

2009 NPRA REPORT

34th NPRA Annual Meeting

Grand Hyatt San Antonio,

San Antonio

March 29-31, 2009

Marubeni

C h e m i c a l s G r o u p

Contents

2009 NPRA REPORT

	Page
GENERAL REPORT	1
 <u>MARKET SITUATION</u>	
1. NAPHTHA	4
2. ETHYLENE	6
3. PROPYLENE	8
4. BUTADIENE	10
5. BENZENE	12
6. STYRENE MONOMER.....	14
7. PARA-XYLENE	16
8. PTA.....	18
9. MEG	20
10. CAPROLACTAM.....	21
11. ACRYLONITRILE.....	22
12. CAUSTIC SODA	25
13. VINYL RAW MATERIALS.....	27
14. PVC.....	29

NPRA 2009 OVERVIEW

NPRA's 34th International Petrochemical Conference was held in San Antonio, Texas, U.S.A. over the last three days of March 2009. The NPRA secretariat announced that the number of registered participants this year was some 2,250—roughly 1,000 less than in 2008. However, the decline in numbers—especially from places other than the fifty States that make up the United States of America—seemed conspicuous, and the Grand Hyatt Hotel and its environs, where the conference was held, seemed to lack the vivacious atmosphere that had accompanied last year's gathering.

Increased Middle Eastern production capacity is scheduled to come on stream in phases during the year, and although measures including scrapping outdated facilities are being implemented in the U.S., a global glut in supply is expected as we move into the second half of 2009. And as the economic recovery is likely to be delayed until 2010, pessimistic opinions were loud and clear. On the other hand, firms that have a competitive advantage in charge stock expressed the occasional optimistic view.

The U.S. economy, despite being in an economic recession continuously for the sixteen months since December 2007, still shows no signs of change and there are no clues as to when an upturn will begin. The annualized real growth rate for the fourth quarter (October-December) of 2008 released by the Department of Commerce was 6.3% lower than the previous quarter, while the unemployment rate for February 2009 hit 8.1% and the real economy remains in an aggravated state to this very day. The financial crisis and credit crunch stemming from the housing bubble's collapse have harmed corporate performance, created cuts in corporate payrolls, and resulted in a stock meltdown. This is influencing the economic outlook for households and is creating a situation in which there is no end in sight to contracted consumer spending. The city of San Antonio, where the International Petrochemical Conference was held, is one of the top tourist sites in the U.S. and the shopping mall situated near the Conference site also seemed to have been affected by the economic circumstances to a certain extent. It is most regrettable to have actually witnessed the impact of dampened consumer spending such as a national chain department store pulling out of the mall, shops closing down, and other depressing scenes.

With the economy as it is, the challenge of utmost urgency for the U.S. government is to ease credit by stabilizing its financial system, and thereby put an end to the downward economic spiral. The U.S. government resolved to increase purchases of residential mortgage-backed securities and long-term government securities by the FRB (Federal Reserve Board, referred to as "the Fed" in the U.S.) and furthermore, the Treasury announced a joint public-private US\$500 billion investment program to take toxic assets off the hands of financial institutions. In enacting these policies, various challenges can be expected. These include the question of

whether the price of toxic assets can be determined smoothly, the strong reaction of Congress, and public opinion in the face of bail-outs for financial institutions against the backdrop of large bonus payments to AIG officers, etc. The speed with which these policies can be enacted will be the key factor in predicting when an economic recovery is likely to be realized.

On the other hand, when looking at the environment surrounding the petrochemical industry, it is clear that that earnings of petrochemical firms have decreased as a consequence of lower plant operating rates, which are in turn due to a fall in investment funds and a decline in demand resulting from the global financial crisis that started in the U.S. Again, plant expansions are scheduled in Asia and the Middle East, but the challenge faced by management is to accurately identify the transformation in the balance between demand and supply.

At the opening general session of the recent NPRA International Conference, Mr. Todd Buchholz, who was the Bush administration's White House Economic Policy Director between 1989 and 1992, delivered a lecture on "The New World Economics."

The reasons Mr. Buchholz pointed out for the U.S.'s current economic recession were, 1) fierce economic activity on a global scale dealt a blow to the middle income group, lowering the competitive position of U.S. enterprises, and 2) credit creation based on slack risk management at financial institutions and rating agencies triggered a bubble in home prices that eventually burst. He blamed the U.S. government's past high interest rate policy for this artificial strengthening of the U.S. dollar and high crude-oil prices. He went on to appreciate the present financial measures, which stress securing liquidity to improve companies' competitiveness and enhance consumers' willingness to spend. In terms of which strategies companies ought to adopt hereafter, he emphasized the importance of paying close attention to consumer behavior and fostering human resources that can provide innovative and professional services, attaching importance to investing in human capital for further competitiveness.

Mr. Buchholz continued with his comments on business conditions in the U.S. stating that because 1) the housing market cannot be said to have bottomed out but there are indicators that some improvements have been made, 2) unemployment has increased but the situation is not as serious as the recession of 1981, and 3) based on the fact that 90% of the labor force is still working and earning while the price of commodities is falling, it may be predicted that signs of an improvement in the buying power of the work force will appear sometime around this summer. He also pointed out that unless resources are allocated effectively in sectors where there is a large working population, the trillion dollar economic stimulus package currently being advanced by the U.S. government will neither cause consumption to increase nor the economy to rebound.

At the Supply Chain Forum, two speakers, Mr. Patric from A. T. Kearney and Mr. Jack Broodo, Feedstocks Business Development Director at Dow Chemical Company, took the podium. Mr. Patric stated that investing dynamically in the supply chain is vital in this cloudy era when what lies ahead is uncertain or unknown. Mr. Broodo pointed out that unnecessary investments, those that deviate from the original purpose, on-the-side and imperfect investments, and those that have already missed the business opportunity are all pitfalls when investing in infrastructure. He stated that the important and essential points are, 1) a “Unit Concept of Infrastructure” (clarifying preferred investments and possessing a viable investment strategy), 2) a “Business Purchase View” (assessing earnings and accuracy of achievement, market re-assessment, etc.), 3) a “Balanced View” (examining the general use of preferred investments to deal with changes in economic conditions), and 4) “Including a Contrary View of Investment” (studying in advance to deal with situations that might arise that are contrary to initial expectations).

On the second day of the International Conference at the Petrochemical Forum, lectures were given by Mr. Edward W. Merrow, founder and President of Independent Project Analysis, Inc. and Mr. Peter E. Kelly, Senior Vice President, Hydrocarbons Jacobs Engineering Group, Inc. Their theme was Capital Construction in Volatile Environments, which looked at the competitiveness of engineering companies. Although plant manufacturing plans have been deferred due to lack of funds, they pointed out that engineering costs are still at a high level. It was explained that this was mainly due to the fact that materials and construction costs remain expensive. To deal with these circumstances, they urged manufacturers to develop and determine periodical repair maintenance programs that provide temporary leeway. Among other things, they called for reviews of agreements with contractors and of project portfolios being undertaken worldwide.

