Dufferin-Peel
Catholic District
School Board

2024-2028

Energy Conservation and Demand Management Plan

Extraordinary lives start with a great Catholic education.

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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
  - Major additions
  - Sites sold/closed/demolished/leased
  - Portables
    - Installed
    - Removed
  - Areas under construction
- Equipment/Systems
  - Age
  - Type of technology
  - Lifecycle
  - Percentage of air-conditioned space
- Site Use
  - Elementary school
  - Secondary school
  - Administrative building
  - Maintenance/warehouse facility
  - Community Hubs

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

- Swimming pools
- Libraries
- Lighted sports fields
- Sports domes

Other Variables:

- Programs
  - Child care
  - Before/After School Programs
  - Summer School
  - Community Use
    - Permitted Use
- 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
- Other
  - Culture, education, and occupants' behaviour
  - HVAC equipment operation practices Culture, education, and occupants' behaviour
  - Commitment and investment on energy management

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 2017-2018 to the end of the five-year reporting period Fiscal Year 2022-2023.

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	**161**	**161**	**0**
Total Number of Portables/Portapaks	**487**	**439**	**-48**
Total Floor Area (ft^2)	**11,210,924**	**11,512,994**	**302,070**
Average Operating Hours/Week	**78**	**78**	**0**
Average Daily Enrolment	**79,430.00**	**70,156.84**	**-9,273.16**
% of Total Floor Area Air Conditioned	**70**	**72**	**2**
Number of Facilities with Mechanical Ventilation	**161**	**161**	**0**

B. Energy Usage Data for the Board

The following table lists the "metered"[1] 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)	93,590,408	85,946,408
Total Natural Gas (ekWh)	91,055,192	87,761,344
Total Energy Consumption (ekWh)	184,645,600	173,707,752

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

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 DPCDSB's local weather station.

Table 3: DPCDSB Degree-days

DPCDSB Degree Days	Fiscal Year 2017 to 2018	Fiscal Year 2018 to 2019	Fiscal Year 2019 to 2020	Fiscal Year 2020 to 2021	Fiscal Year 2021 to 2022	Fiscal Year 2022 to 2023
HDD	3,220	3,419	3,083	2,922	3,036	2,848
CDD	762	609	720	674	671	565

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.

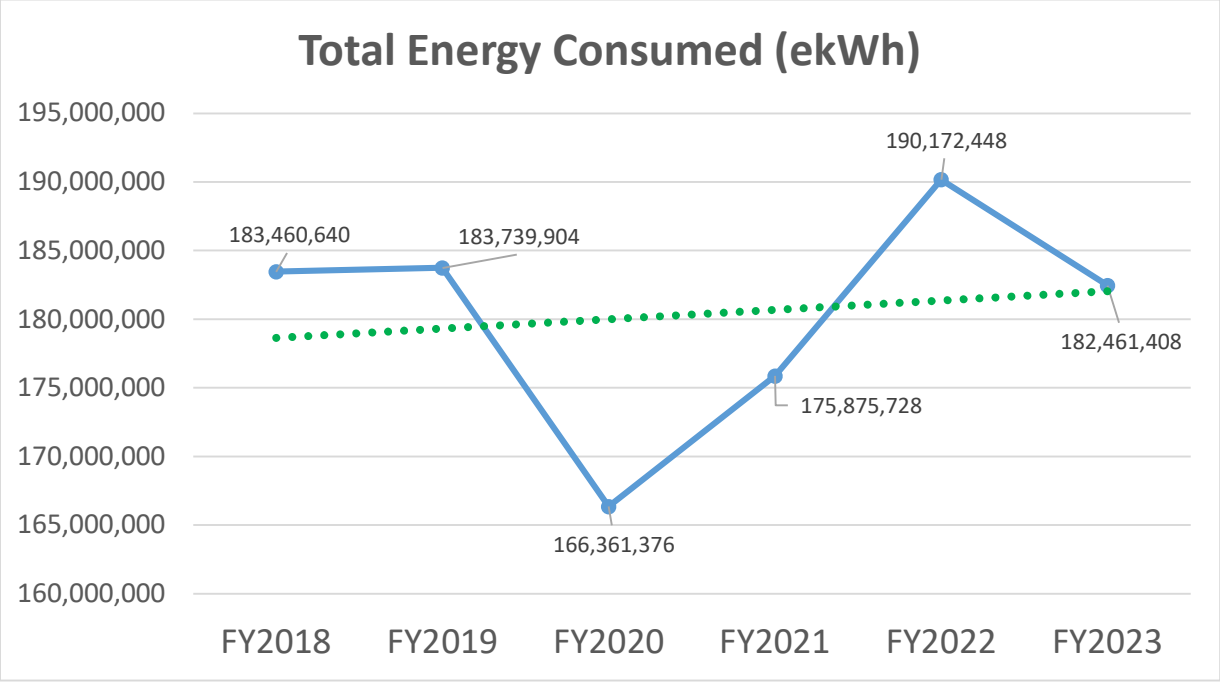
However, a straight comparison of Total Energy Consumed between one or more years does not take into consideration changes in a board's asset portfolio, such as changes in buildings' features (refer to the Facility Variables listed on pages 5 and 6), and newly implemented programs (refer to the Note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

As a result, weather normalized Energy Intensity[4] 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/ft^2) or equivalent kilowatt hours per square metre (ekWh/ft^2).

