

A Brief History of Solar Energy

Throughout human history, the sun's importance and the energy it provides the earth and humanity as a whole have been well understood. Worship of the sun, or viewing the sun as a deity, began as early as the fourteenth century BCE — and ancient techniques to start fires are still used by campers today. The sun and its power as an energy source have been omnipresent in human history, and its popularity and utilization only increase as human knowledge surrounding it grows.

Solar Energy in Ancient History

Aten, the ancient Egyptian sun god, was referenced in papyrus texts as early as the 24th century BCE and was first identified as a god in texts around 2000 BCE. Aten's symbol was a sun disc with rays that were often extended onto humans and fields, showing that people were aware of their need for the sun's energy for their survival. This aspect of the sun became a part of the worship of Ra as the Egyptian religion grew and developed over centuries.

Around 2,700 years ago, circa 700 BCE, people used glass lenses to concentrate the sun's heat to start fires for heat, light, and cooking. This method was also used to light religious torches across Greece, Rome, and China during the first, second, and third centuries BCE. It is a technique that is still commonly used today by campers, survivalists, and off-grid enthusiasts alike.

The Roman Empire

In the first through the fourth centuries, Roman bathhouses had large south-facing windows with the sole purpose of letting in sunlight to create warmth. By the sixth century, sunrooms were a common feature of Roman houses. They were so common that the Emperor Justinian I had to institute "sun rights" to guarantee that each individual had access to the sun. These laws prevented the building of tall structures that would block sunlight from smaller dwellings.

Native Americans

The Anasazi Indians of North America were an innovative cliff-dwelling tribe. They carved their houses out of southern-facing cliffs, so they remained cool in the shade of the overhang of opposing peaks during the summer and were heated by the sun's lower positioning in the winter. There is also evidence that they dried their clothes, herbs, and skins using the sun's heat.

The First Photovoltaic Device

A photovoltaic effect allows for particles of light to generate a flow of electricity by knocking electrons free from atoms. This was discovered in 1839 by Edmond Becquerel, a nineteen-year-old who created the world's first photovoltaic cell while experimenting in his father's laboratory. In his experiment, he coated platinum electrodes with silver. The electrodes, when illuminated, generated both voltage and current. Because of this discovery, the photovoltaic effect is also known as the Becquerel effect.

The Solar Powered Steam Engine

Between 1860 and 1880, Augustin Mouchot developed several different models of solar-powered steam engines. They were successful and showed promise as scientific inventions but were not yet economically viable. He published his book, "Solar Heat and its Industrial Applications," in 1869. His engines were displayed at the 1878 Universal Exhibition in Paris. Because of his work, Mouchot was named Lauréat de l'Institut by the Institut de France in 1891 and 1892.

Energy Efficient Homes in the US

The twentieth century in the United States saw the rise in the popularity of passive solar houses. In the 1930s and 1940s, architect George F. Keck was a pioneering designer of passive solar buildings and homes. Passive solar design uses exposure to the sun and the reactive properties of building materials, such as absorption or reflection, to heat and cool a building internally.

Keck designed both the all-glass "House of Tomorrow" displayed at the Century of Progress Exposition in Chicago in 1933 — and the first home to be deemed a "solar house", The Sloan House built for real estate developer Howard Sloan in Glenview, Illinois in 1940. In Wisconsin, another innovative designer named Frank Lloyd Wright incorporated passive solar ideas in his designs, including the Jacobs House, known as the "Solar Hemicycle."

Energy-efficient homes continued to gain a lot of popularity in the United States during the second half of the century due to the 1973 Oil Crisis and subsequent 1978 Solar Energy Tax credits.

Solar Energy in the 21st century

The US Department of Energy was created in the late twentieth century and has continued to provide new energy tax credits, as well as funding for the research and implementation of solar technologies. Environmentalism has grown in popularity in the US in recent years, increasing consumer demand for this form of energy.

There are almost 1.5 million solar panels in use in the United States today, offsetting more than 70 million metric tons of carbon dioxide every year, or the equivalent of planting more than a billion trees. Solar energy has exploded in utilization and is used far more than just passive use

in homes and buildings. Solar power is used for everyday things like air conditioning and cell phone charging, but also major pieces of equipment like cars, buses, and even the International Space Station.

The Future of Solar Power

Solar power is both readily abundant and renewable. It is a sustainable, environmentally-friendly form of energy with nearly limitless potential. Thanks to an explosion of innovation, reduced costs, and appropriate incentivization, solar is rapidly gaining adoption and popularity. With legislation and cultural ideology becoming more environmentally focused, the future of solar power looks bright! If you're looking to move towards a sustainable future for you and your family, speak with the trained professionals at [Solar Pros](#) today!