Nuclear fusion and solar power generation

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Nuclear Explained

The articles and videos on this page offer easy-to-understand explanations of major topics in nuclear science and technology. The many peaceful uses of nuclear technology have a beneficial impact on

Fusion energy: Pathway to abundant power

Scientists are working to replicate fusion on Earth as a means to generate electricity for the power grid. Fusion energy would provide the benefit

What is Nuclear Energy? The Science of Nuclear Power

What is nuclear fission? Nuclear fission is a reaction where the nucleus of an atom splits into two or more smaller nuclei, while releasing energy. For instance, when hit by a neutron, the

Nuclear Fusion in Sun: How the Ultimate Sun Power

This article explores the science behind nuclear fusion in the Sun, how energy is generated, and why the Sun remains a long-lasting power source.

Five Reasons the Clean Energy

Transition Needs Nuclear Power

Nuclear energy ranks among the cleanest power sources when assessed across its entire lifecycle. Lifecycle analyses consider every stage - from uranium mining and fuel fabrication

Nuclear fuel cycle , IAEA

Sustainable nuclear power needs a sustainable nuclear fuel cycle. The increasing use of nuclear power puts stringent demands on fuel cycle activities and on understanding the behaviour of

Comparing The Advantages and Disadvantages of Fusion Versus

Our article last week contrasted nuclear fission energy versus fusion energy, especially on how they are similar and how they differed. Which inspired us to look at fusion energy vs. solar

Fusion Energy

The DOE fusion energy program helps researchers coordinate across the many fundamental scientific and technical disciplines that are involved with

Fusion energy: a sustainable pathway to meeting future

Fusion energy holds immense promise as a sustainable and virtually limitless solution for power generation. Fusing light nuclei, particularly deuterium

Nuclear Explained

Nuclear fusion is the process by which two light atomic nuclei combine to form a single heavier one while releasing massive amounts of energy. Fusion reactions take place in a state of

[Nuclear technology and applications , IAEA]

The IAEA assists its Member States in using nuclear science and technology for peaceful purposes and facilitates the transfer of such technology and knowledge in a sustainable manner to

[Scientific, technical publications in the nuclear field , IAEA]

The IAEA is a leading publisher in the nuclear field. Its more than 9,000 scientific and technical publications include international safety standards, technical guides, conference proceedings and

Fusion power

Background The Sun, like other stars, is a natural fusion reactor, where stellar nucleosynthesis transforms lighter elements into heavier elements with the

[International Atomic Energy Agency , Atoms for Peace and Development]

The IAEA is the world's centre for cooperation in the nuclear field, promoting the safe, secure and peaceful use of nuclear technology. It works in a wide range of areas including energy

Nuclear Explained

Nuclear science and technology are often used in the study and preservation of valuable cultural objects. These objects include everything from paintings, clothing and musical instruments,

Nuclear Fusion Power

Fusion powers the Sun and stars as hydrogen atoms fuse together to form helium, and matter is converted into energy. Hydrogen, heated to very high temperatures changes from a gas to

Nuclear Technology Review 2025

The Nuclear Technology Review 2025 covers the following select areas: nuclear power, nuclear fuel cycle, decommissioning, environmental remediation and radioactive waste management, fusion

Nuclear fusion in the Sun

The energy from the Sun - both heat and light energy - originates from a nuclear fusion process that is occurring inside the core of the Sun. The specific type of

China's 'artificial sun' reactor shatters major fusion limit

China 's nuclear fusion reactor, dubbed the "artificial sun," has breached a major fusion limit by firing plasma beyond its usual operational

Nuclear fusion: energy from the sun

Nuclear fusion offers huge potential for a new, sustainable energy source. Industrialized countries in particular need future-proof solutions for additional energy supplies that can provide baseload power

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