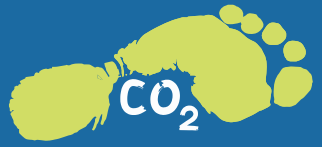
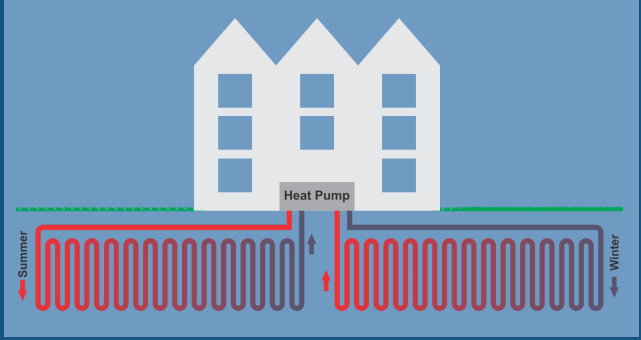
The Heat Beneath Our Feet

AVC ENVIRONMENTAL

When looking for a carbon-neutral way to generate heat in our homes, Geothermal Heating Pumps (GHPs) are an effective solution.

Geothermal fields produce roughly 1/6 of CARBON DIOXIDE that a power plant fueled by natural gas would produce.





The earth's constant underground temperature (**45°** to **75°** F depending upon location) enables geothermal energy to act as a heat reservoir for a variety of applications in both hot and cold climates.

GEO ENERGY

Can increase the Geothermal Electricity Generation **26-Fold** by **2050**.

HEATING

A geothermal heat pump can use underground heat to send warm air through a system.

Plastic pipe is laid in a loop beneath the ground outside of the system either flat or running straight down.

Brine, water, or antifreeze solution is pumped through the pipe, which picks up the underground heat.

The heat pump takes heat from the solution and uses it to pump warm air through tubes throughout the system, this process is called "heat exchange".

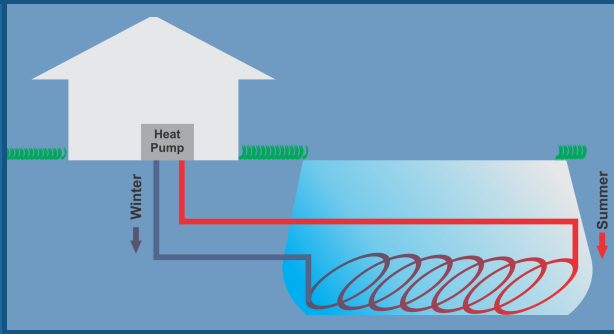
COOLING

A geothermal heat pump can use indoor heat to send cool air through a system.

Plastic pipe is laid in a loop beneath the ground outside of the system either flat or running straight down.

The pump takes heat that is present inside a system and transports it to the cool ground where it returns to the surface to repeat the process.

Since the underground temperature remains constant, the geothermal heating pump doubles in efficiency over a regular heating pump or air conditioning system



85% of GHPs in the United States use ground heat exchangers to circulate fluid through a closed-loop design. The pipes are typically made of plastic tubing and are buried horizontally (up to 6 feet deep) or vertically (up to **600 feet** deep).

GEO HEAT PUMPS

Provide savings of up to **72%** on heating & cooling costs.

GEO HEATING

Provides up to **6x** more efficient in garnering heat energy than electrical energy.