

## Frequently Asked Questions

### What is Geothermal EES?

Geothermal earth energy systems (also called geo-exchange or ground source heat pump “GSHP” systems) draw upon the free energy in the earth. Although the air temperature in prairie winters can drop below -30°C (-22°F) and exceed +35°C (95°F) in the summer, the average mean temperature below the surface is a fairly constant 5°C (41°F)

Conventional Heating and Cooling typically use boilers and chillers to provide heating or cooling. The energy (usually natural gas) is spent and simply exhausted into the atmosphere as greenhouse gasses.

Geothermal heat pump is a specialized high efficiency device that looks much like the traditional gas furnace it replaces. The heat pump concentrates the low-grade heat from the ground loop and upgrades the temperature to provide heat for forced-air and supplemental hot water.

### What is Cogeneration CHP?

Co-generation (CHP) is a well-proven technology, recognized worldwide as a cleaner alternative to traditional centralized generation. Its long-term future in the global energy markets is secured by its ability to provide a multitude of financial, operational and environmental benefits from a single unit of fuel.

CHP is the production of energy (Electricity, Heat and/or Cooling) from a single fuel source. Systems can be powered by natural gas, diesel, bio-diesel, methane as well as other fuel sources. They typically involve a reciprocating-engine generator that produces electricity and a heat-recovery system to capture the waste heat from the engine's exhaust and cooling system.

### The HVAC System (Heating Ventilation Air Conditioning)

Staterman's Varsity Project uses unique hybrid of CHP and Geothermal to provide and optimum system energy use and provide redundancy. Because our seasons are inherently short, the combination of GeoThermal and CHP provides a balanced system capable of providing all of the heating and cooling needs for the buildings.

The system offers significant environmental improvements both air quality, enjoyment...as well as being a better for the environment.

### Does this system cost more?

Yes and no. The specialized equipment and overall system costs more than conventional, but is much more efficient, so over-time the actual energy used is less. Because the equipment depreciates differently over time, the cost of the system is paid for over its life-cycle versus adding to the cost of the building.

### Will my bill or the energy cost me more?

No. Because the system runs more efficiently, you can anticipate that your energy bills will be less than provided by a conventional utility.

### Who provides the service?

The energy system is provided by an independent company GeoSpectrum Energy®.

Because the HVAC system is a specialized and utility companies do not currently deploy this technology, they system is be owned and operated by a separate company that will provide the engineering, maintenance, and ensure the operation of the system performance. They provide billing and services just like a conventional utility.

### What is Energy Star® Lighting?

ENERGY STAR qualified ceiling fans and lights, can save up to 50% on energy costs compared to conventional incandescent models. Furthermore, high-efficiency ENERGY STAR qualified lighting only needs to be changed every 7 years on average, compared with annual nuisance replacements for standard light bulbs.

ENERGY STAR guidelines have been by the US Environmental Protection Agency to give the assurance of bright, warm, long-lasting lighting meeting strict EPA criteria for efficacy, color rendition and color temperature.

Compared with standard lighting, ENERGY STAR qualified lighting fixtures use substantially less energy – about 2/3 less, which will reduce electricity bills significantly.

ENERGY STAR Advanced Lighting costs less to operate than standard lighting. This is because the incremental cost of the Advanced Lighting is offset by the money the homeowner saves each month with lower energy bills.

Lighting products that have earned the ENERGY STAR rating generate about 70 percent less heat than standard incandescent lighting. This means they are cool to the touch, keep the home more comfortable, and help reduce home cooling costs. With ENERGY STAR qualified ceiling fans and lights, owners can save up to 50% on energy costs compared to conventional incandescent models.

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Furthermore, high-efficiency ENERGY STAR qualified lighting only needs to be changed every 7 years on average, compared with annual nuisance replacements for standard light bulbs. Bulbs and replacements will be supplied and provided by the management company, so you will never have to pay for new replacements.

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In the near future we believe we can design and build Communities that support and sustain themselves. The GeoSpectrum/Statesman alliance proposes to **alter** current convention with new thinking and technologies to affect the very fabric of structures, buildings and communities.

These technologies have **strong technical merit**, are mathematically excellent, and **fundamentally correct**. Deploying them is also the right thing to do. The corporate Statesman and our collaborative partners is to support, advance, and amalgamate intelligent energy ideas as part of a system. The overall mandate will advance **better solutions**, new **ideas**, and **intelligent designs** that we hope will continually **outpace the market**,

By doing so we are continually strengthening our leadership advantage in ongoing community development. and ensuring **long term value to the consumer**.