## SAMPLE I

## WHY CONSERVE ENERGY

People make claims that we must conserve energy. Classical physics learned by a physics student that is also part of modern physics, among basic principles says that energy conservation is a basic law of physics. It is highly developed in the infrastructure of the modern technological world that energy forms can be converted into each other. This includes chemical and others like gravity, etc. Chemical energy is changed by a flashlight from the battery to heat mostly, since the amount of light energy turns out to be pretty small, in the filament of the bulb, another form of energy, as one example. A change like this is what we mean by the total amount of energy not changing. There is a contradiction when people say that we must conserve energy.

Like electricity or chemical and a hot filament one form of energy can be more useful than another. So, what they really mean, though they are using a word that can mean something else in physics in connection with energy, is that we are using up useful forms of energy not energy. It is a different meaning of the word "conservation" that does it. There is heat in place of the chemical energy though the total amount of energy did not change in the flashlight. It is hard to turn it around and do it the other way. If all energy were in useless forms that would not be useful and it would be as bad as having had the energy just really be not conserved. This is what they mean.