



Climate Change and Energy Production

The founders of MEGSorg, Inc. believe:

- Human activity has impacted our planet in many ways, one of which has been climate change. As the population of the earth increases to 9 billion in the next 40 years more significant climate disruptions are anticipated (severe storms, rising sea levels, droughts and flooding, all of which impact ecosystems negatively)
- One of the main contributors to this climate change is the addition of greenhouse gases to the atmosphere from the burning of fossil fuels (coal for electricity and gasoline for transportation)
- The replacement of at least 50% of the energy from current fossil fuel burning will have to come from one of these alternatives: nuclear power, coal with carbon sequestration or from hot rock geothermal power. Of these alternatives hot rock geothermal systems supplying heat to factory constructed generation modules will be the least expensive and least intrusive alternative (see Note 2)

How a MEGS Facility Would Work

Electricity is generated in a MEGS facility in the same way as in a coal or nuclear plant with one exception, the source of the energy needed to heat the fluid that turns the turbine. Instead of a nuclear reaction or the burning of coal, the heat is brought up from miles down in the Earth by a heat transfer fluid in a closed loop system.

The figure on the next page shows the various parts of a MEGS generation facility: A heat transfer fluid (1) is pumped down a well (2) where the heat from hot rocks (3) is captured and returned to the surface. A heat exchanger (4) heats the turbine fluid (5) that is expanded to drive the turbine and generator (6). The figure also identifies major areas of research that are needed to make the components that make up MEGS facilities robust and efficient.

Depending on the depth of the well, the construction costs would be similar to those of a coal plant (and much less than a nuclear plant) or much less if heat above 200 degrees F is within 2 miles of the surface. Once operating there is no cost for fuel, much different than a coal plant. In contrast to a nuclear plant there is no need for creating fuel or the large expenses for the security and final storage of long lived radioactive wastes.