

V Future forecast

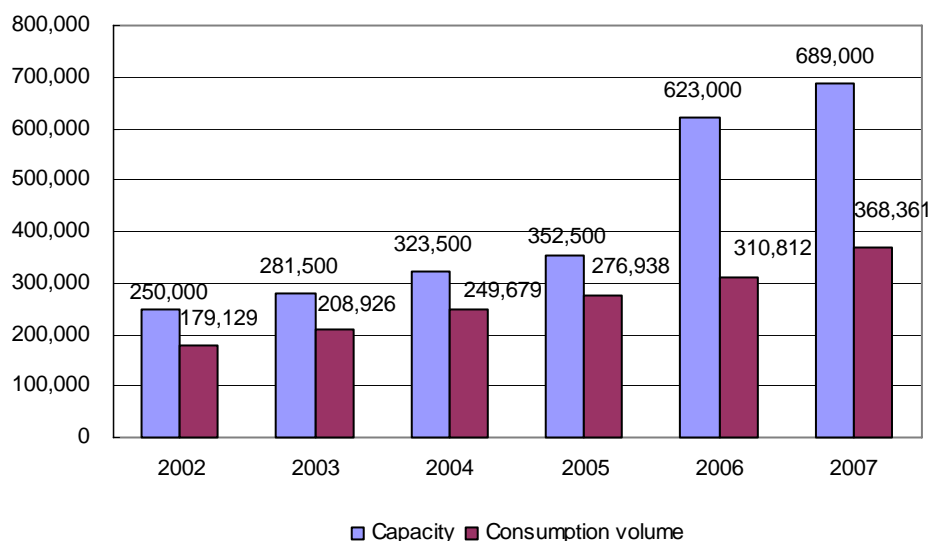
V-1 Key barriers and driving forces

Through a large number of professional investigations, CCM concludes that the following factors should greatly impact the development of MA in China.

- Key barriers affecting the development of MA in China

✓ Overcapacity

Figure V-1-1 Capacity and apparent consumption of MA in China from 2002 to 2007 (Unit: tonne)



The total capacity of MA kept increasing in recent years, while the operating rate kept decreasing. MA supply is surplus in China now.

✓ Coking benzene supply becomes tight

- The closing of coke factories with outdated production technology or small capacity causes the supply shortage of crude benzene, the raw material of coking benzene. Coke factories with the capacity of or less than 5,000t/a have been closed down according to requirement of government, because of the serious environmental pollution and high energy consumption in such factories. The total capacity of the eliminated coking benzene facilities in Shanxi was over 5,000,000 t/a from 2003 to 2006.
- Coking benzene producers with pickling method and a small scale were forced to shut down, which has led to the decrease in China's coking benzene output.

✓ Capacity expansion of hydrofining benzene contends for crude benzene.

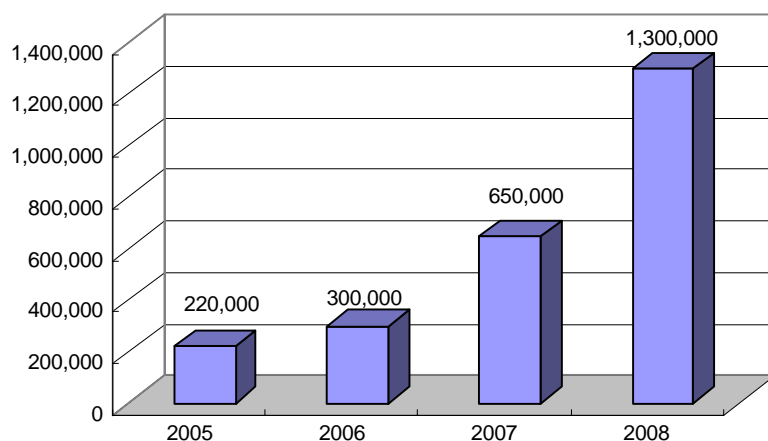
Compared with pickling refine method to refine crude benzene, hydrofining refine method has advantages in quality, environmental friendliness, production scale and energy consumption. The

CAGR of hydrofining benzene production capacity in China is 80.79%, from 2005 to 2008. In 2007, 3 new hydrofining facilities with the total capacity of 350,000 tonnes were put into production, and the total capacity of hydrofining benzene in China reached 650,000t/a in 2007.

