

## Estimating Fuel Mix and Energy Cost

### OVERVIEW

EPA’s Portfolio Manager and Target Finder software help you set whole-building energy performance targets by estimating how much energy your existing property or property design would need to consume annually to reach your energy performance target (expressed as either a 1 - 100 ENERGY STAR score or % better than the national median). If you choose, you may enter your actual energy use and cost (for an existing property) or estimated design energy use and cost (for a new design) to evaluate progress towards these targets relative to your specific fuel mix, cost, and operation.

When establishing energy performance targets early in a project’s design stage, evaluating various design options and occupancy use assumptions, exact fuel mix and energy costs are often not known. In these cases, Portfolio Manager and Target Finder will provide an estimated fuel mix and energy cost to help you assess how to reach your target performance level.

- Estimated Fuel Mix** – If you are unable to provide a fuel mix for your property design, then your estimated fuel mix is based on property type and the state where the property will be located for properties in the United States. The estimated fuel mix for properties in Canada is determined by the national fuel mix. Typical values are computed based on the Commercial Building Energy Consumption Survey for the United States and on the Survey of Commercial and Institutional Energy Use for Canada.
- Estimated Fuel Costs** – If you are unable to provide fuel costs for your property design, then your estimated fuel costs are based on the energy type(s) (either provided by you or estimated in Portfolio Manager) and the state where your property will be located, based on data from the Energy Information Administration for the United States. For Canada, the data is obtained from a combination of sources including Natural Resources Canada, Statistics Canada, and provincial utility rate reports.

This document explains the reference data used for these estimates and the exact values applied within Portfolio Manager. This document includes two sections:

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## ESTIMATING FUEL MIX

When you enter a property design in Portfolio Manager or Target Finder, you will specify a target level of performance, either tied to the ENERGY STAR score or to the national median energy intensity of your property type. Portfolio Manager and Target Finder then compute the energy use you would need to have to reach this target.

Your target is first computed in Source Energy Use Intensity (Source EUI). Source Energy is a complete accounting, including both the energy used on site and the energy associated with generation and transmission of energy to your property. Source Energy is the most equitable way to compare buildings with different fuel mixes because it ensures that buildings do not receive either a credit or a penalty based on their utility (learn more at [www.energystar.gov/SourceEnergy](http://www.energystar.gov/SourceEnergy)). For two properties of the same type, with the same operation and climate zone, the Source EUI target is always identical, regardless of fuel mix. However, to convert from Source EUI into Site EUI, we must take into account the specific fuel mix of your property. If you have not specified any estimated energy use associated with your design, then we estimate your fuel mix based on your property type and location:

- **Property Type.** Your Portfolio Manager-Calculated Property Type is defined as the property use type that accounts for 50% or more of your property's gross floor area. Your Portfolio Manager-Calculated Property Type is mapped to one of the Principal Building Activity Categories with major fuel consumption data available in the Commercial Building Energy Consumption Survey (CBECS) for the United States. For Canada, the only Property Types that receive unique fuel mix estimates are Data Centers, Wastewater Treatment Centers, and Drinking Water Plants. All other Property Types in Canada received fuel mix estimates based solely on location. Estimates for Canada are based on the Survey on Commercial and Institutional Energy Use (SCIEU).
- **Location.** Your location is primarily identified by your US State or Canadian Province or Territory. In order to provide fuel mix estimates, it is necessary to combine states or provinces into broader regions. For the US, Census Regions are used. For Canada, the fuel mix is estimated by provinces or regions, based on the availability of SCIEU data.

Available information from the reference survey is used to determine the expected percentage of electricity used by your property type and location.<sup>1</sup> For US properties, Portfolio Manager and Target Finder will assume this percentage for your electricity use and then assume the rest of your energy use is natural gas. Figure 1 summarizes the electric percentages used by property type and location for the US.

For Canadian properties, the fuel mix assumptions used will depend on the type of property. For Data Centers, Wastewater Treatment Plants, and Drinking Water Plants in Canada, Target Finder will use the electric percentages displayed in Figure 2 and assume the rest of your energy use is natural gas. For the remaining property types, Portfolio Manager will assume the fuel breakdown for electricity, natural gas, fuel oil, diesel and propane displayed in Figure 3.

