INSTRUCTIONS AND BACKGROUND INFORMATION

1. The spreadsheet is made up of 7 tabs - 2 tabs for informational support; 5 tabs for boards to populate: Instructions - Information for boards

UNIFORMAT Codes - Invformation for boards

- App A Renewable Energy board to populate
- App B Design, Costruction, Retrofit board to populate
- App C Operations & Maintenance board to populate
- App D Occupant Behaviour board to populate

NOTE

- App E **Conservation Goals** board must enter Total Floor Area & Energy Consumption from latest FY (top left corner); all other data fields are automatically populated based on the data entered into Appendices A, B, C & D
- 2. Users should calculate the total investment across the board's asset porfolio for each row, on each tab NOTE
- * VFA Board Expenditure Report is useful in calculating many of these values
- 3. The equation for calculating the estimated energy savings is shown in the Word template, page 19
- 4. the following fields have been pre-populated for the sector, but can be changed by the user:
- * Quantity of Time the Measure will be in place (years)
- * Energy Payback Period
- * % related to electricity (automatically calculates % of natural gas)
- * unit cost of electricity and natural gas

5. Unit Costs

- * this template has been prepopulated with the *provincial weighted average* electricity and natural gas unit costs from the FY2022- Sector Energy Cost Analysis Report
- * boards can use another value if they choose

Option # 1 - use your board's unit costs from the FY2022 Sector Energy Cost Analysis Report (found in the UCD at the MEC_EDU level, under the Document tab

Option # 2 - use the **Utility Cost Analysis Report (EDU 09)** for FY2022 or FY2023 (Note: if using FY2023, you need to ensure all consumption data is updated in the UCD before generating or your values will be skewed) (found in the UCD, at your **board portfolio level**, under the **Export** tab) and manually enter the utility expenditures for each facility

UNIFORMAT NOTES

- some projects may be attributed to another UNIFORMAT code because of their main purpose

Examples

- 1. LED exterior signage upgrade project could be attributed to code G204005 Site Development Signage
- 2. replacement of rooftop HVAC device may have more tha one UNIFORMAT code due to multiple work areas

D304007 - Distribution Systems - Exhaust Systems

D304008 - Air Handling Units

D306002 - Controls and Instrumentation - Electronic

| List of |
|-----------------------------------|
| UNIFORMAT codes and values |
| used by Boards |
| in expenditure reports in VFA |

| in expenditure reports in VFA | | | | | | | | | |
|-------------------------------|---|--|--|--|--|--|--|--|--|
| H.V.A.C. | | | | | | | | | |
| D30 | HVAC | | | | | | | | |
| D3010 | Energy Supply | | | | | | | | |
| D301001 | Energy Supply System Oil | | | | | | | | |
| D301002 | Energy Supply System Natural Gas | | | | | | | | |
| D301005 | Energy Supply System Hot Water from Central Plant | | | | | | | | |
| D301006 | Energy Supply System Solar | | | | | | | | |
| D301007 | Energy Supply System Wind | | | | | | | | |
| D301010 | Energy Supply System Propane | | | | | | | | |
| D3012 | Gas Supply System | | | | | | | | |
| D3020 | Heat Generating Systems | | | | | | | | |
| D302001 | Heat Generating Steam Boilers | | | | | | | | |
| D302002 | Heat Generating Hot Water Boilers | | | | | | | | |
| D302003 | Heat Generating Furnaces | | | | | | | | |
| D302004 | Heat Generating Fuel Fired Unit Heaters | | | | | | | | |
| D302006 | Heat Generating Equipment Thermal Insulation | | | | | | | | |
| D302050 | Auxiliary Equipment Chemical | | | | | | | | |
| D302051 | Auxiliary Equipment Expansion Tanks | | | | | | | | |
| D302052 | Auxiliary Equipment Heat Exchanger | | | | | | | | |
| D302053 | Auxiliary Equipment Humidifiers | | | | | | | | |
| D302054 | Auxiliary Equipment HVAC Pumps | | | | | | | | |
| D302055 | Auxiliary Equipment Stacks & Breaching | | | | | | | | |
| D302056 | Auxiliary Equipment Variable Frequency Drives (VFD) | | | | | | | | |
| D302057 | Auxiliary Equipment Glycol | | | | | | | | |
| D302097 | Heat Generating MakeUp AHU | | | | | | | | |
| D302098 | Heat Generating Roof Top AHU Heat & Cool | | | | | | | | |
| D302099 | Heat Generating Other | | | | | | | | |
| D3030 | Cooling Generating Systems | | | | | | | | |
| D303011 | Chilled Water Systems Chillers | | | | | | | | |
| D303012 | Chilled Water Systems Cooling Towers | | | | | | | | |
| D303099 | Cooling Generating Systems Other | | | | | | | | |
| D3040 | Distribution Systems | | | | | | | | |

