
Efficiency and Environment

Posted by Liesl - 2008/01/24 15:36

The GSHP system relies on the temperature at depth within the Earth. It benefits from the seasonal change in temperatures, that is to say that it uses the warmer temperatures in the ground during winter when the air temperature is much colder, and uses the colder temperature of the ground during summer when the air is much warmer. So the GSHP system utilizes the natural geothermal gradient and is furthermore enhanced by seasonal climate variations.

Energy wise, these systems are very efficient. For every kW of electricity used to run the heat pump, three to four kW are delivered to the building. It has a heating efficiency of 50-70% higher than other heating systems and a cooling efficiency of 20-40% higher than available air conditioners.

The maintenance of these systems is very low and there is no need for regular servicing or annual safety checks and it also has a life expectancy of approximately 50 years. There are no hazardous gas emissions or flammables, no unsightly tanks or chimneys and you are saving the environment of 2-8 tonnes of carbon dioxide emissions per year!

The systems converts a readily available renewable energy into heat rather than burning fossil fuel, for example, to create heat; thus reducing the toxic gas emissions in the atmosphere. So, looking at carbon dioxide emissions, replacing a gas or oil burner with GSHP system, saves the environment the equivalent of taking 2 cars off the road. So, are there any severe environmental effects?

=====