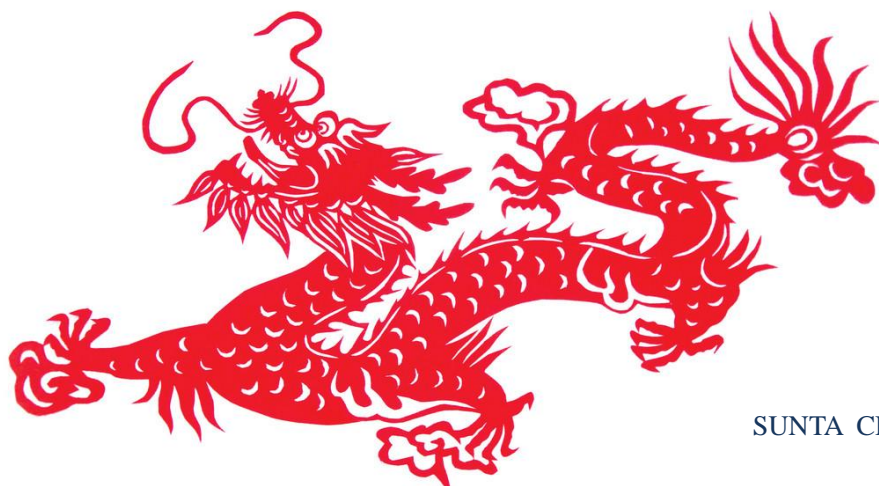




Plastics Annual Report

There were a lot of difficulties in the global economy in 2011. Likewise, there would be many challenges ahead in 2012.

We could expect crisis and opportunities exist together. How could we find the opportunities from the crisis? This is the topic concerned by the chemical plants, plastic traders and downstream manufacturers. We hope to help you predict the coming future based on the facts and historic data in this report.



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Highlights of Plastic Market in 2011

In 2011, the Europe debt crisis was deteriorated. The economic growth of the whole Europe was slowed down, approaching recession. The market was not confident about the debt repayment ability and the ability to resolve the crisis by the US government. The US credit rating was downgraded. The massive earthquake in Japan disrupted the global supply chain. In order to tackle the hot money and high inflation, the Chinese government has tightened the monetary policy. As the economic growth was not as good as expected, along with the weak demand, the plastic prices dropped sharply after the increase in the first quarter.

Comparison of Market Trend between 2010 and 2011

Figure 1: WTI (2010-2011)

