

STUDENT SUSTAINABILITY TASK FORCE

Sustainability at Rensselaer 2014

Elizabeth Anderson '14
5/10/2014

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Executive Summary

The questions asked in this report came from the AASHE STARS 2.0 program. Information for the answers about RPI came from many very helpful members of the RPI administration as well as from relevant RPI websites.

The STARS program covers four categories: Academics, Engagement, Operations, and Planning & Administration. RPI earned points in each category, for a total of 24.29 points out of 143 that were measured using the STARS analysis.

In the Academics category, RPI did well in the curriculum credits. RPI has majors in Sustainability Studies, Environmental Science, and Environmental Engineering. RPI also offers a variety of classes with sustainability content or solely about sustainability. Some of these courses, particularly those in the Department of Humanities, Arts, and Social Sciences, are not offered very often. Starting next fall, syllabi of all courses will be kept in a repository as a result of a Student Senate project. In the future, conducting a course inventory will be much easier. RPI is also very strong in terms of having undergraduate and graduate programs, though not many students utilize them.

RPI also does not assess sustainability literacy or have sustainable learning outcomes throughout a wide variety of programs. As a top engineering school, making sure students graduate with sustainability knowledge should be a top priority in order to improve the future. Expanding required sustainability knowledge to more programs is one project that would be useful.

RPI has a variety of research related to sustainability. Keeping a database of all the research projects going on would be very useful, as would a database of student research. Many RPI students participate in research, and having that knowledge publicly available could result in benefits for RPI extending far beyond sustainability.

RPI did well on some of the Campus Engagement credits, though poorly on some of the others. RPI's environmental clubs are vibrant and doing much better, but they could always use more

support and numbers. Connections between them and faculty/staff are small and could use strengthening. Programs for faculty and staff, as well as the local community, are poor and not well publicized even if they do exist.

Under Operations, an integral first step is to conduct a Greenhouse Gas (GHG) emissions inventory. It appears that RPI last did one in 2009. A GHG emissions inventory will help show RPI's strengths and weaknesses and better help those working to improve it.

Electricity and steam use has been going up during the last three years. Some buildings, particularly Cogswell, the VCC and the '87 Gym, have seen much larger increases than others. Further research should be done into why this is occurring, as well as how to stabilize and reduce energy use.

Also under Operations was food. During my conversation with Sodexo, I learned that they do not keep track of local and other sustainability markers at a by-college level. They are very interested in doing so and seeing what can be done to improve the sustainability of the food.

Many of the credits for Planning were not looked into due to the lack of the feasibility of doing so. Future reports should look at these credits, though. Two of the credits that I did look into were comprehensive planning and sustainability planning, neither of which RPI has but would be very useful. An office of sustainability could make sure that sustainability projects continue and are not left behind as students graduate or change interests. A comprehensive plan would lend credibility and support to the students, staff, and faculty who wish to see a more sustainable RPI. Both of these would also expedite increases in sustainability in other areas.

Introduction

The Association for Advancement of Sustainability in Higher Education (AASHE) is a non-profit "helping to create a brighter future of opportunity for all by advancing sustainability in higher education" (About AASHE, 2013). Colleges can become a member of AASHE, though RPI is not a member.

AASHE has created the Sustainability Tracking, Assessment & Rating System (STARS) for colleges to use to discover where they "stand in the higher education sustainability landscape" (STARS Home, 2013). I used the STARS 2.0 questions for my Sustainability Report with a few changes. STARS is very comprehensive and includes many aspects of sustainability, which are divided into credits. Credits range from greenhouse gas emissions to sustainability inclusion in student and staff orientations to landscaping. Points are given for how well a college meets a particular

credit. These criteria range from sustainability-focused courses to greenhouse gas emissions. The points given for each credit vary according to impact rather than difficulty (Stars Technical Manual: Version 2.0, 2014, 10). There is a section at the end where colleges can report their innovative projects that do not fit anywhere in the STARS program. Colleges are given scores based on how well they do.

For every credit, the STARS Technical Manual (Stars Technical Manual: Version 2.0, 2014) asks for an affirmation that the submitted information is accurate to the best of a responsible party's knowledge and contact information for the responsible party. The responsible party should be a staff member, faculty member, or administrator who can respond to questions regarding the data once submitted and available to the public.

Because this report was not officially submitted to AASHE, this step was skipped. Getting the affirmations would require a great deal more time, effort, and overall campus support than just doing the report. SSTF intends to use the report to complete sustainability projects. Having data in the same format as other colleges will help greatly with benchmarking.

Other changes were made from the STARS process to keep the report within a one-semester time frame yet still show how RPI is doing sustainability-wise in various aspects. Sustainability research was included for Credit AC 9, but not as a percentage value. Instead, sustainability research programs were written about in terms of how they operate and the research that has come out of it, a more qualitative approach. Given that RPI has a great deal of research programs, auditing them in the time frame given for sustainability content and finding an accurate quantitative result would have taken too long. RPI does have many highlights in terms of sustainability research, including Darrin Fresh Water Institute, which holds a semester-long program for undergraduate students in the fall as well as other programs; Lighting Research Center, which studies various aspects of lighting including those related to sustainability; Center for Architecture Science and Ecology, which has one-semester programs for architecture majors; and many others.

Additionally, some of the Operations credits were not included, based mainly on employee, workplace, and investment policies. Information for these would have likely been much more difficult to obtain

During the summer of 2008, an earlier Sustainability Report was done. Where applicable, information from that report is used as a baseline to show where Rensselaer has improved or declined.

Report

Institutional Characteristics

A. Institutional Boundary

Rensselaer Polytechnic Institute is in Troy, New York, near Albany. It has undergraduate and graduate programs. There is a satellite campus (Hartford), but details on it will not be included here. Nor will Rensselaer Tech Park. RPI does not have a medical school, although there are various programs with SUNY Albany related to medical training.

B. Operational Characteristics

RPI's endowment for Fiscal Year 2013 was \$616,836,000. Its campus is 275 acres and is in the Cold climate zone. RPI is in a Mid-size City (as defined by STARS).

C. Academics and Demographics

- Number of academic divisions (e.g. colleges, schools): 5
- Number of academic departments (or the equivalent): 40 (not including those at Hartford)
- Total number of undergraduate students (headcount): 5379
- Total number of graduate students (headcount)
- Full-time Equivalent Faculty members: 451

Curriculum

AC 1: Academic Courses—5.9/14

Part 1 (3)

Institution offers sustainability courses and/or courses that include sustainability and makes an inventory of those courses publicly available.

Yes.

During the spring of 2014, 12 courses were offered focused on sustainability. An additional 26 courses that included sustainability were offered. The total number of courses offered that semester was 385.

Part 2 (2.9)

Do RPI's academic departments (or the equivalent) offer sustainability courses and/or courses that include sustainability?