At the International Petrochemical Luncheon the same day, Mr. Mikhail Sergeevich Gorbachev, former President of the USSR took the podium. In an era when the former USSR was isolated from the rest of the world, he had brought about a reduction of nuclear weapons through dialogue with the Reagan administration. He stated that it was now the turn of the present day U.S.A., as the sole post cold-war victor, to become somewhat isolated from the rest of the world and asserted that it should strive to structure security arrangements such as a reduction of nuclear weapons and the prevention of nuclear proliferation, and that it should endeavor to resolve global economic issues whilst advancing collaboration and dialogue with other nations.

1. NAPHTHA

Past figures and price forecast

	1Q/09 (JAN-MAR)	2Q (APR-JUN)	3Q (JUL-SEP)	4Q (OCT-DEC)
NWE SPOT	US\$ 400 /MT	US\$ 430 /MT	US\$ 480 /MT	US\$ 500 /MT
C&F JAPAN	US\$ 430 /MT	US\$ 460 /MT	US\$ 510 /MT	US\$ 530 /MT

*Comparison with previous quarter

Supply:

A) Supply from Middle East

Middle East supply in 2009 will be smaller than that of 2008 by approximately 2,000-3,000KT. The reduction is due to i) new petrochemical projects such as Aroma project in Kuwait, De-sulfur reformer project in Dubai (from 2Q/2009) & Aroma project in Oman (from 2Q/2009) and ii) OPEC's output cut (OPEC has decided to maintain its production level (420mmbbl).

We have advised by National Oil Companies in Middle East that request reduce our off take quantity or defer our loading date range.

On the other hand, supply in Qatar in 2009 will be bigger than previous year. Qatar will start commercial operation in Las Raffan refinery from 4Q, and plant condensate will be speed up production.

B) Supply from India

More export is expected from India. Reliance's two refineries (\$1,27mmbbl/d) and KGD-6 gas field one of reasons of the increase. Supply shall be increased by approx mate 75KMT per month.

C) Arbitrage Cargoes

Surplus European naphtha is destined to the United States 1) for blending component for gasoline, 2) for petrochemical usage and 3) to Asian markets for the petrochemical industry.

Arbitrage cargoes from Europe to Asia, which was not seen in 4Q/2009 has been seen in 1Q/ 2009 again (there were 3.2million tons of arbitrage cargoes in 1-3Q/2009).

Demand:

New Expansion Schedule in Asia

China	SECCO	+3,000KT p.a. (Expansion)	2Q/2009
China	FUJIAN REFINERY & CHEMICAL	+800KT p.a. (New)	3Q/2009
China	DUSHANZI PC	+1,000KT p.a. (New)	3Q/2009
China	TIANJIN PC	+1,000KT p.a. (New)	4Q/2009

Since 4Q/2008, after economical crisis happened, Japanese ethylene crackers have been keeping low operating rate as 75-85%, which forced them to keep high price feedstock in their tanks at end of last year. Industry decided to reduce its stock not to face with the problem again and cut consumption of feedstock arranged by term contracts by 30-40%. Extra consumption of naphtha is depending on the spot requirements which reflect world's economy seriously.

Korea Ethylene crackers also cut percentage of Term contracts into approx 20%. (Year 2008 was 50%). By virtue of China demand, their operating rate keeps 100% from February 2009. Hence they bought big volume at the same time under smaller production, therefore market was suddenly heating up, and premium was over \$10.

Price:

We believe that Asian naphtha demand will surplus supply in 2Q/2009 and price is not likely to decline because we estimate the less demand could be covered by smaller production and spot consumption. However it is still not sure that Price After 3Q 2009, it is not easy to predict market situation which should reflect world's economy and OPEC output etc.

2. ETHYLENE

Price Forecast

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
U S A	CONTRACT	¢ 30-31 /LB	¢ 29-30 /LB	¢ 29-31 /LB	→	→
	SPOT	FOB ¢ 24-27 /LB	FOB ¢ 22-24 /LB	FOB ¢ 22-24 /LB	→	→
E U	CONTRACT	EURO 675 /MT	EURO 650-675 /MT	EURO 630-650 /MT	↘	↗
	SPOT	CFR US\$ 650-680 /MT	CFR US\$ 630-660 /MT	CFR US\$ 630-660 /MT	↘	→
A s i a	SPOT	CFR US\$ 720-770 /MT	↗	→	↘	↘

USA

SUPPLY/DEMAND:

Recently US Ethane prices are floating at very low range, which is at low ct30/lb level due to poor demand of natural gas caused by economic depression and increased new capacity. Cash cost of Ethane cracker is very competitive, price keep on the edge around ct18/lb the margin is also very profuse. But operation rate only can keep on 80% due to weak domestic demand and 7 crackers included Exxon, Dow stopped with trouble, so the supply is extremely limited. Lyondell Basell will terminate Chocolate Bayou (544KT) and FHR announced to terminate Odessa (348KT) in the end of 1st half of this year. Long term turn around or complete termination of crackers by economical reasons has surged to States. It is thought that the reduction in capacity will advance more and more in the future.

The finance crisis from last autumn effected the economic growth rate of States becomes negative growth for passed 3years and the demand of petrochemical is also sluggish. Forecasted that the demand of Ethylene and its' derivatives become depressed and expect no substantially rebound within first half of the year. Even if the export of derivatives what supported last year's cracker operation fell greatly in last 4Q, what is recovered since beginning of this year and this year will still rely on export. Government desperate in measures to boost the economy and expect domestic market will hit the bottom in and enter the recovery trend from 2H/2009. But players in States treat negative and estimated the recovery will extend to next year.

PRICE:

February contract price has been settled by ct32/lb and seller side indicated to increase ct5/lb for March but buyers are showing difficulty due to poor demand. 2Q onward the demand is expected weak continuously. The price may keep in the same range as long as there is no great change in the crude oil price.

EUROPE

SUPPLY/DEMAND:

Crackers operation rate declined to 75-80%. One of the main reason caused low operation is poor demand of Propylene and C4 which are even worse than Ethylene. SABIC stopped WILTON (865KT) from early February due to poor demand, restart up is focused on early April but BASF announced to stopped Ludwigshafen from Mid of April with the same reason. The operation adjustment is expected to be continued in the future.

Demand is greatly depressed since last 4Q. Same as States, each country government is desperate in measures to boost the economy but an early recovery cannot expect it. Moreover, a series of new crackers is scheduled to begin operating in the Middle East after 2Q, so buyers are keeping from buying to wait further movement of market.

