

ZI
2007

$$P_n = 100 \text{ MW}$$

$$\eta = 0.42$$

$$m = 0.46$$

$$H_{CH_4} = 34 \frac{\text{MJ}}{\text{m}^3}$$

$$m(\text{CO}_2) \text{ god} = ?$$

$$m = \frac{P \cdot 8760}{P_n \cdot 8760}$$

 Wgod also radi
na max. smeti

 onoliko kolik energie
je proizvedla (nik stalno radi
na P_n)!

$$P = m \cdot P_n$$

$$W_{\text{god}} = P \cdot 365 \cdot 24 \cdot 3600 \text{ s}$$

$$W_{\text{god el}} = 1450656000 \text{ MJ/s}$$

↳ proizvedena el. energ

$$H_{CH_4} \cdot V_{CH_4} = W_{\text{topl}}$$

$$V_{CH_4} = \frac{W_{\text{topl}}}{H_{CH_4}} = \frac{3453942857 \text{ MJ}}{34 \frac{\text{MJ}}{\text{m}^3}}$$

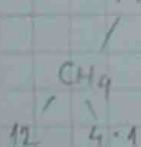
$$W_{\text{topl}} \cdot \eta = W_{\text{el}}$$

$$W_{\text{topl}} = \frac{W_{\text{el}}}{\eta} = \frac{1450656000 \text{ MJ}}{0.42}$$

$$W_{\text{topl}} = 3453942857 \text{ MJ}$$

$$V_{CH_4} = 101586554.622 \text{ m}^3$$

$$m = \frac{M}{M}$$



$$n_{CH_4} = \frac{V}{V_m} = \frac{101586554.622 \text{ m}^3}{22.4 \frac{\text{m}^3}{\text{mol}}} = 4535114.05 \text{ kmol}$$

$$\frac{22.4 \frac{\text{dm}^3}{\text{mol}}}{22.4 \frac{\text{dm}^3}{\text{mol}}} = 22.4 \frac{\text{m}^3}{\text{kmol}}$$

$$M_{CH_4} = n_{CH_4} \cdot M_{CH_4} = 4535114.05 \text{ kmol} \cdot 16 \frac{\text{kg}}{\text{kmol}}$$

$$M_{CH_4} = 72561824 \text{ kg} = \underline{\underline{72561 \text{ t}}}$$