$$\tilde{W} = \frac{12.0107\left(\frac{3.922 \cdot 0.091634}{1+0.02721} + \frac{\tilde{\dot{n}}_2 \cdot x_{\text{Ccombdry2}}}{1+x_{\text{H2Oexh2}}} + \ldots + \frac{\tilde{\dot{n}}_{3000} \cdot x_{\text{Ccombdry3000}}}{1+x_{\text{H2Oexh3000}}}\right) \cdot 0.2}{285 \cdot 0.869}$$

$$\tilde{W} = 5.09 \text{ (kW·hr)}$$