Seneca

CONSERVATION AND DEMAND MANAGEMENT PLAN

2019 Update

Introduction

Seneca Profile

Seneca is a leading postsecondary educational institution with a reputation for offering high quality programs at the baccalaureate, diploma, certificate and post-graduate levels. The college has approximately 28,000 full-time students and 70,000 continuing education registrants annually.

Anchored in Canada's largest city and economic engine, Seneca is active in meeting the demand for postsecondary education in one of the fastest growing regions of Ontario.

Seneca students, faculty, staff and alumni share a passion for Seneca. Hardworking, ambitious and compassionate: that approach, that culture, is what Seneca is all about. Seneca is constantly looking for ways to improve and innovate.

Seneca consists of nine campuses located in the Greater Toronto Area and Peterborough. Table 1 summarizes the various campuses and details gross floor area.

Table 1. Gross floor area and ownership type for all Seneca campuses

Campus	Gross Floor Area (ft^2)	# Employees	# Students or Units (beds)	Lease or Owned
Jane[1]	19,845	27	-	Owned
King	591,592	513	3,800	Owned
King Residence	84,227	-	118 rooms 233 beds	Owned
Markham	269,795	527	2,000	Owned
Newnham	1,533,224	2,129	12,375	Owned
Newnham Residence	419,190	-	555 units 1,100 beds	Owned
Peterborough	47,736	106	-	Owned
S@Y (SEQ)[3]	315,792	881	6,500	Owned
S@Y (DB)[3]	217,833	[2]	[2]	Lease
Newmarket[4]	5,203	9	-	Lease
Vaughan	7,933	13	-	Lease
Yorkgate	17,877	38	-	Lease
TOTAL	**3,530,247**	**4,429**	**24,675**	

[1] Jane Campus to be closed September 2019. Programs to be moved to Newnham Campus.

[2] DB employee and student count included in SEQ

[3] S@Y: Seneca buildings at York University Campus

[4]Newmarket Campus was closed on March 31, 2019

Goals and Objectives of the CDM Plan

Seneca is committed to establishing itself as a leader in achieving substantial and measurable environmental and financial improvement through the Conservation and Demand Management (CDM) plan.

The CDM plan aligns with Seneca's core values of sustainability and environmental stewardship. Through co-operation and engagement with Seneca's staff, faculty and students, it is intended that a holistic and all-encompassing approach to environmental stewardship will be achieved.

Through this plan, Seneca will aim to reduce its energy consumption and manage its demand for energy. This plan will optimize energy efficiency through energy saving retrofits and upgrades. In addition, it is Seneca's goal to reduce energy operating costs by examining existing building systems and by recommissioning systems where improvements can be made. This 2019 CDM plan is an update and progression from the CDM Plan developed and published in 2014.

Seneca will use the 2015-16 fiscal year (April 1, 2015 to March 31, 2016) as the baseline year, as this is the earliest year for which there is comprehensive energy and water data. All goals and targets will be measured against this baseline year's energy and water consumption, and Greenhouse Gas (GHG) emissions. The targeted reductions in energy consumption are as follows:

Table 2. Seneca Energy, GHG, and Water Reduction Targets

Target Year	Target Reduction		
	Energy	GHG	Water
2030	20%	20%	30%
2050	50%	50%	50%
Metric	ekWh/ft^2	tCO_2/ft^2	water use m^3/FTE

FTE = full time student equivalent

Commitment

Seneca's Senior Executive Committee (SEC) supports and approves the Conservation and Demand Management plan. By approving the CDM plan, Seneca is affirming its commitment to the plan's implementation.