| D304001 | Distribution Systems Air Distribution, Heating & Cooling |
|---------|---|
| D304002 | Distribution Systems Steam Distribution Systems |
| D304003 | Distribution Systems Heated Water Distribution Systems |
| D304005 | Distribution Systems Glycol Distribution Systems |
| D304006 | Distribution Systems Chilled Water Distribution Systems |
| D304007 | Distribution Systems Exhaust Systems |
| D304008 | Air Handling Units |
| D304009 | Distribution Systems Heat/Enthalpy Recovery Ventilation |
| D3050 | Terminal and Package Units |
| D305001 | Terminal and Package Units Unit Ventilators |
| D305002 | Terminal and Package Units Unit Heaters |
| D305003 | Terminal and Package Units Fan Coil Units |
| D305004 | Terminal and Package Units Fin Tube Radiation |
| D305006 | Terminal and Package Units Package Units |
| D305007 | Terminal and Package Units Heat Pumps |
| D305099 | Terminal and Package Units Other |
| D3060 | Controls and Instrumentation |
| D306002 | Controls and Instrumentation Electronic |
| D306003 | Controls and Instrumentation Pneumatic |
| D306004 | Building Automation System (F105002) |
| D3090 | Other HVAC Systems and Equipment |
| D309002 | Other HVAC Systems and Equipment Refrigeration Systems |
| | |
| D2020 | Domestic Water Distribution |
| D202001 | Domestic Water Distribution Pipes and Fittings |
| D202030 | Domestic Water Distribution Natural Gas DWH |
| D202031 | Domestic Water Distribution Electric DWH |
| D202032 | Domestic Water Distribution Instantaneous Hot Water Heaters |
| D202033 | Domestic Water Distribution Pumps |
| D202034 | Domestic Water Distribution Water Storage Tanks |
| D202035 | Domestic Water Distribution Water Treatment Systems |
| D202099 | Domestic Water Distribution Other Supply |
| D2023 | Domestic Water Supply Equipment |
| | Controls |
| D50 | Electrical |
| D5010 | Electrical Service and Distribution |
| D501001 | Electrical Service and Distribution Main Transformer |
| D501001 | Electrical Service and Distribution Secondary Transformer |
| D501002 | Electrical Service and Distribution Main Switchboard |
| D501003 | Electrical Service and Distribution Interior Distribution Transformer |
| D501005 | Electrical Service and Distribution Panel |
| D501007 | Electrical Service and Distribution Motor Control Centre |
| D501099 | Electrical Service and Distribution Other |
| | |
| | Lighting |
| D5020 | Lighting and Branch Wiring |
| D502001 | Lighting and Branch Wiring Branch Wiring |
| D502003 | Lighting and Branch Wiring Interior Lighting |
| | |

| D502004 | Lighting and Branch Wiring Exterior Lighting |
|---------|--|
| D502005 | Lighting and Branch Wiring Exit Lighting and Signs |
| D502006 | Lighting and Branch Wiring Stage Lighting |
| D502007 | Lighting and Branch Wiring Emergency Lighting |
| D5021 | Branch Wiring Devices |
| D5022 | Lighting Equipment |
| | |
| | Building Envelope |
| B30 | Roofing |
| B3010 | Roof Coverings |
| B3020 | Roof Openings |
| B302006 | Roof Openings Skylight |
| B3021 | Glazed Roof Openings |
| B3022 | Roof Hatches |
| B2010 | Exterior Walls |
| B2020 | Exterior Windows |

Calculating Energy Conservation Goals for FY 2024 to FY 2028

Press TAB to move to input area. Press UP or DOWN ARROW in column A to read through the document.