If you know that your property design will use other forms of energy (oil, propane, etc.), it is recommended that you enter your own design energy estimates. When design energy estimates are provided, this fuel mix will be applied to

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<sup>1</sup> CBECS Table C15, Electricity Consumption and Conditional Energy Intensity by Census Region, 2018 (seec15.xlsx (live.com)) and CBECS Table C5, Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 2018 (seec5.xlsx (live.com)). Percent electric is computed as the electricity consumption (Table C15) divided by the total energy consumption (Table C5) for each census region/principal building activity combination. SCIEU data used for Canadian Buildings is not available to the public, but summary tables are located here: <https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/menus/scieiu/2019/tables.cfm>

convert your Source EUI into Site EUI and assess your target. It is possible for you to enter an estimated design energy use, without specifying estimated fuel costs. If you do this, we will assess both your consumption and target using the specified fuel mix and estimated costs, as described in the following section.

**Figure 1 – % Electricity Use by Property Type and US Census Region**

	Northeast	South	Midwest	West	U.S. Average		Northeast	South	Midwest	West	U.S. Average
Adult Education	37%	65%	42%	63%	52%	Other - Entertainment/Public Assembly	40%	69%	40%	48%	52%
Ambulatory Surgical Center	66%	85%	68%	72%	73%	Other - Lodging/Residential	52%	67%	56%	53%	58%
Aquarium	40%	69%	40%	48%	52%	Other - Mall	54%	67%	52%	60%	60%
Automobile Dealership	68%	80%	64%	72%	73%	Other - Public Services	53%	63%	53%	57%	61%
Bank Branch	63%	80%	63%	73%	71%	Other - Recreation	40%	69%	40%	48%	52%
Bar/Nightclub	40%	69%	40%	48%	52%	Other - Restaurant/Bar	49%	66%	46%	54%	57%
Barracks	52%	67%	56%	53%	58%	Other - Services	47%	51%	43%	51%	47%
Bowling Alley	40%	69%	40%	48%	52%	Other - Stadium	40%	69%	40%	48%	52%
Casino	40%	69%	40%	48%	52%	Other - Technology/Science	75%	68%	71%	74%	72%
College/University	37%	65%	42%	63%	52%	Other - Utility	75%	68%	71%	74%	72%
Convenience Store with Gas Station	53%	84%	80%	62%	81%	Other/Specialty Hospital	39%	55%	49%	55%	51%
Convenience Store without Gas Station	53%	84%	80%	62%	81%	Outpatient Rehabilitation/Physical Therapy	66%	85%	68%	72%	73%
Convention Center	40%	69%	40%	48%	52%	Parking	75%	68%	71%	74%	72%
Courthouse	53%	63%	53%	57%	61%	Performing Arts	40%	69%	40%	48%	52%
Data Center	100%	100%	100%	100%	100%	Personal Services	47%	51%	43%	51%	47%
Distribution Center	57%	73%	44%	76%	61%	Police Station	53%	63%	53%	57%	61%
Drinking Water Treatment & Distribution	90%	90%	90%	90%	90%	Pre-school/Daycare	37%	65%	42%	63%	52%
Enclosed Mall	54%	67%	52%	60%	60%	Prison/Incarceration	53%	63%	53%	57%	61%
Energy/Power Station	75%	68%	71%	74%	72%	Race Track	40%	69%	40%	48%	52%
Fast Food Restaurant	49%	66%	46%	54%	57%	Refrigerated Warehouse	57%	73%	44%	76%	61%
Financial Office	63%	80%	63%	73%	71%	Repair Services (Vehicle, Shoe, Locksmith, etc.)	47%	51%	43%	51%	47%
Fire Station	53%	63%	53%	57%	61%	Residential Care Facility	52%	67%	56%	53%	58%
Fitness Center/Health Club/Gym	40%	69%	40%	48%	52%	Residence Hall/Dormitory	52%	67%	56%	53%	58%
Food Sales	81%	84%	80%	81%	81%	Restaurant	49%	66%	46%	54%	57%
Food Service	49%	66%	46%	54%	57%	Retail Store	68%	80%	64%	72%	73%
Hospital (General Medical & Surgical)	39%	55%	49%	55%	51%	Roller Rink	40%	69%	40%	48%	52%
Hotel	52%	67%	56%	53%	58%	Self-Storage Facility	57%	73%	44%	76%	61%
Ice/Curling Rink	40%	69%	40%	48%	52%	Senior Living Community	52%	67%	56%	53%	58%
Indoor Arena	40%	69%	40%	48%	52%	Single Family Home	31%	69%	34%	45%	47%
K-12 School	37%	65%	42%	63%	52%	Social/Meeting Hall	40%	69%	40%	48%	52%
Laboratory	75%	68%	71%	74%	72%	Stadium (Closed)	40%	69%	40%	48%	52%
Library	40%	69%	40%	48%	52%	Stadium (Open)	40%	69%	40%	48%	52%
Lifestyle Center	54%	67%	52%	60%	60%	Strip Mall	54%	67%	52%	60%	60%
Mailing Center/Post Office	47%	51%	43%	51%	47%	Supermarket/Grocery Store	53%	84%	80%	62%	81%
Manufacturing/Industrial Plant	75%	68%	71%	74%	72%	Swimming Pool	40%	69%	40%	48%	52%
Medical Office	63%	80%	63%	73%	71%	Transportation Terminal/Station	40%	69%	40%	48%	52%
Mixed Use Property	75%	68%	71%	74%	72%	Urgent Care/Clinic/Other Outpatient	66%	85%	68%	72%	73%
Movie Theater	40%	69%	40%	48%	52%	Veterinary Office	66%	85%	68%	72%	73%
Multifamily Housing	31%	69%	34%	45%	47%	Vocational School	37%	65%	42%	63%	52%
Museum	40%	69%	40%	48%	52%	Wastewater Treatment Plant	76%	76%	76%	76%	76%
Non-Refrigerated Warehouse	57%	73%	44%	76%	61%	Wholesale Club/Supercenter	68%	80%	64%	72%	73%
Office	63%	80%	63%	73%	71%	Worship Facility	32%	60%	37%	51%	47%
Other	75%	68%	71%	74%	72%	Zoo	40%	69%	40%	48%	52%
Other - Education	37%	65%	42%	63%	52%						

