GeoSpirals

Smarter climate control. Lower bills.

GeoSpirals deliver highly energy-efficient heating and cooling to residential homes by combining proprietary geothermal technology and advanced ground-source heat pumps into a fully integrated system.

Why electrify homes?

Homes built today will last for decades. The systems we install now determine long-term costs, emissions, and air quality.

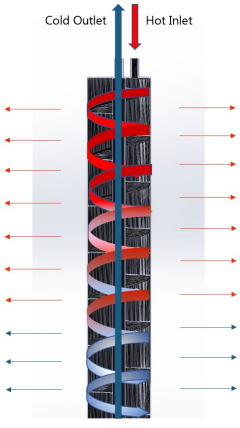
- Electric homes avoid on-site combustion, improving indoor air quality
- Heat pumps provide both heating and cooling with lower energy use
- As the grid shifts toward renewables, electric homes continue to get cleaner over time
- Electric homes avoid utility bill impacts of volatile natural gas prices

In Utah, a large share of residential emissions comes from gas used for space and water heating. Moving those systems to electricity is one of the most direct ways to reduce both emissions and winter air pollution

Geothermal heat pumps are the most efficient option available, but adoption has historically been limited by installation cost and complexity.

What are GeoSpirals?

GeoSpirals are an in-ground heat exchanger system designed to simplify how geothermal systems are installed.



Instead of deep vertical wells, the system uses a series of **shallow spirals** installed below the surface. It connects to a standard electric heat pump and uses stable underground temperatures to heat and cool the home.

What changes with this approach:

- No deep drilling or specialized rigs
- Installation that fits within typical residential site constraints
- A layout that can be repeated across multiple homes

Phase 1: Demo

We've installed a prototype system in ground on the University of Utah campus, where we're measuring performance under real conditions.

Current work includes:

- Tracking thermal performance
- Documenting installation time and process
- Measuring system efficiency under real conditions

Three GeoSpirals can currently cool an average home from **95°F to 79°F within one hour**. The **ΔT averages** achieved during Phase 1 are already **comparable to systems being sold today**, even before Phase 2 optimization.

Phase 2: Pilot

The next step is a pilot across three **3 sites** (targeting residential settings).

The pilot is designed to answer practical questions:

- What does installation look like in an active construction environment?
- How does performance vary across sites?
- Where do costs come down with repetition?

For the pilot we're looking to work with:

- **Homebuilders** interested in integrating high-efficiency systems into new communities
- **HVAC partners** exploring system configurations and product pathways
- **Utilities** and **program partners** supporting electrification

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