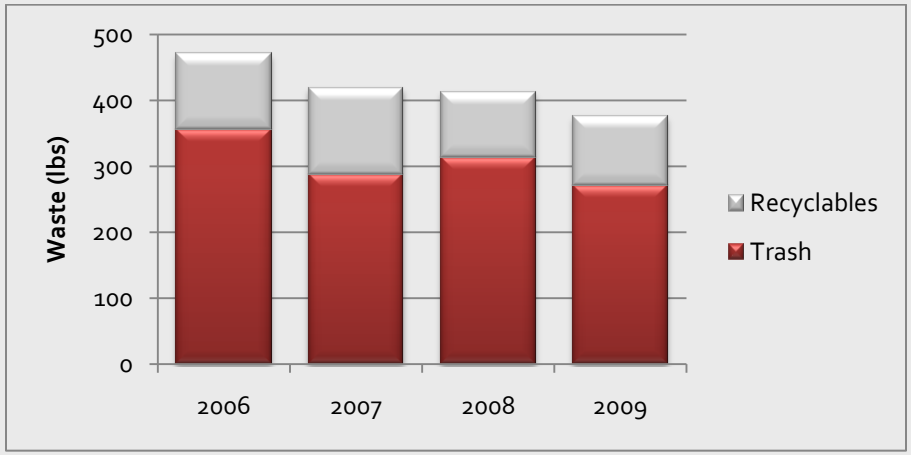


Figure 1: Trash and Recycling Per Student

Hazardous Waste:

Toxic, radioactive or contaminated materials are disposed of in accordance with federal and state regulations. This dangerous waste makes up only 0.3% of WPI's waste output. It is incinerated, recycled, put in a landfill or reused, depending on waste type.

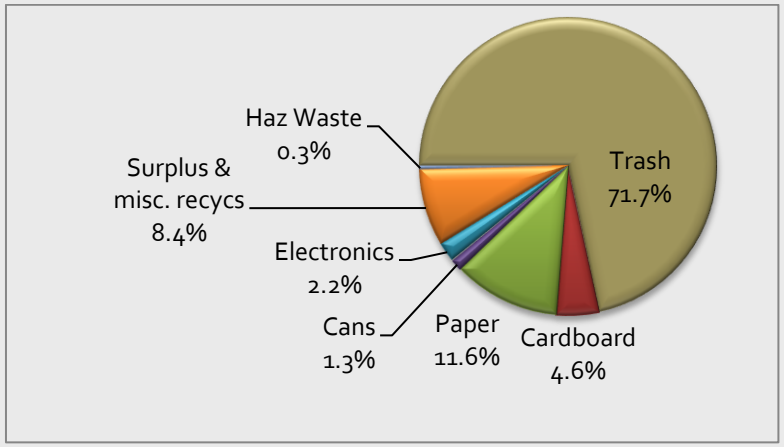


Figure 2: Waste Composition 2009

In 2009, WPI disposed of 2.3 tons of hazardous materials. There is wide variation in yearly hazardous waste disposal due to renovation of lab space.

Related Projects

***The Ecological Impact of Composting and Incineration of Garden Waste in Denmark* by Nathan Webb, Elizabeth Clardy and Seth Chapman**

This project analyzed local and national recycling and waste disposal practices to find the most effective practices. These methods could be applied to WPI or presented to communities who might be unaware of their benefits.

***An Analysis of Local and National Recycling and Waste Policies* by Sidath Wijesooriya, Joe Thomas and Connor Rochford**

This project compared the environmental effects and greenhouse gas emissions of composting organic waste versus incinerating it to produce electricity. A thorough analysis showed that incineration was the superior alternative.

Academic Year Highlights

Recyclemania/ Precyclemania 2009

In 2009, WPI was one of over 500 universities that participated in Recyclemania; a nation-wide recycling contest that runs annually from January through March. WPI placed 63rd nationally and 7th in the state. WPI gathered nearly 30 tons of recycling material in that time.

To prepare for Recyclemania, WPI held a campus-wide Precyclemania competition that ran throughout B-Term. This competition had a cash prize for the winning team and encouraged students to recycle more in preparation for Recyclemania. The winners of this event were:

- Residence Hall Bottles/Cans: 22 Schussler
- Residence Hall Paper: Riley 2nd Floor
- Greek House Bottles/Cans: Phi Sigma Kappa

For more information about Recyclemania, please visit www.recyclemania.org.

