

# 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 province in which the property will be located. Typical values are computed based on the Commercial Building Energy Consumption Survey for the United States and on the Survey on 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.

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<sup>1</sup> CBECS Table C15, Electricity Consumption and Conditional Energy Intensity by Census Region, 2012 (see <https://www.eia.gov/consumption/commercial/data/2012/c&e/pdf/c15.pdf>) and CBECS Table C5, Consumption and Gross Energy Intensity by Census Region for Sum of Major Fuels, 2012 (see <https://www.eia.gov/consumption/commercial/data/2012/c&e/pdf/c5.pdf>). 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 a summary report can be found here: [http://oee.nrcan.gc.ca/publications/statistics/scieu09/scieu\\_e.pdf](http://oee.nrcan.gc.ca/publications/statistics/scieu09/scieu_e.pdf).

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 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	36%	69%	48%	53%	54%	Other - Entertainment/Public Assembly	48%	64%	52%	61%	57%
Ambulatory Surgical Center	59%	87%	60%	57%	67%	Other - Lodging/Residential	48%	64%	51%	46%	54%
Aquarium	48%	64%	52%	61%	57%	Other - Mall	56%	75%	58%	61%	65%
Automobile Dealership	67%	90%	63%	81%	78%	Other - Public Services	46%	75%	35%	60%	56%
Bank Branch	58%	82%	65%	74%	70%	Other - Recreation	48%	64%	52%	61%	57%
Bar/Nightclub	48%	64%	52%	61%	57%	Other - Restaurant/Bar	56%	55%	52%	54%	54%
Barracks	48%	64%	51%	46%	54%	Other - Services	35%	50%	43%	60%	46%
Bowling Alley	48%	64%	52%	61%	57%	Other - Stadium	48%	64%	52%	61%	57%
Casino	48%	64%	52%	61%	57%	Other - Technology/Science	64%	76%	63%	55%	67%
College/University	36%	69%	48%	53%	54%	Other - Utility	64%	76%	63%	55%	67%
Convenience Store with Gas Station	66%	86%	83%	78%	78%	Other/Specialty Hospital	39%	51%	42%	49%	46%
Convenience Store without Gas Station	66%	86%	83%	78%	78%	Outpatient Rehabilitation/Physical Therapy	59%	87%	60%	57%	67%
Convention Center	48%	64%	52%	61%	57%	Parking	64%	76%	63%	55%	67%
Courthouse	46%	75%	35%	60%	56%	Performing Arts	48%	64%	52%	61%	57%
Data Center	100%	100%	100%	100%	100%	Personal Services	35%	50%	43%	60%	46%
Distribution Center	43%	83%	59%	56%	66%	Police Station	46%	75%	35%	60%	56%
Drinking Water Treatment & Distribution	90%	90%	90%	90%	90%	Pre-school/Daycare	36%	69%	48%	53%	54%
Enclosed Mall	56%	75%	58%	61%	65%	Prison/Incarceration	46%	75%	35%	60%	56%
Energy/Power Station	64%	76%	63%	55%	67%	Race Track	48%	64%	52%	61%	57%
Fast Food Restaurant	56%	55%	52%	54%	54%	Refrigerated Warehouse	43%	83%	59%	56%	66%
Financial Office	58%	82%	65%	74%	70%	Repair Services (Vehicle, Shoe, Locksmith, etc.)	35%	50%	43%	60%	46%
Fire Station	46%	75%	35%	60%	56%	Residential Care Facility	48%	64%	51%	46%	54%
Fitness Center/Health Club/Gym	48%	64%	52%	61%	57%	Residence Hall/Dormitory	48%	64%	51%	46%	54%
Food Sales	66%	86%	83%	78%	78%	Restaurant	56%	55%	52%	54%	54%
Food Service	56%	55%	52%	54%	54%	Retail Store	67%	90%	63%	81%	78%
Hospital (General Medical & Surgical)	39%	51%	42%	49%	46%	Roller Rink	48%	64%	52%	61%	57%
Hotel	48%	64%	51%	46%	54%	Self-Storage Facility	43%	83%	59%	56%	66%
Ice/Curling Rink	48%	64%	52%	61%	57%	Senior Care Community	48%	64%	51%	46%	54%
Indoor Arena	48%	64%	52%	61%	57%	Single Family Home	30%	69%	35%	49%	47%
K-12 School	36%	69%	48%	53%	54%	Social/Meeting Hall	48%	64%	52%	61%	57%
Laboratory	64%	76%	63%	55%	67%	Stadium (Closed)	48%	64%	52%	61%	57%
Library	48%	64%	52%	61%	57%	Stadium (Open)	48%	64%	52%	61%	57%
Lifestyle Center	56%	75%	58%	61%	65%	Strip Mall	56%	75%	58%	61%	65%
Mailing Center/Post Office	35%	50%	43%	60%	46%	Supermarket/Grocery Store	66%	86%	83%	78%	78%
Manufacturing/Industrial Plant	64%	76%	63%	55%	67%	Swimming Pool	48%	64%	52%	61%	57%
Medical Office	58%	82%	65%	74%	70%	Transportation Terminal/Station	48%	64%	52%	61%	57%
Mixed Use Property	64%	76%	63%	55%	67%	Urgent Care/Clinic/Other Outpatient	59%	87%	60%	57%	67%
Movie Theater	48%	64%	52%	61%	57%	Veterinary Office	59%	87%	60%	57%	67%
Multifamily Housing	30%	69%	35%	49%	47%	Vocational School	36%	69%	48%	53%	54%
Museum	48%	64%	52%	61%	57%	Wastewater Treatment Plant	76%	76%	76%	76%	76%
Non-Refrigerated Warehouse	43%	83%	59%	56%	66%	Wholesale Club/Supercenter	67%	90%	63%	81%	78%

