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SAINT JOSEPH'S
COLLEGE



Saint Joseph's College
Climate Action and Sustainability Plan
January 25, 2015

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Letter from the President

Dear Friends,

It is a pleasure to introduce Saint Joseph's College's first Climate Action and Sustainability Plan. The Plan builds on years of concerted efforts to move our campus toward sustainability. Thanks to early champions whose passion and vision engaged action, the College has taken many steps including core sustainability values being strongly reflected in our strategic plan, Sustaining the Promise.

In recent years, we have done significant things on campus. An LED lighting retrofit is not only saving us thousands of dollars, but is providing better light. We are unique among colleges in having our own working farm that provides its natural bounty to our campus community and offers opportunities for many students to observe and participate in alternative agriculture. And we have years of experience with dedicated students and faculty, promoting the importance of sustainability on campus.

Now we have a written plan, a roadmap for greater progress. This Climate Action and Sustainability Plan aims to further institutionalize the College's commitment to carbon neutrality and sustainability with clear targets, strategies, and timelines for achieving its goals and objectives. With integrity, community buy-in, and solidarity with peers and the international community, Saint Joseph's College is committed to ensuring a healthy, prosperous, and habitable future for all.

As a signatory of the American College and University Presidents' Carbon Commitment, Saint Joseph's takes this commitment seriously. The campus community has a moral obligation to steward our resources, which includes the physical and natural environment as well as our human and economic resources. This responsibility is deeply rooted in the College's values. It drives us to take actions, to make decisions, to instill an ethic in our daily practices, in governance, and how we educate. In this integrated way, Saint Joseph's will be a model in our communities and will equip graduates with critical knowledge and skills and tools to be part of the solution and to make a difference.

This Climate Action and Sustainability Plan demonstrates that Saint Joseph's is mission-driven, innovative, learner-focused, and growing. We embrace the intersection between sustainability and the Catholic values of faith, integrity, community, respect, and compassion. In order to achieve our goals in this Plan, I welcome the entire campus community and beyond to join in this evolving effort and collaboration to integrate sustainability into the very fabric of this College.

Sincerely,

James S. Dlugos, PhD
President

Executive Summary

Saint Joseph's College's Climate Action and Sustainability Plan is a testament to the College's commitment to sustainability, a road map to carbon neutrality, and it fulfills the Presidents' Carbon Commitment. The Plan defines sustainability, outlines its current manifestations throughout the campus, frames a phased approach to carbon neutrality by 2036 through goals and strategies, and benchmarks progress through metrics and the Sustainability Tracking, Assessment, and Rating System (STARS), which the College will be resubmitting in 2017. All of this builds upon the Catholic values embraced by the College and the core values of its new strategic plan, *Sustaining the Promise*.

The Plan was co-created by a multi-stakeholder group, The Sustainability Task Force, appointed by

President Dlugos in August 2015, with input from diverse community members. The planning process was thoughtful and inclusive. The Task Force's and Plan's creation was supported by EcoMotion, Inc. The Plan is composed of a greenhouse gas inventory overview and 10 domains: energy, waste diversion and recycling, water, food and dining, land use, supply chain management, governance and investment, academics and research, community engagement, and health and wellness. Each domain includes a background section, goals and strategies, and metrics. Given the nature of sustainability, there is connectivity between the domains and each supports and reinforces the other.

The College is eager to advance accomplishments and carry out the mission, vision, and core values of Saint Joseph's College through this Climate Action and Sustainability Plan

Defining Sustainability

At Saint Joseph's College, sustainability is expressed as a deep respect for the earth through daily practices, decision making, and stewardship in a healthy and equitable way so that communities now and in the future can thrive. — *Sustainability Task Force, 2015*



Sustainability at Saint Joseph's College

Saint Joseph's College is located on the shore of Sebago Lake in Standish, Maine. The 474-acre campus features 11 residence halls, academic buildings, offices, an athletic center, athletic fields, open green spaces, forests, and Pearson's Town Farm. A private Catholic and liberal arts school, Saint Joseph's holds the mission of the Sisters of Mercy and the Catholic values of stewardship and justice close to its heart, manifested in the educational experiences and community engagement opportunities offered. The College hereby engages its principles and values in this Climate Action and Sustainability Plan.

Saint Joseph's commitment to sustainability is rooted in the primary commitments of the Institute of the Sisters of Mercy of the Americas, the College's sponsoring community, and their five Critical Concerns for the earth, immigration, nonviolence, countering racism, and valuing women. The College takes these Critical Concerns seriously, hence the sustainability endeavors flow naturally from its Catholic and Mercy mission, and from its core values of faith, excellence, integrity, community, respect, compassion, and justice.

Pope Francis' historic encyclical, "Laudato Si: On Care For Our Common Home," commits the Catholic Church and all of its communities to an integral ecology that will preserve the earth's diminishing natural resources, promote intergenerational justice, combat widespread poverty, and minimize climate change. "Laudato Si" recognizes that human persons are part of an earth community and that the common good requires all of its parts to be preserved.

Campus sustainability has a rich history at Saint

Joseph's College, with accomplishments to date ranging from the signing of the Presidents' Carbon Commitment (aka American College and University Presidents' Carbon Commitment) and the Catholic Climate Covenant, to achieving a bronze rating through the Sustainability Tracking, Assessment and Rating System (STARS). These efforts can be attributed to dedicated grassroots action carried out by faculty and staff members. For years they have organized the Sustainability Festival, facilitated engagement programs including student Eco-Reps and the employee E-Team, measured campus carbon emissions, and spurred launch of Saint Joseph's Green Revolving Fund to finance and institutionalize energy efficiency gains and community engagement.

Saint Joseph's College's Climate Action and Sustainability Plan focuses on the domains of energy, waste diversion and recycling, water, food and dining, land use, supply chain management, governance and investment, community engagement, academics and research, and health and wellness, with a climate action plan embedded.



Methodology and Management

In order to infuse sustainability into campus-wide systems, practices, and behaviors, and to continue on a path of improvement, a methodology and management structure needs to be designed, implemented, and evaluated on an ongoing basis. This Climate Action and Sustainability Plan is a fundamental element of Saint Joseph’s College’s process for advancing efforts toward sustainability in a way that is regulated, measurable, and anticipatory.

The process for integrating sustainability into the fabric of Saint Joseph’s College is circular and ongoing by design, in order to lead toward increasingly better outcomes. The Sustainability Task Force is the governing body responsible for ensuring ongoing improvement through a process methodology that consists of these key functions: (Re)assess, Plan, and then Measure.

1. To assess and reassess on an ongoing basis, Saint Joseph’s College will continue to use the industry standard Sustainability Tracking, Assessment, and Rating System (STARS), a program developed by the Association for the Advancement of Sustainability (AASHE). This program will continue to serve as a tool for understanding and benchmarking Saint Joseph’s practices and discovering opportunity areas for improvement within the framework of the STARS standard. Saint Joseph’s College will resubmit their STARS report in 2017 with the goal of achieving Silver. Points to pursue for advancing the College’s STARS score are incorporated within the Plan. The STARS bar graphs found in each relevant section depict the College’s current bronze submission, credits to pursue for Silver, and points remaining. The Plan is further strengthened

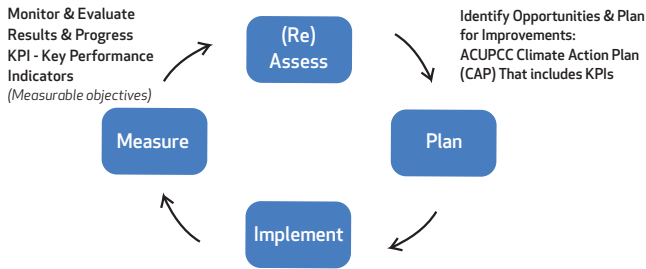
STARS Framework	Primary Climate Action Planning Domains
Operations	Energy Waste Water Food and Dining Land Use Supply Chain
Planning & Administration	Governance and Investment Health and Wellness
Academics	Academics and Research
Engagement	Community Engagement

through its emphasis on the primary climate action planning domains indicated below.

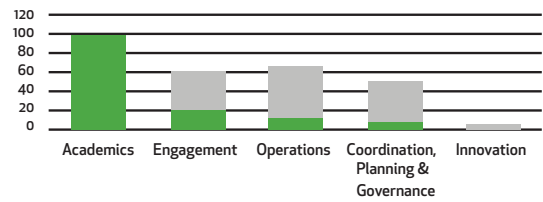
2. The Climate Action and Sustainability Plan serves as the Sustainability Task Force’s road map. The Plan guides action and establishes goals that reinforce and build upon key strategic areas of Sustaining the Promise, such as building a diverse, multi-generational learning community; ensuring financial stability; and stewarding the campus environment.

3. In 2016 Saint Joseph’s Sustainability Task Force will develop a strong implementation and measurement system and an accountability process to assign responsibility, and evaluate results and progress toward goals. This will require identifying variables and key process indicators to track, obtaining historical and current data, developing principles for data analysis, and designing a tool for stakeholders to clearly understand the expectations and their roles in measuring behaviors and practices. In addition, the Task force will develop a strong communication strategy to inform and engage the community throughout their journey to climate neutrality.

Overview of the Process for Creating Climate Action Plan (CAP) to Further Develop our Sustainability Management System



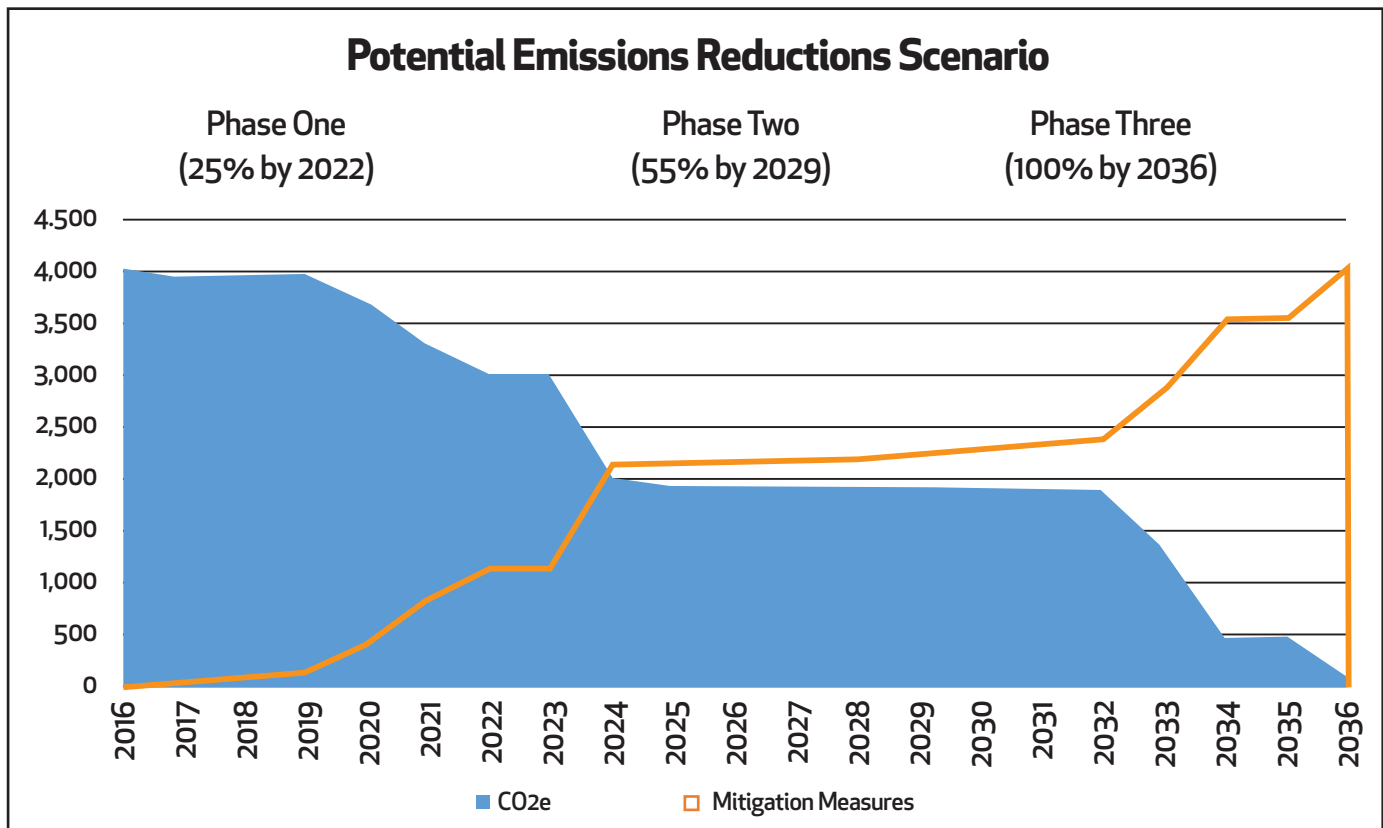
Establish Benchmarks:
STARS Comprehensive Assessment



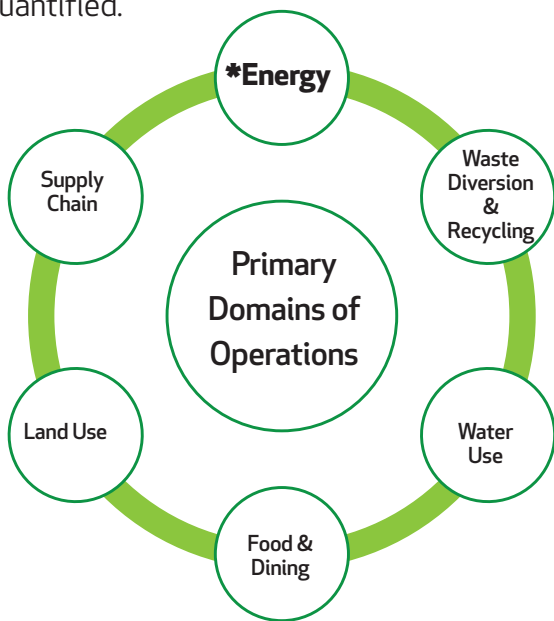
Climate Action Planning

Saint Joseph’s College is committed to achieving carbon neutrality by 2036. Planning will therefore focus on aspects of operations that will yield positive results: where the College gets its food, how it disposes of its waste, how it heats the campus and powers facilities. Realizing that these foci are essential for achieving the 2036 goal, this Climate Action and Sustainability Plan takes on the challenge. It presents detailed first steps drawing from insights gleaned from the College’s 2014 STARS benchmarks. Importantly, the Plan is rooted in the

understanding that there will also be a host of new technologies, effective financing mechanisms, and services in the coming years. This Plan will invariably evolve based on feedback and results, becoming even more aligned with Saint Joseph’s College’s vision and impact. For the purposes of climate action planning and the path to carbon neutrality, this Plan presents a three-phased approach and each phase will be approximately seven years long. The graphic below presents an illustration of how carbon neutrality will likely be achieved. There will be small steps and large steps that in combination will achieve the goal. This section proposes initial measures and then conceptually explores future phases.

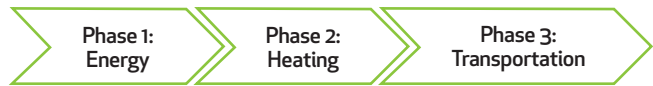


The first phase of this Plan is focused on practical and realistic strategies for achieving carbon reductions given the current technologies, knowledge, and economics of today. The Plan presents carbon mitigation strategies in six primary domains of operations: energy, water, waste, food, land use, and supply chain management. Note that the other four domains also have an indirect effect in terms of carbon, but these are not quantified herein. For instance, the value of shaping a student’s green career is not quantified.



This Plan’s detailed presentation of Phase One will enable and catalyze immediate action, building an important momentum, and recognizing that future innovations will support the future phases.

The first phase 2016–2022 will largely focus on the Energy domain. In this time frame, Saint Joseph’s will continue to identify and implement carbon reduction strategies through energy and operational efficiencies. Phase One will also focus on the exploration and development of renewable energy opportunities for power and heat. Overall, Phase One is projected to cut greenhouse gas (GHG) emissions by 25 percent, representing a drop of 981 MT eCO₂.



