NGP's Geothermal Glossary of Terms

Base-load Plants
Electricity production facilities used to meet some or all of a given regions continuous energy demand 24/7/ 365 days a year. The cost of energy from such units is usually the lowest available to the grid.

Binary Cycle Geothermal Plant
A type of geothermal power plant that utilizes a closed-loop heat exchange system in which hot geothermal fluid is used to heat a secondary fluid that has a lower boiling point. The secondary fluid is vaporized and used to run a turbine and generate electricity. NGP's Blue Mountain power project will use this type of generating facility.

Brine
A geothermal fluid with a high saturation of sodium chloride or other salts.

Cap Rocks
Rocks of high resistance overlying a geothermal reservoir.

Condenser
A type of heat exchanger that condenses turbine exhaust steam (gaseous substance) into its liquid state.

Cooling Tower
A structure that cools hot fluids.

Crust
The Earth's outermost layer of rock.

Direct Use
Use of geothermal heat without first converting it to electricity, such as for space heating and cooling, food preparation, industrial processes, etcetera.

Dry Steam Geothermal Plant
A type of geothermal power plant that utilizes steam, generated by underground heat, directly to run a turbine and generate electricity.

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Efficiency
The ratio of the useful energy output of a machine or other energy-converting plant, to the energy input.

Enhanced Geothermal Systems (EGS)
A process that uses rock fracturing, water injection, and water circulation technologies to produce heat & electricity from otherwise unproductive areas of existing geothermal fields or insufficient production areas.

Fault
A planar rock fracture or fracture zone in the Earth's crust that shows evidence of adjacent slippage of adjoining Earth material.

Flash Steam Power Plant
A type of geothermal power plant that moves high pressure geothermal liquid to lower-pressure tanks and utilizes the steam produced to run turbines and generate electricity.

Geothermal Energy
The Earth's interior heat made available to man by extracting it from hot water or rocks.

Geothermal Gradient
The rate of temperature increase in the Earth as a function of depth. Temperature increases an average of 1° Fahrenheit for every 75 feet in descent.

Geothermal Heat Pump Systems
A geothermal system that uses the earth's ability to store heat at a relatively constant temperature as a source for heating and cooling. When cooling, heat is extracted from the space and dissipated into the Earth; when heating, heat is extracted from the Earth and pumped into the space.

Geyser
A hot spring that shoots intermittent discharge of hot water and steam into the air.

Gigawatt (GW)
An electrical unit of power that is equal to 1000 megawatts or one billion watts.

Hot Dry Rock (HDR)
Subsurface geologic formations of very high heat content that are found a few kilometres below the ground.

Heat Exchanger
A device used for efficient thermal heat transfer between fluids.

Heat Flow
Movement of heat from within the Earth to the surface, where it is dissipated into the atmosphere, surface water, and space by radiation.

Hydrothermal Resource
Underground systems of hot water and/or steam.

Injection
The process of returning geothermal fluids, utilized to generate heat, back into the ground.

Known Geothermal Resource Area (KGRA)
A region identified by the U.S. Geological Survey as containing geothermal resources.

Kilowatt (kW)
A unit of electrical power that is equal to 1,000 watts.

Kilowatt-Hour (kWh)
The amount of energy transferred at a constant rate of 1 kilowatt for 1 hour.

Load
The simultaneous demand of all customers required at any specified point in an electric power system.

Megawatt (MW)
One megawatt is equal to 1000 kilowatts or one million watts.

Permeability
The measure of a material's ability to transmit a fluid. The degree of permeability is calculated depending on the number, size, and shape of the pores and/or fractures in the rock and their interconnections. It is measured by the time it takes a fluid of standard viscosity to move a given distance.

Porosity
The measure of the void spaces in a material by a ratio of the aggregate volume of pore spaces in rock or soil to its total volume usually stated as a percent.

Reservoir
A naturally occurring underground body of liquids, such as water or steam.

Total Dissolved Solids (TDS)
Used to describe the amount of solid materials found in a liquid.

Thermal Gradient
The rate of increase or decrease in the Earth's temperature relative to depth.

Transmission Line
Structures and conductors that carry bulk supplies of electrical energy between power-generating units.

Turbine
A bladed, rotating engine that extracts energy activated by a directed current of fluid into electric power.

Well Logging
A recording of the detailed record of the assessment of the geologic, engineering, and physical properties and characteristics of geothermal reservoirs with instruments placed in the wellbore.