

	House Components	Existing Home	Ext XPS
ENVELOPE	Ceiling with Attic Space	2x4 24 o/c R40 FG fill	2x4 24 o/c R40 FG fill
	Cathedral / Vault / Flat	None	None
	Above Grade Walls / Garage Wall	R19 batt	Ext XPS - tall wall
	Exposed Floors	R28 batt + 2" medium density spray foam	R28 batt + 2" medium density spray foam
	Foundation Wall	R19 batt + 1" EPS II	R19 batt + 1" EPS II
	Under Basement Slab	R12	R12
	Windows & Sliding Glass Doors	Double glazed (U-val=2.17, SHGC=0.44)	Double glazed (U-val=2.17, SHGC=0.44)
	Doors	Fibreglass Medium density spray foam core (R5.6)	Fibreglass Medium density spray foam core (R5.6)
	Airtightness	3.6 ACH	1.5 ACH
HVAC	Principle Ventilation	76.0% SRE HRV	76.0% SRE HRV
	Space Heating	96.0% AFUE furnace, ENERGY STAR® certified	96.0% AFUE furnace, ENERGY STAR® certified
	Cooling & Heat Pumps	14.50 SEER A/C, ENERGY STAR® certified	14.50 SEER A/C, ENERGY STAR® certified
DHW	Domestic Water Heater	0.95 EF natural gas instantaneous (condensing)	0.95 EF natural gas instantaneous (condensing)
	Drain Water Heat Recovery	48.9% DWHR (plumbed to WH only)	48.9% DWHR (plumbed to WH only)
OTHER	On-site Generation and Storage	None	None
	Transportation	None	None
	Bathroom Faucets	None	None
	Shower Heads	None	None
	Clothes Washer	None	None
	Dishwasher	None	None
	Lighting and Appliances	None	None
	Energy Use Monitoring System	None	None
SIMULATION RESULTS			
PERFORMANCE	Operating Conditions	Standard Operating Conditions	Standard Operating Conditions
	Relative Base Case	Existing Home	Existing Home
	Total Energy Consumption (GJ)	99.23	73.26
	Energy Consumption Reduction	-	26.17%
	Space Conditioning & DHW Consumption Reduction	-	35.28%
	Gross Heat Loss (GJ)	100.92	70.14
	Auxiliary Heating Energy Required (GJ)	55.98	29.01
	Gross Heat Loss Improvement vs ERS Ref. House	12.15%	38.94%
	EUI (GJ/m²)	0.57	0.42
	TEDI (kWh/m²)	88.8	46.0
	MEUI (kWh/m²)	116.7	75.5
	Est. Operational GHG Emissions (t/y)	7.38	6.11
	Operational GHG Emission Reduction	-	17.20%
	HOT2000 Design Heat Loss (BTU/h)	36,687	23,651
	HOT2000 Design Heat Gain (BTU/h)	10,321	9,898
	Est. Number of Solar Panels (350W)	64	47
	Heat Loss Comfort Assessment	19	13
	F280-12 Design Heat Loss (BTU/h)	34,773	22,450
	F280-12 Design Heat Gain (BTU/h)	15,025	14,249
	NBC 2020 Performance Tier	3	4
	Overall Energy Performance Improvement vs ERS Ref.	22.44%	49.80%
	Heat Loss Reduction vs ERS Ref.	12.15%	38.94%
	Peak Cooling Validation (Prop. / Ref., W)	Pass (3027 / 3276)	Pass (2903 / 3276)
	PCF 1869 - Energy Use Intensity Tier	0	4
	PCF 2004 - Proposed Operational Emissions (t/y)	3.85	2.49
	PCF 2004 - Operational Emissions Performance Level	D (33.24%)	C (56.91%)
ENERGY END USE	<div><div></div> Primary Space Heating</div>	<div><div></div> 57.1 GJ (58%)</div>	<div><div></div> 29.6 GJ (41%)</div>
	<div><div></div> Secondary Space Heating</div>	<div><div></div> 0.0 GJ (0%)</div>	<div><div></div> 0.0 GJ (0%)</div>
	<div><div></div> Primary DHW Heating</div>	<div><div></div> 11.2 GJ (11%)</div>	<div><div></div> 11.2 GJ (15%)</div>
	<div><div></div> Secondary DHW Heating</div>	<div><div></div> 0.0 GJ (0%)</div>	<div><div></div> 0.0 GJ (0%)</div>
	<div><div></div> Lights & Appliances</div>	<div><div></div> 25.6 GJ (26%)</div>	<div><div></div> 25.6 GJ (35%)</div>
	<div><div></div> HRV and Fans</div>	<div><div></div> 1.8 GJ (2%)</div>	<div><div></div> 1.8 GJ (2%)</div>
	<div><div></div> Air Conditioner</div>	<div><div></div> 3.0 GJ (3%)</div>	<div><div></div> 4.2 GJ (6%)</div>
HEAT LOSS	<div><div></div> Ceilings</div>	<div><div></div> 4.7 GJ (5%)</div>	<div><div></div> 4.7 GJ (7%)</div>
	<div><div></div> Main Walls</div>	<div><div></div> 29.0 GJ (29%)</div>	<div><div></div> 9.8 GJ (14%)</div>
	<div><div></div> Doors</div>	<div><div></div> 2.4 GJ (2%)</div>	<div><div></div> 2.4 GJ (3%)</div>
	<div><div></div> Exposed Floors</div>	<div><div></div> 0.2 GJ (0%)</div>	<div><div></div> 0.2 GJ (0%)</div>
	<div><div></div></div>	<div><div></div></div>	<div><div></div></div>

	Windows	24.6 GJ (24%)	24.6 GJ (35%)
	Foundation	15.5 GJ (15%)	14.6 GJ (21%)
	Mechanical Ventilation & Air Infiltration	24.6 GJ (24%)	13.9 GJ (20%)
FUEL	Est. Natural Gas Consumption (GJ)	67.99	40.61
	Est. Electricity Consumption (GJ)	31.24	32.65
	Est. PV Electricity Production (GJ)	0.00	0.00
	Est. Propane Consumption (GJ)	0.00	0.00
	Est. Oil Consumption (GJ)	0.00	0.00
	Est. Wood Consumption (GJ)	0.00	0.00
	Est. Natural Gas Consumption (m³)	1,824.62	1,089.95
	Est. Electricity Consumption (kWh)	8,677.73	9,069.47
	Est. PV Electricity Production (kWh)	0.00	0.00
	Est. Propane Consumption (L)	0.00	0.00
	Est. Oil Consumption (L)	0.00	0.00
	Est. Wood Consumption (cord)	0.00	0.00
EST.	Est. Annual Operating Expenses (\$/yr)	\$3,092.75	\$2,927.68
	Est. Percentage Op. Cost Savings	-	5.34%
	Est. Annual Natural Gas Cost	\$1,246.87	\$1,019.12
	Est. Annual Electricity Cost	\$1,845.88	\$1,908.55
	Est. Annual Propane Cost	\$0.00	\$0.00
	Est. Annual Oil Cost	\$0.00	\$0.00
	Est. Annual Wood Cost	\$0.00	\$0.00
	Est. Simple Payback (y)	-	No costs provided
	Annual Capital Loan Cost	-	\$0.00
	Total Cost of Ownership	\$61,854.98 (over 20 years)	\$58,553.57
	Net Present Value	-	\$1,405.34