C2: ETHYLENE PRICE HISTORY AND TRENDS

Most ethylene is produced by steam cracking of hydrocarbons in particular naphtha and ethane. The spot price in the EU is illustrated in the figure below for the period 1988 to 2012. The EU chemical industry contains many players and pipeline interconnections make the trade in ethylene relatively easy.

If we look at the period up until 2004, the historical price of ethylene averaged about $600/t, however, clearly the presence of a business cycle effect is present. During the heights of the cycle prices rose to the $1000/t level and sometimes (late 1991) exceed $1000/t. There are periods of low and apparently stable price e.g. 1991 to 1994 when the average price was below $300/t.

During these low price periods most cracking operations operated at negative margins and generally where concomitant with or precipitated rationalisation of the petrochemical industry – for instance the 1998 low price period corresponded to a crisis in the South Korean chemical industry. The exceptions to operations with negative margins were facilities in the Middle East which had access to very low priced ethane feedstock.

This realisation that low priced Middle East gas feedstock could deliver profitable operations in times of sluggish demand has led to a considerable expansion of ethane (and to a lesser extent propane) cracking operations across the Middle East where the feedstock was available as a by-product to oil and LNG production.

From 2004 until mid 2008 there was essentially a steady rise in the price of ethylene to over $1500/t. The Global Financial Crisis (GFC) of 2008/9 saw a major crash in commodity prices. However from 2009 onwards there has been a steady rise in the price of ethylene which in mid 2012 was still over $1000/t.

In the past five years, China has embarked on major facilities for the production of ethylene from coal. This is a high cost venture requiring both low coal costs and high ethylene prices. If this persists, we can expect large investments in coal to ethylene projects in parts of the world with access to low cost (open-cut) coal resources.