Energy Conservation and Demand Management Plan

June 24th, 2024

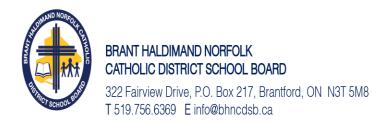


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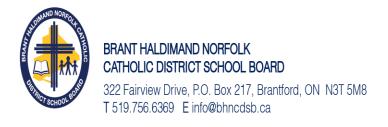
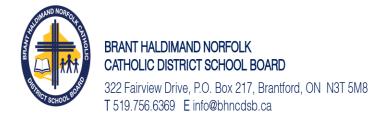


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Education Sector Background

Funding and Energy Management Planning

Each year school boards receive approximately \$1.4 billion school renewal funding from the province. In addition, school boards may receive time-limited funds over this period.

The Ministry typically announces each Board's funding allocations, for the upcoming school board Fiscal Year (September 1st to August 31st), in March-April.

While a board may have a five-year energy management strategy, the ability to implement their strategy depends on the funding that's received for each of the five years covered by their plan.

Asset Portfolios and Energy Management Planning

The education sector is unique in that a board's asset portfolio can experience important changes that crucially impact a board's energy consumption over a five-year period.

The following is a list of some of the most common variables and metrics that change in the education sector.

Facility Variables:

Construction

- Year built
- Number of floors
- Orientation of the building

Building Area

- a. Major additions
- b. Sites sold/closed/demolished/leased
- c. Portables
 - i. Installed
 - ii. Removed
 - iii. Areas under cons

Type of technology

Lifecycle

Percentage of air-conditioned space BRANT HALDIMAND NORFOLK CATHOLIC DISTRICT SCHOOL BOARD

Site Use

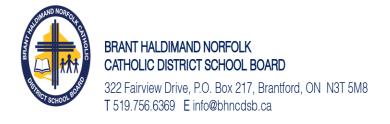
- d. Elementary school
- e. Secondary school
- f. Administrative building
- g. Maintenance/warehouse facility
- h. Community Hubs

Shared Site Use (For example: two or more boards share common areas and/or partnered with a municipality)

- i. Swimming pools
- j. Libraries
- k. Lighted sports fields
- I. Sports domes

Other Variables:

- Programs
 - o Childcare
 - Before/After School Programs
 - Summer School
 - o Community Use
 - Outdoor ice rinks
- Occupancy
 - Significant increase or decrease in number of students
 - Significant increase in the hours of operation
 - New programs being added to a site
- Air Conditioning
 - Significant increase in air-conditioned space
 - Portables



PART I: A REVIEW OF PROGRESS & ACHIEVEMENTS in the PAST FIVE YEARS

A. The Board's Asset Portfolio

The following table outlines the energy-related variables and metrics in the Board's asset portfolio that changed from the baseline Fiscal Year 2017 to 2018 to the end of the five-year reporting period Fiscal Year 2022 to 2023.

Table 1: Board's Asset Portfolio

Key Metrics	(Baseline Year) Fiscal Year 2017 to 2018	Fiscal Year 2022 to 2023	Variance
Total Number of Buildings	39	39	0
Total Number of Portables/Portapaks	105	106	6
Total Floor Area (ft2)	1,478,435.13	1,454,881.13	23,554
Average Operating Hours	58	60	2
Average Daily Enrolment	9700	11142	1442
% of Total Floor Area Air Conditioned	92	92	0
Number of Facilities with Mechanical Ventilation	39	39	0

B. Energy Usage Data for the Board

The following table lists the "metered" consumption values in the common unit of Equivalent Kilowatt Hours (ekWh) and Kilowatt Hours (kWh).

Table 2: Metered Usage Values

Utility	Fiscal Year 2017 to 2018 (Baseline year)	Fiscal Year 2022 to 2023	
Total Electricity (kWh)	11,545,459	10,369,859	

¹ Metered consumption is the quantity of energy used and does not include a loss adjustment value (the quantity of energy lost in transmission).



Utility	Fiscal Year 2017 to 2018 (Baseline year)	Fiscal Year 2022 to 2023
Total Natural Gas (ekWh)	12,947,403	10,026,890
Total Heating Fuel (Type 1 and 2) (ekWh)	0	0
Total Heating Fuel (Type 4 and 6) (ekWh)	0	0
Total Propane (ekWh)	0	0
Total District Heat (ekWh)	0	0
Total District Cool (ekWh)	0	0

C. Weather Normalized Energy Consumption Values

In Ontario, 25% to 35% of energy consumption for a facility is affected by weather.

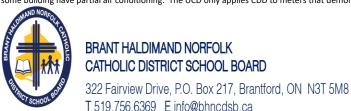
To demonstrate the effect of weather, the following table shows the Weighted Average Heating Degree Days (HDD)² and Cooling Degree Days (CDD)³ for the six most *c*ommon Environment Canada weather stations in the Ontario education sector.

Table 3: Ontario Degree-days

Ontario	Fiscal Year					
Degree	2017 to	2018 to	2019 to	2020 to	2021 to	2022 to
Days	2018	2019	2020	2021	2022	2023
HDD	3989	4196	3837	3696	3799	3,611
CDD	432	334	415	392	340	267

The best way to compare energy usage values from one year to another is to use weather normalized values as they take into consideration the impact of weather on energy performance and allows an "apple-to-apple" comparison of consumption across multiple years.

³ Cooling Degree Day (CDD) is a measure used to quantify the impact of hot weather on energy use. In the data above, CDD are the number of degrees that a day's average temperature is above 18C, the temperature at which most buildings need to be cooled. It should be noted that not all buildings have air conditioning and some building have partial air conditioning. The UCD only applies CDD to meters that demonstrate an increase in consumption due to air conditioning.t



² Heating Degree Day (HDD) is a measure used to quantify the impact of cold weather on energy use. In the data above, HDD are the number of degrees that a day's average temperature is below 18C (the balance point), the temperature at which most buildings need to be heated.