**Note on Regions:**

- Northeast includes: CT, MA, ME, NH, NJ, NY, PA, RI, VT.
- Midwest includes: IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI.
- South Includes: AL, AR, DC, DE, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV.
- West Includes: AK, AZ, CA, CO, HI, ID, MT, NM, NV, OR, UT, WA, WY.
- US Average is used as the default for buildings not located in either the US or Canada.

**Figure 2 – % Electricity Use for Data Centers, Wastewater Treatment Plants, and Drinking Water Plants in Canada**

Property Type	Percent (%) Electricity
Data Center	100%
Wastewater Treatment Plant	75%
Drinking Water Plant	95%

**Figure 3 – % Canadian Fuel Use Breakdown**

	Percent (%) Electricity	Percent (%) Natural gas	Percent (%) Fuel Oil (1, 2, 4)	Percent (%) Diesel	Percent (%) Propane	Percent (%) Wood
Canada	57%	36%	4%	1%	2%	1%

## ESTIMATING FUEL COSTS

To assess the fuel cost associated with a performance target for a design project (in either Target Finder or the Design Tab of Portfolio Manager), we begin with the Source and Site EUI of your target. As discussed in the previous section, your target Source and Site EUI are determined based on the design energy estimates you enter, or on values that are estimated based on your property type and location. To convert your target Source and Site EUI into a target \$/ft<sup>2</sup> we will use the fuel rates you provide (if applicable). Otherwise, the fuel cost is estimated based on the fuel type and the state or province in which your property is located.

