

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 the state/province in which the property will be located and the property type. 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 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). 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 EPA-Calculated Property Type is defined as the property use type that accounts for 50% or more of your property's gross floor area. Your EPA-Calculated Property Type is then mapped into 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 and the Survey on Commercial and Institutional Energy Use (SCIEU) for Canada.
- **Location.** Your location is primarily identified by your US State or Canadian Province. In order to be able to provide fuel mix estimates broken down by Property Type, it is necessary to combine states/provinces into broader regions. For the US, Census Regions are used; for Canada provinces or regions are used.

Available information from the reference survey is used to determine the expected percentage of electricity used by your property type and location¹. 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. Figures 1 and 2 summarize the electric percentages used by property type and location for the U.S. and Canada, respectively.

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.

¹ 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.

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 by Property Type and Canadian Province/Region

	Atlantic Region	Quebec	Ontario	Prairies Region	British Columbia	Territories		Atlantic Region	Quebec	Ontario	Prairies Region	British Columbia	Territories
Adult Education	42%	42%	42%	42%	42%	42%	Other - Entertainment/Public Assembly	34%	34%	39%	26%	34%	34%
Ambulatory Surgical Center	61%	61%	61%	61%	61%	61%	Other - Lodging/Residential	59%	48%	48%	48%	37%	48%
Aquarium	34%	34%	39%	26%	34%	34%	Other - Mall	64%	64%	64%	64%	64%	64%
Automobile Dealership	52%	52%	52%	52%	52%	52%	Other - Public Services	47%	50%	41%	32%	50%	44%
Bank Branch	80%	84%	53%	36%	54%	60%	Other - Recreation	59%	59%	62%	59%	59%	59%
Bar/Nightclub	60%	60%	60%	60%	60%	60%	Other - Restaurant/Bar	45%	50%	46%	32%	45%	45%
Barracks	36%	36%	36%	36%	36%	36%	Other - Services	78%	46%	50%	32%	34%	46%
Bowling Alley	55%	55%	55%	55%	55%	55%	Other - Stadium	55%	55%	55%	55%	55%	55%
Casino	60%	60%	60%	60%	60%	60%	Other - Technology/Science	47%	50%	41%	32%	50%	44%
College/University	66%	66%	78%	66%	66%	66%	Other - Utility	47%	50%	41%	32%	50%	44%
Convenience Store with Gas Station	78%	68%	52%	43%	50%	60%	Other/Specialty Hospital	35%	36%	31%	36%	37%	36%
Convenience Store without Gas Station	78%	68%	52%	43%	50%	60%	Outpatient						
Convention Center	34%	34%	39%	26%	34%	34%	Rehabilitation/Physical Therapy	61%	61%	61%	61%	61%	61%
Courthouse	59%	59%	59%	59%	59%	59%	Parking	49%	49%	49%	49%	49%	49%
Data Center	100%	100%	100%	100%	100%	100%	Performing Arts	34%	34%	39%	26%	34%	34%
Distribution Center	61%	54%	47%	20%	40%	44%	Personal Services	85%	41%	56%	31%	46%	46%
Drinking Water Treatment & Distribution	95%	95%	95%	95%	95%	95%	Police Station	59%	59%	59%	59%	59%	59%
Enclosed Mall	64%	64%	64%	64%	64%	64%	Pre-school/Daycare	43%	52%	40%	40%	46%	46%
Energy/Power Station	47%	50%	41%	32%	50%	44%	Prison/Incarceration	59%	59%	59%	59%	59%	59%
Fast Food Restaurant	45%	50%	46%	32%	45%	45%	Race Track	59%	59%	62%	59%	59%	59%
Financial Office	80%	84%	53%	36%	54%	60%	Refrigerated Warehouse	65%	56%	48%	30%	48%	49%
Fire Station	55%	55%	55%	55%	55%	55%	Repair Services (Vehicle, Shoe, Locksmith, etc)	85%	41%	56%	31%	46%	46%
Fitness Center/Health Club/Gym	55%	55%	55%	55%	55%	55%	Residential Care Facility	36%	36%	36%	36%	36%	36%
Food Sales	78%	68%	52%	43%	50%	60%	Residence Hall/Dormitory	67%	61%	35%	21%	29%	44%
Food Service	45%	50%	46%	32%	45%	45%	Restaurant	45%	50%	46%	32%	45%	45%
Hospital (General Medical & Surgical)	35%	36%	31%	36%	37%	36%	Retail Store	52%	52%	52%	52%	52%	52%
Hotel	59%	48%	48%	48%	37%	48%	Roller Rink	55%	55%	55%	55%	55%	55%
Ice/Curling Rink	55%	55%	55%	55%	55%	55%	Self-Storage Facility	61%	54%	47%	20%	40%	44%
Indoor Arena	55%	55%	55%	55%	55%	55%	Senior Care Community	67%	61%	35%	21%	29%	44%
K-12 School	48%	54%	31%	31%	34%	39%	Single Family Home	49%	49%	49%	49%	49%	49%
Laboratory	47%	50%	41%	32%	50%	44%	Social/Meeting Hall	34%	34%	39%	26%	34%	34%
Library	34%	34%	39%	26%	34%	34%	Stadium (Closed)	55%	55%	55%	55%	55%	55%
Lifestyle Center	67%	67%	67%	67%	67%	67%	Stadium (Open)	55%	55%	55%	55%	55%	55%
Mailing Center/Post Office	51%	48%	56%	51%	51%	51%	Strip Mall	67%	67%	67%	67%	67%	67%
Manufacturing/Industrial Plant	49%	49%	49%	49%	49%	49%	Supermarket/Grocery Store	78%	68%	52%	43%	50%	60%
Medical Office	61%	84%	61%	61%	50%	61%	Swimming Pool	55%	55%	55%	55%	55%	55%
Mixed Use Property	47%	50%	41%	32%	50%	44%	Transportation Terminal/Station	39%	39%	39%	20%	39%	39%
Movie Theater	60%	60%	60%	60%	60%	60%	Urgent Care/Clinic/Other						
Multifamily Housing	49%	49%	49%	49%	49%	49%	Outpatient	61%	61%	61%	61%	61%	61%
Museum	34%	34%	39%	26%	34%	34%	Veterinary Office	61%	61%	61%	61%	61%	61%
Non-Refrigerated Warehouse	61%	54%	47%	20%	40%	44%	Vocational School	42%	42%	42%	42%	42%	42%
Office	80%	84%	53%	36%	54%	60%	Wastewater Treatment Plant	75%	75%	75%	75%	75%	75%
Other	47%	50%	41%	32%	50%	44%	Wholesale Club/Supercenter	52%	52%	52%	52%	52%	52%
Other - Education	43%	52%	40%	40%	46%	46%	Worship Facility	30%	30%	31%	30%	30%	30%
							Zoo	34%	34%	39%	26%	34%	34%

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.

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 \$/ft² 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

State	Electricity (Grid)	Natural Gas	Propane	Fuel Oil #1, 2 & Diesel	Fuel Oil #4, 5, 6	Coal	District Heat	District Chilled Water	Wood
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
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
US Average	\$0.03033	\$0.00745	\$0.01680	\$0.01757	\$0.01163	\$0.00517	\$0.01619	\$0.02066	\$0.00411

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- **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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