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:

**What makes EGS?**

- An abundant, previously-stranded, heat source
- Fluid injected from the surface
- Permeable pathways enhanced by injected fluids

**Natural Geothermal Systems**

To generate power from natural geothermal systems you need:

- 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:

- Abundant heat found in rocks at depth
- Insufficient fluid to carry the heat
- Limited pathways to conduct fluid

**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:

- An abundant, previously-stranded, heat source
- Fluid injected from the surface
- Permeable pathways enhanced by injected fluids

**ENHANCED GEOTHERMAL SYSTEMS**

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 CO$_2$ over their lifetime.

- **0.05 kg**
  - Geothermal Binary Closed Loop Plant* Life Cycle of 30 years

- **8.91 kg**
  - Using 1 Gallon of Motor Gasoline*

* 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.

CO$_2$ Emissions

For more information about the references visit: energy.gov/FORGE/Information-resources

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!

For more information visit: geothermal.energy.gov