Baseline Energy Use and Cost

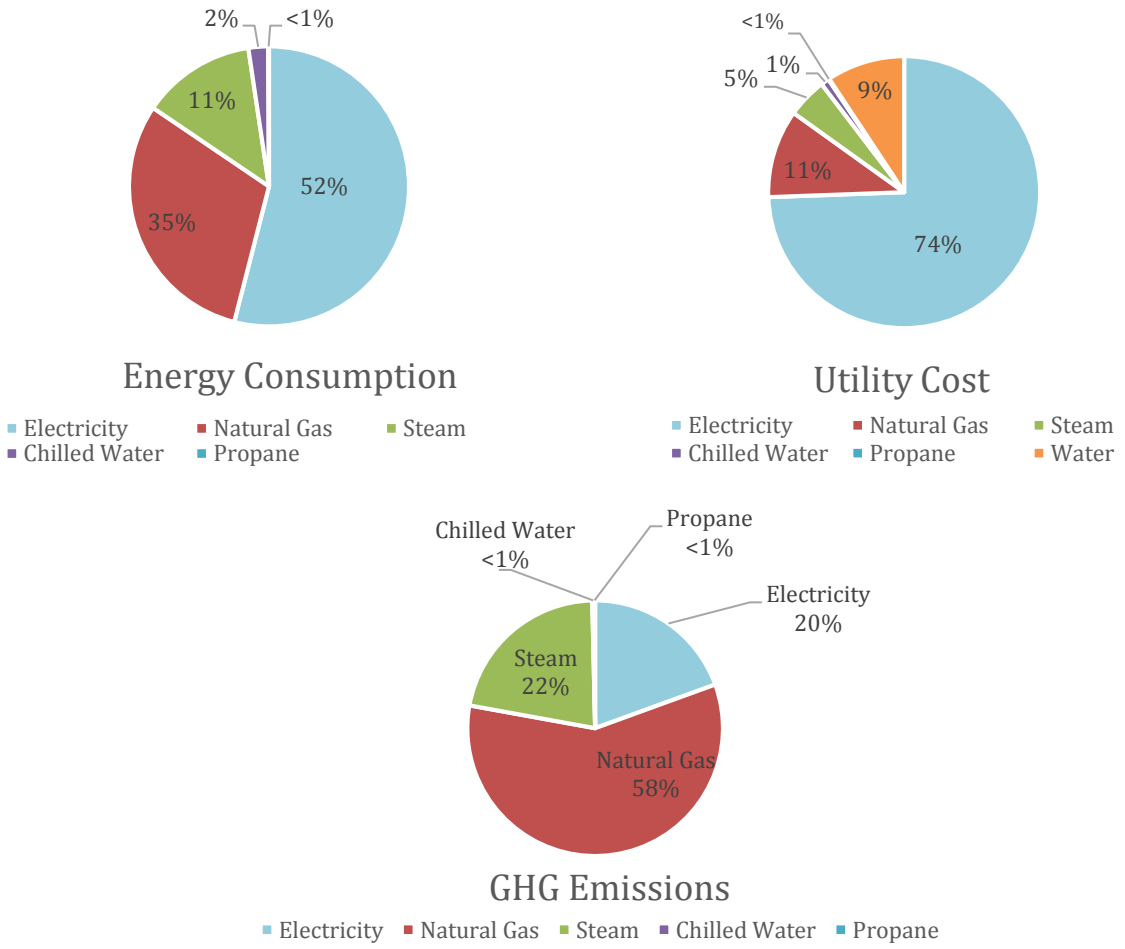
Seneca College has chosen the 2015-16 fiscal year data to establish baseline consumption. Table 3 summarizes the baseline year utility consumption, costs, and greenhouse gasses (GHG) for all campuses.

Table 3. Baseline utility consumption and cost for Fiscal Year 2015-2016

Description	Total	Electricity	Natural Gas	Steam	Chilled Water	Propane	Water (m^3)
Consumption (ekWh)	63,346,493	32,964,578	22,109,609	7,012,533	1,212,847	46,927	215,714
Cost	$6,381,318	$4,729,875	$721,990	$294,362	$60,443	$7,298	$579,262
GHG (tCO_2)	6,872	1,337	4,014	1,497	15	10	-

Figure 1 displays the relative percentage of the various energy types across all campuses (owned and leased) for the baseline year.

Figure 1. Energy consumption (left, ekWh), utility cost (right), and GHG (below) by type, for all campuses, for the baseline year (FY1516)



The majority of energy consumed by all campuses owned and leased by Seneca is electricity, followed by natural gas and steam (S@Y buildings only). Propane and chilled water contribute minimally to the total.

In terms of costs, despite 52% of total energy use being electricity, that energy source represented 74% of total utility costs. Electricity is significantly more expensive than natural gas or steam. It is worth noting that the total cost of water contributed almost as much as natural gas.

The trends visible in the baseline year continue into future years. Details on historic consumptions are provided in the Campus Utility Analysis section.

Campus Utility Analysis

Energy Consumption Analysis

The following table summarizes the annual energy consumption (kWh) by campus for the baseline year, split by owned and leased campuses.