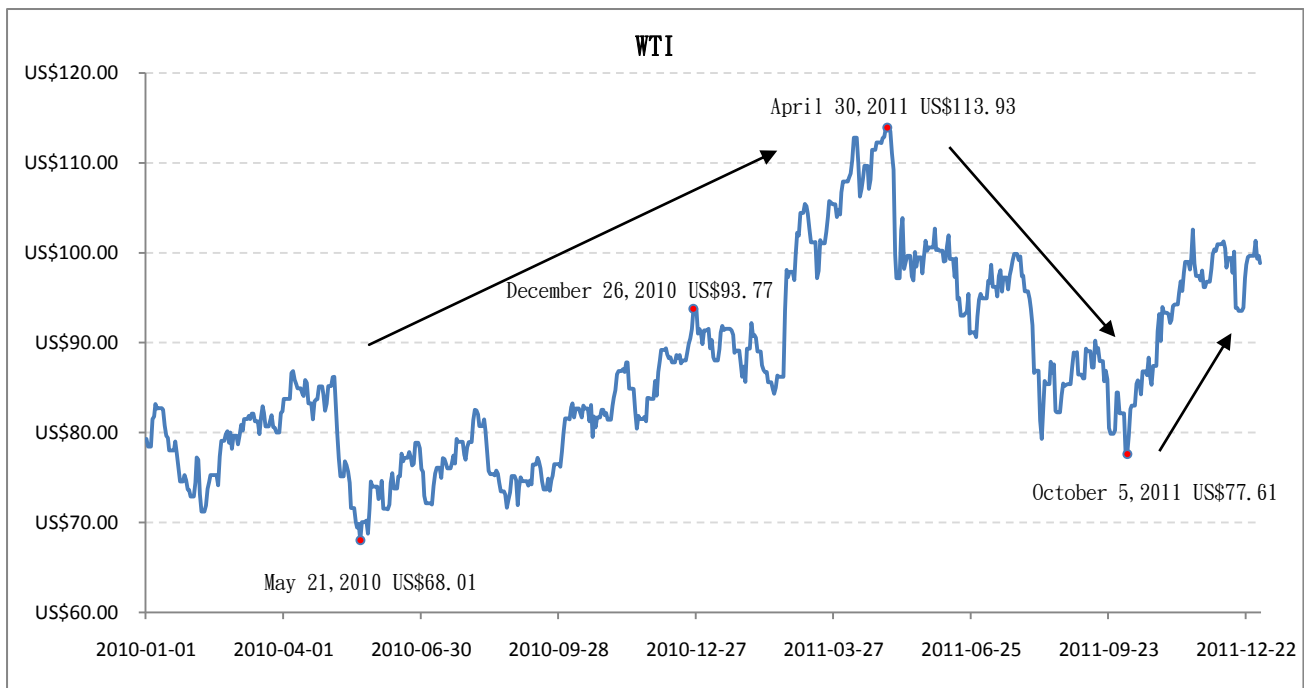


Table 1: Volatility of International Oil Price (2010-2011)

	2010	2011
Average (USD/Barrel)	79.47	95.09
Volatility ¹	↑37.88%	↓46.80%

¹ Volatility Scale: The highest point compared to the lowest point .





The international oil price was up in 2011. The average oil price was USD79.47/barrel in 2010. The same price went up to USD95.09/barrel in 2011. The international oil price saw high volatility in 2011 due to a number of events, including accidental slowdown of global economy, deepening Europe debt crisis, worsening situation in Libya and the massive earthquake in Japan. The volatility scale was increased from 37.88% in 2010 to 46.80% in 2011.

Figure 2: Trend of Plastic Raw Material Prices (2010-2011)

