

First of all, realize that Tesla invented AC power generators, motors, transformers, conductors, etc. Technically, *ALL* transformers are Tesla coils. In general though when someone refers to a Tesla coil, they mean an "air core resonant transformer". The TV flyback version Tesla coil (see the Encyclopedia of Electronic Circuits V3, 106-1 for diagram) has NOT an air core. It is of a class of circuit called "Oscillating Shuttle Circuit" (OSC). Generally OSC's are highly efficient, but this version uses transistors and resistors, which are very lossy devices. Typically Tesla used active reactances instead of passive resistors, so that he could achieve efficiencies of 99.5%, and better. The usual application of an air-core resonant transformer, or of an OSC, is to produce strong EMI for wireless broadcasts. How well do you think your computer screen would work if we removed the HF HV Tesla (flyback) coil from it? If we were to remove from our homes and industries all Tesla coils, our lights would go dark, our cars would sputter and die, our radios would go silent, our industries would grind to a halt, and we would have to go back to using coal for heat, gas for lamps, horses for transportation, steam for power, and telegraph for communication. Is that real world enough for you?????