Office	58%	82%	65%	74%	70%	Worship Facility	37%	61%	32%	38%	45%
Other	64%	76%	63%	55%	67%	Zoo	48%	64%	52%	61%	57%
Other - Education	36%	69%	48%	53%	54%						

*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	95%
Drinking Water Plant	75%

**Figure 3 – % Fuel Use by Canadian Province/Region**

	Atlantic Region	Quebec	Ontario	Prairies Region	British Columbia	Territories
Percent (%) Electricity	73%	80%	42%	42%	54%	NA
Percent (%) Natural gas	4%	13%	52%	55%	43%	NA
Percent (%) Fuel Oil (1, 2, 4)	17%	5%	3%	0%	0%	NA
Percent (%) Diesel	1%	0%	1%	0%	0%	NA
Percent (%) Propane	4%	3%	2%	2%	2%	NA

*Note on Regions:*

- Atlantic Region includes: Prince Edward Island, Nova Scotia, New Brunswick, and Newfoundland & Labrador.
- Prairies Region includes: Manitoba, Saskatchewan, and Alberta.
- Territories include: Yukon, Northwest Territories, and Nunavut.
- Some totals do not add to 100% due to the presence of other fuels in the region.

## 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 3. 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 and NRCAN review available data and update reference costs on an annual basis.