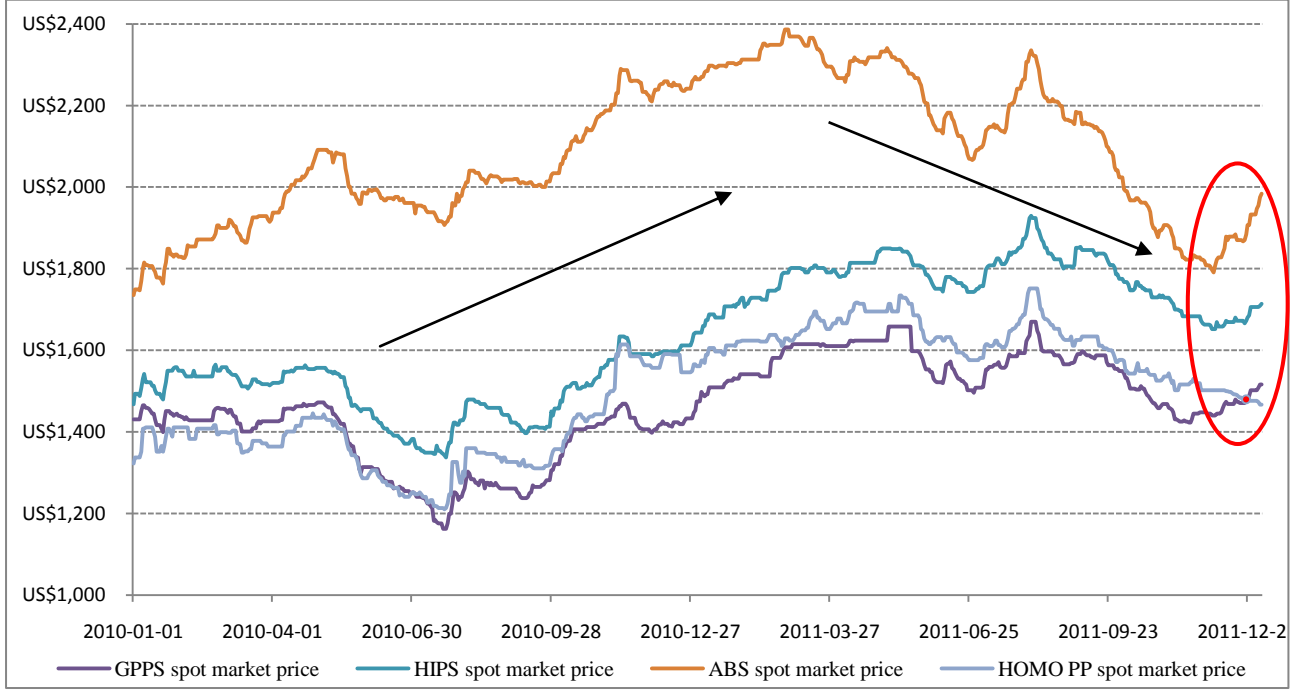


Table 2: Volatility of Plastic Raw Materials (2010-2011)

	2011vs 2010
GPPS	↑13.3%
HIPS	↑18%
ABS	↑7%
HOMO PP	↑16%
BLOCK PP	↑14.3%
Random PP	↑17.8%

In 2010, the plastic raw materials showed the strong upward trend. This trend was reversed in 2011. But with the support of strong oil price, the price of the plastic raw materials still went up considerably in 2011 compared with 2010.

In 2010 and 2011, the price trends of most plastics were similar, notably PS and PP. As PP can substitutes ABS and PS in some applications, the price trends of PP, ABS and PS showed very high