Yes.

Architecture—Yes

Arts—Yes

Astronomy—No

Biochem/Biophysics—No

Biology—Yes

Biomedical Engineering—No

Chemistry—Yes

Chemical Engineering—No

Civil Engineering—Yes

Cognitive Science—No

Communication—Yes

Computer Science—No

Economics—Yes

Electrical Engineering—Yes

Engineering—No

Environmental Engineering—Yes

Geology—Yes

IENV—Yes

IHSS—Yes

ISCI—No

ISYE—No

ITWS—No

Language—No

Lighting—No

Literature—No

Mechanical Engineering—Yes

Math—No

Management—No

Materials Engineering—No

Philosophy—Yes

Physics—No

Psychology—No

Science and Technology Studies-Humanities—Yes

Science and Technology Studies-Social Science—Yes
Writing—No

Internships, independent studies, research experiences, and thesis/final project type courses were not measured in any way related to these credits, because students could decide to focus on a sustainability-related topic or not.

Note that this entire credit will be a much easier task in the future, given that a repository of all syllabi will be available starting next fall.

AC 2: Learning Outcomes—0/8

How many of RPI's students graduate from degree programs that include sustainability as a learning outcome or include multiple sustainability learning outcomes?

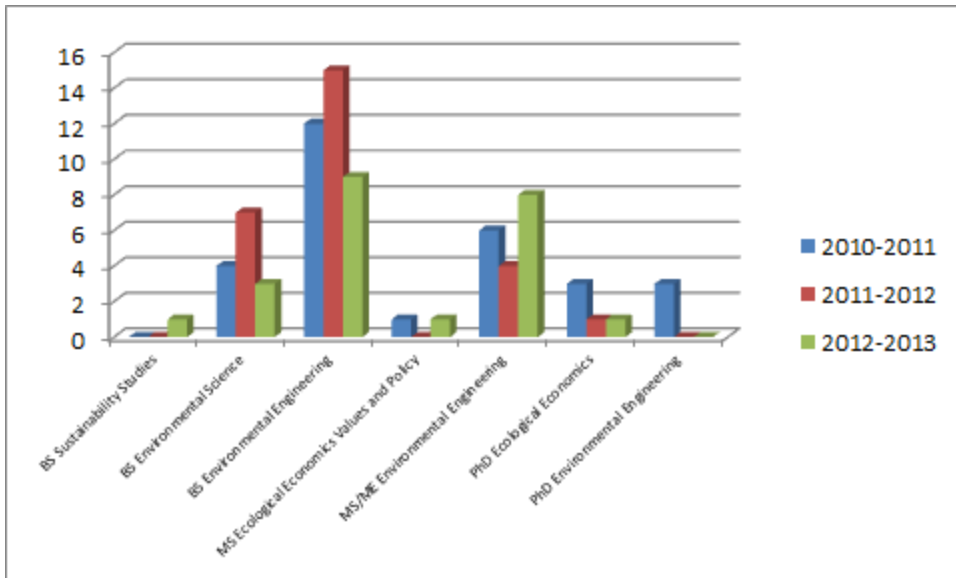
Only one student so far has graduated from the Sustainability Studies major. None of the other majors fit STARS' criteria for sustainability learning outcomes.

AC 3: Undergraduate Program—3/3

Does RPI have at least one sustainability focused major?

Yes.

RPI has an Environmental Engineering major offered in the School of Engineering, a Sustainability Studies major offered in the Science and Technology Studies Department/School of Humanities, Arts, and Social Sciences, and an Environmental Science major offered in the School of Science.



This graph demonstrates how many students graduated from the different undergraduate and graduate sustainability-focused programs over the last three years. The single Sustainability Studies major who graduated in 2012-13 was a dual major with a different first-named major. The numbers on the left side signify the numbers of students¹.

In 2009, RPI did not have the Sustainability Studies major, though an Electrical Power Engineering program did exist.

Does RPI offer one or more sustainability focused minors?

Yes.

RPI has minors for Environmental Engineering, Environmental Science, Interschool Minor in Energy, Interschool Minor in Energy (SHSS), and Sustainability Studies.

AC 4: Graduate Program—3/3

Does RPI have at least one sustainability focused graduate degree program?

Yes.

RPI has a Masters program for Civil and Environmental Engineering (MS or MEng or coterminal). RPI also has a PhD program in Civil and Environmental Engineering.

¹ Information from email conversation with Sharon Kunkel

Additionally, RPI has a Masters of Science in Ecological Economics, Values, and Policy offered by the Science and Technology Studies Department/School of Humanities, Arts, and Social Sciences. Note that everything under the “Additional Requirements” is old. The author of this report is in the EEVP program.

AC 5: Immersive Experience—0/0

Does RPI offer at least one immersive, sustainability-focused educational study program?

No. RPI only has a couple of immersive programs as defined by STARS, which tend to focus on study-abroad and vary from year-to-year.

AC 6: Sustainability Literacy Assessment—0/4

Does RPI conduct an assessment of the sustainability literacy of its students?

No.

AC 7: Incentives for Developing Courses—0/2

Does RPI have any programs that offer incentives for faculty to develop new sustainability courses/incorporate sustainability into existing courses?

No.

AC 8: Campus as a Living Laboratory—2.8/4

Is RPI utilizing its campus as a living laboratory in any of the following areas?

- *Air & Climate—Yes*
- *Buildings—None known*
- *Dining Services/Food—None known*
- *Energy—Yes*
- *Grounds—None known*
- *Purchasing—None known*
- *Transportation—Yes*
- *Waste—Yes*
- *Water—Yes*
- *Coordination, Planning & Governance—None known*
- *Diversity & Affordability—None known*
- *Health, Wellbeing & Work—None known*

- *Investment—Yes*
- *Public Engagement—Yes*
- *Other (please specify)*

Students in independent studies, research, or thesis courses may do research in any of the above areas. A centralized listing of all of these is not kept. All of those above marked yes are because of specific projects the author knows about.

AC 9: Academic Research—0/0

Rensselaer has a great deal of research—many of the faculty take part in research. Instead of following the STARS credit, highlighted below are research groups that RPI has that focus on sustainability-related research. This list is not necessarily all-inclusive.

What centers/research groups at RPI conduct sustainability research, and is this information publicly available? What departments are they part of?

Yes.

Center for Future Energy Systems

CFES Labs

Energy Materials and Devices Lab

Lighting Research Center

Fuel Cell and Hydrogen Research Lab

Center for Architecture Science and Ecology

Baruch '60 Center for Biochemical Solar Energy Research

Integrative Graduate Education and Research Traineeship

GK-12

STS research groups: EcoEd, Hydrofracking

Infrastructural Resilience, Sustainability, and Stewardship research umbrella

AC 10: Support for Research—0/4

Does RPI have a program to encourage faculty and students to conduct research in sustainability?

