
BLU eQ™
The most advanced heating and cooling system on the planet
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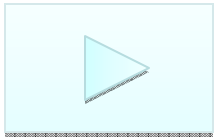


What is Geothermal?

- Geothermal means heat from the Earth
- Geothermal heating and cooling uses the relatively constant temperature of the Earth to heat and cool homes
- There are various applications to utilize geothermal energy…we will focus on geothermal heat pumps

Geothermal Heat Pumps

- Geothermal heat pumps (GHPs) is a heat pump that uses the Earth's thermal capacity as an energy source to add heat to a system or as an energy sink to cool a system
- GHPs use electricity to simply move heat from the Earth into and out of your home

How long has geothermal technology been around?

- Geothermal energy has been around for centuries, starting in ancient civilizations
- Used for bathing, medical therapy, cooking, and heating infrastructure
- The first recorded geothermal system was a 1912 Swiss patent
- Over half a million geothermal systems have been installed worldwide

Places using geothermal

- Iceland: Geothermal energy is giving 26 % of Iceland's total electricity & 87% of buildings are heated with geothermal technology
- 4 district heating systems in Boise that provide heat to over 5 million square feet of residential, business, and governmental space.
- 17 district heating systems in the United States and dozens more around the world.

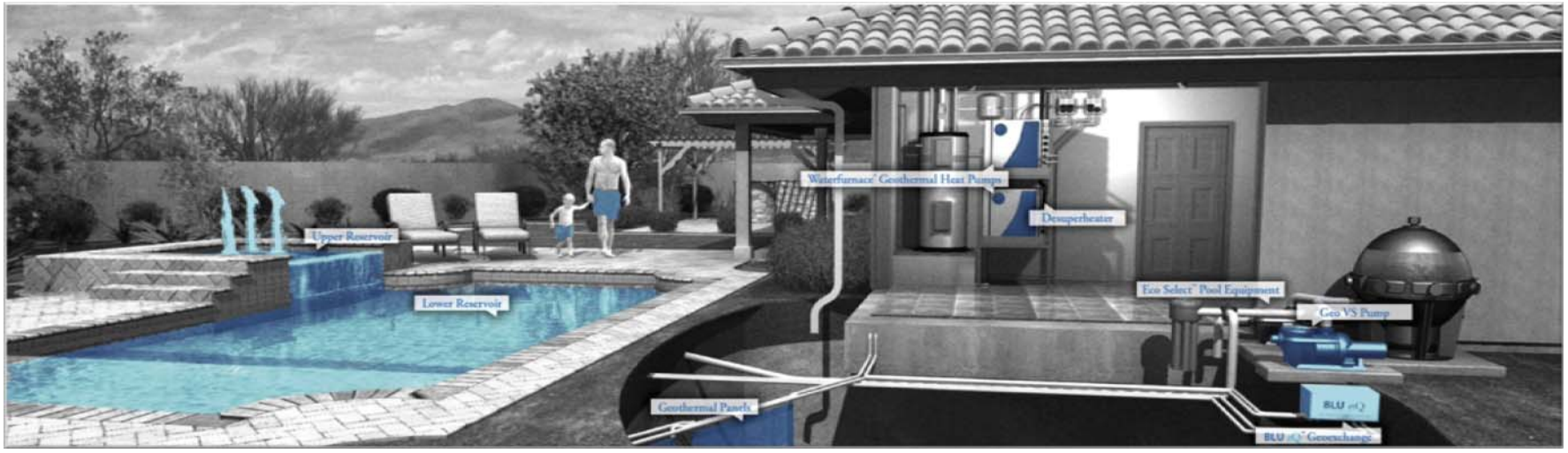
Arizona Conditions

- Geothermal is more common in the Midwest due to the climate and soil conditions
- Geothermal applications are not common in Arizona because of the arid climate and soil
- The innovation of BLU eQ has made the utilization of geothermal energy possible