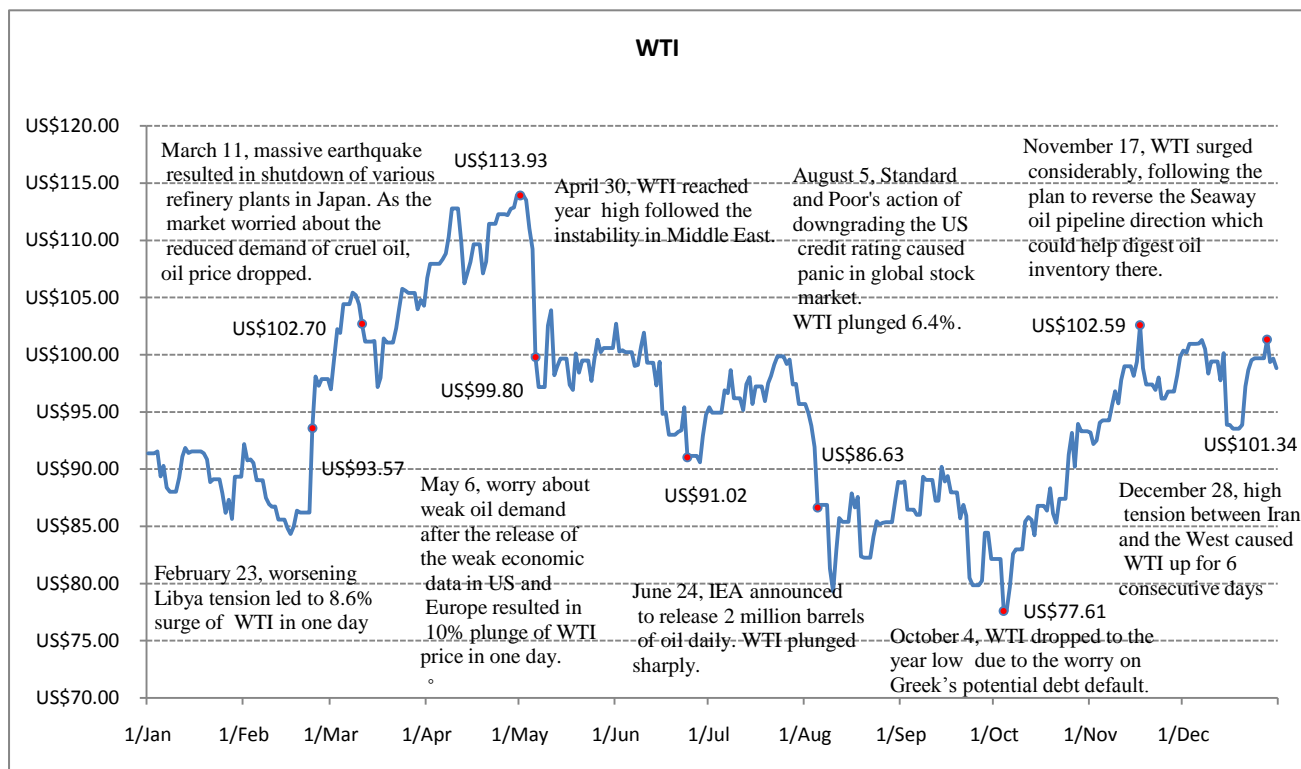




correlation. In December 2011, ABS and PS rebounded from the bottom. However, as the demand of PP was not good, along with high competition among lots of different chemical plants, the PP price kept falling. It was difficult for PP to rebound. But based on the historic data of ABS, PS and PP, their trends were similar. If ABS and PS could maintain the upward trend, there would be chance for PP to rebound.

Highlights of Plastic Prices in 2011

Figure 3: International Oil Trend (2011)



Plastic raw material trends in 2011 can be divided into 5 phases.

Phase 1 (Jan – Apr) – Plastic Raw Material Prices Kept Growing due to High Production Cost

In the first quarter, various major monomer plants in Asia were under maintenance, especially in Korea. The supply of upstream monomers was tight, pushed the production cost of plastics higher. As a result, the ex-factory prices of PS, ABS and PP from the chemical plants went up continuously.

Phase 2 (May-Jun) – Plastic Prices Reversed the Upward Trend due to Weaker than Expected Demand

The plastic raw material prices had been increased since July 2010. The downstream





manufacturers found it difficult to absorb the increasing raw material cost. The demand started to decrease. In 2011, the economic growth in US and Europe was weaker than expected. The business of the downstream manufacturers was weakened. In addition, the Chinese government had tightened the monetary policy since fourth quarter in 2010. The domestic demand was reduced. As both foreign and domestic demand was weaker than expected, the plastic market reversed the upward trend and started to drop.

Phase 3 (Jul) – Reduced Output and Increased Prices by Chemical Plants. The Plastic Market was Up Temporarily.

The plastic market experienced two months of downward trend. On the other hand, the upstream monomers SM, C3 and BD reached year high in July. The chemical plants were forced to reduce output and increase ex-factory price under the influence of high production cost.

Due to the continual decrease in market price, the spot inventory of the traders became less and less. As the chemical plants started to reduce output, the supply of the spot market became very tight. At this moment, the increase in ex-factory price by the chemical plants had effectively influenced the market price. But as the downstream demand remained weak, the rebound in the plastic market prices only lasted for one month.

Phase 4 (Aug – Nov) – Reduced Demand Led to Long Lasting Price Drop

The poor US economic data in the second quarter reflected the accidental slowdown in economic growth. The worsening Europe debt crisis and the weaker than expected economic data in Europe triggered the worry about the potential recession of Europe economy. Meanwhile, the US credit rating was downgraded. All these factors caused the plunge of global stock markets and international oil prices. The monomer prices were drawn down consequently. The downstream manufacturers took the wait-and-see attitude. The plastic prices started the long lasting downward trend.