No.

Does RPI have a program to encourage faculty and students to conduct research in sustainability topics?

No.

RPI does have multiple research constellations for interdisciplinary research. One of them, the Gail and Jeffrey L. Kodosky '70 Constellation in Physics, Information Technology, and Entrepreneurship, has done research on photosynthesis and different material that is not directly about sustainability, but may be relevant to future developments in sustainability research.

Does RPI have formally adopted standards that give positive recognition to interdisciplinary, transdisciplinary, and multidisciplinary research during faculty promotion and tenure decisions?

No.

Interdisciplinary research is very much supported at RPI, especially through the constellation program. A PhD program, IGERT (Integrative Graduate Education and Research Traineeship) does interdisciplinary research that includes hydrogen fuel cells.

Does RPI have ongoing library support for sustainability research?

No.

RPI does have many opportunities for research, for which students might elect to do sustainability research. Undergraduate students can choose between research for experience, pay, or credit. During the summer, some departments have funding; there is also a highly competitive Undergraduate Research Program.

AC 11: Access to Research—0/2

Does RPI have a formally adopted open access policy?

No.

Campus Engagement

EN 1: Student Educators Program—0/4

Does RPI have programs that engage students to serve as educators in peer-to-peer sustainability outreach?

No.

En 2: Student Orientation—around .09/2

Is sustainability featured prominently in orientation activities?

No, but incoming freshmen have to participate in day trips, some of which are focused on sustainability. Three day trips focused on sustainability last year. The incoming freshmen can choose between all of the trips.

Last year, 65² out of 1424 incoming freshmen participated in sustainability-oriented day trips.

EN 3: Student Life—2/2

Does RPI have one or more of the following programs?

- Active student groups focused on sustainability
 - Yes. At least six such clubs exist. EcoLogic, SSTF, Terra Cafe, ESW, SEP, and EWB.
- Gardens, farms, community supported agriculture (CSA) or fishery programs, or urban agriculture projects where students are able to gain experience in organic agriculture and/or sustainable food systems
 - Vasudha has a garden located just outside their residence hall. There is also a greenhouse that Terra Cafe/Vasudha have used in the past to grow lettuce, strawberries, and other plants. A difficulty with any sort of growing is that students are around for fall and spring and not usually for summer. RPI is in the northeast, which means that planting season is towards the end of the academic year, and it gets cold fast in the fall.
- Student-run enterprises that include sustainability as part of their mission statement or stated purpose (e.g. cafés through which students gain sustainable business skills)
 - Terra Cafe is a student-run club that provides an organic and/or local lunch every Wednesday. Students can help out for an hour in exchange for a free meal. Terra Cafe sometimes partners with RPI fraternities/sororities in that the Greek members help out and all tips from that day go to the charity of their choice,

² According to the presidents of the clubs leading these trips: myself, Sam Brown (ESW) and Nicholas Zieve (Terra Cafe).

which may or may not have anything to do with sustainability.

- Sustainable investment funds, green revolving funds or microfinance initiatives through which students can develop socially, environmentally and fiscally responsible investment skills
 - No, although a student is working on one and other similar funds have been proposed previously.
- Conferences, speaker series, symposia or similar events related to sustainability that have students as the intended audience
 - Yes. This is mostly run by the Science and Technology Studies department but includes speakers from other disciplines.
- Cultural arts events, installations or performances related to sustainability that have students as the intended audience
 - Yes.
- Wilderness or outdoors programs (e.g. that organize hiking, backpacking, kayaking, or other outings for students) that follow Leave No Trace principles
 - Yes. The Rensselaer Outing Club follows Leave No Trace principles³.
- Sustainability-related themes chosen for themed semesters, years, or first-year experiences (e.g. this could take the form of choosing a sustainability-related book for common reading)
 - Not for all students; however, the Vasudha Living and Learning Community has an optional course Nature/Society that students in the program are recommended to take. This course includes some sustainability-related books, including in the past *Ismael*, *Animal*, *Vegetable*, *Miracle*, and *Omnivore's Dilemma*.
- Programs through which students can learn sustainable life skills (e.g. a series of sustainable living workshops, a model room in a residence hall that is open to students during regular visitation hours and demonstrates sustainable living principles, or sustainability-themed housing where residents and visitors learn about sustainability together)
 - RPI has Vasudha, the environmental living and learning community...does this count?
 - Hey Red, Go Green! is run by the Residents Student Association and includes events and workshops designed to increase awareness of sustainability
- Sustainability-focused student employment opportunities offered by the institution
 - Yes, although such jobs are not always permanent or great in scope.
- Graduation pledges through which students pledge to consider social and environmental responsibility in future job and other decisions

³ Email conversation with Eric Newton, ROC president

- No.

EN 4: Outreach Materials and Publications—1.25/2

Does RPI have one or more of the following?

