

..... Natural Geothermal Systems

To generate power from natural geothermal systems you need:



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Abundant heat found in rocks at depth

Fluid to carry heat from the rocks

Small pathways to conduct fluid through the hot rocks

..... Problem

Despite the presence of heat, sometimes conditions are not ideal for power generation from natural geothermal systems.

In these cases you have:



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Abundant heat found in rocks at depth

Insufficient fluid to carry the heat

Limited pathways to conduct fluid

ENHANCED GEOTHERMAL SYSTEMS

..... Solution

A man-made enhanced geothermal system (EGS) can extract the abundant heat resource tens of thousands of feet below the surface and put it to good use. This would require:



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What makes EGS?

An abundant, previously-stranded, heat source

Fluid injected from the surface

Permeable pathways enhanced by injected fluids

With an enhanced geothermal reservoir, you can generate power anywhere with hot rocks at depth!

ENERGY THAT Works AROUND THE CLOCK

EGS is a reliable, baseload energy source. It can provide power **24** hours a day, **365** days a year, independent of weather conditions and with the flexibility to meet consumer demand.



GREEN TECHNOLOGY FOR A Greener WORLD

Power plants built for EGS emit **very little CO₂** over their lifetime.

CO₂ Emissions

0.05 kg

Geothermal Binary
Closed Loop Plant*
Life Cycle of
30 years¹

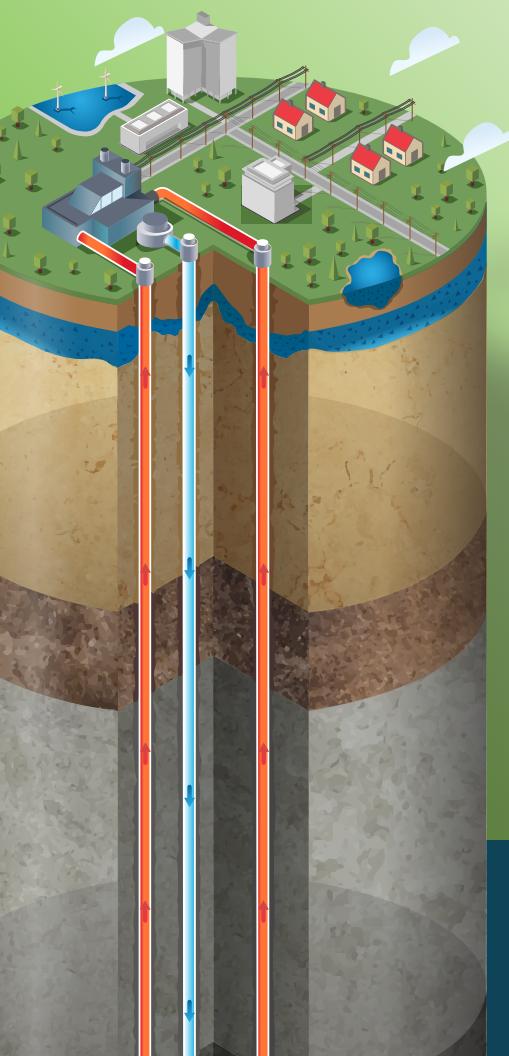
8.91 kg

Using 1 Gallon of
Motor Gasoline²



^{1&2} For more information about the references visit: energy.gov/DOE/Information-resources

* A plant using moderately heated geothermal and secondary fluid that pass through a heat exchanger. The geothermal fluid causes the secondary fluid to flash to vapor driving turbines to power generators.



CLEAN ENERGY FOR AMERICA'S HOMES



If this house represents **all** the households in Chicago,

EGS has the potential to **power** this:



EGS could provide more than **100 GWe** for the American people; the equivalent of **100,000,000 homes!**