PRICE:

Because the price fluctuation is too wide, so the contract price is gradually switch to monthly basis instead of quarterly basis. April price is settled at Euro675/MT same as March price which is sustained by increasing Crude oil and Naphtha price.

ASIA

SUPPLY/DEMAND:

Crackers in Japan keep 75% operation due to poor domestic demand. Same as Europe, demand of Propylene, C4 is even worse. Estimated April onward operation will improve but CPC, Taiwan and some S.E.Asia crackers still keep on low rate. On the other hand, Korea and China is closed to full operation due to the recovery of China domestic market.

Since last 4Q worldwide demand decreased sharply but from this year China demand is recovered. April demand in China is strong and may continue to coming May and June.

PRICE:

The recovery of China demand and increasing feedstock price support price rebound from low \$400/MT. estimated April onward price will reach to over \$700/MT level. On the other hand, price may decline again when new capacity of PE, MEG come from Mid-East start to delivery.

3. PROPYLENE

Price Forecast

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
U S A	CONTRACT	¢ 27-29 /LB	¢ 27-29 /LB	¢ 25-28 /LB	→	↗
	SPOT	FOB ¢ 25-27 /LB	FOB ¢ 25-27 /LB	FOB ¢ 23-25 /LB	→	↗
E U	CONTRACT	EURO 497 /MT	EURO 450-480 /MT	EURO 430-460 /MT	→	→
	SPOT	CFR EURO 390-410 /MT	CFR EURO 380-400 /MT	CFR EURO 380-400 /MT	→	→
Asia	SPOT	CFR US\$ 880-950 /MT	→	→	→	→

USA

SUPPLY :

Due to stable lower ethane prices, light feed ratio is getting higher and propylene production from cracker is limited. Refinery operation rate is floating at 80pct because of lower gasoline demand therefore volume of RGP is limited in the chemical market. It's estimated these trend will be continued for a middle term and propylene's production will not be increased because there are some crackers shut-down schedule due to economical reasons. On the other hand, we don't expect summer season's additional gasoline demand this year so RGP volume for alkylation will not be larger than usual demand, therefore we estimate production decrease will not be occurred because of gasoline demand season.

DEMAND :

Domestic derivatives demand like PP is keeping weak continuously and derivatives plants operation rates are only around 60-80pct. It's estimated it will take longer time for US economic recovery and due to lower domestic derivatives demand, dependence on export will be continued during this year.

PRICE :

Because of the above reasons, propylene's inventory level is getting higher and as a result, price is becoming weakened. Even though March PGP CP was going up to ct29/lb which is CT1/LB higher than previous month, it's estimated to be weakened after April. Current RGP spot price is moving down to ct20/lb and price will not be going up shortly because it will take some time to recover demand for middle and long term basis.

EUROPE

SUPPLY :

European naphtha cracker's operation rate is keeping only with 75-80pct. C4's inventory level is higher even compared with propylene therefore it's not very possible that crackers operation rate will be going up. Moreover, production will be decreased sharply due to crackers' troubles and shut-down.

DEMAND :

Local derivatives demand is weak in Europe and PP's inventory level is moving up. As a result, supply and demand balance is keeping weak for the time being this year too. It's estimated demand will be further weakened due to Middle Eastern new crackers and PDH starting.

PRICE :

Euro CP is gradually disappearing and quarterly CP has not announced from this year. And monthly CP started announcing on behalf. March CP is Euro497/MT which is Euro42/MT up from February and April CP has been settled at the same number with March. It's estimated price will not be going up in May onwards. Although current spot price is moving around low Euro400's, it may be weakened further after new derivatives from Middle East like PetroRabigh flow in.

ASIA

SUPPLY :

Japanese crackers operation rate is moving around 75pct from this year due to lower derivatives demand. On the other hand, derivatives demand especially from China is increasing from mid March and cracker's operation rate in Korea or China is going up. Propylene supply from refineries will not be increased shortly due to decrease of refineries operation rate in Japan and part of China.

DEMAND :

Chinese demand is keeping firm from this year and they are importing both of monomer and derivatives from Asia and other areas. Our big concern is global recession's effect and the key shall be how long Chinese could lead the market.

PRICE :

Supported by strong demand from China, current price is moving up to above US\$900/MT. Originally Asian market was expected of stable moving around US\$700/MT, and therefore arbitrage cargoes to Asia were very limited during March to April. And SE Asian price is also going up to above US\$800/MT. It's estimated Asian price in the future will be affected by Middle Eastern new projects starting and economic trend and current high level price will be going down with new derivatives flow especially from Middle East.

4. BUTADIENE

Price Forecast

		APR.	MAY.	JUN.	3Q (JUL.-SEP.)	4Q (OCT-DEC)
U S A	CONTRACT	¢ 25 /LB	¢ 25-27 /LB	¢ 25-27 /LB	➔	➔
	SPOT	¢ 20-22 /LB	¢ 20-24 /LB	¢ 20-24 /LB	➔	➔
E U	CONTRACT	EURO 380-400 /MT			➔	➔
	SPOT	US\$ 250-300 /MT	US\$ 250-400 /MT	US\$ 250-450 /MT	➔	➔
A S I A	SPOT	US\$ 550-600 /MT	US\$ 550-650 /MT	US\$ 550-650 /MT	➔	➔

USA

SUPPLY/DEMAND

Although Ethane has been the favorable feedstock for U.S. crackers continuously and Butadiene production is reduced, Butadiene balance in U.S. remain long due to very poor demand. SBR and BR producers are operating only 60-70% of capacity and no signs of recovery on the other derivatives too. Invista Adiponitrile plant in Orange/TX remained stop production and their Victoria/TX plant had fire recently which causes additional surplus. During 1Q, about 15,000MT of Butadiene was exported into Asia. This Butadiene monomer surplus shall not be solved until the beginning of 2Q. However the expected replacement tire demand recovery may solve such surplus gradually and some shortage is forecasted sometime in 2H of this year.

PRICE:

U.S. spot price declined continuously from ct32/lb to ct20/lb in 1Q due to the unsolved over supply balance. It is rumored that it downed far below from ct20/lb for prompt fixture. Contract price has been declined by about ct3-5/lb every month but April fixture is predicted to rollover at ct25/lb from March due to some increase of feedstock prices. Market shall be firm gradually toward 3Q and relatively sharp price increase is also expected in 4Q if demand recovers steadily.

EUROPE

SUPPLY/DEMAND:

Derivative demand remains depressed during 1Q but Naphtha crackers started to increase the operation rate due to the recovery of Ethylene demand. Therefore the regional Butadiene surplus reached tank top so 30-35KMT was exported with FOB US\$100-300/MT. Demand

recovery may take time and not so optimistic in 2Q. However if U.S. market start to change as mentioned above then European C4/Butadiene export into U.S. may restart and solve over supply balance.