Figure 3 – 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	\$0.03373	\$0.01159	\$0.01668	\$0.01653	\$0.01091	\$0.00517	\$0.01619	\$0.02650	\$0.00885
Alaska	\$0.05744	\$0.00745	\$0.01703	\$0.02042	\$0.01163	\$0.00781	\$0.01619	\$0.02214	\$0.00593
Arizona	\$0.02770	\$0.00703	\$0.01798	\$0.01856	\$0.01163	\$0.00517	\$0.01619	\$0.02516	\$0.01190
Arkansas	\$0.02433	\$0.00762	\$0.01709	\$0.01693	\$0.01163	\$0.00517	\$0.01619	\$0.01445	\$0.00780
California	\$0.04575	\$0.00913	\$0.01826	\$0.01885	\$0.01163	\$0.00517	\$0.01619	\$0.03096	\$0.00209
Colorado	\$0.02811	\$0.00661	\$0.01564	\$0.01720	\$0.01163	\$0.00517	\$0.01619	\$0.01894	\$0.01190
Connecticut	\$0.04988	\$0.00952	\$0.01825	\$0.01935	\$0.01336	\$0.00517	\$0.01619	\$0.02475	\$0.00709
Delaware	\$0.02796	\$0.00745	\$0.01729	\$0.01685	\$0.01163	\$0.00517	\$0.01619	\$0.01876	\$0.00885
District of Columbia	\$0.03508	\$0.01107	\$0.01830	\$0.01729	\$0.01163	\$0.00447	\$0.01619	\$0.02496	\$0.00067
Florida	\$0.02749	\$0.00745	\$0.01760	\$0.01719	\$0.01163	\$0.00517	\$0.01619	\$0.02367	\$0.00095
Georgia	\$0.02822	\$0.00822	\$0.01727	\$0.01687	\$0.01163	\$0.00517	\$0.01619	\$0.02274	\$0.00885
Hawaii	\$0.08939	\$0.02959	\$0.01771	\$0.01828	\$0.01163	\$0.00517	\$0.01619	\$0.04959	\$0.00068
Idaho	\$0.02157	\$0.00745	\$0.01611	\$0.01684	\$0.01163	\$0.00517	\$0.01619	\$0.01531	\$0.01066
Illinois	\$0.02582	\$0.00685	\$0.01466	\$0.01779	\$0.01163	\$0.00236	\$0.01619	\$0.01527	\$0.00894
Indiana	\$0.03165	\$0.00677	\$0.01477	\$0.01718	\$0.01122	\$0.00580	\$0.01619	\$0.01810	\$0.00190
Iowa	\$0.02831	\$0.00745	\$0.01463	\$0.01717	\$0.01163	\$0.00244	\$0.01619	\$0.01524	\$0.00212
Kansas	\$0.02931	\$0.00745	\$0.01470	\$0.01725	\$0.01163	\$0.00517	\$0.01619	\$0.02118	\$0.00894
Kentucky	\$0.02978	\$0.00745	\$0.01463	\$0.01717	\$0.01163	\$0.00464	\$0.01619	\$0.02062	\$0.00885
Louisiana	\$0.02550	\$0.00813	\$0.01680	\$0.01665	\$0.01163	\$0.00517	\$0.01619	\$0.02061	\$0.00885
Maine	\$0.03716	\$0.00745	\$0.01810	\$0.01920	\$0.01326	\$0.00517	\$0.01619	\$0.02237	\$0.00424
Maryland	\$0.02937	\$0.00745	\$0.01833	\$0.01732	\$0.01046	\$0.00517	\$0.01619	\$0.02084	\$0.00358
Massachusetts	\$0.04830	\$0.01186	\$0.01823	\$0.01933	\$0.01335	\$0.00517	\$0.01619	\$0.02749	\$0.00339
Michigan	\$0.03344	\$0.00666	\$0.01463	\$0.01715	\$0.01112	\$0.00517	\$0.01619	\$0.01716	\$0.00278
Minnesota	\$0.02902	\$0.00745	\$0.01475	\$0.01740	\$0.01121	\$0.00369	\$0.01619	\$0.01618	\$0.00352
Mississippi	\$0.03130	\$0.00831	\$0.01717	\$0.01701	\$0.01163	\$0.00517	\$0.01619	\$0.02324	\$0.00885
Missouri	\$0.02336	\$0.00749	\$0.01438	\$0.01688	\$0.01163	\$0.00311	\$0.01619	\$0.01931	\$0.00533
Montana	\$0.03028	\$0.00745	\$0.01520	\$0.01672	\$0.01163	\$0.00266	\$0.01619	\$0.01552	\$0.01190
Nebraska	\$0.02532	\$0.00745	\$0.01456	\$0.01709	\$0.01107	\$0.00517	\$0.01619	\$0.01537	\$0.00403
Nevada	\$0.02239	\$0.00633	\$0.01819	\$0.01878	\$0.01163	\$0.00517	\$0.01619	\$0.01593	\$0.01190
New Hampshire	\$0.04593	\$0.01216	\$0.01716	\$0.01820	\$0.01257	\$0.00517	\$0.01619	\$0.02653	\$0.00499
New Jersey	\$0.03479	\$0.00885	\$0.01844	\$0.01812	\$0.01052	\$0.00517	\$0.01619	\$0.02020	\$0.00125
New Mexico	\$0.02811	\$0.00745	\$0.01687	\$0.01671	\$0.01163	\$0.00517	\$0.01619	\$0.01818	\$0.01190
New York	\$0.03875	\$0.00745	\$0.01798	\$0.01709	\$0.01026	\$0.00517	\$0.01619	\$0.02181	\$0.00317
North Carolina	\$0.02544	\$0.00745	\$0.01740	\$0.01699	\$0.01007	\$0.00532	\$0.01619	\$0.02036	\$0.00467
North Dakota	\$0.02491	\$0.00553	\$0.01449	\$0.01701	\$0.01163	\$0.00148	\$0.01619	\$0.01766	\$0.00894
Ohio	\$0.02676	\$0.00592	\$0.01459	\$0.01702	\$0.01163	\$0.00517	\$0.01619	\$0.01673	\$0.00806
Oklahoma	\$0.02098	\$0.00709	\$0.01442	\$0.01693	\$0.01163	\$0.00517	\$0.01619	\$0.01699	\$0.00885
Oregon	\$0.02606	\$0.00745	\$0.01703	\$0.01577	\$0.01163	\$0.00517	\$0.01619	\$0.01960	\$0.00990
Pennsylvania	\$0.02509	\$0.00745	\$0.01833	\$0.01692	\$0.00994	\$0.00408	\$0.01619	\$0.01705	\$0.00448
Rhode Island	\$0.04918	\$0.01254	\$0.01836	\$0.01947	\$0.01163	\$0.00517	\$0.01619	\$0.02882	\$0.00709
South Carolina	\$0.02966	\$0.00832	\$0.01760	\$0.01719	\$0.01019	\$0.00517	\$0.01619	\$0.02376	\$0.00885
South Dakota	\$0.02702	\$0.00745	\$0.01442	\$0.01693	\$0.01096	\$0.00517	\$0.01619	\$0.01802	\$0.00894
Tennessee	\$0.03118	\$0.00782	\$0.01477	\$0.01733	\$0.01163	\$0.00517	\$0.01619	\$0.02302	\$0.00885
Texas	\$0.02289	\$0.00745	\$0.01705	\$0.01689	\$0.01163	\$0.00517	\$0.01619	\$0.01849	\$0.00287
Utah	\$0.02336	\$0.00619	\$0.01610	\$0.01771	\$0.01163	\$0.00517	\$0.01619	\$0.01556	\$0.00790