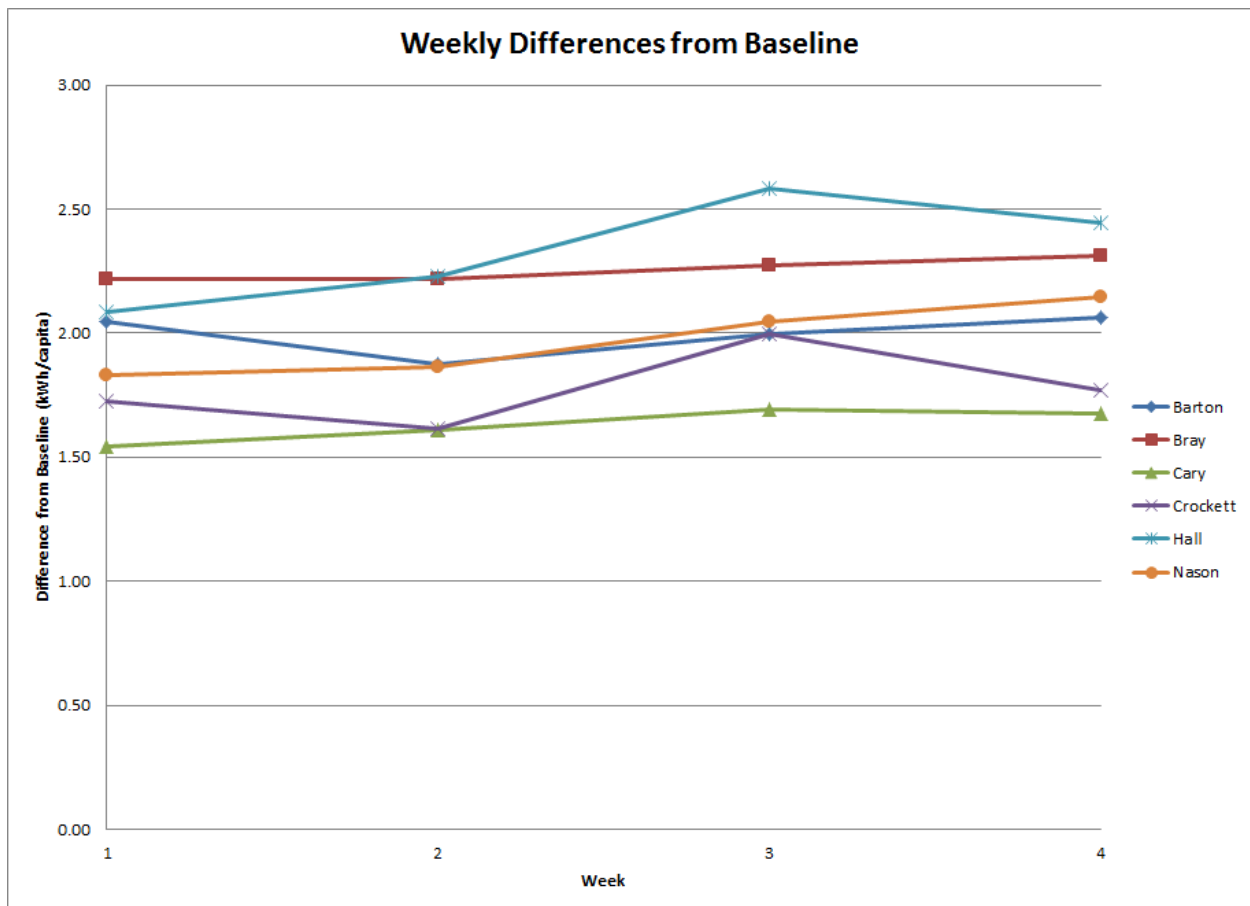
- A central sustainability website that consolidates information about the institution's sustainability efforts
 - Yes.
- A sustainability newsletter
 - None in print, but there is an email list (sustainability@union.rpi.edu) used for this purpose. Note that only officers of the club running the list can send to it.
- Social media platforms that focus specifically on campus sustainability
 - Yes. Facebook, Twitter.
- A vehicle to publish and disseminate student research on sustainability
 - No.
- Building signage that highlights green building features
 - Yes?
- Food service area signage and/or brochures that include information about sustainable food systems
 - No, although Sodexo does sometimes have signs relating to environmentalism (for example, suggesting that students choose vegetarian options or that they do not use a tray)
- Signage on the grounds about sustainable groundskeeping and/or landscaping strategies employed
 - No.
- A sustainability walking map or tour
 - No.
- A guide for commuters about how to use alternative methods of transportation
 - No, although many students live close enough that they either walk or take the shuttles.
- Navigation and educational tools for bicyclists and pedestrians (e.g. covering routes, inter-modal connections, policies, services, and safety)
 - No.
- A guide for green living and incorporating sustainability into the residential experience
 - No.
- Regular coverage of sustainability in the main student newspaper, either through a regular column or a reporter assigned to the sustainability beat
 - Yes.

EN 5: Outreach Campaign—0/4

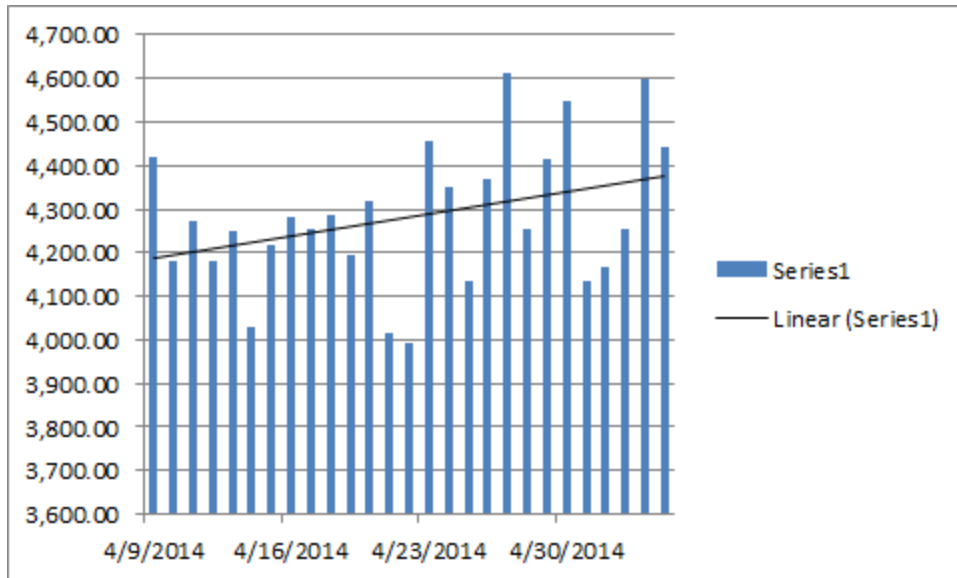
Part 1

Does RPI hold at least one sustainability-related outreach campaign directed at students that yields measurable, positive results in advancing sustainability?

Yes. The Hey Red Go Green/Ecohall Challenge is put on by the Resident Students Association. Freshmen compete to see which residence hall can be closest to the baseline set during winter break when no students were present. The graph below, from Alex Simon (co-chair of the event), shows the results. Some of the residence halls lowered their energy in different weeks, while others did not. Some had higher energy use.



In the graph below, data from Alex Simon, the overall trends are shown. Here, it is clear that energy use actually increased during the 4-week time period.



Part 2

Does RPI hold at least one sustainability-related outreach campaign directed at staff and faculty that yields measurable, positive results in advancing sustainability?

No.

EN 6: Employee Educators Program—0/3

Does RPI administer or oversee an ongoing faculty/staff peer-to-peer sustainability outreach and education program that meets the criteria for this credit?

No.

EN 7: Employee Orientation—0/1

Does RPI offer new employees (faculty and staff) orientation and/or outreach and guidance materials that cover sustainability topics?

No.

EN 8: Staff Professional Development—0/2

Does RPI makes training and/or other professional development opportunities in sustainability available to all staff at least once per year?

No.

EN 9: Community Partnerships—0/3

Does RPI have one or more formal partnership(s) with the local community, including school districts, government agencies, non-profit organizations, businesses and/or other entities, to work together to advance sustainability within the community?

No.

EN 10: Inter-Campus Collaboration—0/2

Does RPI collaborate with other colleges and universities to support and help build the campus sustainability community?

No.

EN 11: Continuing Education—0/0

Not applicable.

EN 12: Community Service—ND/5

What is the total number of students engaged in community service?

No data available.

EN 13: Community Stakeholder Engagement—0/2

Has RPI adopted a framework for community stakeholder engagement in governance, strategy and operations?

No.

EN 14: Participation in Public Policy—0/2

Does RPI advocate for national, state/provincial, or local public policies that support campus sustainability or that otherwise advance sustainability?