Table 4. Annual utility consumption by campus (kWh) for the baseline year (FY1516)

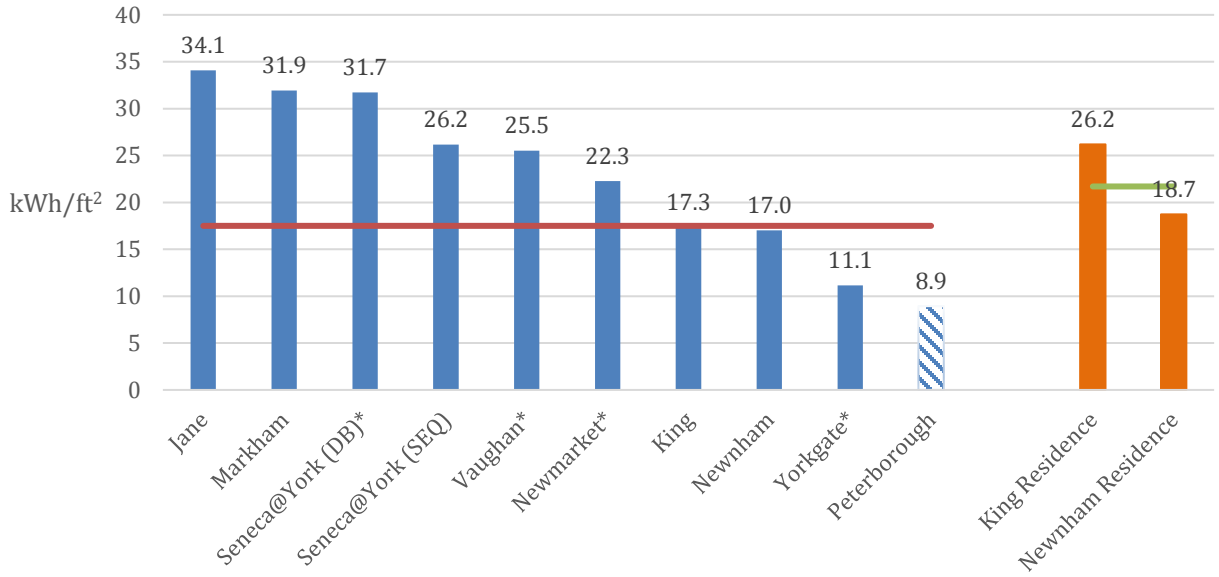
Campus	Total (ekWh)	Electricity (kWh)	Natural Gas (ekWh)	Steam (ekWh)	Chilled Water (ekWh)	Propane (ekWh)	Water (m^3)
Owned Campuses							
Jane	676,406	308,150	368,255	-	-	-	398
King	8,585,394	4,573,589	3,964,878	-	-	46,927	29,686
King Residence	2,205,423	674,638	1,530,785	-	-	-	10,919
Markham	8,612,196	5,083,357	3,528,839	-	-	-	17,068
Newnham	19,169,904	11,725,696	7,444,208	-	-	-	80,375
Newnham Residence	7,848,096	3,512,467	4,335,629	-	-	-	60,188
S@Y (SEQ)	8,259,307	4,602,909	260,392	3,396,006	-	-	10,717
Peterborough	426,435	3,853	422,582	-	-	-	681
Total Energy	**55,783,161**	**30,484,659**	**21,855,569**	**3,396,006**	**0**	**46,927**	**210,031**
% of Total Owned Energy		**55%**	**39%**	**6%**	**0%**	**<1%**	**-**
Leased Campuses							
Newmarket	250,806	98,429	152,378	-	-	-	-
S@Y (DB)	6,910,917	2,081,543	-	3,616,527	1,212,847	-	5,682
Vaughan	202,416	100,755	101,662	-	-	-	-
Yorkgate	199,193	199,193	-	-	-	-	-
Total	**7,563,332**	**2,479,919**	**254,040**	**3,616,527**	**1,212,847**	**0**	**5,682**
% of Total Energy		**33%**	**3%**	**48%**	**16%**	**0%**	**-**

As the table above shows, the energy distribution varies substantially between campuses and when comparing owned and leased campuses. This is mainly due to lease agreements, where some utilities are included in the monthly rent (e.g. heating at Yorkgate, water at Newmarket, Vaughan, Yorkgate) and utilizing different fuels for heating and cooling (e.g. steam and chilled water S@Y DB). It should be noted that Seneca occupies a portion of York University (S@Y DB) and pays for utilities based on the percentage of area occupied. The energy breakdown for owned campuses generally follows the Seneca-wide trends shown in the previous section.

In order to compare the energy distribution between campuses, the energy data is normalized by the size (square footage) of each campus. The resulting value, Energy Utilization Index (EUI), is used to benchmark campus efficiency and aid in prioritizing where to allocate capital budget, to have the biggest impact on energy reduction targets.

Figure 2 below displays the EUIs for each campus, and separately for the residences. The red and green lines running through the graph represent the USA national average for college buildings and residence/dorm buildings, respectively.

Figure 2. Baseline year Energy Use Index (EUI) for each campus (blue bars), including residences (orange bars).



