



Pet Bottles

Life Cycle Assessment

What is LCA ?

Life cycle assessment (LCA) provides the **environmental impact** associated with the production, consumption, and recycling of a PET bottle

Stages of Life Cycle

- Raw material acquisition
- Production and distribution
- Consumption
- Disposal or recycling

Raw material Acquisition

The extraction and refining of resources in the raw material acquisition stage results in **GHG emission, disruptions to wildlife, landscape changes, and oil spills**

PET (polyethylene terephthalate) is actually polyester. When PET is used for bottles, containers and other applications, it is called PET or PET resin. When PET is used as a fiber, it is typically called polyester.

Production Stage

During the production stage, there is a substantial amount of **energy and oil used** to make plastic resin and plastic bottles, which in turn leads to a large amount **anthropogenic GHG emissions**. Additionally, the consumption stage is associated with negative **life cycle impacts on human health, such as endocrine disruption and cancer**

Disposal Stage

There are environmental concerns associated with littering and waste management

techniques such as **incineration and landfills**

Recycling is one strategy for end-of-life waste management, but there are still many **challenges**

associated with the collection, sorting, cleaning and separation of plastic

The processes for PET production, PET bottle production, bottling and PET recycling should be optimized

The prices of plastic bottles do not reflect the true economic costs, which in turn results in the overproduction and consumption of plastic products. Information asymmetry between producers and consumers is also an issue in this market

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Fiberglass Fiber	Buttons	Grafted Polymers	Elastomers	Epoxy Resins	Plastic Additives
Ceramic Tiles	Packing Materials	Melamine ware	Propylene	Plastic Extrusion Projects	
Polyurethane	Polyethylene Terephthalate	Biodegradable plastic fibre	PVC Pipes	PVC plastic coated lay flat hose	
Polypropylene	Polyelectrolyte	Expanded Polystyrene		Plastic Recycling	
Paints and Coatings	Poly glycerol sebacate acrylate (PGSA)	Drinking Straw	Crash Helment	Thermocol Recycling	
Plastic Bottles	Plastic Closures	Plastic Ropes	Polycarbonate	Recycling Polycarbonate	
Plastic Ware	Plastic storage tanks	Plastic Pencil	Plastic Scrap to Diesel	PVC- U Doors & Windows	
		Exporting Plastics		Air Bubble Packaging	

QUESTIONS?

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