

Holiday Homework Science

This is an essay on technology that use renewable resources, Which are Solar Panels -Aakash Khanna

Solar Panels

The earth receives about 174 billion megawatts of power at the upper atmosphere as a result of solar radiation. About 30% of the incident solar radiation is reflected back, while the remaining, which amounts to 3.85×10^{24} Joules every year, is absorbed by the atmosphere, oceans and landmasses. The amount of solar energy that is available to us during an hour is more than the total amount of energy consumed worldwide in an entire year. But this is a diffused, rather than concentrated, form of energy and the greatest challenge lies in harnessing it.

Heat and light radiation from the sun can be harnessed through the use of semiconductor solar panels. The energy solar radiation excites electrons on these panels and leads to the production of electrical energy.

One of the biggest hurdles in harnessing the energy from the sun is in building cost-effective solar panels. The cost of solar power is about US 8–15 cents per kilowatt-hour as compared to the cost of coal-based electric power at US 6 cents per kilowatt-hour.

Proper storage of energy is another major obstacle. Solar energy is not available at night but modern energy systems usually assume continuous availability of energy. Thermal mass systems, thermal storage systems, phase change materials, off-grid photovoltaic systems, and pumped storage hydroelectricity systems are some of the ways in which solar energy can be stored for later use.

Even with all of the technological advancements, solar energy technology is still in its infancy. Until we perfect the technology and are able to harness and store solar energy in a viable and cost-effective manner, fossil fuels will continue to be the most commonly used source of energy.

