

TerranearPMC Safety Share

Week of November 25, 2013 – Recycling - What's it to Ya?

Through an episode of Penn and Teller's now infamous television show, I received an education in recycling; specifically, my thoughts regarding the benefits were challenged. Recycling our household waste is not just considered common, but an accepted part of our lives and those of us that do not participate in recycling may be looked upon as committing a criminal act. Nevertheless, segregating waste has become a way of life; but frankly, taking a look at all the garbage that is still thrown about in our streets, highways and neighborhoods, I, for one would be happy just to see all of us make the simple effort to just throw our garbage away; categorized or not. Here is some information collected by the Massachusetts Institute of Technology regarding the amount of trash generated in the US as well as some additional factoids.

- The average American throws away 3.5 pounds of trash per day.
- The average American uses 650 lbs. of paper per year.
- One ton of paper from recycled pulp saves 17 trees, 3 cubic yards of landfill space, 7000 gallons of water, 4200 kWh (enough to heat a home for half a year), 390 gallons of oil, and prevents 60 pounds of air pollutants.
- Producing recycled white paper creates 74 percent less air pollution, 35 percent less water pollution, and 75 percent less processed energy than producing paper from virgin fibers.
- Recycling one ton of cardboard saves over nine cubic yards of landfill space.
- Number of landfills in operation in 1978: 14,000; in 1988: 7,924; in 2001: 1,858; in 2006: 1,754.
- Recycling one ton of newspaper saves 15 trees.
- Every ton of newspaper recycled saves 4100 kWh or enough energy to power a TV for 31 hours.
- Recycling a soda can saves 96 percent of the energy used to make a can from ore and produces 95 percent less air pollution and 97 percent less water pollution.
- One gallon of oil, when reprocessed, can generate enough energy to meet the electricity needs of a home for half a day
- The plastic used in one toner cartridge contains about a half quart of oil.

Recycling is a pretty simple concept: take something that isn't useful anymore and make it into something new instead of just throwing it away. It can be anything from recycling old paper into new paper, to making an old hubcap into a decorative birdbath. In reality, recycling can get pretty complex; specifically, how it interacts with our environment, our politics, our economy and even our own human behavior patterns in terms of the future of our planet.

It seems that recycling is the responsible thing to do...yes? Well, it turns out not everyone agrees. New York Times columnist John Tierney came out swinging against recycling in his now-famous 1996 New York Times Magazine article "Recycling Is Garbage." In it, Tierney dismantles the claim of many environmentalists that recycling is necessary due to dwindling landfill space, and maybe he is on the right side of the argument. An often-cited statistic estimates that the next 1,000 years worth of trash would fill a landfill 35 miles on each side and 100 yards deep. While that makes for one heck of a landfill, it is a rather insignificant area when viewed from a national perspective.

However, we all continue to recycle, mostly to ensure we don't run out of landfill space. EPA data reveals that Americans toss out 250 million tons of trash while recycling and composting 83 million tons. That works out to a 33.2 percent recycling rate. By the EPA's calculations, that's a carbon emissions savings equivalent to taking 33 million cars off the road. Maybe Mr. Tierney spoke too fast about the detriment of recycling. However, as it turns out, recycling doesn't come for free. It costs millions to pickup, sort and process all those plastic bottles, aluminum cans and cardboard pizza boxes we discard. While lifecycle assessments of recycled goods underscore the environmental benefits of recycling, the economic returns aren't as clear cut.

Solid waste is a service, and any service has its cost. When someone comes to pick up your garbage or yard waste or recyclables, it has a cost. And it turns out that cost is highly unpredictable. For example, the price per ton of picking up and transporting recyclables; referred to as hauling and tipping fees; could range from around \$20 per ton to more than \$70 per ton. And when you factor in the cost of recycling containers, crews, frequency and set-out requirements (whether residents have to separate different types of recyclable materials or toss them together in a single-stream system), the expenses continue to rise.

Something else to keep in mind is that it is rare for a recycled product to be exactly the same as the original material from which it was recycled. Recycled paper, for example, contains ink residue and has shorter fibers than virgin paper (paper made from wood pulp). Therefore, it may be less desirable for some purposes, such as paper used in a copy machine. When a recycled good is cheaper or weaker than the original product, it's known as *down-cycling* or downstream recycling. Eventually, goods move so far down the recycling stream that it isn't feasible to recycle them any further. After being recycled a few times, paper is no longer usable.

And of course, there is the subject of electronics, such as old computers, MP3 players, game consoles and countless other digital gadgets. Each time we upgrade to the latest model, we've got an electronic device on our hand that, as far as our own needs are concerned, is obsolete. So where does it go, if not to the growing pile of plastic and metal in the basement? Why not just throw it out? Well, if you throw out your old electronics, not only are you taking up landfill space with valuable resources like plastic, metal and glass that could be made into new devices using less energy than it takes with virgin resources, but you're also putting potentially **toxic** materials in the ground. Lead, mercury and other substances can leech from old monitors and circuit boards into the air and ground water, thereby becoming a health concern.

So what's the answer to our garbage problem? Maybe recycling isn't the complete answer. A few things need to be emphasized; that is, the entire country will not be overrun by garbage landfills and an alternative for discarding electrical devices needs to be considered. However, regardless where one might stand on the whole recycling issue, one thing we can all agree on: garbage should be discarded properly, and that means throwing things away in a designated receptacle. Garbage doesn't belong on our streets or sidewalks (and that includes cigarette butts!). This is our planet and, contrary to SciFi movies, we do not have another planet to go to. We are the stewards and therefore, we are all responsible.

Change is the law of life. And those who look only to the past or present are certain to miss the future.

John F. Kennedy