**The Great Energy Hunt
Technical Terms and Definitions**

**Instructions:** The terms and definitions listed below are discussed in this lesson. Please review before proceeding with this lesson.

**Green Energy** - Is a term describing what is thought to be environmentally friendly sources of power and energy. Typically, this refers to renewable and non-polluting energy sources.

**Non-Renewable Energy** - Energy that cannot be replaced once it is used or energy that is not being replaced as fast as it is being used.

**Renewable Energy** - Is energy which comes from natural resources such as sunlight, wind, rain, tides, and geothermal heat, which are renewable (naturally replenished).

**Coal** - Is a readily combustible black or brownish-black rock with a composition, including inherent moisture, consisting of more than 50 percent by weight and more than 70 percent by volume of carbonaceous material. It is formed from plant remains that have been compacted, hardened, chemically altered, and metamorphosed by heat and pressure over geologic time.

**Natural Gas** - Is a gaseous mixture of hydrocarbon compounds, the primary one being methane. *Note*: The Energy Information Administration measures wet natural gas and its two sources of production, associated/dissolved natural gas and non-associated natural gas, and dry natural gas, which is produced from wet natural gas.

**Petroleum Energy** - Is a non-renewable energy source. It is ***gasoline, diesel fuel,*** and ***propane***. Most ***gasoline*** is made from crude oil, formed from remains of plants and animals (diatoms) that lived hundreds of millions of years ago. ***Diesel fuel*** is used in diesel engines found in most freight trucks, trains, buses, boats, and farm and construction vehicles. ***Propane*** is an energy-rich gas that is found mixed with natural gas and oil.

**Petroleum** - Is hydrocarbon mixtures. Included are: Crude oil, lease condensate, unfinished oils, refined products obtained from the processing of crude oil, and natural gas plant liquids. *Note:* Volumes of finished *petroleum* products include non-hydrocarbon compounds, such as additives and detergents, after they have been blended into the products.

**Propane (C3H8) -** A normally gaseous straight-chain hydrocarbon. It is a colorless paraffinic gas that boils at a temperature of -43.67 degrees Fahrenheit. It is extracted from natural gas or refinery gas streams. It includes all products designated in ASTM Specification D1835 and Gas Processors Association Specifications for commercial propane and HD-5 propane.

**Biomass** - Is plant matter and animal waste that can be harvested to create bio-energy in the form of electricity, heat, steam and fuels.

**Ethanol (CH3-CH2OH)** - Is a clear, colorless, flammable oxygenated hydrocarbon. **Ethanol** is typically produced chemically from ethylene, or biologically from fermentation of various sugars from carbohydrates found in agricultural crops and cellulosic residues from crops or wood. It is used in the United States as a gasoline octane enhancer and oxygenate (blended up to 10 percent concentration). **Ethanol** can also be used in high concentrations (E85) in vehicles designed for its use.

**Geothermal Energy** - Is a form of renewable energy derived from heat deep in the earth’s crust. Geothermal Energy is also used for electricity production.

*Geothermal Power Generation* is used today throughout the world where good geothermal resources exist, including many locations in the western United States.

**Hydroelectric Power** - Is a renewable energy source. It produces the most electricity in the United States. It accounts for 6% of total U.S. electricity generation and 67% of generation from renewable in 2008.

**Hydrogen** - Is the lightest of all gases, occurring chiefly in combination with oxygen in water; exists also in acids, bases, alcohols, petroleum, and other hydrocarbons.

**Solar Energy** - Is the radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity.

**Wind Energy** - Is kinetic energy present in wind motion that can be converted to mechanical energy for driving pumps, mills, and electric power generators.