

# Mitsubishi Gas Chemical Methanol Process

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## Contacts

**Rajeev Singh**

Principal Research Analyst  
rajeev.singh@ihsmarkit.com

**Michael Arné**

Vice President, Process Economics Program  
michael.arne@ihsmarkit.com

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**Rajeev Singh**, Principal Research Analyst

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### Abstract

Methanol is a commodity chemical, produced from natural gas or coal, that can be either used directly or further transformed to produce a wide range of chemicals. Other applications include use for energy and fuel either directly or in the form of methanol downstream product. Globally, methanol production capacity doubled over the past decade. During this period, Northeast Asia accounted for more than three-quarters of the new capacity brought onstream. In 2020, world methanol capacity amounted to 131 million metric ton while production was limited to around 80 million metric tons. Methanol capacity is expected to grow at an average rate of 2.5% per year.

The Mitsubishi methanol process has been jointly developed by Mitsubishi Gas Chemical Company and Mitsubishi Heavy Industries. This process includes three major steps: steam methane reforming, methanol synthesis, and methanol purification.

Methanol plants based on Mitsubishi technology are spread across the world and they produce more than 8 million metric tons of methanol per year. This accounts for around 10% of total world methanol production.

This review presents a techno-economic analysis of the Mitsubishi Gas Chemical Company methanol production process. The technology has been evaluated based on 3,000 MTPD of Federal AA grade methanol production at an 0.9 annual stream factor.

An interactive iPEP Navigator module of the process is included, which provides a snapshot of the process economics and allows the user to select the units and global region of interest.

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## Customer Care

CustomerCare@ihsmarkit.com

### **Asia and the Pacific Rim**

Japan: +81 3 6262 1887

Asia Pacific: +604 291 3600

**Europe, Middle East, and Africa: +44 1344 328 300**

**Americas: +1 800 447 2273**

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