



# Production of Liquid Fuel from Waste Plastics



## A. Problem:

- Rapid increase in waste plastic generation
- Poor plastic waste management system
- Challenges with mechanical plastic recycling process
- Generation of toxic pollutants through incineration of waste plastics

## B. Solution:

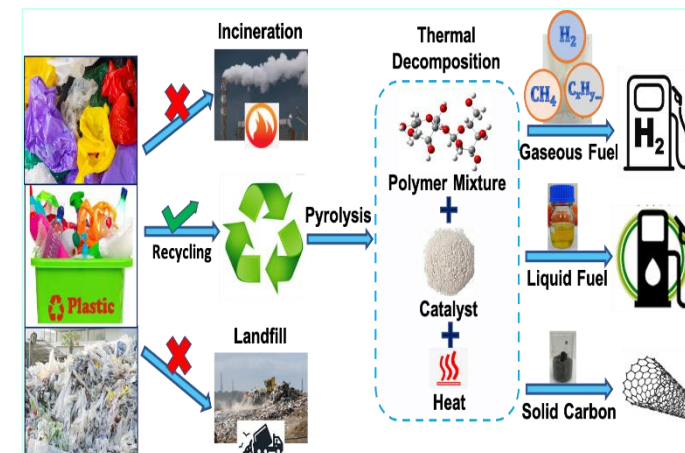
- Usage of Liquefaction of plastic process for efficient plastic waste management
- Cost effective thermal cracking of plastic without producing secondary pollution
- Two-step process approach leads to ~100% conversion of waste plastic into value-added products
- Production of alternative fuel from plastic waste

## C. Features:

- Single-use plastics converted into hydrocarbon fuel
- Generated hydrocarbons fuel has C5 to C18 hydrocarbon fractions and have calorific value in the range of 42 to 45 MJ/kg
- Thermal cracking and catalytic cracking reaction time range is 10 to 25 minutes
- 1 kg of waste plastics produces 750–800ml of fuel range liquid hydrocarbons

## D. Advantages:

- Low carbon footprints
- Economic fuel: Cost of per liter liquid can be in INR 45–55 range
- Generated fuel like liquid can be directly used for the engine operation without further up-gradation.
- Easy, safe, reliable and compact recycling system.



- Granted Indian Patent
- Technology developed at Lab Scale

**Looking for industrial partners for commercialization**