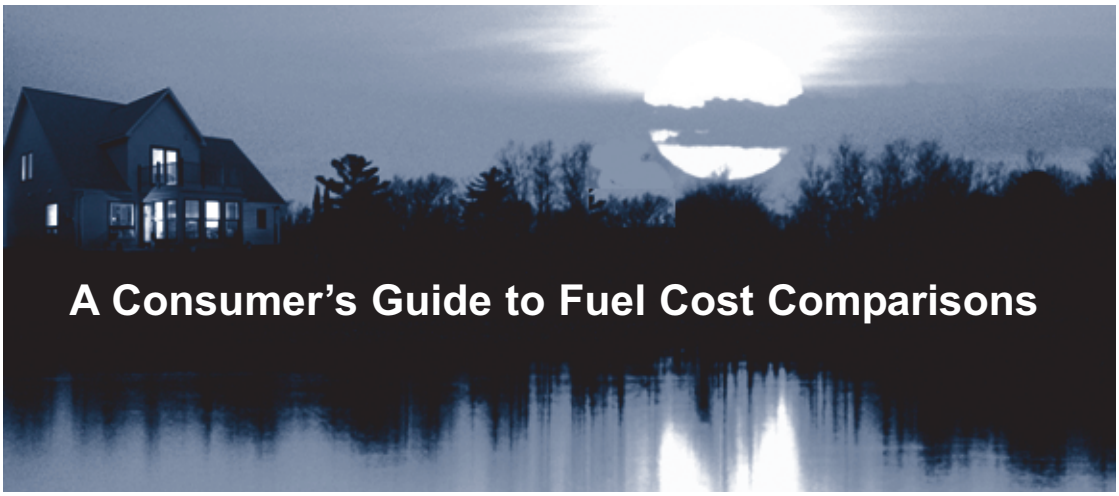

minnesota power
AN ALLETE COMPANY

How much would it cost to heat your home or business with another type of fuel or a more efficient furnace?

Here's how to find out. The following chart illustrates the costs of one million BTUs (British Thermal Units) of heat for various types of fuels listed. As you look at the chart, consider this: the average home in northern Minnesota uses approximately 70–100 million BTUs each year.

Step 1

Determine your fuel type. Do you heat with propane, natural gas, electricity, or fuel oil?

Step 2

Determine your fuel cost. Simply check your bill to see the price per unit of fuel (gallons, ccf, kWh, etc.). A range of prices has been listed to most accurately reflect what you currently pay.

Step 3

Determine the efficiency of your heating system. A furnace that is more than 20 years old is probably only about 60 percent efficient. This means that for every $1 you spend to heat your home, 40¢ quite literally goes out the chimney. If your furnace is less than 20 years old and vents into the chimney, it's probably about 80 percent efficient. A high-efficiency furnace (90 percent) is less than 20 years old and can be identified by plastic or PVC venting.

Step 4

To determine your energy cost, use the chart to the right. Select your fuel type, your system's efficiency level, and your current price per unit of energy. The dollar amount listed is the price you pay for one million BTUs of deliverable energy.

Step 5

To determine your estimated annual heating cost, use the chart at bottom right. Apply your cost per million BTUs to the square footage of your home. Estimates will vary based on the age of your home and insulation levels.

ARE YOU PAYING MORE THAN YOU SHOULD?

Compare your current annual cost to other types of fuel and more efficient heating systems. You'll see the difference it can make in what you pay.

Current		Proposed	
Fuel type		Fuel type	
Fuel cost		Fuel cost	
Efficiency		Efficiency	
Energy cost		Energy cost	
Annual cost		Annual cost	

Natural Gas

Cost/ccf or therm	60% efficiency	80% efficiency	90% efficiency
$1.00	$16.67	$12.50	$11.11
$1.20	$20.00	$15.00	$13.33
$1.40	$23.33	$17.50	$15.56
$1.60	$26.66	$20.00	$17.78
$1.80	$29.99	$22.50	$20.00
$2.00	$33.34	$25.00	$22.22

Propane

Cost/gallon	60% efficiency	80% efficiency	90% efficiency
$1.40	$25.50	$19.13	$17.00
$1.60	$29.14	$21.86	$19.43
$1.80	$32.79	$24.59	$21.86
$2.00	$36.43	$27.32	$24.29
$2.20	$40.07	$30.05	$26.72
$2.40	$43.71	$32.78	$29.15
$2.60	$47.35	$35.51	$31.58

Electric

Cost/kwh		Standard Electric Heating 100% efficiency	Ground Source Heat Pump 250–350% efficiency
$0.035	MP Off Peak	$10.25	$4.10
$0.037	MP Dual Fuel	$10.84	$4.34
$0.05	Other Provider	$14.65	$5.86
$0.072	MP General Residential	$21.10	$8.44
$0.09	Other Provider	$26.37	$10.55
$0.12	Other Provider	$35.16	$14.06

#2 Fuel Oil

Cost/gal	60% efficiency	75% efficiency
$2.00	$24.07	$19.25
$2.20	$26.48	$21.17
$2.40	$28.89	$23.09
$2.60	$31.30	$25.01
$2.80	$33.71	$26.93
$3.00	$36.12	$28.85
$3.20	$38.53	$30.77
$3.40	$40.94	$32.69
$3.60	$43.35	$34.61

Estimated Annual Heating Cost for:

Cost/Mbtu	2000 sq. ft. home	3000 sq. ft. home	4000 sq. ft. home	5000 sq. ft. home
$12.00	$727	$1091	$1454	$1818
$15.00	$909	$1364	$1818	$2273
$18.00	$1091	$1636	$2182	$2727
$21.00	$1273	$1909	$2545	$3182
$24.00	$1454	$2182	$2909	$3636
$27.00	$1636	$2454	$3273	$4091
$30.00	$1818	$2727	$3636	$4545
$33.00	$2000	$3000	$4000	$5000
$36.00	$2182	$3273	$4363	$5454
$39.00	$2364	$3546	$4726	$5908
$42.00	$2546	$3819	$5089	$6362

Information compiled by Douglas Anderson, St. Cloud State University