Renewable Energy Estimated number of systems installed Estimated total number of ekWh generated annually

| Iteliewabie Eliergy | | | _otimatoa na | inder or system | 3 mstanca | | Estimated total number of extri generated dimudity | | | | | | | | |
|-----------------------------|--------|---|--------------------------|--------------------------|--------------------------|--------------------------|--|----------------------------|----------------------------|--|----------------------------|----------------------------|--------------------|---|--|
| 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 2026 - 2027 | Fiscal Year 2027 - 2028 | Total Size (kW) | Actual or Estimated Total Generation (ekWh) | |
| Solar photovoltaic | | | | | | | | | | | | | | 0 | |
| Solar air | | | | | | | | | | | | | | 0 | |
| Solar water | | | | | | | | | | | | | | 0 | |
| Wind Turbine | | | | | | | | | | | | | | 0 | |
| Biomass | | | | | | | | | | | | | | 0 | |
| Other | | | | | | | | | | | | | | 0 | |

End of worksheet.

Design, Construction and Retrofit Strategies

| Property of the column Property of the col | besign, construction and Retrolit atrategies | Design, Construction and Retroft Strategies | | | | | | | | | | | | | | |
|--|--|--|--|--|---|--|--|---|---|--|---|---|--|---|--|---|
| Part | | | | 2023-2024 | | 2024-2025 | | 2025-2026 | | 2026-27 | | 2027-2028 | 2023/24-2027/28 | | | |
| March Marc | Lighting | | | | | | | | | | | Estimated Annual Energy Saving (ekWh) | | | | |
| State 1 | | 30 | \$ 215.518 | 196,479 | \$ 215.518 | 198.479 | \$ 226.294 | 206.303 | 226.294 | 206.303 | \$ 226.294 | 206.30 | 3,006,128 | 7 | 100 | 0 |
| Part | | | | | \$ | | | | | | | | | 7 | | 0 |
| The content of the | Occupancy Sensors (D5021, D5022) | 10 | \$ 53,879 | 68,768 | \$ 53,879 | 68,768 | \$ 56,573 | 72,208 | 56,573 | 72,206 | \$ 56,573 | 72,20 | | 5 | | 0 |
| Mary | Other (Describe) | | \$ - | | \$. | • | | • | | | \$. | | | 0 | | 100 |
| Mark Park | | ſ | | 2023-2024 | | 2024-2025 | | 2025-2026 | | 2026.27 | | 2027-2028 | 2023/24-2027/28 | | | |
| Mathematical Control | | | | | | | | | | | | | | | | |
| Part | | will be in place (years) | Implementation | | Implementation | | Implementation | (ekWh) | Implementation | | Implementation | (ekWh) | (ekWh) | Period | | |
| Part | | | \$ 60,000 | 88,540 | \$ 60,000 | 88,540 | 000,00 | 88,540 | 60,000 | 88,540 | \$ 60,000 | 88,54 | 1,328,097 | | | 95 |
| Part | | | \$. | | \$. | | | | - | | \$. | | - | | | |
| Part | | | \$. | | s . | | | | | | \$ - | | | | | |
| Part | Heat Recovery/Enthalpy Wheels (D3090) | 20 | \$ - | | \$ - | | | | | | \$ - | | | 8 | | 80 |
| Page | | | \$ - | | \$ - | • | | • | | • | \$ - | | | | | |
| State Stat | | | \$ 20,531 | 2,793 | \$ 20,531 | 2,793 | \$ 20,531 | 2,793 | 20,531 | 2,793 | \$ 20,531 | 2,79 | 93 41,898 | | | |
| Part | | | \$. | | \$ - | | | | | | \$ - | | | | | |
| Section Sect | | | \$. | | \$ | | 10,893 | 19,139 | 10,893 | 19,139 | \$ 10,893 | | | | | |
| Section Sect | | | \$ 3,678 | 2.347 | S 3.678 | 2.347 | 3.678 | 2.347 | 6.383 | 4.073 | \$. | | | | | 0 |
| Second Control (Colicie) Second Control (Col | VFD (D302056) | 10 | | 5,029 | | 5,029 | | | | 5,029 | \$ 3,202 | 5,02 | | 5 | | 25 |
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| 222-2274 Control C | | 10 | . 2 | | \$. | | | | | - : | 2 2 | | + | | 100 | |
| Company Comp | , | | | | | | | | | | • | | | | | |