However, a straight comparison of Total Energy Consumed between one or more years does not take into consideration changes in a board's asset portfolio, such as changes in buildings' features (refer to the Facility Variables listed on pages 5 and 6), and newly implemented programs (refer to the Note to Readers on pages 10-12) which will greatly impact energy consumption.

As a result, weather normalized Energy Intensity⁴ is the most accurate measurement that allows the evaluation of a board's energy use from one year to another as it cancels out any change in floor area. The unit of measurement used is either equivalent kilowatt hours per square foot (ekWh/ft2) or equivalent kilowatt hours per square metre (ekWh/ft2).

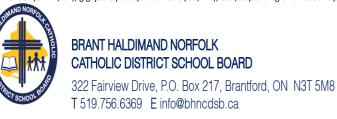
Table 4: Weather Normalized Values

	Fiscal Year 2017 to	Fiscal Year 2022 to
Weather Normalized Values	2018	2023 (Most Recent
	(Baseline Year)	Data Available)
Total Energy Consumed (ekWh)	23,555,804	20,100,756
Energy Intensity (eKWh/ft2)	15.93	13.82

D. Review of Previous Energy Conservation Goals and Achievements

In 2019, the Board set annual energy conservation goals for the following five fiscal years. The following table compares the Energy Intensity Conservation Goal with the Actual Energy Intensity Reduced for each year.

⁴ Energy Intensity (known as EI) is the quantity of total energy consumed divided by the total floor area. EI is typically expressed as equivalent kilowatt hours per square foot (ekWh/ft2), gigajoule per square metre (GJ /m2), etc., depending on the user's preference.



<u>Table 5: Comparison of Energy Intensity Conservation Goal and Actual Energy Intensity</u>

Reduced

Fiscal Year	Conservatio n Goal ekWh/ft2	Conservation Goal Percentage	Actual Energy Savings ekWh/ft2	Actual Energy Percentag e
2018 to 2019	16.26	0	2.58	16.19
2019 to 2020	14.54	0	-0.99	-7.44
2020 to 2021	14.92	0	-0.04	-0.31
2021- 2022	15.45	0	-0.27	-1.9
2022 to 2023	14.02	0	0.85	5.78

NOTE TO READERS:

When reviewing annual Actual Energy Savings and Actual Energy Percentage across the five (5) years in the chart above, the following should be considered:

- Conservation goals in the above chart were forecast in Spring 2019 based on the assumption that operational parameters would remain consistent from FY2019 through FY2023. However, the pandemic that arrived in early 2020, significantly changed how schools operated and impacted their energy consumption.
- As a result of significant operational changes from one year to the next from FY2019 to FY2023, an apple-to-apple comparison of Energy Intensity (ekWh/ft² the quantity of energy consumed per area) is not possible.

Factors that reduced energy consumption include:

- o temporary school closures in FY2020 and FY2021, due to the pandemic
 - boards with centralized Building Automation Systems (BAS) that could be remotely programed to "unoccupied set points", should show a reduction in consumption



- temporary suspension of community use of schools, before/after school programs, childcare programs, continuing education and summer school programs
 - for schools with these programs, the number of "occupied set point" operating hours would be significantly reduced

Factors that increased consumption include:

- Implementation of new health and safety factors in FY2021 through FY2023 to address pandemic issues, such as:
 - increased ventilation (intake of fresh air),
 - increased filtration requirements
 - expanded operating hours of HVAC equipment.

A board's ability to achieve their 2019 forecasted Conservation Goals may be limited by some or all the above factors.

In addition to the pandemic-related factors outlined above, there are several other factors that regularly impact a board's ability to achieve their conservation goals, including:

Before and After School Programs

Before-School and After-School Programs need a facility's Heating, Ventilation, and Air Conditioning (also known as HVAC) system to operate for an extended period of time on a daily basis, which increases the overall energy intensity.

Community Use of Schools

Both indoor and outdoor school space is available to not-for-profit community groups at reduced rates, outside of regular school hours. The use of spaces in schools, typically gymnasiums and libraries, has increased over time. The use of these spaces during non-school hours requires a facility's HVAC system to operate for an extended period on a daily basis, which will increase the overall energy intensity.

Community Hubs

Many schools now offer a greater range of:



events (cultural),

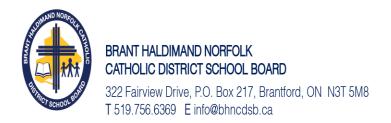
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- programs (arts, recreation, childcare), and
- services (health, family resource centres).

The dramatic increase in community use means that many schools now run from 6:00 a.m. until 11:00 p.m. during weekdays and are open many times on weekends. The use of these spaces during non-school hours requires a facility's HVAC system to operate for an extended period on a daily basis, which will increase the overall energy intensity.

Air Conditioning

Historically, schools have not had air conditioning, or it has been a minimal space in the facility. However, with changing weather patterns, "shoulder seasons" such as May, June and September are experiencing higher than normal temperatures and there is an increased desire for schools to have air conditioning. Air conditioning significantly increases a facility's energy use, specifically electricity consumption.



BHNCDSB aims to abide by the High Temperature Guidelines, outlined by the Ministry of Education, under the Education Act of Ontario. All heating and cooling set points controlled throughout the board meet the "Comfortable Criteria" outlined in the figure 1.1 below.

