

Example of essay on conversion of energy from one form to another

[Environment](#), [Disaster](#)



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Assignment 1

Energy refers to the ability to produce changes in a given system and it exists in different forms, but it is broadly categorized into two major forms which are Kinetic energy and Potential energy. It is further grouped into many other forms that include; heat energy, light energy, mechanical energy, sound energy and geothermal energy. Energy is converted from a given form to another depending on the energy needs of the user. This transformation simply implies conversion of energy from one state to another, which may occur naturally or it can be manipulated using various energy-consuming machines. In scientific terms, a device that transforms energy from one form to another is referred to as a transducer (Orecchini, 2012). This device can be anything that converts energy into another form, for instance a stereo speaker that transforms electrical energy into sound

energy is an example of a transducer. There exists many types of transducers but they are broadly categorized into two types, that is, the output and input transducers.

The input transducers usually convert forms of physical energy into electrical energy signals, while the output transducers transform the electrical energy into physical energy. In the example of the stereo speaker, this can be classified as an output transducer since it converts the electrical energy into sound energy which is physical. During the process of energy transformation some amount of energy may be lost because the transducers also consume energy, but the energy loss depends with the efficiency of the device used. One example of energy transformation is the use of solar panel; this device converts the solar energy into electrical energy which is used domestically to carry out different chores. Another practical example is the pendulum; this tool transforms potential energy into kinetic energy and vice versa. The resting weight on the pendulum possesses potential energy and when it is allowed to swing this potential energy converts into kinetic energy causing the weights swings at a higher speed. After sometime the weight may slow down until it stops because the kinetic energy is being converted into thermal energy due to some amount of friction involved.

Fossil fuels

These are formed from dead living organisms; that is, both animals and plant matter which existed in the carboniferous period through the process of anaerobic decomposition. When these organisms died they were buried underneath and they heaped to form large amount of matter called peat

which has high carbon content. The peat may accumulate over time into sedimentary rocks which later produces the fossil fuels which include coal, natural gas and petroleum products. Fossil fuels are examples of non-renewable energy types because they get depleted when they are used (Storad, 2008). Fossil fuels are highly attractive energy sources with a number of their unique characteristics. First, fossil fuels are available in many various continents of the world and the majority opts to use them because they can be extracted easily wherever there are fossil deposits. Another reason for their continued attractiveness is because these sources of energy are quite inexpensive compared to other energy sources and therefore people prefer them because they are economical to use. Fossil fuels are also viewed to be the most powerful types of energy due to the fact that they possess high density and therefore tend to produce a lot of energy especially when used in combustion engines. As a result, they are believed to have high performance and are therefore socially accepted by many across the world.

Nuclear energy

This energy is obtained from fission of radioactive elements that produce heat and electricity. Nuclear energy production involves splitting of the charged atoms in these elements which releases tremendous amounts of heat that is tapped to produce electricity through the nuclear reaction process.

Advantages of Nuclear energy

The amount of energy released from nuclear reactions cannot be compared to any other form of energy; therefore, nuclear energy provides large amounts of energy that serve sufficiently. The production of nuclear energy does not result in emission of the greenhouse gases that contribute to global warming and climate change. It is possible to generate large quantities of energy that is inexpensive and very easy to transport from one place to another. Lastly, nuclear energy does not emit toxic gases like carbon monoxide to the environment therefore it is safe to the environment if used in the correct manner.

Disadvantages of Nuclear energy

Nuclear can be misused by people in the production of very harmful weapon which can pose a great threat to existence of humanity due to the overwhelming destructions that they can cause. The nuclear power generation process can result in emission of highly radioactive elements which can destroy the environment (Ollhoff, 2010). The process of producing nuclear power is a very expensive venture and requires a large amount of capital to operate.

Wind Energy

This energy is harnessed from the natural wind using strong windmills that tap and convert wind energy into electrical energy.

Advantages of Wind energy

Wind power is cheap because the wind exists naturally therefore it is very economical. Wind energy is environmental friendly; it is a clean energy

source. It also does not destroy land because the area below the wind turbines can be utilized for other purposes such as agriculture.

Disadvantages of Wind energy

Wind power may be unreliable because the wind strength is not always constant. Sometimes it can be very weak to a point of no energy production. This energy source requires large tracts of land to set up the wind turbines in a better position to capture strong wind currents. These turbines can be very noisy especially when the strength of wind is high, hence can become a nuisance to the neighbouring communities.

References

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