



**NANAIMO LADYSMITH**  
PUBLIC SCHOOLS

**BCH 1/4ly Review**  
**Jan/Feb/Mar 2024**  
**BCH Q8 FY24**

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Energy Manager  
April 5, 2024

Success For All

# Executive Summary

In Partnership with



**Conservation Target**

150,000 kWh

**Low Carbon Electrification Target**

100,000 kWh

Board Goal 4.5% per year

Clean BC 50% by 2030

Anticipated 184tCO2e buildings



# Short-term Targets - BCH

<b>Updated March 22/24</b>			
<b>FY24</b>	kWh Target	Actual	
Energy Conservation Target	150,000	112,500	COP Group A
Low Carbon Electrification Target	100,000	149,538	LCE
ESPM 2.4% of kwh usage 2022/23			199,000 not needed
<b>Total Target FY24</b>	<b>250,000</b>	<b>262,038</b>	<b>Target met !</b>
<b>FY25</b>	Target		
Energy Conservation	150,000	100,000	COP Group B
Low Carbon Electrification	100,000	43,085	LCE
ESPM 2.4% of kwh usage 2022/23			199,000 will use this
<b>Total Target FY25</b>	<b>250,000</b>	<b>143,085</b>	<b>Target LOW LCE</b>
<b>FY26</b>	Target		
Energy Conservation	150,000	100,000	COP Group C
Low Carbon Electrification	100,000	121,000	LCE Randerson PH 2
ESPM 2.4% of kwh usage 2022/23			199,000 may use this
<b>Total Target FY26</b>	<b>250,000</b>	<b>221,000</b>	<b>Target MET</b>

# BCH LCE Targets FY24, FY25 and FY26

Summary of LCE - includes retrofits and kwh fuel/transportation

Updated March 31 2024

LCE FY23 (Mar 31/23) DECLARED				LCE FY24 (Mar 31/24)		LCE FY25 (Mar 31/25)	
		kWh	Declaration #	kWh	Declaration #	kWh	Declaration #
Cilaire	Clean BC	56,801	BCH 07960	70,538	Bus #3&4	23,250	Lion busses (PE)
CSS	Clean BC	92,767	BCH 08108		File # ???	9,667	Pvalley (PE)
PV	Clean BC	19,000	BCH 07900	79,000	Bre PH2 CleanBC	4,849	EV Van #1 (PE)
Busses IC1 & IC2	PE	82,140	BCH 09429		BCH 09857	4,013	EV Van #2 & Kona (PE)
						1,306	Ford Focus (PE)
						tba	Next 2 Vans (PE) or <b>FY26</b>
TOTALS		250,708		149,538		43,085	

FY26 - will include two 25PASS MINI BUSES >> 10,000 kWh

FY26 - Randerson ASHP for >> 111,000 kWh ????

FY27 - will include one 70PASS QQS bus >> 18,000 kWh

## What are new targets???

## Randerson Business Case for PH2

### ESTIMATE OF UTILITY SAVINGS

	NATURAL GAS (GJ)	ELECTRICITY (kWh)	GHG (tCO <sub>2</sub> e)	PROJECTED GHG REDUCTION (tCO <sub>2</sub> e)	INCREMENTAL INSTALLATION COST (\$)
EXISTING (5-year average of building consumption)	1,637	116,652	82.4		
<b>Measure 1 &amp; 2</b> PROJECTED (New Condensing Boilers and DDC)	1,405	116,652	70.9	11.5	\$663,000
<b>Measure 5</b> PROJECTED (Replacing AHU coils with Low-Temperature )	1,405	116,652	70.9	11.5	\$100,000
<b>Measure 4</b> PROJECTED (Adding new ASHP to system with gas back up – System to Run at High Temperature)	448	228,158	24.4	58.1	\$855,000
<b>Measure 3</b> PROJECTED (Replacing Terminal Units with Low-Temperature)	363	228,158	20.2	62.2	\$614,000

# Randerson Business Case Analysis

Measure #	ECM Description	ANNUAL SAVINGS	GHG DATA					FINANCIALS		
		Total Utility Cost Savings \$	GHG Emissions (tCO2e)	GHG Reduction (tCO2e)	% Reduction GHGs	EIR	EIRR	Total Capital Cost (excl GST)	Incr cost	Simple PB (yrs) (incr cost)
	<b>Existing</b>	\$0	82.8	0.0	0%	25.2		\$0	\$0	
1&2	BASE - Boilers and DDC Upgrade	\$3,642	71.2	11.6	14%	21.7	0.02	\$663,000	\$663,000	182
5	New AHU LT Coils Heat Mitigation	\$3,642	71.2	11.6	14%	21.7	0.02	\$763,000	\$100,000	27
3	Remove panels /add LOW T RHC	\$4,427	68.7	14.1	17%	20.9	0.01	\$1,377,000	\$614,000	139
4	ASHP ** no RHC ** run at High T	\$4,729	24.6	58.2	70%	7.5	0.03	\$2,232,000	\$855,000	181
3&5	ASHP ** with low T RHC	\$6,064	20.4	62.4	75%	6.2	0.03	\$2,232,000		0
		\$0	0.0			0.0		\$0	\$0	
								Check >>	\$2,232,000	

# *Projects*

# *Projects completed...FY23*

<i>Dec 2022</i>	<i>Jan 2023</i>	<i>Mar 2023</i>
Cilaire	JBS PH 1	COP- Gr A Investigation
PV	CSS	Lighting audit
H Bay	LSS - UVs	
BRE PH 1	BRE - DDC	



# Projects In-Progress...*FY24* & *FY25*

<i>Dec 2023</i>	<i>Mar 2024</i>	<i>2024/25</i>
JBS PH2	COP Gr A Implementation	Randerson PH1
JBS DDC	COP Gr B Investigation *	COP Gr C Investigation
LIS - ERVs	BRE PH2 (CleanBC) **	GHG Study
	Bayview DDC	COP Gr B Implementation
	Randerson DDC	Q-Way Portables
		<b>FY26 – COP Group C Implementation</b>

\* extended to April 30, 2024

\*\* extended to June 30, 2024

# What is next – FY26

STATUS 2	STATUS 1	Facility	Project Type
2025-2026	UNDER REVIEW	<b>COP SITES</b>	DDC - RcX - GROUP C Implementation
		<b>Randerson</b>	HVAC - PH 2 - ASHP and change RHC to LT
		All High schools	HVAC - Compressed air systems
		Frank Ney	DDC - V2 upgrade igrph to V3
		Gabriola/LSP/Noyster	HVAC - Mechanical Review of air systems
		Harewood Gym	HVAC - new heat pump
		Island Connect Ed	HVAC - Boiler upgrade
		Maintenance SHOP	HVAC - Boiler Upgrade & heating systems
			HVAC - DUST Extractor; was \$444K
		Wellington	HVAC - PH1 - AHU Upgrade C1 C2 C3; DDC; heating coil; boiler addition
			HVAC - PH2 - AHU Upgrade B1 B2 D1 E1
		Woodbank	HVAC - Needs new boilers
	<b>UNDER REVIEW Total</b>		

*And finally...*

# NLPS 9<sup>th</sup> Annual ENERGY CUP CHALLENGE

November 1 – February 29



Take Action, Save Energy and GHG Emissions,  
Spread the Word



**Energy Cup  
CELEBRATORY Banquet  
April 11<sup>th</sup> 2024**

*Thanks !*