For the United States, average fuel costs are obtained from the Energy Information Administration (EIA) from regular reports including Electric Power Monthly and Natural Gas Monthly. Values and reference link for estimated U.S. costs are provided in Figure 5. For Canada, the data is obtained from a combination of sources including Natural Resources Canada, Statistics Canada, and provincial utility rate reports; specific reference links are provided in Figure 4. EPA reviews available data and update reference costs on an annual basis.

**Figure 4 – Average Fuel Costs by U.S State (in \$/kBtu)**

State	Electricity (Grid)	Natural Gas	Propane	Fuel Oil #1, 2 & Diesel	Fuel Oil #4, 5, 6	Coal	District Heat	District Chilled Water	Wood
Alabama	\$0.04018	\$0.01488	\$0.02007	\$0.02776	\$0.01965	\$0.00522	\$0.01933	\$0.03134	\$0.01307
Alaska	\$0.06254	\$0.01012	\$0.02100	\$0.03113	\$0.02139	\$0.00582	\$0.01933	\$0.02443	\$0.00968
Arizona	\$0.03438	\$0.01197	\$0.02217	\$0.02882	\$0.02139	\$0.00522	\$0.01933	\$0.02691	\$0.01759
Arkansas	\$0.03051	\$0.01135	\$0.02055	\$0.02843	\$0.02139	\$0.00522	\$0.01933	\$0.02043	\$0.01271
California	\$0.06817	\$0.01064	\$0.02252	\$0.02927	\$0.02139	\$0.00522	\$0.01933	\$0.04319	\$0.00335
Colorado	\$0.03265	\$0.00996	\$0.01917	\$0.02806	\$0.02139	\$0.00375	\$0.01933	\$0.02348	\$0.01759
Connecticut	\$0.06052	\$0.01206	\$0.02358	\$0.03131	\$0.02468	\$0.00522	\$0.01933	\$0.02978	\$0.01048
Delaware	\$0.03584	\$0.01404	\$0.02113	\$0.02821	\$0.01787	\$0.00522	\$0.01933	\$0.02393	\$0.01307
District of Columbia	\$0.05038	\$0.01392	\$0.02240	\$0.03026	\$0.02139	\$0.00522	\$0.01933	\$0.03270	\$0.00084
Florida	\$0.03435	\$0.01309	\$0.02158	\$0.02828	\$0.02139	\$0.00522	\$0.01933	\$0.02892	\$0.00087
Georgia	\$0.03326	\$0.01060	\$0.02117	\$0.02775	\$0.02139	\$0.00522	\$0.01933	\$0.02905	\$0.01307
Hawaii	\$0.12063	\$0.03894	\$0.02184	\$0.02838	\$0.02139	\$0.00522	\$0.01933	\$0.06743	\$0.00085
Idaho	\$0.02649	\$0.00852	\$0.01974	\$0.03070	\$0.02139	\$0.00522	\$0.01933	\$0.01698	\$0.01345
Illinois	\$0.03368	\$0.00963	\$0.01957	\$0.02831	\$0.02139	\$0.00222	\$0.01933	\$0.02049	\$0.01321
Indiana	\$0.03702	\$0.01064	\$0.01971	\$0.02858	\$0.02022	\$0.00751	\$0.01933	\$0.02176	\$0.00267
Iowa	\$0.02805	\$0.00894	\$0.01953	\$0.02842	\$0.02139	\$0.00414	\$0.01933	\$0.02016	\$0.00533
Kansas	\$0.03200	\$0.01064	\$0.01962	\$0.02855	\$0.02139	\$0.00522	\$0.01933	\$0.02374	\$0.01321
Kentucky	\$0.03467	\$0.01209	\$0.01953	\$0.02842	\$0.02139	\$0.00650	\$0.01933	\$0.02595	\$0.01307
Louisiana	\$0.03101	\$0.01071	\$0.02015	\$0.02788	\$0.02139	\$0.00522	\$0.01933	\$0.02850	\$0.01307
