Used Oil Facts

Fact Sheet

Replace Existing Propane Heat with Used Oil-Fired Furnace

Propane, or liquefied petroleum gas (LPG), is a by-product of natural gas processing and crude oil refining. When natural gas is extracted from the ground, it consists of about 90% methane. The other 10% consists of propane and other LPGs. Approximately 60% of propane is derived from natural gas processing. The other 40% comes from crude oil refining[1].

Propane can be used in just about any application that other fossil fuels are used[2]. Commercial and residential applications (including heating, drying, cooking, water heating and refrigeration), account for about 50% of the total world LPG sales. In many parts of the world, **LPG is also a popular transportation fuel alternative, producing drastically lower emissions than gasoline and diesel combustion**[1].

When properly mixed with air, combustion of propane is considered one of the cleanest fossil fuels because it doesn't produce visual emissions. Propane combustion does, however, produce low amounts of carbon monoxide (CO), nitrogen oxides (NOx), sulfur dioxide (SO2), organic compounds and particulate matter. Propane combustion also produces the greenhouse gases carbon dioxide (CO2), methane and nitrous oxide[3].

To determine the economic possibilities of replacing propane as your source of heat with used oil, use the Cost-Benefit Calculator.

References

(1) *World LP Gas Association.* *http://www.worldlpgas.com/v2/index.php*

(2) *Silverspot Consulting,* *silverspot@optonline.net*

(3) *United States Environmental Protection Agency, Compilation of Emission Factors AP-42, Volume 1, Fifth Edition, 1995.*

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Used Oil Furnace Cost Worksheet - Propane

	CURRENT FUEL CONSUMPTION	YOUR FACILITY	EXAMPLE
A	Approximately how much used oil do you generate per year?		750 Gallons
B	How much propane did your facility consume to heat your shop last January?		105 Gallons
C	What dollar amount was spent to heat your shop last January?		$131.25
D	Published Heat Value for Propane	92,500 btu/gallon	
	USED OIL REQUIREMENT CALCULATIONS	**YOUR FACILITY**	**EXAMPLE**
E	Btu requirement [(B x D) x 6 months]		58,275,000 Btu
F	Btu requirement per hour (E/4,320 hours)		13,489 Btu/hr
G	Gallons of used oil required per month for heating season (E x gal/135,000 btu/6 months)		72 Gallons
	COST CALCULATIONS (PICK H, I OR J DEPENDING ON YOUR BTU REQUIREMENTS [F])	**YOUR FACILITY**	**EXAMPLE**
H	Capital Cost for **Small** Unit* = $4413 Average		$4413
I	Capital Cost for **Medium** Unit** = $59930 Average		NA
J	Capital Cost for **Large Unit**** = $10,375 Average		NA
K	Monthly cost for furnace over 3 yrs (H, I or J/36 months)		$123
L	Payback less than 3 years? (K≤C)		Yes

* 140,000 – 200,000 btu/hr maximum capacity

** 200,000 – 350,000 btu/hr maximum capacity

***350,000 – 500,000 btu/hr maximum capacity

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