
Geography Comparison

Probably the greatest difference among each of the four alternative energy forms discussed at this site is the locations of prime energy production in the world. While nuclear power is often found in areas of high population, large scale solar power and wind power facilities are found isolated. Water power facilities are found in rural as well as urban areas.

Solar power is best utilized in areas of extremely hot climate and close to the equator where the sunlight hits the earth directly a great proportion of the time. Solar cells are most efficient when they face the south in the Northern Hemisphere, and north in the Southern Hemisphere. In places where there are often clouds in the sky solar power is not as effective for producing a constant stream of energy. The elevation of the location of a solar power system is not important.

The question of elevation is to some extent extremely important for wind power. On the top of mountains and hills are prime spots for wind power systems. But conversely, offshore coastline is another place that wind power systems thrive. The path that the wind takes is the path that wind power stations work best at.

Elevation is partially important for water power, yet the change in elevation is more important. Water must fall toward the earth and in the process turn the water power turbine to produce energy. Where on the earth that a water power station is located is not important, as long as a water source is nearby. It is actually not necessary for a river to be present at a hydro power system site. Many lakes have been dammed up to function as a water power station.

Finding the best place for building an alternative energy plant is vital. Without knowledge of geography including weather patterns, winds, tides, and other natural resources, a quality site for a plant will not be found.