AWARENESS INITIATIVES		PREVENTION MEASURES		REACTIVE MEASURES	
Employer Representatives	Provide information to supervisors and workers to recognize factors which		Encourage the use of mechanical or other specialized equipment to reduce		Provide scheduled daily access to cooler areas in the building when
	may increase the risk of developing a heat related illness and the signs and				
(Designated School Board Staff)	symptoms of heat stress		physical demands of work related tasks		possible
	Monitor of environmental conditions (including humidex) and the		Maintain insulating and reflective barriers which are designed to control		Review schedules for individuals exposed to high temperature conditions
	possibility of heat stress related illness, especially during the first week of		_		
	elevated temperatures while individuals are acclimatizing		the heat at its source (e.g. insulated furnace walls)		and increase the frequency and or length of rest breaks when possible
Supervisor Representatives	Ensure that trained First Aid providers are available to respond to heat		Maintain and maximize the use of existing equipment which is designed to	(Principals, Vice-Principals,	
(Principals, Vice-Principals,	related illnesses throughout periods during which heat stress related	Employer Representatives	exhaust hot air and humidity from occupied areas		Schedule strenuous jobs to be done during cooler times of the day
Designates, Supervisors)	illness is likely to occur	(Designated School Board Staff)			
besignates, supervisors)	Develop a clear and concise hot weather action plan which includes		Maintain and monitor the effectiveness of equipment designed to reduce		Ensure that education workers have access to cooler areas of the building
	outdoor activities		the temperature and humidity through air cooling		to take their scheduled breaks where possible
	Communicate heat stress related information and recommendations to all		Maximize the efficiency of building automation systems (BAS) to regulate		Investigate and follow-up on any high temperature related incidents which
	workers		indoor air temperatures during periods of extreme heat		are reported or observed
Worker Members	Acknowledge and promote information in regards to key factors which		Consider American Society of Heating, Refrigerating and Air-Conditioning		Consult with employer representatives and Public Health Unit
(Education workers)	may increase the risk of developing a heat related illness and the signs and		(ASHRAE) standards as it pertains to ventilation based on occupancy levels		representatives for additional advice as required
(Coocation workers)	symptoms of heat stress		and air exchange requirements		· ·
			Provide access to cool, shaded work areas in the building if practical and		Use available ventilation equipment to increase air movement if the
			safe to do so		indoor temperature is below 35°C
		Committee Description	Assess the physical demands of work related tasks and confirm reasonable		Turn off or limit the use of heat generating equipment and appliances if
		Supervisor Representatives	monitoring and control strategies to implement during high temperature		safe and practical to do so
Joint Health and Safety Comittee	Review information provided in regards to high temperature guidelines	(Principals, Vice-Principals,	periods		
Members	and make recommendations	Designates, Supervisors)	Consider additional controls to prevent exposure to high temperatures		Where mechanical cooling is not possible, open interior doors and
			which may be required for vulnerable individuals such as education		perimeter windows to increase the exchange of fresh air (when exterior
			workers and students with special needs or medical conditions		temperatures are cooler)
		Joint Health and Safety Committee	mote discussions, recomendations and relevant information to all		,
		Members	education workers		Consume enough potable water to stay hydrated
TEMPERATURE RANGE		DECREES OF COMPORT			Be conscious of medications side effects and avoid beverages which
INCLUDING HUMIDEX		DEGREES OF COMFORT			contain sugars and caffeine as this may contribute to dehydration
INCLUDING HUMIDEX					
			A temperature range in which most individuals are	Worker Members	Avoid exposure to direct sunlight, especially during high heat periods of
					the day
19-24	Comfortable			(Education workers)	'
1521	Comortable		comfortable	(Eddesion Workers)	Consider wearing light and breathable clothing and avoiding clothing
					fabricated with synthetic fabric which may limit the cooling of the body
					Tableaced with synthetic labile which may limit the cooling of the body
					Wear light-coloured clothing (preferably a long-sleeve shirt and pants) and
26.24	Some discomfort		Comparing the distribution of the comparing of the compar		cover the head to prevent exposure to direct sunlight when outdoors
26-34	Some discomfort		Some individuals may experience discomfort		
					For very hot environments, consider air, water or ice-cooled insulated
					clothing
			Most individuals will experience high levels of		Consider wearing reflective clothing when working in areas with high
					radiant heat sources
35-44	Great discomfort		discomfort (initiate hot weather action plan and		
			avoid exertion)		Be aware of risks related to the use of vapour-barrier clothing (i.e.
			avoiu exerción)		chemical protective clothing) as this may limit cooling of the body
					Review incident details (if any) and compare to policies procedures and
45 and above	HEALTH	RELATED HINESS LIKELY TO	O OCCUR	Joint Health and Safety Committee	Review incident details (if any) and compare to policies, procedures and
45 and above	HEALTH	RELATED ILLNESS LIKELY TO	O OCCUR	Joint Health and Safety Committee Members	Review incident details (if any) and compare to policies, procedures and awareness initiatives in place. Make recommendations in order to prevent reoccurrence where possible

Where the capacity exists, the board will manage, monitor and control to standard heating, cooling and ventilation setpoints. The setpoints are outlined in the table below.

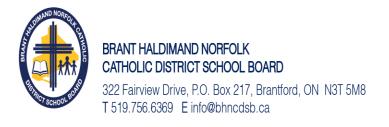


Table 6: Thermal Comfort & Ventilation Guidelines

Set Point Type	Heating (ºC)	Cooling
		(ºC)
Occupied Temp	21	23
Unoccupied	18	28
Temp		
CO ² PPM	1000	1000
Ventilation	ASHRAE 62.1 STDS	
(CFM)		

Compliance with current Ontario Building Code (also known as OBC)

When renovations or an addition is built onto an existing school, in-place equipment such as HVAC systems, lighting etc., may be required to meet current OBC standards which may result in increased energy use.

For example, under the OBC, buildings built today have increased ventilation requirements, meaning more outside air is brought into a facility. As a result, HVAC systems need to work longer to heat or cool the outdoor air to bring it to the same temperature as the standard indoor temperature for the building.