State	Electricity (Grid)	Natural Gas	Propane	Fuel Oil #1, 2 & Diesel	Fuel Oil #4, 5, 6	Coal	District Heat	District Chilled Water	Wood
Vermont	\$0.04745	\$0.00586	\$0.01819	\$0.01929	\$0.01332	\$0.00517	\$0.01619	\$0.02164	\$0.00660
Virginia	\$0.02380	\$0.00745	\$0.01749	\$0.01674	\$0.01012	\$0.00447	\$0.01619	\$0.01883	\$0.00187
Washington	\$0.02603	\$0.00729	\$0.01813	\$0.01814	\$0.01163	\$0.00517	\$0.01619	\$0.01881	\$0.01111
West Virginia	\$0.02711	\$0.00790	\$0.01760	\$0.01725	\$0.01163	\$0.00517	\$0.01619	\$0.01722	\$0.00885
Wisconsin	\$0.03154	\$0.00600	\$0.01449	\$0.01618	\$0.01163	\$0.00577	\$0.01619	\$0.01712	\$0.00670
Wyoming	\$0.02717	\$0.00745	\$0.01581	\$0.01739	\$0.01163	\$0.00285	\$0.01619	\$0.01639	\$0.01190
<i>US Average</i>	<i>\$0.03033</i>	<i>\$0.00745</i>	<i>\$0.01680</i>	<i>\$0.01757</i>	<i>\$0.01163</i>	<i>\$0.00517</i>	<i>\$0.01619</i>	<i>\$0.02066</i>	<i>\$0.00411</i>

