CASE STUDY: 2,200 sq. ft. 10-Year Old House

Jeff Goodman & Lynne Leblanc, Kemptville, ON

Situation

Jeff Goodman and Lynne Leblanc live in a ten-year old 2,200 sq. ft. house in Kemptville, about 30 km south of Ottawa in eastern Ontario. The house is well-constructed and insulated. The property is 20 acres in size and is heavily forested.

Challenge

Jeff and Lynne were fascinated by geothermal energy before moving into the house, but were unable to install a system immediately. They used the oil furnace that was already in place during their first year living at the house, during which they spent $1,700 on heating oil. After a year had passed, Jeff and Lynne decided it was time to install a geothermal system.

Action

Jeff contacted a highly regarded NextEnergy Geothermal Specialist in his area to install the geothermal system. He decided on the 'closed loop' design. Utilizing the open space provided by a logging trail through the forest, a trench was dug in Jeff and Lynne's backyard measuring five to six ft. in depth, two ft. in width, and 750 ft. in length. Fifteen hundred ft. of piping was buried in the trench.

A Tranquility27™ geothermal unit was installed in the basement to exchange heat between the piping in the ground and the house interior. The geothermal unit circulates air throughout the house via standard air ducts, supplying heating and cooling as required. The unit also provides a portion of the hot water.

Results

Jeff and Lynne found that their heating and hot water costs dropped by half after installing the geothermal system (the new totals included air conditioning, which they did not have before). At the same time, they were able to maintain the house's indoor temperature consistently higher than they had with the oil furnace.

In addition to the payback,the geothermal system made very good sense for Jeff and Lynne in other ways as well. The bank considered the geothermal system a dollar-for-dollar increase in the resale value of the house. The geothermal system will also have a much longer lifetime and lower maintenance costs than an oil furnace. As Jeff says, "All factors considered, it's the most economical choice we could have made."

Jeff has also dramatically reduced his impact on the environment. Installing a geothermal system cuts an average household's greenhouse gas emissions by four tons a year, or the equivalent of four cars. Regarding that fact, Jeff has this to say: "It's hard to put a dollar amount on something so important to today's children."

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