

What is solar energy?

Solar energy technologies transform the energy in sunlight into electrical and thermal (heat) energy. The earth's surface receives approximately 1000 watts of power from the sun for every square metre facing the sun.

Solar energy is a rapidly growing way to generate electricity, and it is estimated by the International Energy Agency that solar energy will produce nearly a quarter of the world's total energy use by 2050.



What types of technology harnesses solar energy?

- Solar thermal collector
- Solar electricity

Solar thermal collectors use dark coloured panels placed on areas such as rooftops to absorb the heat from the sun. The panels collect heat, then transfer this heat to fluids circulating through the panel. This is a clean and efficient way to heat hot water.

A typical PV panel consists of two or more thin layers of semi-conducting material, which is commonly silicon. PV cells are connected together and encapsulated to form a module or panel. Incoming solar rays are captured by the solar panels. When light strikes the silicon, it produces electrons that are conducted away by a metallic grid as direct current (DC). This is then sent through an inverter and converted into alternating current (AC) electricity for use.