No.

EN 15: Trademark Licensing—0/2

Is RPI a member of the Worker Rights Consortium? Is RPI a member of the Fair Labor Association?

RPI is not a member of the Fair Labor Association or the Workers Rights Consortium.

EN 16: Hospital Network—0/0

RPI does not have a hospital.

Operations

OP 1: Greenhouse Gas Emissions—0/10

1) Has RPI conducted a publicly available greenhouse gas (GHG) emissions inventory that includes, at minimum, Scope 1 and Scope 2 GHG emissions and may also include Scope 3 GHG emissions?

Copied from the Green Report Card:

Start Date	Emissions level (Scopes 1 & 2)	Emissions level (Scopes 1, 2 & 3)	URL	Notes
2009 7/1/08	49592	55500		
2008 7/1/07	44835	50260		
2007 7/1/06	45848	53780		
2006 7/1/05	46769	55019		
2005 7/1/04	48225	56354		

No other data exists.

2) Has RPI reduced its adjusted net Scope 1 and Scope 2 GHG emissions per weighted campus

user compared to a baseline?

The most recent GHG emission data is from 2009.

3) Is RPI's annual adjusted net Scope 1 and Scope 2 GHG emissions less than the minimum performance threshold of 0.02 metric tons of carbon dioxide equivalent (MtCO₂e) per gross square foot (0.002 MtCO₂e per gross square metre) of floor area?

N/A.

OP 2: Outdoor Air Quality —0/1

1) Has RPI adopted policies or guidelines to improve outdoor air quality and minimize air pollutant emissions from mobile sources? Policies and/or guidelines may include, but are not limited to, prohibiting vehicle idling, restrictions on the use of powered lawn care equipment, and other strategies for minimizing mobile emissions.

No.

2) Has RPI completed an inventory of significant air emissions from stationary sources on campus? Significant emissions include nitrogen oxides (NO_x), sulfur oxides (SO_x), and other standard categories of air emissions identified in environmental permits held by the institution, international conventions, and/or national laws or regulations.

No.

OP 3: Building Operations and Maintenance—1.5/4

Does RPI own and operate buildings that are: 1) Certified under a green building rating system for existing buildings, e.g. LEED® for Existing Buildings: Operations & Maintenance (O&M) and/or 2) Operated and maintained in accordance with formally adopted sustainable operations and maintenance guidelines and policies that cover all of the following: impacts on the surrounding site, energy consumption, building-level energy metering,

usage of environmentally preferable materials, indoor environmental quality, water consumption, and building-level water metering?

RPI owns two LEED-certified buildings. The Experimental Media and Performing Arts Center (EMPAC) is LEED-certified. The East Campus Athletic Village (ECAV) is certified at the gold level. Additionally, the Houston Field House has solar panels, for which public data on their solar production is available. Biotech is also relatively energy-efficient and otherwise sustainable, though it did not meet LEED certification. It was not included in the points for this credit, Though.

OP 4: Building Design and Construction—N/A

Does RPI own buildings that were constructed or underwent major renovations in the previous five years are: 1) Certified under a green building rating system for new construction and major renovations (e.g. the LEED® for New Construction and Major Renovations, LEED for Commercial Interiors, LEED for Healthcare, and/or LEED for Core and Shell Green Building Rating Systems) or 2) Certified Living under the Living Building Challenge (LBC) and/or 3) Designed and built in accordance with formally adopted green building guidelines and policies that cover all of the following topics: impacts on the surrounding site, energy consumption, building-level energy metering, usage of environmentally preferable materials, indoor environmental quality, water consumption and building-level water metering?

According to Barbara Nelson, RPI has not done any new constructions/renovations within the last five years. Renovating the '86 Field was the last big project. During that renovation, new steam pipes were put in that were insulated to reduce the amount of heat lost.

OP 5: Indoor Air Quality—0/1

Does RPI have an indoor air quality (IAQ) management program that includes regular auditing or monitoring, a mechanism for occupants to register complaints, and action plans to implement any corrective measures required in response to audits, monitoring or complaints. Policies and plans adopted by entities of which the institution is part (e.g. government or university system) may count for this credit as long as the policies apply to and are followed by the institution.

RPI does not have an IAQ program; however, according to Barbara Nelson, complaints are addressed quickly. The Pittsburgh building, one of the classrooms, had some complaints raised against it so new air systems were put in.

RPI's policy, again according to Barbara Nelson, is to make sure people are safe, healthy, and comfortable. If someone requested a change, it would be done. RPI is a smoke-free campus. RPI also follows applicable codes and takes care of hazards in the labs according to Nelson.

OP 6: Food and Beverage Purchasing—ND/4

What percentage of foods and beverages purchased by Sodexo for RPI are local and community based?

What percentage of foods and beverages purchased by Sodexo for RPI are certified organic?

What percentage of foods and beverages purchased by Sodexo for RPI are certified to be ecologically sound, fair, and/or humane?

According to Maureen Brown, Sodexo does not track this on a local (ie, institute-sized) level. Approximately twelve percent of all purchases is local, but how much of it and the types for RPI specifically is not known.

OP 7: Low Impact Dining—0/3

Do conventionally produced (ie not verified as sustainably produced, humanely raised, or grass/pasture fed) make up more than 30 percent of Sodexo's total dining purchases at RPI?

According to Maureen Brown, Sodexo does not track on a local (ie, institute-sized) level.

Does Sodexo at RPI offer diverse, complete-protein vegan options at all meals in at least one dining facility on campus? A "complete protein" vegan option must include, at minimum, two or more of the following food types: soy, whole grains, nuts and seeds, legumes.

