Equation I

\[ \text{\textit{heat energy released}} = \text{\textit{electrical energy input}} \]

Equation II

\[ \text{\textit{heat energy released}} = \text{\textit{electrical energy input}} \]

**Problem**

There are two spherical lamps. If two lamps are very close to each other, they become warmer than usual.

1. **Equation I**

   - **Electrical energy input**: \( E_{\text{in}} \)
   - **Heat energy released**: \( E_{\text{out}} \)
   - **Total energy**: \( E_{\text{total}} = E_{\text{in}} + E_{\text{out}} \)

2. **Equation II**

   - **Heat energy released**: \( E_{\text{out}} \)
   - **Electrical energy input**: \( E_{\text{in}} \)
   - **Total energy**: \( E_{\text{total}} = E_{\text{in}} + E_{\text{out}} \)

**Conclusion**

The total energy input is equal to the total energy output. This is known as the conservation of energy principle.