



CASE STUDY: New Bungalow

Carl and Diane Dekelver, Clearwater, BC

Situation

Carl and Diane Dekelver live in the rural environs of Clearwater, BC, about 70 km northeast of Kamloops. The area experiences hot, dry summers and cold, snowy winters. Their split-level house has a 1,500 sq. ft. main floor and a basement of equal size.

Challenge

The Dekelvers decided to build a new home in 2001. The conventional heating option was very expensive. The Dekelvers started researching geothermal energy prior to beginning construction. They were looking for a system with low operating costs and quality space conditioning that would also add value to their new home.

Action

Installation took place in 2002. A local NextEnergy Geothermal Specialist designed and installed the system. A horizontal loop measuring 2,400 ft. in length was buried in the backyard of the large property, in a trench measuring 300 ft. long, five ft. wide, and eight ft. deep. The one-inch loop pipe was buried in two layers in the trench to conserve space. Since the house had not been built yet, the loop headers were run underneath the foundation from the basement to the yard.

A 4 ton Genesis™ geothermal unit was installed in

the basement. Ductwork was placed throughout the house. The unit provides heating and air conditioning to the house, as well as a portion of the hot water.

Results

The Dekelvers have tracked their utility bills over the last three years. They have paid, on average, \$1,200 a year in total electrical bills. In comparison, the probable alternative system (electric + wood backup) would have cost an estimated \$4,800 a year. The geothermal system has resulted in a reduction of 75% in annual operating costs. The Dekelvers recovered the extra cost of installing their geothermal system in less than two years.

The Dekelvers are enjoying a range of additional benefits from their geothermal system. The resale price of their house has increased because of the greater value accorded to a geothermal installation. Since the system is completely safe, fire insurance is one-fifth of what it would be otherwise. The air quality is excellent, with 100% of particulates removed by the filter provided with the unit. The system also maintains a consistent air temperature better than anything the Dekelvers have experienced.

The Dekelvers have enthusiastically spread the word about their system to many interested people. According to Diane Dekelver, "We like everything about it. I wouldn't go back to anything else."