Campuses denoted with an asterisk (*) represent leased sites.
The red line represents the US national average benchmark for college buildings.
The green line represents the average EUI for residence/dormitory buildings.
Source: https://portfoliomanager.energystar.gov/pdf/reference/US%20National%20Median%20Table.pdf.

In the baseline year, all campuses except Newnham, King, and Yorkgate performed less efficiently than the US National Average for institutional buildings.

Jane Campus is likely higher than the typical benchmark as it contains a lot of high energy-consuming machinery (CNC) in a relatively small facility. As previously noted, Jane campus will be closed in September 2019, and all courses will be moved to the new CITE building located at Newnham Campus. Going forward, this will likely result in a marginal increase to the EUI at Newnham.

Markham and S@Y-SEQ's EUI are high due to their many mechanical and electrical components that are nearing or have exceeded their useful life. These two campuses are good candidates for the implementation of future energy conservation measures.

The Peterborough EUI is inaccurate due to a faulty meter that was incorrectly under-representing electricity consumption between 2014-2019. The electricity meter has since been replaced, and the EUI will be calculated and analyzed when a complete year of data is available.

The King Residence also performed below the benchmark, whereas the Newnham Residence outperformed the benchmark. This is primarily due to the retrofits that were recently completed at the Newnham Residence (chiller upgrade, boiler replacement, RTU replacements, and LED lighting retrofit). The King Residence has not undergone any major retrofits since its original construction.

Energy Cost Analysis

The following table summarizes the total annual energy and water costs by campus for the baseline year.

Table 5. Annual utility cost by campus for the baseline year (FY1516)

Campus	Total	Electricity	Natural Gas	Steam	Chilled Water	Propane	Water
Owned Campuses							
Jane	$65,095	$47,773	$15,956	-	-	-	$1,366
King	$812,888	$656,250	$149,340	-	-	$7,298	-
King Residence	$125,264	$75,551	$61,625	-	-	-	-
Markham	$914,329	$717,921	$139,814	-	-	-	$56,593
Newnham	$2,371,820	$1,672,062	$237,987	-	-	-	$264,044
Newnham Residence	$587,613	$503,728	$83,885	-	-	-	$197,727
S@Y (SEQ)	$881,061	$699,267	$11,872	$133,486	-	-	$36,437
Peterborough	$15,714	$1,129	$10,894	-	-	-	$3,691
Total Owned	**$5,773,784**	**$4,373,680**	**$711,374**	**$133,486**	**$0**	**$7,298**	**$559,858**
% of Total Cost		**76%**	**12%**	**2%**	**0%**	**<1%**	**10%**
Leased Campuses							
Newmarket	$23,494	$16,217	$7,277	-	-	-	-
S@Y (DB)	$530,752	$290,029	-	$160,876	$60,443	-	$19,404
Vaughan	$19,110	$15,771	$3,339	-	-	-	-
Yorkgate	$34,178	$34,178	-	-	-	-	-
Total Leased	**$607,534**	**$356,195**	**$10,616**	**$160,876**	**$60,443**	**$0**	**$19,404**
% of Total Cost		**59%**	**2%**	**26%**	**10%**	**0%**	**3%**

For both owned and leased sites, the majority of utility costs is spent on electricity. For the leased sites, steam is a significant contributor to overall spend as it is the heating fuel source for the largest leased facility. Water and natural gas contribute more to the utility costs at owned sites as natural gas is the main source of heating at these sites.

At King Campus, water is provided by on-site wells, so there is no cost shown in the table above. It should be noted that there is an associated cost from electricity consumption due to distribution pumps and chemical treatment, etc.

Due to the faulty meter at Peterborough Campus, the electricity costs are greatly under-represented in the table above and do not represent actual site conditions.

Similar to the EUI analysis, baseline year costs for utilities per campus are normalized for size in the following figure. Markham and S@Y SEQ present the greatest opportunites to reduce utility costs.

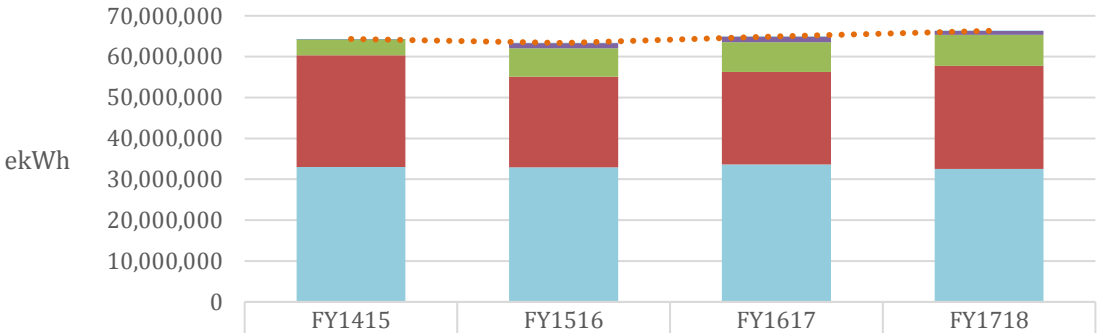
Figure 3. Baseline year Cost Utilization Index (CUI) for all campuses

Campuses denoted with an asterisk (*) represent leased sites.