| Part | | | | | | | | | | | | | | | | |
| Part | | | | 2023-2024 | | 2024-2025 | | 2025-2026 | | 2026-27 | | 2027-2028 | 2023/24-2027/28 | | | |
| Second Control | Controls | | | Estimated Annual Energy Savings from all | | 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 project | ts Estimated Total Accumulated Energy Savings | Energy Payback Period | | |
| Subding Subd | | will be in place | | Estimated Annual Energy Savings from all | | 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 project | ts Estimated Total Accumulated Energy Savings | Period | Electricity | Gas |
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| Design, Construction & Retrofit Strategies Total Will be in place Design, Construction & Retrofit Strategies Total Design, Construction & Retro | Building Automation Systems - New (13080) Building Automation Systems - Upgrade (13080) Real dine energy data for operators to identify and diagnose authing teams Voltage Hammotizers (0501001) Other (Describe) Building Envelope Gisseny (1302006, 182000, 182001) Workmand Visit Instalation (182010) New More (16301, 18200) New More (16301, 18200) New More (16301, 18200) New More (16301, 18200) | will be in place 15 15 10 10 15 Classify of Time that Measure will be in place 20 20 20 20 20 20 20 20 20 2 | Implamentation | Estimated Annual Energy Springs from all projects (eAVIN) 7 8 787 2023-3096 Estimated Annual Energy Springs from all projects (eAVIN) | Implementation | Estimated Annual Energy Springs from all projects (sWRP) 9.787 2004-2005 Estimated Annual Energy Springs from all projects (sWRP) 71.672 | Implementation \$ ' 14,388 \$ ' 5 ' 5 ' 5 ' Estimated Cost of Implementation \$ ' 5 ' ** ** ** ** ** ** ** ** ** | Estimated Annual Energy Savings from all projects (sWR9) | Implementation 14.388 14.388 Estimated Cost of Implementation | Estimated Annual Energy Savings from all projects (6AMB) 0.787 2026-27 Estimated Annual Energy Savings from all projects (6AMB) | Implementation \$ \$ 14,388 \$ Estimated Cost of Implementation \$ | Estimated Annual Energy Savings from all project (ea/Wh) | to Estimated Total Accommission Energy Savings (eAWN) 17 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 | Period 15 15 3 7 0 Energy Payback Period 80 40 200 80 10 | Electricity 50 50 50 100 1100 | Gas 50 50 50 0 100 100 % related to Natural Gas 60 80 80 |
| Design, Construction & Retrofit Strategies Total Design Constructi | Building Automation Systems - New (D3060) Building Automation Systems - Upgrade (D3060) Building Automation Systems - Upgrade (D3060) Real-alime energy data for operators to identify and diagnose building season Vollage Hammozices (D501001) Other (Describe) Building Erivatope Glazng (B300006, B2000, B2000, B2001 Foressed Wall Insulation (S2010) New Food (B3016, B3000) New Food (B3016, B3000) Transferrers Studing Devices | will be in place 15 15 10 10 15 Classify of Time that Measure will be in place 20 20 20 20 20 20 20 20 20 2 | Implamentation | Estimated Annual Energy Springs from all projects (eAVIN) 7 8 787 2023-3096 Estimated Annual Energy Springs from all projects (eAVIN) | Implementation | Estimated Annual Energy Springs from all projects (sWRP) 9.787 2004-2005 Estimated Annual Energy Springs from all projects (sWRP) 71.672 | Implementation \$ ' 14,388 \$ ' 5 ' 5 ' 5 ' Estimated Cost of Implementation \$ ' 5 ' ** ** ** ** ** ** ** ** ** | Estimated Annual Energy Savings from all projects (sWR9) | Implementation 14.388 14.388 Estimated Cost of Implementation | Estimated Annual Energy Savings from all projects (6AMB) 0.787 2026-27 Estimated Annual Energy Savings from all projects (6AMB) | Implementation \$ \$ 14,388 \$ Estimated Cost of Implementation \$ | Estimated Annual Energy Savings from all project (ea/Wh) | to Estimated Total Accommission Energy Savings (eAWN) 17 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 | Period 15 15 3 7 0 Energy Payback Period 80 40 200 80 10 20 | Electricity 50 50 50 100 1100 | Gas 50 50 50 0 100 100 W related to Natural Gas 80 80 80 80 80 80 |
| Design_Construction & Netront strategies 1-dat will be in place implementation projects (AWIN) implementation | Building Automation Systems - New (D3060) Building Automation Systems - Upgrade (D3060) Building Automation Systems - Upgrade (D3060) Real-alime energy data for operators to identify and diagnose building season Vollage Hammozices (D501001) Other (Describe) Building Erivatope Glazng (B300006, B2000, B2000, B2001 Foressed Wall Insulation (S2010) New Food (B3016, B3000) New Food (B3016, B3000) Transferrers Studing Devices | will be in place 15 15 10 10 15 Classify of Time that Measure will be in place 20 20 20 20 20 20 20 20 20 2 | Implamentation | Estimated Annual Energy Springs from all projects (eAVIN) 7 8 787 2023-3096 Estimated Annual Energy Springs from all projects (eAVIN) | Implementation | Estimated Annual Energy Springs from all projects (sWRP) 9.787 2004-2005 Estimated Annual Energy Springs from all projects (sWRP) 71.672 | Implementation \$ ' 14,388 \$ ' 5 ' 5 ' 5 ' Estimated Cost of Implementation \$ ' 5 ' ** ** ** ** ** ** ** ** ** | Estimated Annual Energy Savings from all projects (sWR9) | Implementation 14.388 14.388 Estimated Cost of Implementation | Estimated Annual Energy Savings from all projects (6AMB) 0.787 2026-27 Estimated Annual Energy Savings from all projects (6AMB) | Implementation \$ \$ 14,388 \$ Estimated Cost of Implementation \$ | Estimated Annual Energy Savings from all project (ea/Wh) | to Estimated Total Accommission Energy Savings (eAWN) 17 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 - 146.810 | Period 15 15 3 7 0 Energy Payback Period 80 40 200 80 10 20 | Electricity 50 50 50 100 1100 | Gas 50 50 50 0 100 100 W related to Natural Gas 80 80 80 80 80 80 |
| Total 8 1,376,19 489,002 5 1,296,196 490,002 5 1,296,196 490,002 5 1,296,509 477,019 5 1,296,264 479,652 5 1,291,861 475,460 7,791,372 | Building Automation Systems - New (D3060) Building Automation Systems - Upgrade (D3060) Building Automation Systems - Upgrade (D3060) Real-alime energy data for operators to identify and diagnose building season Vollage Hammozices (D501001) Other (Describe) Building Erivatope Glazng (B300006, B2000, B2000, B2001 Foressed Wall Insulation (S2010) New Food (B3016, B3000) New Food (B3016, B3000) Transferrers Studing Devices | will be in place 15 15 10 10 15 Classify of Time that Measure will be in place 20 20 20 20 20 20 20 20 20 2 | Implamentation | Estimated Annual Energy Savings from all projects (eAVIII) 9.767 2023-2024 Estimated Annual Energy Savings from all projects (eAVIII) 71.672 95.505 | Implementation | Estimated Annual Energy Servings from all projects (seWh) 9.767 2024-2025 Estimated Annual Energy Savings from all