Further Work and Future Goals

WPI has been annually increasing the amount of recycled waste. To continue to progress, we will need the active cooperation of students, faculty and staff. One of the largest problems recycling programs face is the accidental contamination of recyclable materials with non-recyclable waste. Clear guidelines for recycling and a pilot waste audit program will help encourage full and appropriate participation in recycling efforts.

Energy

Energy Components

As an institution that has dozens of buildings and thousands of people, WPI requires large amounts of energy for heating and electricity to power the lights, computers and other devices. WPI is committed to exploring the social and environmental impacts of its energy use and will attempt to reduce demand and replace some non-renewable energy sources with renewable ones. Active research into renewable energy is prevalent in several academic departments and small steps have been taken to achieve higher efficiency throughout the campus.

Electricity

WPI purchases electricity from National Grid and distributes it through the Power House to the main campus. Electricity consumption in 2009 was 25.6 million kilowatt-hours (MkWh), up from ~20 MkWh in years prior to the opening of energy intensive laboratory space at Gateway Park in 2007, and other newly completed buildings. Electricity use per student also spiked, before declining again in 2009 (Figure 3).

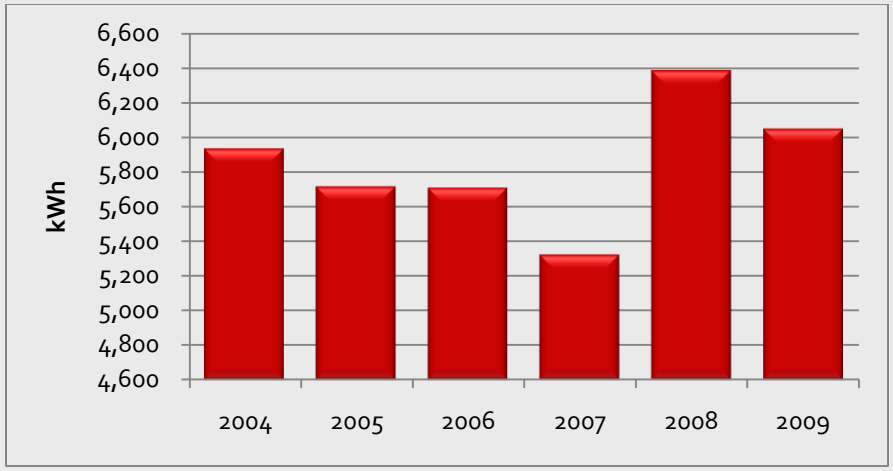


Figure 3: Electricity use per student

Heat

WPI's Power House provides heat to the main campus from October to May. In 2006, the Power House switched its main fuel from oil to natural gas, achieving significant cost and environmental benefits. While newer buildings have superior insulation and climate control for improved heating efficiency, new space additions have nonetheless increased total heat energy consumption (Figure 4).

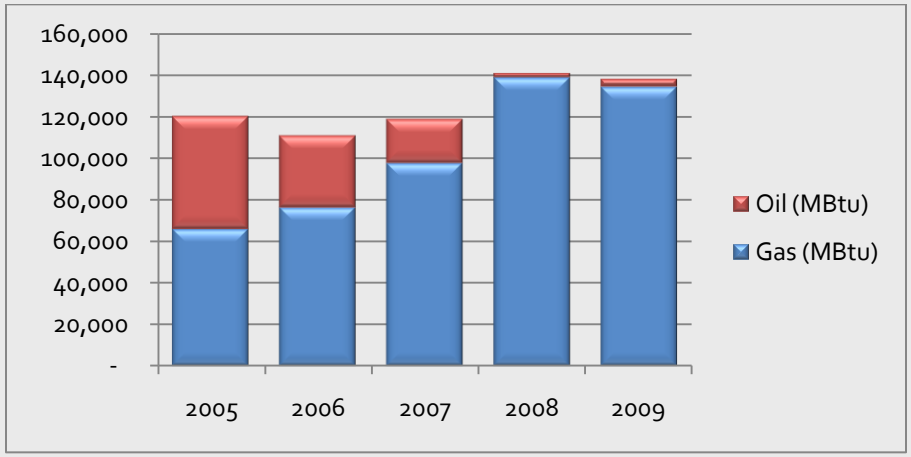


Figure 4: Heating fuel use

Greenhouse Gases

Fossil fuels burned for heat and electricity generation produces greenhouse gases (GHGs) and other pollutants. WPI students have completed numerous projects about tracking and reducing carbon dioxide emissions, but WPI has not adopted formal energy or climate change policies.

