



Journal Article: Alternative energy: Can renewable energy sources replace fossil fuels Fossil fuels have been the prime mover of industrial life for some 200 years. The burning of coal and oil have saved inestimable amounts of time and labor while substantially raising living standards around the world. But many scientists now say the use



Differences among Republicans by ideology, age over views about fossil fuels and prioritizing renewable energy sources. Views among Republicans about these issues are far from uniform. Conservative Republicans are far more likely than moderate or liberal Republicans to support expanding fossil fuel energy sources.



Increasing the supply of renewable energy would allow us to replace carbon-intensive energy sources and significantly reduce US global warming emissions. For example, a 2009 UCS analysis found that a 25 percent by 2025 national renewable electricity standard would lower power plant CO2 emissions 277 million metric tons annually by 2025???the

# CAN RENEWABLE ENERGY EFFECTIVELY REPLACE FOSSIL FUELS



A recent paper that appeared in Nature just ahead of COP26 in Glasgow attempted to send a clear message to attendees???a world without fossil fuels is possible. However, this new research relies on unrealistic assumptions ???



From a technological perspective, the energy transition seems to be equated with transitioning entirely from fossil fuels to renewable energy sources through novel technologies. While this is an ideal scenario for the betterment of the planet, the reality could involve drastically reducing fossil fuels and significantly increasing renewable fuels.



Whether alternative energy can meet energy demands effectively enough to phase out finite fossil fuels (such as coal, oil, and natural gas) is hotly debated. Alternative energies include renewable sources ???including solar, tidal, wind, biofuel, hydroelectric, and geothermal ???

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What the chart makes clear is that the alternatives to fossil fuels ??? renewable energy sources and nuclear power ??? are orders of magnitude safer and cleaner than fossil fuels. gas combined with CCS ??? carbon capture and storage ??? can become cost-effective sooner. The UK has implemented a carbon price and the government there expects



Fossil fuel and aerosol emissions have played important roles on climate over the Indian subcontinent over the last century. As the world transitions toward decarbonization in the next few decades, emissions pathways could have major impacts on India's climate and people.



Rising human prosperity, as measured by economic growth, has long been linked to an abundance of fossil fuels. Many politicians fear that the pursuit of clean-energy sources will compromise that

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Renewable energy sources offer significant environmental, economic, and social benefits over fossil fuels. Benefits of Renewable Energy Over Fossil Fuels. image credit: Image by Gencraft. Eric Jonson 4,810 . Manager, meaning they are an inherently cost-effective source of power that could serve as a reliable backup as fossil fuel prices



Analysts implicitly assume that increasing renewable-energy generation by one unit displaces conventional energy by the same amount. Research now shows that, owing to the complexity of our socio



Evaluating the Role of Renewable Energy in Energy Transition: the final aspect of the methodology is evaluating how renewable energy can play a transformative role in the global energy transition. This involves assessing its impact on reducing dependence on fossil fuels, contributing to economic growth, and meeting sustainability goals.



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Energy lies at the core of the climate challenge ??? and holds the key to its solution. Most greenhouse gasses responsible for causing global warming are produced by burning fossil fuels for electricity and heat.. Scientists widely agree that it's crucial to cut global greenhouse gas emissions by nearly half by 2030.They also emphasize the importance of achieving net zero ???



This has major implications for the global climate, as well as for human health. Three-quarters of global greenhouse gas emissions result from the burning of fossil fuels for energy. Fossil fuels are responsible for large amounts of local air pollution ??? a health problem that leads to at least 5 million premature deaths each year.



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The primary cause of this issue is the heavy reliance that has impact on fossil fuels, which account for nearly 80 % of all energy consumption worldwide [2]. Fossil fuels have traditionally been the main source of energy. However, the supply of fossil fuels will inevitably decline as fuel consumption rises.



Fossil fuels still account for more than 80 percent of global energy production, but cleaner sources of energy are gaining ground. About 29 percent of electricity currently comes from renewable



When these renewables replace fossil fuel power generation with 25???60% efficiency, the efficiency improves. For instance a heat pump or an electric vehicle is much more efficient than an energy device that uses fossil fuels to deliver the same service. The share of renewable energy can grow from 15% in 2015 to 63% of total primary

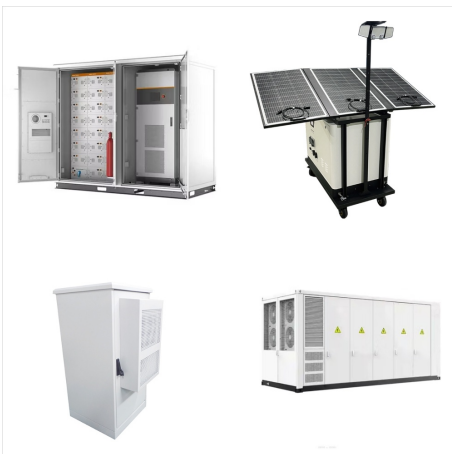
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Despite its capacity to replace fossil fuels, many worry about the well-known problems associated with nuclear energy generation, including radioactive waste, which is harmful to the environment



The use of renewable energy sources, such as biomass, to generate power is one approach to lessening the global environmental impact of energy production and use (Owusu & Asumadu-Sarkodie, 2016). Biomass is used to make energy in five different ways: growing plants for sugar, starch, cellulose, and oil, burning waste, using anaerobic digesters to make biogas ???



Analysis of the EROEI values and their variation with time for different energy sources (Fig. 13) provides an understanding of why the prime cost of energy resources and supplied energy constantly increases and why fossil fuels rather than solar energy, the EROEI of which is only slightly higher than unity, are at the base of the world energy

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Can renewable energy replace fossil fuels in the UK? In 2020, 42% of the UK's electricity came from renewable energy. A quarter of the UK's electricity was produced by wind power, which is the highest proportion of any G20 country and more than four times the ???



To achieve zero fossil fuel use by 2050, we found that renewable energy production will need to be increased by up to 6-fold or 8-fold if energy demand is held constant at, or increased 50% from



Thus, renewable energy can theoretically replace fossil fuels in the four key sectors, but policy and culture influence renewables in practice. In the future, there will also be a need for greater government and relevant authority support for the use of renewable energy, as well as the promotion of energy conservation and renewable energy



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To access extended pro and con arguments, sources, and discussion questions about whether alternative energy can effectively replace fossil fuels, go to ProCon . Whether alternative energy can meet energy demands effectively enough to phase out finite fossil fuels (such as coal, oil, and natural gas) is hotly debated.