Table 4: Weather Normalized Values

Weather Normalized Values	Fiscal Year 2017 to 2018 (Baseline Year)	Fiscal Year 2022 to 2023 (Most Recent Data Available)
Total Energy Consumed (ekWh)	183,460,640	182,461,408
Energy Intensity (ekWh/ft^2)	16.36	15.85
Total GHG Emissions (kgCO_2)	19,051,817	19,883,894
Emissions Intensity (kgCO_2/ft^2)	1.70	1.73

[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.
[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
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.



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.

Table 5: Comparison of Energy Intensity Conservation Goal and Actual Energy Intensity Reduced

Fiscal Year	Conservation Goal ekWh/ft^2	Conservation Goal Percentage	Actual Energy Savings ekWh/ft^2	Actual Energy Percentage
2018 to 2019	0.406	2.5%	0.06	0.36%
2019 to 2020	0.406	2.5%	1.54	9.46%
2020 to 2021	0.406	2.5%	-0.84	-5.72%
2021 to 2022	0.406	2.5%	-0.91	-5.82%
2022 to 2023	0.406	2.5%	0.67	4.04%

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:

1. 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.
2. 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/ft^2 – the quantity of energy consumed per area) is not possible.
    - Factors that reduced energy consumption include:
        - 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 a number of 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),
- 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.

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.

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. Cumulative Energy Conservation Goal

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)	Variance
Forecasted Cumulative Energy Intensity Conservation Goal of Fiscal Year 2018 to 2019 through Fiscal Year 2022 to 2023	2.03	
Forecasted Cumulative Energy Intensity Conservation Goal as a Percentage		12.5%
Actual Cumulative Energy Intensity Reduced or Increased from Fiscal Year 2018 to 2019 through Fiscal Year 2022 to 2023 – Weather Normalized	0.52	
Variance between 2019 Forecast Cumulative Conservation Goal and Actual Cumulative Energy Intensity– Weather Normalized	-1.51	
% of Cumulative Energy Intensity Conservation Goal Achieved - Weather Normalized		25.4%

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. Renewable Energy Investments

5. Summary of All Investment Types

Major Energy Initiatives

DPCDSB continues to commit to energy conservation and demand management. The Facilities Department was restructured to emphasize and prioritize DPCDSB's commitments in this area. As such, the Environmental Support Services Department was established in 2021 to integrate collaborative efforts from energy conservation, building automation system operations, and HVAC maintenance. It is a significant measure that has not only enhanced energy performance but also improved HVAC operations and preventive maintenance across all DPCDSB facilities.

The following is a summary list of energy initiatives that have been planned for the five years from 2019 to 2023:

1. **Design, Construction and Retrofit**
   - Energy efficient design incorporated in the design and construction of new schools.
   - 90 schools and board facilities have been retrofitted with new LED lighting. The retrofits will continue rolling out to all remaining schools.
   - 43 schools were upgraded with high efficiency condensing boilers.
   - 76 building automation systems (BAS) have been replaced or upgraded, to promote higher energy efficiency, reduce maintenance costs, and improve comfort.
2. **Operations and Maintenance**
   - Temperature setting and equipment operations.
   - HVAC optimization (re-commissioning, coil and ductwork cleaning, etc.)
3. **Occupant Behaviour**
   - Energy benchmarking and database
   - Education and awareness programs
   - Energy conservation newsletter
   - Energy Team meetings
   - Environmental programs such as EcoSchools certification (151 schools), School Energy Challenge (111 schools), Earth Hour (119 schools), and National Sweater Day (121 schools)

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 2023 to 2024 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. Occupants' Behavior.

Background

1. The Board continues to commit to energy conservation and sustainability. To date the Board's energy management strategy has included the following:
   1) Energy management is an important component of the board's multiyear strategical plan and has been integrated into the Board's Long-Term Facilities Master Plan (LTFMP).
   2) This report establishes a systematic and strategic approach to specify areas of focus and priority, resource commitment, strategies, and initiatives for the next five years.
   3) A new roadmap developed through this report would lead us towards our energy conservation targets and convert these goals into action.
      a. Further investment in energy management.
      b. Increase efficiency via design, construction and retrofit.
      c. Eliminate waste via operational improvement and maintenance.
      d. Enhance awareness through educational programs.

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) Renewable Energy
   2) Design/Construction/Retrofit
   3) Operations and Maintenance
   4) Occupant Behaviour

Renewable Energy

Definition

Renewable energy is a strategy to cut down a board's energy use from the province's electricity grid and includes:

- solar panels
- wind turbines, etc.