Future phases will build off the first phase, reducing emissions further through additional efficiency improvements, leveraging new technologies, building partnerships, and taking advantage of incentives to generate renewable energy, behavior change, and carbon offsets. The subsequent phases will address the primary causes of greenhouse gas emissions. At Saint Joseph’s, approximately 25 percent of quantified greenhouse gas emissions is related to electricity use, which will be largely addressed in Phase One. The dominant source of emissions is from space heating and hot water production, so Phase Two will likely focus on solutions to this—for example geothermal heating and/or even water-sourced heat pumps in Sebago Lake. Phase Three will be the most complex, offsetting transportation fuels potentially through bio-fuels or even cellulosic ethanol.

Greenhouse Gas (GHG) Inventory Overview Introduction

Saint Joseph’s embraces the adage that one cannot control what one cannot measure. To reduce greenhouse gas emissions and achieve carbon neutrality, Saint Joseph’s has prepared greenhouse gas inventories. These inventories, completed in 2009, 2013, and now updated in 2015, account for major sources of GHG emissions in order to understand the College’s footprint. Inventories provide a benchmark for specific improvements and are used to identify priorities for action, evaluate projects, track progress, and demonstrate results. Data has improved in quality and quantity since 2009, especially for Scopes Two and Three. As the table below shows, GHG emissions from electricity have decreased in the past years’ scope. This can be attributed to the utility cleaning its power mix as well as electricity savings from energy efficiency projects like lighting and appliance upgrades.

Organizational Boundaries

The 2015 Saint Joseph’s College greenhouse gas (GHG) inventory measures emissions with an “Operational Control Approach,” in other words, accounting for GHG emissions under Saint Joseph’s College’s control. This control approach refers to the authority Saint Joseph’s has to introduce and implement operational policies that impact emissions

Operational Boundaries – Sources of Emissions

This inventory updates Scope 1, Scope 2, and Scope 3 emissions that were measured in 2009 and 2013.

1. Scope One: Direct emissions from sources that are owned or controlled by Saint Joseph’s College

- On-campus oil and propane usage
- Vehicle fleet emissions
- Refrigerants
- Fertilizers used on sport fields
- Animal husbandry

2. Scope Two: Indirect emissions from sources that are neither owned nor operated by Saint Joseph’s College, but which products are directly linked to on-campus energy

consumption

3. Scope Three: Other indirect emissions that are a consequence of Saint Joseph’s activities but are from sources that are not owned by or controlled by the college

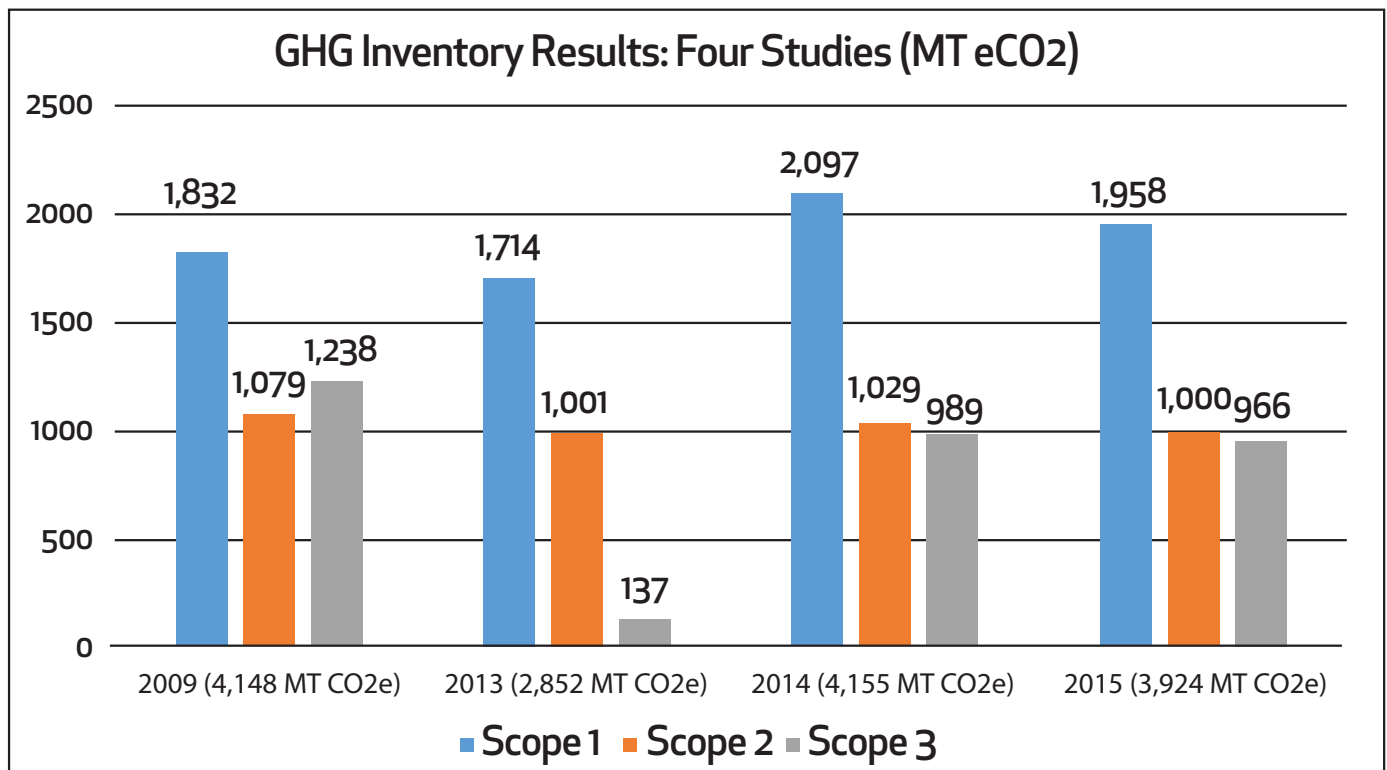
- Faculty/staff/student commuting
- Solid waste/recycling/composting processing
- Waste water processing
- Paper purchases

Temporal Boundaries

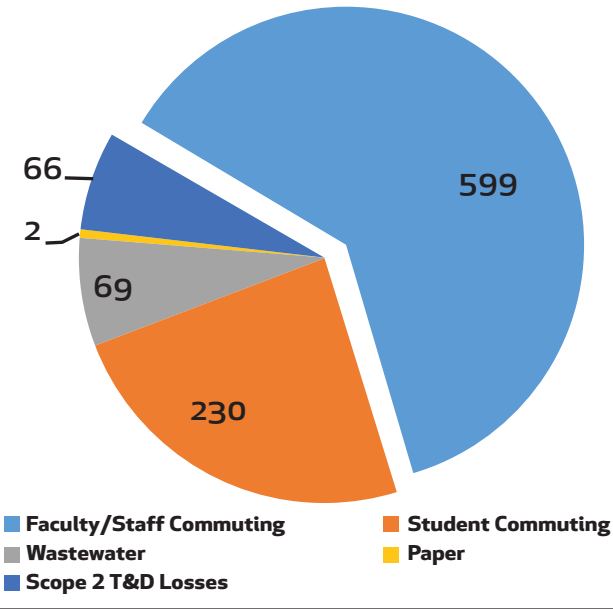
For Scope One and Two, this inventory measures two, 12-month periods; FY 2014 (ending June 30, 2014) and FY 2015 (ending June 30, 2015). Scope 3 is measured for only FY 2015.

Results

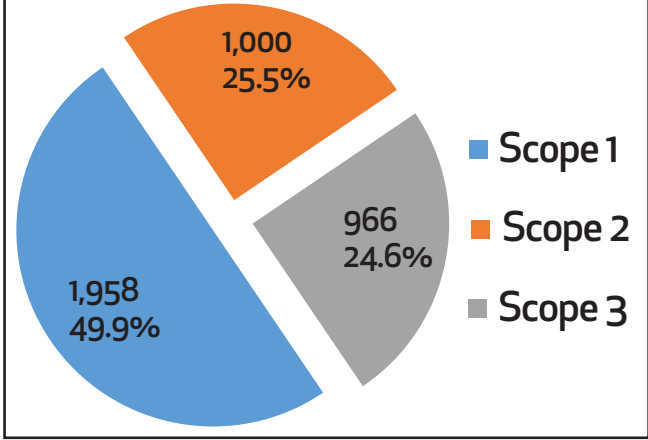
The GHG inventory for 2015 resulted in a total of 3,915 MT eCO₂ (1.38 MT eCO₂ per FTE student or 8.7 MT eCO₂/1,000 square feet of building space). Composting activities reduced emissions by 9MT eCO₂ (0.2 percent). Total emissions are broken down by scope in the pie chart on page 10.



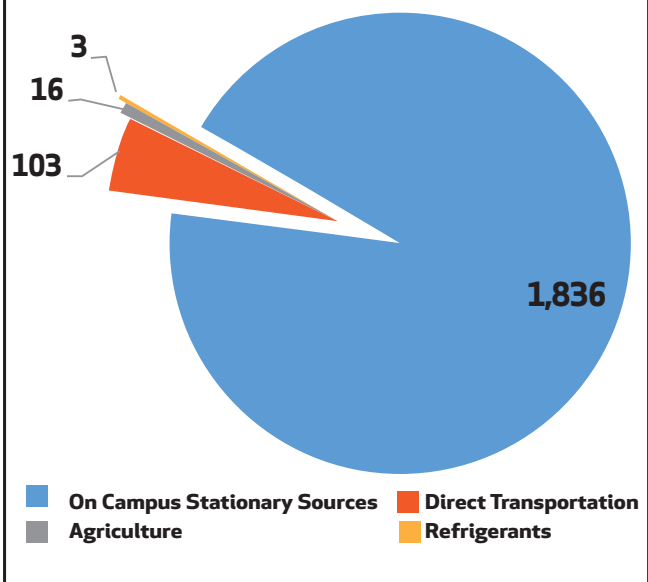
2015 Scope Three Emissions (MT eCO2)



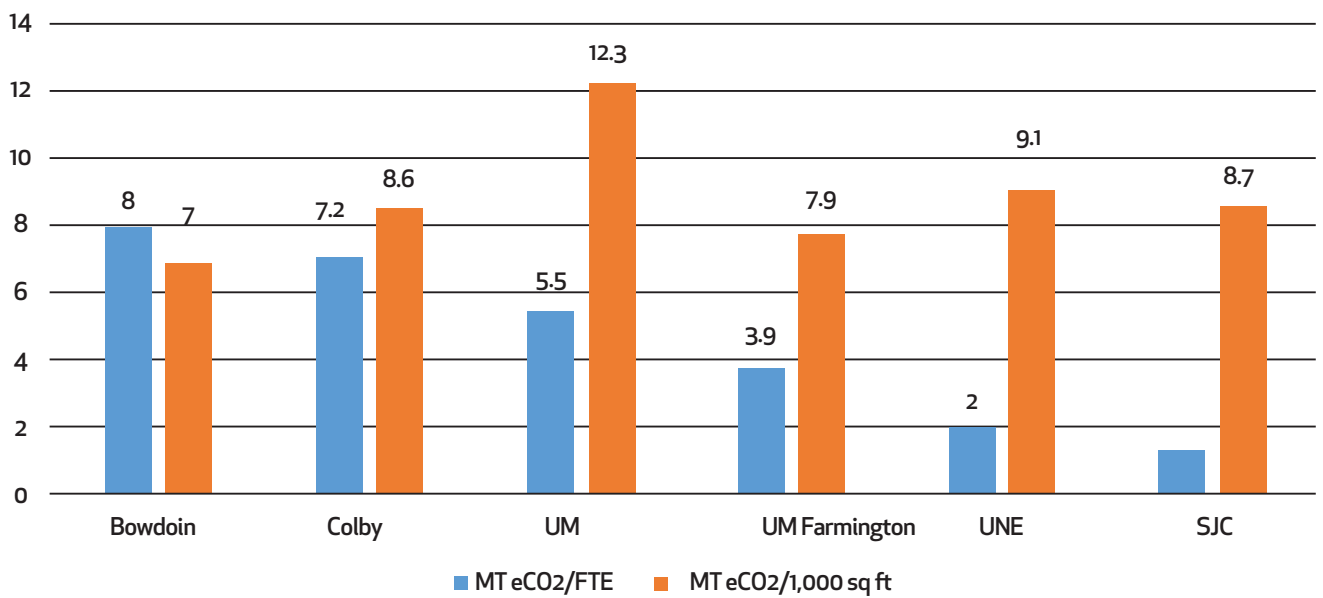
2015 Emission (MT eCO2)



2015 Scope One Emissions (MT eCO2)



Comparing Scopes One & Two Emissions to Other Maine Schools



The Ten Domains of the Climate Action and Sustainability Plan

1. Energy

- Building Heating
- Building Cooling
- Lighting
- Appliances and Plug Loads
- Transportation Fuels
- Smart Energy Management



Background

The energy domain presents one of the biggest opportunities for saving money and reducing emissions and can often be done with a positive financial return. In this case, the energy domain will be largely responsible for the 981 MT goal for carbon mitigation.

This section of the Climate Action and Sustainability Plan addresses four forms of energy: electricity, heating oil, propane, gasoline, and diesel. In FY 2015, Saint Joseph’s College spent over \$1 million on energy—precisely \$1,012,314. This was broken down into \$439,756 for electricity, \$345,612 for oil, \$201,684 for propane, \$23,945 for gasoline, and \$1,317 for diesel.

Energy usage and associated costs are monitored and controlled by the College’s Facilities Department to discern trends. Electricity is billed and tracked on a monthly basis. Oil and propane consumption is tracked at the building level and each building has a numbered tank. Refueling rates and quantities vary depending on the building or tank, but each refueling event will be recorded by date, number of gallons, and cost per gallon. The trends inform goals and promote taking action to explore further efficiency measures and strategies to mitigate energy-related emissions now and in the future.



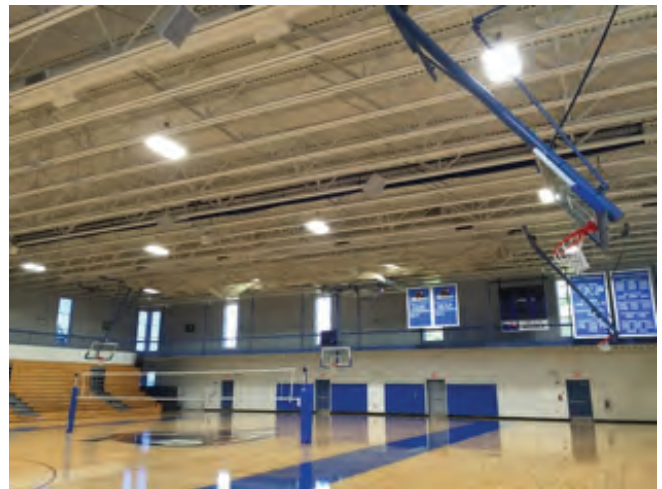
FY 2015 Energy Expenditures

Electricity	Oil	Propane	Gasoline	Diesel
\$439,756	\$345,612	\$201,684	\$23,945	\$1,317

Electricity purchased by Saint Joseph’s College is delivered and transmitted through Central Maine Power Company’s infrastructure. The electricity itself is generated by Constellation Energy Services. Constellation is one of many suppliers generating electricity on behalf of Central Maine Power. The electricity from Constellation is generated by a mix of fuels. Natural gas and nuclear supply 60 percent of the power, 19 percent is hydro, and the remainder is a mix of biomass, coal, diesel, municipal waste, and renewables. There is one electricity meter that measures consumption for the main campus plus four ancillary meters located off campus that Saint Joseph’s College maintains. Utility data is delineated into demand charges (on and off peak), kWh consumption, and cost. The data is also dissected into kBtu/square feet of building space to help flag anomalies and influence where investments should be made.

In 2010, The Dorr Foundation awarded Saint Joseph’s a \$23,550 grant to help monitor energy use more closely on campus by installing sub-meters. The grant also helps the College to partner with students in the nearby community to monitor, calculate, and reduce energy use at their respective schools and homes. Students in Ecology and the Environmental Challenge course at Saint Joseph’s have used data from these for many years to better evaluate and understand their own energy use on campus and make recommendations for energy reduction, as well as to promote Residential Hall Energy Conservation Contests. As of 2015, the sub-meters are not functioning as expected and should be reexamined to operate at their full potential.

When Saint Joseph’s College has the opportunity to remodel or construct new buildings, the buildings are planned with a green design in mind that meets at least LEED “certified” standards. In 2014, the campus began a significant lighting retrofit with financial incentives from Efficiency



Maine. Interior and exterior lighting fixtures that used incandescent, halogen, and fluorescent bulbs were replaced or retrofitted to use high-efficiency LEDs. The retrofit not only saves the College money on electricity, but saves in maintenance costs and improves the quality of light. A great example is the high-bay gym lighting in the Harold Alford Center.



