

# ALTERNATIVE PRODUCTION

$$E_p = \frac{P}{\eta_p}$$

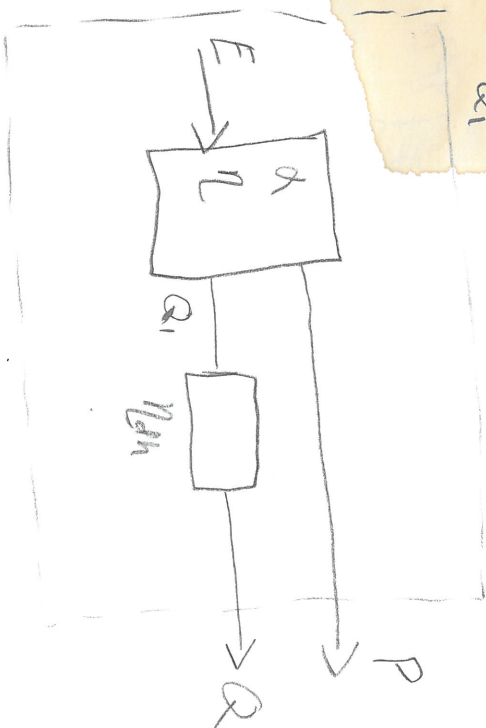
$$E_a = \frac{Q_1}{\eta_a}$$

$$A_a = \frac{E_a}{E_p + E_a}$$

$$\alpha = \frac{P}{Q_1}$$

$$A_a + A_p = 1$$

$$E = A_a Q + A_p P$$



$$\frac{PE_a}{PE_p} = \frac{E A_a}{E A_p}$$

$$= \frac{E_a}{E_p + E_a} = \frac{E_p}{E_p}$$

$$= \frac{Q_1 \cdot \eta_p}{\eta_a \cdot Q} = \alpha \cdot \eta_a$$

$$\frac{PE_a}{PE_p} = \frac{E A_a}{E A_p} = \frac{A_a}{A_p} = \frac{E_a}{E_p}$$

$$= \frac{Q_1 \cdot \eta_a}{Q \cdot \eta_p} = \frac{Q_1 \cdot \eta_p}{\eta_a \cdot Q}$$

$$= \frac{Q \cdot \eta_p}{\eta_a \cdot Q} = \frac{Q \cdot \eta_p}{\eta_a \cdot Q} = \frac{\eta_p}{\eta_a \cdot \eta_a}$$