Historic Utility Analysis

The following chart displays Seneca's annual energy consumption since fiscal year 2014-15. Overall, energy consumption decreased slightly in fiscal year 2015-16; however, increased student enrollment in recent years has resulted in higher energy consumption.

Figure 4. Historic energy consumption for all campuses combined



	FY1415	FY1516	FY1617	FY1718
Propane	53,966	46,927	47,643	51,855
Chilled Water	7,751	1,212,847	1,363,247	892,716
Steam	3,901,700	7,012,533	7,260,809	7,648,685
Natural Gas	27,337,875	22,109,609	22,653,002	25,209,361
Electricity	32,989,882	32,964,578	33,624,110	32,504,632
Total	64,291,175	63,346,493	64,948,812	66,307,250

Energy Management Policy

Seneca believes energy management and conservation are key elements for a successful operation and for reducing the emission of greenhouse gases (GHG). To achieve the goal of efficiently using the energy purchased and generated, Seneca diligently manages the buildings and the use of energy.

Seneca has developed a robust energy management policy that identifies priorities, mitigation and adaptation strategies, and provides an institutionalized pathway to achieve the targets set out in this CDM plan. This policy will be approved by Seneca's Executive Committee and the Board of Governors. Seneca's Energy Services Team is responsible for the development of this policy and the update of the CDM plan.

The Energy Management Policy includes:

- Establishing an energy management team
- Integrated asset/capital management planning
- Renewable energy
- Operational savings and occupant awareness and engagement
- New buildings/major renovations

Energy Management Team

The Energy Management Team will consist of members from each department of Seneca's operations. Each of these members will contribute to the implementation and maintenance of this CDM plan, and specifically, to Seneca's Energy Management Policy.

In 2016, a full-time position, Project Manager, Energy Services, was created to oversee all aspects of energy management, including utility analysis and budgeting, implementation of energy conservation projects, development of energy management policy and initiatives, reporting, and continuous improvements to facility operations. The Project Manager, Energy Services will administer and update the CDM Plan as it evolves.

The following table lists the key members of the Energy Management Team.

Table 6. Members of the Energy Management Team

Position	Role
Project Manager – Energy Services	CDM Plan Administrator
Sr. Manager – Capital Project and Planning	Technical Support
Facilities Manager – Newnham Campus	Technical Support
Facilities Manager – Seneca @ York Campus	Technical Support
Facilities Manager – King Campus	Technical Support
Director,Facilities Management	Facilitator
Procurement	Support as needed
Finance	Support as needed
Academic	Support as needed
Seneca Student Federation	Support as needed
Campus Services	Support as needed

Position	Role
Human Resources	Support as needed
Marketing and Communications	Support as needed
Campus Principals	Support as needed
Information Technology Services	Support as needed

Integrated Asset Management Planning

At Seneca, the decision to implement a capital project is made by balancing campus' requirements with the associated cost to Seneca. Seneca is currently refining its asset management planning practices to ensure that energy conservation is considered for all capital planning activities. This is done by matching the results of energy audits and studies with building condition assessments. All future capital and maintenance projects will consider the impact of energy consumption, and projects will be evaluated based on a life-cycle costing model that includes design costs, initital capital costs, and operating costs over the life of the asset. Where appropriate, the incremental cost to implement an energy efficient solution will be assessed when undertaking deferred maintenance projects.

Seneca will introduce its integrated asset management plan by 2020, which will detail a master plan for each campus and facility to achieve energy savings and reduce deferred maintenance backlog. Included in the plan will be a minimum funding allotment per year, with an annual increase, dedicated strictly to energy conservation projects.

