1 Electric Power

In an electrical circuit, the *voltage source* sends electrical energy to the *resistor*. Power is defined as $\frac{\Delta E}{t}$. Recall that *voltage* is defined as $\frac{\Delta E}{Q}$

$$\implies \Delta E = u \times Q$$

$$\implies P = \frac{u \times Q}{t}$$

$$\implies P = u\frac{Q}{t}$$

$$\implies P = u \times I$$

By Ohm's Law

$$P = I^2 \times R$$

$$P = \frac{u^2}{R}$$