

ASIACHEM: China MEG will still be driven by PET expansion in 2011

Mar. 2011

PET (polyethylene terephthalate), which is produced by PTA (purified terephthalic acid) and MEG (mono ethylene glycol) as raw materials, is mainly used in producing polyester fibers, films and plastic products. It takes about 0.86 ton PTA and 0.34 ton MEG to produce 1 ton PET. And in China, more than 90% PTA and MEG are used for PET production.

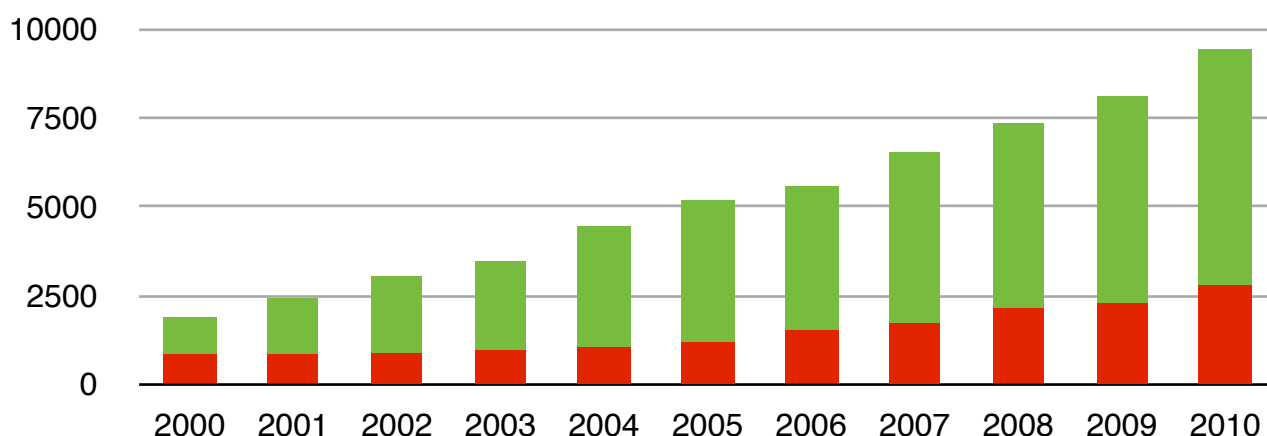
In 2010, Influenced by factors including prosperity of textile industry and roaring prices of cotton, the consumption of fiber in China greatly increased and trend of thriving production and marketing appeared. Due to the roaring prices of polyester products, polyester industrial players expanded production or start new projects driven by the high profits. In 2010, there is 4.09 Mt/a new PET capacity started up in China and in 2011, the new capacity is expected to be 4.7 Mt/a. By then China's total capacity of PET will reach 33.5 Mt/a.

The development of polyester industry brought the sustained growth in consumption of MEG. According to the data from ASIACHEM Consulting, in 2010, the output of PET of China was 22.67 Mt and the consumption of MEG was 7.71 Mt. If we estimate that the operating rate of Chinese polyester industry in 2011 is 75%, the output will be 25.12 Mt and the consumption of MEG will be 8.54 Mt.

However, in China the production of MEG is mainly concentrated in large-scale petrochemical enterprises and traditional technological process adopted is ethylene-to-ethylene oxide-to-MEG. The growth of capacity is limited by the large-scale ethylene complex integrated with MEG unit. As a result, there is a big gap between MEG demand and supply and in recent years and needs a large-sum of import.

