

E.g.: Energy stored in an inductor:  
Consider a 10 m radius size coil. 30 ft. height.

$$L = \mu_0 n^2 \pi R^2 \cdot \ell = 4\pi \times 10^{-7} (1000)^2 3(10)^2 \cdot 30 \\ = 1.2 \times 10^4 \text{ H}$$

$$v_L = \left( \frac{1}{2} \times 10^6 \right) (100)^2 = 10^2 \text{ M.J.}$$

My house used 1800 kwh x 3600 s =  $6.5 \times 10^6$  J/month. Therefore the above stored energy will last for 12 months.