

and magnetic fields, radio interference, audio noise, visual impacts, and land use impacts from siting transmission line towers and substations. The ability to transform voltages is an important economic and technical consideration as the lower currents required with high-voltage transmission for a given level power require smaller cables and result in less loss of power in the form of heat.

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NUCLEAR ENERGY

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Nuclear energy, also called atomic energy, is the powerful energy released by changes in the nucleus (core) of atoms. The heat and light of the sun result from nuclear energy. Scientists and engineers have found many uses for this energy, including the production of electric energy and the explosion of nuclear weapons. Scientists first released nuclear energy on a large scale at the University of Chicago in 1942, three years after World War II began. This achievement led to the development of the atomic bomb. Since 1945, peaceful uses of nuclear energy have been developed. The energy released by nuclei creates large amounts of heat.

Most countries depend mainly on fossil fuels. But fossil fuels are a non-renewable resource. Nuclear power plants have two main advantages over fossil-fuel plants. Once built, a nuclear plant can be less expensive to operate than a fossil-fuel plant, mainly because a nuclear plant uses a much smaller volume of fuel. Uranium, unlike fossil fuels, releases no chemical or solid pollutants into the air during use. However, nuclear power plants have two major disadvantages. Because of the need to assure that hazardous amounts of radioactive materials are not released, nuclear plants must meet certain government regulations that fossil-fuel plants do not have to meet. Used nuclear fuel produces dangerous radiation long after it has been removed from the reactor. Under normal economic conditions, a nuclear plant's savings in fuel eventually make up for its higher construction expenses. At first, these expenses add to the cost of producing electricity. But after some years, a plant will have paid off its construction costs.

Unlike fossil-fuel plants, nuclear plants do not release solid or chemical pollutants into the atmosphere. A nuclear plant releases small amounts of radioactive gas into the air. The cooling water used in pressurized water plants picks up a small amount of radioactive tritium in the steam condenser. The tritium remains in this water when it is returned to a river or lake. But these small amounts of radiation released into the environment are not believed to be harmful. Thermal pollution remains a problem at some nuclear plants. But cooling towers help correct this problem.

A leak or break in a reactor water pipe could have dangerous consequences if it results in a loss of coolant. Even after a reactor has been shut down, the radioactive materials remaining in the reactor core can become so hot without sufficient coolant that the core melts. This condition, called a meltdown, could result in the release of dangerous amounts of radiation.

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STONEHENGE

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Stonehenge is a prehistoric monument located in the English county of Wiltshire, about 2.0 miles (3.2 km) west of Amesbury and 8 miles (13 km) north of Salisbury. One of the most famous sites in the world, Stonehenge is composed of a circular setting of large standing stones set within earthworks. It is at the centre of the most dense complex of Neolithic and Bronze Age monuments in England, including several hundred burial mounds.

Archaeologists believe the iconic stone monument was constructed anywhere from 3000 BC to 2000 BC, as described in the chronology below. Radiocarbon dating in 2008 suggested that the first stones were erected in 2400-2200 BC, whilst another theory suggests that bluestones may have been erected at the site as early as 3000 BC (see phase 1 below).

The surrounding circular earth bank and ditch, which constitute the earliest phase of the monument, have been dated to about 3100 BC. The site and its surroundings were added to the UNESCO's list of World Heritage Sites in 1986 in a co-listing with Avebury Henge monument. It is a national legally protected Scheduled Ancient Monument. Stonehenge is