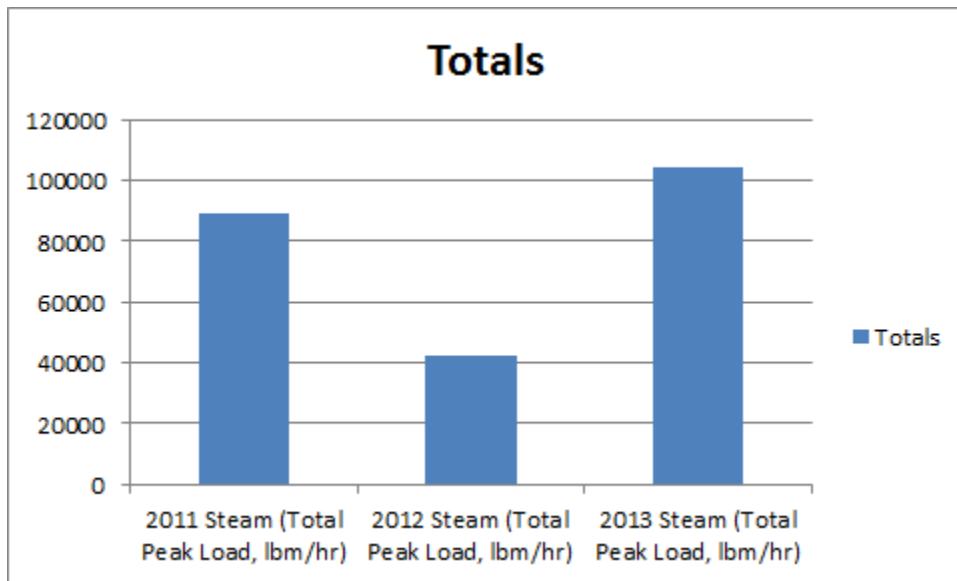
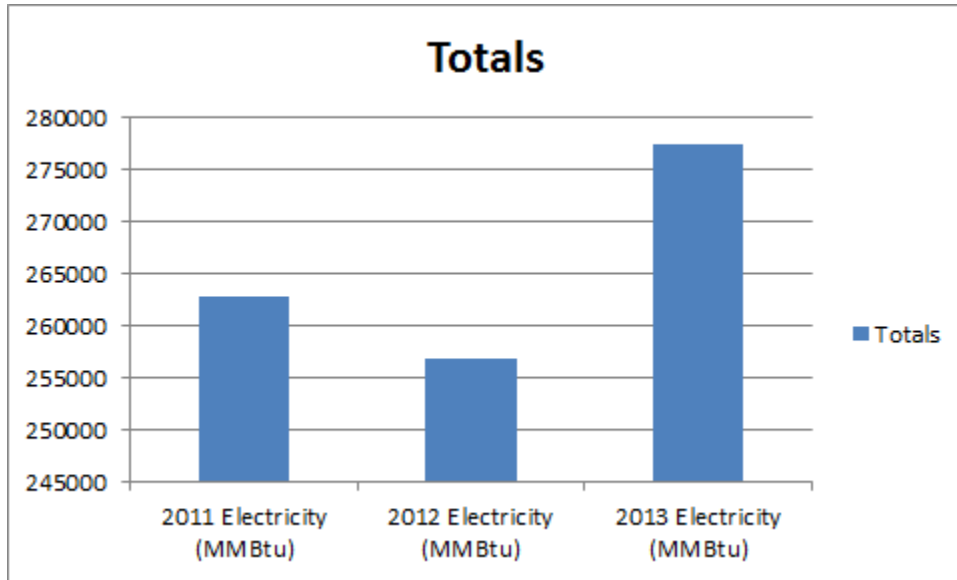
Based on the menus, not at Commons, the main dining hall. The rest of the dining halls are not open for all three meals. Students with special dietary needs can request access to the allergy/special needs area, but neither nuts nor gluten are allowed in the area, which further restricts students on vegan diets.

OP 8 Building Energy Consumption—0/6

Part 1

Has RPI reduced its total building energy consumption per gross square foot/metre of floor area compared to a baseline?

RPI's energy usage has gone up in the past three years. Below are graphs of total energy data; the first one shows electricity use and the second shows steam use.



OP 9 Clean and Renewable Energy—0/4

Does RPI support the development and use of clean and renewable energy sources, using any one or combination of the following options?

Option 1: Generating electricity from clean and renewable energy sources on

campus and retaining or retiring the rights to the environmental attributes of such electricity. (In other words, if the institution has sold Renewable Energy Credits for the clean and renewable energy it generated, it may not claim such energy here.) The on-site renewable energy generating devices may be owned and/or maintained by another party as long as the institution has contractual rights to the associated environmental attributes.

Option 2: Using renewable sources for non-electric, on-site energy generation, such as biomass for heating.

Option 3: Catalyzing the development of off-site clean and renewable energy sources (e.g. an off-campus wind farm that was designed and built to supply electricity to the institution) and retaining the environmental attributes of that energy.

Option 4: Purchasing the environmental attributes of electricity in the form of Renewable Energy Certificates (RECs) or other similar renewable energy products that are either Green-e Energy certified or meet Green-e Energy's technical requirements and are verified as such by a third party, or purchasing renewable electricity through the institution's electric utility through a certified green power purchasing option.

RPI does get some energy from renewable sources, but not enough to be substantial points-wise.

RPI's Houston Field House does have solar panels that work, with [public data](#) available.

According to Steve Quinn, no specific incentive programs are in place at RPI to reward energy conservation efforts. National Grid and the New York State Energy Research and Development Authority do give RPI incentives for incorporating energy conservation measures.

OP 10 Landscape Management—0/2

Do RPI's grounds include areas that are managed at one or more of the following levels: 1) Managed in accordance with an Integrated Pest Management (IPM) Plan 2) Managed in accordance with a sustainable landscape management program and/or 3) Organic, certified and/or protected.

No data available.

Integrated Pest Management was being used in 2008, according to [Sustainability at Rensselaer](#) (22).

OP 11 Biodiversity—0/1-2

Does RPI conduct one or both of the following: an assessment to identify endangered and vulnerable species (including migratory species) with habitats on institution-owned or -managed land and/or an assessment to identify environmentally sensitive areas on institution-owned or -managed land?

The institution has plans or programs in place to protect or positively affect the species, habitats and/or environmentally sensitive areas identified.

Assessments conducted and programs adopted by other entities (e.g. government, university system, NGO) may count for this credit as long as the assessments and programs apply to and are followed by the institution.

No.

OP 12 Electronics Purchasing—0/1

Does RPI have an institution-wide stated preference to purchase computers and/or other electronic products that are EPEAT registered or meet similar multi-criteria sustainability standards for electronic products? This can take the form of purchasing policies, guidelines, or directives.

No.

Does RPI purchase EPEAT registered products for desktop and notebook/laptop computers, displays, thin clients, televisions and imaging equipment? This credit does not include servers, mobile devices such as tablets and smartphones, or specialized equipment for which no EPEAT certified products are available.

No. RPI's model of laptop that all students must get unless they have their own are not on this list.

OP 13 Cleaning Products Purchasing—0/1

Does RPI have an institution-wide stated preference to purchase cleaning and janitorial products that are Green Seal™ or UL Environment (EcoLogo)™ certified and/or meet similar

multi-criteria sustainability standards for cleaning and janitorial products? This can take the form of purchasing policies, guidelines, or directives.

No data available.

In 2008, Green Seal cleaning products were used when feasible.

OP 14 Office Paper Purchasing—0/1

Does RPI have an institution-wide stated preference to purchase office paper that has recycled content, is certified by the Forest Stewardship Council (FSC), and/or is certified to meet similar multi-criteria sustainability standards for paper? This can take the form of purchasing policies, guidelines, or directives.

Does RPI purchase office paper with post-consumer recycled, agricultural residue, and/or FSC certified content?

Yes. Data is not known as to percent.

