

The Economics of Alternative Energy

All forms of alternative energy are always affected economically by oil prices, and the demand of each alternative energy form. When oil prices are low the alternative energy becomes less desired because people can buy oil or gas as their primary energy form without paying too much. As oil prices increase, forms of power like water power, solar power, and wind power become good alternatives to oil and gas because the energy created by water power, wind power, and solar power is renewable and in the long term may cost less. An example of this effect was displayed during the 1970's oil embargo. In the United States, solar power plants flourished and many new hydroelectric, wind, and nuclear plants were built.

Other factors also influence the economics of each of the alternative energy forms discussed at this site. These factors are discussed below:

Hydro power is affected by something called "load demand." Load demand is the demand for electricity that people currently have. If many people need a great amount of energy, then the hydroelectric plant can sell the electricity for a lower price per unit. For any alternative energy form this rule is true because as the demand for electricity increases the price for electricity may decrease because the businesses can make more money through selling more quantity. If in a country there is a normal desire for electricity and other alternative energy forms are already prominent, then hydro power would not be a good economic investment. No extra demand means hydro power could not expect revenue (or business).

Nuclear power is affected economically when the price of uranium is too high. In the modern world, uranium has several uses, one of which is to make nuclear bombs. Countries stock their nuclear arsenal with bombs made of uranium, and will pay very high prices for the comfort afforded by possession of nuclear bombs. When a nuclear power station is first built, the cost is fairly high, but over time the big cost of nuclear power plants is the waste management. Because nuclear power plants produce excess "garbage," it costs a great amount of money to support the plant because the waste needs to be stored where it will not affect the environment or mankind.

Solar power suffers from a high initial investment need. A large amount of money is needed to start an active solar energy project. As the price for solar cells drops, the initial investment will also vanish. Solar technology has always become more affordable when oil prices have been high. Solar power also suffers in that many parts of the world are often cloudy and it is more expensive for people to buy solar cells and only use them a small portion of the year. As solar cell efficiency increases, it will become easier for a person who lives in an area of cloudiness to cheaply use solar power because he will be able to use solar cells more often.

Wind power has a mixture of costs of those of solar and nuclear power. Due to the danger of a wind tower falling over, extra land must be bought near the tower to insure human safety. Wind power does require a substantial initial investment. But wind power does not produce waste, so no great later investment is needed for the life of the wind power facilities.