Test 2 Questions PV Panels: Types of Panels

1. What are two important parameters of the PV panel?

Short circuit current Isc and open circuit voltage Voc

1. How many W/m2 are required to have Voc?

200.

1. Which electric measurement is most effected by temperature?

Voltage.

1. When the cell has an increase in temperature what happens to the Voc?

Goes down.

1. When the cell has an decrease in temperature what happens to the Voc?

Goes up.

1. Describe the I-V curve?

Start with Isc current and 0 volts then as resistance is increased across the terminals the voltage increases and the current stays relatively constant. At the knee point the current starts to drop off going to 0 amps when the load is at infinite resistance and the Voc is reached.

1. Describe the relationship between current delivered by the PV panel and irradiance.

Current increases linearly with irradiance. Current doubles when irradiance doubles.

1. The power curve of the PV panel is maximum at what point?

When the internal resistance is equal to the load resistance.

1. The maximum power generated by the PV panel happens when the voltage is not maximum and the current is not maximum. Explain.

The current is maximum at Isc, and the voltage is zero so power is I x V = 0. When voltage is maximum the current is at zero, which is 0 power. There is only one point that the power is maximum. Vmp x Imp = Pmp.