Oil and propane are used on campus for space heating, central boilers, and hot water heating. The College has upgraded eight out of 38 boilers to high-efficiency models that use propane instead of oil. (Note that natural gas is not available on campus). Propane models use less fuel and are cleaner burning. The remaining boilers that use oil are high priority opportunities for efficiency upgrades. The College will look into retrofitting to propane or leap-frogging to alternative technologies or renewables.

Gasoline and diesel are used for the vehicles and maintenance equipment and are pumped at the on-campus refueling station. As Campus Support Services vehicles retire, the goal is for the College to purchase hybrids, electric vehicles, and additional EV charging stations. An electric vehicle charging station was installed at the end of the Fall 2015 semester next to Putnam Hall for faculty, staff, and students

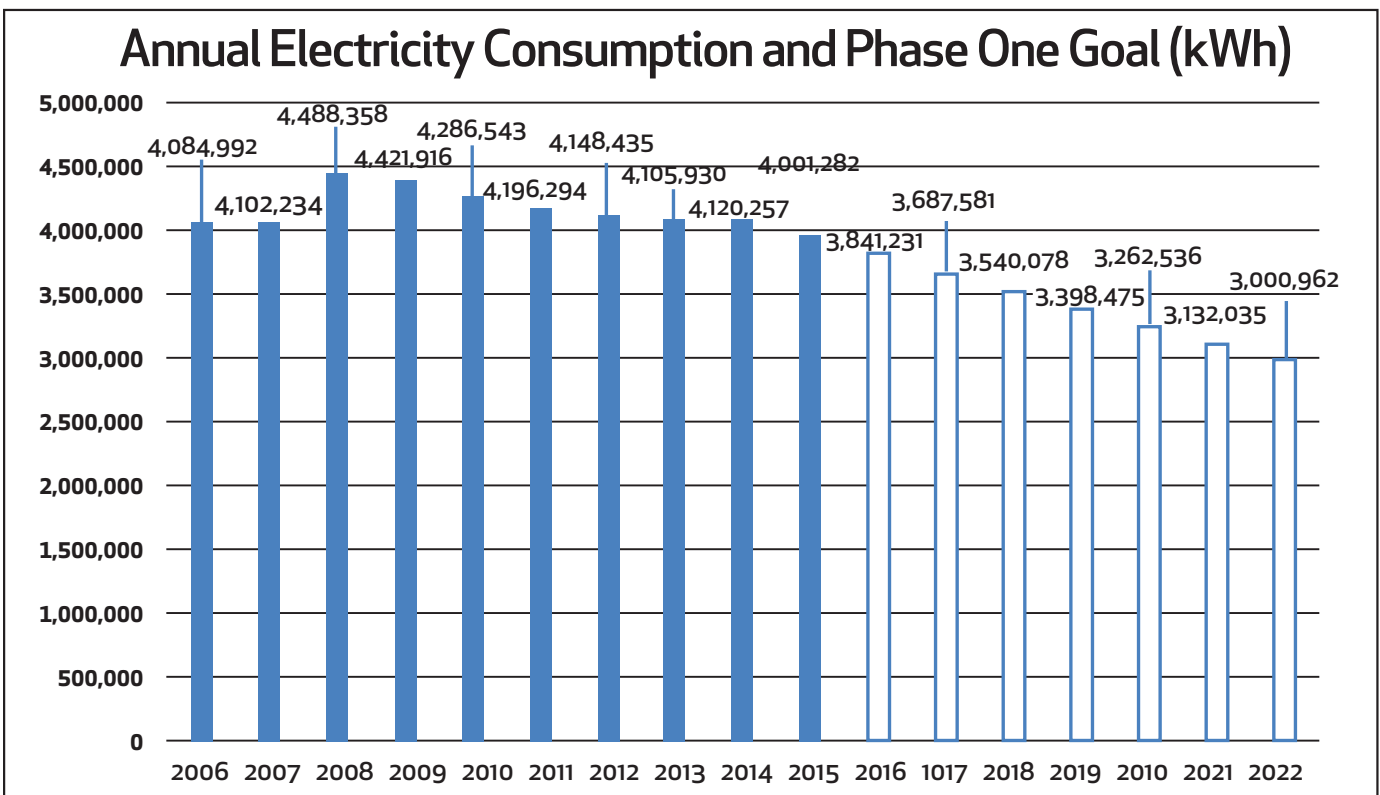
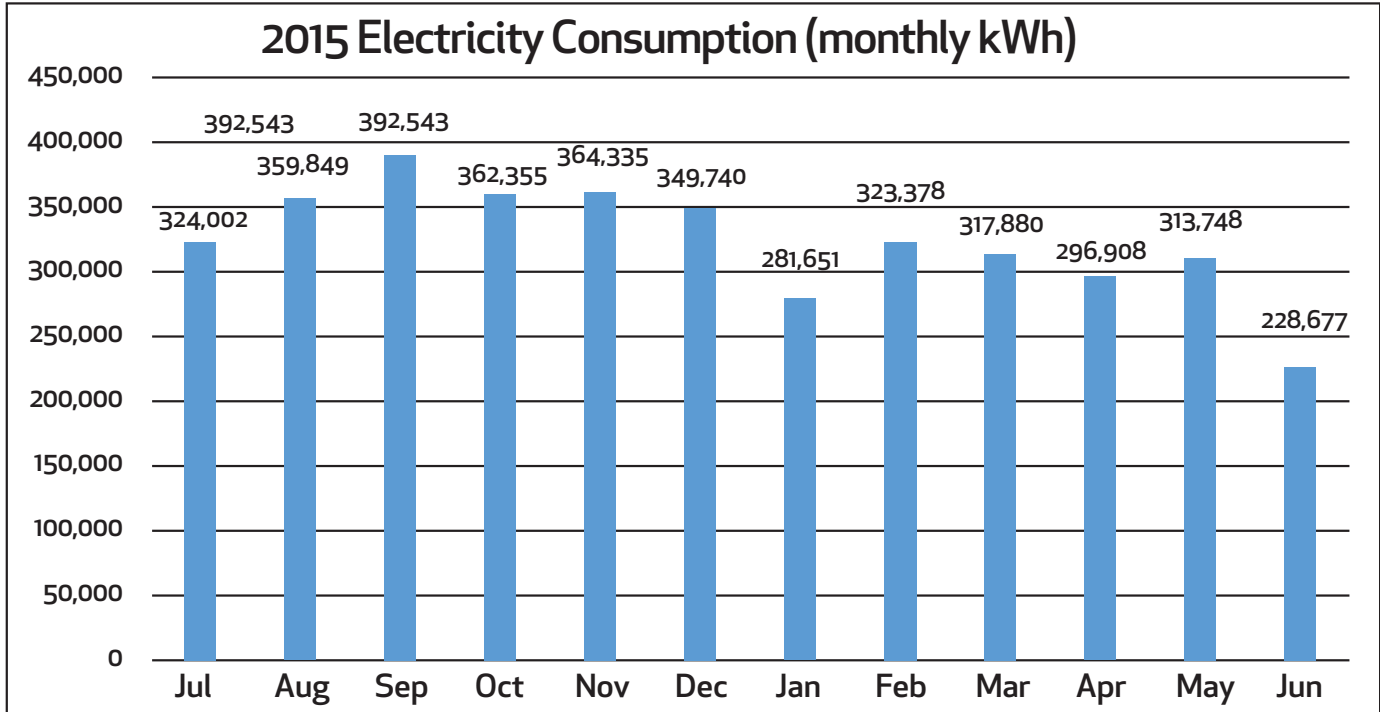


	Reduction Goal	Annual Savings (25%)	Potential Savings	Reduction in Emissions
Electricity	25%	1,000,320 kWh	\$109,000	250 MT eCO ₂
Oil	25%	29,459 Gallons (4,080 MMBtu)	\$85,431	304 MT eCO ₂
Propane	25%	29,524 Gallons (2,696 MMBtu)	\$50,191	155 MT eCO ₂
Gasoline	25%	2,672 Gallons	\$5,985	24 MT eCO ₂
Design	25%	135 Gallons	\$328	1 MT eCO ₂
Total			\$250,935	734 MT eCO ₂

Electricity

Electricity consumption is relatively flat throughout the year, with slight drop-offs when most students are away between semesters. Looking back, Saint Joseph’s College electricity consumption peaked when student population peaked in 2008 and during the construction of

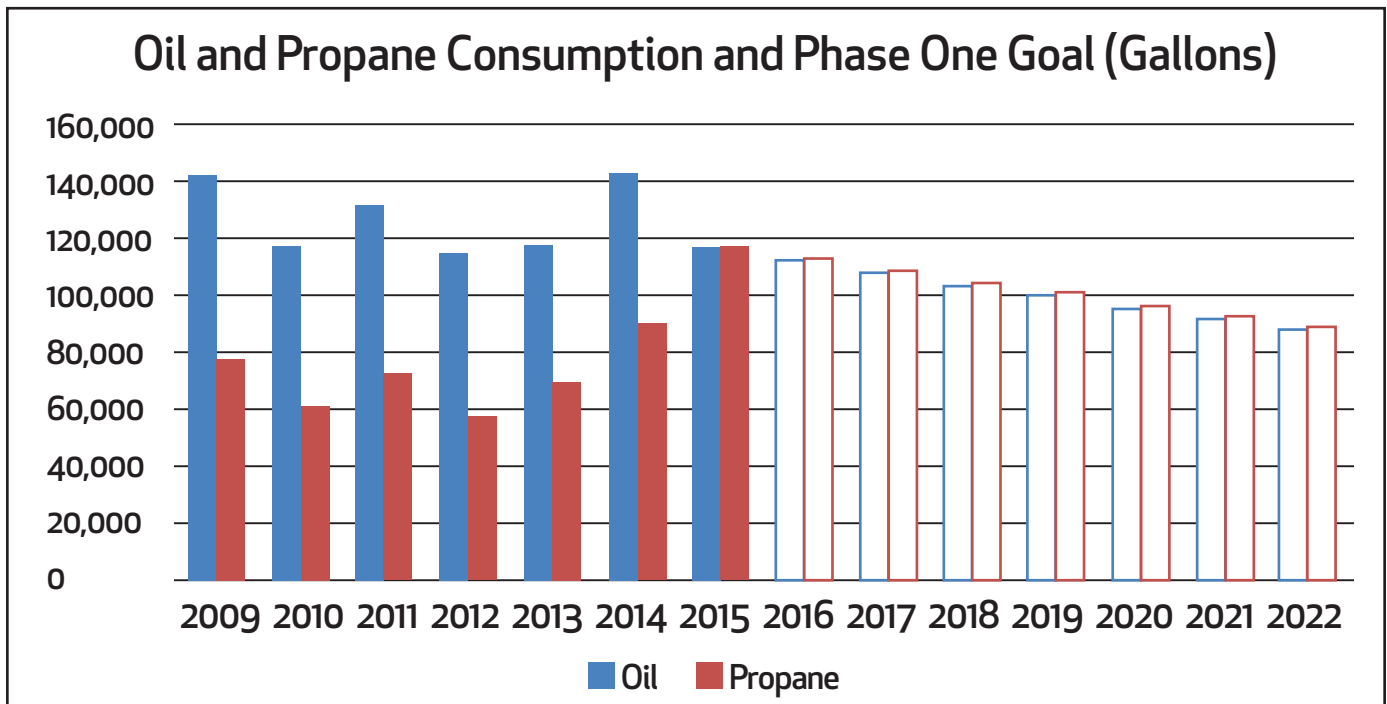
new buildings. From 2008–2013 population decreased along with emissions. Since 2013, population has increased and the College expects continual population growth to further in 2016. However, even with rising student population and the addition of new buildings, since 2013, the College has seen a decrease in annual electricity consumption



Oil and Propane

Oil and propane usage is linked to heating water and buildings. As seen in the chart below, usage is inconsistent from 2009–2015. This can be attributed to weather, heat line repairs, facilities upgrades, and boiler replacements. For example, in 2009 the Alford Center’s hot water system was found to have serious defects; it was oversized and suffered from year-round standby losses. A new modulating condensing boiler was

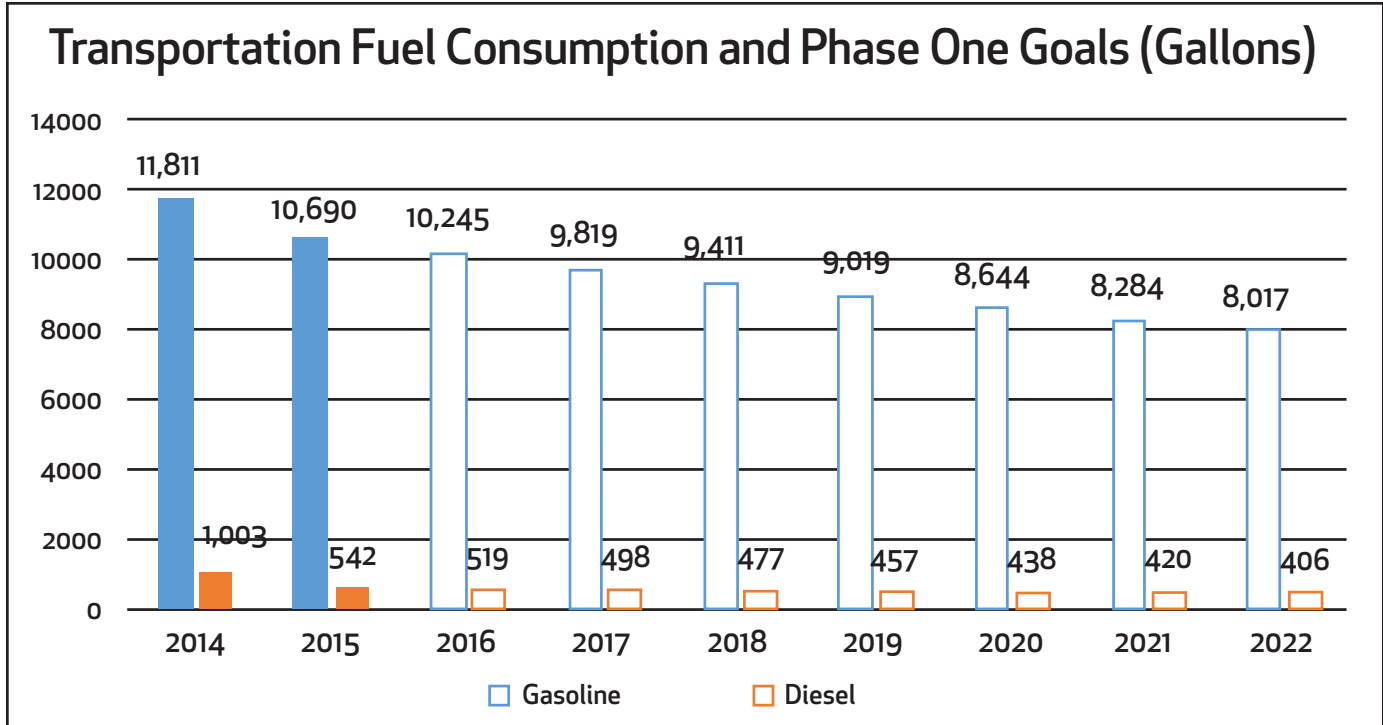
added with new components and leaks were repaired. In 2014, the Alford Center’s oil-fueled boiler system was replaced with a high-efficiency propane unit and the domestic hot water heater feeding the kitchen and bathrooms in Mercy Hall received a propane model to replace an inefficient oil-fired unit. Oil boilers are not only high GHG emitters, but also very costly to fuel and maintain. Phasing oil boilers out is a high priority.



Transportation Fuels

The vehicle fleet is operated by the Facilities Department and fueled on campus. Transportation fuels savings from 2014–2015 can be attributed to retiring diesel vehicles and deploying vehicles with better fuel economy.

Varsity sports teams use a leased charter bus for travel to away games and the fuel consumption is not reflected in the graph below. In the future, charter bus data shall be requested. When possible, future vehicle purchases will be electric or hybrid vehicles.



