Not too long ago, I finished Engineering 130: Energy Society and the Environment. This class was the most interesting one I have taken. Consequently, I want to provide five takeaway that everyone can learn from.

First, you must determine how energy is measured. Specific measurements for energy include but are not limited to kilowatts, kW, British Thermal Units, BTU, barrels of oil equivalent, BOE, Tons of oil equivalent, TOE, tons of coal equivalent, TCE and finally calories.

After discussing how energy is measured, we discussed fossil fuels. The most important item discussed was the difference between a reserve and a resource. A reserve is a proven amount of a substance such as oil which is economically recoverable. A resource is an amount of a substance which is not yet recoverable. Also, there is some speculation in determining say the United States resources of coal.

Our third concept is just as important as quantifying and measuring energy. I am talking about the laws of thermodynamics, the first law states energy cannot be created or destroyed. Instead it can change form. For example, lesson 4 illustrated that wood can transform its chemical energy to light and heat when burnt. Energy output = energy input plus stored energy. Additionally, the second law states that each system has a maximum energy efficiency, and energy systems have different abilities to do work. Our class did not discuss the third law of thermos dynamics; but none the less, it states that a closed system is increasing in entropy.

Our fourth major idea from this course comes from our class assignment of calculating our carbon footprint. I discovered that the national average annual output of CO_2 per household is approximately 28,000 lb. My family put out roughly 23,000 lb of CO_2 last year. However, I know I can do better. For example, I can keep my air conditioning use to a minimum and use a clothes line in my back yard for drying clothes more often.

Finally, I gained a much better understanding of pros and cons regarding energy systems. For example, hydro electric dams produce no air or thermal pollution; and they do not release radiation. However, they can do significant ecological damage to rivers, cause diseases, and displace thousands from their homes. Overall, these five lessons are a snippet of the awesome material in the Engineering 130, Energy Society, and the Environment course. Once again, I cannot stress enough that this is the most interesting class to be taking at Diablo Valley College.