

Manitoba Hydro's Earth Power Program

Geothermal heat pump energy costs and savings calculation worksheet

Print this worksheet and use to:

- Compare the cost difference and annual heating costs of geothermal system to other heating/cooling systems
- Calculate your estimated monthly energy savings and payback with a geothermal system; and monthly financing costs

STEP 1: Obtain quote for geothermal system from a geothermal contractor or estimate average cost:

- Existing home: \$15,000 to \$28,000, Average: \$21,000
- New home: \$18,000 to \$30,000, Average: \$26,000

Enter this amount in Box A

STEP 2: Obtain quote for other heating and/or cooling system from an HVAC contractor or estimate average cost:

- Existing home \$4,000 – \$9,000
- New home \$9,000 – \$15,000

Enter this amount in Box B

STEP 3: Is your geothermal installation eligible for financial incentives and grants?

Enter estimated dollar amount for incentives/grants in Box C.

STEP 4: Calculate the cost difference for a geothermal system and enter in Box D.

COMPARE GEOTHERMAL SYSTEM COSTS:		
Geothermal system cost	\$	A
Conventional heating system cost	\$	B
Dollar amount of any financial incentives/grants available for a Geothermal System (e.g. Green Energy Equipment Tax Credit approx. \$2,000)	\$	C
A – B – C = D		
Cost difference for a geothermal system	\$	D



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STEP 1: Open the on-line Home Energy Calculator www.hydro.mb.ca/energy_calculator/index.html and select the HTML or Flash version.

STEP 2: Enter details about your home into the Home Energy Calculator.

For “Space heater type” select the system you wish to compare (e.g. electric furnace or baseboard, etc.) to geothermal.

Fill out each field for a more precise cost comparison. When all fields are entered:

- HTML users click “Continue”
- Flash users click “Go!”

STEP 3: A new page about appliances will open. *You do not need to enter appliance details to compare your heating costs.*

- HTML users, scroll to the bottom of the webpage and click “Generate a Report”.
- Flash users click the clipboard and pencil icon.

STEP 4: A Heating Costs Report appears and shows the annual space heating cost for your selected space heater type (Step 2).

Enter the annual cost of space heating (not including the cost of water heating) in Box E.

STEP 5: Return to the Home Energy Calculator start page (Step 1). This time, select Geothermal for your “Space heater type” and continue through Steps 3 – 4 above.

Enter the annual cost of geothermal space heating (not including the cost of water heating) in Box F.

STEP 6: You can now calculate your estimated annual heating savings for a geothermal system in Box G.

STEP 7: Divide the amount in Box G by 12 for your estimated monthly energy savings.

COMPARE ANNUAL HEATING COSTS:		
Annual space heating cost Conventional heating system	\$	E
Annual space heating cost Geothermal system	\$	F
	E – F = G	
Annual heating cost savings of geothermal system	\$	G
	G / 12	
Estimated monthly energy savings	\$	



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CALCULATE SIMPLE PAYBACK OF GEOTHERMAL SYSTEM:

	D / G
Estimated payback in years	years

Divide the amount from Box D by your annual heating cost savings from Box G. This equals the estimated time in years it will take for the energy savings of the geothermal system to “payback” (cover the cost difference for the system).

MONTHLY SYSTEM FINANCING: Manitoba Hydro’s Residential Earth Power Loan assists homeowners with the cost of installing a geothermal heat pump system. For more information on the loan or to calculate a monthly Earth Power Loan payment, please visit: www.hydro.mb.ca/earthpower/loan.shtml

Note: Calculations and comparisons are provided for information purposes only, and are estimates based on current rates. Additional factors such as energy cost increases or additional re-sale value of the home are not included. These other factors should be considered when reviewing payback. Calculations do not include the monthly service charge, the first block rate, or any applicable taxes.

For more information about geothermal heat pumps or available financing, please contact:

Manitoba Hydro’s Earth Power Program

In Winnipeg: 360-4273

Toll-free: 1-888-MBHYDRO (1-888-624-9376)

E-mail: earthpowerinfo@hydro.mb.ca



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