PRICE:

Spot price declined sharply from US\$600/MT to US\$200/MT which is far below from the production cost but there was no other choice to avoid overflow except exporting into Asia. It is forecasted to be dull during 2Q due to the weak demand and expected to recover in 3Q if supply surplus eased. 2Q contract price is under negotiation at around Euro380-400/MT which is Euro200-220/MT down from 1Q Euro600/MT.

ASIA

SUPPLY/DEMAND:

Asian economy suddenly depressed in last 3Q and both Butadiene supplier and buyer had to minimize their operation rate. As a result, inventories downed to the normal level quickly and the trade restarted in 1Q. Most of the derivatives production declined to 50% or below in 4Q but recovered to 60-70% recently. The influx of 50,000MT of Butadiene cargoes from Europe, U.S. and Brazil was confirmed to be absorbed. Asian crackers were running at 70-80% due to poor Ethylene/Propylene demand and could not fulfill the prompt regional Butadiene inquiries so such deep sea cargoes flow occurred. FPC No.1/ No.3, CPC No.3, SECCO, Samsung Total had minor production troubles in 1Q but restarted. Current strong sentiment of Ethylene/Propylene demand encourage crackers to increase operation rate so potential Butadiene supply availability will increase though no clear signs of demand recovery. Consequently they are co-cracking or consuming CC4 as a fuel. It is expected improved market balance from 3Q onward but depends on the demand recover.

PRICE:

Spot CFR price declined to US\$350/MT toward the end of 4Q last year which is lower than Naphtha price. It started to increase again supported by recovering Crude/Naphtha price and reached US\$550-600/MT in these days. However additional price increase shall be limited because large volume of cheap deep-sea cargo will be reached until May. 2Q onward price movement is depending on the demand recovery and cracker operation rates after Middle Eastern new capacities come on stream.

5. BENZENE

Price Forecast

	April	May	June	3Q (July-Sep)	4Q (Oct-Dec)
E U	US\$ 500 /MT	US\$ 485 /MT	US\$ 470 /MT	➔	➔
U S A	US¢ 180 /Gal	US¢ 175 /Gal	US¢ 170 /Gal	➔	➔
A S I A	US\$ 550 /MT	US\$ 535 /MT	US\$ 520 /MT	➔	➔

USA

SUPPLY & DEMAND:

Demand for domestic derivatives remains weak due to worsening economic and prospects for the growth rate of BZ demand in 2009 is at ▲14.3% (▲1,104KT) compared to last year. In concert with demand, prospects for the growth rate of BZ supply in 2009 is at ▲14.0% (▲872KT) compared to last year. On purpose production at the moment is kept to a minimum and intra-regional production temporally decreased to below 60% of capacity. Although Styrene export to South America is expected to steadily increase, Styrene export to Asia will decrease as newly projected Styrene plant in Asia and Middle East will start. Accordingly, demand is expected to be reduced further, depending on supply/demand trends of Styrene export to Europe. In the years ahead, reexamination of estimates for demand or adaptation to MSAT II applied from 2011 is expected to lead BZ production facilities to be abolished or merged.

PRICE:

It is predicted that price will be in upward phase depending on price trends in Europe, Asia and crude price, while price remains declining trends by substantial softened supply/demand balance. With no good prospect for short-term rebound in intra-regional demand, it makes less sense that price rises firmly compared with crude. U.S. contract price in April was settled at US\$1.69/GAL (US\$505.82/MT).

EUROPE

SUPPLY & DEMAND:

Since last year, drop in derivatives demand have become pronounced by serious and rapid downturn in economy and long position remains. Supply/demand adjustment is seems to be passed, because BZ price which has moved rather weakly compared to that in Asia supports export to Asia and inventory liquidation. However, it's challenging to expect considerable improvement of demand for intra-regional derivatives. Although Styrene import from new

Middle Eastern Styrene plant is not expanded as of now, it may pose a factor to increase supply and to reduce the demand depending on Styrene price trends. Afterwards, import from and export to other region will alternate, depending on inter-regional price difference.

PRICE:

It is thought that intra-regional demand of BZ continuously reflects the price difference with extra-regional BZ price. The spread between naphtha and BZ will shrink by softened supply/demand balance on a global scale at least, although it depends on crude price. Meanwhile, Europe contract price in April was reported to be partly settled at Euro381/MT (approx. US\$503/MT).

ASIA

SUPPLY & DEMAND:

By a dramatic supply/demand adjustment since October 2008, Asian BZ had been in substantial long position over the New Year and export to U.S. increased rapidly. In 1Q/2009, supply/demand balance was changed to slightly tight, because operation rate of intra-regional cracker, reformer and cokes plant were adjusted and in addition, Pygas production has declined due to light feedstock charge. Although recovery of demand for derivatives centering on China which began full-scale process for economic stimulation program throws back operation rate of derivatives plant in Asia temporarily, on-purpose production sources, such as HDA, TDP and etc., are forced to operate at rate as low as possible and only by-product source is expected to operate in Asia, where excess capacity remains.

PRICE:

Asian price will move structurally in tandem with price in U.S. and Europe, as long as inter-regional export and import remain and adjust supply/demand gap and price difference. While recent BZ is in upward momentum due to rise of raw materials price and production adjustment, in the medium- and long- term views, downtrend in price is inevitable and spread between crude and naphtha will get narrow by total increased dullness. Asian contract price in April was settled at US\$540/MT as well.

6. STYRENE MONOMER

Price Forecast

	April	May	June	3Q (July-Sep)	4Q (Oct-Dec)
E U	US\$ 900 /MT	US\$ 900 /MT	US\$ 900 /MT	➔	➔
U S A	US\$ 850 /MT	US\$ 850 /MT	US\$ 850 /MT	➔	➔
A S I A	US\$ 950 /MT	US\$ 950 /MT	US\$ 950 /MT	➔	➔

USA

SUPPLY & DEMAND:

Domestic demand continues to be weak due to slowdown in economy and prospects for the growth rate of Styrene demand in 2009 is at ▲5.5% (▲193KT). In concert with demand, prospects for the growth rate of Styrene supply in 2009 is at ▲9.2% (▲364KT) compared to last year. As of now, export has increased compared to 4Q/2008, because gap with extra-regional Styrene price has been wide with benefit of competitive raw materials. On the other hand, there is now greater uncertainty about prosperous export without genuine economic recovery. Moreover, after Middle Eastern materials begin to flow into Europe and Asia in full swing, export from U.S. will be replaced with export from Middle East, except export to South America. As a result, U.S. including South America will be closed market at last.

Cf. : Middle Eastern new Styrene projects in 2009 (Company, Capacity/Year, Completion)

TKSC (Kuwait)	475KT	May/2009
PARS PC (Iran)	600KT	Sep/2009

PRICE:

As long as export to areas outside of region will continues, U.S. price will move relative to price in Europe and Asia. In the longer term, linkage with extra-regional price will diminish and price will move influenced by crude and intra-regional BZ price.