For a list of the Board's renewable energy projects, please refer to the **Calculating Energy Conservation Goals Fiscal Year 2024 to Fiscal Year 2028, Appendix A: Renewable Energy.**

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 2024 to Fiscal Year 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 perform at maximum efficiency. For the Board's relevant projects over the next five years, please refer to **Calculating Energy Conservation Goals Fiscal Year 2024 to Fiscal Year 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 2024 to Fiscal Year 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 Intensity Conservation Goal	Fiscal Year 2023 to 2024	Fiscal Year 2024 to 2025	Fiscal Year 2025 to 2026	Fiscal Year 2026 to 2027	Fiscal Year 2027 to 2028
ekW/ft^2	0.159	0.159	0.159	0.159	0.159
Percentage Decrease	1%	1%	1%	1%	1%

The following table shows the Board's Cumulative Energy Intensity Conservation Goal for the next five fiscal years.

Table 8: Cumulative Conservation Goal

Cumulative Conservation Goal	Fiscal Year 2023 to 2024 through Fiscal Year 2027 to 2028
ekWh/ft^2	0.795
Percentage Decrease	5%

B. Environmental Programs

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

1. EcoSchools:
   151 schools participated. 100% of Dufferin-Peel CDSB schools are certified.
2. Earth Day:
   134 schools participated.
3. Earth Hour:
   119 schools participated.
4. National Sweater Day:
   121 schools participated.

C. Strategic Energy Management Program

Dufferin-Peel Catholic DSB participates in Save ON Energy's Strategic Energy Management (SEM) Program with the following priority items for improvement:

1. Establish and maintain a central list of identified energy efficiency opportunities.
2. Define efficient operating procedures and incorporate them into standard processes.
3. Revise maintenance schedules to include repairs and actions to reduce energy waste.
4. Communicate Energy Policy to all employees and ensure it is visible and easily accessible on an ongoing basis.

D. Energy Efficiency Incentives

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

☒ Yes ☐ No

If yes, between Fiscal Year 2018 to 2019 and Fiscal Year 2022 to 2023, the Board has applied for $1,609,780 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

☐ Other

E. Energy Procurement

1. The Board participates in a consortia arrangement to purchase electricity.

☒ Yes ☐ No

If yes,

☒ OECM's Strategic Electricity Management and Advisory Services

☐ Other:

Provide Name of Consortia:

2. The Board participates in a consortia arrangement to purchase natural gas.

☒ Yes ☐ No

If yes,

☒ 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

☐ Other:

Provide Name of Consortia:

3. The Board participates in a consortia arrangement to purchase alternative utilities (fuel oil, propane, wood, district heat, district cool).

☐ Yes ☒ No

If yes,

1. ☐ Ontario Education Collaborative Marketplace's (also known as OECM)
2. ☐ Other:

   Provide Name of Consortia:

F. Demand Management

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

☒ Invoices

☒ Real-time data

☒ Online data from the Local Distribution Company (LDC)

☐ Other:

2. The Board uses 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)

   ☐ Other:

G. Carbon Reduction Strategies

Annual Emission Intensity Conservation Goal	Fiscal Year 2023 to 2024	Fiscal Year 2024 to 2025	Fiscal Year 2025 to 2026	Fiscal Year 2026 to 2027	Fiscal Year 2027 to 2028
$kgCO_2/ft^2$	0.017	0.017	0.017	0.017	0.017
Percentage Decrease	1%	1%	1%	1%	1%

1. The board has in place a strategy to switch the fuel currently used to one with a better emissions factor.

   ☐ fuel oil to propane Number of facilities

   ☐ fuel oil to natural gas Number of facilities

   ☐ propane to natural gas Number of facilities

   ☐ natural gas to electricity Number of facilities

2. The board plans to introduce ventilation controls:

   ☐ Heat Wheel Recovery Number of facilities

   ☐ CO2 controls / on demand Number of facilities

3. Board is currently limited by options to move to “cleaner” fuel based on availability, lack of infrastructure, or equipment/mechanical system constrains.

4. To manage energy consumption, the board has in place the following set point temperatures:

Category	Definition	Winter		Summer	
		Applicable Dates	Set Point	Applicable Dates	Set Point
Occupied	Time when the school facilities are operating at full or near full occupancy, which generally aligns with regular school hours.	October 15	21 degrees Celsius	May 15	24 degrees Celsius
Partially-Occupied	Time when the school is operating at a level that is equal to or lower than 5% of the rated occupancy capacity of the facility. In a typical school day, the low occupancy time represents the period from the school dismissal to 11:30 PM.	October 15	18 degrees Celsius	May 15	28 degrees Celsius
Unoccupied	Time when the school facilities have no occupants and are closed or empty. In a typical school day, the unoccupied time represents the period from 11:30 PM until the following morning.	October 15	16 degrees Celsius	May 15	30 degrees Celsius

5. In preparation for the anticipated changes within the energy sector, DPCDSB also considers the following initiatives beyond traditional energy measures:

- Follow up the trend of decarbonization and electrification.
- Keep up with the evolving regulatory and voluntary requirements on sustainability, such as, Environmental, Social and Governance (ESG) program.
- Establish facilities database and equipment inventory.
- Perform gap analysis on the existing mechanical and electrical systems for the transition to a low-carbon energy future.
- Stay abreast with the advances of new energy and sustainability technologies (e.g., heat pump).

