Abstract
Process Economics Program Report 43D
MEGA METHANOL PLANTS
(December 2003)

World scale, grass roots methanol plants currently have production capacities as high as 3,000 metric tons per day. A new round of announcements now suggests that technology for single train capacities as high as 15,000 metric tons per day may soon be commercialized.

The anticipated production cost savings from methanol plants this large is expected to allow methanol to compete as a primary fuel and in unconventional new petrochemical uses, in addition to its conventional uses as an intermediate commodity chemical used to produce end-use products such as MTBE, acetic acid, and formaldehyde.

Such mega methanol plants would be intended to be located in geographical areas where natural gas feedstock prices are comparatively low, such as the Middle East and Russia, or in remote locations containing large quantities of natural gas (Alaska, northwest Australia). The lack of infrastructure combined with long distance to market characteristic of these natural gas sources currently makes natural gas recovery as LNG non-economic. Easily transported methanol may off the most attractive alternative for exploiting large, but remote natural gas resources.

This PEP report examines current technology developments for mega methanol plants, presents a process design and corresponding production economics for an integrated, mega methanol plant with a 10,000 metric ton per day capacity, and compares the economic results with competing fuels such as LNG and long distance pipeline natural gas.
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