EUROPE

SUPPLY & DEMAND:

Deteriorating economic conditions which has serious consequence to European economy continues to turn down intra-regional demand for derivatives. In production wise, output has decreased especially affected by profit deteriorate of PO/SM plant, and import from U.S.

keeps supply and demand in balance. After start-up of Middle Eastern new Styrene plant, it is expected that Middle Eastern Styrene will start to flow into Europe on a large scale. In conclusion, intra-regional manufacturers who have no competitive advantages will be placed in more severe environment.

PRICE:

Import from U.S. remains due to diminishing equilibrium in supply/demand and price is moving at the level of U.S. Styrene price + Freight. However, linkage with U.S. price will be diminished after Middle Eastern Styrene begins to flow into Europe market in the long-term view point.

ASIA

SUPPLY & DEMAND:

Due to balanced contraction in supply/demand of long continuance by drastic supply/demand adjustment as a result of slowdown in economy, distribution inventory throughout whole chain including derivatives seems to be reduced. While demand for derivatives is recovering centering on China, mechanical trouble and supply restriction due to profit deterioration roll back Styrene price to the level of appropriate profit margin and long-stalled import of extra-regional materials are restarted. However, Chinese demand which dominates Asian demand turns flat under the influence of the global slowdown and possibly register negative growth in 2009. Production tends to increase by production hike of manufacturers who had operated Styrene plant at low rate for a long time. In addition, once newly projected Styrene plant will start and export into Asia will increase, there is fear that supply demand environment will be deteriorated again.

PRICE:

Currently, price remains at the level of enough profit margins compared with the raw materials cost reflecting active demand. Moreover, the general improvement of BZ price reflecting the rise of naphtha price also presses the advance of Styrene price. However, Styrene balance will tend to be soft in medium- and long- term. Hence, it is conceivable of margin improvement.

7. PARAXYLENE

Price Forecast

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
U S A	CONTRACT	¢ 42.75 /LB	¢ 45.00 /LB	¢ 47.25 /LB	→	↘
	CONTRACT	EURO 710 /MT	EURO 720 /MT	EURO 730 /MT	→	↘
A S I A	SPOT	US\$ 970 /MT	US\$ 980 /MT	US\$ 990 /MT	→	↘

USA

SUPPLY & DEMAND :

Production unit based on Toluene feedstock, such as TDP is forced to operate at low rate under circumstance of high price of Toluene remains due to hike by gasoline market, which leads the supply decrease of PX. As a result, the PX was able to be maintained balance barely in 1Q/2009, despite of the decline in demand. On the production side, the reactivating of Exxonmobil's Paraxylene Unit (BEAUMONT, TX. annual capacity 325KT) was reported in March and it can contribute the supply temporarily, while Total who is a major supplier of Mixed Xylene as raw material of PX decided to stop their refinery for 3-4 weeks in the same month for the reasons of their economics. In addition, BP also announced the shutdown their 2 plants. In 2Q/2009, the fundamental economics will not recover, and it seems that supply/demand balance hover at extremely tight level in connection with the customary recovery of the demand for PET, additionally the factors mentioned above will enhance the tendency. As for export to Asia, it was quite limited due to such a low operation, reported the quantity is about 10,000 tons in 1Q/2009.

Europe

SUPPLY & DEMAND :

Intra-regional PX plants have been operated at low rate through 1Q/2009 due to decline in demand. Decreasing demand for DMT plant of Invista which was decided to be stopped in Feb in 2009, and some PTA plants which has a small appetite because of negative economics detained by locational disadvantage was. On the supply side, the raw materials shortage as a result of distribution for gasoline production which is profitable compared to petrochemistry limited the operation. And it seems that supply/demand balance will be tight further in 2Q/2009 because raw material shortage accelerates in anticipation of summer which enhances gasoline needs despite of poor demand of PX.

New plant construction (location, capacity, starting period)

PKN ORLEN	Poland	PX	400KT	1Q/2011
PKN ORLEN	Poland	PTA	600KT	2Q/2011
ARTENIUS	Portugal	PTA	750KT	3Q/2011

Asia

SUPPLY & DEMAND :

Some major PX capacities are to execute long turn around as follows; Nippon Oil (Oita: 50days), S-Oil (Onsan: 75days), Lidong (Qingdao: 45days). Accidental short supply has been caused by low operation rate affected by raw materials shortage and the delay of new plant starting which were scheduled in 1Q/2009. On the other hand, there is the faint indication of the demand recovering after the digestion of inventory at downstream. The growth of demand in 2009 is estimated around 1 % compared to last year.

New expansion schedule in 2009 (location, capacity, starting period)

Fujia Dahua	China	PX	600KT	2Q/2009
CNOCC	China	PX	850KT	2Q/2009
Kuwait Aromatics	Kuwait	PX	820KT	2Q/2009
Fujian PC	China	PX	600KT	4Q/2009
Shanghai PC	China	PX	600KT	4Q/2009

PRICE :

Price in 1Q/2009 is in consistent uptrend because of operational adjustment and destocking at each stage of downstream products. Asia contract price (ACP) in April was settled at US\$880/MT higher by US\$50/MT compared to March during the NPRA session. On the other hand, negotiations for Europe contract price (EUCP) and US contract price (USCP) were kept open between supplier who insists to boost them higher level than ACP by the reason of the constructive difference with Asia and consumer who hopes interaction with ACP. In 2Q/2009, shortage of raw materials are expected to strengthen the tendency of tightness which will be caused by absorption of Mixed Xylene as raw materials of PX into gasoline blending due to demand stimulation in Summer, in addition to boost-up of the cost by appreciation of crude price and supply restriction due to scheduled turn around and etc.. In conclusion, the price will remain at high level. Meanwhile, because new large-scale PX plants will start since 3Q/2009, PX balance will turn into soft and the price expected to decline.

8. PTA

Price forecast

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
A S I A	CONTRACT	US\$ 780-850 /MT	US\$ 800-880 /MT	US\$ 800-880 /MT	→	→
	SPOT	US\$ 780-850 /MT	US\$ 800-880 /MT	US\$ 800-880 /MT	→	→

EUROPE/ ASIA

SUPPLY:

In Asia, PTA plants are forced to reduce the production ratio due to the tight supply situation of PX. In addition, because many PTA plants have annual turn around plan in 2Q, supply-demand balance will be tight.

New plant project, which used to be flourish in the past few years, appear to have almost settled, and finally new PTA plant starting this year is YISHENG DAHUA (1,500KT/year) only.