projects (seWh) 71.672 4.977 | Implementation \$ ' 14,388 \$ ' 5 ' 5 ' 5 ' Estimated Cost of Implementation \$ ' 5 ' **The Cost of Implementation \$ ' 5 ' **The Cost of Impleme | Estimated Annual Energy Swings from all projects (eWM) 9.787 2025-2026 Estimated Annual Energy Swings from all projects (eWM) 71.672 71.672 | Implementation 14.388 14.388 Estimated Cost of Implementation | Estimated Annual Energy Barrings from all projects (exVith) 0.797 | Implementation \$ \$ 14,388 \$ Estimated Cost of Implementation \$ | Estimated Annual Energy Savings from all project (64Wh) 9.78 2027-2028 Estimated Annual Energy Savings from all project (64Wh) 716.7 | ### Estimated Total Accommission Energy Savings (akWn) ### 148,810 ### 2023/24-2027/28 ### Estimated Total Accommission Energy Savings (akWn) #### 151,000 #### 151,000 #### 151,000 ##### 151,000 ################################# | Period 15 15 3 7 0 Energy Payback Period 80 40 200 80 10 20 | Electricity 50 50 50 100 1100 | Gas 50 50 50 0 100 100 W related to Natural Gas 80 80 80 80 80 80 |
| | Building Automation Systems - New (10000) Building Automation Systems - Upgrade (10000) Building Automation Systems - Upgrade (10000) Building Remaining (100000) Cellege Humanizers (1001001) Cellege Humanizers (1001001) Building Erretope Glazing (1000000) (82000) 82001 bers Water (100000) (82000) Building Erretope Glazing (1000000) (82000) Glazing (1000000) Glazing (1000000) Glazing (1000000) Glazing (1000000) | will be in place 15 15 10 10 15 15 Country of Time that Measure will be in 500 22 10 30 Quantity of Time that Measure Will be in 500 22 30 Quantity of Time that Measure | Implementation | Estimated Annual Energy Savings from all projects (eAVII). 9.767 2023-2024 Estimated Annual Energy Savings from all projects (eAVII). 71.672 19.500 2023-2024 Estimated Annual Energy Savings from all projects (eAVII). | Implementation | Estimated Annual Energy Savings from all projects (skWh) 9.787 2024-2025 Estimated Annual Energy Savings from all projects (skWh) 71.672 8.977 2024-2025 Estimated Annual Energy Savings from all projects (skWh) | Implementation 14.308 14.308 Estimated Cost of Implementation Implementation S 900,000 Estimated Cost of | Estimated Annual Energy Swings from all projects (eWM) 9.787 2026-2026 Estimated Annual Energy Swings from all projects (eWM) 77.872 71.872 2025-2026 Estimated Annual Energy Swings from all projects (eWM) | Implementation 14.388 Estimated Cost of Implementation 9 900,000 Estimated Cost of Estimated Cost | Estimated Annual Energy Barrings from all projects (exVith) 0.797 2026-27 Estimated Annual Energy Savings from all projects (eXVith) 7.1672 2026-27 Estimated Annual Energy Savings from all projects (eXVith) | Implementation S 14.388 S | Estimated Annual Energy Savings from all project (64Wh) 9.78 2027-2028 Estimated Annual Energy Savings from all project (64Wh) 7167 2027-2028 Estimated Annual Energy Savings from all project (64Wh) | ### Estimated Total Accommission Energy Savings (akWn) ### 148,810 ### 202324-2027/28 ### Estimated Total Accommission Energy Savings (akWn) ### 202324-2027/28 #### 202324-2027/28 #### 202324-2027/28 #### 202324-2027/28 #### 202324-2027/28 ################################### | Period 15 15 3 7 0 Energy Payback Period 80 40 200 80 10 20 | Electricity 50 50 50 100 1100 | Gas 50 50 50 0 100 100 W related to Natural Gas 80 80 80 80 80 80 |