H. Energy Policy

Dufferin-Peel Catholic District School Board (DPCDSB) is committed to energy conservation, sustainability, and environmental stewardship within all operations and facilities under the Board's jurisdiction, encompassing employees, students, suppliers, contractors, and other stakeholders, aiming

to reduce energy consumption, minimize carbon footprint, and achieve cost savings in a systematic and strategic approach through the establishment and implementation of Energy Conservation and Demand Management Plans.

I. Senior Management Approval of this Energy Conservation and Demand Management Plan

I confirm that Dufferin-Peel Catholic District School Board's senior management has reviewed and approved this Energy Conservation and Demand Management Plan.

Marianne Mazzorato

Full Name: Marianne Mazzorato, Ed. D.
Job Title: Director of Education

Date: June 28, 2024

WISE USE NEWS

An Energy Conservation Newsletter March 2024

"Moreover, it is required of stewards that they be found trustworthy." ***1 Corinthians 4:2***

We are pleased to bring you this edition of **Wise Use News**, the energy conservation newsletter.

This newsletter provides updates on energy strategies, performance, and initiatives at the Dufferin-Peel Catholic District School Board (DPCDSB). A special thanks to the Energy Management team for their leadership, innovation and guidance in this critical area.

What's Inside

Dufferin-Peel Catholic District School Board

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Extraordinary lives start with a great Catholic education.

2022 2023

Dufferin-Peel Catholic District School Board

ecoschools écoécoles CANADA

STEWARDSHIP IN ACTION AT OUR SCHOOLS

151 Dufferin-Peel schools were Eco-Certified this year!

Bronze	Silver	Gold	Platinum
6	3	72	70

WE HAVE SO MUCH TO CELEBRATE IN DUFFERIN-PEEL!

121 Schools organized and completed WWF Sweater Campaigns

128 Schools participated in planting actions!

104 Schools organized and completed Waste-Free lunch campaigns

42 Schools participated in tree planting and maintenance

119 Schools participated in WWF Earth Hour Activities

134 DPCDSB schools celebrated Earth Day

72 Schools planted pollinators

14 Schools grew food gardens

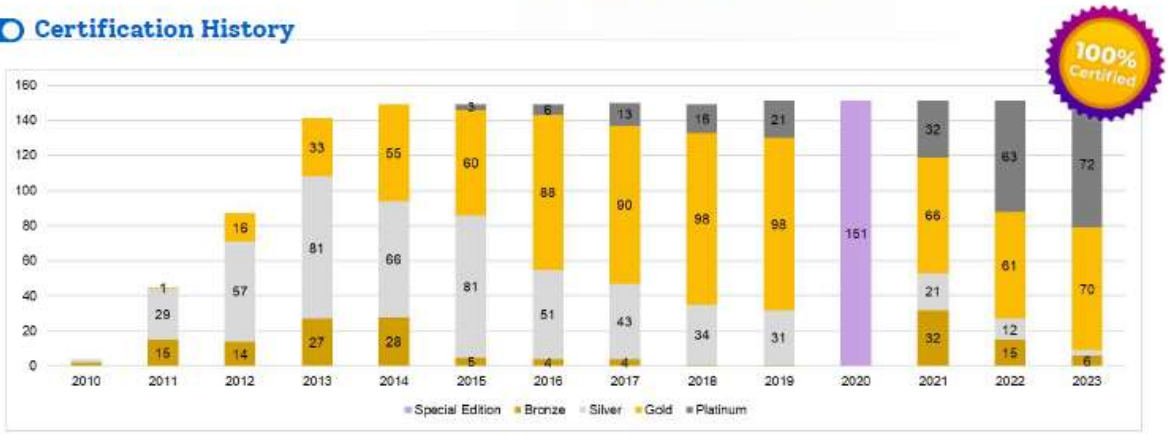
177 Trees were planted on DPCDSB school grounds this year!

635 Trees were maintained on DPCDSB school grounds this year (by mulching, watering, etc.)

1008 Pollinator plants were planted on DPCDSB school grounds this year in **72** pollinator gardens!

Celebrating 100% DPCDSB EcoSchools Certification in 2022-23!

Certification History



Congratulations! Your board has 151 EcoSchools this year. This includes 72 Platinum, 70 Gold, 3 Silver, and 6 Bronze schools as of June 16, 2023.