OP 15 Inclusive and Local Purchasing—.25/1

Does RPI have an institution-wide stated intent to support disadvantaged businesses, social enterprises, and/or local community-based businesses? Support could take the form of giving preference during RFP processes, conducting targeted outreach to these businesses about opportunities to work with the institution, and/or other efforts to increase purchases made from such businesses.

Does RPI make purchases from companies that include disadvantaged businesses, social enterprises and/or local community-based businesses? Purchases that meet multiple criteria listed above should not be double counted. Food and beverage purchases, which are covered by OP 6: Food and Beverage Purchasing and OP 7: Low Impact Dining, are not included in this credit.

Yes, RPI does have a policy to strive to buy from smaller business, minority owned businesses, women owned businesses, and veteran owned businesses. Exact percentages are not known but based on the supplier list, probably not high enough for many more points.

OP 16 Life Cycle Cost Analysis—0/1

Does RPI employ Life Cycle Cost Analysis (LCCA) as a matter of policy and practice when evaluating energy- and water-using products and systems. Practices may include structuring RFPs so that vendors compete on the basis of lowest total cost of ownership (TCO) in addition to (or instead of) purchase price?

No.

OP 17 Guidelines for Business Partners—0/1

Does RPI have and act on policies, guidelines and/or agreements that set expectations about the social and environmental responsibility of its business partners? The policies, guidelines and/or agreements require new and/or existing vendors and contractors and/or franchisees to adhere to:

1) Minimum environmental standards and practices defined by the institution, for example as outlined by the institution's sustainability policies

And/or

2) Minimum standards and practices governing employee wages, benefits, working conditions and rights that are consistent with fundamental International Labor Organization (ILO) conventions.

No.

OP 18 Campus Fleet—0/1

Institution supports alternative fuel and power technology by including in its motorized vehicle fleet vehicles that are:

A. Gasoline-electric hybrid

B. Diesel-electric hybrid

C. Plug-in hybrid

D. 100 percent electric

E. Fueled with Compressed Natural Gas (CNG)

F. Hydrogen fueled

G. Fueled with B20 or higher biofuel for more than 4 months of the year

And/or

H. Fueled with locally produced, low-level (e.g. B5) biofuel for more than 4 months of the year (e.g. fuel contains cooking oil recovered and recycled on campus or in the local community)

Thirty-three percent of RPI shuttles run on propane according to Steve Quinn. As of March 2014, 66 percent will be with the goal of a 100 percent propane fleet target for spring 2015. Parking and Transportation has an electric vehicle for parking enforcement. There is also an electric charging unit on campus according to Quinn.

According to the US Energy Information Administration, propane burns cleaner than other fossil fuels. However, it is not on the STARS list. The one EV is not enough to make a significant difference points-wise for this credit.

OP 19 Student Commute Modal Split—ND/2

Do RPI's students commute to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, or a combination of these options?

No data available per Jason Jones regarding how many students use which transportation options.

RPI does have multiple shuttles. These, according to Barbara Nelson, were a result of the Biotech building being built. Biotech took out a large parking area. Many students use the shuttles—two run by RPI and one run by the Capital District Transportation Authority—to get to and from campus. The shuttle routes are designed to hit student population centers including residence halls and Greek houses. Additionally, RPI students ride free on CDTA buses with their IDs. Buses are available to go to the local Price Chopper, Albany, and other cities nearby.

OP 20 Employee Commute Modal Split—ND/2

Do RPI's employees (faculty, staff, and administrators) get to and from campus using more sustainable commuting options such as walking, bicycling, vanpooling or carpooling, taking public transportation, riding motorcycles or scooters, riding a campus shuttle, telecommuting, or a combination of these options?

No data available per Jason Jones regarding how many employees use which transportation options.

The shuttles are available to faculty, staff, and the administration as well. Anecdotally, many of the professors and staff I have worked with talk about living close enough to be either a short drive or even walkable.

OP 21 Support for Sustainable Transportation— .5/2

Does RPI demonstrates its support for active (i.e. non-motorized) transportation on campus in one or more of the following ways?

Option A: Institution:

- *Provides secure bicycle storage (not including office space), shower facilities, and lockers for bicycle commuters. The storage, shower facilities and lockers are co-located in at least one building/location that is accessible to all commuters.*
- *Provides short-term bicycle parking (e.g. racks) within 50 ft (15 m) of all occupied, non-residential buildings and makes long-term bicycle storage available within 330 ft (100 m) of all residence halls (if applicable).*
- *Has a “complete streets” or bicycle accommodation policy (or adheres to a local community policy) and/or has a continuous network of dedicated bicycle and pedestrian paths and lanes that connects all occupied buildings and at least one inter-modal transportation node (i.e. transit stop or station).*

And/or

- *Has a bicycle-sharing program or participates in a local bicycle-sharing program*

Option B: Institution is certified as a Bicycle Friendly University (at any level) by the League of American Bicyclists (U.S.) or under a similar third party certification for non-motorized transportation.

Part 2: Has RPI implemented one or more of the following strategies to encourage more sustainable modes of transportation and reduce the impact of student and employee commuting? The institution:

- *Offers free or reduced price transit passes and/or operates a free campus shuttle for commuters. The transit passes may be offered by the institution itself, through the larger university system of which the institution is a part, or through a regional program provided by a government agency. **Yes***
- *Offers a guaranteed return trip (GRT) program to regular users of alternative modes of transportation **No***
- *Participates in a car/vanpool or ride sharing program and/or offers reduced parking fees or preferential parking for car/vanpoolers **No***
- *Participates in a car sharing program, such as a commercial car-sharing program, one*

administered by the institution, or one administered by a regional organization **No, although the Student Senate submitted a proposal for one last fall**

- *Has one or more Level 2 or Level 3 electric vehicle recharging stations that are accessible to student and employee commuters* **Yes**
- *Offers a telecommuting program for employees, either as a matter of policy or as standard practice* **No**
- *Offers a condensed work week option for employees, either as a matter of policy or as standard practice* **No, although some professors attempt to arrange their schedules this way**
- *Has incentives or programs to encourage employees to live close to campus* **No**
- *Other strategies*

While RPI does not have any sort of complete streets policy per Jason Jones, it does have bicycle storage available in the residence halls for students and bike racks by many buildings. I believe that it is possible to get to at least most, if not all, buildings through paths with no stairs.

RPI is a relatively small campus, and the locations where many off-campus students live is around a 15-20 minute walk from campus maximum. Where the author has been living for the past two years is considered farther away, but is still only a fifteen minute walk or so from much of campus. Additionally, both campus and near campus are quite hilly, which can be a deterrent to less experienced bike riders. Some students and faculty do certainly ride their bikes to get around.

There is a level 2 electric vehicle charging station on campus, both per Jason Jones and per this [link](#).

