$$P = \frac{1}{2} C_p \rho A V^3$$

$\Gamma \rightarrow 4.000\,t$

$$P = \frac{kg}{m^3} \cdot \frac{m^2}{1} \cdot \frac{m^3}{s^3} \rightarrow \frac{kg \cdot m^2}{s^2}$$

$$\frac{kg \cdot m}{s^2} \cdot \frac{m}{s} = \vec{F}\,\vec{V}$$

$$P = \int_0^{180} \frac{1}{2}\rho C_p A v^3 \, dt$$

0.593

$1.225 \frac{kg}{m^3}$

constant → $4.00\ t$

$$P = \frac{1}{2}\rho C_p A \int_0^{180} 64t^3 \, dt$$

$$P = (0.5)(1.225)(0.593)(12^2\pi)\left(\frac{64t^4}{4}\right)\Bigg|_0^{180}$$

a) $P = 2.76 \times 10^{12}\ W$

b) $P = \frac{W}{t}$

$W = 4.97 \times 10^{14}\ J$

c) $\frac{\text{tons } CO_2}{MWh}$ $\quad \frac{2.76 \times 10^{12}\ W}{180\ s} = \frac{x\ W}{3600\ s}$

$\rightarrow 0.595$

3.29×10^{7} tons

$x = 5.52 \times 10^{13}\ Wh$

$= 5.52 \times 10^{7}\ MWh$