

The Benefits of Renewables for Energy

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Abstract

Renewables come with an array of benefits, but why might they be the better option for energy? Over the past few years, solar panels and wind turbines have become more and more common. Why? Because people are quickly waking up to the fact that renewable energy comes with a host of benefits, not just for the planet but for people too. Renewable energy is an umbrella term that covers an array of energy sources such as solar, wind, geothermal, hydroelectric and biomass. This paper will explore why renewables are a great option for sourcing energy and the vast array of benefits they bring.

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Background to the Study

What is Renewable Energy?

Depending on the location and the season, there are various different types of renewable energy. The seven main types of renewable energy are:

1. **Solar:** Solar energy comes from the sun and is the only type of renewable energy you can personally use to power your home thanks to the installation of solar panels.
2. **Wind:** In order to use wind energy, wind turbines need to be installed in windy areas. Offshore and onshore wind farms are a great way of getting energy and power to more remote areas.
3. **Hydroelectric:** Hydroelectric energy works in a similar way to wind but instead utilizes water. Large dams and turbines convert water currents into energy. Although an expensive option, it has the potential to create a massive amount of energy.
4. **Geothermal:** Geothermal energy uses the heat already generated within the planet and, in some areas, is able to convert this into energy.
5. **Tidal:** Tidal energy is similar to hydroelectric energy and is the energy we are able to get from tides.
6. **Biomass:** Biomass is a little different from other renewable energy sources in that it's the energy we get from burning organic waste. It's classed as renewable as there will always be waste to burn.
7. **Hydrogen:** Hydrogen is the most available element on our planet, and if we are able to separate it, it can be used as a zero-carbon fuel.

A smart, distributed energy network ensures that no matter what the weather is, everyone has access to energy. For example, one location may have bright sunshine, perfect for the creation of solar energy whilst another may be experiencing high wind, great for turning those wind turbines.

Environmental Benefits

We all know that global warming is a serious issue and one that needs addressing fast if we want to save our planet for generations to come. Traditional fossil fuels such as coal and gas create greenhouse gases that are harmful to the environment. The more fossil fuels we use, the more harmful carbon emissions are overloaded into the atmosphere. Put simply, these emissions cause the atmosphere to heat up (hence the name global warming) and lead to some of the major environmental problems we see today such as flooding and droughts. Renewable energy sources however emit little to no harmful emissions, making them a much more sustainable and environmentally friendly energy solution.

Health Benefits

According to the World Health Organization, around 99 percent of the population is breathing in air that's unhealthy and exceeds their health limits. Unhealthy air is usually caused by the burning of fossil fuels that emit nitrogen dioxide into the atmosphere, which can lead to an array of respiratory health problems. Renewable energy sources not only limit the number of harmful gases in our atmosphere, but they can also prevent the same harmful substances from reaching the soil and impacting the food that we eat. A healthier population

overall will also help to reduce pressures on healthcare services, meaning the health benefits of renewable energy are far-reaching.

Availability Benefits

The clue is in the name with this one, but renewable energy has a major benefit that it will never run out: It's renewable. Whilst we can expect fossil fuels to start running out within the next century, renewable energy sources will always be there. The sun will always shine to create solar energy and the wind will always blow to turn our turbines. Put it this way, it's predicted that the sun will keep shining for at least another four billion years, so we can be sure our solar energy will keep us going for a while. Renewable energy sources are also relatively reliable. Whereas traditional fossil fuels are often sourced via disputes between countries and political entities, nobody has control over elements such as the sun and wind. Introducing a smart network ensures that the energy created by renewable sources can be distributed evenly, so even if the wind is blowing at one end of the country but not at another, everyone has access to energy.

Cost Benefits

Renewable energy is also considerably cheaper than fossil fuels, meaning making the switch can have a positive impact on our purses too. For starters, renewable energy technologies have fewer moving and combustible parts, which means the maintenance requirements and costs are much lower than fossil fuel alternatives. This means that the overall cost of running renewable energy power stations is much cheaper. As renewable energy relies on the sun, wind, steam and more, they don't need to refuel, and there are no bidding wars for foreign energy sources, every country can produce its own renewable energy. The cost benefits of using renewable energy will benefit the whole supply chain from the power stations right down to the end-user and their energy rates.

Conclusion

We all know that taking steps to save the planet is no longer a choice. We have to act to prevent further damage to an environment on the brink. Renewable energy is one of the biggest ways we can start to make a difference, but as this article shows, it's not just the environmental benefits that make renewable energy the better option. The benefits to public health as well as the cost and availability of renewables make it a no-brainer, and we can expect to see renewable energy becoming more and more popular over the coming decades.

Reference

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