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Sustainability: Alternative Energy Resources

Background and Problem Definition

In the world today we use all types of alternative energy resources such as biomass and solar energy but the main focus is on wind power. Wind power is known as a beloved renewable resource with no air pollutants and considered worthy of regulatory preference and open-ended taxpayer and ratepayer subsidies. On the environmental side, wind power can be very noisy and hazardous to birds.

What is Wind power?

Wind power is a relatively small part of our electricity supply. Wind power is often the least expensive form of renewable power and in most cases it is the cheapest form of any kind of power. Wind power is a very promising choice for new power generation.

Data, Results, Findings

This research identifies international as well as U.S. wind power usage. It further indicate the number of megawatts generated per country. The issue of wind power processing, storage and distribution will be addressed.

Figure 1. Behind the scenes photo of a windmill. Wind flows over the airfoil shaped blades causing lift, like the effect on airplane wings, causing them to turn. The rotation of the blades turns the drive shaft that is connected to the generator which receives energy from the shaft to produce electricity.

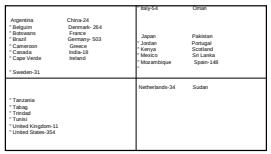

Figure 2. Countries all over the world using windmills and their installed Wind Energy Capacity(in megawatts,MW).

Discussion, Conclusions, Recommendations

Taking in to consideration the existing U.S. energy crisis, it is imperative that other sources of energy are brought into existence. Wind power as a source of energy has not been implemented on a large scale. Currently the world uses only ten percent of alternative energy resources. Out of the ten percent only three percent comes from wind energy. In the next ten to fifteen years, researchers are expecting that number to increase by a very small amount. The research suggest that wind power is a feasible alternative source to petroleum-based energy.

	Present- 2006	About 2020
Amount of energy wind power consists of	**Curently out 10% wind power consist of 3%**	Expected to be around 6%

Table 1. Shows the expected percentage of wind power as an energy source by the year 2020.

Purpose, Objectives, Scope

The main purpose of this research is to enlighten residents and facilities of the benefits of using wind power as a source of energy. The ultimate goal is to encourage the installation of windmills globally.

Figure 3. Examples of windmills in California on a wind field near the interstate.

Figure 4. Shows examples of many different windmills built in the past and windmills that were built a couple of years ago.

Favorable and Unfavorable Economic Factors

When analyzing wind power one have to take into consideration the pros and cons faced when dealing with the economical phase of wind power. This research disclose why or why not people use wind power as a alternative energy resource. Researchers have found that power demand is growing with increased populations especially in developing countries where fossil fuel supplies are low which makes wind power beneficial. Another advantage of wind power is that many countries could become independent if they use their potential wind which allows wind power to be converted into other forms of energy.

The negative side of wind power is not a short list either. Some say that the cost of wind power up front has a high cost. Wind power is also very noisy to the environment, land-intensive, materials-intensive, and hazardous to birds. The killing of endangered species could be ignored at first, but after a while it will create controversy and confusion within the mainstream environmental community.

Figure 5. Example of a group of birds caught in a terrible wind storm.

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