Your Board/District Impact

151 schools certified this year

2,528 actions were completed by schools in your board

92,189 hours of outdoor learning took place

3,295 students were part of an EcoTeam

St. Bernard of Clairvaux C Elem S, Mississauga
Action: Sort Your Waste

"Building on what we had done last year with our initial waste audit, the Eco Team participated in a waste sort. They collected waste and recycling after lunch and as a team they sorted the waste into different categories. The grades 7/8 classes also learned about sustainable cities and communities and created sustainable communities through their 'Garbage Cities' assignments."

ecoschools.ca

Dufferin Peel Catholic School Board

Impact 2022-2023 June 16, 2023

ecoschools écoécoles CANADA

Top 10 actions taking place in DPCDSB schools

The EcoSchools action library includes a wide range of 50+ actions to choose from, across 12 themes; from waste and energy to health and well-being, biodiversity and nature. In this chart you'll find the top 10 most popular actions that took place in your board this year.

1. **Create Your Own Action**
2. **The Great Gulp**
3. **Earth Day**
4. **GOOS Paper**
5. **WWF National Sweater Day**
6. **Community Cleanup**
7. **WWF Earth Hour**
8. **Switch Off Lights and Devices**
9. **Waste-Free Lunch**
10. **Take Me Outside Day**

Your Board/District is supporting the UN's SDGs

Your schools are part of a network of over **1,600 schools** from coast to coast to coast who registered in the EcoSchools program during the 2022-23 school year. To learn more about our collective impact, check out our 2022-23 National Impact Report.

To register your school, visit **app.ecoschools.ca**

To learn more about what we can offer you, visit **ecoschools.ca**

To get in touch with a question, email us at **info@ecoschools.ca**

Follow us on @EcoSchoolsCAN

Dufferin-Peel Catholic District School Board

Design, Construction and Retrofit Strategies

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Lighting / Electrical	**Investments in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
High Efficiency Lighting Systems (D5020, D502001, D502003, D502004)	$ 3,844,607	$ 9,333,825	$ 6,658,623	$ 4,771,498	$ 4,287,583
Outdoor Lighting (D502004)	$ -	$ -	$ -	$ -	$ -
Occupancy Sensors (D5021, D5022)	$ -	$ -	$ -	$ -	$ -
Daylight Harvesting	$ -	$ -	$ -	$ -	$ -
Dimming Switches					
Other (Describe)					

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
HVAC	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
Efficient Boilers (near condensing) (D3020, D302001, D302002)	$ 1,409,258	$ 2,167,761	$ 1,894,373	$ 1,472,296	$ 1,056,936
High-efficiency Boilers (condensing) (D3020, D302001, D302002)	$ -	$ -	$ -	$ -	$ -
High-efficiency Boiler Burners (D3020)	$ -	$ -	$ -	$ -	$ -
Geothermal (D302099)	$ -	$ -	$ -	$ -	$ -
Heat Recovery/Enthalpy Wheels (D3090)	$ -	$ -	$ -	$ -	$ -
Economizers (D306002)	$ -	$ -	$ -	$ -	$ -
Energy Efficient HVAC systems (D3050,D3040)	$ 2,339,353	$ 2,518,976	$ 4,987,752	$ 8,948,677	$ 7,141,937
Energy Efficient Rooftop Units (D302098)	$ -	$ -	$ -	$ -	$ -
High Efficiency Domestic Hot Water (D2020)	$ -	$ -	$ -	$ -	$ -
Efficient Chillers and Controls (D3030, D303011, D303012)	$ -	$ -	$ -	$ -	$ -
High-efficiency Motors (D304007, D303011)	$ -	$ -	$ -	$ -	$ -
VFD (D302056)	$ -	$ -	$ -	$ -	$ -
Demand Ventilation (D3040)	$ -	$ -	$ -	$ -	$ -
Entrance Heater Controls (D302099)	$ -	$ -	$ -	$ -	$ -
Destratification Fans (D3090)					
Other (Describe)	$ -	$ -	$ -	$ -	$ -

	2018--2019	2019-2020	2020-2021	2021-2022	2022-2023
Controls	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
Building Automation Systems - New (D3060)	$ -	$ -	$ -	$ -	$ -
Building Automation Systems - Upgrade (D3060)	$ 3,124,553	$ 3,135,195	$ 3,305,395	$ 1,692,340	$ 2,848,769
Real-time energy data for operators to identify and diagnose building issues					
Voltage Harmonizers (D501001)					
Other (Describe)	$ -	$ -	$ -	$ -	$ -

	2018--2019	2019-2020	2020-2021	2021-2022	2022-2023
Building Envelope	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
Glazing (B302006, B2020, B3021)	$ -	$ -	$ -	$ -	$ -
Increased Wall Insulation (B2010)	$ -	$ -	$ -	$ -	$ -
New Roof (B3010, B3020)	$ -	$ -	$ -	$ -	$ -
New Windows (B2020)	$ -	$ -	$ -	$ -	$ -
Treatments	$ -	$ -	$ -	$ -	$ -
Shading Devices	$ -	$ -	$ -	$ -	$ -
Other (Describe)	$ -	$ -	$ -	$ -	$ -
Total Investment in Design, Construction and Retrofit Strategies	**$ 10,717,771**	**$ 17,155,757**	**$ 16,846,143**	**$ 16,884,811**	**$ 15,335,225**