Phase One Energy Reduction Strategies:

- Upgrade, enhance, and expand the Energy Management System (real time monitoring capabilities)
- Conduct detailed energy audits to assess energy use by building to inform Sustainability Task Force and implementation strategy
- Identify and implement energy conservation measures in all campus buildings
 - Improve building envelopes by air-sealing, reducing the amount of conditioned air leaking out of walls, ceilings, pipes, ductwork, windows and doors. This is typically the most cost-effective, energy-saving solution for buildings.
 - Work with Efficiency Maine to take advantage of incentives for energy efficiency measures



Real-time energy monitors at Princeton University

Potential Renewable Energy Strategies:

- Conduct a campus-wide, on-site renewable energy study to inform Sustainability Task Force and implementation strategy

Solar: Rooftops and vacant land have the potential to host solar systems. Photovoltaics can be installed to generate electricity, reducing emissions and costs from purchased electricity from the Utility. Solar thermal panels can be installed to pre-heat hot water demands.

Wind: Located on or off campus, wind turbines can generate electricity to offset campus consumption.

Biomass: A wood chip fueled combined heat and power plant could potentially make a significant reduction in GHG emissions and fuel costs. Properly harvested, wood chips are a sustainable byproduct from local sources.

Water and Air-Source Heat Pumps: One of the unique features of Saint Joseph's College is the proximity to Sebago Lake. While there are many barriers to its potential use for heating and cooling the campus, the Lake's tremendous thermal resource could provide a profound opportunity for the College and its carbon neutrality. The Lake could be a heat sink and installing submerged tubing for a heat pump could harness the potential of the lake to cool campus buildings in the summer and to heat them in the winter.

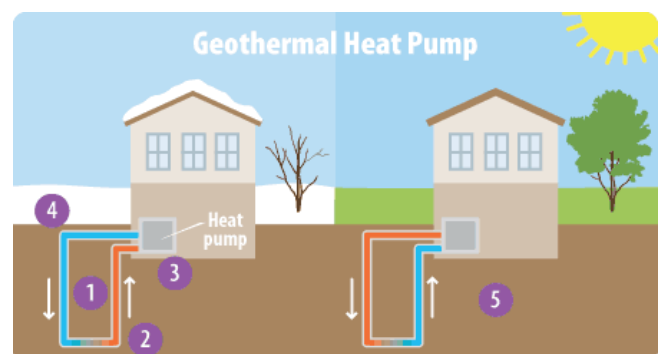
Geothermal Systems: Also called ground source heat, ground source heat pumps, or geothermal heat pumps, these systems take advantage of the constant temperature of the ground below the frost line to heat in the winter and cool in the summer.



Millbrook School 1.7MW solar system located in Millbrook NY



Craftsbury Academy of Vermont installed an ACTbioenergy wood chip/pellet boiler



Layout of a typical underground loop system for Geothermal systems

Energy Savings Competitions:

Since 75 percent of students live in 11 on-campus residence halls, energy saving competitions present a great opportunity to take advantage of building-level metering, inform student behavior, and seek savings. Energy-saving competitions have taken place in the past with limited success, so programmatic engagement strategies should be evaluated, reexamined, and redefined. This competition could be overseen by the Eco-Reps.

New Construction:

When new construction is necessary, Efficiency Maine provides support and incentives to make it easier for Saint Joseph's College to design new buildings that will achieve significant energy savings above and beyond code. Participation in the Maine Advanced Buildings Program can be a great first step when considering new construction projects. At the heart of the Maine Advance Building Program is a comprehensive guide that defines high-performance in building envelope, HVAC systems, lighting, power systems, and controls.

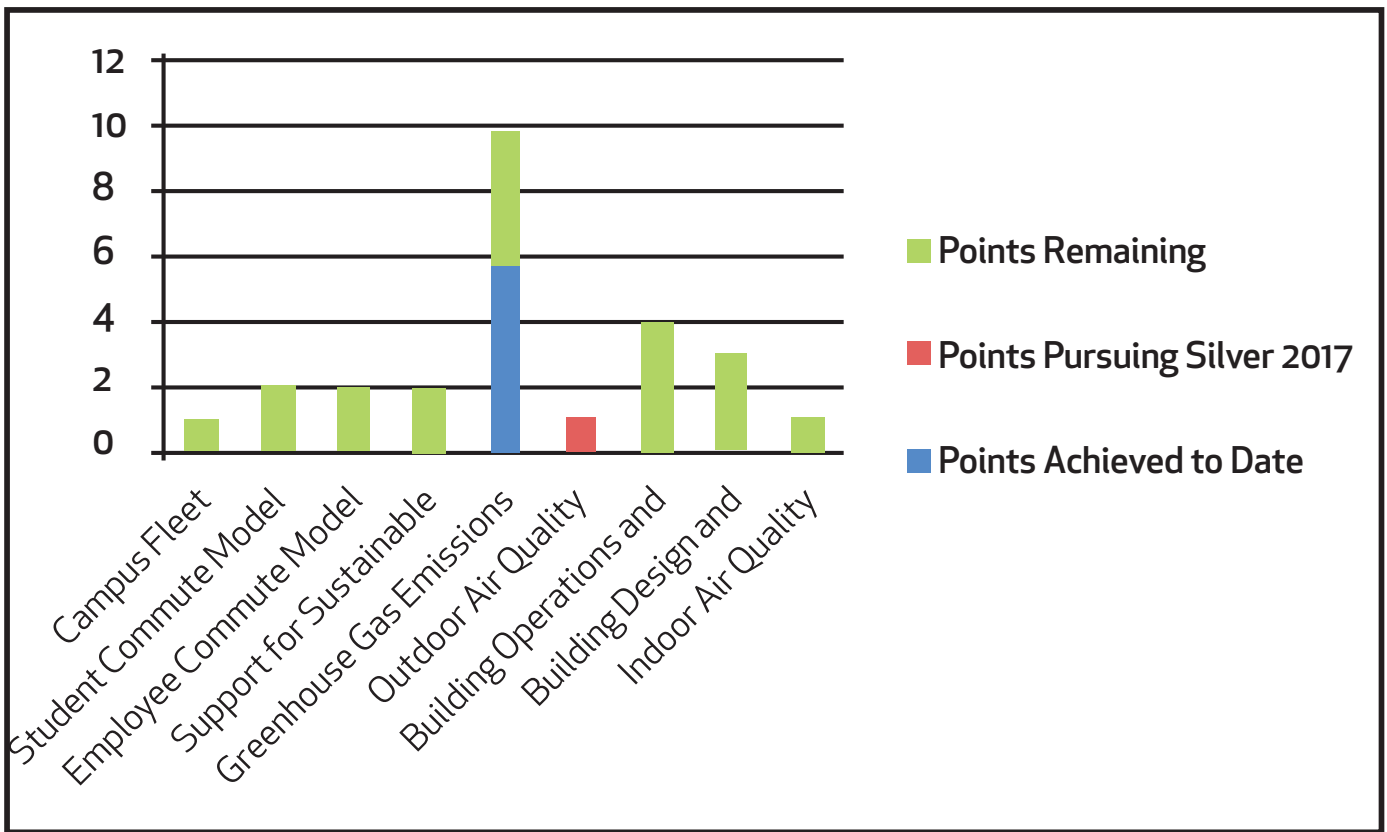
Phase One Goals (2015-2022)	Strategies
Decrease electricity consumption on campus by 25%	<ul style="list-style-type: none"> • Implement energy efficiency projects: remaining lighting, insulation, windows • Conduct Energy saving competitions • Implement Green Office Program • Explore the development of on-site renewable energy
Decrease oil usage on campus by 25%	<ul style="list-style-type: none"> • Install geothermal heating/cooling • Install solar thermal to heat DHW
Decrease propane usage on campus by 25%	<ul style="list-style-type: none"> • Install solar thermal to heat DHW • Insulate boiler pipes • Insulate basements • Replace cooking appliances • Tighten building shell • Seal ducts
Decrease fleet fuel consumption on campus by 25%	<ul style="list-style-type: none"> • Convert fleet to electric vehicles and hybrids • Develop public statement (weave into sustainable purchasing policy that gives preference and priority to electric and hybrid vehicles)
Identify ways to increase alternate forms of transportation (carpooling, car sharing, public transportation)	<ul style="list-style-type: none"> • Expand Saint Joseph's shuttle service to local bus stops • Explore increasing or establishing parking permit or fee
Identify funding sources to alleviate high upfront cost of upgrades	<ul style="list-style-type: none"> • Partner with Efficiency Maine for a Scoping Audit and Technical Assistance Studies • Seek out rebates from Efficiency Main • Apply for grants • Launch Alumni/community crowd funding campaign • Explore third-party financing (e.g. ESAs, PPAs)
Adopt policy to improve outdoor air quality and minimize air pollutant emission from mobile sources by FY 2017 (pursue for STARS Silver)	<ul style="list-style-type: none"> • Create a "no idling" policy and develop and install appropriate signage to inform community members

Metrics

Building Area: FY15: 450,484 sf
 FTE students: FY15: 2,832
 kWh (electricity): 4,001,282
 kWh per FTE student (electricity): 1,412
 kWh per square foot of building space (electricity): 8.9
 MMBtu of oil: 16,320
 MMBtu of oil per FTE student: 5.7
 Gallons of oil: 117,838
 Gallons of oil per FTE student: 41.6

Gallons of oil per square foot of building space: 0.261
 MMBtu of propane: 10,785
 MMBtu of propane per FTE student: 3.8
 Gallons of propane: 118,095
 Gallons of propane per FTE student: 41.7
 Gallons of propane per square foot of building space: 0.262
 MMBtu per student: 20.1
 MMBtu per campus community member: 16
 kBtu per square foot of building space: 119

STARS Operations Category (Energy, Buildings, Transportation Credits)



The bar graph above focuses on the energy, building, and transportation credits of the operations category within STARS. The main credit to pursue to advance points is *outdoor air quality*.

2. Waste Diversion and Recycling

Background

Waste does not exist in natural systems. Recycling and repurposing are fundamental components to regenerative biological processes. Recycling has many environmental and social benefits, from saving energy and preserving natural resources to reducing water pollution and employing 1.1 million workers nationwide. According to the National Recycling Coalition, the average American discards 7.5 pounds of garbage each day and most of this garbage goes into landfills. Saint Joseph's recognizes its responsibility to reduce the waste generated on campus and take necessary steps to divert material that can be composted, recycled, or repurposed.



In 2015, it is estimated that a total 408 tons of solid waste were generated and hauled away to be incinerated as fuel for local energy suppliers. An additional 51.25 tons of material was sorted and recycled. Composting activities divert 30.45 tons from the incinerator and furthermore offsets 9 MT of eCO₂.

Solid waste is first collected at the building level. Staff, faculty, and/or students empty small trash bins into "community stations" located at each building. The on-campus waste ends up in three 15-yard containers that get picked up three times a week by Troiano Waste Services then hauled to local landfills that have

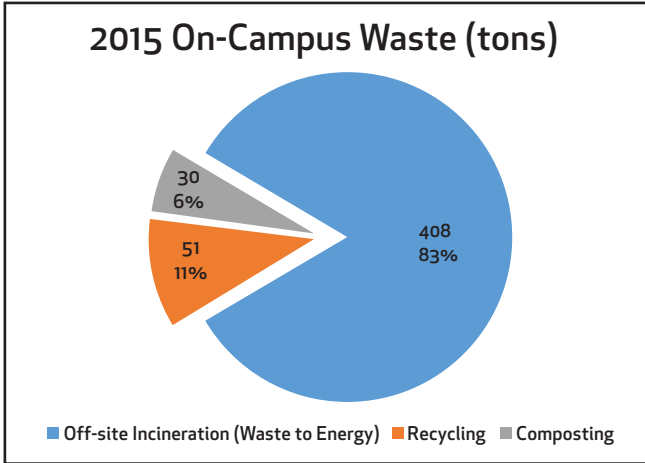
methane recovery systems. Saint Joseph's College pays a flat fee for this service, and the containers are picked up if they are full or not. At this time the containers are not weighed by Facilities or Troiano as it leaves campus.

EcoMotion reached out to Troiano Waste Services to inquire about how waste is processed and discovered waste is hauled to the "Waste-To-Energy Plant" in Portland, Maine, operated by ecomaine. The waste is incinerated and the heat powers a steam turbine generator. The flue gases go through a five-step pollution control system to remove nitrogen oxide, mercury, dioxin, acid gas, and particulates. The Campus Carbon Calculator actually considers this method a carbon offset because the waste is being turned into a fuel source (closing the loop) for electricity generation. That electricity would otherwise be generated by a utility's diverse fuel mix. According to the Campus Carbon Calculator, the result of 408 tons of solid waste being used to generate electricity has negligible emissions impacts. If, however, that amount of waste went to a typical landfill with methane recovery and a gas flaring system, emissions would be 126 MT eCO₂. The fact that the College's waste is used to generate electricity is noteworthy and minimizes the environmental impact of solid wastes.

Recycling programs decrease the amount of waste hauled, associated fees, and emissions. Currently, recycling is prevalent on campus in staff offices, residence halls, and Pearson's Café. Pearson's Café has a dedicated 30-yard container used for kitchen recyclables and is picked up weekly by Troiano. Approximately 46 tons is recycled from the 30-yard container annually.

Recycling from the rest of the campus is taken to the compactor located at the Ball Field parking lot. Green and blue bins located in staff offices are picked up by housekeeping and brought to the recycling compactor. Recycling bins from the student rooms in the residence halls are collected by Eco-Reps once a week and also brought to the compactor. When the compactor is full (1.75 tons), it is delivered to

ecomaine’s recycling facility where it is sorted and processed. The compactor was picked up three times in 2015, recycling 5.25 tons in total. At this time there is one compactor on campus. From 2001 to 2012 it was compacting on-campus landfill waste, but starting in 2012 it was converted for single-sort recycling.



Composting currently takes place in the kitchen and the main dining hall, which are zero waste, with dining hall staff fully trained in the practice. Composting stations divert 17,400 gallons of food scraps per year. That equates to 30.45 tons per year. Compost is picked up by an outside company, but on-site composting is being explored at the College-owned Pearson’s Town Farm, located across the road from the main campus. Composting activities are considered carbon offsets, reducing Saint Joseph’s College emissions by 9 MT eCO2.

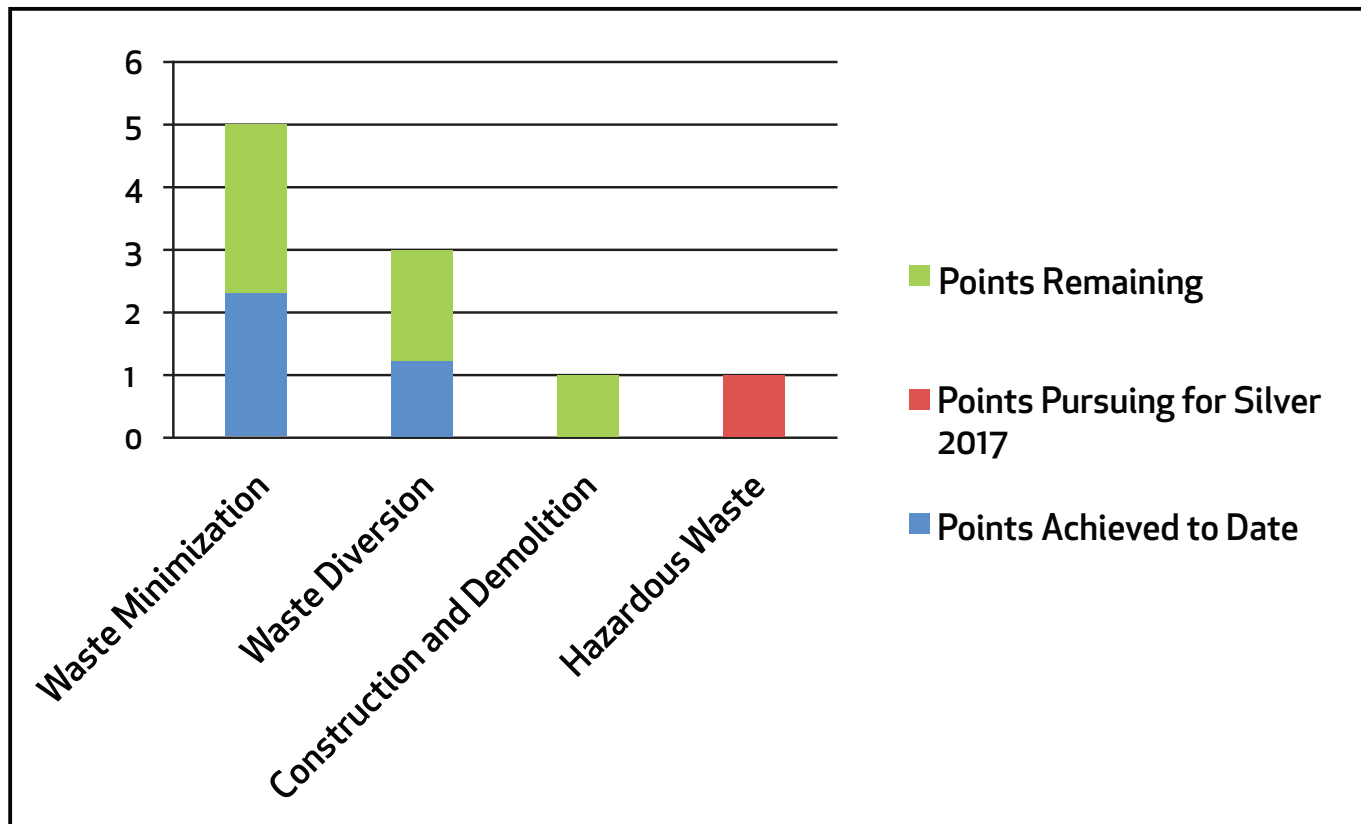
There is an informal battery and print cartridge pick up in one location and an end-of-year clean out program to catalyze waste diversion. Additionally, there is a universal waste training on campus each year to instruct facilities staff on the proper methods for disposing hazardous waste.

