

3

1) 100 ton affald, TS = 70%,  $E = 21 \text{ MJ/kg TS}$ ,  $Aske = \frac{20\%}{TS}$

2) Diesel 0.1 l/ton, Gras 0.05 m<sup>3</sup>/ton, vand 0.15 m<sup>3</sup>/ton.

3)

3.1

Diesel: 10 L  $\Rightarrow$  8.6 kg  $\Rightarrow$  0.0086 ton

Gras: 5 m<sup>3</sup>  $\Rightarrow$  4 kg  $\Rightarrow$  0.004 ton

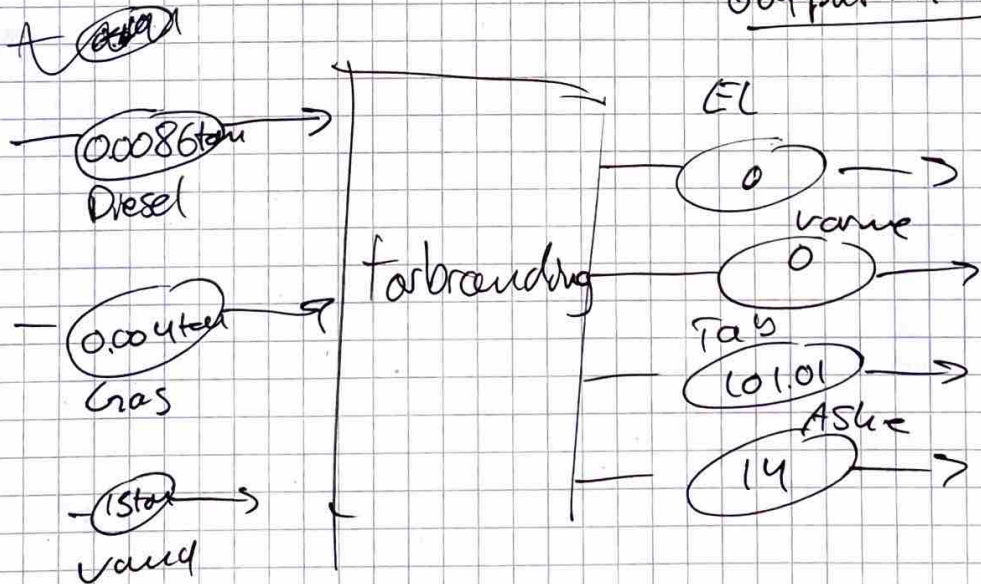
vand: 15 m<sup>3</sup>  $\Rightarrow$  15.000 L  $\Rightarrow$  15 ton

Affald

(100 ton)

Input: 115.01

Output: 118.01



$$Aske: 100 \cdot 0.7 \cdot 0.2 = 14$$

$$Tab: 115.01 - 14 = 101.01$$

Flask: masse

## 3.2

Input energi:

Affald:

$$100 \text{ ton} \cdot 70\% \text{ FS} \cdot 21 \text{ MJ/kg TS} \cdot 1000 = 1,470,000 \text{ MJ}$$

$$\text{Diesel: } 0.0086 \text{ ton} \cdot 40.7 \text{ MJ/kg} \cdot 1000 = 350.02 \text{ MJ}$$

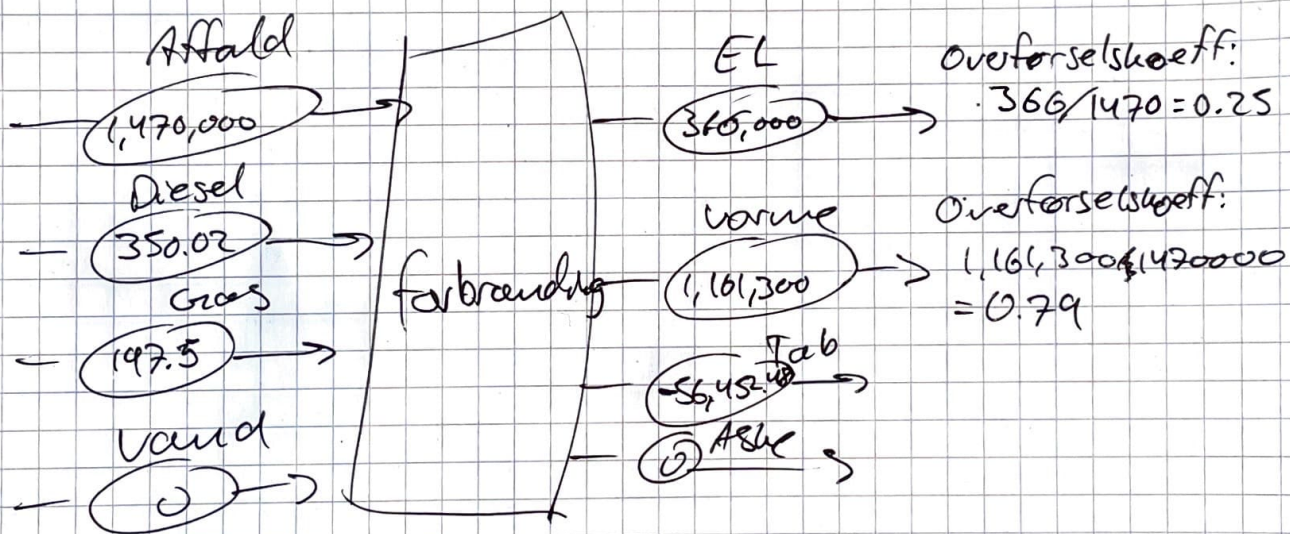
$$\text{Gras: } 0.004 \text{ ton} \cdot 39.5 \text{ MJ/kg TS}$$

$$5 \text{ m}^3 \cdot 39.5 \text{ MJ/m}^3 = 197.5 \text{ MJ}$$

Vand: 0

Input: 1,470,547.52

Output: 1,470,547.52



$$\text{EL: } 100 \text{ ton} \cdot 1,470,547.52 \cdot 0.26 - 30 \frac{\text{kWh}}{\text{ton}} \cdot 100 \text{ ton} \cdot 3.6 \frac{\text{MJ}}{\text{kWh}} - 15 \frac{\text{kWh}}{\text{ton}} \cdot 100 \text{ ton} \cdot 3.6 \frac{\text{MJ}}{\text{kWh}}$$

$$= 366,000 \text{ MJ}$$

$$\text{Varme: } 1,470,000 \cdot (0.62 + 0.17) = 1,161,300 \text{ MJ}$$

$$\text{Tab: } 1,470,547.52 \text{ MJ} - 366,000 - 1,161,300 = -56,452.48$$