Investments in Energy Management Strategies

Dufferin-Peel Catholic District School Board

Operations and Maintenance Strategies

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Policy and Planning	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
New School Design/Construction Guidelines and Specifications	$ -	$ -	$ -	$ -	$ -
Day and Night Temperature Guidelines for all Schools	$ 55,634	$ 32,320	$ 14,139	$ 19,004	$ 15,705
Nighttime Blackout of Sites - Interior	$ -	$ -	$ -	$ -	$ -
Nighttime Blackout of Sites - Exterior	$ -	$ -	$ -	$ -	$ -
Procures Only Energy Star Certified Appliances	$ -	$ -	$ -	$ -	$ -
Preventative Maintenance (re-commissioning, coil cleaning, filter changes)	$ 150,000	$ 150,000	$ 441,522	$ 1,415,278	$ 938,786
Daylight Harvesting (servicing)	$ -	$ -	$ -	$ -	$ -
Demand Ventilation (servicing)	$ -	$ -	$ -	$ -	$ -
Water Leak Detection System					
Other (Describe)	$ -	$ -	$ -	$ -	$ -

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Energy Audits	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**
Walk Through Audit	$ -	$ -	$ -	$ -	$ -
Engineering Audit	$ -	$ -	$ -	$ -	$ -
Other (Describe)					
Total Investment in Operations and Maintenance Strategies	**$ 205,634**	**$ 182,320**	**$ 455,661**	**$ 1,434,282**	**$ 954,491**

Investments in Energy Management Strategies

Dufferin-Peel Catholic District School Board

Occupant Behaviour Strategies

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023
Training and Education	**Estimated Cost of Implementation**	**Estimated Cost of Implementation**	**Estimated Cost of Implementation**	**Estimated Cost of Implementation**	**Estimated Cost of Implementation**
Building Operator Training	$ -	$ -	$ -	$ -	$ -
Building Automation Training (site specific)	$ -	$ -	$ -	$ -	$ -
Ongoing Training and Awareness Programs for Energy Conservation	$ 2,104	$ 933	$ 799	$ 2,456	$ 2,167
Provide Detailed Information on Building Operational Costs	$ -	$ -	$ -	$ -	$ -
Board policy to limit appliances brought (space heater, mini fridge, coffee machine) into the workspace	$ -	$ -	$ -	$ -	$ -
Provide Detailed Information on Energy Consumption (e.g. via the Utility Consumption Database or other database)	$ 982	$ 982	$ 982	$ 1,397	$ 8,732
Participate in Environmental Programs, such as EcoSchools, Earthcare	$ 41,167	$ -	$ -	$ 41,167	$ 41,167
Other tools (Define)	$ -	$ -	$ -	$ -	$ -
Total Investment in Occupant Behaviour Strategies	**$ 44,253**	**$ 1,915**	**$ 1,781**	**$ 45,021**	**$ 52,066**

Investments in Energy Management Strategies

Dufferin-Peel Catholic District School Board

Renewable Energy Investments

	Investment in Renewable Energy Technology ($)						
Type of Renewable Energy	**Fiscal Year 2018-2019**	**Fiscal Year 2019-2020**	**Fiscal Year 2020-2021**	**Fiscal Year 2021-2022**	**Fiscal Year 2022-2023**	**Number of systems added**	**Capacity Added (kW)**
Solar Photovoltaic	$ -	$ -	$ -	$ -	$ -		
Solar Air	$ -	$ -	$ -	$ -	$ -		
Solar Water	$ -	$ -	$ -	$ -	$ -		
Wind Turbine	$ -	$ -	$ -	$ -	$ -		
Biomass	$ -	$ -	$ -	$ -	$ -		
Other	$ -	$ -	$ -	$ -	$ -		
Total	$ -	$ -	$ -	$ -	$ -		

Investments in Energy Management Strategies

Dufferin-Peel Catholic District School Board

Summary of Investment by Type

	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2018/2019-2022/2023
Total Investments in Energy Management Strategies FY 2012-13 to FY 2017-18	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Investment in Energy Management Strategies**	**Total Investment in Energy Management Strategies**
Design, Construction and Retrofit Investments Total	$ 10,717,771	$ 17,155,757	$ 16,846,143	$ 16,884,811	$ 15,335,225	76,939,707
Operations and Maintenance Investments Total	$ 205,634	$ 182,320	$ 455,661	$ 1,434,282	$ 954,491	3,232,388
Occupant Behaviour Investments Total	$ 44,253	$ 1,915	$ 1,781	$ 45,021	$ 52,066	145,035
Renewable Energy Investments Total	$ -	$ -	$ -	$ -	$ -	0
Total Investment Per Fiscal Year	$ 10,967,658	$ 17,339,992	$ 17,303,585	$ 18,364,114	$ 16,341,782	80,317,130

