

Class of 1968 Fiftieth Reunion Gift Report

Thanks to the generosity of the Class of 1968, the Green Revolving Fund projects have been enhanced and a President's Sustainability Research Fellowship focuses on reducing carbon.



AARON URQUIDEZ '22

The Roadmap to Zero Carbon: Student Engagement project strengthened interdepartmental communication strategies to inform the campus community about the need for the RTZC on campus.



Aaron discussing the RTZC with community partners.

Background and Objectives

Swarthmore's Board of Managers approved the implementation of the Roadmap to Zero Carbon energy plan in Spring 2021. The RTZC will transition Swarthmore's heating and cooling infrastructure away from fossil-fuel combustion to geo-exchange coupled with renewable energy to achieve carbon neutrality by 2035. In order to do so, the College is constructing a geo-exchange plant in the basement of the Dining and Community Commons and a geo-exchange wellfield in the center of campus, to be completed in phases over the next 13 years.

Given the scope, complexity, and campus impact of the RTZC, Aaron's project set out to:

- Improve student understanding of the Roadmap to Zero Carbon and the development process.
- Facilitate pathways for students and the wider community to learn from the construction process and new heating/cooling systems.
- Strengthen communication channels and relationships around the Roadmap to Zero Carbon among the Office of Sustainability, Facilities and Capital Planning, the external Program Manager, Communications, and other key stakeholders.

Outcomes

Student outreach and data-gathering: Aaron conducted outreach efforts to engage with and inform the student body about the Roadmap to Zero Carbon, including a tabling and survey event and information sessions with student stakeholders like the Green Advisors

and Admissions Office tour guides.

Institutional benchmarking: Several colleges and universities that completed or initiated geo-exchange projects were contacted to learn any best practices or opportunities to engage the campus community with the project.

Engagement strategy and timeline: Drawing on outreach to students, the communications survey, and institutional benchmarking, Aaron developed an engagement outline and recommendations for the Office of Sustainability and Facilities and Capital Planning to reference as they communicate about the project through its first phases. The strategy identifies key groups and moments to engage with the student body as construction begins later this year.

Future Work & Recommendations

In addition to the engagement strategy and timeline, Aaron developed the following recommendations for future work:

- Develop an information session about the construction work for incoming students, particularly those students who will live in dorms closest to the drilling.
- Provide multiple access points for learning more, including on-site signage, a robust, informative website, information sessions, and more.
- Continue to ensure close collaboration during the construction process between key departments including Capital Planning and Facilities, the Office of Sustainability, the Office of Student Engagement, Communications, and Admissions.

This project will continue as a Senior PSRF project in the 2022-23 academic year.

Project Team

Mentors:

Andy Feick, Associate Vice President for Sustainable Facilities Operation & Capital Planning, Facilities Management

Elizabeth Drake, Director, Office of Sustainability

Project Board:

Alexandra Sastre '05, Associate Director of Campus Communications

Alexander Flowers '21, Sustainability and Engaged Scholarship Fellow, Office of Sustainability

Carr Everbach, Chair of Environmental Studies, faculty in Engineering and Environmental Studies

James Adams, Director, Sustainable Maintenance

Rachel Head, Director, Office of Student Engagement

Ryan Jin '24, Green Advisor

Sophia Plata, faculty in Engineering

THE CLASS OF 1968 PSRF

The Class of 1968 President's Sustainability Research Fellow Fund is invested in the Fossil Fuel Free Fund, providing annual support for one or more Fellows.

Fiscal Year 2022 Fund Balances

Class of 1968 PSRF		
BOOK VALUE	As of June 30, 2022	\$190,583.14
MARKET VALUE	As of June 30, 2022	\$ 244,982.48
ESTIMATED DISTRIBUTION		\$6,737.82

GRF

Green Revolving Fund

HOW DOES THE FUND WORK?

