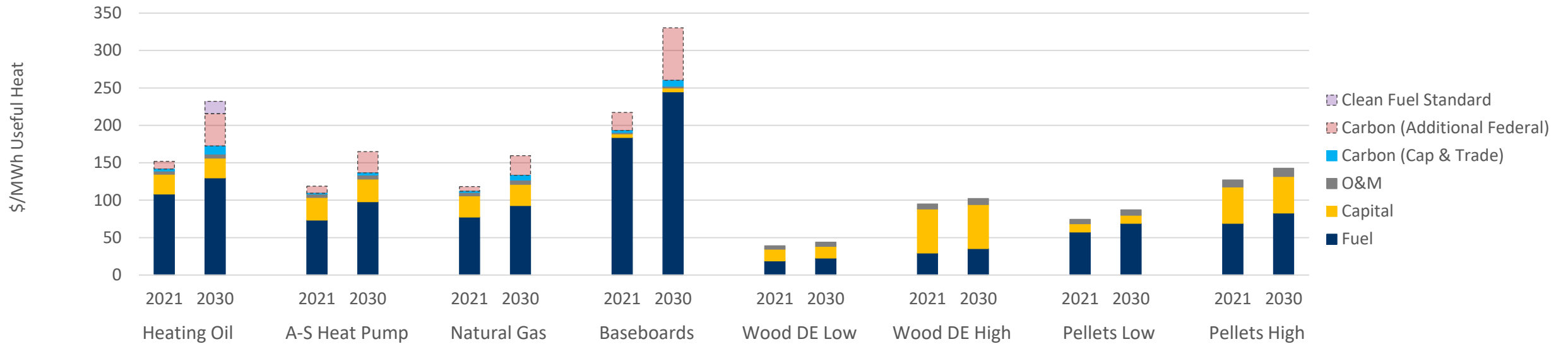


# Nova Scotia Residential Building Heating Option Cost Comparison



Cost Component	Heating Oil	Air-Source Heat Pump	Natural Gas	Electric Baseboard	Wood District Energy Low	Wood District Energy High	Wood Pellets Low	Wood Pellets High
<b>Federal Clean Fuel Standard (Forthcoming 2022)</b>	Environment & Climate Change Canada estimates \$0.13/L by 2030	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Federal Carbon Level (Additional if Full Application of Price)</b>	75 g CO <sub>2</sub> /MJ; \$40/t CO <sub>2</sub> in 2021, \$170/t CO <sub>2</sub> in 2030	Electricity carbon intensity 2021: 650 g CO <sub>2</sub> e/kWh; 2030: 450 g CO <sub>2</sub> e/kWh; \$40/t CO <sub>2</sub> in 2021, \$170/t CO <sub>2</sub> in 2030	50 g CO <sub>2</sub> /MJ; \$40/t CO <sub>2</sub> in 2021, \$170/t CO <sub>2</sub> in 2030	Electricity carbon intensity 2021: 650 g CO <sub>2</sub> e/kWh; 2030: 450 g CO <sub>2</sub> e/kWh; \$40/t CO <sub>2</sub> in 2021, \$170/t CO <sub>2</sub> in 2030	Negligible; biogenic CO <sub>2</sub> emissions not subject to pricing	Negligible; biogenic CO <sub>2</sub> emissions not subject to pricing	Negligible; biogenic CO <sub>2</sub> emissions not subject to pricing	Negligible; biogenic CO <sub>2</sub> emissions not subject to pricing
<b>Provincial Carbon (NS Cap &amp; Trade)</b>	20% of emissions subject to pricing	10% of emissions subject to pricing	20% of emissions subject to pricing	10% of emissions subject to pricing	N/A	N/A	N/A	N/A
<b>Operations &amp; Maintenance</b>	\$200/yr per household; average consumption 158 GJ/yr	\$200/yr per household; average consumption 158 GJ/yr	\$200/yr per household; average consumption 158 GJ/yr	Nominal	1% of central boiler CapEx @ \$1,000/kW	1.5% of central boiler CapEx @ \$1,000/kW	1% of installed boiler CapEx @ \$27,000	1.5% of installed boiler CapEx @ \$27,000
<b>Capital</b>	\$14,550*; 5% cost of capital (private); 20-year amortization	\$13,900*; 5% cost of capital (private); 15-year amortization	\$15,700*; 5% cost of capital (private); 20-year amortization	\$2,300*; 5% cost of capital (private); 15-year amortization	\$3,000/kW (\$60,000 per 20 kW household); 3% cost of capital (public); 40-year amortization; 73.3% ICIP grant	\$3,000/kW (\$60,000 per 20 kW household); 3% cost of capital (public); 40-year amortization; no grant	\$27,000 installed; 3% cost of capital (public); 20-year amortization; 73.3% ICIP grant	\$27,000 installed; 5% cost of capital (private); 20-year amortization; no grant
<b>Fuel</b>	85% efficiency; 2020: \$0.92/L; 2030: 2% inflation	Electricity seasonal COP of 2.5; Average rates - 2021: \$0.18/kWh; 2030: \$0.24/kWh (2% inflation; NSP 2030 projection)	93% efficiency; 2021: \$20/GJ delivered; 2030: 2% inflation	98% efficiency; Average rates – 2021: \$0.18/kWh; 2030: \$0.24/kWh (2% inflation; NSP 2030 projection)	85% efficiency; 2021: \$45/t @ 40% moisture content; 2030: 2% inflation	85% efficiency; 2021: \$80/t @ 30% moisture content; 2030: 2% inflation	87% efficiency; 2021: \$250/t; 2030: 2% inflation	87% efficiency; 2021: \$300/t; 2030: 2% inflation

\*Efficiency NS figures