Calculating Energy Conservation Goals for FY 2024 to FY 2028

Dufferin-Peel Catholic District School Board

Renewable Energy		Estimated number of systems installed						Estimated total number of ekWh generated annually						
Type of Renewable Energy	**Define**	**Number of existing systems in asset portfolio (owned)**	**Fiscal Year 2023-2024**	**Fiscal Year 2024-2025**	**Fiscal Year 2025-2026**	**Fiscal Year 2026-2027**	**Fiscal Year 2027-2028**	**Fiscal Year 2023 - 2024**	**Fiscal Year 2024 - 2025**	**Fiscal Year 2025 - 2026**	**Fiscal Year 2026 - 2027**	**Fiscal Year 2027 - 2028**	**Total Size (kW)**	**Actual or Estimated Total Generation (ekWh)**
Solar photovoltaic		**4**						**159590.4**	**159590.4**	**159590.4**	**159590.4**	**159590.4**	**120**	797,952
Solar air														0
Solar water														0
Wind Turbine														0
Biomass														0
Other														0

Dufferin-Peel Catholic District School Board

Design, Construction and Retrofit Strategies

		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2023/24-2027/28			
Lighting	**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 Saving (ekWh)**	**Estimated Total Accumulated Energy Savings (ekWh)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
High Efficiency Lighting Systems (D5020, D502001, D502003, D502004)	30	$ 833,333	759,717	$ 833,333	759,717	$ 833,333	759,717	$ 833,333	759,717	$ 833,333	759,717	11,395,752	7	100	0
Outdoor Lighting (D502004)	30	$ -	-	$ -	-	$ -	-	$ -	-		-	-	7	100	0
Occupancy Sensors (D5021, D5022)	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	100	0
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2023/24-2027/28			
H.V.A.C.	**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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
Efficient Boilers (near condensing) (D3020, D302001, D302002)	30	$ 333,333	491,888	$ 333,333	491,888	$ 333,333	491,888	$ 333,333	491,888	$ 333,333	491,888	7,378,319	15	5	95
High-efficiency Boilers (condensing) (D3020, D302001, D302002)	15	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	10	5	95
High-efficiency Boiler Burners (D3020)	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	5	95
Geothermal (D302099)	25	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	35	100	0
Heat Recovery/Enthalpy Wheels (D3090)	20	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	8	20	80
Economizers (D306002)	15	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	7.5	50	50
Energy Efficient HVAC systems (D3050,D3040)	35	$ 208,333	28,344	$ 208,333	28,344	$ 208,333	28,344	$ 208,333	28,344	$ 208,333	28,344	425,153	75	50	50
Energy Efficient Rooftop Units (D302098)	25	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	30	50	50
High Efficiency Domestic Hot Water (D2020)	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	10	15	85
Efficient Chillers and Controls (D3030, D303011, D303012)	25	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	100	100	0
High-efficiency Motors (D304007, D303011)	20	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	10	100	0
VFD (D302056)	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	75	25
Demand Ventilation (D3040)	15	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	50	50
Entrance Heater Controls (D302099)	20	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	50	50
Destratification Fans (D3090)	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	7	100	0
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2023/24-2027/28			
Controls	**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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
Building Automation Systems - New (D3060)	15	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	15	50	50
Building Automation Systems - Upgrade (D3060)	15	$ 208,333	141,718	$ 208,333	141,718	$ 208,333	141,718	$ 208,333	141,718	$ 208,333	141,718	2,125,766	15	50	50
Real-time energy data for operators to identify and diagnose building issues	10	$ 33,000	112,240	$ 33,000	112,240	$ 33,000	112,240	$ 33,000	112,240	$ 33,000	112,240	1,683,606	3	50	50
Voltage Harmonizers (D501001)	15	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	7	100	0
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-27		2027-2028		2023/24-2027/28			
Building Envelope	**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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
Glazing (B302006, B2020, B3021)	30	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	80	20	80
Increased Wall Insulation (B2010)	50	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	40	20	80
New Roof (B3010, B3020)	22	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	200	20	80
New Windows (B2020)	32	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	80	20	80
Treatments	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	10	20	80
Shading Devices	30	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	20	100	0
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-27		2027-2028		2023/24-2027/28
Design, Construction & Retrofit 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		**$ 1,616,333**	**1,533,906**	**$ 1,616,333**	**1,533,906**	**$ 1,616,333**	**1,533,906**	**$ 1,616,333**	**1,533,906**	**$ 1,616,333**	**1,533,906**	**23,008,596**

Keys	
colour: yellow	= Default value
colour: blue	= Calculated Value
$0.1567	= cost of 1 ekWh electricity
$ 0.0393	= cost of 1 ekWh natural gas
0.0955	m³ = 1 ekWh (as per NRCan conversion table)
$0.4116	= cost of 1 m³ of natural gas

