

The Beauty of Recycling Efficiently: An Economic Perspective

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## The Beauty of Recycling Efficiently: An Economic Perspective

One man's trash is another man's treasure. This is a common phrase that has spread throughout society for countless years. It is typically used to suggest the idea that whatever material(s) that one person dispenses of, can usually be used by another person. This idea of reusing waste is also known as recycling, where several materials are reshaped into other items of potential use for the community. Using an economic perspective, I will evaluate the benefits of recycling through comparing its marginal benefit and cost as well as providing a positive experience that I have had while participating the recycling process.

Recycling is commonly known as the process that puts materials through a cycle which shapes them into a new and reusable form for the public once again. Historically, "the practice of recycling has been around for thousands of years. However, it has been affected predominantly by supply and demand, much as it is today" (History of recycling, 2013). Recycling was especially needed during many wars when financial constraints and massive material shortage due to war efforts; allowing our ancestors to reuse goods and recycle materials (History of recycling, 2013). Many times, "the war efforts demanded much of the resources, leaving little for the home front. Various items such as metal, rubber and food had to be rationed since they were often needed overseas at the warfront" (History of recycling, 2013). Since then, it became necessary for most homes to recycle their waste, as recycling offered an extra source of materials in the event of an emergency. Little did people know the economic and financial impact that this process would have throughout society.

Many times, various subjects often have their own language or terminology. This is present in the language of economics where the terms of marginal benefit and marginal cost are

used to determine the pros and cons in the production of a product. In economics, the term marginal benefit refers to “the maximum amount they are willing to pay to consume that additional unit of a good or service” (Marginal benefit definition, 2013). This means the more product the consumer has, the less they will be willing to pay for the same product. In addition, “the benefit decreases as the quantity consumed increases” (Marginal benefit definition, 2013). In the case of recycling, the marginal benefit could include minimizing landfill collection costs, the overall benefits that result from recycling various materials as well as the variety of jobs to the public provided by the process of recycling. On the other hand, the marginal cost commonly “refers to the change in total costs when one more unit of output is produced” (Schiller, pp. 108). According to Schiller, marginal cost is often used as “a way to measure and observe how much total costs increase when one more unit of output is produced” (pp. 108). In regards to recycling, the marginal cost would include the collection cost, the cost of sorting materials and the value that recycled materials hold in markets. In considering the relationship between these economical terms and the process of recycling, one may be able to discover the benefits held within.

In looking at the relationship between the cost and benefits of the recycling process, one can uncover the possible benefits. For example, a recent analysis where a cost benefit analysis was used to determine the marginal costs and benefits of the recycling process exemplifies this concept. According to the analysis, the “[cost benefit analysis] uses money as a way of aggregating overall impacts on wellbeing and it assumes that the way that people spend their time and money reflects their underlying preferences and that all individuals are seeking to maximize their wellbeing” (Denne, Irvine, Atreya, & Robinson, 2013). The findings in the analysis reveal that “decisions to recycle or not are based on a weighing up of the personal costs and benefits of those decisions” (Denne, et al., 2013). Although people may think that decisions

to recycle are based on this idea, Denne et al. (2013) suggests that it's instead determined by individual preference. With this understanding, others may be able to consider alternative methods of recycling that allow the decrease in marginal cost.

If one was to inquire about the possible alternative methods used during the process of recycling, they may be able to find new discoveries in garbage man Mike Biddle's new method to recycling plastic into material used to make oil.

In his talk, Biddle (2011) shares the following: Each and every day at our recycling plants around the world we handle about one million pounds of people's discarded stuff. It's mostly many types of plastics and many types of metals. And the metals, we typically get from ore that we mine in ever widening mines and ever deepening mines around the world. And the plastics, we get from oil, which we go to more remote locations and drill ever deeper wells to extract. And these practices have significant economic and environmental implications that we're already starting to see today. We have significantly lower capital costs in our plant equipment. We have enormous energy savings. I don't know how many other projects on the planet right now can save 80 to 90 percent of the energy compared to making something the traditional way. And instead of plopping down several hundred million dollars to build a chemical plant that will only make one type of plastic for its entire life, our plants can make any type of plastic we feed them. And we make a drop-in replacement for that plastic that's made from petrochemicals. Our customers get to enjoy huge CO<sub>2</sub> savings. They get to close the loop with their products. And they get to make more sustainable products.

In viewing Biddle's talk, many people may gain a better understanding of how the costs

of recycling may be able to decrease while the overall benefits increase. Viewers will learn about the benefits resulting from Biddle's new recycling process as opposed to that of other recycling methods. Biddle describes that he uses a mechanical process that allows them to separate shredder metals from the abundant plastic waste with the help from a magnet, sith material, and air classification. This gives them a mixed plastic component that they will grind and sort before they melt the plastic into strands which will be converted into plastic pellets that is similar to the material found in oil. Biddle's process may give viewers a new insight as to how beneficial to both consumers and the environment recycling may actually be. This may also allow viewers to recall other examples of recycling benefits that they themselves may have encountered.

In reviewing the relationship between the marginal benefits and costs of the recycling process as well as seeing an example of the benefits of recycling, I have also been able to recall a time or two when I have been able to contribute to this process. In most of the educational institutions that I have attended, recycling has always been promoted. For example, in my elementary school, students were awarded for picking up trash outside in the fields of the playground during recess as well as being allowed to go from class to class to help collect recycling. As students, we were told that helping to collect the recycling meant that we were helping to better the environment. As a child, I thought that it was so cool that I was able to participate in making the environment a better place. While I was in high school, I knew most of the factors that went into recycling as well as the benefits it contained. When it was still highly promoted in high school, I continued to support the process as an example to the preschoolers who attended the daycare at the high school. So far in my college career as well as my place of work, recycling has also been highly promoted and I do my best to participate whenever the chance is presented.

The phrase one man's trash is another man's treasure is one that is commonly heard through society. It suggests the idea that a material that is thrown out by one person can be used by another. This can be seen in instances such as a yard sale, donations to goodwill or in the process of recycling materials. In the process of recycling, materials are reshaped into other items of potential use for the community. By using an economic perspective, I have been able to evaluate the benefits of recycling through comparing its marginal benefit and cost as well as providing a positive experience that I have had while participating in recycling. In learning about the process of recycling in my economical investigation, others may be able to gain a better understanding to the benefits of recycling in society and possibly be able to better appreciate the treasures that they hold which have been provided to them by Mother Nature.

## References

- Biddle, M. (2011, July 7). We can recycle plastic. [Video file]. Retrieved from [http://www.ted.com/talks/mike\\_biddle.html](http://www.ted.com/talks/mike_biddle.html)
- Case history: The truth about recycling. (2007, June 7). Retrieved July 19, 2013, from The economist website: <http://www.economist.com/node/9249262>
- Denne, T., Irvine, R., Atreya, N., & Robinson, M. (2013). Recycling: Cost benefit analysis [PDF]. *Covec, 1*(1), 1-66. Retrieved from <http://www.mfe.govt.nz/publications/waste/recycling-cost-benefit-analysis-apr07/recycling-cost-benefit-analysis-apr07.pdf>
- History of Recycling. (2013, May). Retrieved July 19, 2013, from <http://www.all-recycling-facts.com/history-of-recycling.html>
- Marginal Benefit Definition. (2013, June 7). Retrieved July 19, 2013, from Investopedia website: <http://www.investopedia.com/terms/m/marginalbenefit.asp>
- Schiller, B. R. (2011). *Essentials of economics (8<sup>th</sup> edition)*. New York: McGraw-Hill Companies, Inc.