

POWERING OUR FUTURE

GEOTHERMAL. RECOVERED ENERGY. ENERGY STORAGE.

ABOUT POWERED BY NATURE HARNESSED BY US



At Ormat Technologies, Inc. (NYSE: ORA), we're always on, delivering renewable power and energy solutions to our customers around the clock and around the world.

Clean, reliable energy solutions provided by <u>geothermal power</u>, <u>recovered</u> <u>energy</u>, and <u>energy storage solutions</u> are our expertise, commitment, and focus.

Built on ingenuity and proven experience, Ormat is recognized globally for developing state-of-the-art, environmentally sound power solutions.

As a geothermal industry leader, we've gained global expertise in exploring, developing, designing, manufacturing, building, owning, and operating geothermal power plants in Kenya, Guadalupe, Guatemala, Honduras, and the United States.

Our vertically integrated company enables us to leverage 50 years of renewable energy expertise, core capabilities, and global experience to supply and develop geothermal, recovered energy, and energy storage solutions.



WHY GEOTHERMAL?



Geothermal systems generate energy 24/7, meaning they are not subject to sun or wind availability, most systems produce zero carbon emissions, and they need far less land than any other renewable energy source.

NO HARM TO THE ATMOSPHERE	
GROUNDWATER PRESERVATION AND PROTECTION	
NET ZERO CARBON EMISSIONS	
MINIMAL LAND USE	
SURFACE DISTURBANCE, DARK SKY COMPLIANT	
NO ADDITIONAL INFRASTRUCTURE NEEDED	
PRESERVATION OF CULTURAL SITES AND VALUES	
SUSTAINABLE AND RENEWABLE	

HOW GEOTHERMAL WORKS



LOW TEMPERATURE RESOURCES

Provide greenhouse, residential, and commercial business heating.

Boise, Idaho, has the largest direct heating district in the United States. Where the State Capital, commercial buildings, and many residences are heated with geothermal resources. Geothermal heating is also used at the Peppermill Resort in Reno, Nevada, and in Klamath Falls, Oregon.

MEDIUM TEMPERATURE RESOURCES

Provide heat from geothermal brine to be used in a binary cycle power plant. The working fluid absorbs the heat, vaporizes, and expands in a confined chamber. As the pressure in the chamber increases, the expanding gas spins a turbine that rotates a generator.

Geothermal Brine is a super heated fluid that comes from thousands of feet below the ground.

A Binary Cycle Power Plant uses two fluids to generate electricity.

HIGH TEMPERATURE RESOURCES

Provide natural steam that spins a turbine and rotates a generator. Geothermal steam plants can be found in Sonoma County and Imperial County, California.



HOW GEOTHERMAL WORKS



AIR-COOLED BINARY GEOTHERMAL POWER PLANT







GEOTHERMAL COMPARISONS



Capacity is the amount of electricity a plant is designed to produce. The power is measured in megawatts (MW) or kilowatts.

Geothermal Energy generates more power on a smaller footprint than any other renewable energy resource.



GEOTHERMAL EXPLORATION



Geothermal exploration requires detailed geology, geochemistry, environmental, and hydrogeologic data analysis. Multiple local, state, and federal permits are required. Exploration typically occurs in three phases:

GEOLOGIC ASSESSMENT AND LAND LEASING

- Lands are evaluated for geothermal potential.
- Environmental and public review is conducted.

EXPLORATION

- Environmental baseline data collection begins.
- Exploration permitting takes 12 to 18 months.
- Potential temporary impacts such as lighting, noise, dust, traffic, and environmental impacts are evaluated by state and federal agencies.
- When the exploration plan is approved, well permits require an additional 60 to 120 days of engineering review.
- Location adjustments are made to narrow down land usage.
- After permits are issued, temperature gradient and observation wells are drilled.

FEASIBILITY STUDIES

- Begin when exploration work confirms commercial temperature and pressure.
- Well sites will be tested and reevaluated for injection or production.
- State and federal drilling permits are required for each test well.
- Each well takes 30-60 days to complete.
- Well testing will determine the amount of power (MW) the resource can produce.