GHG emissions (Figure 5, in units of CO_2 equivalence) were calculated using the Clean Air-Cool Planet Calculator and the heating and electricity data previously discussed. The decline in emissions from 2005 to 2007 reflects largely the shift from oil to natural gas for space heating, while the 2008 to 2009 increase was mainly due to new facilities coming online. Not taken into consideration for this calculation were transportation-related emissions, such as student and faculty air travel and commuter miles.

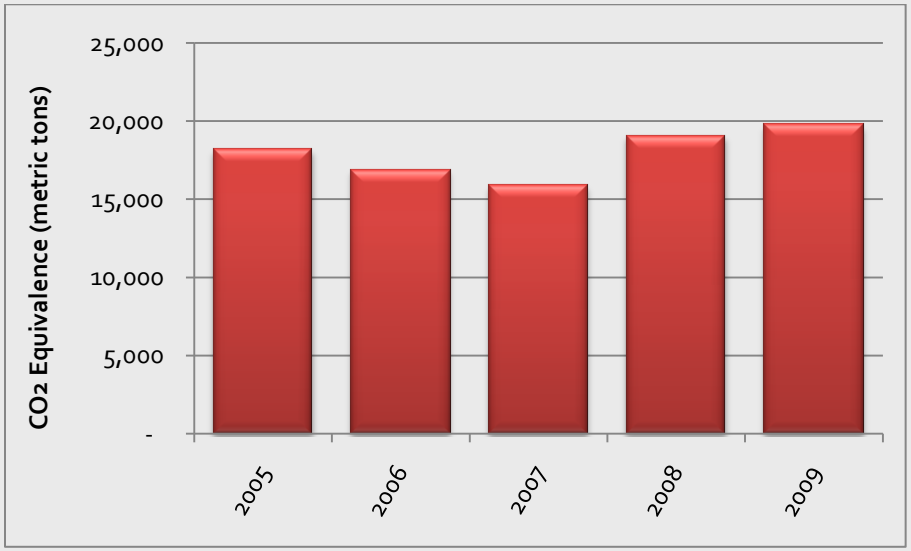


Figure 5: Greenhouse gas emissions

Academic Year Highlights

Green transportation

- On December 11, 2009, the President's Task Force on Sustainability launched the Carpool World website to make this travel option more readily available to the WPI community.
- Since September 2008, two self-service Zipcars – 2008 Honda Civic Hybrids – have been available on campus.

Renewable Energy

- Three solar powered walkway lights were installed at WPI's Alumni Field in early September, 2008.

Further Work and Future Goals

New facilities and an expanding student population make clear the importance of continuing the development of a comprehensive plan and set of policies to reduce energy use and greenhouse gas emissions. To these ends, in AY11 the President's Task Force on Sustainability will develop recommendations for implementing:

1. Rigorous systems to continually monitor energy use and related costs and environmental impacts from campus buildings and operations;
2. A program and set of policies to guide aggressive, ongoing analysis and implementation of energy efficiency and renewable energy improvements.

Food Use

Food for Thought

Dining service on campus is convenient; there are multiple locations to choose from and the biggest one, Morgan Dining Hall, is all-you-can-eat. However, convenient dining and an all-you-can-eat atmosphere can be conducive to wasteful eating practices. Where our food comes from also matters. Local food not only reduces emissions from transportation, but also supports the local economy. WPI's food provider, Chartwells, operates cafeterias, the Campus Center food court, the Goat's Head Restaurant and other campus dining and catering facilities. Chartwells and WPI have taken many significant steps toward greater sustainability, such as recycling food waste, buying local produce and reducing water and energy consumption in kitchens.

Fresh and Local Foods

Chartwells at WPI has implemented all of the corporation's nationwide initiatives over the past several years. In the dining hall, trays were removed to reduce water use and waste per student. Many paper products were replaced with recyclable alternatives. Chartwells at WPI buys most of its produce from local farmers and has pledged to buy certain sustainable food options such as cage-free eggs and antibiotic-free pork and chicken. Chartwells also tracks all waste leaving their kitchen through a program called Trim Trax.

