

### Thumbnail Payback Analysis of Heater

Stove cord of hardwood: 1,000 lbs  
 Heater consumption: 3 cords/month 3,000 lbs burned  
 Heater season (months): 5.5 <= guess (Nov-mid-April)  
 168 days

Norbert's numbers	4.54	lpg (litres/gal)
Variables	1.07	gst
Calculated	1.065	qst

Wood to Oil ratio (by weight): 2 lbs wood = 1 lb oil  
 Equivalent weight of oil used: 1,500 lbs  
 Weight of 1 gal oil: 10 lbs  
 Gallons of oil used: 150  
 Litres of oil used: 681  
 Oil cost/litre (with taxes in): \$0.409 <= Ultramar 1996  
 Equivalent value of oil: \$278.60

Current annual oil cost:	\$2,400
Annual service cost:	\$150
Current oil consumption:	5,500 litres
Could be reduced to:	1,754 litres
Total wood cost:	\$577.50
Total oil cost:	\$717.72
Annual total:	\$1,295.22

Average cost per stove cord: \$35.00 <= estimate  
 Cost of wood used: \$105.00  
 Potential savings per month: \$173.60

Cords of wood needed: 16.5 \$577.50 <= cost of wood (if purchased)  
 Equivalent in oil (gallons): 825.0 \$1,532.28 <= cost of equivalent energy in oil

Net annual cost savings:	\$954.78 <= equivalent oil less cost of wood
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Heater cost: \$12,000  
 Assumed annual interest rate: 7.50%  
 Years to payback: 9.2 <= based on annual cost savings