Renewable Energy

In order to continue to reduce consumption of energy and decrease GHG emissions, Seneca is committed to pursuing the implementation of renewable energy technologies including:

- Solar energy
- Behind the meter generation
- Geothermal heating and cooling
- Wind energy

Seneca will undertake detailed studies to assess the feasibility of these technologies at each campus. The following projects are currently under consideration:

- Solar farm at King Campus: A preliminary study revealed that a 500 kW photovoltaic (PV) solar array could be installed, which could significantly reduce the campus electricity demand
- Newnham Residence: a 100 kW roof-mounted PV solar array

Seneca has recently completed a geo-exchange project at Garriock Hall, King Campus. This initiative is expected to do the following:

- Reduce GHG emissions by 50%, with phase 2 beginning in fiscal year 2019-20 (updating terminal units for more efficient heat distribution)
- Produce geo-exchange energy, which will provide heating to the building and reduce the need for natural gas boilers. However, boilers will be used for backup heat if/when needed

Operations and Occupant Awareness and Engagement

In support of the CDM plan and general energy awareness, Seneca is committed to providing training to operations staff. The following training has been identified:

- Building Operators Certification
- Dollars to $ense
- Advanced Building Recommissioning
- Training on equipment during/after retrofits

Additionally, any new systems installed as part of an Energy Conservation Measure will include system-specific training for operations staff, as appropriate.

To further support Seneca's commitment to sustainability, a new position was created in 2018 to enhance student, faculty and staff engagement in sustainability. The Sustainability Supervisor is tasked with event and workshop planning for all campuses, in addition to the coordination of sustainability initiatives across various business units in Seneca. The objectives of this position are to:

- engage students, faculty and staff in a greater discussion about sustainability, energy management, water conservation and waste reduction
- promote awareness of energy/water/waste conservation activities and measures being done by Seneca
- develop the Sustainable Seneca brand
- engage in strategic planning related to Sustainable Seneca brand development, events, and education

One way in which these objectives can be achieved is by creating a "Sustainability 101" program for all new hires at Seneca, and potentially for students as well (students-at-large and student residents). Another way in which a large number of individuals can be educated in energy awareness and sustainable living is through the further development of a newly created Residence Sustainability Committee at Newnham Campus. This committee has already determined a set of priority areas to address, including energy conservation and waste reduction. Students in residence can be engaged through workshops, training sessions, education campaigns and competitions run by the committee and led by the Sustainability Supervisor.

New Buildings and Major Renovations

The Canadian Green Building Council (CaGBC) created the Leadership in Energy and Environmental Design (LEED) certification system to provide third-party verification that a building was designed to reduce energy and water consumption, reduce greenhouse gas emissions, improve indoor environmental quality, and source environmentally-friendly building materials. Seneca has made a commitment to achieve a minimum of LEED Gold Certification on all new construction and major renovations.

In 2018 and 2019, Seneca completed the construction of two new state-of-the-art facilities that achieved LEED Gold: Magna Hall at King Campus and the Centre for Innovation, Technology and Entrepreneurship (CITE) at Newnham Campus.

As new technologies emerge and costs are reduced, Seneca will evaluate exceeding these standards with the goal of constructing future facilities to the Passive House Standard or achieving Net Zero Energy facilities.

Energy Conservation Targets and Action Plan

Seneca is committed to achieving the following energy conservation targets:

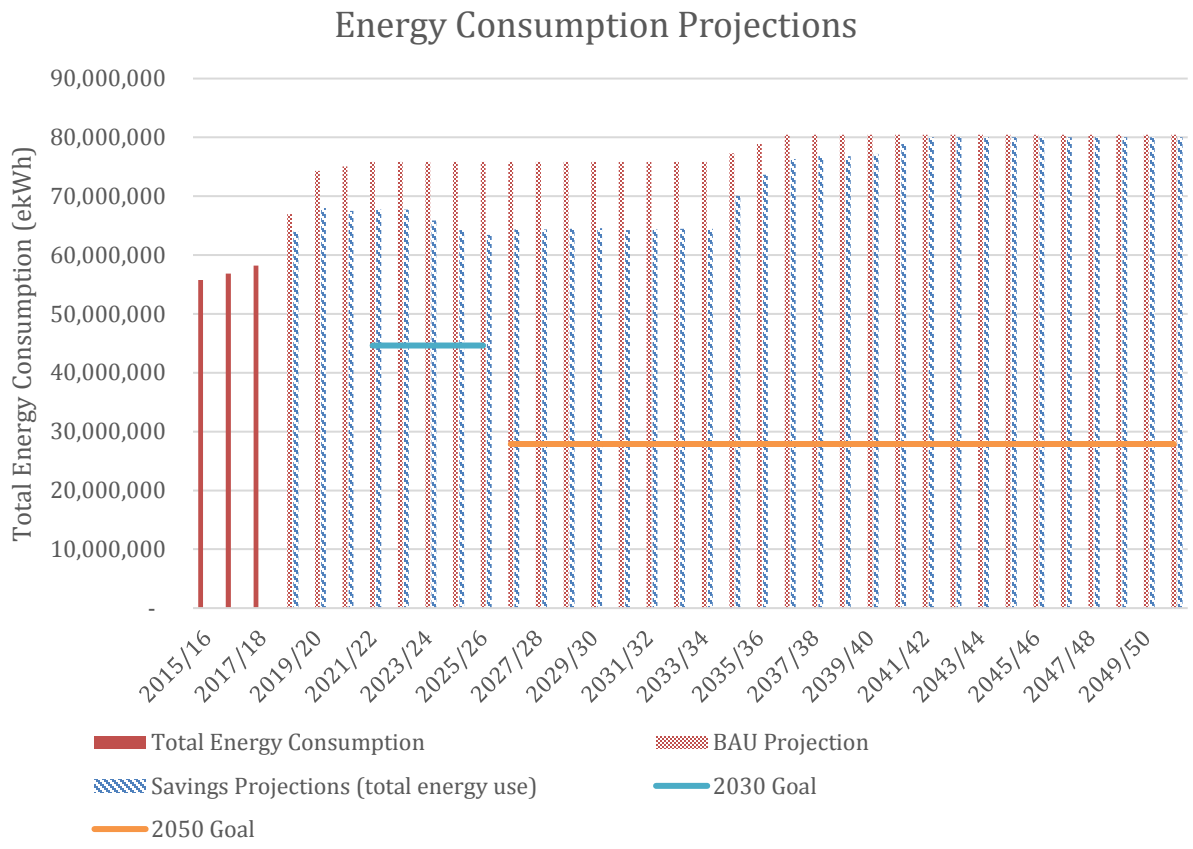
Table 7. Energy and Water Conservation Targets