Goals	Strategies
Reduce hauled waste by 10% in Phase One	<ul style="list-style-type: none"> • Increase recycling opportunities throughout campus • See other strategies below
Give students the opportunity to be zero waste in all dining locations on campus	<ul style="list-style-type: none"> • Improve the reusable to-go container program
Develop an action and implementation plan to expand compost collection at events and small generator locations across campus	<ul style="list-style-type: none"> • Assess cost and areas most in need of composting bins • Determine logistics and management • Develop communication strategy
Decrease fleet fuel consumption on campus by 25%	Identify hybrid and efficient models when replacing vehicles
Process compost on campus	<ul style="list-style-type: none"> • Develop management team, volunteers, and logistics • Determine compost method • Determine location
Create vendor code of conduct for construction and demolition	<ul style="list-style-type: none"> • See supply chain domain (vendor code of conduct)
Institute formalized e-waste recycling program by FY 2017 year and a policy that supports the responsible handling of potentially environmentally damaging waste (pursue for STARS Silver)	<ul style="list-style-type: none"> • Create a policy that outlines strategies for safely disposing of all hazardous waste and engagement of stakeholder • Create a policy that outlines strategies for safely disposing of all hazardous waste and engagement of stakeholder

Metrics

- Total waste: FY15 408 tons
- Total recycling: FY15 51.25 tons
- Total compost: FY15 30.45 tons
- Diversion Rate: FY15: 20%

STARS Submission Operations Category (Waste Credits)



The bar graph to above depicts waste credits for the STARS operations category. The main credit to pursue to obtain further points is hazardous waste

3. Water

- *Indoor-Water Usage Reductions*
- *Outdoor Irrigation Reductions*
- *Pool Management*

Background

Water is purchased from Portland Water District. It comes from Sebago Lake, the deepest and second largest lake in Maine, which provides water to the Greater Portland region and about 15 percent of Maine's population. Sebago Lake has an area of 47.68 square miles and covers parts of 24 Maine towns. Pearson's Town Farm uses well water that is currently not tracked.

In FY 2015 Saint Joseph's consumed 14,432,660 gallons of water, equivalent to 9,589 gallons per on-campus stakeholder (student, staff, and faculty). The average campus water consumption from FY 2009 through FY 2015 was 13,821,009 gallons. There is one main water line (for domestic and irrigation) into campus, which then branches off to all of the buildings. The only water meter on campus is located near the front gate of the College.

From delivery to use on campus, there are many opportunities to reduce water consumption

through addressing infrastructure, appliances, landscape management, and behavior change. For example, if every student cut two minutes of shower time, the campus would save 16,195 gallons of water per week, or 647,808 gallons per school year (9 months), or 4.6 percent of its total water consumption. Diverting this amount of water from the septic system would save 3.7 MT eCO₂ of emissions.

The Facilities Department has worked hard to repair leaks promptly and has changed most of the faucets across campus to water-saving faucets (shower head flows = 1.6 gpm, faucet flows = .5 gpm, water closets = 1.6 gpm). Irrigation timers have been installed. However, sensors for weather and soil moisture have not been explored to date.

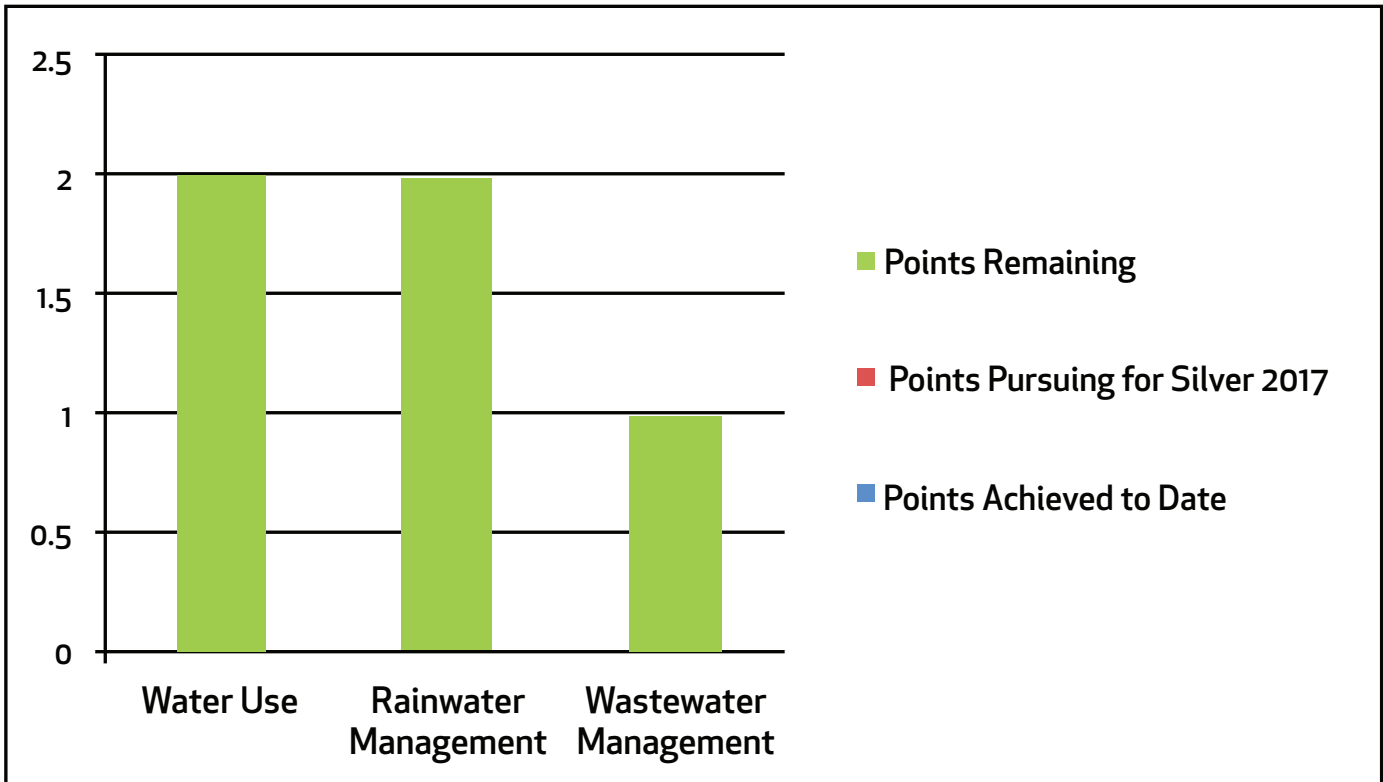
For stormwater management there are three retention/drainage ponds: one located at the main gate, one behind Alford Center, and one at Saint Joseph's Hall. Wastewater is sent to the on-site septic system. In 2015, 12,000,000 gallons of wastewater were sent to the septic system. Approximately 98 percent of that water is discharged to six soil dispersal areas, also known as sludge or leach fields near campus. Two percent (235,500 gallons) of the wastewater effluent is pumped and hauled out by a third-party contractor.

Goal	Strategies
<p>Reduce potable water consumption adjusted for population growth by 2022</p>	<ul style="list-style-type: none"> • Conduct a water source, appliance, and use study by FY 2018 • Identify opportunities for infrastructure upgrades • Explore using Sebago Lake as direct source for irrigation • Install smart meters for irrigation • Install irrigation sensors and controls • Recycle stormwater for irrigation • Install more water-efficient kitchen equipment • Host water saving competitions and campaigns • Develop clear educational signage for bathroom areas • Continue to track water usage

Metrics

- Gallons of water consumption (not including Pearson’s Town Farm): FY15: 14,432,660
- Gallons of water per stakeholder: FY15: 9,589
- Gallons of wastewater sent to the septic system: FY15: 12,000,000
- Gallons of wastewater per stakeholder: FY15: 7,973 gallons/stakeholder

STARS Submission Operations Category (Water Credits)



The bar graph above depicts water credits for the STARS operations category. Points are anticipated for the water use credit since it was not pursued in the Bronze submission and aligns with the goal and strategies associated with reducing potable water consumption.

4. Food and Dining

Background

Saint Joseph's dining service has been and continues to be a driving force for sustainability education and engagement at Saint Joseph's College. The decision to shift from Bon Appetit to a self-operated dining service took place in February 2013 and created significant savings for the College. This also provided a better opportunity for the College to purchase more local and sustainable items. Saint Joseph's led the "trayless" dining movement by removing trays in 2005. Community members rave about the meals that are made from scratch and are locally sourced. Close to 40 percent of all food and dining expenditures are local (food grown within 300-mile radius of the College and owned and operated locally) and community-based and/or third-party verified. Leftover meals are taken to a College-run food pantry located in the Standish Town Offices, feeding 120 families a month.

A highly cherished and unique aspect of Saint Joseph's is Pearson's Town Farm, acquired in 2005. The purchasing history of the farm speaks to the grassroots and organic nature in which sustainability initiatives have taken shape. Initially the farm was purchased for the development of baseball and soccer fields. However, when Bon Appetit was in operation at Saint Joseph's, the company was running a "farm-to-fork" initiative. A student at that time was interested in growing tomatoes on the property, and Bon Appetit agreed to buy tomatoes from the student for the dining hall. That transaction led to the dining director, Stuart Leckie, creating a plan to make the land a functioning farm. Bon Appetit initially funded the farm activities but ultimately support was assumed by the College. The College highlights its local food by placing bios of local farmers and artisans around the Cafe, and the annual Local Lunch event spotlights their purchasing practices as well.



The dining budget also funds the student sustainability leadership program on campus, Eco-Reps (described in Community Engagement section). Students are also engaged through the Student Government Association's Food Council, and one student meets regularly with the Director of Dining to express concerns and comments from students.

Dining Services is proud to compost its food waste. Garbage to Garden takes food waste to

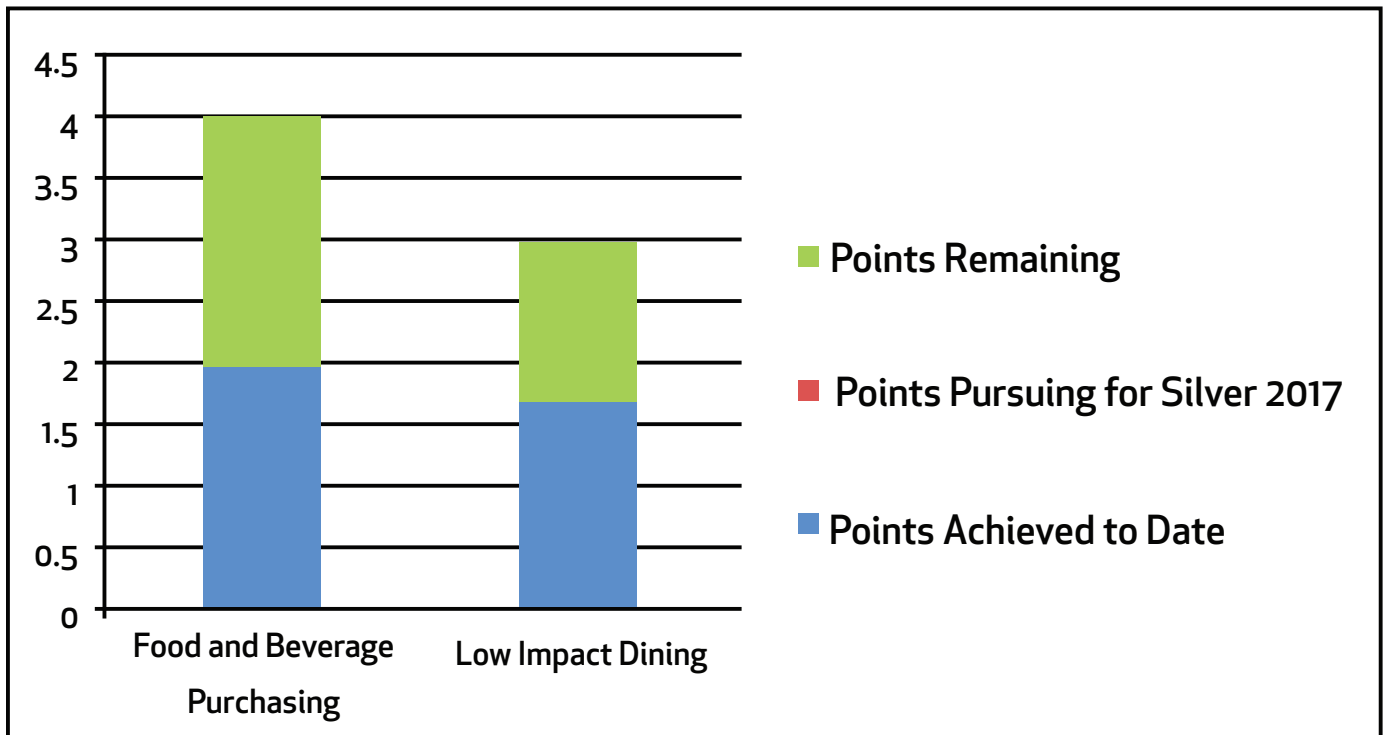
Benson Farm, 10 miles from Saint Joseph's campus. The College is in the process of researching ways to compost on campus, which would have a payback time of three years, and also to use recycled fryer oil from the kitchen (picked up by Maine Standard Biofuels) to heat buildings on campus. With regards to purchasing, Dining Services uses Ecolab's green line of chemicals exclusively in the dining facilities. Staff receive an orientation training on composting, recycling, and green cleaning practices.

Goal	Strategies
Develop and adopt a formal sustainable food and dining purchasing policy by FY 2017	<ul style="list-style-type: none"> • Develop formal definition of sustainable food and supply procurement criteria and parameters • Include formal green cleaning purchasing guidelines in the policy
Increase percentage by 10% (from 37 - 50%) from FY 2014 baseline of dining service food and beverage expenditures that are local and community based and/or third party verified by FY 2019	<ul style="list-style-type: none"> • Conduct baseline assessment of amount of food expenditures currently is local and/or third party certified • Work with Eco-Reps or CASE scholars to utilize Real Food Challenge calculator
Reduce percentage of conventionally produced animal products by 10% (from FY 2014 baseline) by FY 2020	<ul style="list-style-type: none"> • Research third party verified options • Replace conventionally produced animal products with third party verified products
Reduce energy and water usage of kitchen equipment by 10% by FY 2020.	<ul style="list-style-type: none"> • Conduct a water use audit • Conduct an energy use audit • Meet with Green Revolving Fund Group to figure out best return on investment option to improve efficiency • Collaborate with facilities to use recycled fryer oil to power kitchen machinery • Collaborate with facilities to create a holiday and weekend energy usage schedule for lights and equipment to power down when facility not in use
Achieve Green Restaurant Association Certification by FY 2019	<ul style="list-style-type: none"> • Research certification • Implement any steps or items needed to achieve certification
Reduce use and distribution of disposable products in the Dining Locations by 5% by FY 2020	<ul style="list-style-type: none"> • Create baseline for SJC expenditures on disposable items per year • Charge a small fee for students wishing to use disposable to-go cutlery, cups, or clamshells • Develop strategies to advance the reusable to-go container program

Metrics

- Total annual food expenditures: FY14: \$1,041,402
- Percentage of dining services food and beverage expenditures that are local and community-based and/or third-party verified: FY14: 37%, FY15: 28%
- Percentage of total dining services food purchased comprised of conventionally produced animal products (beverage purchases excluded): FY14: 20%, FY15: 20%

- Total pounds of food sourced from Pearson Town Farm annually: FY15: 4,500
- Number of local vendors: FY14: 26, FY15: 26
- Annual pounds of compost diverted: 60,900 pounds (30.45 tons)
- Number of events to raise awareness about local food: FY14 and 15: Local Lunch
- Percentage of cleaning products that are Green Seal or EcoLogo certified: FY14: 100%



The bar graph above depicts food and dining credits for the STARS operations category. Making strides towards achieving the goals outlined above will likely lead to increasing points in this area.