| 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 | m° = 1 ekWh (as per NRCan |
| 0.0000 | conversion table) |
| \$0.4116 | = cost of 1 m3 of natural gas |

Press TAB to move to input area. Press UP or DOWN ARROW in column A to read through the docum

| Operations and Maintenance Strategies | | | 2023-2024 | | 2024-2025 | | 2025-2026 | | 2026-27 | | 2027-2028 | 2023/24-2027/28 | 1 | | |
|---|---|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|--|--|--------------------------|-----------------------------|----------------------------|
| 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 Natura Gas |
| New School Design/Construction Guidelines and Specifications | 5 | s - | | s - | | s - | | s - | | s - | | | 5 | 50 | <u> </u> |
| Day and Night Temperature Guidelines for all Schools | 10 | s - | | s - | * | s - | | s - | | s - | | | 5 | 20 | <mark>/</mark> |
| Nighttime Blackout of Sites - Interior | 10 | \$. | | \$ - | | \$. | | s - | | \$. | | | 7 | 100 | |
| Nighttime Blackout of Sites - Exterior | 10 | \$ | | s - | | \$ - | | s - | | \$. | | | 7 | 100 | |
| Procures Only Energy Star Certified Appliances | 5 | \$ 2,00 | 2,563 | \$ 2,000 | 2,563 | \$ 2,00 | 0 2,553 | \$ 2,000 | 2,563 | \$ 2,00 | 2,560 | | 5 | 100 | |
| Demand Ventilation (servicing) (D3020,D3030, D3040) | 3 | \$ - | | s - | | s - | | s - | | \$ - | and the second s | | 5 | 50 | |
| HVAC Optimization (coil cleaning, re-calibration of equipment) (D3020) | 3 | s - | | s - | - | s - | | s - | | \$ - | | | 2 | 50 | |
| Commissioning (retro and re) | 10 | \$ - | the second secon | s - | the second secon | s - | | s - | | \$ - | | | 10 | 50 | |
| Other (Describe) | | \$ - | • | s - | - | s - | | \$ - | • | \$ - | | • | 0 | | |
| | | | 2022 2024 | | 2024 2025 | | 2025 2026 | | 2026 27 | | 2027 2029 | 2022124 2027129 | | | |

| Engineering Audit | 5 | \$ - | and the second s | s - | and the second s | \$ - | · · · · · · · · · · · · · · · · · · · | s - | and the second s | \$ - | · · · · · · · · · · · · · · · · · · · | | 1000 | 0 50 | 50 |
|---------------------------------------|--|-------------------|--|-------------------|--|-------------------|---|-------------------|--|-------------------|---|--|------|------|-----|
| Other (Describe) | | \$ - | | \$ - | | s - | | \$ - | | \$ - | | | 0 | | 100 |
| | | | | | | | | | | | | | | | |
| | | | 2023-2024 | | 2024-2025 | | 2025-2026 | | 2026-27 | | 2027-2028 | 2023/24-2027/28 | | | |
| Operations and Maintenance Strategies | | 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 (ekWh) | 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 | | | |
| Total | Quantity of Time that Measure Will be in place | Implementation | (ekWh) | Implementation | (ekWh) | Implementation | (ekWh) | Implementation | (ekWh) | Implementation | (ekWh | (ekWh) | | | |
| Total | | | | | | | | | | | | | | | |

| Keys | |
|----------|-------------------------------|
| | = cost of 1 ekWh electricity |
| | = cost of 1 ekWh natural gas |
| | m³ = 1 ekWh |
| \$0.4116 | = cost of 1 m³ of natural gas |

for all contributions

Press TAB to move to input area. Press UP or DOWN ARROW in column A to read through the docume

