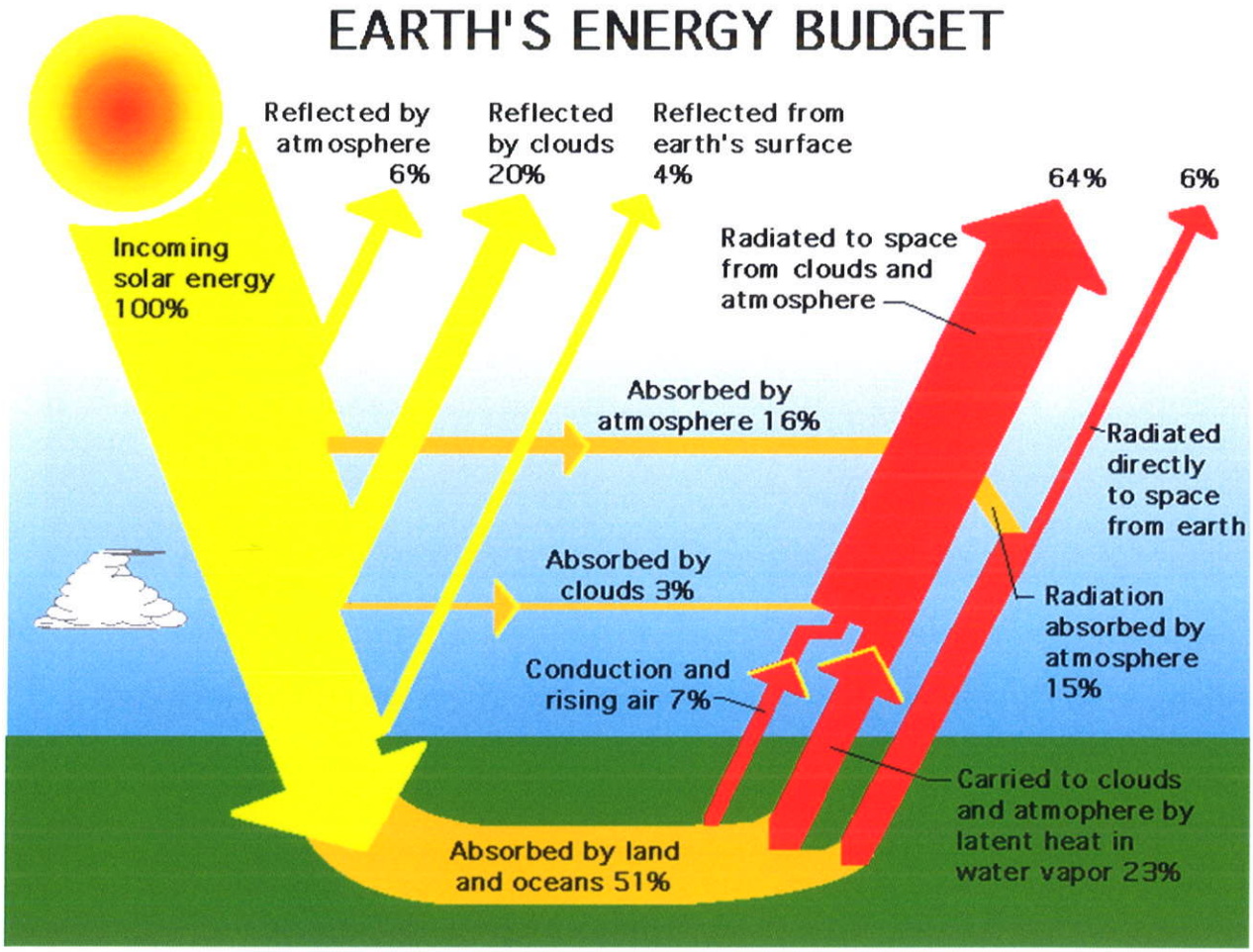
BW BALDWIN WALLACE UNIVERSITY

Office of Residence Life

Geothermal Information

Following renovation in 2005, Ernsthausen Hall became the first residence hall in Ohio to utilize an efficient, environmentally-friendly GeoExchange Space Comfort System*. In existence for over 50 years, the GeoExchange concept uses the earth as an energy source, as well as a thermal energy storage device, and is a very efficient way to provide heating/cooling. Heat pumps utilize a ground exchanger and duct system to deliver conditioned air to residence hall living space.



"Geo" means "from the earth," and "thermal" means "heat," so this type of energy is found under the earth. The hot lava from a volcano and the hot steam from a geyser both come from underground heat and we can use that same type of heat. Here's how it works: about four feet underground, the temperature of the earth stays the same all year long, about 55 degrees.

A geothermal heating system uses pipes buried more than four feet deep in the earth. Ernsthausen Hall has 40 wells at an average depth of 469 feet.

The system pumps a liquid through the pipes to absorb the heat and brings it back indoors. A device called a "heat exchanger" takes the heat from the liquid and uses it to heat the air inside the residence hall.

A geothermal system can cool your residence hall during the summer, too! It just works in reverse, absorbing the heat from the air inside your residence hall and moving it back into the earth.

A geothermal heater is also very energy-efficient. Almost none of the energy used is wasted, so it helps keep heating bills very low during the winter. Ernsthausen Hall has an annual cost saving of $58,000 year.

The renovation to Davidson Commons (Saylor, Davidson and Klein) included a geothermal heating and cooling system.