5. Land Use

Background

Saint Joseph's College is situated on 474 acres of land, including forested land, Pearson's Town Farm, and the main campus. The campus landscape can be seen as a reflection of the College's values. Sustainability in the context of landscape management means incorporating efficiency and complexity of nature into landscape design and maintenance to maximize biodiversity, forest, plant, soil, and human health. There are many benefits of a sustainable campus landscape ranging from its ability to sequester carbon and produce edible food to lowering costs.

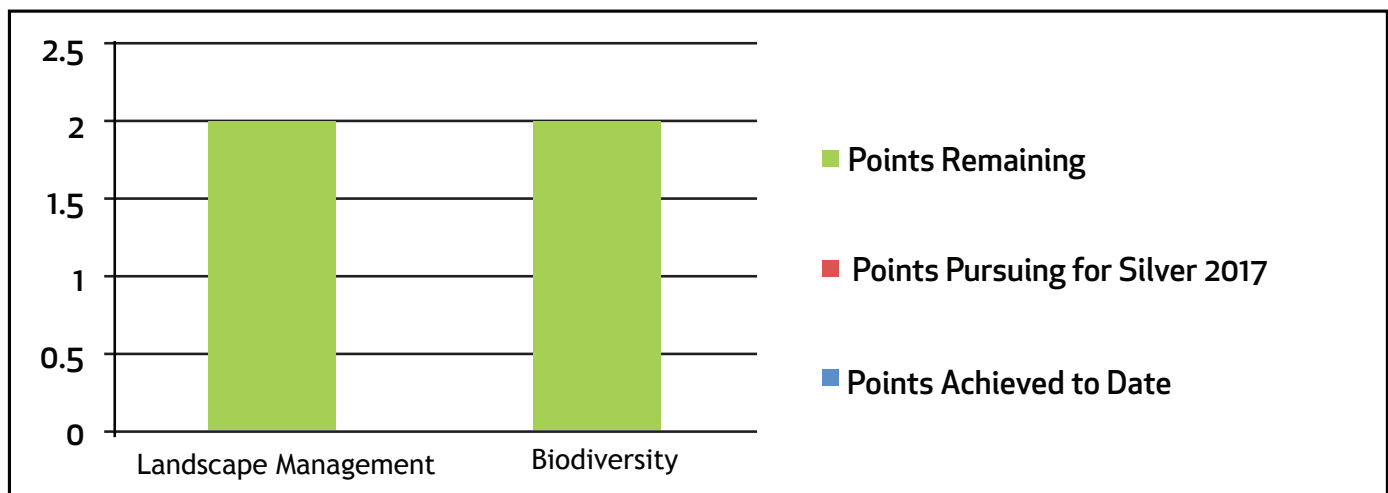
There are two exciting visions and uses for the 27.5 acres on the east side of the Whites Bridge Road. An event center, one of several mission-aligned businesses in development, is currently in design and construction and will occupy the current stone barn and surrounding yards. Certifying the existing organic processes at Pearson's Town Farm is another vision that will take place on the south and east sides of Whites Bridge Road.

Currently an Integrated Pest Management (IPM) Plan exists for managing the main part of campus. This includes spraying pesticides near all of the buildings once per year and spot-treating certain key areas with pesticides when needed. Herbicides are applied regularly on athletic fields and the sections of campus that are irrigated.

Across the street, organic certification of the farm is being explored. The Farm is managed using organic, permaculture design principles that include pasture, forestland, and vegetable fields for production. Following organic certification regulations, an IPM plan will be created that might differ from the current IPM plan and inform the rest of campus. It is unclear at this point whether or not organic certification of the farm will require strict compliance to an organic IPM on the acres of the east side of the Whites Bridge Road.

With regards to its forested land, the College has received a grant from the US Department of Agriculture's Natural Resources Conservation Services (NRCS) to develop a sustainable forest management program.

STARS Submission Operations Category (Grounds Credits)



The bar graph above depicts grounds credits for the STARS operations category. Making strides towards achieving the goals outlined above will likely lead to increasing points in this area.

Goal	Strategies
Achieve Organic Certification for Pearson's Town Farm by 2022	<ul style="list-style-type: none"> • Explore certification regulations and processes • Take steps to submit certification requirements
Develop a permaculture design for the Farm that includes both managed forest land and wilderness areas by FY 2025	<ul style="list-style-type: none"> • Leverage the grant from the NRCS to examine a sustainable forest management program • Outline the maintenance principles for managed forest land to ensure that semi-wild zone or “Zone 4” is suitable for planning and education purposes to serve as a potential resource and economic benefit to the College • Determine principles for the ‘wild land’, Zone 5 (wilderness zone for observation) to promote educational activities • Utilize the forested space running roughly north/south between the pasture and the vegetable field and consider creating a primitive pathway for the movement of farm equipment out of view/conflict with the event space, and managed livestock paddocks in the wood line
Explore the creation of a campus-wide permaculture design with an enhanced organic IPM by 2020	<ul style="list-style-type: none"> • Establish a multi-stakeholder working group to determine scope and purpose of the permaculture design and plan (agricultural and non agricultural applications, building layouts, resource management - water, electrical, landscape management etc.) and develop preliminary design • Assess what plants are currently planted • Identify invasive species • Plant native species of plants • Consider perennials vs annuals • Include plant and soil stewardship in IPM plan • Explore and create indigenous landscape designs around infrastructure targeted to minimize resource usage (both physical and person-power)
Create an edible landscape on the main campus by 2018	<ul style="list-style-type: none"> • Identify location • Develop funding strategy
Pilot wildflower meadow plot by 2018	<ul style="list-style-type: none"> Identify location Identify management team and obtain supplies
Develop plan for measuring carbon sequestration by forested land by FY 2020	<ul style="list-style-type: none"> • Map land use zones • When hiring new faculty, consider their knowledge and research capabilities of carbon sequestration

6. Supply Chain Management

Background

Purchasing at Saint Joseph's from office supplies (including paper) to cleaning supplies, equipment, and electronics is largely decentralized. All custodial cleaning products except disinfectants are certified by Ecologo, which means that the products have undergone

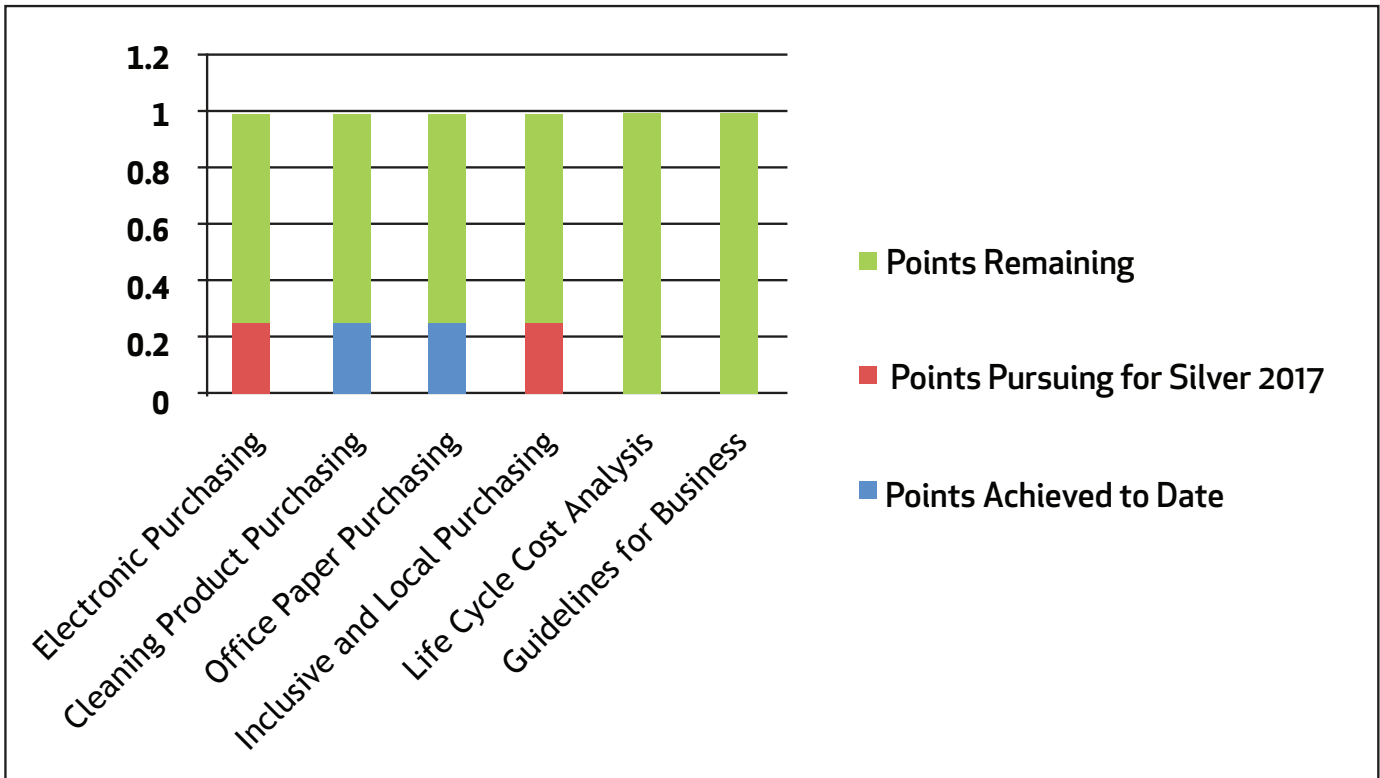
rigorous compliance testing based on lifecycle environmental standards. Because of the decentralized nature of purchasing currently at Saint Joseph's, institutional guidelines and standards are necessary to ensure purchasing practices are in alignment with Saint Joseph's fourth strategic initiative, "Stewarding Our Campus Environment," outlined in Sustaining the Promise: Toward Saint Joseph's College's Second Hundred Years.

Goal	Strategies
<p>Develop a campus-wide sustainable purchasing policy by FY 2017 that includes (pursue for STARS Silver):</p> <ul style="list-style-type: none"> a. Cleaning products, paper products, print cartridges, electronics (EPEAT Electronic Product Environmental Assessment Tool) b. Preference for inclusive and local products/services (support disadvantaged businesses, social enterprises, and or local community based businesses) <p>Develop Vendor Code of Conduct or Guidelines for Business Partners by FY 2017 (pursue for STARS Silver)</p> <p>Develop campus-wide standard sustainability expectations and requirements for all RFPs by FY 2017</p> <p>Develop campus-wide standard sustainability expectations and requirements for all RFPs by FY 2017</p>	<ul style="list-style-type: none"> • Form a working group of the Sustainability Task Force by FY 2016 to draft a campus-wide purchasing policy, vendor code of conduct, and sustainability expectations and standards for all RFPs

Metrics:

- Expenditures on Ecologo certified cleaning products: FY15: \$7700.00
- Total expenditures on all cleaning products: FY15: \$8300.00
- Percentage of expenditures on green Ecologo cleaning products: FY15: 92%

STARS Operations Category (Purchasing Credits)



The bar graph above depicts purchasing credits for the STARS operations category. Main credits to pursue by 2017 include electronic purchasing, cleaning product purchasing, office paper purchasing, and inclusive and local purchasing through the development of a campus-wide sustainable purchasing policy.

7. Governance and Investment

Background

Environmental sustainability is a value that governs institutional decision making at Saint Joseph's College. Administrative support for sustainability has grown in a grassroots way over the past decade. Science faculty member Jeanne Gulnick was appointed as the College's first Sustainability Coordinator in 2006 to focus on managing student Eco-Reps and improving recycling in the Residence Halls under the "Attainable Sustainable" brand. With her support, then-President Joseph Lee signed the Presidents' Climate Commitment in 2008, agreeing to measure and reduce the College's carbon footprint. Upon taking office in 2012, President James Dlugos reaffirmed Saint Joseph's commitment to mitigating climate change by re-signing the Presidents' Climate Commitment, along with 600-plus peer schools in 2013. This endorsement reiterated to the community that Saint Joseph's College is firmly committed to being a climate leader by striving for carbon neutrality. In 2015, a Sustainability Task Force appointed by President Dlugos, representing senior-level decision makers and constituents from the College community, set a carbon neutrality date of 2036. Climate leadership is one component of Saint Joseph's broader commitment to sustainability.

Understood as the nexus of social, environmental, and economic justice, sustainability was formally adopted as an institutional priority in the College's Strategic Plan, a process that welcomed all Saint Joseph's employees' participation. At the trustee level, a College committee of the Board called "Environments" composed of HR, IT, and Physical Plant was formed and is charged to carry out specific projects in the Strategic Plan

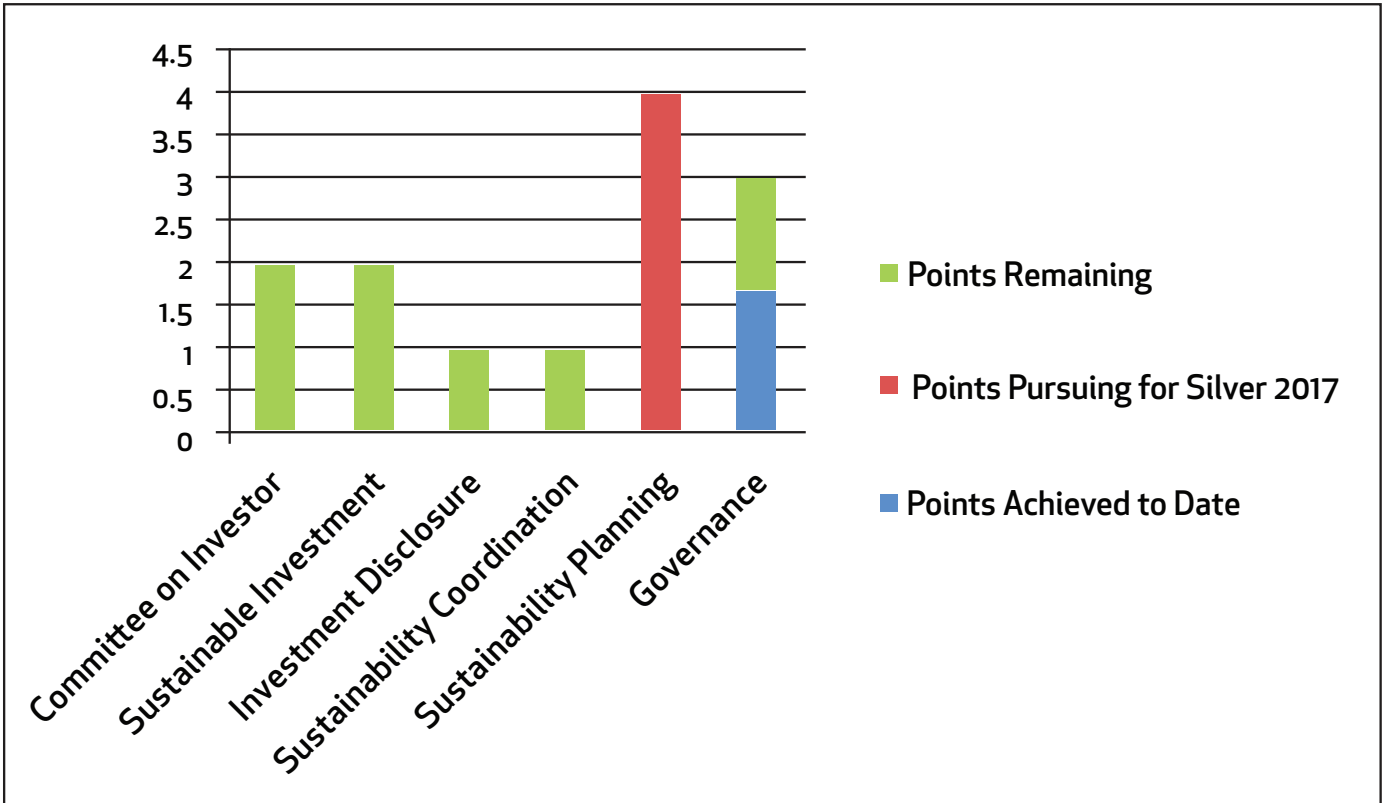
that relate to environmental sustainability. Today, staff members have opportunities to get involved with the college's Attainable Sustainable program through the E-Team, while sustainability is explicit as a key function in each employee's job description. Students are able to engage with the Eco-Reps and Eco-Manager programs supported by EcoMotion. EcoMotion, a Boston-based sustainability advising and consulting firm, was hired by Saint Joseph's College in the summer of 2015 to accelerate and formalize sustainability coordination on campus. EcoMotion works dynamically with Saint Joseph's community to manage the Eco-Reps program, facilitate the Sustainability Task Force meetings, and coordinate sustainability reporting and planning.

