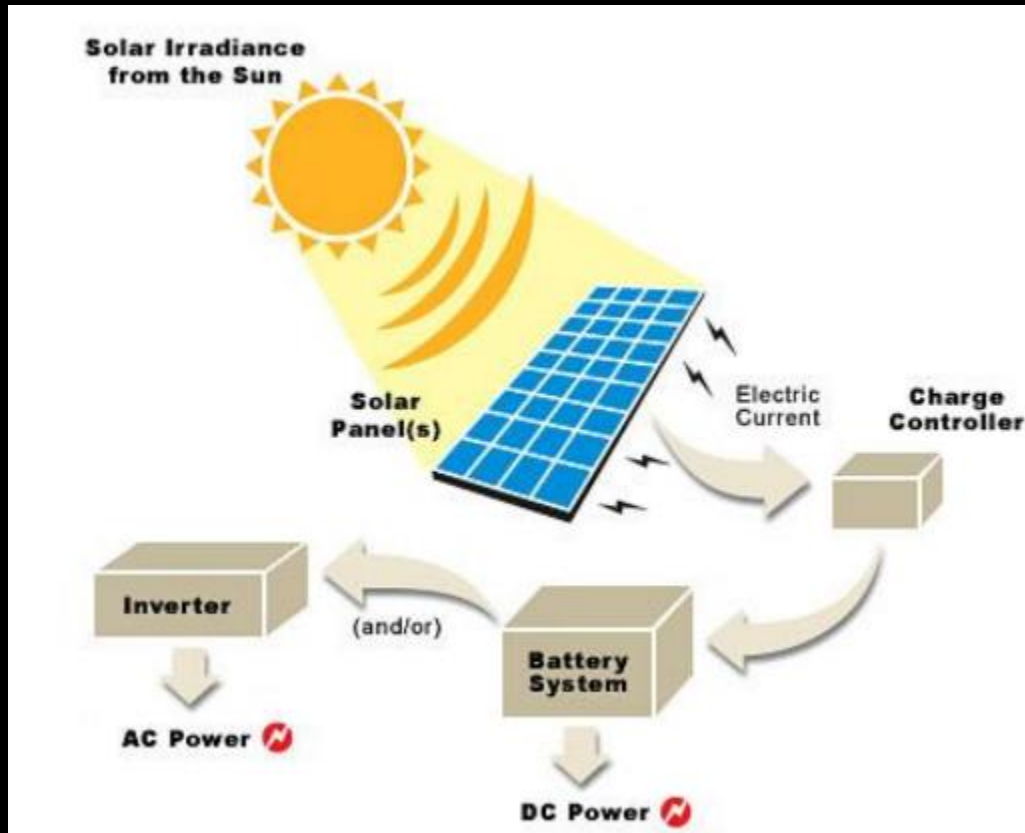


Solar energy

Solar energy is created by nuclear fusion that takes place in the sun. Fusion occurs when protons of hydrogen atoms violently collide in the sun's core and fuse to create a helium atom. This process, known as a PP (proton-proton) chain reaction, emits an enormous amount of energy.

Photovoltaic energy is energy associated with converting solar radiation into electricity, it was discovered by placing silver-chloride in an acidic solution and then exposing it to sunlight, the platinum electrodes attached to it generated an electric current

solar panels are a bunch of solar cells



Isolation: the rate at which a given area of land receives solar energy

- It depends on variables including latitude, season, time of day, cloudiness, clearness of air, and slope of surface land

There are different forms of solar energy, this includes (direct, indirect, wind, photovoltaic, biomass, and others)

tidal energy is produced mainly due to the earth-moon gravity system

radiation travels at light speed, so it reaches our earth from the sun in **8 minutes**

Solar heating

There are two types

Passive heating : does not rely on special mechanical equipment, however they are not as effective as the active systems

Active heating: uses special equipments in the form of solar collectors, they are used to collect and distribute solar energy

Solar water heating: it is another major use of solar energy, solar water heating systems have two main parts, solar collectors and storage tanks

- It reduces the use of fossil fuels



Photovoltaics

Generating electricity from the light energy of the sun using **photovoltaic cells (PV)**, it is the cheapest but not most efficient

Wind power

it is the kinetic energy of wind converted to electrical/mechanical power, the triple-blade propeller is one of the most popular designs used in wind turbines

it is related to solar as the movement of wind is generated due to the heating difference from the sun in different areas