YISHENG DAHUA managed to start at the beginning of February, however, the operation ratio is still low due to both the mechanical trouble and the lack of PX. As for the other new PTA plant projects including HANBAN, JIALONG, CHONGQING would delay until 2010 onward. On the other hand, MCPI No.2 line (800KT/year) will start from 2Q in India.

Ministry of Commerce of P.R.China announced that they started to investigate the anti-dumping issue for PTA of Korean and Thailand's origin on February 12th. Because PTA import quantity from Korea and Thailand have reached around 3,500KT/year, which accounts for 60% of all import quantity in China, the final judgment may have a huge influence on the Asian PTA market surrounding China.

In Europe, PTA supply situation has been getting tight due to the lack of PX and the annual repair of ARTENIUS/UK. However, PKN ORLEN/Poland (600KT/year) and ARTENIUS/Portugal (750KT/year) will start from the end of 2010, and in 2011 respectively consequently it is expected that the over-supply situation remain unchanged in the middle-long term.

DEMAND:

In China, Polyester production quantity was increasing year by year by over 10% in the past few years. However, its growth rate became very low in the last year, and this year it is expected to come down to zero or only few percent. The domestic fiber demand in China is still firm, however, the export of Fiber is sharply decreasing due to the depression in Japan, Europe, and USA. Although the down-stream market was sluggish for sometime after the Chinese New Year holidays, it is expected that the demand would recover in high season after April.

In Europe, the demand is gradually recovering from the worst situation at the end of the last year due to some provisional demand in anticipation of the raw material hike, however, the demand level itself is still low. EQUIPPOLYMERS/Ottana announced that they had an intention to sell PET plant. In addition, INVISTA/Offenbach announced to close its factory. In Europe some additional reorganization of PET business may happen in succession.

The boom favoring lightening of bottle weight and use of recycled PET in Europe and US has faded this year because the raw material price has decreased significantly from last year.

PRICE:

The price will remain firm amid an increasing seasonal demand at the down-stream, and the tightening of supply, although some Chinese speculative buyers may give a disturbing impact on the market.

9. MEG

PRICE FORECAST

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
A S I A	CONTRACT	US\$ 540 /MT	US\$ 500-600 /MT	US\$ 500-600 /MT	→	→
	SPOT	US\$ 450-500 /MT	US\$ 470-550 /MT	US\$ 470-550 /MT	→	→

EUROPE/U.S./ASIA

SUPPLY/DEMAND :

MEG price has been in the range of US\$400-500 since January. As Naphtha price was increased from low US\$300's to mid US\$400's during the same period, MEG margin became thinner specially for these manufacturers based on Naphtha.

April onward further cut back in operations are expected.

Middle Eastern new capacities are all delayed but they will start regular operation 2H/2009.

World economic crisis has lowered MEG demand, but currently it is recovering for seasonal reason. In mid-long term, we are expecting stable 2-3% growth which is now practical estimate apart from the tremendous growth in the glorious past.

Major Expansions in 2009

Yansab	Saudi Arabia	700KT/Y	1Q/2009
P-Rabigh	Saudi Arabia	600KT/Y	2Q/2009
Sharq 4	Saudi Arabia	700KT/Y	4Q/2009
Shell	Singapore	750KT/Y	1Q/2010

PRICE :

Poly-Con operation in China is recovering for summer demand. MEG price shall be higher linked to Crude Oil/Naphtha pricing. However price increase is limited because of high inventory in China as well as the forthcoming Middle Eastern new capacities.

On the other hand, "Naphtha plus US\$50-100" will be the bottom price range for MEG, since Far Eastern producers can hardly maintain their operation under the bottom price due to negative margin.

10. CAPROLACTAM

GENERAL REMARKS:

Nylon demand in USA heavily relies on Engineering Plastics and Carpet application. This is the reason why US Nylon demand has been much more depressed compared with other areas because automobile industry and housing industry are most damaged in USA after global economical crisis last year. In Europe, recovery of both textile and engineering plastics demand are still very slow also. In Asia, we saw some sign of demand recovery after Chinese New Year in February; however a part of it could be a result of speculative transaction due to a short lived expectation that the prices of feedstock including crude oil had hit the bottom. Meantime the damage to automobile industry is very serious therefore we still have to wait for a while for real recovery in demand for tire cord and engineering plastics. Low demand and high raw material price (Benzene) are squeezing Caprolactam producers' margin. Caprolactam price could not be raised in spite of lower operation and tighter supply due to poor economics. This is unhealthy situation, and the key is when the real Nylon demand recovers and margin of Caprolactam producers comes back to normal level.

SUPPLY:

Due to weak demand, each Caprolactam producer keeps lower production rate. Average operation rate in USA is around 50% and that in Asia is around 70% (this figure is including some Asian producers being in annual scheduled shut down). A new plant in China, Shijiazhuang (100KT/year) was originally scheduled to start up in 1Q/2009 however it has been delayed to mid April 2009 due to weak demand.

DEMAND:



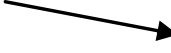






The focal point is when and by which level automobile industry and housing demand in USA could recover. Another issue is that Chinese Anti-Dumping tax to Caprolactam was expired in mid 2008, and import tax of Caprolactam was decreased from 9% to 5% from Jan 2009. This change might make import of Caprolactam more favorable to that of chips (whose duty remains 6.5%) even after considering the costs of polymerization. Of course it is not so simple as there is quality issue etc. however in long term view, it is possible that trade flow would change and import volume of Caprolactam in China would be increased.

PRICE:

Weak demand in Europe and EURO currency depreciation against US Dollar reinforce European Caprolactam export to Asian region and that is one of the reasons of depressed price in Asia. Due to unhealthy supply/demand balance, the present spread between Benzene and Caprolactam has been kept between US\$800 and US\$900/MT since 4Q/2008. This spread is much lower than the required margin level of Caprolactam producers. This margin will be improved when the real demand is recovered and market structures become normalized.

11. ACRYLONITRILE (AN)

Price Trend

	2Q/09 (Apr-Jun)	3Q/09 (Jul-Sep)	4Q/09 (Oct-Dec)
USA			
EU			
ASIA			

OVERALL IMPRESSION:

Global recession and substantial price adjustment of Crude and Naphtha prices since 2H/2008 affected rapid decrease of AN demand however, from the beginning of 2009 its supply-demand balance started to be recovered mainly from China while there is an opinion that this recovery seems to be only short lived for inventory restocking.

AF competitiveness is reviving as the price difference between AF and Polyester is reducing and also a spread between AN price is increasing so that profitability of AF business is reviving therefore China AF operation ratio is now rising toward full level. ABS business profitability is also improving due to feedstock price decrease. The Chinese new policy of stimulating the demand for home appliances and car etc. lead Chinese & Korean ABS operations drastically high level after New Year. In the meantime AN downstream markets in Japan, Europe and USA remain sluggish and their difficult situation continues with lowered operation. In Japan heavy dependence on specialty grades for depressed automobile sector and their usual fiscal year end inventory adjustment at the levels of both feed stocks and products made the situation worse in March. In Europe and USA these reduced public spending due to recession have shaded the market situation.