Maine	\$0.05443	\$0.01064	\$0.02340	\$0.03111	\$0.02448	\$0.00522	\$0.01933	\$0.02961	\$0.00746
Maryland	\$0.03754	\$0.01367	\$0.02240	\$0.03096	\$0.01894	\$0.00522	\$0.01933	\$0.02686	\$0.00717
Massachusetts	\$0.06105	\$0.01513	\$0.02356	\$0.03131	\$0.02466	\$0.00522	\$0.01933	\$0.03014	\$0.00177
Michigan	\$0.04056	\$0.00980	\$0.01953	\$0.02857	\$0.02003	\$0.00522	\$0.01933	\$0.02079	\$0.00870
Minnesota	\$0.03438	\$0.01064	\$0.01969	\$0.02885	\$0.02019	\$0.00393	\$0.01933	\$0.02037	\$0.00521
Mississippi	\$0.03558	\$0.01173	\$0.02065	\$0.02856	\$0.02139	\$0.00522	\$0.01933	\$0.02749	\$0.01307
Missouri	\$0.02740	\$0.01291	\$0.01920	\$0.02794	\$0.02139	\$0.00351	\$0.01933	\$0.02150	\$0.00767
Montana	\$0.03406	\$0.00956	\$0.01863	\$0.02727	\$0.02139	\$0.00320	\$0.01933	\$0.01822	\$0.01759
Nebraska	\$0.02705	\$0.00968	\$0.01943	\$0.02828	\$0.01993	\$0.00522	\$0.01933	\$0.01823	\$0.00451
Nevada	\$0.03192	\$0.01344	\$0.02244	\$0.02916	\$0.02139	\$0.00522	\$0.01933	\$0.02173	\$0.01759
New Hampshire	\$0.05797	\$0.01064	\$0.02218	\$0.03174	\$0.02321	\$0.00522	\$0.01933	\$0.03327	\$0.00711
New Jersey	\$0.04065	\$0.01064	\$0.02253	\$0.03041	\$0.01887	\$0.00522	\$0.01933	\$0.02479	\$0.00121
New Mexico	\$0.03063	\$0.00776	\$0.02027	\$0.02804	\$0.02139	\$0.00522	\$0.01933	\$0.02201	\$0.01759
New York	\$0.05252	\$0.00947	\$0.02198	\$0.03023	\$0.01859	\$0.00522	\$0.01933	\$0.02837	\$0.00246
North Carolina	\$0.03151	\$0.01104	\$0.02132	\$0.02795	\$0.01681	\$0.00752	\$0.01933	\$0.02309	\$0.01307
North Dakota	\$0.02219	\$0.00767	\$0.01934	\$0.02815	\$0.02139	\$0.00157	\$0.01933	\$0.01936	\$0.01321
Ohio	\$0.03200	\$0.01064	\$0.01948	\$0.02834	\$0.02139	\$0.00522	\$0.01933	\$0.01887	\$0.01235
Oklahoma	\$0.02462	\$0.01115	\$0.01925	\$0.02801	\$0.02139	\$0.00522	\$0.01933	\$0.02321	\$0.00314
Oregon	\$0.03373	\$0.01191	\$0.02100	\$0.02719	\$0.02139	\$0.00522	\$0.01933	\$0.02159	\$0.01404
Pennsylvania	\$0.03297	\$0.01064	\$0.02240	\$0.03030	\$0.01637	\$0.00537	\$0.01933	\$0.02102	\$0.00513
Rhode Island	\$0.05885	\$0.01693	\$0.02373	\$0.03161	\$0.02483	\$0.00522	\$0.01933	\$0.03178	\$0.01048
South Carolina	\$0.03101	\$0.01064	\$0.02158	\$0.02828	\$0.01701	\$0.00522	\$0.01933	\$0.02690	\$0.01307
South Dakota	\$0.02969	\$0.00789	\$0.01925	\$0.02801	\$0.01974	\$0.00522	\$0.01933	\$0.02061	\$0.01321
Tennessee	\$0.03555	\$0.01064	\$0.01971	\$0.02868	\$0.02139	\$0.00522	\$0.01933	\$0.02706	\$0.01307
Texas	\$0.02585	\$0.00961	\$0.02050	\$0.02836	\$0.02139	\$0.00522	\$0.01933	\$0.02277	\$0.01307
Utah	\$0.02394	\$0.01155	\$0.01976	\$0.02893	\$0.02139	\$0.00522	\$0.01933	\$0.01694	\$0.01058