Swarthmore's GRF is a self-renewing pool of capital that grants loans to energy projects on campus. As the energy projects reduce utility expenses, the savings are returned to the revolving fund until the "loan" is paid off, which replenishes the fund for further projects. The project loans are managed through the Green Revolving Investment Tracking System (GRITS), a product of the Sustainable Endowments Institute.

WHAT GIFTS HAVE BEEN RECEIVED FROM THE CLASS OF 1968?

FY18 \$67,322.75

FY19 \$34,115.13

FY20 \$24,775.00

FY21 \$37,725.00

FY22 \$21,625.00

FY23 \$6625 (as of January 23, 2023)

Outstanding pledges: \$11,060.

WHICH PROJECTS DID THE CLASS OF 1968 SPONSOR?

The first gift came into the Class fund on November 10, 2017. The most recent gift was made on January 19, 2023. Because the Class of 1968's gifts to this current use fund are ongoing, and because the GRF itself is to be completely expended annually (to the extent possible), the Class of 1968's gifts were added to the GRF as they came in and not held to be used as a unit. All funds restricted by donors to this fund have been reserved for use for approved energy projects.

As a result, the Class of 1968 has an interest in all projects undertaken by the College since 2017-18 when the first gifts were received.

PROJECTS UNDERTAKEN IN 2021-2022

Summer Heat Plant Shutdown

This project includes upgrades to domestic heating systems in the Lamb-Miller Fieldhouse, Parrish Hall, Science Center, McCabe Library, and Lang Music Building that enable us to shut down the steam plant in the summer, a necessary component of the implementation of 20x35. In the past, the plant has run year round in order to serve small needs in these buildings, which wasted a significant amount of energy.

Estimated Cost: \$755,360

Cost to date: \$356,264

Expected payback period: 10.2 years



Saving energy in the heat plant with an expected payback period of 10 years.

PROJECTS UNDERTAKEN IN 2020-2021

Science Center Retrocommissioning

This project analyzed the heating, ventilation, and air conditioning systems in the Science Center, one of the largest energy users on campus, to identify and document deficiencies that may be inhibiting the building from achieving its optimal efficiency. Due to funding limitations, energy-saving projects identified from this analysis were pursued as separate projects by the Maintenance Department.

Cost: \$26,932

Automation and Controls

This project involved upgrading the automation and control systems in 101 S. Chester, Old Tarble, and the Mullan Tennis Center to save energy associated with lighting, heating, and cooling. For example, this project will help ensure that lights are not left on in the Tennis Center when the building is not occupied, resulting in instant savings.

Cost: \$54,283

Expected payback period: 3-5 years

**Since the inception of the GRF in 2016,
\$1,360,600 has been invested in projects to
reduce utility expenses on campus.**

PROJECTS UNDERTAKEN IN 2019-2020

Science Center LED Lighting Retrofit

Cost: \$236,543

Payback period: 16 years

This project involved upgrading the lighting in classrooms, conference rooms, office areas, and additional spaces to optimize energy efficiency while also improving the lifespan and quality of lighting in the Science Center.

Vacuum Pump Upgrades

Cost: \$76,378

Payback period: 6 years

The aging vacuum pump system in the Science Center, an important piece of equipment that serves laboratories, was replaced. In addition to improving the energy efficiency of the system, the upgraded vacuum pump is expected to save approximately 827,000 gallons of water per year.