References:

- **Electricity:** U.S. Energy Information Administration, Electric Power Monthly May 2020. Table 5.6.B. Average Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through March 2020 and 2019. [https://www.eia.gov/electricity/monthly/current\\_month/epm.pdf](https://www.eia.gov/electricity/monthly/current_month/epm.pdf)
- **Natural Gas:** U.S. Energy Information Administration, Natural Gas Monthly May 2020. Table 21. Average Price of Natural Gas Sold to Commercial Consumers, by State, 2019 total. [http://www.eia.gov/naturalgas/monthly/pdf/table\\_21.pdf](http://www.eia.gov/naturalgas/monthly/pdf/table_21.pdf)
- **Propane:** U.S. Energy Information Administration State Energy Data System (SEDS): 2018 (Updates by Energy Source). Table F12: Hydrocarbon Gas Liquids Price and Expenditure Estimates, 2018. [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): 2018 (Updates by Energy Source). Table F6: Distillate Fuel Oil Price and Expenditure Estimates, 2018. [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): 2018 (Updates by Energy Source). Table F8: Residual Fuel Oil Price and Expenditure Estimates, 2018. [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): 2018 (Updates by Energy Source). Table F24: Coal Price and Expenditure Estimates and Imports and Exports of Coal Coke, 2018. [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 2019 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): 2018. Table F33: Total Energy Consumption, Price, and Expenditure Estimates, 2018. [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, wood-derived fuels and biomass waste used as proxy. U.S. Energy Information Administration State Energy Data System (SEDS): 2018 (Updates by Energy Source). Table F28: Wood and Biomass Waste Price and Expenditure Estimates, 2018. [https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep\\_fuel/html/fuel\\_pr\\_wv.html&sid=US](https://www.eia.gov/state/seds/data.php?incfile=/state/seds/sep_fuel/html/fuel_pr_wv.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 4 – 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	\$0.0368	\$0.0090	\$0.0381	\$0.0319	\$0.0319	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Prince Edward Island	\$0.0466	\$0.0090	\$0.0399	\$0.0301	\$0.0301	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Nova Scotia	\$0.0447	\$0.0090	\$0.0271	\$0.0312	\$0.0312	\$0.0022	\$0.0230	\$0.0230	\$0.0131
New Brunswick	\$0.0364	\$0.0067	\$0.0271	\$0.0317	\$0.0317	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Quebec	\$0.0296	\$0.0084	\$0.0337	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Ontario	\$0.0391	\$0.0074	\$0.0217	\$0.0343	\$0.0343	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Manitoba	\$0.0234	\$0.0054	\$0.0324	\$0.0326	\$0.0326	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Saskatchewan	\$0.0341	\$0.0041	\$0.0381	\$0.0298	\$0.0298	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Alberta	\$0.0405	\$0.0034	\$0.0280	\$0.0320	\$0.0320	\$0.0022	\$0.0230	\$0.0230	\$0.0131
British-Columbia	\$0.0275	\$0.0071	\$0.0286	\$0.0342	\$0.0342	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Yukon	\$0.0507	\$0.0457	\$0.0379	\$0.0382	\$0.0382	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Northwest Territories	\$0.0469	\$0.0457	\$0.0379	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131
Nunavut	\$0.2068	\$0.0457	\$0.0379	\$0.0340	\$0.0340	\$0.0022	\$0.0230	\$0.0230	\$0.0131

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