ELECTRIC CAR FACTS

1. **If every working American owned an electric car we would be dependent on the Congo for the massive amount of Cobalt currently needed for the light weight batteries. Congo is currently in a civil war. SOURCE: NPR Radio (2010).**

2. **Electric car driving distances range from 13 miles to 220 miles on a single charge. These ranges drop to 1/2 of these values when the passenger heater is turned on during freezing temperatures.**

3. **A few electric cars do have a backup gasoline engine in the event the batteries fail and the cars stall. The electric driving ranges for these vehicles are lower than the vehicles without the backup engines.**

4. **Most electric cars require a 240V 30 Amp outlet to charge the batteries. The average charge time is 8 hrs but this varies depending on how many batteries are installed in the car. For informative reference, 240V 30 Amp circuit breakers are used by most clothes dryers. If every American household ran a clothes dryer for 8 hrs every night the power grid would be seriously taxed beyond the current carrying capacity.**

SOURCE for Facts 2-4 above: http://gigaom.com/cleantech/battle-of-the-batteries-comparing-electric-car-range-charge-times/

5. **If every working American ran an electric car, the resulting ozone from the motors could cause severe air pollution problems. Ozone is toxic at the ground level. (SOURCE: EPA, 2000).**

QUESTION: How much electricity would be needed to charge 100 million electric cars at night assuming a typical 4000 Watts charging requirement? (NOTE: there are 109 million workers in the US as of 2011. SOURCE: http://www.usdebtclock.org/)

ANSWER: 4000 W x 100×10^6 = 4×10^{11} W = 400 GW.

A typical nuclear power plant generates 2 GW so the US would need 200 new nuclear reactors to charge 100 million electric cars.

The largest windmills generate 1.9 MW. Therefore, one wind mill could charge 475 electric cars (475~1.9 MW/4000 W). To charge 100 million cars would require roughly 211,000 large windmills and a reliable wind. (NOTE: many people seem to be unaware of the thousands of birds killed each year by these large windmills.)