OP 22 Waste Minimization—0/5

Part 1

Has RPI implemented source reduction strategies to reduce the total amount of waste generated (materials diverted + materials disposed) per weighted campus user compared to a baseline?

Part 2

Institution's total annual waste generation (materials diverted and disposed) is less than the minimum performance threshold of 0.45 tons (0.41 tonnes) per weighted campus user.

This credit includes on-campus dining services operated by the institution or the institution's primary on-site contractor.

Total waste generation includes all materials that the institution discards, intends to discard

or is required to discard (e.g. materials recycled, composted, donated, re-sold and disposed of as trash) except construction, demolition, electronic, hazardous, special (e.g. coal ash), universal and non-regulated chemical waste, which are covered in OP 24: Construction and Demolition Waste Diversion and OP 25: Hazardous Waste Management.

No data available; however, RPI does have single-stream recycling. The dining halls have also recently begun a composting program.

OP 23 Waste Diversion—0/3

Does RPI divert materials from the landfill or incinerator by recycling, composting, reusing, donating, or re-selling?

This credit includes on-campus dining services operated by the institution or the institution's primary on-site contractor.

This credit does not include construction, demolition, electronic, hazardous, special (e.g. coal ash), universal and non-regulated chemical waste, which are covered in OP 24: Construction and Demolition Waste Diversion and OP 25: Hazardous Waste Management.

RPI does recycle; it even has single-stream recycling. Signs with what can and cannot be recycled are present near the recycling bins. No data on the percentages recycled is available, however.

OP 24 Construction and Demolition Waste Diversion—NA/1

This credit applies to all institutions that have conducted a major construction, renovation and/or demolition project in the three years prior to the anticipated date of submission.

Not needed, as the last project RPI did was the '86 field remodel and that was in 2010.

OP 25 Hazardous Waste Management—0.5/1

Part 1

Does RPI have strategies in place to safely dispose of all hazardous, special (e.g. coal ash), universal, and non-regulated chemical waste and seeks to minimize the presence of these materials on campus?

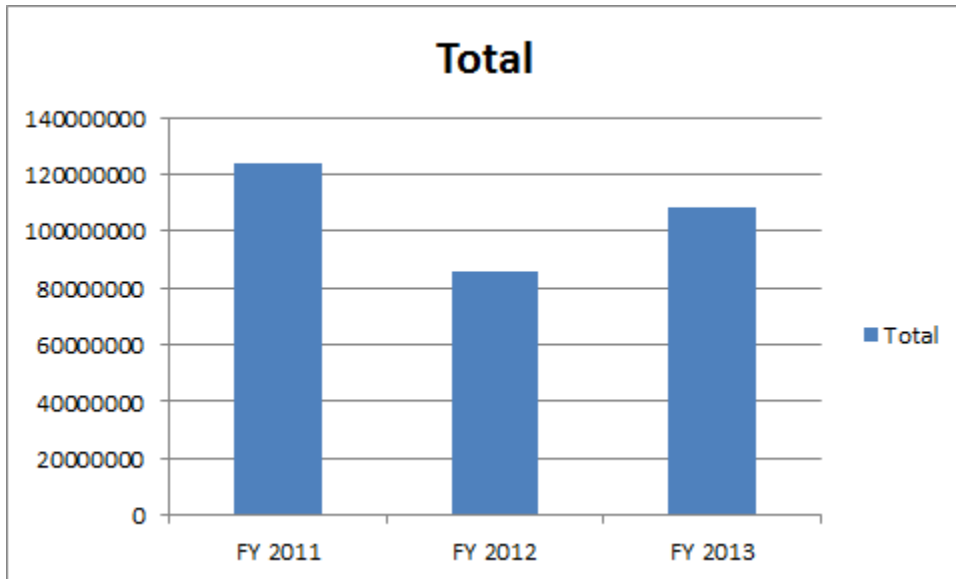
Yes. RPI's policies are available on the RPI Human Resources website.

Part 2

Does RPI have a program in place to recycle, reuse, and/or refurbish electronic waste generated by the institution and/or its students? Institution takes measures to ensure that the electronic waste is recycled responsibly, for example by using a recycler certified under the e-Stewards and/or R2 standards.

No data available.

OP 26 Water Use—NA/2-6



Graph of total water use at RPI during the last three years.

The baseline water usage used in Sustainability at Rensselaer had a total of 250,000,000 gallons. Neither the year nor other metrics asked for in the STARS report were given in that report. However, water usage is far below that nowadays.

According to Steve Quinn, RPI does not use non-potable water for irrigation.

OP 27 Rainwater Management—0/2

Part 1

Does RPI use a Low Impact Development (LID) practices as a matter of policy or standard practice to reduce rainwater/stormwater runoff volume and improve outgoing water quality for new construction, major renovation, and other projects that increase paved surface area on campus or otherwise significantly change the campus grounds?

Some sites (for example, EMPAC) do utilize various practices to prevent stormwater runoff. No such policy exists, though.

Part 2

Has RPI adopted a rainwater/stormwater management policy, plan, and/or strategies that mitigate the rainwater runoff impacts of ongoing campus operations and treat rainwater as a resource rather than as a waste product.

No.

OP 28 Wastewater Management—0/1

Is RPI's wastewater is handled naturally on campus or in the local community? Natural wastewater systems include, but are not limited to, constructed treatment wetlands and Living Machines. To count, wastewater must be treated to secondary or tertiary standards prior to release to water bodies.

No.

Planning and Administration

PA 1 Sustainability Coordination—0/1

Does RPI have at least one sustainability committee, office, and/or officer tasked by the administration or board of trustees to advise on and implement policies and programs related to sustainability on campus? The committee, office, and/or officer focus on sustainability broadly (i.e. not just one sustainability issue, such as climate change) and cover the entire institution.

RPI does not have any form of sustainability coordination tasked by the Board of Trustees. Instituting an Office of Sustainability is a task that the Student Sustainability Task Force has been pushing for since its founding in 2007.

PA 2 Sustainability Planning—0/1

Does RPI have any formal plans to advance sustainability?

Many other groups are working towards sustainability or strive towards when making various decisions, but a comprehensive plan does not exist. Barbara Nelson said that campus planning looks at what existing spaces could be reutilized and existing infrastructure changed as opposed

to building new buildings. An example she gave was the Cogswell Building which was modified to meet current needs. Nelson also said that RPI has not bought new land in a number of years and is working to densify the campus as opposed to sprawling out.

PA 11 Wellness Program—1/1

Does RPI have a wellness and/or employee assistance program that makes available counseling, referral, and wellbeing services to all members of any of the following groups?

- *Students*
- *Staff*
- *Faculty*

RPI has the Wellness Institute run out of the Mueller Center. The Wellness Institute puts on Wellness Day and Stress Relief Days every semester. It was founded in spring 2013. The author of this report works for the Wellness Institute as part of the federal work-study program.