In general AN supply-demand balance is depending on the situation of the world economic recovery and final product consumption situation, but it continues revival trend toward middle of 2009 when high-season demand expected.

SUPPLY:

In order to counter supply-demand unbalance due to AN demand rapid decrease, several AN makers lowered their operation substantially since 2H/2008. From the beginning of 2009, Naphtha and Propylene prices started to increase and it has depressed the profitability of AN producers continuously. Thus AN operation in USA and Europe are lowered yet due to severe economic recession. In Asia, however, AN derivatives demand started picking up and AN operation is improving mainly in China and Korea. The AN supply position which used to be

in over supply up to now might become tight in 2H/2009 onward because of following situation; At both FPC/Taiwan and SECCO/China AN operation are to be halted or lowered because of shortage of Propylene supply from their Ethylene crackers in trouble; The forthcoming turnarounds at SECCO, JILIN PETROCHEMICAL will decrease their supply volumes; LUKOIL/Russia who used to have been an important supplier of spot AN in the region restarted PP operation and is in position to cut AN supply to Asia, etc.

New AN Capacities:

JILIN PETROCHEMICAL No.3&No.4	China	220KMT p.a.	End 2008 *1
INEOS additional new line	USA	84KMT p.a.	Feb. 2009 *2
PTTAC	Thailand	200KMT p.a.	End 2010

*1 Mechanical completion at the end of 2008 but starting of operation is not fixed because of shortage of Propylene while existing lines No.1&No.2 are running at 80% ratio also from shortage of Propylene

*2 nearly completed but starting of operation is not fixed.

DEMAND:

<AF> In the course of 2008 three AF factories (*1) stopped production in China and with such reduction in supply side the equilibrium balance with demand was achieved in the year. In 2009, a sign of recovery at AF demand has appeared and manufacturers are again planning to increase operation to higher level including possible restart of some of the above halted factories. The total demand for AF in China has suffered from its 3 years successive decrease in quantity but recent improve of margin at AF manufacturers made them to change their forecast on AF market more optimistic. This tendency is even more enhanced by the government's easy money policy to cope with recession and by its revised VAT refund system for textile re-export announced on March 27 to increase the refund rate by 1% up to 16% effective from April 1.

*1: DAQING REFINERY (30KMT p.a.), QINHUANGDAO (50KMT p.a.) and ZHEJIANG JINYONG (60KMT p.a.)

As for AF price a remarkable fact is that a spread of 5,000 RMB has been realized now for the first time since 3 years to make the production of AF profitable as result of a fact that AN price decrease was much greater than that of AF in recent market, although there remains some concern on how long such situation can be continued.

<ABS> At the end of 2008 ABS market was covered by pessimistic mood thoroughly but in 2009 starting from traders new purchase for rebuilding inventories, orders have been gradually resuming and have overcome the demand decrease during China Lunar new year holiday. In addition, there is a mood of hitting its bottom appears in light of recent firm feedstock monomer prices. The new Chinese Governmental policy to stimulate the domestic

demand nation wide also, support ABS demand for rapid recovering. There are opinions about ABS total demand in 2009 would be same or more than in 2008.

However, there is some concern about its too rapid recovery same as the case with AF.

<AMIDE> Having enjoyed its high growth in demand for several years , the demand for Enhanced Oil Recovery turned to decrease keeping pace with the Crude Oil price nosedive. Meantime demand for Water Treatment continues healthy growth in China and India, and AN demand as a whole for Amide sector is expected to be steadily growing.

PRICE:

Since the beginning of 2009, Crude Oil and Naphtha prices are continuously maintaining steady movement, although there are differences by region in Europe, USA and Asia and the price of AN feed stocks, Propylene and Ammonia, are also in similar uptrend. AN makers are having difficulties in maintaining profitability as they cannot fully transfer the feedstock cost increase therefore they are maintaining operation adjustment and are pursuing reasonable price increase in line with supply-demand balance as well as market recovery situation of AN derivatives.

AN price from now on is expected to move in bullish tone toward the middle of year mainly affected by movement of feedstock price as well as supply-demand balance.

TOPICS:

There were some observations about the cooperation between PEMEX/Mexico and UNIGEL/ Brazil for AN plant restart (60KMT p.a., restart from June?). Meantime it is said that UNIGEL will have new HCN production plant to be used all products for the feedstock of MMA production (90KMT p.a.) in Brazil from June this year, so question remains whether or not this Mexican AN plant restart may result AN supply increase.

There were different opinions about until when such demand improvement on AN derivatives mainly in China would continue.

Also concerns were raised about feasibility of INEOS GROUP's business continuity, which will have renegotiation with credit banking groups in this May.

12. CAUSTIC SODA

USA

SUPPLY:

Production volume in 2008 was decreased to 10,941KDST which was down by about 1,500KDST compared to last year under influences from plant troubles, force majeure and damages by hurricane.

The average operation rate in 2008 was 82% which was down by 9% from the previous year. Operation rate, during February to March in 2009, remains at farther low level of around 76%.

DEMAND:

Demand for Alumina and Pulp and Paper Manufactures was decreased much, especially the export for Alumina manufactures in Latin America, was sharply decreased. Demand for water treatment will be increased seasonally from now, but there is scarce possibility to expect that demand recovers drastically for sometime to come.

PRICE:

Domestic price, which surpassed US\$1,000/DST in 2008, started to be weakening, especially from March 2009. Alumina contract price for Latin America market in 1H/2009 has not yet been fixed officially. However, it seems that some suppliers have already fixed it through individual negotiation.

Under the influence of demand decline triggered by world economic recession and the pressure from competitive flow from Asia, pressure from customers to cut the price is increasing.

The market price is expected to be decreased drastically in near future.

EUROPE

SUPPLY:

Major supplier like VINNOLIT, AKZO, INEOS and ARKEMA are slated for annual shutdown, and inventory on February was increased to 290KDMT which was up by 20% from previous month and exceeding their normal inventory level of 260KDMT. The current average operation rate is around 74%. Asian cargo is starting to flow into South European Market.

DEMAND:

Demand remains sluggish from the beginning of the year, especially in Alumina and Pulp and Paper manufactures, and there is no sign of recovery so far. Some suppliers are exporting for adjusting inventory level.

PRICE:

Market starts to be weakening, especially from March, though suppliers expect to maintain price during annual shutdown season. March price has already been down to below Euro500/DMT from Euro600/DMT in February. Competitive cargo flow into Europe will accelerate market declining.

ASIA**SUPPLY:**

Because of many scheduled turnarounds in Japan from now, the supply is usually decreased in Asian market. However, there is no tight feeling in the market due to the sharp decrease of demand from early 2009.