In FY 2015, Saint Joseph's signed the Green Billion Dollar Challenge and delegated the funds to a green revolving fund—a designated fund for energy efficiency, deferred maintenance, and sustainability projects that accelerate carbon reduction in campus operations.

A Community Fund compliments the operation-focused fund and provides capital for projects that foster sustainability within the community. To date, sustainability is included in development/fundraising efforts targeted directly for certain grants and projects. Specific donors have been flagged as interested in or passionate about sustainability. Saint Joseph's College Ethical and Social Justice Policy for Investments outlines negative screens on securities that directly or indirectly produce, distribute or engage in weaponry, liquor, tobacco, and medicines or devices used for sterilization or abortion, materially damaging to the environment and/or human beings, and discrimination. The Board's Finance Committee sets policy for and monitors the College's investments. FL Putnam provides professional investment advice to the College.

Goal	Strategies
<p>Increase participation of community members in sustainability governance, decision making, and accountability of Climate Action and Sustainability Plan</p>	<ul style="list-style-type: none"> • Encourage campus offices to develop divisional plans and/or guidelines to support grassroots effort • Host annual COP+SJC meeting that brings together representative leadership from faculty, staff, student and the administration <ul style="list-style-type: none"> • Update parties on current progress of plan/goals • Facilitate break out sessions to form action plans with goals and strategies for each constituency
<p>Increase participation and awareness of faculty</p>	<ul style="list-style-type: none"> • Leverage faculty meetings as a platform for regular updates and opportunities for participation • Designate faculty spokesperson(s) to keep track of Climate Action and Sustainability Plan goals and raise in Faculty forums and communications
<p>Increase participation and awareness of students</p>	<ul style="list-style-type: none"> • Designate student senate spokesperson(s) to keep track of Climate Action and Sustainability Plan goals and raise in Senate forums and communications
<p>Increase participation and awareness of Board</p>	<ul style="list-style-type: none"> • Designate Trustee spokesperson(s) to keep track of Climate Action and Sustainability Plan goals and raise in quarterly Board meetings and key communications
<p>Increase participation and awareness of staff</p>	<ul style="list-style-type: none"> • Develop mechanism for capturing staff self-evaluations on sustainability • Continue to list question(s) on sustainability commitment in the annual performance review for staff • Designate staff spokesperson(s) to keep track of Climate Action and Sustainability Plan goals and raise in staff meetings and communications
<p>Revisit and revise Social Responsibility Investment Policy to be additive rather than reductive</p> <ul style="list-style-type: none"> • Shifting the question from what do we remove from consideration from the investment universe? To asking how do we take traditional investment practices and augment them with enhanced analytics and perspectives to allow for consideration of both off-balance sheet risk and impact investment opportunities • Taking into account environmental, social, and governance (ESG) criteria into investment decision making 	<ul style="list-style-type: none"> • Schedule three Committee on Investor Responsibility meetings during fiscal year 2018 to review, update, and share with the Board for approval • Work with peer institutions and the Board to update Committee on Investor Responsibility and screens
<p>Deploy 5 projects with Green Revolving Fund by FY 2021</p>	<ul style="list-style-type: none"> • Review Charge with Task Force • Track and report progress each year • Upload projects to GRITS tool • Incorporate GRITS into existing classes and coursework

STARS Planning and Administration Category (Governance and Investment credits)



The bar graph above depicts governance and investment credits for the STARS planning and administration category. When resubmitting in 2017 Saint Joseph’s will have this Plan that meets all the criteria for the sustainability planning credit. Taking action on the other goals outlined above will lead toward improvement in the other credits as well.

8. Academics and Research

Background

Sustainability is integrated into academics explicitly in the College's Environmental Studies major and implicitly in much of the curricula across campus. Highlighted below are examples of such courses and research.

Ecology and the Environmental Challenge (ES300): Established in 2002 as a Core Course, nearly every student is required to take the introductory course called Ecology and the Environmental Challenge (ES 300), with 250 students both on campus and online taking this course per year. Students explore how natural systems work, food systems and agricultural practices, energy processes, everyday activities, the social dimensions of population, global cooperation and solutions, behavior change, and systems-level problem solving. During any given semester there are at least four sections running with a variety of community-based learning components. Projects range from energy usage monitoring and recommendations to sustainable agricultural practices. Three to four faculty members teach the ES 300 course annually.

Sustainability Minor: Sustainability Studies is an interdisciplinary minor established in 2013. Required courses include Ecology and the Environment, Social Problems, and a Natural Science Internship, along with elective courses ranging from Climate Change and Glacial Geology to Business Ethics, Environmental Psychology, and Theology. Most courses have a community-based learning requirement.

Community-Based Learning: With the help of an Environmental Protection Agency (EPA) subgrant administered through Maine

Campus Compact, Saint Joseph's was able to develop and sustain environmentally focused interdisciplinary community-based learning courses. Through workshops, faculty members developed community engagement components for existing courses that related to water, air quality, climate change, and more. This helped to strengthen six courses (including one online) and engaged faculty new to sustainability as a pedagogy in an interdisciplinary manner.

Student Research: Due to the College's rural, agricultural location on Sebago Lake, Saint Joseph's considers its faculty and students as valuable resources. Some examples of student research include the effects of logging and tree clearing on runoff into streams; a collaboration with local farms and an agricultural organization to determine parasitic infestation in sheep; the relationship between bacterial growth on human hands and exposure to animals; and research on the feasibility of starting a CSA (Community-Supported Agriculture) at Pearson's Town Farm.

Sustainable Communities Initiative: The College is also embarking on its second year of the Sustainable Communities Initiative (SCI), based on University of Oregon's Sustainable Cities program. Founded on the idea that colleges and communities can work together to improve health and vitality in their region, this program leverages the skills, knowledge, and capacity of students and faculty through classes, courses, and research to address sustainability issues for organizations that reside in the surrounding community. From environmental action to economic viability and social integrity, this partnership allows students to engage with **real-world problem solving to gain practical skills themselves while also providing needed support to nearby communities.**



Goal	Strategies
<p>Develop a Sustainability Certificate Program by FY 2020 and explore the creation of a Sustainable Agriculture Certificate</p>	<ul style="list-style-type: none"> • Create incentives for faculty to develop sustainability courses and incorporate sustainability into existing courses • Leverage Sebago Lake to enhance experiential learning and course work • Add sustainability in the new curricula of the developing MBA program • Create an online “Sustainability in Business Minor” • As the Core Curriculum is reexamined, ensure that education for sustainability is strengthened
<p>Refocus the Environmental Studies Major to be more holistic</p>	<ul style="list-style-type: none"> • Add more courses covering the social and economic components of sustainability • Form working group to further explore the refocusing of the major • Work with faculty in various departments to add sustainability themes into existing curricula
<p>Increase the presence of sustainability in academic programs beyond the Environmental Science Program</p>	<ul style="list-style-type: none"> • Create incentives for faculty to develop sustainability courses and incorporate sustainability into existing courses • Leverage Sebago Lake to enhance experiential learning and course work • Add sustainability in the new curricula of the developing MBA program • Create an online “Sustainability in Business Minor” • As the Core Curriculum is reexamined, ensure that education for sustainability is strengthened
<p>Gather metrics to determine baseline and annually report on the number of faculty and departments conducting research in the area of sustainability (ongoing STARS)</p>	<ul style="list-style-type: none"> • Create and administer a survey to determine how many professors are conducting research in sustainability
<p>Assess 90% of the student body's sustainability literacy (Pursue for STARS Silver) by FY 2017</p>	<ul style="list-style-type: none"> • Create a survey to determine sustainability literacy on campus • Administer the survey at the beginning of the academic year and conduct a follow up assessment at the end of the academic year

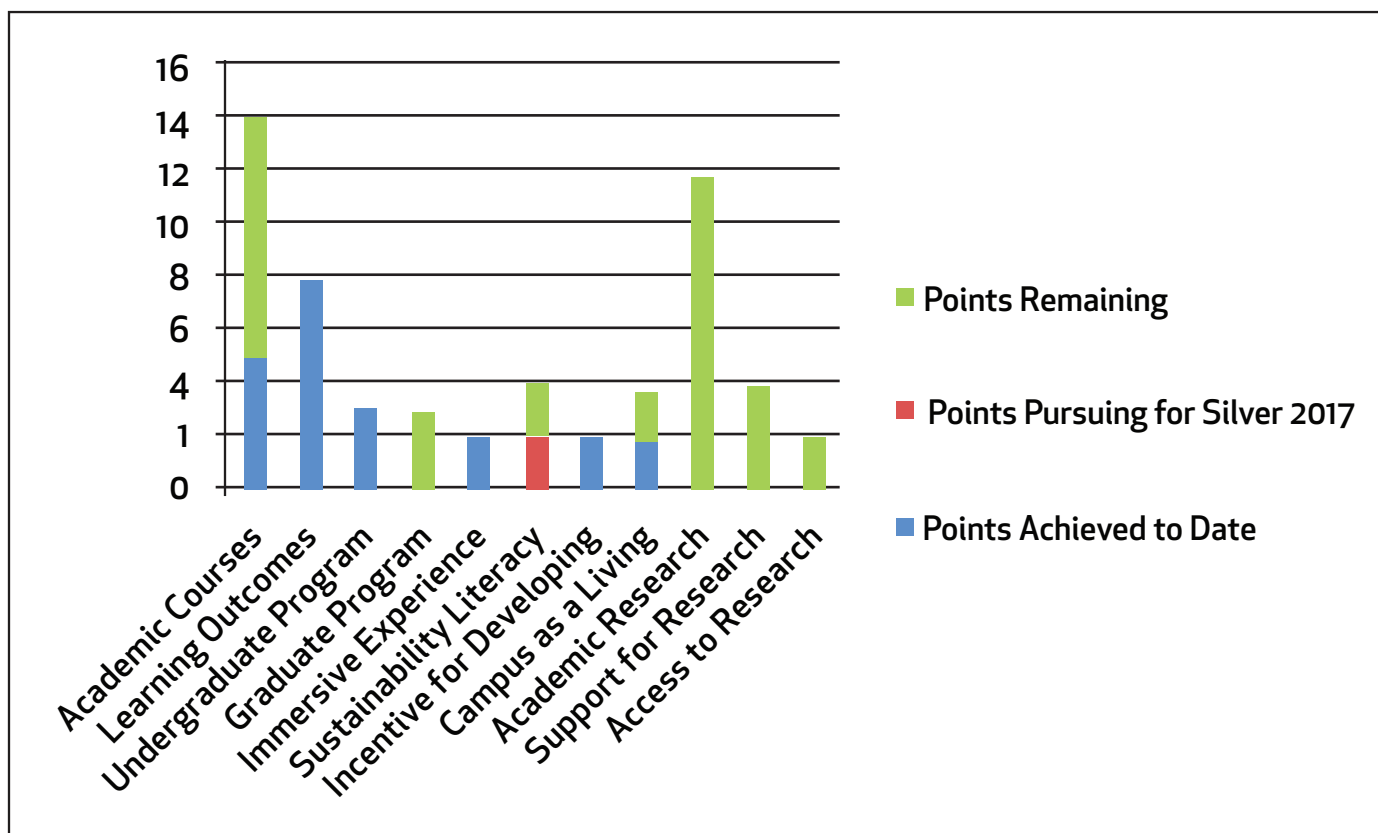
Metrics

- (STARS 2014) Sustainability courses offered: 56 Undergraduate, 9 Graduate
- (STARS 2014) Courses offered that include sustainability: 82 Undergraduate
- (STARS 2014) Students who graduated from a program that has adopted at least one sustainability learning outcome: 258
- (STARS 2014) Sustainability majors offered: 1 (Environmental Studies)
- (STARS 2014) Sustainability minors offered: 1 (Sustainability Studies)
- (STARS 2014) Number of immersive, sustainability-focused educational study programs: 1
- Incentives for faculty to incorporate sustainability into courses:

Maine Campus Compact sub-grant has allowed for and incentivized the addition of new sustainability components for six different courses.

- (STARS 2014) Utilize campus as a living laboratory in the following areas: air and climate, dining services, energy, health/wellbeing/work (4/15 areas documented in STARS Report)

STARS Academics Category (Curriculum and Research)



The bar graph above depicts curriculum and research credits for the STARS academics category. The main credit to pursue is develop and administering a sustainability literacy assessment which was not pursued in the Bronze submission.

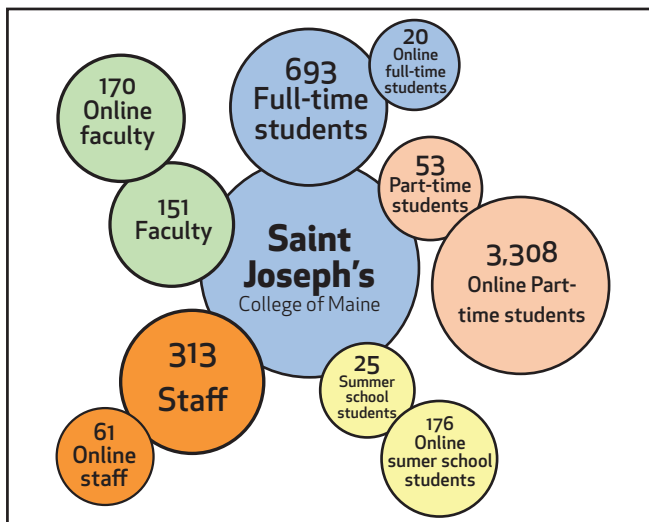
9. Community Engagement

Background

Community and service are central elements of both curricular and co-curricular activities at Saint Joseph's College. Academic community engagement is organized and tracked through the Community-Based Learning (CBL) office. Over 1,000 on-campus students had experiences in curricular and co-curricular community service during the 2014–2015 academic year.

The Mercy Service Corps highlights the College's commitment to service. It is made up of students who perform community service with partners sponsored by the school's Mercy Center. The Service Corps meets regularly for orientations, trainings, and reflections. They support major service events throughout the academic year.

Sustainability is woven into engagement and service in student, faculty, and staff programming.



- (Students) The First Year Experience introduces new students to sustainability efforts around campus and ways to get involved. (ongoing STARS points)

- (Students) The Community and Sustainability Engaged (CASE) Scholarship is a cutting-edge program directly linking community engagement and sustainability. This rigorous program is offered to two rising first year students per year. The Scholarship requires they maintain a strong

GPA and continue to demonstrate active leadership throughout their Saint Joseph's career. (ongoing STARS points)

- (Students) The Eco-Reps program is directly tied to the CASE Scholars as one of their active duties. The program is in its tenth year. The Eco-Reps organize engaging events and projects such as water tasting, speaking at new-student orientation, running short energy saving competitions, and more. Students meet weekly to plan events, learn about sustainability, and receive leadership trainings. (ongoing STARS points)

- (Faculty/Staff) The E-Team is a group of dedicated faculty and staff that collaborates to educate campus community members on relevant sustainability issues and provides a platform for engagement in sustainability-related projects and practices linked to the 2016 Climate Action and Sustainability Plan. Additionally, the Team organizes campaigns and projects to foster environmental awareness in the College community. A liaison from the Sustainability Task Force participates on the E-Team to facilitate communication and collaboration.

- Faculty were engaged through professional development training funded by an EPA subgrant in 2014

- (Faculty/Staff) College Performance Standards: all staff of the College have sustainability integrated into their job descriptions with an explicit commitment to sustainable practices, such as "recycling, limited use of paper and electricity, composting, health and wellness, etc".