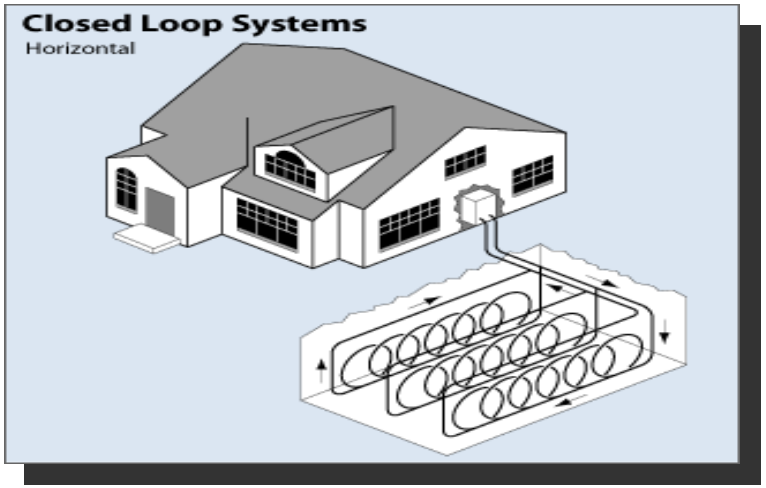
What people have to say about geothermal

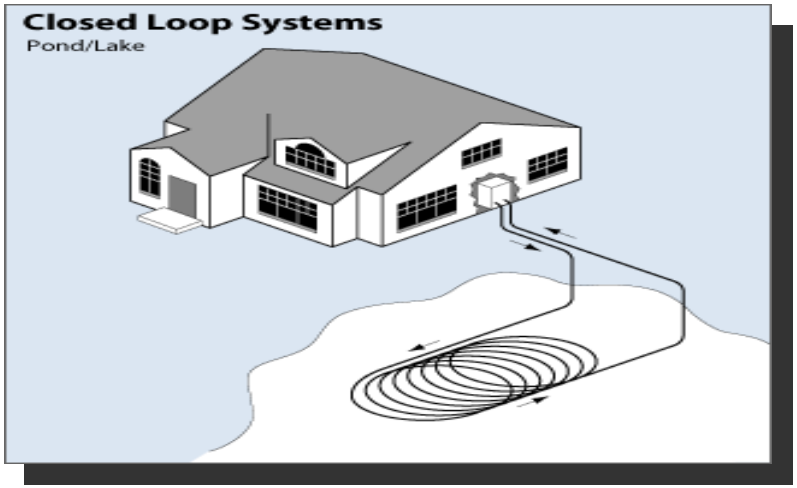
- According to the Department of Energy and the EPA, geothermal systems are the most environmentally friendly way to heat and cool your home
- EPA states that GHPs can reduce energy consumption, emissions, and utility costs up to 72%

