

## Corporate Climate Change Action Plan (CCCAP)

The updated CCCAP identifies twenty-seven action items for the Regional District to implement to achieve the corporate GHG emissions reduction target of 30% of 2022 emissions by 2030.

Conduct building energy audits is the first action item for existing buildings and infrastructure. This aims to improve energy performance and lower GHG emissions in existing Regional District buildings and infrastructure.

## FortisBC – Commercial Energy Assessment Program

The consultant for FortisBC has completed the energy audit of the Exploration Place along with both the old and new Beverly Fire Halls along with the Public Safety Operations Building. The summary reports include proposed energy conservation measures, and the savings associated with each upgrade.

FRESCO, an authorized FortisBC consultant, conducted walkthrough energy assessments of four Regional District facilities, reporting the following summaries and proposed energy conservation measures.

### 1. The Exploration Place

<b>Upgrade Opportunity</b>	<b>Annual Gas Savings (GJ/year)</b>	<b>Annual Electricity Savings (kWh/year)</b>	<b>Cost Savings (\$/year)</b>	<b>Lifetime GHG Savings, Tonnes</b>	<b>Capital Cost</b>	<b>FortisBC Rebate</b>	<b>Simple Payback with Rebate (years)</b>
<b>Window Upgrade</b>	305	-	\$2,670	458	\$192,000	-	-
<b>Hydronic Performance Additive</b>	121	-	\$1,060	30	\$6,045	\$2,340	3.5
<b>Kitchen Demand Ventilation</b>	63	-	\$550	47	\$5,000	-	9.1
<b>Dual-Fuel Heat Pump Packaged RTU</b>	309	-43,002	-\$1,090	309	\$71,400	\$21,420	-
<b>Dual-Fuel Heat Pump Packaged RTU</b>	111	-15,463	-\$390	111	\$60,000	\$18,000	-
<b>Dual-Fuel Heat Pump Packaged RTU</b>	111	-15,463	-\$390	111	\$71,400	\$21,420	-
<b>High-Efficiency Central Boiler Plant</b>	137	-	\$1,190	137	\$143,800	-	-
<b>High-Efficiency DHW Heating</b>	200	-	\$1,750	200	\$20,000	-	11.4
<b>Space Heating Gas Heat Pump</b>	507	-	\$4,420	507	\$300,000	\$200,000	-

The table above provides an outline of the savings associated with each upgrade measure. All figures are estimates and are expected to vary within a range of +/-30%.

## 2. Beverly Fire Hall (New)

<b>Upgrade Opportunity</b>	<b>Annual Gas Savings (GJ/year)</b>	<b>Annual Electricity Savings (kWh/year)</b>	<b>Cost Savings (\$/year)</b>	<b>Lifetime GHG Savings, Tonnes</b>	<b>Capital Cost</b>	<b>FortisBC Rebate</b>	<b>Simple Payback with Rebate (years)</b>
<b>Fire Hall Roof Insulation</b>	21	-	\$190	32	\$42,540	-	-
<b>Pipe Insulation</b>	4	-	\$40	6	\$300	\$120	4.5
<b>Truck Bay Door Air Curtains</b>	12	-	\$110	12	\$30,000	\$12,000	-
<b>Space Heating Gas Heat Pump</b>	56	-	\$520	56	\$300,000	\$200,000	-
<b>DHW Gas Heat Pump</b>	7	-	\$60	7	\$300,000	\$200,000	-

The table above provides an outline of the savings associated with each upgrade measure. All figures are estimates and are expected to vary within a range of +/-30%.

## 3. Beverly Fire Hall (Old)

<b>Upgrade Opportunity</b>	<b>Annual Gas Savings (GJ/year)</b>	<b>Annual Electricity Savings (kWh/year)</b>	<b>Cost Savings (\$/year)</b>	<b>Lifetime GHG Savings, Tonnes</b>	<b>Capital Cost</b>	<b>FortisBC Rebate</b>	<b>Simple Payback with Rebate (years)</b>
<b>Connected Programmable Thermostats</b>	18	-	\$170	14	\$600	\$80	3.1
<b>Truck Bay Roof Insulation</b>	35	-	\$330	53	\$47,576	-	-
<b>Truck Bay Door Air Curtains</b>	7	-	\$70	7	\$20,000	\$8,000	-
<b>High-Efficiency Radiant Heating</b>	11	-	\$100	11	\$2,000	\$800	12.0

The table above provides an outline of the savings associated with each upgrade measure. All figures are estimates and are expected to vary within a range of +/-30%.

## 4. Public Safety and Operation Building

<b>Upgrade Opportunity</b>	<b>Annual Gas Savings (GJ/year)</b>	<b>Annual Electricity Savings (kWh/year)</b>	<b>Cost Savings (\$/year)</b>	<b>Lifetime GHG Savings, Tonnes</b>	<b>Capital Cost</b>	<b>FortisBC Rebate</b>	<b>Simple Payback with Rebate (years)</b>
<b>Hydronic Performance Additive</b>	3	-	\$30	1	\$713	\$276	-
<b>Warehouse Door Air Curtains</b>	1	-	\$10	1	\$5,000	\$2,000	-
<b>Warehouse Ceiling Fans</b>	1	-	\$10	1	\$323	-	-
<b>DDC Building Automation System</b>	29	-	\$270	22	\$66,000	-	-
<b>Space Heating Gas Heat Pump</b>	10	-	\$90	10	\$300,000	\$200,000	-

The table above provides an outline of the savings associated with each upgrade measure. All figures are estimates and are expected to vary within a range of +/-30%.

The next phase of this project is to conduct detailed, system-specific feasibility studies for the Exploration Place and Beverly Fire Hall. These studies will estimate the financial and energy savings associated with the implementation of Gas Absorption Heat Pump (GAHP) technology. FortisBC provides funding of up to \$20,000 per feasibility study.