

Efficient Furnaces Can Counter Increased Energy Costs *by Saskatchewan Office of Energy Conservation*

With higher natural gas costs coming this winter, upgrading to an ENERGY STAR® qualified high-efficiency furnace with high efficiency motor is one of the best changes you can make to help you save energy and money.

Given the recent rise in natural gas costs, it is estimated that that homeowners using natural gas for space heating can save up to \$610 a year by installing a high-efficiency furnace with high efficiency, variable speed DC fan motor. Should energy prices rise still further in the future, comparative savings increase.

For every dollar's worth of gas burned in a conventional furnace equipped with a single heat exchanger and a standard belt drive fan motor, about 60 cents worth of heat is actually delivered to the home. High-efficiency furnaces, which incorporate two or more heat exchangers, deliver 93 to 96 cents worth of heat for every dollar spent on natural gas.

More efficient heating systems achieve energy and cost savings in a number of ways. In addition to "extracting" more of the heat available in gas or propane, efficient heating systems eliminate some of the heat loss characteristic of conventional systems. Conventional furnaces allow warm air in the home to escape up the chimney. High efficiency furnaces actually operate without a chimney, since cooler exhaust gases can be vented out the side of the house. This improves the air tightness of the home.

High-efficiency furnaces also draw outside air to burn gas, rather than using warm inside air. This reduces heat loss and drafts, meaning that less heating is needed.

Energy efficiency and cost reduction are also improved when conventional furnace fan motors are replaced with high efficiency, variable speed DC motors. Estimates are that using these motors can result in electrical cost savings of up to \$224 if the fan is used year round for heating, cooling, and circulation of air in the home.

Like high-efficiency furnaces, high efficiency, variable speed DC motors are more expensive than conventional units. However, long term cost savings are very attractive. The rate of return on an investment in a variable speed motor, for example, is more than 20%.

There are many factors to consider when shopping for a new high-efficiency furnace. One is furnace size. Most furnaces can provide far more heat than a house requires, even on the coldest winter day. As a result, the odds are that you won't need to buy a new furnace with the same output as your current one.

A furnace of the correct size will also operate more efficiently, last longer, save you money on heating throughout the season and provide comfort in all parts of your home.

Also, watch for furnaces that carry the ENERGY STAR® label. ENERGY STAR® is an international symbol of energy efficiency. It helps consumers identify products that deliver the best energy performance in their category.

Until March 31, 2006, SaskEnergy is offering prime rate loans on ENERGY STAR®-qualified furnaces with high-efficiency motors. And before changing a furnace, find out about the EnerGuide for Houses program, which offers government grants for home energy improvements. This program can further reduce the cost of a new furnace. Call 1-800-668-4636 for information on EnerGuide in Saskatchewan or visit the national website at <http://oee.nrcan.gc.ca/houses-maisons/english/homeowners/grant/grant.cfm>.

In addition to reducing energy costs, high efficiency furnaces also lower the greenhouse gas (GHG) emissions thought to cause climate change. Canadians have been challenged to reduce their annual emissions of GHGs by about 20%—or one tonne—each. An ENERGY STAR® qualified furnace would reduce emissions between 2.2 and 2.5 tonnes per year per household.

Detailed articles on high-efficiency heating systems and furnace sizing, including a check list of things to consider when purchasing a new furnace, are available from the Office of Energy Conservation (OEC). Call the OEC hotline at 1-800-668-4636 or visit the web site at www.oec.ca and click on Programs, then Housing, and Housing Articles.