Renewable Energy Sources Are Better Than Conventional Sources

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Globalization has brought the world into proximity and opened doors of unprecedented development in the fields of technology, science, and communications. The industry has experienced massive growth and has enabled diversification and heightened world trade in the process. For this, the world has become reliant on energy. Since the start of the industrial revolution, man has explored natural energy sources that was cheap. These inexpensive means were inefficient and caused minatory pollution, of which man was unaware up till the mid-1900s. On the one hand, these advancements enlighten and ease human life with facilities; on the other hand, it has brought mankind to the verge of extinction. Energy requirements kept skyrocketing, and the deleterious effects kept piling up.

Conventional energy sources utilized in the production of energy are fossil fuels composed of natural gas, coal, and oil. Among the traditional methods, nuclear energy is the cleanest, but it is extremely expensive, so it is scarcely used in developed countries. Two-thirds of the planet relies on pollution-producing orthodox energy production sources. These non-renewable energy sources, once depleted, cannot be generated again – as it takes millions of years in the formation process. Debates surrounding the issue of shifting to renewable energy sources are widely discussed, and the decision is in favor of renewable sources usage.

Renewable energy sources are those that can be used time and again without depletion. Some sources of the kind encompass the production of energy by using wind energy, solar energy, biomass energy, tidal energy, hydroelectric energy, and wood energy. According to the Energy Information Administration (EIA), the projected energy consumption of the world is expected to rise to 722 quadrillion BTU by the year 2030. Currently, world energy consumption relies on oil by 38 %, gas by 23 %, coal by 28 %, hydroelectric and nuclear 6% each, and other renewable energy produces only 1% of the total energy of the world.

Advantages of Renewable Sources

- The space efficiency of the equipment for production, e.g., 3,000 wind turbines can be installed over an area of 40 – 70 square miles and can produce 1,000 MW for one year continuously (1 unit). Similarly, solar photovoltaic panels consume only 40 square miles for the same generation unit.
- Land utility remains intact, e.g., land may still be used for pastoral purposes, factories, and

crops.

- Easy availability, e.g., 64 KW/hr of energy falls over an area of 1 km from the Sun. Wind, water, and tidal energy generation opportunities are also plentiful.
- No, carbon dioxide emission leads to Greenhouse Gases (GHGs) and the Green greenhouse effect.

Disadvantages of Non-Renewable Energy Sources

- High carbon dioxide emissions lead to GHGs, depletion of the Ozone Layer, and Global Warming.
- The cost of such sources is rising rapidly and fluctuates often.
- Large discrepancies in drilling and crude oil prices have generated an insurmountable supply-demand gap.
- Pollutants of the environment, e.g., coal burning, oil combustion, and mining, add to air pollution and degradation of the environment.

This section of the essay deals with an argumentative analysis of the topic.

Firstly, the production and transmission rates of renewable energy are cheap relative to conventional energy. According to the report published by Nuclear Energy Institute in 2013, the generation of electrical energy per kilowatt hour for solar energy is 35 cents, wind: 9 cents; nuclear: $1.72; coal: $1.80; gas: $5.77; and oil is $ 5.33. This clearly shows that although the initial cost of installation for renewable plant sources is high, the running cost is stooping to a lower trend. Thus, renewable energy is economical to use.

Secondly, reserves for conventional sources will be depleted in the near future, leaving mankind helpless. Oil reserves are estimated to survive 35 – 50 more years, whereas coal can be used for 300 more years. On the other hand, renewable energy sources are non-depletory and can be replenished easily. “The daily supply of solar energy is theoretically sufficient to meet all human energy needs for an entire year. But solar energy and other renewable energy sources are limited in the sense that their availability varies across space and time” (Timmons et al. 5) Thus, it supports the hypothesis presented in the argument.

Thirdly, the combustion of fossil fuels adds to the pollution of the environment. This pollution is added in the form of air pollutants such as chemical emissions and particulates from generators, water pollutants, and land pollutants. This is not the case for renewable energy sources, which are clean to use. The usage of water waves in tidal and hydroelectric power plants does not yield any harmful effects, nor does the installation of solar panels and windmills. Thus, renewable energy is much more sustainable as compared to non-renewable energy.