Pandemic

When reviewing year-over-year value, it should be noted that FY2020 values will be lower as schools were closed due to the pandemic (March 2020 until June 2020). During that time, the sector saw a decrease of 16% in electricity consumption and 3% in natural gas consumption. The difference in the percentage for the two utilities, reflects that natural gas is primarily used for heating and April, May and June do not have the same heating demands due to weather.

In FY2021 consumption values were typically higher than FY2020, but due to limited occupancy as a result of the ongoing pandemic, lower than previous consumption levels.

Ventilation and Filtration

In consultation with the Office of the Chief Medical Officer of Health, the Ministry of Labour, Immigration, Training and Skills Development and others, school boards have been expected continue to build on established practices to optimize air quality to support healthy and safe learning environments for students and staff.

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Many of these new recommendations/requirements can impact utility consumption. For instance, the implementation of standalone HEPA filtration units has impacted energy consumption, primarily electricity.

E. <u>Cumulative Energy Conservation Goal</u>

The following table compares the 2019 Forecasted Cumulative Energy Intensity Conservation Goal with the Actual Cumulative Energy Intensity Reduced Savings.

Table 6: Cumulative Energy Intensity Goal from Fiscal Year 2018 to 2019 through Fiscal Year 2022 to 2023

Cumulative Energy Intensity	ekWh/ft 2
Forecasted Cumulative Energy Intensity Conservation Goal of Fiscal Year 2018 to 2019 through Fiscal Year 2022 to 2023	0
https://www1.bhncdsb.ca/wp-content/uploads/BHNCDSB_Files/Reports/Facility%20Reports/2019-24%20Energy%20Conservation%20and%20Demand%20Management%20Plan.pd f	
Forecasted Cumulative Energy Intensity Conservation Goal as a Percentage https://www1.bhncdsb.ca/wp-content/uploads/BHNCDSB_Files/Reports/Facility%20Reports/2019-24%20Energy%20Conservation%20and%20Demand%20Management%20Plan.pd f	0%
Actual Cumulative Energy Intensity Reduced or Increased from Fiscal Year 2018 to 2019 through Fiscal Year 2022 to 2023 – Weather Normalized	2.12
Variance between 2019 Forecast Cumulative Conservation Goal and Actual Cumulative Energy Intensity— Weather Normalized	2.12
% of Cumulative Energy Intensity Conservation Goal Achieved - Weather Normalized	2.77%



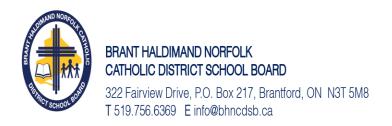
F. Measures Implemented from Fiscal Year 2018 to 2019 to Fiscal Year 2022 to 2023

A list of the measures implemented, the related costs, and the fiscal year that the measure was implemented within the Board are outlined in **Appendix: Investments in Energy Efficiency between Fiscal Year 2019 and Fiscal Year 2023.** Here is the list of sheets:

- 1) Design, Construction and Retrofit Investments
- 2) Operations and Maintenance Investments
- 3) Occupant Behaviour Investments
- 4) Summary of All Investment Types

NOTE TO READERS:

Important Consideration - It takes a minimum of one full year after an energy management strategy has been implemented before an evaluation can measure the related actual energy savings achieved.



PART II – ENERGY CONSERVATION and DEMAND MANAGEMENT PLAN for FISCAL YEAR 2022 to 2023 to FISCAL YEAR 2027 to 2028

Part II outlines the board's plan to reduce energy consumption through renewable energy and energy management strategies including:

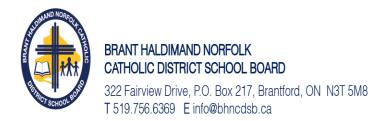
- 1. Design, Construction and Retrofit;
- 2. Operations and Maintenance; and lastly
- 3. Occupant Behavior.

Background

- 1. To date the Board's energy management strategy has included the following: (Prose box: Board to insert text regarding philosophy)
- 2. The Board has an energy management position which includes the following options.
 - ☑ In-house including:
 - a. Full time
 - b. Part time
 - c. Shared job function
 - ☐ Contracted third party, or
 - ☐ None
- 3. Energy Management Strategies

Energy management strategies fall into four key categories:

- 1. Design/Construction/Retrofit
- 2. Operations and Maintenance
- 3. Occupant Behaviour



Design/Construction/Retrofit

Definition

Design, construction, and retrofit includes the original and ongoing intent of how a building and its systems are to work through the combination of disciplines such as architecture and engineering.

For the Board's relevant projects over the next five years, please refer to Calculating Energy Conservation Goals Fiscal Year 2023 to 2024 to Fiscal Year 2027 to 2028, Appendix B: Design, Construction, and Retrofit.

Operations and Maintenance

Definition

Operations and maintenance include the strategies the Board uses to make sure that the existing buildings and equipment performs at maximum efficiency. For the Board's relevant projects over the next five years, please refer to Calculating Energy Conservation Goals Fiscal Year 2023 to 2024 to Fiscal Year 2027 to 2028, Appendix C: Operations and Maintenance.

Occupant Behaviour

Definition

Strategies that the Board uses to teach occupants, including staff, students and community users, with an emphasis on changing specific actions to reduce energy consumption. For the Board's relevant projects over the next five years, please refer to Calculating Energy Conservation Goals Fiscal Year 2023 to 2024 to Fiscal Year 2027 to 2028, Appendix D: Occupant Behaviour.

A. Future Energy Conservation Goals

The Board has set out the following energy intensity reduction conservation goals for the next five fiscal years.

