Heating Oil Comparison Calculator

Buildings in New York City that burn heavy heating oil will need to switch to a cleaner fuel in the next few years. What many buildings may not realize is that this switch can actually lower annual operations and fuel costs. **The cost per gallon for each type of fuel is not the only cost associated with heating your building.** There are hidden costs that come along with burning heavy oil, which this calculator takes into account. Holding all externalities equal, such as heating degree days and boiler efficiency, this calculator compares what an example heating system could expect by switching from No. 6 to No.4 or ultra-low sulfur No. 2 oil (ULS2).

Example Heating System	
Fuel Type	No. 4
Gallons per year	20,000

1. Fuel Efficiency

Burning heavy fuels causes soot to build up in the boiler. In this example, this creates an **8.5% efficiency loss** over the course of the year. As a result, buildings burning No. 4 have to use more gallons over the course of the year to produce the same amount of heat that could be created using ULS 2.

	No. 4 Oil	ULS 2 Oil
Total Gallons Consumed Annually	**20,000**	**18,500**

2. Hidden Costs

In addition to the inefficiencies caused by soot, heavy fuels also require more electricity inputs to pre-heat the oil than ULS 2.

	No. 4 Oil	ULS 2 Oil
Annual Electric Ancillary Costs	**$9,840**	**$3,850**

3. Annual Estimates

The cost of using heavy fuel oils is greater than just the cost per gallon. Below is a list of the all the costs that need to be considered when deciding what fuel to use. Current oil prices are used in the calculation below with No. 4 at $2.83 and ULS 2 at $3.02 per gallon.

	No. 4 Oil	ULS 2 Oil
Annual Fuel Costs	$56,500	$55,500
Annual Electric Ancillary Costs	$9,840	$3,850
Total Annual Cost Estimate	**$66,340**	**$59,350**
Annual Cost Savings ULS 2	**~$7,000**	

4. ULS 2 + Biodiesel Tax Credit

Using higher blends of biodiesel may affect the price you pay per gallon depending on your supplier, but the tax credit will remain the same regardless of other costs.

$0.01 per Gallon per 1% Biodiesel	
Percent Blend Biodiesel	5%
Total Credit	**$4,381**

Frequently Asked Questions

How can I save money if ULS 2 oil costs more per gallon? ULS 2 oil burns more efficiently than No. 4 oil. This means that you require fewer gallons to produce the same amount of heat. While the cost per gallon may be higher, the number of gallons you will need is lower, which is where a majority of the savings comes from.

Why would I burn more No. 4 than No. 6? No. 4 has a lower BTU value as compared to 6. This drives up the number of gallons to create the same amount of heat. Even though ULS 2 has lower BTU value as compared to No. 4, the lack of soot build up more than compensates for the change in the BTU content.

Definitions

Waste Due to Soot Buildup: Burning heavy fuels causes soot to buildup in the boiler. This creates a barrier between the flame and the heating surface, and as soot accumulates it requires more energy, and therefore more oil, to get through the soot barrier and produce the required amount of heat. Cleaning the boiler more frequently helps reduce the waste due to soot buildup, and our calculations factor in how often you clean your boiler when determining this number. This also means burning heavy fuels requires larger quantities of oil in order to produce the same amount of heat, since more of it goes to waste through soot buildup.

Electric Ancillary Cost: This calculation reflects the electricity costs for operating the required apparatus of a boiler. Boilers burning No. 4 and No. 6 oil require a pre-heater, which heats up these more-viscous fuels so that they become more fluid. A pre-heater is not required for No. 2 oil because it is naturally less viscous.

Maintenance Cost: These are the costs for maintaining the boiler, which are made up mostly of the cleaning costs. This calculator assumes one cleaning per year regardless of oil type.

Biodiesel Tax Credit: New York State offers a tax incentive to buildings for burning ULS 2 with a biodiesel blend. Buildings can get back $0.01 per gallon, per percent of biodiesel in their fuel. For example, if a building burned 5% biodiesel (B5), it would get $0.05 off every gallon it purchased in the form of a tax deduction or rebate.

Disclaimer

This calculator provides general information for convenience purposes only. Numbers presented here should be used as a guide only and do not constitute financial advice. Financial advice related to energy costs use should be sought from a professional, qualified advisor. The estimates given by the calculators are not quotes or an offer and are in no way binding for the NYC Clean Heat program ("Program").

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