# Plastic Recycling through the Pyrolysis Process

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November 21, 2013

A large amount of waste generated every year is dumped on the earth's surface. These withstand all decomposition processes of nature. According to many statistical studies, the production of plastic in the world comes to more than 250 million tons every year. A huge amount of this waste is used to fill lands, which in turn is likely to create major environmental threats in the future. People use and discard on a daily basis.

Usually products are made out of combining more than one type of plastic. Each type requires different methods and treatments while recycling. Using the technique of Pyrolysis process, any type of plastic waste can be broken down into smaller molecules and the output derived from the process is known as Bio Fuel or Pyrolysis Fuel. Only less than 15% of waste can be recycled by using normal techniques. The can recycle waste without creating any hazards to nature. By the year 2020, all plastic waste can be converted into useful bio fuel and will be subjected to thermal and mechanical processing with the help of Pyrolysis.

Further research is being conducted on the process of Pyrolysis in order to ensure its capability in transforming wastes into useful industrial products. Materials cannot be recycled efficiently by any other recycling process. The longer carbon chains of molecules make it possible to be converted into fuels. A Pyrolysis plant uses the latest technology to recycle wastes. The quality of the output will entirely depend on the feedstock or the raw material provided. The capacity of Pyrolysis plants will vary but some plants can recycle an average of 10000 ton wastes every year. This type of plastic recycling can reduce environmental pollution because of carbon dioxide reduction. Oil generated from the waste plastic Pyrolysis is used as a fuel for power generators. Therefore optimum utilization of natural resources is also possible.

**Benefits of Pyrolysis recycling**

Plastic Solid Waste or PSW is considered to be most harmful for human kind. The pyrolysis consultants grinds these in the absence of oxygen and produces a pure quality finished product called Pyrolysis oil. This process requires only plastic waste or tire wastes as the raw material. Every plant uses green technology in order to carry forward the processes in an environmental friendly manner.

Advanced technology enables safety along with flexibility in operation and profitability. Energy derived from the recycling of plastic is used for the operations of the plant and hence it can be considered as energy self-sufficient. External fuel is not used for heating purposes as well. The quality of the oil obtained from the plastic process can be improved with the latest oil refining technology.

Industrial and household plastic wastes can be passed through the plant for recycling, which can be considered as a major advantage of the process. Plastic mixtures of Poly-Propylene, Poly-Ethylene and Poly-Styrene can be recycled through this process. Another highlighted feature of plants is its low maintenance and running cost. The concept behind the process can be said to be revolutionary in the sense that it is completely environmental friendly. No pollutants are generated from plastic waste as the entire process is carried out in a closed environment.

Global level focus and consideration are required for plastic recycling through as this process has the ability to convert a huge amount of plastic waste in the most efficient and effective manner. A positive approach towards this process ensures the recovery of valuable natural products. Both environmental and social benefits can be achieved from this process. With flexible utilization of the process, fast disposal and recycling of plastic waste without the emission of ash and TCDD, which is a potent compound, are possible.