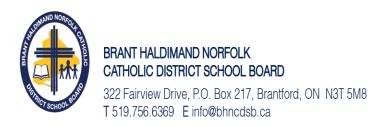


Table 7: Annual Energy Intensity Conservation Goals

Annual Energy	Fiscal Year				
Intensity Conservation	2023 to	2024 to	2025 to	2026 to	2027 to
Goal	2024	2024 2025		2027	2028
ekW/ft²	13.28	14.05	13.73	14.08	10.35
Percentage Decrease	-1.5%	-1.5%	-1.5%	-1.5%	-1.5%

Table 8: Cumulative Conservation Goal

Cumulative Conservation Goal	Fiscal Year 2023 to 2024 through Fiscal Year 2027 to 2028
ekWh/ft²	10.35
Percentage Decrease	-7.5%

B. Environmental Programs

In Fiscal Year 2022 to 2023, schools within the Board participated in environmental programs.

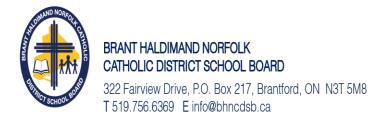
- 1. Eco Schools:
 - <u>5</u> number of schools participate
- 2. Earth Care Schools:

0 number of schools participate

C. Energy Efficiency Incentives

1. The Board applies to incentive programs to support the implementation of energy efficient projects on a regular basis.

If yes, between Fiscal Year 2018 to 2019 and Fiscal Year 2022 to 2023, the Board has applied for approximately \$50,000 in incentive funding from different agencies to support the implementation of energy efficient projects.



	2.	The Board uses external resources, such as IESO Service Representatives and / or Enbridge Service Representatives, to apply for incentives. ☑ Yes □ No
		☑ IESO Service Representative
		☑ Enbridge Service Representative
D.	Energy	<u>y Procurement</u>
	1.	The Board participates in a consortia arrangement to purchase electricity. $\hfill \boxtimes$ Yes $\hfill \square$ No
	If y	es,
		☐ OECM's Strategic Electricity Management and Advisory Services
	2.	The Board participates in a consortia arrangement to purchase natural gas. ☑ Yes □ No
	If y	es,
		 ☑ Ontario Education Collaborative Marketplace's (also known as OECM) Natural Gas Management and Advisory Services ☐ Catholic School Board Services Association (also known as CSBSA) Natural Gas Management and Advisory Services

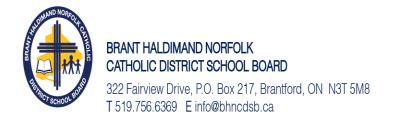
E. Demand Management

1. The Board uses the following method(s) to monitor electrical Demand:



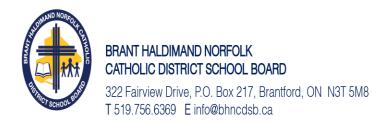
BRANT HALDIMAND NORFOLK CATHOLIC DISTRICT SCHOOL BOARD

		Invoices
	\boxtimes	Real-time data
	\boxtimes	Online data from the Local Distribution Company (LDC)
2.	The Board use	es the following methodologies to cut down electrical Demand: Equipment scheduling Phased/staged use of equipment Demand-limit equipment Deferred start-up of large equipment (e.g. chiller start-up in spring)
F.	Senior Manag Plan	gement Approval of this Energy Conservation and Demand Management
		(insert Board's name) senior management has reviewed and approved onservation and Demand Management Plan.
	Full Name:	Lou Citino
	Job Title:	Manger Of Facilities and Construction
	Date:	2024-06-24



