

RENEWABLES

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Every day people rely heavily on energy to provide them with electricity, hot water, and fuel. Most of this energy comes from fossil fuels – coal, oil, and natural gas which are nonrenewable energy sources. “Nonrenewable” means that when we use them all up, these sources will eventually dwindle. All energy sources have some impact on our environment, however, these fossil fuels do a great deal of harm – they do damage to public health, wildlife loss, pollute air and water.

Not only fossil fuels are quite bad for environment, but they can also run out. These are the main reasons to why it is important for people to switch to other energy sources, like renewable energy sources. These are the energy sources that are constantly replenished and cannot be exhausted, such as sunlight, wind, and water. In addition, renewable energy sources usually do not harm the environment like fossil fuels do.

Currently, a very little amount of all the energy people use comes from renewable sources. The main reason why people do not use the renewable energy sources even nearly as much as the fossil fuels is because of the inconveniences connected to them: firstly, the harnessing of them is too expensive to realize, and

secondly, they are inefficient in many cases, for example, using wind energy would be useless in areas with little wind and would be suitable only for windy regions, or sunlight can only be collected during the sunny day.

The most popular types of renewable energy are solar, wind, hydropower, and geothermal although, of course, there are many more types of them.

Solar energy is the energy produced by sun. The solar energy costs have been falling rapidly and now are entering new areas of competitiveness. The reason to why it became so relatively well-spread over the globe is because it offers an abundant and inexhaustible energy resource. The sun's rays transmit both heat and light: the heat is used to produce hot water and hot air for commercial and residential heating use, and the light is used on special systems to convert light to electricity. Advantages: Sunlight is free and available everywhere; solar energy does not create any wastes or pollutants. Disadvantages: The technology that is needed to collect solar energy is usually expensive; sunlight can only be collected during the day when it's sunny.

Wind is one of the most sustainable energy sources. There are no toxic emissions produced by wind, the wind power is abundant and cost-competitive. These are the main reasons to why the wind energy is a great alternative to the fossil fuels. Today, people use large, tall wind turbines that use wind to produce electricity. More often than not, these wind turbines are placed together in wind farms in flat areas with strong winds. Advantages: it is environmentally friendly, does not harm the health of the people; the wind turbines can be installed, for example, on the existing farms or any agricultural land in rural areas. Disadvantages: the wind doesn't actually blow all the time, so it is not exactly a reliable source of energy; wind turbines are quite costly.

Another current disadvantage of both solar and wind energy at the moment, is that there are no storage systems available today, that can store the vast amounts of energy needed to reliably satisfy the demand using wind and solar power generation alone.

Flowing water creates energy that can eventually be turned into electricity – it is called hydroelectric power or hydropower. The volume of the water flow

determines the amount of available energy in moving water. So, for example, flowing water in a river or water descending from a high point, like waterfalls, carry a great deal of energy. Advantages: hydroelectricity is a very reliable energy; it does not threaten the environment in any way. Disadvantages: hydroelectric power may affect fish because of the interaction between numerous factors; building power plants in general is expensive.

The heat from the earth, which can be found basically everywhere, as the heat is stored underground, is used as an energy source and is called “geothermal”. The traditional geothermal resources are volcanoes, geysers and hot springs. Most often the heat is extracted from the ground for heat pumps. This extracted energy is often used not to generate electricity, but rather would be used directly for heating. Advantages: geothermal energy is generally considered environmentally friendly; it is available everywhere. Disadvantages: geothermal power is only renewable if the reservoirs are properly managed.

In conclusion, we can say that renewable energy is a hot topic in our days, as the demand of energy increases with the increase of population. The renewable sources are renewable, abundant, sustainable and environmentally friendly. As they are constantly replenished, they are not going to expire soon. Unfortunately, they have their own shortcomings – they depend heavily on weather and it costs a lot to develop renewable energy stations.

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