PROJECTS UNDERTAKEN IN 2018-2019

Steam Pipe Insulation

Cost: \$238,249

Payback period: 5.1 years

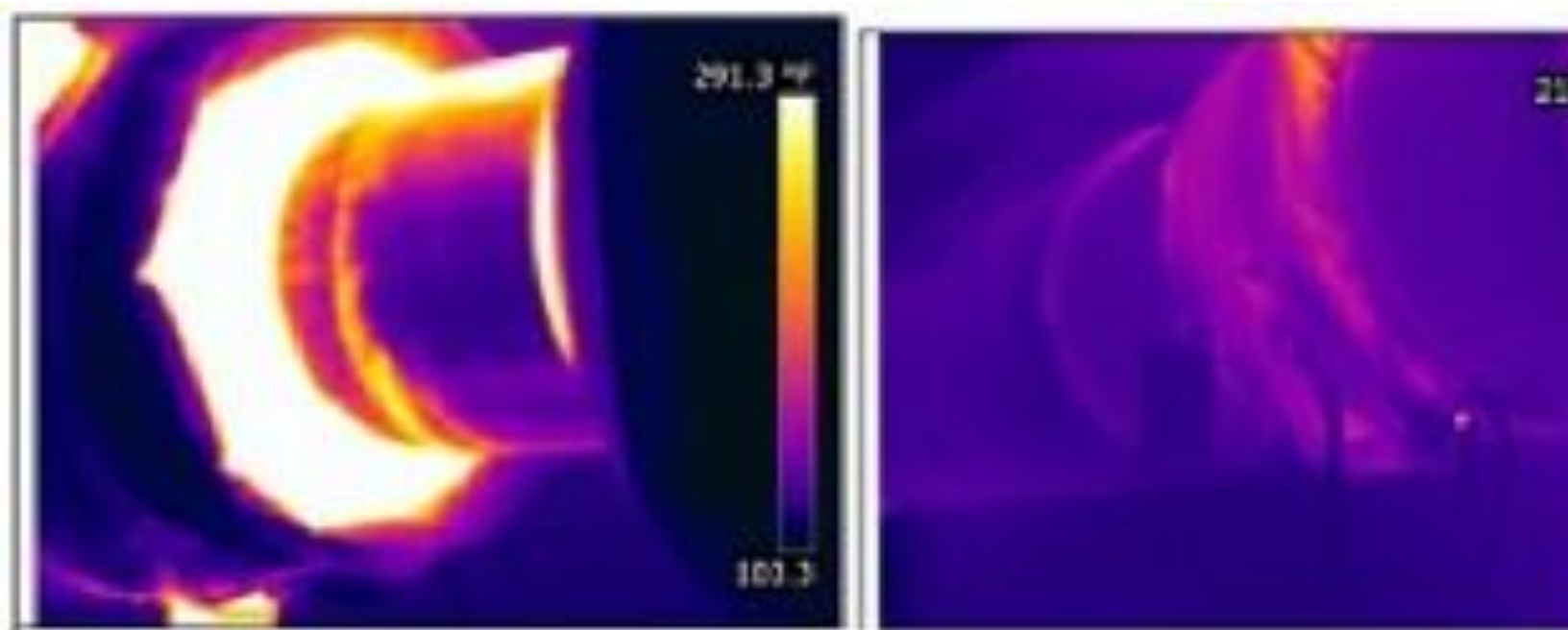
Piping insulation was installed on uninsulated piping, and removable thermal blankets were installed on valves and traps in the Boiler House, main steam tunnel, and selected mechanical areas of the Science Center.

Metering Upgrades

Cost: \$58,488

Payback period: 2.8 years

A data extractor with SkySpark software was installed to determine areas for retro-commissioning.



Before and after thermal photo of pipe joint.

PROJECTS UNDERTAKEN IN 2017-2018

Friends Historical Library and Peace Collection Lighting Upgrade

Cost: \$82,017

Payback period: 12 years

Fluorescent fixtures were replaced by LED fixtures in the Friends Historical Library and Peace Collection. One hundred and eighty-nine additional fixtures were added to remedy dark spots, and 72 occupancy sensors were added to automatically and efficiently regulate light based on occupancy of the space. The light produced by these fixtures is both higher quality than the fluorescent fixtures as well as absent of ultraviolet, which has the added benefit of preserving the archival materials better. This project virtually eliminates labor for lamp replacement. Over the 15 year life of the project, it is calculated to avoid over 1,000,000 pounds of CO2 emissions.

Tennis Lighting Upgrade

Cost: \$36,739

Payback period: 24 years

Like the Library upgrades, LED fixtures replaced fluorescent fixtures.