State	Electricity (Grid)	Natural Gas	Propane	Fuel Oil #1, 2 & Diesel	Fuel Oil #4, 5, 6	Coal	District Heat	District Chilled Water	Wood
Vermont	\$0.05434	\$0.00734	\$0.02351	\$0.03217	\$0.02460	\$0.00522	\$0.01933	\$0.02676	\$0.00971
Virginia	\$0.02714	\$0.01064	\$0.02144	\$0.02800	\$0.01690	\$0.00624	\$0.01933	\$0.02354	\$0.00174
Washington	\$0.03110	\$0.01250	\$0.02236	\$0.02925	\$0.02139	\$0.00522	\$0.01933	\$0.02162	\$0.01661
West Virginia	\$0.03388	\$0.01064	\$0.02158	\$0.02893	\$0.02139	\$0.00522	\$0.01933	\$0.02032	\$0.01307
Wisconsin	\$0.03658	\$0.00830	\$0.01934	\$0.02833	\$0.02139	\$0.00522	\$0.01933	\$0.01968	\$0.01005
Wyoming	\$0.02752	\$0.01088	\$0.01937	\$0.02836	\$0.02139	\$0.00315	\$0.01933	\$0.01997	\$0.01759
<b>US Average</b>	\$0.03731	\$0.01064	\$0.02108	\$0.02938	\$0.02139	\$0.00522	\$0.01933	\$0.02555	\$0.00474

#### References:

- **Electricity:** U.S. Energy Information Administration, Electric Power Monthly June 2024. Table 5.6.B. Average Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through April 2024 and 2023 [https://www.eia.gov/electricity/monthly/epm\\_table\\_grapher.php?t=table\\_5\\_06\\_b](https://www.eia.gov/electricity/monthly/epm_table_grapher.php?t=table_5_06_b)
  - **Natural Gas:** U.S. Energy Information Administration, Natural Gas Monthly June 2024. Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 2022-2024. [https://www.eia.gov/naturalgas/monthly/pdf/ngm\\_all.pdf](https://www.eia.gov/naturalgas/monthly/pdf/ngm_all.pdf)
  - **Propane:** U.S. Energy Information Administration State Energy Data System (SEDS): 2022 (Updates by Energy Source). Table F12: Hydrocarbon Gas Liquids Price and Expenditure Estimates, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_hl.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_hl.html&sid=US)
  - **Diesel, Fuel Oil #1 and #2:** U.S. Energy Information Administration State Energy Data System (SEDS): 2022 (Updates by Energy Source). Table F9: Distillate Fuel Oil Price and Expenditure Estimates, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_df.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_df.html&sid=US)
  - **Fuel Oil #4, 5 and 6:** U.S. Energy Information Administration State Energy Data System (SEDS): 2022 (Updates by Energy Source). Table F6: Residual Fuel Oil Price and Expenditure Estimates, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_rf.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_rf.html&sid=US)
  - **Coal:** U.S. Energy Information Administration State Energy Data System (SEDS): 2022 (Updates by Energy Source). Table F24: Coal Price and Expenditure Estimates and Imports and Exports of Coal Coke, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_cl.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_cl.html&sid=US)
  - **District Heat:** U.S. Energy Information Administration Annual Energy Review, September 2012. Table 2.10: Commercial Buildings Energy Consumption and Expenditure Indicators, Selected Years, 1979-2003. Adjusted to 2023 dollars by consumer price index. <http://www.eia.gov/totalenergy/data/annual/showtext.cfm?t=ptb0210>
  - **District Chilled Water:** Cost for all major fuel sources used as proxy, U.S. Energy Information Administration State Energy Data System (SEDS): 2022. Table F35: Total Energy Consumption, Price, and Expenditure Estimates, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_te.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_te.html&sid=US)
  - **Wood:** Wood and biomass waste used as proxy. U.S. Energy Information Administration State Energy Data System (SEDS): 2022 (Updates by Energy Source). Table F33: Wood and Biomass Waste Price and Expenditure Estimates, 2022. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_ww.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_ww.html&sid=US)
- Other:** If you have energy designated as "other" then no costs are estimated/assumed. Any cost metrics will show Not Available.