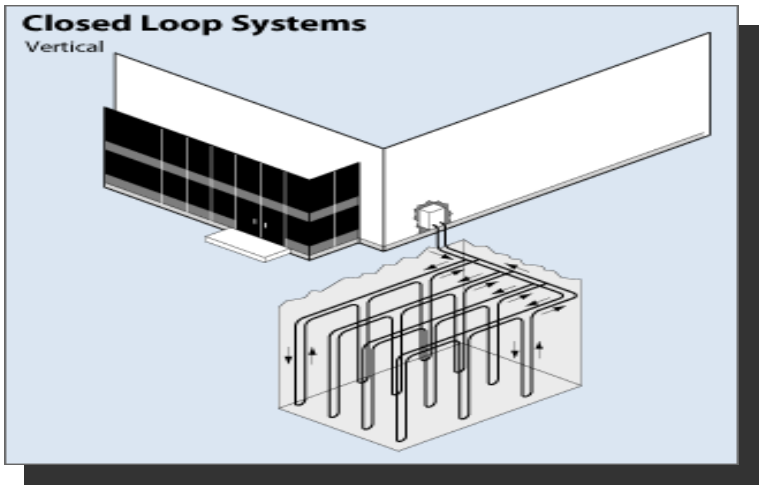
System Overview

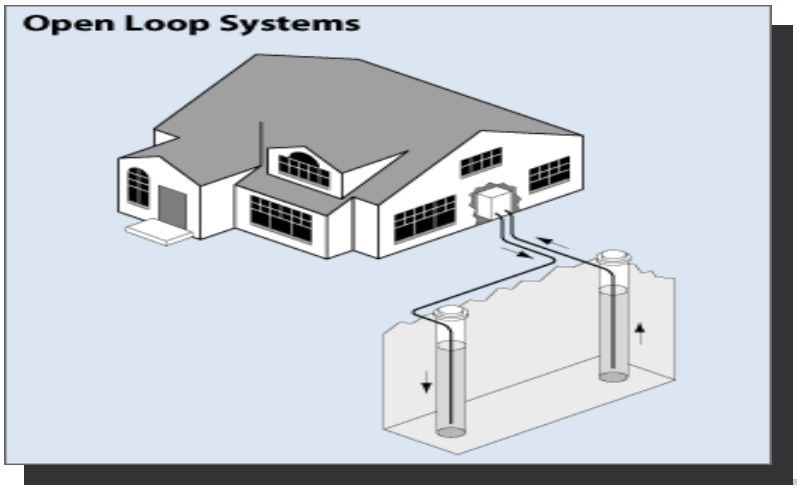


Typical Installations







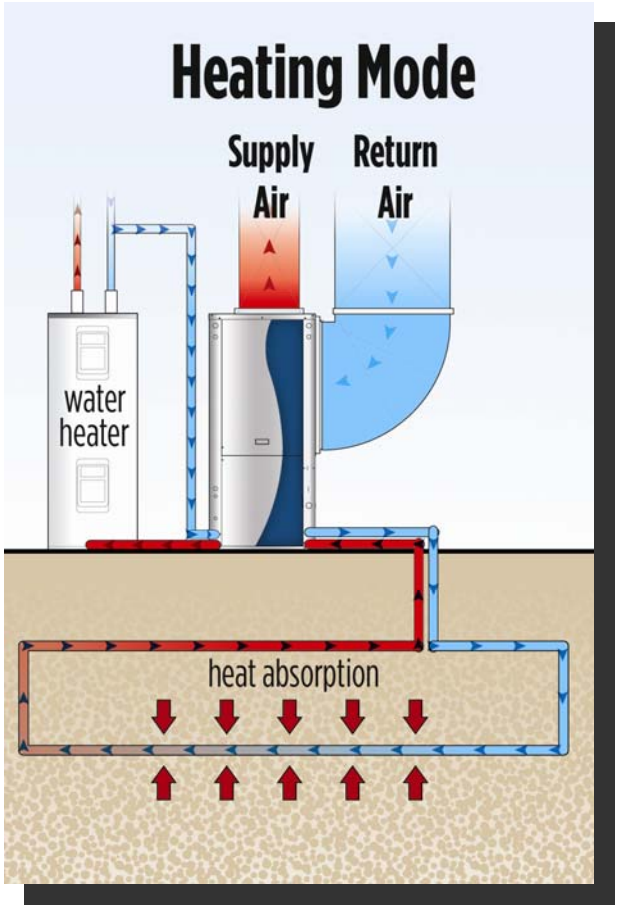


BLU eQ

- BLU eQ is a cutting edge solution which harnesses the thermal energy that is trapped in the soil and maximizes the natural ability of water to transport energy to heat and cool homes in an efficient cost saving manner.

