

## C2 ACTIVITY 4 (II): EXAMPLES OF IN-DEPTH ANALYSIS

The efficiency of old filament bulbs and modern energy efficient bulbs are shown below in Figure 7 and Figure 8.

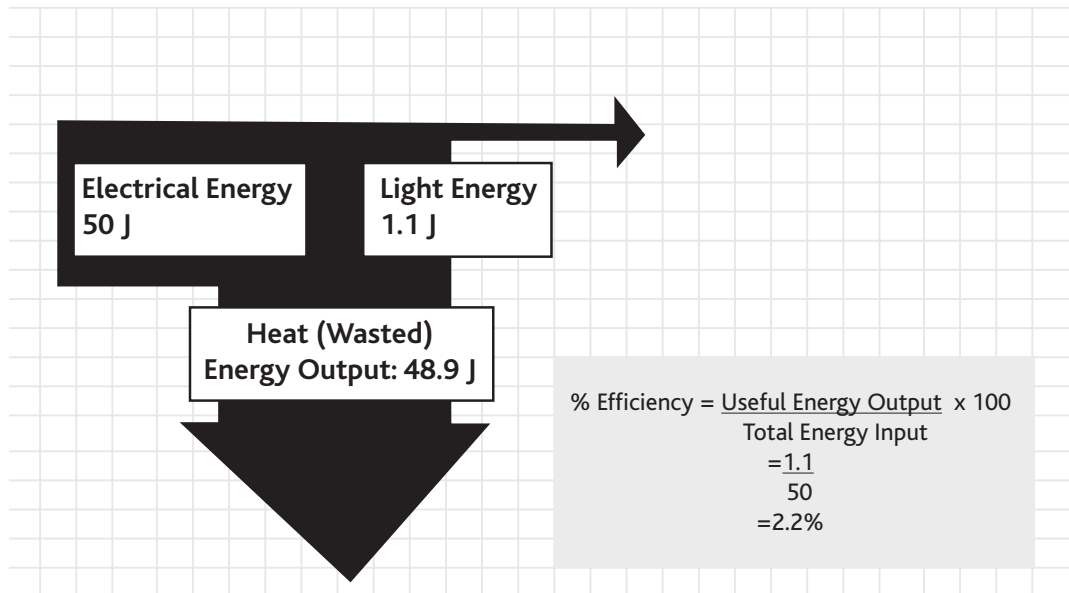


Figure 7 – Sankey diagram of a filament bulb

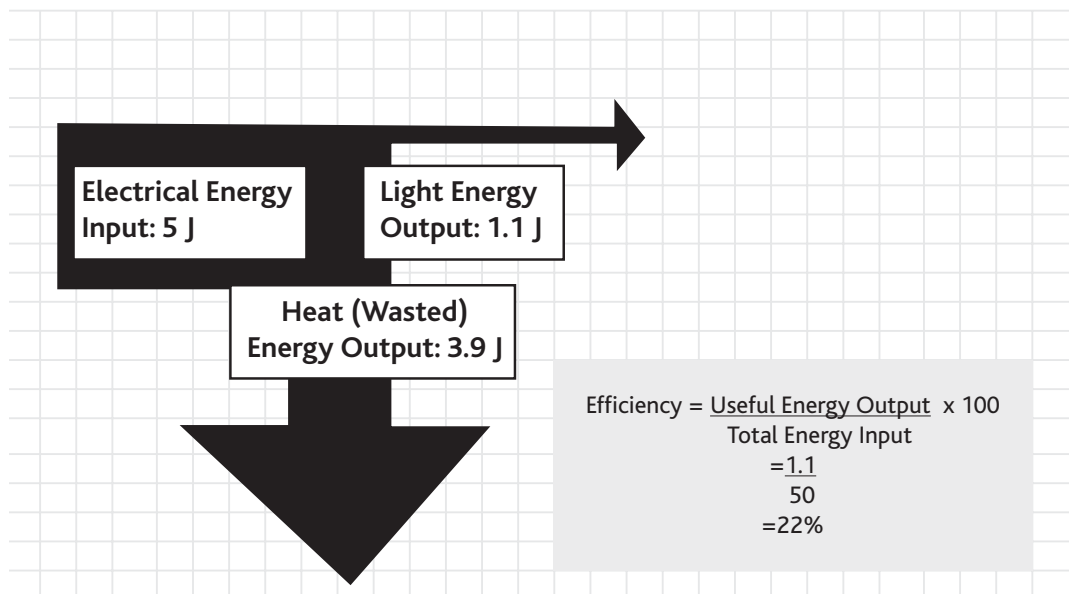


Figure 8 – A Sankey diagram of an energy efficient bulb

An electric motor consumes 100 watts (100 joules of electrical energy per second [J/s]) of power and gives 90 watts of usable energy power. What is its percentage efficiency?

$$\begin{aligned} \text{\% Efficiency} &= \frac{90 \text{ W}}{100 \text{ W}} \times 100 \\ &= 90\% \end{aligned}$$