Appendix B: Calculating Energy Conservation Goals FY2024-FY2028

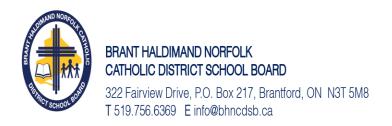
Design, Construction and Retrofit



Design, Construction and Retrofit Strategies

Г		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028 2023/2024-2027/2028			
Lighting	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Saving (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)	Energy Per	
h Efficiency Lighting Systems \$,	٠		500.000	784.929	\$ 500.000	784,929	500.000	784,929	4.709.576		
door Lighting Systems \$	s -		s -		50,000	85.852	\$ 100,000	171,703	\$ 25.000	42,926	643.887		
upancy Sensors \$	S -		S -		15,000	20,604	\$ 15,000	20,604	\$ 15,000	20,604	123,626		
er (Describe) \$	\$ -		s -	- 9		-	\$ -	- 9	-				
-		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028	1	
H.V.A.C.	Estimated Cost of	Estimated Annual Energy Savings from all projects	Estimated Cost of	Estimated Annual Energy Savings from all projects	Estimated Cost of	Estimated Annual Energy Savings from all projects	Estimated Cost of	Estimated Annual Energy Savings from all projects	Estimated Cost of	Estimated Annual Energy Savings from all projects	Estimated Total Accumulated Energy Savings	Energy	
ent Boilers (near condensing) \$	Implementation	(ekWh)	Implementation	(ekWh)	Implementation	(ekWh)	Implementation	(ekWh)	Implementation	(ekWh)	(ekWh)	Pe	
efficiency Boilers (condensing) \$			9 -	- 1	<u> </u>		•		1.500.000	4,130,240	4,130,240		
efficiency Boiler Burners \$	9		9		-		•		1,300,000	4,130,240	4,130,240		
nermal S	s -		s -				\$ -						
Recovery/Enthalpy Wheels \$	s .		9		-		•						
omizers S	8		e										
av Efficient HVAC systems \$	\$ 200.000	25,318	-		-				\$ 750,000	94,944	221.537		
gy Efficient Rooftop Units \$	\$ 200,000	20,510	\$ 1,200,000	379,777	600,000	189,888	9		130,000	54,544	2,088,773		
Efficiency Domestic Hot Water \$	\$.		9	010,777	500,000	100,000					2,000,110		
ent Chillers and Controls \$	\$.		\$ 650,000	35,714			٠.				142,857		
efficiency Motors \$	s .		\$.	30,714	-		•				142,001		
S S	š .		9		40,000	55,686	\$ 40,000	55,686	\$ 40,000	55,686	334,116		
and Ventilation \$	s -		s -	. 5		-	\$ -	- 1	40,000	-			
	s -		s .	. 9			\$ -						
atification Fans \$	\$ -		\$ -	. 5	-		\$ -		-				
r (Describe) \$	\$ -		s -	- 9	-	-	\$ -	- 9	š -				
-								-					
									2027-2028		2023/2024-2027/2028		
		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028		
Controls	Estimated Cost of Implementation	2023-2024 Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	2024-2025 Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	2025-2026 Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	2026-2027 Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	2027-2028 Estimated Annual Energy Savings from all projects (ekWh)	2023/2024-2027/2028 Estimated Total Accumulated Energy Savings (ekWh)	Energy P	
		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects	Estimated Total Accumulated Energy Savings		
ng Automation Systems - New \$		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects		Estimated Annual Energy Savings from all projects	Estimated Cost of Implementation 5 - 50,000	Estimated Annual Energy Savings from all projects	Estimated Total Accumulated Energy Savings		
ng Automation Systems - New \$ ng Automation Systems - Upgrade \$ time energy data for operators to identify \$		Estimated Annual Energy Savings from all projects	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
ling Automation Systems - New \$ ling Automation Systems - Upgrade \$ lime energy data for operators to identify \$ diagnose building issues \$		Estimated Annual Energy Savings from all projects	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
ing Automation Systems - New \$ ing Automation Systems - Upgrade \$ time energy data for operators to identify \$ lagnose building issues ge Harmonizers \$		Estimated Annual Energy Savings from all projects	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
ing Automation Systems - New Sing Automation Systems - Upgrade Sitme energy data for operators to identify sitagenose building issues ge Harmonizers Single Harmonizers Single Harmonizers		Estimated Annual Energy Savings from all projects	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
ding Automation Systems - New Sign Automation Systems - Upgrade Systems - New York Systems - New		Estimated Annual Energy Savings from all projects	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)		
ing Automation Systems - New \$ ing Automation Systems - Upgrade \$ time energy data for operators to identify \$ lagnose building issues ge Harmonizers \$	Implementation \$ - \$ - \$ - \$ - \$ - \$ Estimated Cost of	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000	Estimated Annual Energy Savings from all projects (ekWh) 18,989	Implementation \$ - \$ 120,000 \$ \$. \$. \$. \$. \$. \$. \$. \$. \$	Estimated Annual Energy Savings from all projects (esWh) 75.065 6 2026-2027 Estimated Annual Energy Savings from all projects	Implementation 5 - 5 50,000 5 - 5 - 5 - 5 - 5 -	Estimated Annual Energy Savings from all projects (eXWh) 31,648	Estimated Total Accumulated Energy Savings (ekWh) 265,844	Energ	
ing Automation Systems - New Sing Automation Systems - Upgrade Sime energy data for operators to identify diagnose building issues ge Harmonizers S (Describe) S	Implementation \$ - \$ - \$ - \$ - \$ - \$ -	Estimated Annual Energy Savings from all projects (ekVn) 2023-2024	Implementation	Estimated Annual Energy Savings from all projects (ekWh) - \$ 6.330 \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Implementation - 30,000	Estimated Annual Energy Savings from all projects (ext/h) 18,989 2025-2026	Implementation \$ -	Estimated Annual Energy Savings from all projects (ekWh) 75.665	Implementation 5 - 5 - 50,000 5 5	Estimated Annual Energy Savings from all projects (eXYth) 31,646 2027-2028	Estimated Total Accumulated Energy Savings (eXVn) - 265.844	Energ P	
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ng Automation Systems - New ng Automation Systems - Upgrade sime energy data for operators to identify is apose building issues pe Hammorizers 5 (Describe) Stillfling Envelope Bitliding Envelope ag seed Wall Insulation S	Implementation \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000	Estimated Annual Energy Savings from all projects (ekWh) 18,989	Implementation \$ - \$ 120,000 \$ \$. \$. \$. \$. \$. \$. \$. \$. \$	Estimated Annual Energy Savings from all projects (esWh) 75.065 6 2026-2027 Estimated Annual Energy Savings from all projects	Implementation 5 - 5 50,000 6 - 5 - 5 - 5 - Estimated Cost of implementation 5 - 5 -	Estimated Annual Energy Savings from all projects (ekWh) 31,648	Estimated Total Accumulated Energy Savings (ekWh) - 265,844 - 2023/2024-2027/2028 Estimated Total Accumulated Energy Savings (ekWh)	Energy P	
