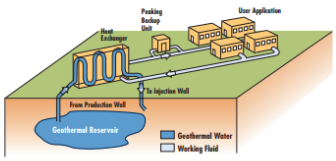
Idaho Department of Water Resources

The Idaho State Capitol Building (Boise) uses the city geothermal district-heating system.

Direct-use systems are typically composed of three components:

- A production facility – usually a well – to bring the hot water to the surface;
- A mechanical system – piping, heat exchanger, controls – to deliver the heat to the space or process; and
- A disposal system – injection well, storage pond, or river – to receive the cooled geothermal fluid.

According to the Oregon Institute of Technology's Geo-Heat Center (DOE-funded), there are nearly



Graphical representation of a geothermal district-heating system.

exists for increased geothermal development for applications such as space and district heating, resort/spa facilities, aquaculture, industrial and greenhouse operations, and possible electrical generation in some areas.

Use of heat pumps with low-temperature geothermal resources can be very cost-effective, and can really extend the usefulness of the resource. For example, the College of Southern Idaho (CSI) uses two 36-ton heat pumps to provide supplemental space heating in a building that houses CSI's Health and Human Services Program. These two heat pumps have performed so well that an additional sixteen 36-ton heat pumps have been installed in another facility to extract more useful energy from the school's geothermal resource.

Two 36-ton heat pumps being used for space heating at the College of Southern Idaho.

GeoThermal Cooling System District Heating and Cooling System in Boise, Idaho

United States

A geoThermal Cooling System district heating and cooling system that provides renewable energy to various buildings in Boise, Idaho, United States.

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