## Design, Construction and Retrofit Strategies

| Lighting | Quantity of Time that Measure will be in place | 2013-14 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | | 2013/14-2017/18 | Energy Payback Period | % related to Electricity | % related to Natural Gas |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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) | | | |
| High Efficiency Lighting Systems (T-8, T-5, CFL, LED ...) | 15 | $ 50,000 | 49,383 | $ 100,000 | 98,765 | $ 100,000 | 98,765 | $ 100,000 | 98,765 | $ 100,000 | 98,765 | 1,234,568 | 7.5 | 100 | 0 |
| Daylight Sensors | 10 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 100 | 0 |
| Outdoor Lighting | 15 | $ 10,000 | 9,877 | $ 10,000 | 9,877 | $ 10,000 | 9,877 | $ 10,000 | 9,877 | $ 10,000 | 9,877 | 148,148 | 7.5 | 100 | 0 |
| Occupancy Sensors | 10 | $ 5,000 | 7,407 | $ 5,000 | 7,407 | $ 5,000 | 7,407 | $ 5,000 | 7,407 | $ 5,000 | 7,407 | 111,111 | 5 | 100 | 0 |
| Daylight Harvesting | 10 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 100 | 0 |
| Other (Describe) | | $ - | | $ - | | $ - | | $ - | | $ - | | - | | | |

| HVAC | Quantity of Time that Measure will be in place | 2013-14 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | | 2013/14-2017/18 | Energy Payback Period | % related to Electricity | % related to Natural Gas |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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) | | | |
| Efficient Boilers (near condensing) | 30 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 15 | 5 | 95 |
| High Efficiency Boilers (condensing) | 15 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 10 | 5 | 95 |
| High-efficiency boiler burners | 10 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 5 | 95 |
| Geothermal | 15 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 40 | 100 | 0 |
| Heat recovery/enthalpy wheels | 30 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 8 | 20 | 80 |
| Economizers | 15 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 7.5 | 50 | 50 |
| Energy efficient HVAC systems | 30 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 75 | 50 | 50 |
| Energy efficient Rooftop units | 15 | $ 50,000 | 19,791 | $ 50,000 | 19,791 | $ 50,000 | 19,791 | $ 50,000 | 19,791 | $ 50,000 | 19,791 | 296,868 | 30 | 50 | 50 |
| High Efficiency Domestic Hot Water | 15 | $ 50,000 | 102,751 | $ 50,000 | 102,751 | $ 50,000 | 102,751 | $ 50,000 | 102,751 | $ 50,000 | 102,751 | 1,541,267 | 10 | 15 | 85 |
| Efficient Chillers and Controls | 25 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 100 | 100 | 0 |
| High-efficiency motors | 20 | $ 10,000 | 4,938 | $ 10,000 | 4,938 | $ 10,000 | 4,938 | $ 10,000 | 4,938 | $ 10,000 | 4,938 | 74,074 | 15 | 100 | 0 |
| VFD | 15 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 75 | 25 |
| Demand Ventilation | 10 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 50 | 50 |
| Entrance Heater Controls | 20 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 5 | 50 | 50 |
| Other (Describe) | | $ - | | $ - | | $ - | | $ - | | $ - | | - | | | |

| Controls | Quantity of Time that Measure will be in place | 2013-14 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | | 2013/14-2017/18 | Energy Payback Period | % related to Electricity | % related to Natural Gas |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 Automation Systems - New | 10 | $ 20,000 | 15,833 | $ 20,000 | 15,833 | $ 20,000 | 15,833 | $ 20,000 | 15,833 | $ 20,000 | 15,833 | 237,494 | 15 | 50 | 50 |
| Building Automation Systems - Upgrade | 10 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 15 | 50 | 50 |
| Other (Describe) | | $ - | | $ - | | $ - | | $ - | | $ - | | - | | | |

| Building Envelope | Quantity of Time that Measure will be in place | 2013-14 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | | 2013/14-2017/18 | Energy Payback Period | % related to Electricity | % related to Natural Gas |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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) | | | |
| Glazing | 30 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 80 | 20 | 80 |
| Increased Wall Insulation | 50 | $ 10,000 | 4,652 | $ - | - | | - | $ - | - | $ - | - | 23,260 | 40 | 20 | 80 |
| New Roof | 25 | $ 1,900,000 | 176,777 | $ 1,500,000 | 139,561 | $ 1,500,000 | 139,561 | $ 1,500,000 | 139,561 | $ 1,500,000 | 139,561 | 2,279,494 | 200 | 20 | 80 |
| New Windows | 30 | $ 150,000 | 34,890 | $ 150,000 | 34,890 | $ 150,000 | 34,890 | $ 150,000 | 34,890 | $ 150,000 | 34,890 | 523,353 | 80 | 20 | 80 |
| Treatments | 10 | $ 50,000 | 93,041 | $ 50,000 | 93,041 | $ 50,000 | 93,041 | $ 50,000 | 93,041 | $ 50,000 | 93,041 | 1,395,608 | 10 | 20 | 80 |
| Shading Devices | 30 | $ - | - | $ - | - | $ - | - | $ - | - | $ - | - | - | 20 | 100 | 0 |
| Other (Ceiling-Attic Insulation) | 50 | $ 30,000 | 13,956 | $ 30,000 | 13,956 | $ 30,000 | 13,956 | $ 30,000 | 13,956 | $ 30,000 | 13,956 | 209,341 | 40 | 20 | 80 |

| Design, Construction and Retrofit Strategies Total | $ 2,335,000 | 533,296 | $ 1,975,000 | 540,811 | $ 1,975,000 | 540,811 | $ 1,975,000 | 540,811 | $ 1,975,000 | 540,811 | 8,074,588 |
|---|---|---|---|---|---|---|---|---|---|---|---|

= Default value
= Calculated Value
Represents Corrected Value from Previous Version-Calculated
Represents Corrected Value from Previous Version-Inputted

$0.135 = cost of 1 ekWh electricity
$ 0.0334 = cost of 1 ekWh natural gas
0.0955 $m^3$ = 1 ekWh (as per NRCan conversion table)
$0.35 = cost of 1 $m^3$ of natural gas