

Physics

Physics provides a bridge for linking all four of the alternative energy forms discussed at this site. The basic system design involves either some heat process to create steam to move the turbine with, or some force that directly moves the turbine. The generator spins because it is connected to the turbine. Several scientific concepts have already been discussed at this site, and will be used to illuminate the similarities between nuclear power, solar power, hydro power, and wind power. All four alternative energy forms (that is, including passive solar power) have moving parts and involve different forms of energy.

A couple different forms of energy are intermediates between electricity and the natural forces at work. First, before the alternative process begins there is a great amount of potential energy. In hydro power the water has potential after it passes through the first gate and before it falls. The blades of a wind power tower also have potential to drop toward the ground. Nuclear and solar power have potential for steam to accelerate upward and evaporate as steam from liquid water.

Next in the energy conversion process the potential energy is converted to kinetic energy. The combined and continual potential and kinetic energy form mechanical energy and do work on turbines. A generator connects the turbine and the electrical grid. The generator converts the mechanical energy to electrical energy (electricity). All four alternative energy forms rely on the conversion of energy to attain electricity from nature.