

MAXIMIZATION OF SOLID CARBON PRODUCTION FROM MIXED PLASTIC WASTE (MPW)

Abstract

The transition from a linear "take-make-dispose" model to a circular economy demands innovative upcycling pathways for Mixed Plastic Waste (MPW). Current mechanical recycling faces severe limitations when dealing with highly heterogeneous or painted plastic streams.

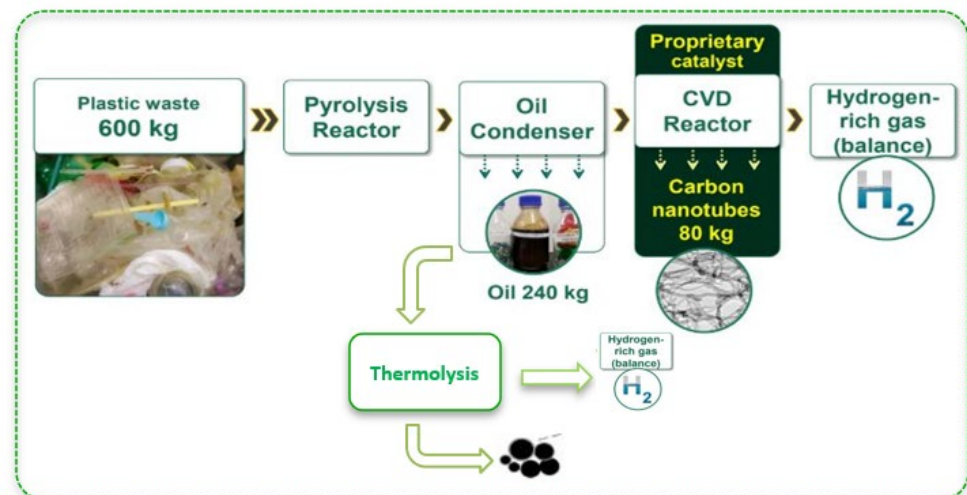
This project proposes an advanced thermochemical platform to divert MPW from incineration or landfill, converting it into high-value solid carbon materials—specifically Amorphous Carbon (AC) and Multi-Walled Carbon Nanotubes (MWCNTs). By evaluating two distinct technological configurations, this study aims to define the optimal balance between product yield, quality, and economic viability, establishing a robust foundation for a commercial-scale deployment.

Project Objective: Identify a thermal process converting industrial mixed plastic wastes into solid carbon and H₂ to sequester CO₂ and generate valuable products.

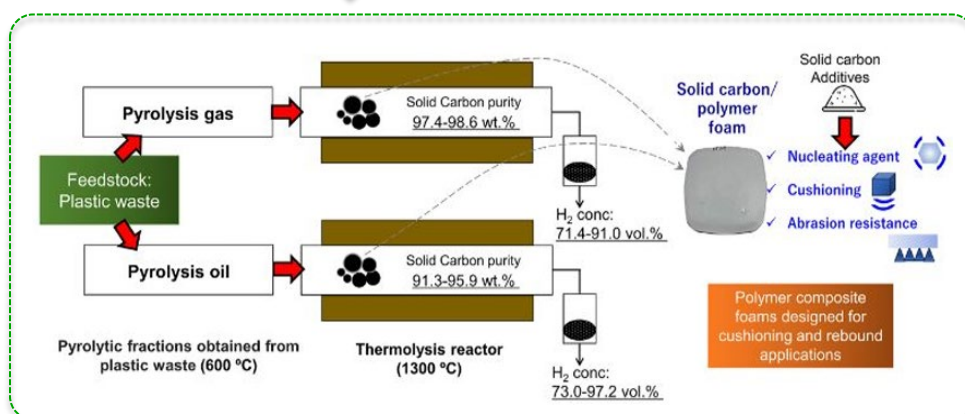
Mixed plastic wastes



Route B



Route A



Industrial carbon products
development



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