Academic Year Highlights

- Food waste was diverted from landfills through a partnership with a local pig farmer who takes away up to 400 lbs. each day.
- A new local produce partner, FreshPoint, was engaged for produce supply.
- Chartwells joined another program, Farm to School, which connects local K-12 schools with local farmers.

Local Produce Day – 2009 saw the first implementation of this program, hosted by Chartwells and FreshPoint in Morgan Hall. Over 150 students and faculty attended to buy food that was supplied by local farms. The remainder of the food was bought by Chartwells at the end of the program.

Be a Flexitarian –This program was introduced in the Campus Center food court to encourage students to consume fewer meat products to save money and improve student wellbeing, while simultaneously helping the environment.

Further Work and Future Goals

Chartwells, WPI's food service provider, is continuously looking for ways to use energy and water in its kitchens more efficiently, and it regularly seeks out new suppliers for local food purchases. Chartwells is currently investigating incorporating a waste audit into its operations, as well as certification as a "green restaurant."

Water Use

The Most Important Resource

According to the World Health Organization, almost one fifth of the world's population (about 1.2 billion people) lives in areas where water is scarce. Even though Worcester has few such concerns at the moment, it is our obligation to take future development into consideration. Efficient water management reduces not only the amount of water that has to be taken from local reservoirs but also the amount of water that has to be treated and returned to the environment. Another concern is runoff; rainwater washes contaminants such as road salt and motor oil away from the rooftops and streets and toward ponds and streams, where they can cause damage to local ecosystems.

Current Conditions

WPI purchases water from the City of Worcester, which has ten reservoirs around the city.

In preparing this report, it became clear that existing records of water consumption from the dozens of water meters across WPI property are inconsistent and cannot readily be used to reliably estimate and analyze annual consumption. Consumption and cost data are therefore not presented here, but will be in future reports.

Highlights

WPI students have been actively involved in projects that study and protect water. For instance, an IQP that was done in 2007 by Ting, Oakes and Fredette researched and analyzed water resource protection in Worcester. Similar projects are done every year concerning both local and global issues on water.

Further Work and Future Goals

It is recommended that aggregate water usage and associated costs for all buildings be documented and that all buildings, as well as outdoor areas, be surveyed for water conservation measures.

The City of Worcester provides clean, inexpensive water that is a sustainable alternative to bottled water.

Community Engagement

Sustainability means more than addressing environmental issues. Promoting a just society is another important aspect. By interacting with its community in a positive way, WPI improves the lives of students and local residents of Worcester. Through projects and research, WPI also contributes to the well-being of communities around the world.

Students and faculty are actively engaged in community service and philanthropy to help those in need. In addition, WPI's two dozen Global Perspective Program project centers engage students and faculty with sustainability efforts worldwide. For example, 2009 marked the 10 year anniversary of the Worcester Project Center and in that time, 65 projects and nearly 70,000 hours of labor have been donated to strengthening the region.

Community Services

Dedication to Service

Many WPI groups actively participate in community service. Some groups, such as Amnesty International and Invisible Children, deal with international issues. Other groups and programs, such as Habitat for Humanity, Alpha Phi Omega, and Relay for Life, actively help those in need. And still other organizations, including the Gay Straight Alliance and Active Minds, focus on issues of personal development and social justice. For more information about community service, or to get involved, please see the Student Activities Office website.

Through service programs and organizations, and the direct interaction of many IQP groups with communities all over the world, WPI is demonstrating its commitment to the communities in which it operates.

Students Cleaning Institute Park

Charitable Donations

Community service at WPI is represented in this report by two key indicators, students' reported hours of service and the amount of money donated to charitable organizations by all members of the WPI community. These indicators do not do justice to the many important ways that WPI members contribute to communities near and far, such as through hundreds of educational projects annually, but until more robust measures are developed, they provide insight into two important dimensions of service.

In 2009, WPI students contributed 23,000 hours of documented local community service. Since 2006, the number of hours reported nearly doubled (Figure 6) as a result of two key changes. First, 2007 was the first year that federal work study students were required to complete and report 15 hours of community service as a condition of employment. In addition, that year also saw the implementation of a new system to make reporting community service easier.