Fourthly, the use of renewable energy sources would help increase the GDP by 36% in 2030, according to the report published by the International Renewable Energy Agency (IRENA) titled Renewable Energy Benefits: Measuring the Economics. It further remarks that if the use of renewable resources is augmented to 36%, then the global GDP will be positively increment from 0.6% to 1.1%, which will, in turn, boost the Gross Domestic Product of USD 706 Billion to USD 1.3 trillion. Thus, shifting to renewable sources will not harm the current upward trends of trade and development boost; rather, it will positively impact world economic conditions.

Conventional Energy Sources Leading to Global Warming

Global warming is the phenomenon of an increase in average temperatures across the world. The summary report presented by the Working Groups of the Intergovernmental Panel on Climate Change (IPCC) clearly states that a haphazard rise in the warming of the planet has been observed since the 1950s. The report explains, with the help of various studies, that the average surface temperature has spiked from 0.65 C to 1.06 C, ranging over the period from 1880 to 2012. It also demonstrates the mutual relationship between anthropogenic CO_2 emissions from the same period and average sea level rise, which exhibits an exponential pattern. After stating the above-mentioned proven facts, the report explores the probable causes to be economic and population explosion. Industrialization has increased the concentrations of greenhouse gasses (GHGs) to an unparalleled level. The report further analyzes the likely impacts of climate shift on the continental and oceanic environment and the up-shooting occurrence of extreme weather events observable throughout the world.

The core theory of GHGs causing Global Warming is supported by 97% of the scientists, and using IPCC as the main source of CO2 can be pinpointed as causing fiery havoc and altering life patterns. The process of entrapment of GHGs in the lower atmosphere due to clouds and dust particles is responsible for the rise in temperature. Findings of IPCC reveal that doubling of current $CO._2$ concentrations (400ppm to 800ppm) will cause 1. ^{o}C increase in temperature. Further devastation is caused by positive feedback back to the environment due to the loss of ice and snow, adding 2 – 4 C more.

The scholarly article, Goddard Institute for Space Studies, presents an alternative story to the issue by emphasizing the prevalence of non-GHGs such as methane, CFCs, and N2O as the cause of global warming. The article rejects the popular hypothesis of fossil fuel burning and aerosol emissions as the main cause of the phenomenon. The article presents the research findings supported by measured data, indicating the plummeting of GHG emissions over the past decades. Global warming could be minimized if ozone and methane levels were reduced. Data in the article supports the hypothesis, along with an explanation of the methods of affectation. The practicality of this theory benefits the developed and developing countries alike, as they are the ones limited by sanctions under the various protocols such as the Kyoto Protocol (aiming specifically for developed countries to reduce emissions,

with no restrictions on the developing countries like India and China.

The article by the World Economic Forum tips off by charting data from the Japan Meteorological Agency (JMA) and NASA. Showing figuratively the median crossing of temperature (NASA) and the anomaly of the hottest month since 1891 being October 2015 (JMA), the article holds humans solely responsible for the rapid concentration increase of GHG and the temperature. It warns that we have reached a level of no return by displaying a graph of $CO._2$ levels since 1751. It further attributes the El Nino phenomenon as a monster adding to the phenomenon.

All these findings find non-renewable energy sources are guilty of adding to global warming. This is the main reason why we should shift to renewable energy sources. The process is time-consuming, but if left unhandled, it will be deleterious for mankind.

Conclusion

Of all the natural and artificial phenomena threatening human existence on Earth, none has been more minatory or haunting as climate change. The man has emerged victorious from the ruins of plagues, the Black Death, the Crusades, the Holocaust, World War 1, and World War 2. Never before has mankind been in such grave danger from his mischiefs as is today. The man is today standing on the verge of devastation. Global temperatures are skyrocketing to peaks, with marine life badly affected, UV radiations entering the lower atmosphere, causing cancer, and rampant deforestation. Man, on the other hand, is oblivious to the fact and still investigating the existence of such a condition rather than implementing policies for its ramifications. The entire survival of humankind depends on addressing the issue. Thus, it is imperative to shift to renewable sources, which are, without any doubt, better than non-renewable sources.

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