**Your Personal Home Energy Calculator**

( 2014 data for the average 2,100 ft2 household in Manitoba from the Office of Energy Efficiency; see http://NRCan-energy.cf )

to convert 1 m3 of natural gas to kWh, multiply by 10.6 / for 1litre of propane, multiply by 7

**kWh per year MB average t- CO2 YOUR consumption**

space heating\* 19,300 20 \_\_\_\_\_\_\_\_\_\_\_

water heating\* 5,900 6 \_\_\_\_\_\_\_\_\_\_\_

space cooling\* 390 0.5 \_\_\_\_\_\_\_\_\_\_\_

appliances 3,900 4 \_\_\_\_\_\_\_\_\_\_\_

lighting 1,100 1 \_\_\_\_\_\_\_\_\_\_\_

**TOTAL** 30,500 30 \_\_\_\_\_\_\_\_\_\_\_

*\*= referred to as ‘Green Heat’ or temperature energy*

A ground source heat pump (GSHP) will provide temperature energy for heating, cooling and hot water. A GSHP requires electricity to operate so (depending on your current supply) power consumption will increase by 7,800 kWh a year but the GSHP will produce 25,600 kWh, an annual saving of 17,800 kWh.

A building is defined as Net Zero if it produces as much energy as it consumes. With a GSHP, a house will consume 12,800 kWh (7,800 + 3,900 + 1,100) of electricity each year but it will produce 25,600 kWh of temperature energy from the ground ... and is classified as NetZeroPlus. This temperature energy is fully ‘dispatchable’ (ie: available when needed, and not dependant on shining sun or blowing wind).

A GSHP can be programmed to avoid operation during peak periods of power demand (Time of Use) to provide a baseload demand which utilities want.

XX% of electricity in MB is generated from large hydroelectric dams, which release methane but are deemed to emit 0 carbon. Buildings which burn natural gas or propane for space heating & water heating will reduce their carbon footprint by 26.5 tonne.

To obtain a quotation from your local GSHP dealer, provide (as accurately as possible):

* the square footage of your house, including basement, excluding garage
* annual energy consumed (kWh of electricity, m3 of natural gas, propane, oil, wood)
* dimensions of land that is clear of obstructions (trees, septic, driveway, pool, etc)
* if known, the type of soil around your house