A Sustainable Environment: Our Obligation to Protect God's Gift

by
George P. Nassos

The Inconsequential Benefits of "Zero Waste"

During the past few years, you may have learned of companies striving for "zero waste". What does this really mean? Producing no waste at all? Basically, the companies want to minimize the quantity of waste going to landfills with a target of no waste at all. For some companies it is a moving target. For example, about 20 years ago Kimberly-Clark had set a goal of zero waste for 2000. When they didn't achieve it, their new goal became 2005, but today their goal is 2015. Some of the company's facilities have achieved zero waste, but the company as a whole still sends about 6% of its waste to landfills. It is not that easy.

With so many companies striving for zero waste, there is no question that waste to landfills has been decreasing. This, no doubt, has had an impact on the revenues of the large waste companies that depend on collecting and disposing of this waste. Consequently, there is considerable churning in the industry. The waste companies are all looking for new customers to compensate for the decrease in collection and disposal volume.

An alternative for these waste companies is to obtain more value from whatever waste is collected. That is exactly what is happening. Waste Management, the largest U.S. waste company, is looking to convert some of the collected waste to fuel. When the garbage truck brings its load to the landfill, instead of dumping it in the landfill, it is taken to a separation station. Here the dry combustible waste is separated from the non-combustible waste. This dry waste is then introduced to a system that creates pellets for sale to an electric power utility. These fuels pellets are blended with coal to produce electricity. So the waste company reduces the amount of waste going to the landfill and increases its revenue by selling the waste fuel pellets. Other waste companies are following the same path as Waste Management.

In addition to the waste collected by the garbage trucks from numerous small customers like homes, shops, restaurants, etc., a large portion of their revenue is derived from very large customers like manufacturing plants. These plants can generate as much as 20 to 30 tons per day of waste that must be treated and/or disposed. These customers are extremely valuable to their waste hauler, and the waste company must do everything possible to retain the manufacturing facility as a customer. One way that is being pursued is to install an on-site waste to energy system at the manufacturing plant. The waste company would purchase the technology and place it at the manufacturing plant. Although it would lease it to the customer, the waste company would still operate it. Instead of collecting and hauling the waste to its landfill, the waste company would earn its revenue by leasing the equipment and charging the customer for the thermal and/or electrical energy generated by the technology. In such a situation, the manufacturing plant will save money by not sending its waste to the landfill, and also saving fuel by replacing the heat required at the plant with the heat generated by the on-site waste-to-energy system. It can also save money from the electricity generated by the system. The waste company benefits by reducing its cost to handle the waste, but the biggest benefit is the loyalty

obtained from the customer. By placing the system on the customer's site, the two companies must enter into a long-term lease agreement.

This business model of obtaining more value from the waste collected is not new. Twenty years ago when I was working for Waste Management, I started a business very similar to this waste-to-fuel system. We collected industrial process waste consisting of non-recyclable fibers and plastic. The key here is that this waste was pre-consumer as it came directly from industrial companies; it was consistent and not recyclable. The reason for it not being recyclable was because it may have been plastic coated cardboard, wax coated cardboard, chemically treated paper, or included any other component making it non-recyclable. We would grind the paper and plastic together and pelletize it into small fuel pellets considered as a coal substitute. In general, the fuel pellet was 90% paper and 10% plastic with the plastic added primarily to increase the heat value of the pellet so as to approximate that of coal. The fuel pellets were cleaner and cheaper than coal.

This waste-to-fuel business was ready to grow rapidly after it was proven at two locations. However, the negative aspect was that it took business away from the company's landfills, and this was the company's major business – collect and dispose of waste in landfills. Consequently, after three years of operation, these two plants were shut down. Today, it is a great business. It was then also, but not everyone realized it.