Description	Target/Notes
Energy	• Reduce total energy use by 20% by 2030 using 2015-16 baseline • Reduce total energy use by 50% by 2050 using 2015-16 baseline Metric: ekWh/ft^2
Greenhouse Gas Emissions	• Reduce Scope 1 & 2 CO_2 emissions by 20% by 2030 using 2015-16 baseline • Reduce Scope 1 & 2 CO_2 emissions by 50% by 2050 using 2015-16 baseline Metric: tCO_2/ft^2
Water	• Reduce total water use per full-time student equivalent (FTE) by 30% by 2030 using 2015-16 baseline • Reduce total water use per FTE by 50% by 2050 using 2015-16 baseline Metric: water use m^3/FTE

Action Plan

Energy Conservation Measures (ECM) are required to achieve the energy/GHG targets as identified by Seneca. The following figure shows the anticipated “business as usual” energy consumption and the effect of impementing the ECMs identified for each campus.

Figure 5. Energy consumption projections, and effects of implementing ECMs



The table above shows that the identified ECMs will allow Seneca to reach its 2030 energy reduction targets, but fall short of the 2050 target. Therefore, a more aggressive plan needs to be developed in order to achieve the 2050 target. Seneca anticipates that by completing the integrated asset management plan in 2020, it will identify new opportunities to achieve the energy reduction targets identifed in the CDM plan. It is important to note that the action plan will evolve as new opportunities are identified and new technologies emerge.

The following table displays the ECMs Seneca can undertake in order to begin targeting the 2030 and 2050 GHG/energy consumption goals.