Figure 5 – Average Fuel Costs by Province (in \$/kBtu)

Province / Territory	Electricity (Grid)	Natural Gas	Propane	#2 Fuel Oil & Diesel	Fuel Oil #4, 5, 6	Coal	District Heat	District Chilled Water	Wood
Newfoundland and Labrador	\$0.0374	\$0.0107	\$0.0381	\$0.0319	\$0.0319	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Prince Edward Island	\$0.0566	\$0.0107	\$0.0399	\$0.0301	\$0.0301	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Nova Scotia	\$0.0522	\$0.0188	\$0.0271	\$0.0312	\$0.0312	\$0.0022	\$0.0230	\$0.0230	\$0.0131
New Brunswick	\$0.0444	\$0.0145	\$0.0271	\$0.0317	\$0.0317	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Quebec	\$0.0300	\$0.0125	\$0.0337	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Ontario	\$0.0472	\$0.0087	\$0.0217	\$0.0343	\$0.0343	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Manitoba	\$0.0279	\$0.0084	\$0.0324	\$0.0326	\$0.0326	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Saskatchewan	\$0.0478	\$0.0087	\$0.0381	\$0.0298	\$0.0298	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Alberta	\$0.0566	\$0.0055	\$0.0280	\$0.0320	\$0.0320	\$0.0022	\$0.0230	\$0.0230	\$0.0131
British-Columbia	\$0.0308	\$0.0126	\$0.0286	\$0.0342	\$0.0342	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Yukon	\$0.0523	\$0.0084	\$0.0379	\$0.0382	\$0.0382	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Northwest Territories	\$0.0497	\$0.0117	\$0.0379	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Nunavut	\$0.0497	\$0.0084	\$0.0379	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131

References:

- Electricity: [End - Use Prices - Canada.ca \(cer-rec.gc.ca\) commercial 2021, current measures](https://www.cer-rec.gc.ca/en/energy-efficiency/energy-prices/end-use-prices-commercial-2021-current-measures)
- Natural Gas: [End - Use Prices - Canada.ca \(cer-rec.gc.ca\) commercial 2021, current measures](https://www.cer-rec.gc.ca/en/energy-efficiency/energy-prices/end-use-prices-commercial-2021-current-measures)
- Propane: [Weekly Average Retail Prices for Auto Propane in 2021 | Natural Resources Canada \(nrcan.gc.ca\)](https://www.nrcan.gc.ca/energy-efficiency/energy-prices/weekly-average-retail-prices-for-auto-propane-in-2021)
- Fuel Oil & Diesel: [Monthly Average Retail Prices for Diesel in 2021 | Natural Resources Canada \(nrcan.gc.ca\)](https://www.nrcan.gc.ca/energy-efficiency/energy-prices/monthly-average-retail-prices-for-diesel-in-2021)
- Fuel Oil #4,5,6 (Furnace Oil): [Monthly Average Retail Prices for Diesel in 2021 | Natural Resources Canada \(nrcan.gc.ca\)](https://www.nrcan.gc.ca/energy-efficiency/energy-prices/monthly-average-retail-prices-for-diesel-in-2021)
- Coal: [Coal facts \(canada.ca\)](https://www.cer-rec.gc.ca/en/energy-efficiency/energy-prices/coal-facts)
- District Energy: [District Energy Rates and Billing | City of Surrey](https://www.surrey.ca/district-energy)
- Wood: [Wood Pellet Associated of Canada, Ontario Fuel Pellet Opportunities, Table: Fuel Cost Comparison, 2013](https://www.woodpellet.ca/ontario-fuel-pellet-opportunities-table-fuel-cost-comparison-2013)