

Is Renewable Energy the Answer to Community Strength?

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Abstract

Currently, fossil fuels are the dominant form of energy, but renewable energy is becoming more prevalent. Renewable energy aids the environment and reduces our dependence on the limited supply of fossil fuels. Many types of renewable energies are used which include: nuclear, hydroelectric, solar, wind, geothermal, and biomass. We explore the social and economic, as well as environmental benefits that come when communities turn to renewable energy. Communities develop more collaborative behavior and increase in efficiency leading to greater resilience.

Introduction

Fossil fuels have a crucial role in modern society, but since they are non-renewable and dangerous, we should reduce our dependence on them and explore alternative energy sources. There are also many things that people can do every day to save energy. There are three types of fossil fuels- coal, oil, and natural gas. Environmental communities are small populations, mostly rural, that run completely on one or more renewable energy sources. Rapid deployment of renewable energy and energy efficiency, and technological diversification of energy sources, results in environmental and economic benefits. Today, fossil fuels are being utilized to a great extent; they are considered as valuable as gold. Based on REN21's 2016 report, renewables contributed 19.2% to humans' global energy consumption and 23.7% of their generation of electricity in 2014 and 2015, respectively. This energy consumption is divided with 8.9% coming from traditional biomass, 4.2% as heat energy, 3.9% hydroelectricity and 2.2% is electricity from the wind, solar, geothermal, and biomass (Techno Cross). There are many benefits and costs that come with renewable energy depending on the type. The main renewable energy sources are wind, solar, hydroelectric, geothermal, nuclear, and biomass. Small communities run on fossil fuels for energy, whether it is gas for a car or coal for electricity. The issue with using fossil fuels in these communities is that it hurts the environment by releasing natural pollutants. On the other hand, this turns out to be different if communities use renewable energy. Renewable energy promotes integration in society as well as providing cost-effective benefits for communities such as helping the environment, reducing dependence on fossil fuels, and maximizing energy usage.

Impact

Nuclear energy is one example of a cost-efficient and environmentally friendly energy in communities. Nuclear power generation emits relatively low amounts of carbon dioxide (CO₂). The emissions of greenhouse gasses and therefore the contribution of nuclear power plants to global warming is relatively little. The opposition may mention that Chernobyl and Three Mile Island are examples of the dangers of tampering with nuclear energy, but this is clearly not the case because there are trained professionals who are properly taught how to manage nuclear energy across the US and they would not cause a disaster. Nuclear radiation was discovered in the nineteenth century and was developed by many scientists, but what was once used as a weapon, scaring the entire world, was now being used, to solve the United States' energy problems. During the 1950's, fossil fuel electric power companies were the power supplier of the country, but during this time, fossil fuel electricity was starting to show weaknesses. Towards the end of 1970's to the mid-1980's, the government started putting restrictions on the running of nuclear power plants. In addition to the government's inquiries of the power plants safety and security, there was also concern on the disposal of the radioactive waste. Another renewable energy source is solar power. Solar energy is commonly referred as the rays of the sun. Further, solar energy has a great potential, compared to coal, natural gasses and oil, the energy we produce from all of these fossil fuels could be eliminated just by 20 days' supply of sunshine. Additionally, due to this advantage, the same system can also prevent the need to burn 60,000 pounds of coal which ultimately would result in the benefits of the environment in question; with solar, there is no acid rain, no urban smog, no pollution of any kind. Another problem raised is solar energy can only be produced during daylight, the production could also be affected by climate change or conditions in certain areas, but solar energy can be stored in the panels and used only when necessary. In Ahmedabad, E-toilets have been introduced; this E-toilet works on solar energy and incorporates hygiene in the city. This is how environmental technology gets incorporated in communities. Architects and contractors are recognizing the value of solar power and are learning how to effectively incorporate it into today's world. Solar energy is not promoted among the citizens of Ahmedabad. However, the opposite should be true having considered the negative effects of fossil fuels. Solar energy will be a major energy source in the years ahead because of its everlasting potential to supply energy and the long-term advantages make it beneficial. Solar energy should be used not only to decrease the use of fossil fuels but also to decrease the price of fossil fuels and it's predicted that solar energy could generate 2.5 percent of the world's electricity by 2025.

