

# FCC Revamp Economics

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### Abstract

Fluid catalytic cracking (FCC) is one of the major and most flexible refinery processes. FCC units have traditionally been utilized for the production of gasoline. In current times, refiners are looking for options to revamp their conventional FCC units to give higher yields of olefins, especially ethylene and propylene.

This report provides an overview of the economics of revamping a conventional gasoline FCC unit to a high-olefins-producing FCC. A general review of recent process developments in this area is also included in our report. Detailed economic evaluations are presented for all of the major high olefins FCC technologies covered by IHS Markit. The economics for grassroots plants have been evaluated by IHS Markit in various PEP reports and reviews. The specific technologies assessed in this review for FCC revamp are:

- Catalytic cracking for maximum olefins
- Deep catalytic cracking
- KBR MAXOFIN™
- UOP PetroFCC™
- CB&I/Lummus selected component cracking (SCC)
- Lummus/IOCL Indmax (I-FCC<sup>SM</sup>)
- Reliance MCC

The techno-economic design results are based on a feed rate of 40,000 barrels per day of vacuum gasoil, except for MCC (Multi-zone catalytic cracking) which is based on sequentially cracking multiple feedstocks. The capital and production cost results herein are presented on a US Gulf Coast.

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