# NORTHERN GREENERGY SOLUTIONS

# Energy from the ground up.

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### How does Geothermal Energy work?

- The earth absorbs 50% of the sun's energy
- Six feet down, the earth's temperature remains constant between 10 - 15° C all year
- Result = AN UNLIMITED ENERGY SOURCE
- Using a series of underground pipes, a geothermal system captures this FREE energy and puts it to use in the home

#### **The Heat Transfer Process**



#### **Common Geothermal Loop Configurations**



#### **The Loop Installation**

Horizontal Loop

Trenches are dug 6 feet deep and pipe is laid in loop circuits.





**Pond/Lake Loop Pipe** is placed in the lake or pond instead of the ground.

Vertical Loop A series of holes are drilled in the ground. Pipe is placed vertically





**Radiant Heating** A different kind of pipe can also be placed in the house beneath the floors to provide radiant in-floor heating.







#### **Geothermal Energy Efficiency**

You only pay for roughly 25% of your home's heating and cooling costs, the rest comes FREE from your backyard



#### **Geothermal Heat Exchange**

- One geothermal unit provides your home with heating, cooling and a portion of your domestic hot water.
- No noisy outside equipment.
- Standard geothermal equipment applications are forced air, hooked directly into your home's ventilation system and water to water, used for in-floor heating.
- NextEnergy's highest selling model, the "Tranquility 27<sup>™</sup>" is one of the most efficient heating and cooling systems available on the market.

## Savings and ROI

- Geothermal eliminates the use of costly fossil fuels
- Using geothermal energy can save you up to 70% on your heating and cooling costs
- Cost difference of a geothermal system over a conventional system is often paid back between 5-7 years
- 75% of the heating and cooling for your home is FREE
- A geothermal system pays you to own it!

#### **Operating Cost Comparison**



#### Home Energy Use



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#### Home Energy Use



# **Environmentally Friendly**

Clean, Renewable, Efficient

- A geothermal system emits zero emissions into the environment
- Installing one geothermal system is the equivalent to:
  - · removing two cars off the road

or

· planting one acre of trees in CO<sup>2</sup> reductions

#### **Benefits of a Geothermal System**

- Return on investment
- Low operating cost
- Provides domestic hot water
- Comfortable home environment
- Quiet
- No outdoor equipment
- Versatile to most retrofits
- Low maintenance
- Long life expectancy
- Environmentally friendly, zero emissions