

PEES Power Systems

Renewable energy sources for sustainable development



Overview

Renewable energy offers numerous advantages, including reduced greenhouse gas emissions, improved air quality, enhanced energy security, and long-term cost savings. Sustainable development as a concept emerged in 1987 and was defined as the development that is able to meet the needs of the present without jeopardizing the ability of the future. Renewable energy sources, such as wind and solar, emit little to no greenhouse gases, are readily available and in most cases cheaper than coal, oil or gas. Most of the greenhouse gases that trap heat in the Earth's atmosphere are from fossil fuels. Can renewable energy sources truly replace fossil fuels as the primary source of global power?

The answer, unequivocally, is yes, although achieving this transition requires substantial investment, technological advancements, and a concerted global effort to overcome existing infrastructural and financial barriers. For the 760 million people in the world who lack access to electricity, the introduction of modern clean energy solutions can enable vital services such as improved healthcare, better education, and internet access, thus creating new jobs, improving livelihoods, and reducing poverty. Driven by the need for clean energy, renewable energy continues to dominate new power capacity. Yet even with this significant growth in renewable and other zero-emission capacity, the world's energy demand is still rising. Climate variability and long-term climate change are increasingly shaping the performance and reliability of renewable energy systems worldwide, according to the WMO-IRENA Climate-driven Global Renewable Energy Resources and Energy Demand Review: 2024 Year in Review, released by the World.

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Renewable Energy Sources: Powering a Sustainable Future

Individuals can play a significant role by choosing renewable energy options when available, investing in solar panels for their homes, supporting policies that promote renewable ...

Renewable Energy Sources for Sustainable Development , Green ...

Economic developments and technological advancements in renewables, such as carbon capture and storage, are directly impacting the strategies for sustainable development. This article gives you a ...



The Future of Renewable Energy: A Path to Sustainable Development

Unlike fossil fuels such as coal, oil, and natural gas, which take millions of years to form, renewable energy sources are abundant and can be replenished relatively quickly, making them a ...

IRENA - International Renewable Energy Agency

Innovation landscape for sustainable development powered by renewables
This report identifies 40 innovations that policymakers can leverage to achieve resilient power systems that expand energy ...



The role of renewable energy in achieving sustainable ...

The transition to renewable energy sources--such as solar, wind, hydropower, and geothermal--offers pathways to reduce global carbon emissions, mitigate climate change, and ensure universal access ...

Global Energy Trends: Clean Energy Growth and Rising Demand

Clean energy continues to dominate new power capacity. For example, in 2024, more than 90% of all new electricity capacity worldwide came from renewable sources such as solar, wind, ...



Renewable energy , UNEP



For the 760 million people in the world who lack access to electricity, the introduction of modern clean energy solutions can enable vital services such as improved healthcare, better ...

Renewable energy for sustainable development

Regarding renewable resources and technologies, wind and wave power resource assessment, heating and cooling, solar energy, renewable energy fuels, and integrated energy ...



Renewable energy - powering a safer future , United Nations

Derived from natural resources that are abundant and continuously replenished, renewable energy is key to a safer, cleaner, and sustainable world. Explore common sources of renewable

Renewable electricity - Renewables 2025 - Analysis

The share of renewables in global electricity generation is projected to rise from 32% in 2024 to 43% by 2030, while

the share of variable renewable energy sources set to almost double to 27%.
Over 2025 ...



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