Types

Renewable

1. Hydroelectric
Solar

1. Wind

2. Nuclear

3. Biomass

4. Geothermal

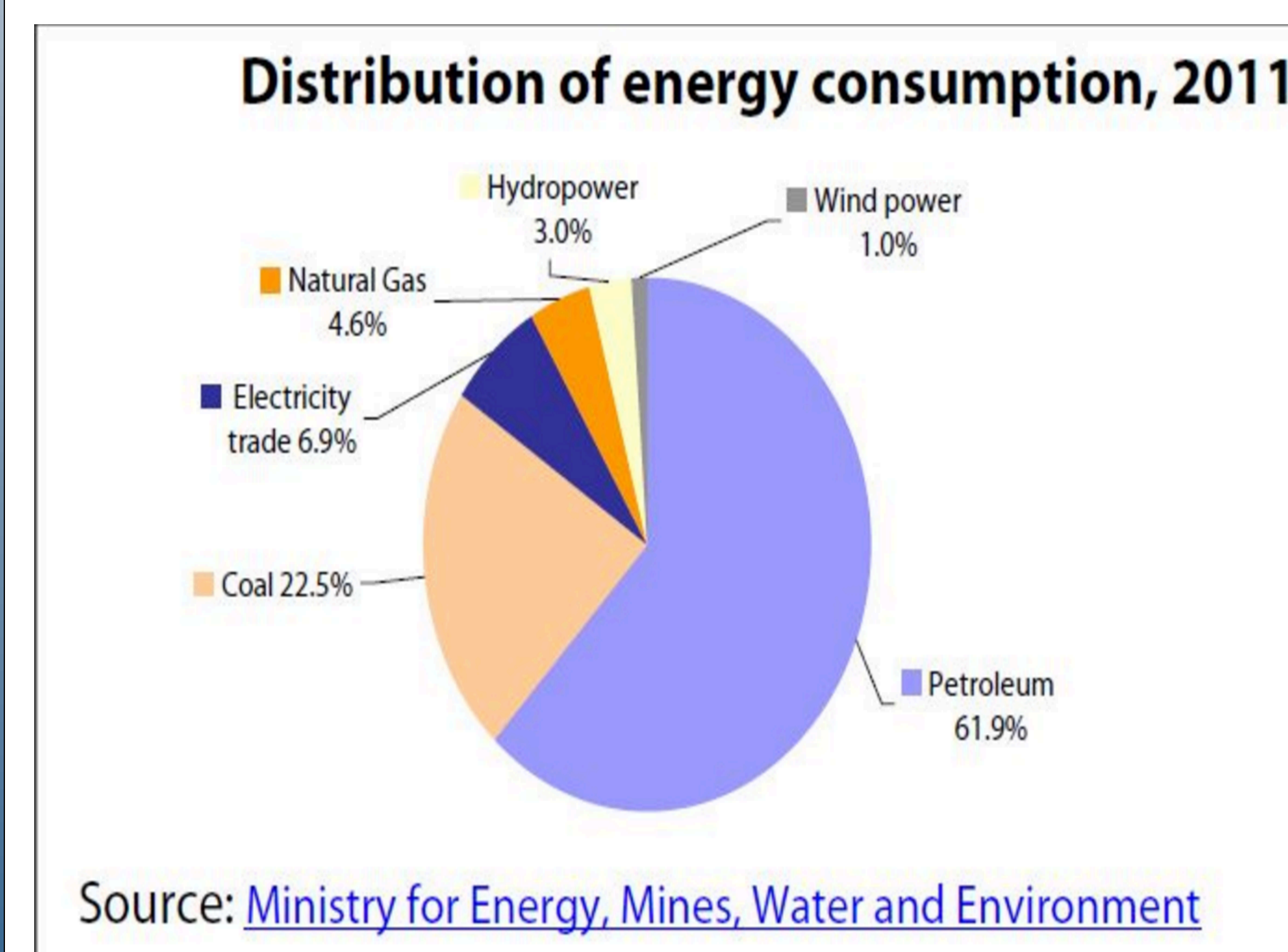
Non-renewable

1. Coal

2. Oil

3. Natural Gas

Figure 1



Conclusion

Although the progress is slow for alternative energies to go mainstream, it is crucial to overcoming the misconceptions and misunderstandings about alternative energies and ensure that the public understands the benefits of alternative energies and the consequences of doing nothing. Unlike, fossil fuel the one thing that alternative energies have that fossil fuels do not have is renewability, once fossil fuels are used they are gone, this is never true when it comes to water, solar, or the wind. The energy corporations need to contribute to the advancement of alternative energies, for the benefits of the world's environment. To utilize these resources and achieve energy independence requires a modification of the way we live our lives, and public acceptance that each of us can make a difference in this effort. It will require consumers, policymakers, and businesses to collaborate and move forward with the same goal in mind.

Figure 2



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