Occupant Behaviour Strategies

| | | | 2023-2024 | 201 | 9-2020 2024-2025 | | 2025-2026 | | 2026-27 | | 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 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) | | Energy Payback Period | % related to Electricity | % related to Natural Gas |
| Building Operator Training | 3 | \$ 1,500 | 4,556 | \$ 1,500 | 4,556 | \$ 1,500 | 4,556 | \$ 1,500 | 4,556 | \$ 1,500 | 4,556 | 68,341 | 3 | 60 | 40 |
| Energy Benchmarking Program | 5 | \$ - | • | \$ - | - | \$ - | - | s - | | \$ - | | | 1000 | 50 | 50 |
| Building Automation Training (site specific) | 3 | \$ - | | \$ - | | \$ - | | \$ - | | \$ - | | | 1 | 60 | 40 |
| Ongoing Training and Awareness Programs for Energy Conservation | 5 | s - | | s - | | s - | | s - | | s - | | | 10 | 90 | 10 |
| Detailed Information on Building Operational Costs | 1 | \$ 1,000 | 10 | \$ 1,000 | 10 | \$ 1,000 | 10 | \$ 1,000 | 10 | \$ - | | 143 | 1000 | 50 | 50 |
| Detailed Information on Energy Consumption (e.g. via the Utility Consumption Database or other database) | 1 | s - | | s - | | s - | | s - | | s - | | | 1000 | 50 | 50 |
| Participate in Environmental Programs, such as EcoSchools, Earthcare | 1 | s - | | s - | | s - | | s - | | \$ - | | | 5 | 90 | 10 |
| Other Tools (Define) | | \$ - | • | \$ - | | \$ - | | s - | | \$ - | | | 0 | | 100 |
| Occupant Behaviour Strategies Total | | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 1,500 | 4,556 | 68,484 | | | |

| 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 m ³ of natural gas |

ford of constability

Press TAB to move to input area. Press UP or DOWN ARROW in column A to read through the document.

Conservation Goal

| | FY 2018 | |
|--|------------|----------------------------------|
| Total Building Area (includes portables) (m²) | 441,187 | Enter from UCD use square meters |
| Total Building Area (includes portables) (ft²) | 4,748,897 | Enter from UCD - use square feet |
| Energy Consumption for the board (ekWh) | 67,864,761 | Enter from UCD |

1 ft² = 0.0929 m²

| | 2023-2024 | | 2024-2025 | | 2025-2026 | 2026-27 | 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 | \$ 1,376,196 | 469,882 | \$ 1,296,196 | 450,392 | \$ 1,295,559 | 477,815 | \$ 1,298,264 | 479,542 | \$ 1,291,881 | 475,468 | 7,018,972 |
| ppendix C: Operations and Maintenance Strategies Total | \$ 2,000 | 2,553 | \$ 2,000 | 2,553 | \$ 2,000 | 2,553 | \$ 2,000 | 2,553 | \$ 2,000 | 2,553 | 38,290 |
| Appendix D: Occupant Behaviour Strategies Total | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 2,500 | 4,566 | \$ 1,500 | 4,556 | 68,484 |
| TOTAL | \$ 1,380,696 | 477,001 | \$ 1,300,696 | 457,511 | \$ 1,300,059 | 484,934 | \$ 1,302,764 | 486,661 | \$ 1,295,381 | 482,577 | 7,125,746 |
| Percentage reduction | | 0.70 | | 0.67 | | 0.71 | | 0.73 | | 0.71 | 1 |
| Conservation Goal (ekWh/m²) | | 1.00 | 3 | 1.04 | 1 | 1.10 | | 1.10 | | 1.09 | |
| Conservation Goal (ekWh/ft²) | | 0.10 | | 0.10 | | 0.10 | | 0.10 | | 0.10 | D I |
| | Note | | Note | | Note | | Note | | Note | | |
| | Check the total in cell B15 to confirm validity of estimated amount to be spent during that year | | Check the total in cell D15 to confirm validity of estimated amount to be spent during that year | | Check the total in cell F15 to confirm validity of estimated amount to be spent during that year | | Check the total in cell H15 to confirm validity of estimated amount to be spent during that year | | Check the total in cell J15 to confirm validity of estimated amount to be spent during that year | | |

End of worksheet.

Calculating Energy Conservation Goals for FY 2024 to FY 2028

Please note:

- some projects could be attributed to another UNIFORMAT code because of their main purpose (LED exterior signage upgrade project could be attributed to code G204005 - Site Development - Signage)
- some projects like replacing rooftop HVAC device related to more than one UNIFORMAT code due to multiple work areas (D304007 Distribution Systems Exhaust Systems, D304008 Air Handling Units, D306002 Controls and Instrumentation Electronic .etc..)