Table V-1-1 List of newly-built hydrofining benzene facilities in 2007 (Unit: tonne)

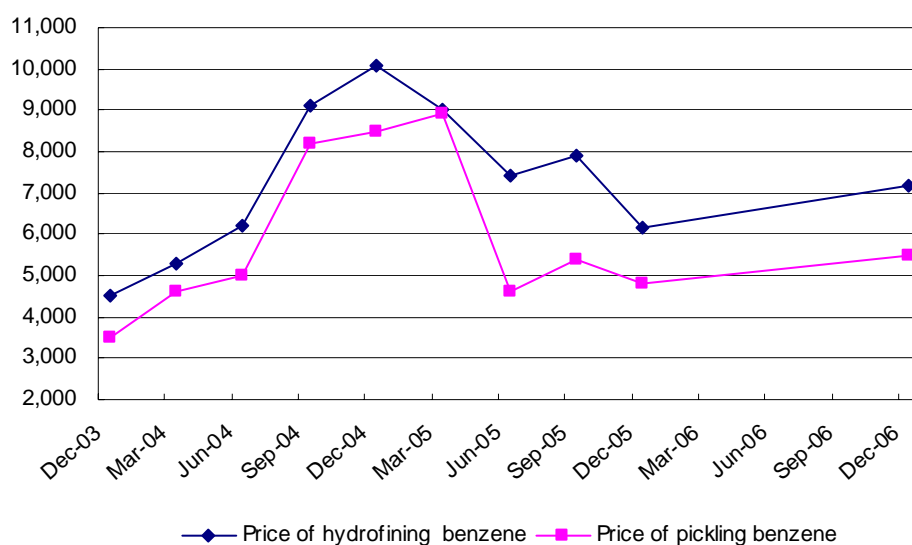
Company name	Location	Capability	Launch time
xxx	Shandong	80,000	Nov.2007
xxx.	Shandong	80,000	Nov.2007
xxx	Shanxi	200,000	Dec.2007

Figure V-1-2 Capacity of hydrofining benzene from 2005 to 2008 Unit: tonne



The capacity expansion of hydrofining benzene will result in the price rising of crude benzene, and less crude benzene will be supplied to produce pickling benzene. Then the pickling benzene will no longer have advantage in price compared to that of hydrofining benzene. MA producers will be forced to turn to hydrofining benzene or oil benzene in the future, and inevitably the production cost of MA will increase.

Figure V-1-3 the price of pickling benzene and hydrofining benzene in 2004~2006 (Unit: RMB/t)



- ✓ Rebate of export tax was adjusted.

The state adjusted the rebate of export tax from 13% to 5% since Jul. 1st of 2007. This means that Chinese exporters should increase the export price to keep the profit. To some extent, some exporters will lose their overseas order due to the price. But due to the competitive advantage of Chinese MA industry, the new rebate of export tax has a little influence on the market of MA.

- **Driving forces for the development of MA in China**

- ✓ Large demand of market

In domestic market, the fast development of downstream industries of MA pushes the consumption of MA; particularly the UPR industry with the CAGR of 15.21% supports the development of MA mightily. In the future UPR industry will still keep the strong growth due to the development of glass reinforced plastic.

At the same time, China is exporting more and more MA abroad. The CAGR of China's MA export volume was 184.57% from 2002 to 2007. In 2007, China exported xxx tonnes of MA. The soaring export volume of Chinese MA shows the large demand of overseas market. This trend will last and the export will continue to support the growth of Chinese MA.

The continual capacity expansion of MA can keep the strong competitive advantage of Chinese MA and it will meet the growing demand of domestic market and overseas market.

- ✓ Development of two pathways of production technology

On the one hand, benzene oxidation method is the dominating technology for MA production. This technology still has advantage in the market, because the price of coking benzene is lower than that of oil benzene.

On the other hand, 2 producers, xxx and xxx, close to oil field both adopt normal butane oxidation method. And another producer xxx will also adopt normal butane oxidation method on its new MA facility with the capacity of 20,000t/a to be launched in May. 2008.

The enterprises can choose the right pathways according to their own situation to ensure the supply of raw material and competitive advantage.