DEMAND:

In general, the demand for all industries, alumina, pulp and paper, rayon, chemical and so on is continued to decrease. Especially, the demand for alumina will take more time to become normalized due to existing high aluminum stock.

PRICE:

The contract price for Australian Alumina in 1H/2009 is fixed at US\$390/DMT FOB (it was US\$495/DMT FOB in 2H/2008). In contrast to the high US\$650/DMT FOB spot level in summer 2008, the spot price started to decrease from autumn 2008 and the latest price is reported at US\$250/DMT FOB. It is not clear whether the transaction, which was reported to be at US\$200/DMT FOB basis, has impact for the market because the quantity was much limited.

The spot price in April, May, 2009 may have impact for the price negotiation for Australian alumina in 2H/2009, which starts from the middle of May; however, there is no factor to increase the contract price unless the market is improved by an adjustment at supply side.

13. VINYL RAW MATERIALS

Price forecast (VCM)

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
U S A	SPOT	FOB US\$ 330-380 /MT	FOB US\$ 330-380 /MT	FOB US\$ 400-450 /MT	→	↘
	SPOT	CIF US\$ 570 /MT	CIF US\$ 570-600 /MT	CIF US\$ 580-620 /MT	→	↘

USA

SUPPLY & DEMAND:

To maintain high operation rate of electrolysis for Caustic Soda manufacture, export of chlorine derivatives from US has been performed constantly, in the form of EDC and PVC. In case of VCM, though there is surplus balance on paper due to the closure of some PVC plants, like POLYONE (Cap.:45KT), GG (Cap.:182KT) etc in the end of last year, and positive supply from PEMEX/Mexico who has kept moderate operation, the volume of SPOT export is limited to the fixture in the early this year for Chinese market, where VCM demand had been enlarged as a replacement of PVC out of Calcium Carbide process which had been losing its competitiveness. In March, with the falling of Caustic Soda market, it seems that ECU margin of US Caustic Soda manufacture was drastically getting worse. So they may be obliged to reduce operation rate due to weak market of Caustic Soda, as the result sales pressure on VCM/EDC will be reduced in near future.

PRICE:

Current price level for export from USG is in the range of ct8-10/lb (US\$160-220/MT FOB) for EDC, and in the range of ct15-17/lb (US\$330-380/MT FOB) for VCM. It seems that such price range will be affected by tendency of Ethylene price and by the operation rate of Caustic Soda, but price movement is expected to be relatively small.

EUROPE

SUPPLY & DEMAND:

All European (especially in England and in Iberian Peninsula) PVC demand fell down and there seems no sign of improvement yet, so VCM demand is also at a low level. In early this year, INEOS exported 25KT VCM to India and S.E.Asia. The biggest VCM supplier, SHINETSU, will stop operation for annual maintenance during late March to April. So normally, it is time for European PVC producers to receive much VCM from USA. However due to low demand of PVC in this year, major importer like CIRES has refrained from buying any VCM. It seems that the slack demand in this market will be continued.

PRICE:

Considering the PVC price in this market, in the range of Euro 500-600/MT (US\$680-810/MT), the VCM fixture price is to be in the range of Euro 300-400/MT (US\$410-540/MT). However there is no actual deal in this market.

ASIA**SUPPLY & DEMAND:**

Like the many other petrochemical products, VCM price had been fallen drastically, at one time down to around US\$400/MT. As the result, so many inquiries from PVC producers, including those who have never bought any VCM cargo so far, have been offered. Asian VCM market, especially China, have been tight. Chinese government has still kept their severe attitude toward Calcium Carbide industries due to its accompanying environmental problem and energy inefficiency, so it seems that the price of Calcium Carbide will stay at a high level. If the current price level of Naphtha and Ethylene is maintained at low, Chinese VCM demand for import will be continue in this year.

PRICE:

The VCM price for China for April shipment was fixed at US\$570/MT CIF. In May and June, the supply availability may be limited due to scheduled shutdown in the same period. Since the current Chinese huge demand of VCM is just the replacement of PVC out of Calcium Carbide; further large VCM price increase will make the buyers return to Calcium Carbide again. On the other hand, PVC demand in this market has not yet improved so much that the price movement will be limited in a narrow range, if any.

14. PVC

Price forecast

		Apr	May	Jun	3Q (Jul-Sep)	4Q (Oct-Dec)
U S A	CONTRACT	¢ 54-57 /LB	¢ 54-57 /LB	¢ 54-57 /LB	→	↘
	SPOT	FOB US\$ 630-680 /MT	FOB US\$ 630-680 /MT	FOB US\$ 630-680 /MT	→	↘
F E	SPOT	CIF US\$ 650-670 /MT	CIF US\$ 680-700 /MT	CIF US\$ 680-700 /MT	→	↘

USA

SUPPLY/DEMAND:

An encouraging sign from the housing market, number of new housing construction showed a shot up by 22% in February compared with January. However the demand of PVC still remains weak and it is tough to estimate recovery after April. Therefore exports will be enlarged to other destinations than South America, Turkey and Egypt. Further slump of market demand might make some PVC manufacturers to do adjustment of production.

PRICE:

At the February price negotiation PVC manufacturers proposed ct5/lb increase from March onward of which only ct3/lb was implemented. Therefore suppliers have now announced ct3/lb price hike for April shipment to make up for lost margin from rising costs of raw materials.

EUROPE

SUPPLY/DEMAND:

In Europe, normally demand picks up in early spring, but no such sign has yet come up in March this year. Therefore some manufacturers are obliged to start production adjustment or advanced turnaround to be prolonged until Easter Holidays. On the other hand, PVC suppliers are promoting sales aggressively under present soft market in consequence their stance for price increase will be soften gradually.

PRICE:

Increased Ethylene price force several PVC suppliers to announce a price increase of Euro30 for March shipment. But under slow demand, several PVC suppliers gave preference to keep their share in the market. Meantime, buyers made resistance fiercely to the increment of PVC price, therefore majority of players agreed to an increase of Euro20 to Euro25, with some regional variation.

ASIA

SUPPLY/DEMAND:

Chinese government decided to terminate the preferential tariff of electricity in the middle March. Higher electricity prices hit directly carbide-based PVC manufacturers and most of them are obliged to cut operation. It causes surrounding surplus Asian cargo head to China domestic market and huge US cargos are also directed to China re-export market.

PRICE:

The price negotiation about the Asian cargo for April shipment was agreed at US\$650/MT CIF CMP (China Main Port). On the other hand the USA cargo was contracted at US\$620-630. From May to summer usually the demand moves high and the price of PVC will rise. However this year it is too difficult to predict the price trend, because of unclear production rate of acetylene-based PVC and unclear business condition in Europe and USA.