

Fasekompensering

Hvorfor fasekompensere?

- Mindre spændingsfald

$$\Delta U_f = I \cdot R_1 \cdot \cos \varphi_{\text{bel}} + I \cdot X_1 \cdot \sin \varphi_{\text{bel}}$$

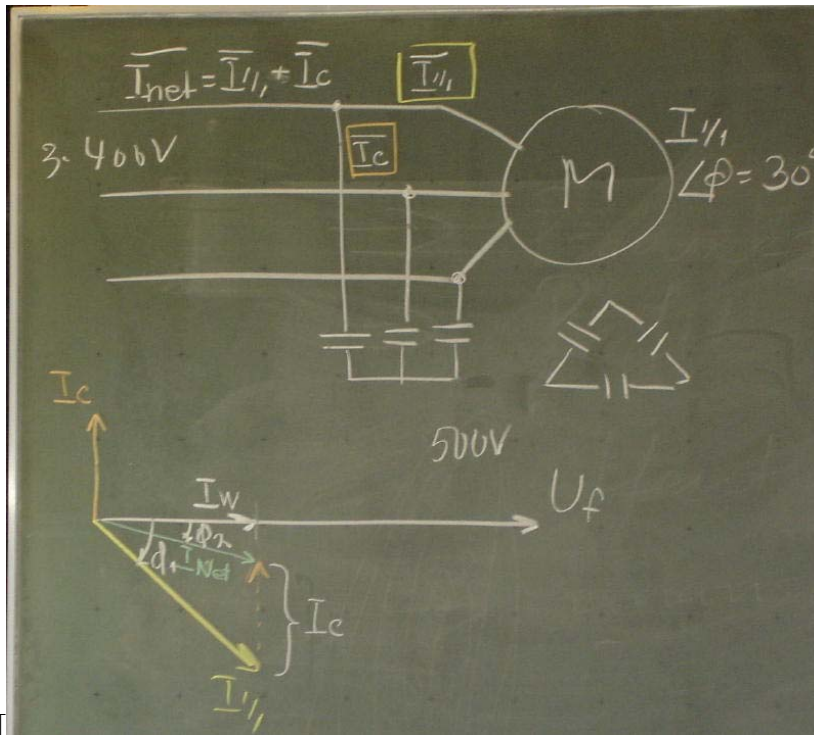
$$\Delta U_f = I_w \cdot R_1 + I_{wl} \cdot X_1$$

$$U_{\text{fn}} : (+6\% \text{ til } -10\%)$$

- Mindre effekttab i ledningssystemet

$$\Delta P = 3 \cdot R_1 \cdot I^2 = 3 \cdot R_1 (I_w^2 + I_{wl}^2)$$

$$I^2 = I_w^2 + I_{wl}^2$$



$$I_c = I_w \cdot \tan \varphi_1 - I_w \cdot \tan \varphi_2$$

$$\sqrt{3} \cdot U_n \cdot I_c = \sqrt{3} \cdot U_n \cdot I_w \cdot \tan \varphi_1 - \sqrt{3} \cdot U_n \cdot I_w \cdot \tan \varphi_2$$

$$Q_c = P \cdot \tan \varphi_1 - P \cdot \tan \varphi_2$$

$$Q_c = P \cdot (\tan \varphi_1 - \tan \varphi_2)$$