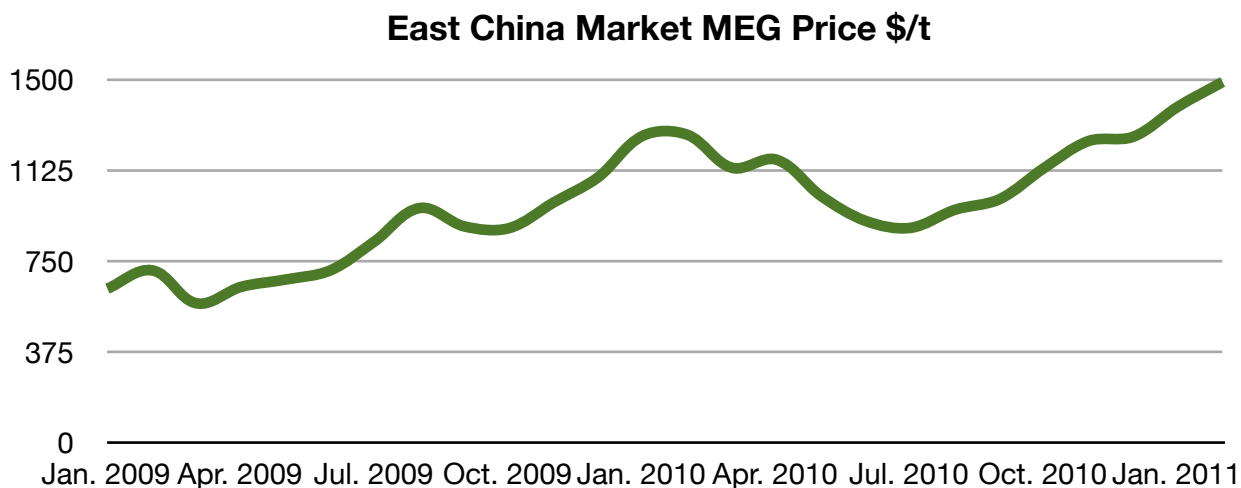
■ Production ■ Import

China MEG Production & Import 2000-2010 (kt)



Source: ASIACHEM

Impacted by the factors including great demand of MEG in polyester industry, large-sum of MEG import and the uprising prices of crude oil, the price of MEG in China keeps rising. By Feb 2011, the price has reached 10000 RMB/ton (1515 USD/ton). As a result, the increasing price of MEG will highlight the development of CTMEG (Coal to MEG).



Source: ASIACHEM

There are two CTMEG processes. One is syngas (CO+H₂)-to-MEG; The other is based on MTO (methanol-to-olefins) process with coal as the basic raw material.

Data shows that it consumed about 5.66 ton coal to produce 1 ton CTMEG by first process and the production cost of MEG is below 4000 RMB/ton. According to the current market price, it will bring great profits if large-scale stable production is achieved. The first CTMEG demonstrative unit in China — Tongliao GEM 150 Kt/a unit is still in the commissioning stage and has not been announced to realize commercial operation yet.

While, every link of the second process (including methanol-to-olefins) has been proven by commercial demonstration. And it's the process that Shenhua Group and Dow Chemical plan to jointly develop the CTO and CTMEG project in Yulin, Shaanxi.

Besides, another route is based on the outsourcing methanol to olefins. The southeast coastal regions of China has good liquid chemicals terminal and logistic conditions. They are also the main consumption markets of MEG. In view of the surplus capacity of methanol in world market including in China, starting MTO project based on outsourcing methanol is the reasonable option. An 1.8 Mt/a methanol to 600 kt/a olefins project proposed by Ningbo Heyuan has started construction and will be completed within 2 years. The capacity of final products will be 500 kt/a of MEG and 300 kt/a of PP.

In general, China's MEG consumption will keep rising under the background of great demand and uprising prices of polyester industry. And reliance on large-sum of import and the trend of high global oil price will also greatly support the market prices of MEG. And then, both will boost great prospect of CTMEG (including MTO based).

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*The **2nd Coal to MEG Conference** will be held on May 27-28, 2011 in Hangzhou, China. The upcoming event will focus on PET & MEG industry outlook; competitiveness of Mid East & China based MEG; Coal-to-MEG R&D and industrial projects updates as well as Coal-to-MEG Key processes & innovations etc.*

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