Saint Joseph's recognizes the importance of collaboration and involvement in the community outside of campus. One unique partnership that the College has is with Portland's Riverton School, which works diligently to balance the needs of a diverse transient student population with Maine's requirement for academic accountability. It is also important to note that Saint Joseph's College is part of the Green Campus Consortium, and has participated in public policy advocacy

around the Keystone XL Pipeline. In addition to providing excellent food to Pearson's Cafe, Pearson Town Farm provides food to Catherine's Cupboard (a local food pantry), has a growing CSA, offers summer internships, and engages students from local K-12 schools. Sustainability is also featured on Saint Joseph's website with its own webpage, a guide to green living, a sustainability blog managed by the CASE Scholars, and Facebook page administered by the Eco-Reps.

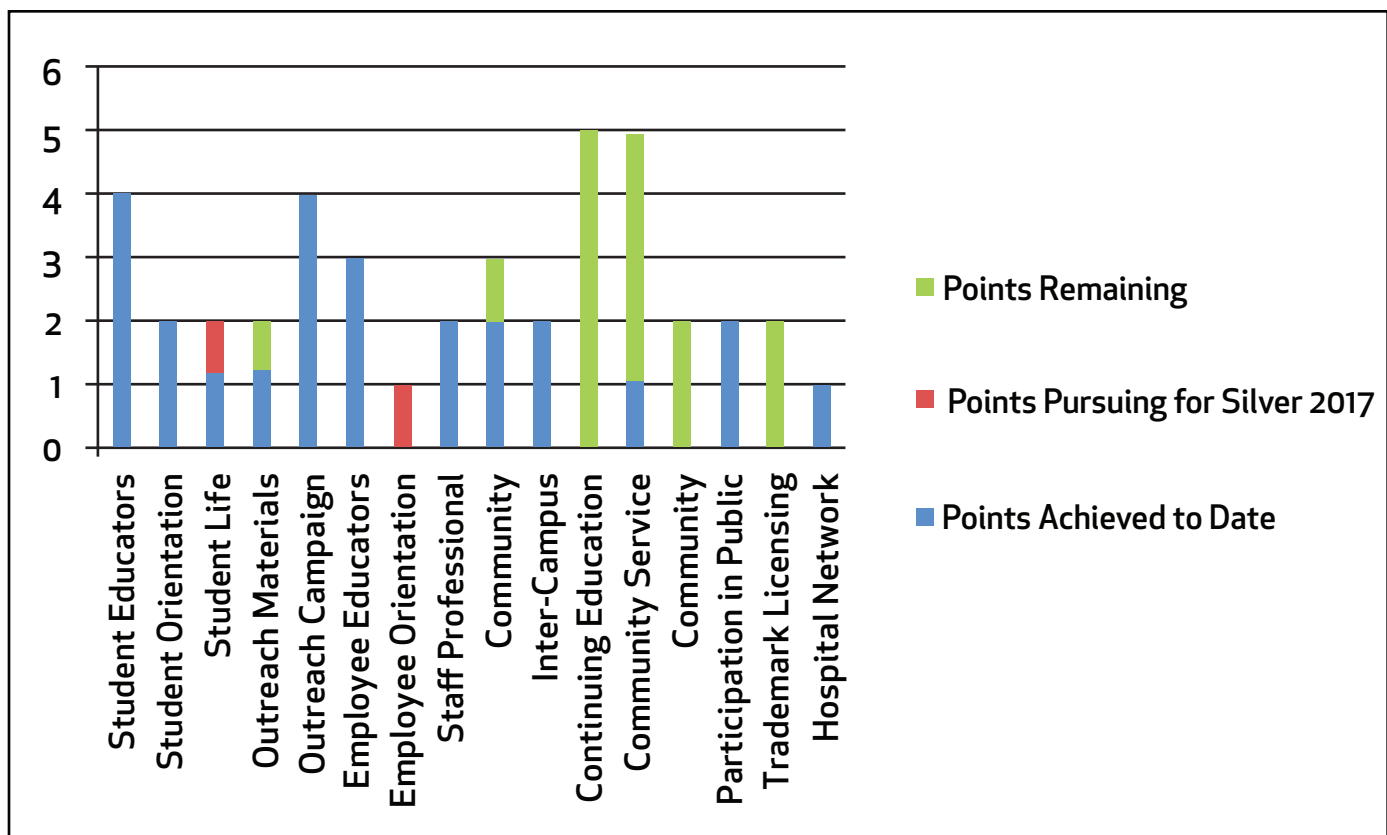


Goal	Strategies
<p>Increase awareness and engagement amongst community members through communications and events.</p>	<ul style="list-style-type: none"> • Implement Speaker Series • Continue to host Sustainability Festival and Eat Local Lunch • Pilot Game Day Recycling Challenge • Create sustainability newsletter • Publish a monthly flyer displayed in agreed-upon locations • Update content for the sustainability bulletin board located in Mercy Hall • Continue to update website • Include link to webpage on SJC homepage • Advance the sustainability blog • Partner with Athletics, Admissions, and Communications Office
<p>Incorporate sustainability into all campus tours and all admission materials by FY 2017</p>	<ul style="list-style-type: none"> • Partner with Admissions to develop talking points and content for materials
<p>Increase percentage of students (online and on campus) involved in community based learning by 10% by FY 2020 from FY 2014 baseline (600 out of 2,648, 22%).</p>	<ul style="list-style-type: none"> • Continue to incorporate community-based learning components into online and campus classes • Incorporate community-based learning into Core Courses.
<p>Establish annual faculty and staff professional development training for sustainability practices and curriculum development</p>	<ul style="list-style-type: none"> • Partner with Human Resources office to weave sustainability training into all employee orientation programming (pursue for STARS Silver) • Incorporate sustainability trainings into professional development opportunities
<p>Continue to formalize and administer the Eco-Reps program (ongoing STARS points)</p>	<ul style="list-style-type: none"> • Assist Eco-Reps in becoming a recognized club • Formalize the structure and activities • Provide leadership trainings
<p>Incorporate and formalize sustainability programming into the First Year Experience by FY 2017</p>	<ul style="list-style-type: none"> • Partner with Student Affairs to include sustainability programming in the First Year Experience program

Metrics

- Number of on-campus student experiences in curricular and co-curricular community service during the 2014–2015 academic year: 1,066
- Online courses with community-based learning during the 2014–2015 academic year: 6 courses
- On-campus courses with community-based learning during the 2014–2015 academic year: 74 courses
- Number of professional trainings for sustainability available to faculty during the 2014–2015 academic year: 1
- Number of faculty participating in sustainability trainings during the 2014–2015 academic year: 6
- Number of EcoReps in the 2015–2016 Program: 12
- Campus wide sustainability events hosted during the 2015–2015 academic year: 2 events-Sustainability Festival and Local Lunch
- Number of members on the E-Team during the 2015–2016 academic year: approximately 19

STARS Engagement Category (Campus and Public Engagement)



The bar graph above depicts campus and public engagement credits for the STARS engagement category. Primary credits to reexamine are student life and employee orientation for resubmission.

10. Health and Wellness

Background

One of Saint Joseph's College's strategic goals is to be recognized as the "best place to work." This goal is supported by a deep appreciation for community members and takes shape in many programs offered to faculty, staff, and students.

Wellness at Saint Joseph's is approached holistically and includes spiritual, emotional, intellectual, physical, social, environmental, and financial health (see Wellness Wheel). Each month a wellness calendar (see figure below) is sent out to faculty and staff highlighting events and programs. Programs like Lunch & Learns, guest speakers, and Healthy Bingo Challenges cover topics from nutrition, stress management, and weight management to spiritual health, seed saving, achieving work-life balance, and more. The College conducts an annual culture audit to assess health and wellness offerings, which generated 113 responses in the 2014 academic year. Health & Wellness partners with Pearson's Cafe, Pearson's Town Farm, Student Activities, the Mercy Center, and academic programs such as Exercise Science Health & Wellness Promotion, and multiple community-based learning courses to promote student internship opportunities and fully integrate itself into the many facets of campus life.

Saint Joseph's College offers CIGNA health insurance to its employees and programming to incentivize and support healthy behaviors. Faculty and staff earn points by attending the events and programs. For example, an annual physical exam earns participants 50 points, and attending programs add points as well. In line with all of these efforts, Saint Joseph's College is proud to be a tobacco-free campus.

Student health and wellness is also a priority at Saint Joseph's. The Counseling Center offers counseling services to all students free of charge, and emergency services are available 24



hours a day. A main focus of the Center is preventative care and involving the community (at Saint Joseph's and in Standish) in creative ways to understand triggers of unhealthy and harmful behaviors and taking action. Solutions include implementing policies to remove impediments to students reporting drug or alcohol problems of friends, training students as EMTs, and teaching students about issues that they find important to them, such as sleep hygiene. "Don't Cancel That Class!" is a creative way to bring counseling services into the classroom. When a faculty member knows they will miss a class (such as to attend a conference), they can elect to have a counseling staff teach a lesson.

Student Activities takes health and wellness seriously as well. The department acknowledges that most of students' time is spent out of the classroom and seeks to provide opportunities for them to grow socially and professionally during this time, offering over 90 activities per semester. From sunset kayaking to well-marked forest running trails, Student Activities encourages students to be active and engage in their unique Maine environment. Each semester they coordinate a Stress Relief Day with free healthy snacks, massages, and puppies brought in from a local rescue shelter.

Several clubs, such as the Exercise Science Club, Strength and Conditioning Club, and Physical Education Club, engage students in healthy behaviors and offer programming such as a chin-up competition. Students in the new Health and Wellness Promotion major have already formed a club and are participating in experiential learning projects both on and off campus, such as speaking in assisted living homes and holding workshops on campus for students around stress management, distraction driving, and more.

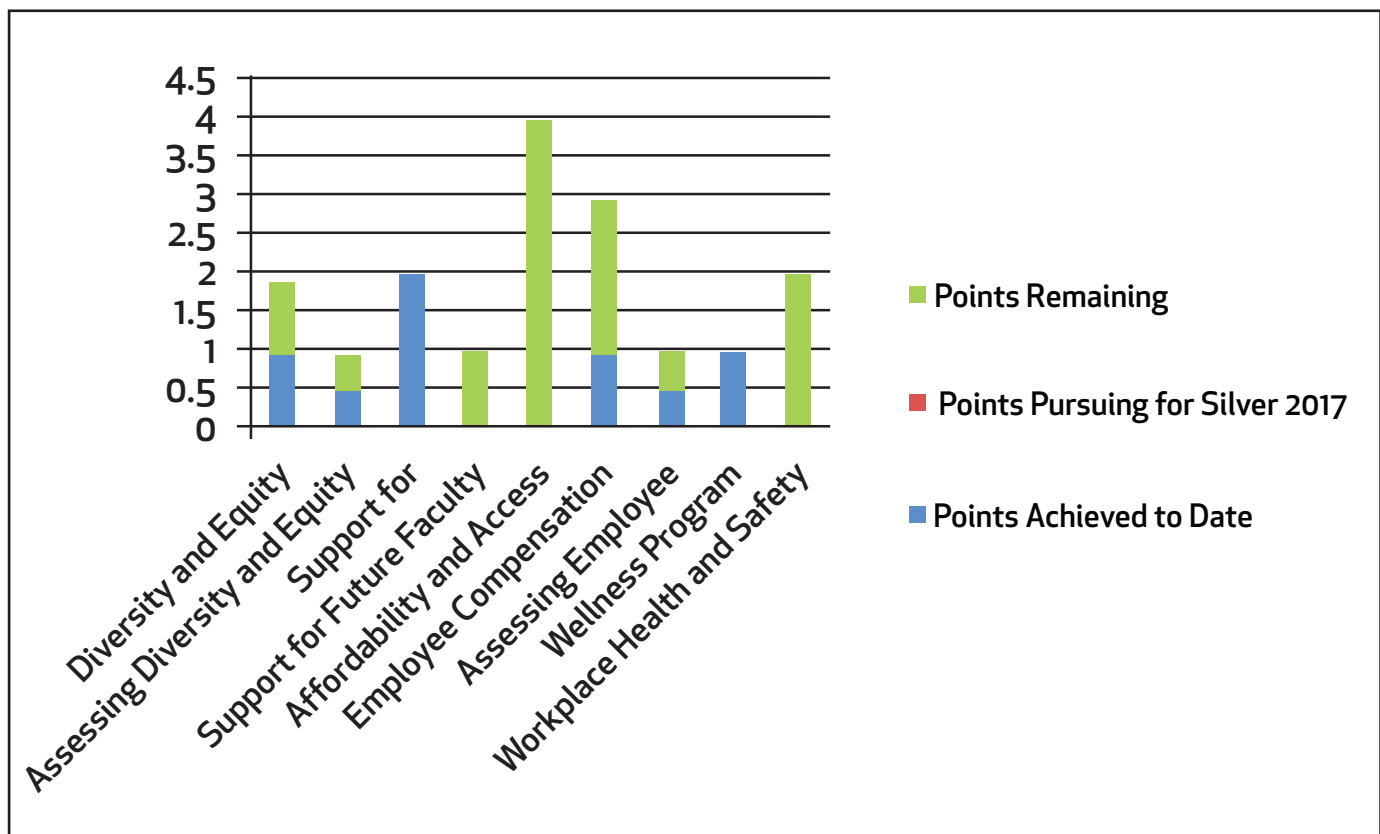


Goal	Strategies
Engage at least 75% of faculty and staff in health and wellness programming by FY 2020	<ul style="list-style-type: none"> • Gather baseline metrics for how many faculty and staff currently participate in programming • Develop testimonials from participants to inspire further participation • Continue to host Health and Wellness Fair every two years • Explore ways to incentivize non CIGNA supported community members to participate in programming
Engage at least 75% of students in health and wellness programming by FY 2020	<ul style="list-style-type: none"> • Gather baseline metrics for amount of students participating in programming
Implement campus-wide Bystander Training	<ul style="list-style-type: none"> • Work with Athletics Department and Dean of Campus Life to plan and implement
Incorporate sustainability into classes beyond HE 200 Introduction to Community Health and HE 300 Social and Cultural Issues	<ul style="list-style-type: none"> • Collaborate with faculty and staff on the Sustainability Task Force to gain insights into lesson plans and curricula

Metrics

- Fall 2015 student participation in health and wellness classes: 246
- Fall 2015 staff participation in health and wellness classes: 255
- Calendar Year 2015 Wellness Program attendance: 208 employees
- Calendar Year 2015 Lunch and Learns attendance: 113 employees approximately
- Current employees under CINGA in 2015: 230
- How many people earned their 300 CINGA points in 2015: 29 out of 115 participants
- Average dollars earned by employees obtaining points in 2015: \$207.57

STARS Planning and Administration (Health, Wellbeing and Work Credits)



The bar graph above depicts health, wellbeing, and work credits for the STARS planning and administration category. Working towards addressing the goals outlined above will position Saint Joseph's for obtaining further points in this area in the future.

Conclusion

Saint Joseph's College's Climate Action and Sustainability Plan is a living document serving as a road map toward carbon neutrality which will be reached by 2036. It quantifies Phase One GHG mitigation measures and presents detailed strategies for driving down emissions.

Phase One Measures	Reduction in Emissions
Energy <ul style="list-style-type: none"> • Energy Management System • Lighting upgrades • Building envelope sealing • Building Insulation • Windows • Hot water heaters Total	100 MT CO ₂ e 34 MT CO ₂ e 50 MT CO ₂ e 75 MT CO ₂ e 75 MT CO ₂ e 400 MT CO ₂ e 734 MT CO ₂ e
Waste <ul style="list-style-type: none"> • Divert an additional 10% of waste to compost 	17.1 MT CO ₂ e
Water <ul style="list-style-type: none"> • Reduce potable water use by 4.6% 	3.7 MT CO ₂ e
Land Use <ul style="list-style-type: none"> • Manage 38 acres of forest for carbon sequestration 	228 MT CO ₂ e
TOTAL (25% of overall emissions)	982 MT CO₂e

The Plan also infuses sustainability throughout governance and planning, operations, engagement and education, engaging all stakeholders (students, faculty, staff, administrators, alumni, and the greater Portland community). Aligning with the goals and sentiment of Sustaining the Promise, sustainability is approached with purpose and intentionality, and encompasses the Catholic values and tenets of the Sisters of Mercy. The College is proud to share and outline its goals, strategies, metrics, and values in this Plan. The Sustainability Task Force welcomes questions, comments, and feedback as it moves forward.