Calculating Energy Conservation Goals for FY 2024 to FY 2028

Operations and Maintenance Strategies

		2023-2024		2024-2025		2025-2026		2026-2027		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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
New School Design/Construction Guidelines and Specifications	5	$ 20,833	42,515	$ 20,833	42,515	$ 20,833	42,515	$ 20,833	42,515	$ 20,833	42,515	637,730	5	50	50
Day and Night Temperature Guidelines for all Schools	10	$ 20,833	66,363	$ 20,833	66,363	$ 20,833	66,363	$ 20,833	66,363	$ 20,833	66,363	995,441	5	20	80
Nighttime Blackout of Sites - Interior	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	7	100	-
Nighttime Blackout of Sites - Exterior	10	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	7	100	-
Procures Only Energy Star Certified Appliances	5	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	100	-
Demand Ventilation (servicing) (D3020,D3030, D3040)	3	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	5	50	50
HVAC Optimization (coil cleaning, re-calibration of equipment) (D3020)	3	$ 22,917	116,917	$ 22,917	116,917	$ 22,917	116,917	$ 22,917	116,917	$ 22,917	116,917	1,753,757	2	50	50
Commissioning (retro and re)	10	$ 22,917	23,383	$ 22,917	23,383	$ 22,917	23,383	$ 22,917	23,383	$ 22,917	23,383	350,751	10	50	50
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-2027		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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
Walk Through Audit	5	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	1000	50	50
Engineering Audit	5	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	1000	50	50
Other (Describe)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100

		2023-2024		2024-2025		2025-2026		2026-2027		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		$ 87,500	295,175	$ 87,500	295,175	$ 87,500	295,175	$ 87,500	295,175	$ 87,500	295,175	3,757,675			

Keys	
$0.1567	= cost of 1 ekWh electricity
$0.0393	= cost of 1 ekWh natural gas
0.0955	m³ = 1 ekWh
$0.4116	= cost of 1 m³ of natural gas

Dufferin-Peel Catholic District School Board

Occupant Behaviour Strategies

		2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2023/24-2027/28			
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)**	**Energy Payback Period**	**% related to Electricity**	**% related to Natural Gas**
Building Operator Training	3	$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	3	60	40
Energy Benchmarking Program	5	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	638	1000	50	50
Building Automation Training (site specific)	3	$ 2,708	24,679	$ 2,708	24,679	$ 2,708	24,679	$ 2,708	24,679	$ 2,708	24,679	370,183	1	60	40
Ongoing Training and Awareness Programs for Energy Conservation	5	$ 6,250	4,312	$ 6,250	4,312	$ 6,250	4,312	$ 6,250	4,312	$ 6,250	4,312	64,673	10	90	10
Detailed Information on Building Operational Costs	1	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	638	1000	50	50
Detailed Information on Energy Consumption (e.g. via the Utility Consumption Database or other database)	1	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	$ 4,167	43	638	1000	50	50
Participate in Environmental Programs, such as EcoSchools, Earthcare	1	$ 4,167	5,749	$ 4,167	5,749	$ 4,167	5,749	$ 4,167	5,749	$ 4,167	5,749	86,230	5	90	10
Other Tools (Define)		$ -	-	$ -	-	$ -	-	$ -	-	$ -	-	-	0		100
Occupant Behaviour Strategies Total		**$ 25,625**	**34,867**	**$ 25,625**	**34,867**	**$ 25,625**	**34,867**	**$ 25,625**	**34,867**	**$ 25,625**	**34,867**	**522,999**			

Keys	
$0.1567	= cost of 1 ekWh electricity
$0.0393	= cost of 1 ekWh natural gas
0.0955	m^3 = 1 ekWh
$0.4116	= cost of 1 m^3 of natural gas

Calculating Energy Conservation Goals for FY 2024 to FY 2028

Dufferin-Peel Catholic District School Board

Conservation Goal

	FY 2023	
Total Building Area (includes portables) (m^2)	1,069,557	Enter from UCD. - use square meters
Total Building Area (includes portables) (ft^2)	11,512,994	Enter from UCD - use square feet
Energy Consumption for the board (ekWh)	182,461,408	Enter from UCD

1 ft^2 = 0.0929 m^2

	2023-2024		2024-2025		2025-2026		2026-2027		2027-2028		2023/24-2027/28
	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	$ 1,616,333	1,533,906	$ 1,616,333	1,533,906	$ 1,616,333	1,533,906	$ 1,616,333	1,533,906	$ 1,616,333	1,533,906	23,008,596
Appendix C: Operations and Maintenance Strategies Total	$ 87,500	249,179	$ 87,500	249,179	$ 87,500	249,179	$ 87,500	249,179	$ 87,500	249,179	3,737,679
Appendix D: Occupant Behaviour Strategies Total	$ 25,625	34,867	$ 25,625	34,867	$ 25,625	34,867	$ 25,625	34,867	$ 25,625	34,867	522,999
TOTAL	$ 1,729,458	1,817,952	$ 1,729,458	1,817,952	$ 1,729,458	1,817,952	$ 1,729,458	1,817,952	$ 1,729,458	1,817,952	27,269,273
Percentage reduction		1.00		1.00		1.00		1.00		1.00	4.98
Conservation Goal (ekWh/m^2)		1.70		1.70		1.70		1.70		1.70	8.50
Conservation Goal (ekWh/ft^2)		0.16		0.16		0.16		0.16		0.16	0.79