# “Energy: Earth’s Main Exhaust”

By Francesca Peavie

The Earth’s system produces the fossil fuels coal, petroleum, and natural gas. Coal is manufactured in the geosphere. Carbonization of partially decayed plants forms peat. Bacteria decompose peat, which releases methane and CO2. When the methane escapes, only carbon is left, the main component of coal. When oxygen interferes with carbonization, peat is left. Petroleum is manufactured in the hydrosphere and geosphere. Microorganism and plant remains on ocean floors are buried under sediment. Heat and pressure increase over time causing chemical changes, which result in natural gas and petroleum. These two fossil fuels form reservoirs in permeable sedimentary rock. Coal, petroleum and natural gas are used for heat and electricity.

The Earth’s system produces renewable resources as well. The geosphere provides geothermal energy, or energy from heat within the Earth. The atmosphere provides wind energy from turbines and solar power from photovoltaic cells. Hydroelectric and tidal energy use dams and are part of the hydrosphere. Biomass, using plant material, manure, or organic matter for energy, is part of the biosphere.

Human use of energy directly affects the Earth’s system. The burning of fossil fuels, such as, coal, petroleum and natural gas releases harmful toxins. When these toxins are released, they can cause air pollution. This can, in turn, cause acid rain. This highly acidic rain falls back down into the Earth’s water supply, which can harm sea animals and other creatures that drink and use the water, including humans. Runoff from the acid rain can destroy land and make it unsuitable for farming or vegetation.

Humans can avoid causing various pollutions by using alternative resources. Solar, wind, biomass, hydroelectric and geothermal energies are all examples. If people conserve Earth’s limited resources, more will be available for future use. Conventional energy sources are convenient, however, alternatives are in the near future.