

Geothermal Fracking, Hydro Shearing, and Hydraulic Fracturing

What are enhanced geothermal systems (EGS)?

- EGS uses new technology to create a geothermal resource that has the required hot rock, permeability, and water. EGS uses geothermal fracking (sometimes called hydraulic shearing or fracturing) to break up dry, hot rock to create a one cubic kilometer reservoir miles under the ground. Then water is pumped into the reservoir from some external source.
- A 2007 MIT study for the National Research Council estimates EGS could produce 15% of the US electrical power by 2050. The DOE is spending billions in research and risk free loans and two million dollars are being spent looking at EGS on Oah'u.

Is geothermal fracking really fracking?

- Sandra Tvarian Stevens, a Washington D.C. lawyer says:
In sum, due to the similarity of the basic fracking process utilized by both natural gas and geothermal companies, the likelihood for comparable claims and lawsuits being asserted against these industries is high, most notably with respect to claims arising out of earthquake damage and well blowouts. Coverage Insights, August 31, 2011

What are the issues with enhanced geothermal systems?

- Water Use. Fracking and filling the geothermal reservoir can use hundreds of millions or billions of gallons of water. Geothermal fracking uses over many times the water of oil gas/well fracking. (An oil or gas well uses 3 to 8 million gallons in its lifetime, one geothermal well in Oregon will use 122 million gallons in two years)
- Water Contamination. The fracking process can cause vertical cracking, contaminating the fresh water above the geothermal resource. Well blowouts, unlikely but common accidents, can also contaminate drinking water.
- Earthquakes. Earthquakes have shut down several geothermal projects, sometimes permanently, and damage claims from earthquakes have been paid by other projects. It takes up to several months for earthquakes to subside after halting the EGS project.
- Social, economic, and cultural impact on the community. Issues include truck and other traffic on narrow or busy roads, noise impact, creation of water shortages or degradation of water quality from over-use, unabated or abated release of hydrogen sulfide (a poisonous, foul smelling gas), potential steam and chemical plumes during flow testing, restricted access to public trails and paths, and the need for extensive road construction.

How would Hawai'i regulate EGS and geothermal fracking?

- EGS and geothermal fracking are poorly understood and are unregulated in Hawai'i. Following passage of Act 97 in the 2012 legislature, Hawai'i currently allows building geothermal plants in any urban, residential, agricultural, and industrial zone, including on ceded lands.
- Issues appropriate for legislative consideration include:
 - How to protect the environment and water resources.
 - How to estimate risks of induced seismicity and to control and regulate those risks.
 - How to locate this major industrial activity while giving the community a voice and protecting social, cultural, and economic interests.