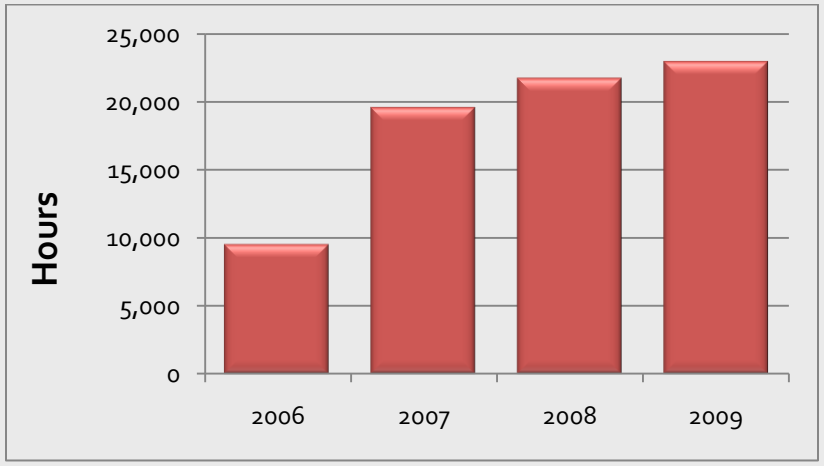


Figure 6: Community service by students

Similar to reported community service hours, charitable contributions resulting from WPI-sponsored programs increased sharply between 2006 and 2007 (see figure 7), mainly due to the introduction of Relay for Life to the campus as an annual program. Relay for Life is a program to raise money for cancer research through the American Cancer Society. In its first year, this event raised over $55,000 and the amount has steadily increased since.

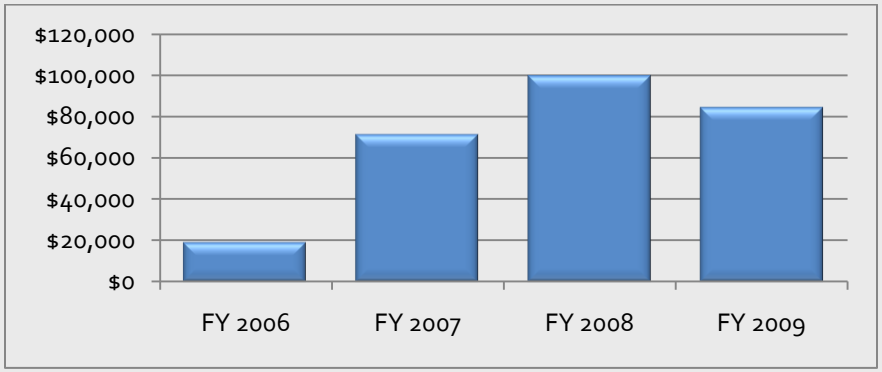


Figure 7: Charitable contributions through WPI programs

Another new initiative is Up 'til Dawn, a program supporting St. Jude's Children's Research Hospital that raised $16,000 in 2008, its first year at WPI. This past year, the amount of money donated dropped to fiscal year 2007 levels. This seems to have been caused by a number of smaller programs either not being held or not being reported. These small donations raised several hundred dollars individually, but their combined totals added up to almost $10,000 that was not reported in FY2009.

Further Work and Future Goals

Recent efforts to encourage and report community service work by students receiving federal work-study support have been quite successful, but represent only one way in which WPI contributes to community well-being. It is recommended that this program be investigated for approaches that can be applied to tracking other types of service.

WPI Students Tutor Local Children

2009 Highlights

Lambda Chi Alpha Food Drive – This year, the Pi Zeta chapter of Lambda Chi Alpha donated nearly 70,000 pounds of food and $1,000 to the local Friendly House community center. The fraternity has been doing this program for 17 years and shows no signs of stopping.

National Outstanding Change Initiative Award – This past year, the WPI Greek community was recognized by the Association of Fraternity/Sorority Advisors for making tremendous strides toward building the Greek community at WPI. Last year alone, philanthropic fundraising was increased from $19,000 in 2005-2006 to $78,364, and there was an increase of over 4000 hours in reported community service.

Worcester Community Engagement Award – The Community Engagement Award given by the Worcester Consortium, a collection of 12 local colleges, recognizes outstanding service to local communities by students within the Consortium. This year, the prize was given to a WPI IQP team that worked with the Worcester Art Museum to provide alternative energy for one of its exhibits.