ng Automation Systems - New S and Automation Systems - Vograde S and Automation Systems - Upgrade S are energy data for operators to identify agnicise building issues Famonizers S (Describe) S Building Envelope S and Wall Insulation S S S S S S S S S S S S S S S S S S S	Implementation \$ - \$ - \$ - \$ - \$ - \$ Estimated Cost of	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000	Estimated Annual Energy Savings from all projects (ekWh) 18,989	Implementation \$ - \$ 120,000 \$ \$. \$. \$. \$. \$. \$. \$. \$. \$	Estimated Annual Energy Savings from all projects (exWft) 75.965 75.965 2026-2027 Estimated Annual Energy Savings from all projects (exWft)	Implementation 5 - 5 50,000 5 - 5 - 5 - 5 - 5 -	Estimated Annual Energy Savings from all projects (eXYIn) 31,648	Estimated Total Accumulated Energy Savings (eXVn) - 265,844	Energy P	
ng Automation Systems - New ng Automation Systems - Upgrade \$ sime energy data for operators to identify siagnose building issues ge Hamonizers \$ S Building Envelope Building Envelope seed Wall Insulation \$ S SOOT	Implementation \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ - \$ -	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000 - Estimated Cost of Implementation - - - - - - - - - - - - -	Estimated Annual Energy Savings from all projects (ekVh) 18,989	Implementation \$	Estimated Annual Energy Savings from all projects (esWh) 75.065 6 2026-2027 Estimated Annual Energy Savings from all projects	Implementation 5	Estimated Annual Energy Savings from all projects (ekWh) 31,648	Estimated Total Accumulated Energy Savings (ekWh) - 265,844 - 2023/2024-2027/2028 Estimated Total Accumulated Energy Savings (ekWh)	Energ	
ing Automation Systems - New S and Automation Systems - Vograde S imparts - Vograde S	Implementation \$ \$ \$ \$ \$ Estimated Cost of Implementation \$ \$ 800,000	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000 - Estimated Cost of Implementation - - - - - - - - - - - - -	Estimated Annual Energy Savings from all projects (ekVh) 18,989	Implementation \$	Estimated Annual Energy Savings from all projects (exWft) 75.965 75.965 2026-2027 Estimated Annual Energy Savings from all projects (exWft)	Implementation 5	Estimated Annual Energy Savings from all projects (eXWh) 31,648	Estimated Total Accumulated Energy Savings (eXVn) - 265,844	Energ	
ing Automation Systems - New Sing Automation Systems - Upgrade Sime energy data for operators to identify Siagnose building issues ge Hamonizers S Significance Chescribe Significance Sign	Implementation \$ \$ \$ \$ \$ Estimated Cost of Implementation \$ \$ 800,000	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000 - Estimated Cost of Implementation - - - - - - - - - - - - -	Estimated Annual Energy Savings from all projects (ekVh) 18,989	Implementation \$	Estimated Annual Energy Savings from all projects (exWft) 75.965 75.965 2026-2027 Estimated Annual Energy Savings from all projects (exWft)	Implementation 5	Estimated Annual Energy Savings from all projects (eXYth) 31,646 2027-2028 Estimated Annual Energy Savings from all projects (eXYth)	Estimated Total Accumulated Energy Savings (eXVn) - 265,844	Energ	
ding Automation Systems - New ding Automation Systems - Upgrade l-lime energy data for operators to identify diagnose building issues age Hammonizers str (Describe) Striding Envelope sing sessed Wall Insulation Stroft Roof Structure St	Implementation \$ \$ \$ \$ \$ Estimated Cost of Implementation \$ \$ 800,000	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) 6.330 S 6.330 S 2024-2025 Estimated Annual Energy Savings from all projects	Implementation 30,000 - Estimated Cost of Implementation - - - - - - - - - - - - -	Estimated Annual Energy Savings from all projects (ekWh) 16.989 2025-2026 Estimated Annual Energy Savings from all projects (ekWh) 106.361	Implementation \$	Estimated Annual Energy Savings from all projects (exWft) 75.965 75.965 2026-2027 Estimated Annual Energy Savings from all projects (exWft)	Implementation 5	Estimated Annual Energy Savings from all projects (eXYII) 31,648 2027-2028 Estimated Annual Energy Savings from all projects (eXYII) 88,289 105,361	Estimated Total Accumulated Energy Savings (eXVn) - 265,844	Energy P.	
iking Automation Systems - New Sticking Automation Systems - Upgrade Sal-time energy data for operators to identify a diagnose building issues building issues building issues surface Hammorizers Ster (Describe) Sticking Envelope zing energy and insulation Sticking	Implementation \$ \$ \$ \$ \$ Estimated Cost of Implementation \$ \$ 80,000 \$ 5 \$ 80,000 \$ \$	Estimated Annual Energy Savings from all projects (ekWh)	Implementation	Estimated Annual Energy Savings from all projects (exWh) - 5 6.330 S - 5 - 5 - 5 - 5 - 5 - 5 - 5 -	Implementation 30,000	Estimated Annual Energy Savings from all projects (ekWh) 18.989 2025-2026 Estimated Annual Energy Savings from all projects (ekWh) 105.381	Implementation \$	Estimated Annual Energy Savings from all projects (esWh) 75.955 2026-2027 Estimated Annual Energy Savings from all projects (esWh) 105.361 105.361 2026-2027	Implementation	Estimated Annual Energy Savings from all projects (eXVII) 31,648 2027-2028 Estimated Annual Energy Savings from all projects (eXVIII)	Estimated Total Accumulated Energy Savings (ekWh) 265.844 265.844 2023/2024-2027/2028 Estimated Total Accumulated Energy Savings (ekWh) 421,443 652,165 622,165	Energy P.	
ding Automation Systems - New Sing Automation Systems - Upgrade Sing Automation Systems - Upgrade Sill-lime energy data for operators to identify diagnose building issues age Hammonizers Signal Famonizers Signal Famonizers Sing Extribution Signal Extra	Implementation \$ \$ \$ \$ \$ Estimated Cost of Implementation \$ \$ 800,000	Estimated Annual Energy Savings from all projects (eXVIn) 2023-2024 Estimated Annual Energy Savings from all projects (eXVIn) 67.431	Implementation	Estimated Annual Energy Savings from all projects (exWft) 6.330 S 6.330 S 7. S 7. S 7. S 7. S 7. S 7. S 8. S 8. S 8. S 9. S 9	Implementation 30,000 - Estimated Cost of Implementation - - - - - - - - - - - - -	Estimated Annual Energy Savings from all projects (ekWh) 16.989 2025-2026 Estimated Annual Energy Savings from all projects (ekWh) 106.361	Implementation \$	Estimated Annual Energy Savings from all projects (exWft) 75.955 75.965 2026-2027 Estimated Annual Energy Savings from all projects (exWft)	Implementation 5	Estimated Annual Energy Savings from all projects (eXYII) 31,648 2027-2028 Estimated Annual Energy Savings from all projects (eXYII) 88,289 105,361	Estimated Total Accumulated Energy Savings (exVin) 265.844	Energy Pe	

