

You see a yard. We see a power plant.



About 15 feet below your yard, the temperature of the earth remains near 50 degrees summer, winter, spring and fall. It's renewable energy that can be harnessed to heat your home. In the winter, a geothermal system can produce four dollars worth of heat for each dollar spent on electricity to operate the heat pump. Geothermal heat pumps are twice as efficient as standard central air conditioners.

How does the heat pump work?

A water/anti-freeze solution circulating through the piping in the ground loop transfers heat from the earth to a refrigerant. The heat pump compressor concentrates the heat and produces a warm, comfortable temperature in your home. In addition, excess heat produced by the compressor can reduce water heating cost anytime the GHP system is operating.

What are the benefits?

- Clean, renewable energy
- Reduces your carbon footprint
- Reduces energy costs up to 70%
- Loop life expectancy over 50 years
- Hydronic floor heat and forced air system options
- Low cost water heating
- Quiet operation; no outdoor unit is required
- No on-site combustion
- LREC rebates and federal tax credits (if available)
- Applicable for new construction or retrofit
- Loops can be installed under EarthWISE program or purchased

Why HDD?

Horizontal directional drilling (HDD) provides flexibility in loop field design, making ground loop installation possible where other types are impractical, including environmentally sensitive areas. HDD takes less time to install. Very little landscaping or lawn is disturbed.

The HDD machine drills to the proper depth and length, then pulls the piping back through the bore as the drilling stem is retracted. The size of the geothermal system and land available determines the number of bores.

The header trench where the ground loop piping is connected is the only excavation. Very little soil is taken out of the ground and a vacuum system is used to clean up drilling and grout fluids.

How does the EarthWISE program work?

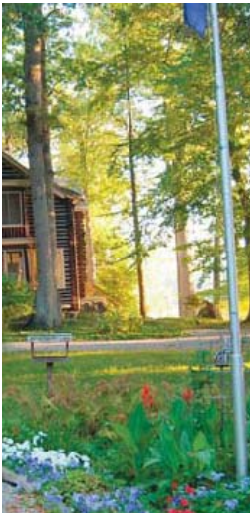
The program makes installation of a geothermal heating and cooling system more affordable. LREC owns and installs the loop field, and a fixed monthly charge is added to your electric bill. Prior to installation, the homeowner and LREC sign an agreement and an easement for the ground loop. Since the majority of your heating and cooling energy comes from the ground, you lock in your costs for years to come. And with LREC rebates and federal tax credits available, the cost of purchasing the heat pump is also reduced.

To get started, call LREC Energy Services at 218.863.1171 or 800.552.7658 for program specifics, then call your local Geo/HVAC dealer to select and size a heat pump for your home.



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EarthWISE Geothermal Program Specifications



LREC HDD Loop – Tariff Agreement

- Available only with LREC designed and installed HDD* loop
- When loop tariff agreement is signed, the HDD system is installed at LREC expense
- 2012 monthly tariffs:
 - 3 ton – \$ 41 per month
 - 4-ton – \$ 55 per month
 - 5-ton – \$ 69 per month
 - 6-ton – \$ 83 per month
- GHP* and HDD loop sized to provide at least 90% of heat requirements
- GHP sizing must be supported by HVAC contractor-supplied Manual J load calculation
- Member eligible for **\$200 per ton** geothermal rebate in addition to tariff
- LREC may provide energy audit with blower door test for existing homes
- Member may purchase HDD loop at depreciated price at any time
- Member may be eligible for federal tax credits on purchase of GHP
- Member may be eligible for tax credit on loop if purchased from LREC prior to 2016

LREC HDD Loop – Direct Purchase Agreement

- Loop system designed and installed by LREC and sold directly to member/customer
- 2012 closed loop installation price: **\$1,800 per ton**
- Eligible for general service or dual fuel (fossil fuel back-up) rates
- **\$400 per ton** member rebate available if the following requirements are met:
 - GHP and HDD loop are sized to provide at least 90% of heat requirements
 - GHP sizing supported by HVAC contractor-supplied Manual J load calculation
- LREC may provide energy audit with blower door test for existing homes.
- Member may be eligible for federal tax credits for heat pump and HDD closed loop

Other Closed Loop Systems

- LREC will provide rebates for geothermal closed loop systems sold through HVAC contractors and installed by a geo well driller or other loop installers
- Eligible for general service or dual fuel (fossil fuel back-up) rates
- **\$400 per ton** member rebate available if:
 - GHP and closed loop are sized to provide at least 90% of heating requirements
 - GHP sizing supported by HVAC contractor-supplied Manual J calculation
- **\$200 per ton** member rebate available if:
 - Electric resistance strip heat is used to provide more than 10% of supplemental heat
 - Manual J report or audit is not provided to support system sizing
- Energy audit with blower door test for existing homes may be purchased through LREC
- Member may be eligible for federal tax credits on entire geothermal system

Open Loop Systems

- Eligible for general service or dual fuel (with fossil fuel back-up) rates
- **\$100 per ton** member rebate available
- Energy audit with blower door test for existing homes may be purchased through LREC
- Manual J calculation or audit provided by HVAC contractor
- Member may be eligible for federal tax credits on geothermal heat pump equipment

*HDD – Horizontal Directional Drilling

*GHP – Geothermal Heat Pump