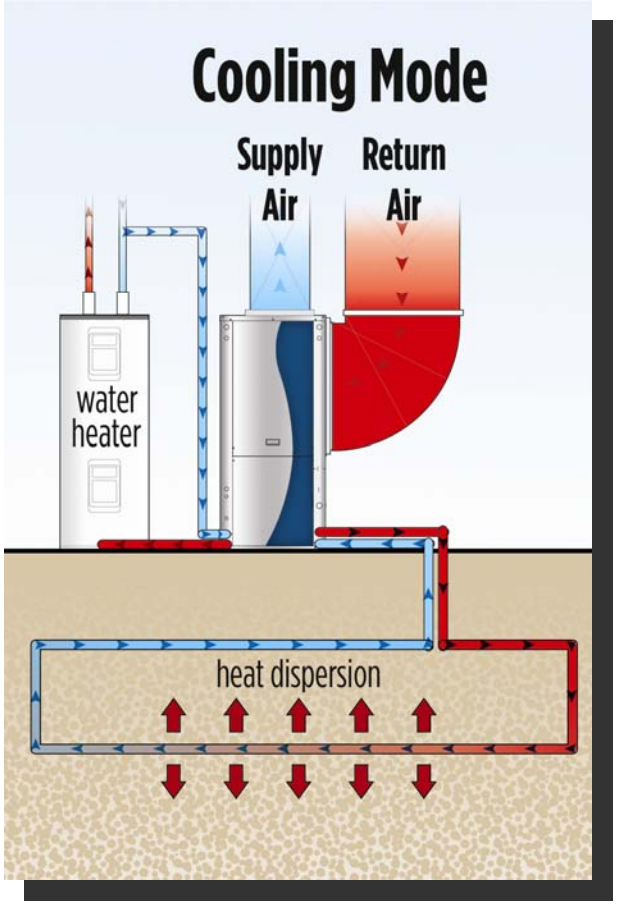
Heating

- During the heating cycle, the BLU eQ system uses the earth loop to extract heat from the ground and reservoir water. As the system pulls heat from the loop, the WaterFurnace geothermal heat pump distributes warm air throughout your home.



Cooling

- In the cooling mode, the system works in reverse. BLU eQ is used to extract heat from your home and moves the heat either back to the ground or to the reservoir. Once the heat is removed, cool air is distributed through the duct system in your home.



Latest & Greatest Technologies

- Geothermal Heat Pumps
  - Geothermal heat pumps use the constant temperature of the earth as the exchange medium instead of the outside air temperature.
- IntelliPro™ Pump
  - Dramatically reduces energy consumption by up to 90%, reduces operating noise & automatically monitors and adjusts to pool conditions.
- Geo Panels
  - Radiate and absorb heat to increase efficiency and energy savings.

Environment

- Installing a geoexchange system in a typical home is equal, in greenhouse gas reduction, to planting 785 trees.
- Conserves fossil fuels and electricity.
- Dramatically reduces emissions of carbon dioxide, sulfur dioxide, and nitrogen oxide into the environment.

Your Carbon Footprint

- Your carbon footprint is a measure of the amount of carbon dioxide you produce at any given time.
- A ground source heat pump can save on average about four tons of CO2 a year, and up to 50% of your annual carbon footprint.
- The pump does require electricity to run - but for every unit of electricity used, three to four units of heat are produced.

BLU eQ vs. Traditional Unit

- Average HVAC unit operates at 13 SEER
- BLU eQ operates at 30 EER
- Reduces noise pollution
- Provides high levels of indoor air quality
- Reduces your carbon footprint
- Efficiency rating of 400%

Free Energy

- 1 unit of electricity and three units of “free” energy from the Earth means 4 units of heating and cooling is delivered into your home

Benefits

- Lower Operating Cost: homeowners see a 30-70% savings on their utility costs due to the increased efficiency and free energy produced
- Lower Life Cycle Cost: longer system life and less maintenance compared to the average HVAC unit
- Enhanced Comfort: eliminates hot and cold blasts of air throughout your home

Benefits

- Safe: no combustion, flames or fumes required for operation & no chance for carbon monoxide poisoning
- Clean: maximizes indoor air quality
- Quiet: designed and constructed for “whisper” quiet operation & also reduces outside noise pollution

Benefits

- Reliable: safe from the natural wear and tear caused by weather damage because its indoors
- Environmentally Friendly: emits no carbon dioxide, carbon monoxide, or other greenhouse gases
- Flexible: can be installed in virtually any application

Incentives & Overall Cost

- Overall cost varies on the type of installation
- Can be used in new and retrofit applications
- In new homes, most home owners will experience an immediate positive return on their investment when the system cost is added to their mortgage
- In existing homes, homeowners find that the upfront costs are generally recovered in energy savings within a few years

Incentives

- APS supporting 50% of installation costs
- SRP supporting with $600 rebate
- Federal Government supporting with 30% tax credit
- Miscellaneous state and city incentives

Typical Costs

- Typical cost of a new home installation is $25,000
- This cost is reduced with utility rebates, federal tax credit, miscellaneous state and city incentives
- With energy savings and increased in the homes value, the system virtually pays for itself

Typical Savings

- The average home has an energy bill of $327
- A home utilizing BLU eQ has an energy bill of $182
- A savings of $145 a month!

Savings vary depending on home size