

## Catalytic Processing of Waste Plastics With/Without Petroleum Resid— An Economic Evaluation

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*Economic evaluation of processing mixed plastic waste (MPW) with/without vacuum residue (VR) into a heavy liquid is presented for Saudi Arabian conditions. Profitability analysis was carried out for different plant capacities, capital investment and product selling price. The facility is economically not viable at a capacity of processing 100,000 TPA MPW without VR. It was concluded that processing of MPW with VR at a capacity of 200,000 TPA (80,000 TPA MPW and 120,000 TPA VR) is economically feasible for Saudi Arabian conditions. The IRR is about 14.6% with a payback period of 6.4 years and break-even capacity of 47.6%.*

**Keywords** waste plastics recycling, economic evaluation, vacuum residue

### Introduction

The research on the liquefaction of waste polymers and the coprocessing of waste plastics with vacuum residue or coal has been a subject of many groups at universities and

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