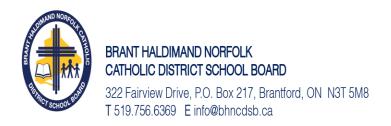
Appendix C: Calculating Energy Conservation Goals FY2024 to FY2028 Operations and Maintenance



Calculating Energy Conservation Goals for FY 2024 to FY 2028

Operations and Maintenance Strategies			2023-2024		2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028
Policy and Planning	Quantity of Time that Measure will be in place (years)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)
New School Design/Construction Guidelines and Specifications	5	s -		\$ -		s -		s -		s -		
Day and Night Temperature Guidelines for all Schools	10			\$ 500	1,686	s -		\$ 1,000		s .		13,486
Nighttime Blackout of Sites - Interior	10	s -		\$.		\$ -		\$.		s -		
Nighttime Blackout of Sites - Exterior	10			\$ 5,000	5,495	\$ 35,000	38,462	\$.		\$.		137,363
Procures Only Energy Star Certified Appliances	5	s -		s .		\$.		s .		s -		
Demand Ventilation (servicing)	3	s .		\$.		\$ 7,000	13,292	\$ 10,000	18,989	\$ 10,000	18,989	96,843
HVAC Optimization (coil cleaning, re-calibration of equipment)	3	s .		s .		\$ 10,000		\$ 15,000	28,483	\$ 15,000	28,483	142,416
Commissioning (retro and re)	10	s -		\$		\$ 30,000	56,967	\$ 30,000	56,967	\$ 30,000	56,967	341,799
Other (Describe)		\$.	<u> </u>	s .	the second se	\$	the second secon	\$.		s .		
			2023-2024		2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028
Energy Audits	Quantity of Time that Measure will be in place	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)
Walk Through Audit	5	s .		s .								
Engineering Audit	5	s -		s .		\$ 15,000	142	\$ 15,000	142	\$ 15,000	142	854
Other (Describe)		\$.	<u> </u>	\$	· ·	\$.		\$	•	\$.	•	
			2023-2024		2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028
Operations and Maintenance Strategies Total	Quantity of Time that Measure will be in place	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh	Estimated Total Accumulated Energy Savings (ekWh)
Total		\$		\$ 5,500	7,180	\$ 97,000	127,862	\$ 71,000	107,963	\$ 70,000	104,581	732,362

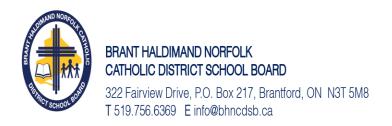
Appendix D: Calculating Energy Conservation Goals FY2024 to FY2028 Occupant Behavior



Occupant Behaviour Strategies

			2023-2024	2024-2025 2025-2026				2026-2027		2027-2028	2023/2024-2027/2028	
Training and Education	Quantity of Time that Measure will be in place (years)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)
Building Operator Training	3	\$ 500	1,381	\$ 500	1,381	\$ 500	1,381	\$ 500	1,381	\$ 100	276	19,614
Energy Benchmarking Program	5	\$ 500	5	\$ 1,000	9	\$ 900	9	\$ 900	9	\$ 900	9	113
Building Automation Training (site specific)	3	\$ 1,000	8,288	\$ 1,000	8,288	\$ 1,000	8,288	\$ 1,000	8,288	\$ 1,000	8,288	124,316
Ongoing Training and Awareness Programs for Energy Conservation	5	\$ 1,000	600	\$ 1,000	600	\$ 1,000	600		•	\$ -		7,200
Detailed Information on Building Operational Costs	1	\$ 5,000	47	\$ 10,000	95	\$ 10,000	95	\$ -		\$ -		902
Detailed Information on Energy Consumption (e.g. via the Utility Consumption Database or other database)	1	\$ 5,000	47	\$ 1,000	9	\$ 1,000	9	\$ 1,000	9	\$ 1,000	9	332
Participate in Environmental Programs, such as EcoSchools, Earthcare	1	\$ 500	600	\$ 500	600	\$ 500	600	\$ 500	600	\$ 500	600	9,000
Other Tools (Define)		s -		\$ -		\$ -		\$ -		\$ -		•
Occupant Behaviour Strategies Total		\$ 13,500	10,969	\$ 15,000	10,983	\$ 14,900	10,982	\$ 3,900	10,287	\$ 3,500	9,182	161,478

Appendix E: Calculating Energy Conservation Goals FY2024 to FY2028 Conservation Goals



Conservation Goal

	FY 2024	
Total Building Area (includes portables) (m²)	137,351	Enter from UCD use square meters
Total Building Area (includes portables) (ft²)	1,454,881	Enter from UCD - use square feet
Energy Consumption for the board (ekWh)	24,492,862	Enter from UCD

1 ft² = 0.0929 m²

		2023-2024	1	2024-2025		2025-2026		2026-2027		2027-2028	2023/2024-2027/2028	
	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Cost of Implementation	Estimated Annual Energy Savings from all projects (ekWh)	Estimated Total Accumulated Energy Savings (ekWh)	
Appendix B: Design, Construction and Retrofit Strategies Total	\$ 1,000,000	92,749	\$ 1,860,000	421,821	\$ 1,735,000	1,261,310	\$ 1,275,000	1,214,239	\$ 4,380,000	5,350,628	13,714,064	
Appendix C: Operations and Maintenance Strategies Total			\$ 5,500	7,180	\$ 97,000	127,852	\$ 71,000	107,953	\$ 70,000	104,581	732,762	
Appendix D: Occupant Behaviour Strategies Total	\$ 13,500	10,969	\$ 15,000	10,983	\$ 14,900	10,982	\$ 3,900	10,287	\$ 3,500	9,182	161,478	
TOTAL	\$ 1,013,500	103,718	\$ 1,880,500	439,984	\$ 1,846,900	1,400,143	\$ 1,349,900	1,332,479	\$ 4,453,500	5,464,391	14,608,304	