Table 8. Action Plan

ECM ID	Description	Campus	Fuel Type	Project Type	Electricity (kWh)	Natural Gas (m3)	Steam (lbs)	Energy (ekWh)	Annual Cost Savings	Implementation Cost	Completion Date	Persistence
KG-1	GH building sealing	King	All	Envelope	114,234	18,334	0	305,156	$0	$0	2020/21	15
KG-2	Lighting upgrades	King	Electricity	Lighting	59,000	0	0	59,000	$50,000	$35,000	2018/19	15
KG-3	Geo-exchange phase 1	King	NG	HVAC	0	165,007	0	1,718,299	$50,000	$6,000,000	2018/19	20
KG-4	Lighting upgrades (exterior)	King	Electricity	Lighting	TBD	0	0	TBD	TBD	TBD	2020/21	15
KG-5	Lighitng upgrades (Garriock)	King	Electricity	Lighting	TBD	0	0	TBD	TBD	TBD		15
MK-1	LED lighting retrofit	MK	Electricity	Lighting	410,000	0	0	410,000	$42,500	$100,000	2023/24	15
MK-2	Boiler replacement	MK	NG	HVAC	0	13,800	0	143,706	$4,200	$250,000	2023/24	15
MK-3	Heat recovery on MUA	MK	NG	HVAC	0	55,500	0	577,949	$17,000	$30,000	2023/24	10
MK-4	VFDs on fans and pumps	MK	Electricity	Motors	825,000	0	0	825,000	$65,000	$120,000	2023/24	10
NH-1	Energy Audit	NH	N/A	Study	0	0	0	0	$0	$87,000	2017/18	0
NH-2	LED Lighting Retrofit	NH	Electricity	Lighting	2,549,634	0	0	2,549,634	$385,000	$1,500,000	2020/21	15
NH-3	Energy Dashboard	NH	All	Engagement	0	0	0	0	$0	$100,000	2018/19	0
NH-4	City of Toronto SSR Program	NH	Water	Water	0	0	0	0	$45,000	$0	2017/18	0
NH-5	Computer Scheduling	NH	Electricity	Controls	214,000	0	0	214,000	$25,680	$0	2018/19	5
NH-6	Cogged fan belt	NH	Electricity	Motors	60,535	0	0	60,535	$8,519	$6,450	2021/22	10
NH-7	Ice plant controls	NH	Electricity	Controls	95,901	0	0	95,901	$12,983	$50,000	2020/21	5
NH-8	Functional testing	NH	Electricity	Controls	576,200	34,300	0	933,383	$82,979	$209,227	2020/21	5
NH-9	Boiler replacement	NH	NG	HVAC	0	32,000	0	333,232	$14,400	$17,500	2018/19	15
NH-10	Rooftop unit replacement	NH	Electricity	HVAC	64,751	1,500	0	80,371	$16,801	$540,000	2018/19	10
NH-11	Demand ventilation	NH	All	HVAC	68,960	151,830	0	1,650,042	$73,579	$500,000	2020/21	10
NHR-1	MUA supply fan VFD	NH	Electricity	Motors	135,191	48,631	0	641,610	$26,980	$150,295	2025/26	10
NHR-2	Power factor correction	NH	Electricity		0	0	0	0	$4,640	$40,000	2020/21	5
NHR-3	Variable flow hot water heating pumps	NH	Electricity	Motors	31,372	0	0	31,372	$3,550	$18,030	2023/24	10
NHR-4	Chiller compressor VFD	NH	Electricity	Motors	107,516	0	0	107,516	$12,180	$150,000	2025/26	10
NHR-5	Cooling tower fan VFD	NH	Electricity	Motors	43,355	0	0	43,355	$4,910	$26,600	2025/26	10
NHR-6	Reduce Oasis MUA OA damper to 5%	NH	Electricity	Controls	1,135	0	0	1,135	$2,430	$100	2019/20	5
NHR-7	Lighting control upgrades	NH	Electricity	Lighting	25,200	0	0	25,200	$2,850	$15,450	2022/23	10
NHR-8	Upgrade BAS	NH	Electricity	Controls	34,585	0	0	34,585	$11,500	$110,700	2023/24	10
NHR-9	Complete air sealing, insulation and window/door replacement	NH	NG	Envelope	0	108,000	0	1,124,658	$25,920	$3,300,480	2025/26	15
SEQ-1	Lighting retrofits (including controls)	SEQ	Electricity	Lighting	479,939	0	0	479,939	$67,314	$696,908	2021/22	15
SEQ-2	Steam trap insulation	SEQ	Steam	HVAC	0	0	190,000	65,972	$2,982	$13,523	2019/20	10
SEQ-3	AHU VIV to VSD	SEQ	Electricity	Motors	135,761	0	0	135,761	$16,590	$323,327	2018/19	10
SEQ-4	BAS recommissioning	SEQ	Electricity	Controls	51,389	0	202,000	121,528	$0	$82,500	2019/20	5
SEQ-5	Chiller plant control optimization	SEQ	Electricity	Controls	296,603	0	0	296,603	$36,377	$66,555	2019/20	5
SEQ-6	Envelope sealing	SEQ	Electricity	Envelope	8,042	0	58,000	28,181	$1,889	$22,000	2023/24	15
SEQ-7	Solar net metering	SEQ	Electricity		418,993	0	0	418,993	$64,752	$1,528,000	2030/31	30
SEQ-8	Computer power management	SEQ	Electricity	Controls	405,298	0	0	405,298	$49,161	$5,500	2019/20	5

YPQ-1	Lighting upgrade	YPQ	Electricity	Lighting	TBD	0	0	TBD	TBD	TBD	2025/26	15
YPQ-2	BAS upgrade	YPQ	All	Controls	TBD	0	0	TBD	TBD	TBD	2019/20	15
KGR-1	Building sealing	King	All	Envelope	TBD	0	0	TBD	TBD	TBD	2018/19	30
KGR-2	Lighting (interior)	King	Electricity	Lighting		0	0	TBD	TBD	TBD	2019/20	15