

How does the Warwick Solar Farm work?

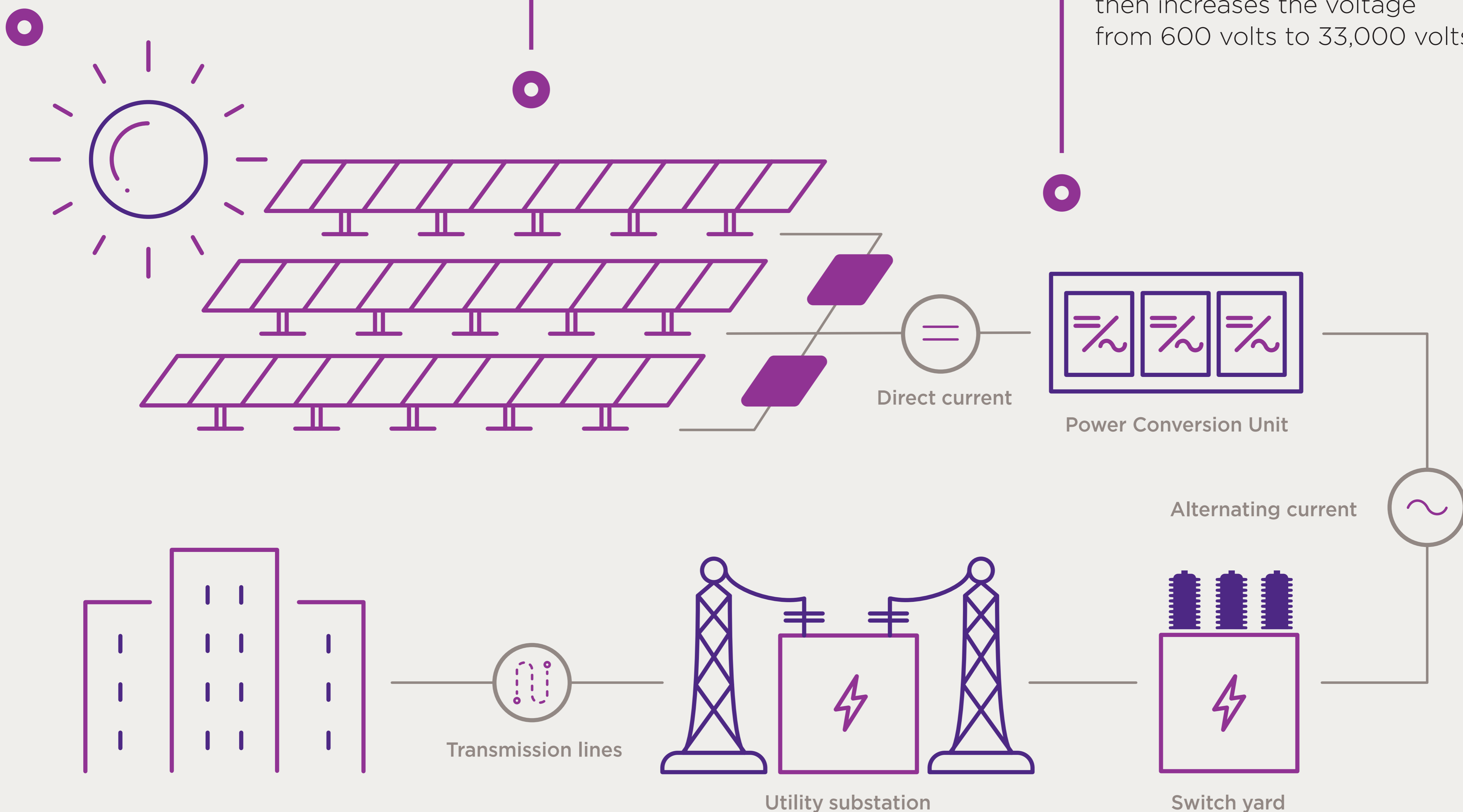
Photons from sunlight are converted into electrons via the photovoltaic (PV) cells contained in each solar panel. A row of solar panels is referred to as a string, connected in series like a set of fairy lights.

Strings of panels are mounted on a tracking system that follows the sun's movement from east to west throughout the day for maximum collection of sunlight.

At the end of the day the panels track back to the east ready for the next morning.

Several strings of panels are connected into a combiner box, which in turn connect in groups to a Power Conversion Unit (PCU) via direct current (DC) underground cables.

Each PCU comprises three inverters which convert DC electricity into alternating current (AC), used in homes and businesses. A transformer then increases the voltage from 600 volts to 33,000 volts.



Overhead powerlines connect the solar farm site to the Ergon substation on East Street, which allows power to be supplied to the National Electricity Market (NEM). UQ then purchases electricity from the NEM to power its campuses, research facilities etc.

The PCUs are connected through underground AC cables to a switchyard, where all controls for the solar farm are located. This switchyard acts as the interface between the solar farm and Ergon's electricity network.