Phase 5 (Dec) – High International Oil Prices Supported the Rebound of Plastic Raw Materials

Since December, the international oil prices kept rebounding as a result of the growing tension in the Middle East and improving economic data in US and China. The downstream monomer price SM, AN and BD rebounded as well. The production cost of PS and ABS became higher. The stock inventory of the chemical plants, traders and downstream manufacturers were in low level. The chemical plants increased the ex-factory prices of PS and ABS due to increased production cost. But as the downstream manufacturers were in low season, the further price increase was suppressed.





The upstream C3 cost kept dropping. There was no support to the production cost of PP. With plentiful supply and the weak demand, the market price of PP kept decreasing.

Since November 2011, the price of AN went up gradually owing to the increased market demand. As C3 is the core raw material to make AN, the demand of C3 was increased as well. Along with the strong international oil prices, there was momentum for C3 to rebound. The price of PP may be pushed up driven by the increased production cost.

Price Trends of GPPS, HIPS and ABS

Figure 4: Price Trends of GPPS, HIPS and ABS (2011)

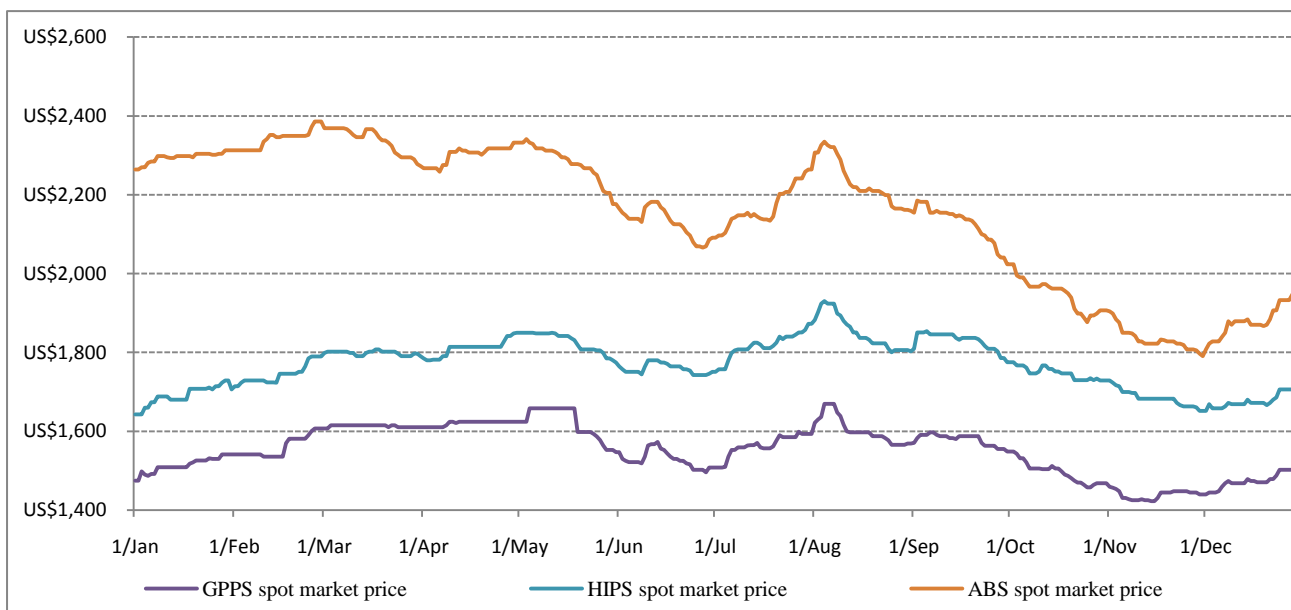


Table 3: Price Volatility of PS and ABS (2011)

Price Volatility in 2011 ²	
GPPS	↓14.8%
HIPS	↓14.9%
ABS	↓24.9%

As the profit margin of PS was low, the supply of PS was gradually reduced by chemical plants. The supply was maintained at relatively tight status. In 2011 when the market was full of uncertainties, the volatility of PS was less compared with ABS.

²Volatility Scale: The highest point compared to the lowest point in 2011.





Price Trend of PP

Figure 5: Price Trend of PP (2011)

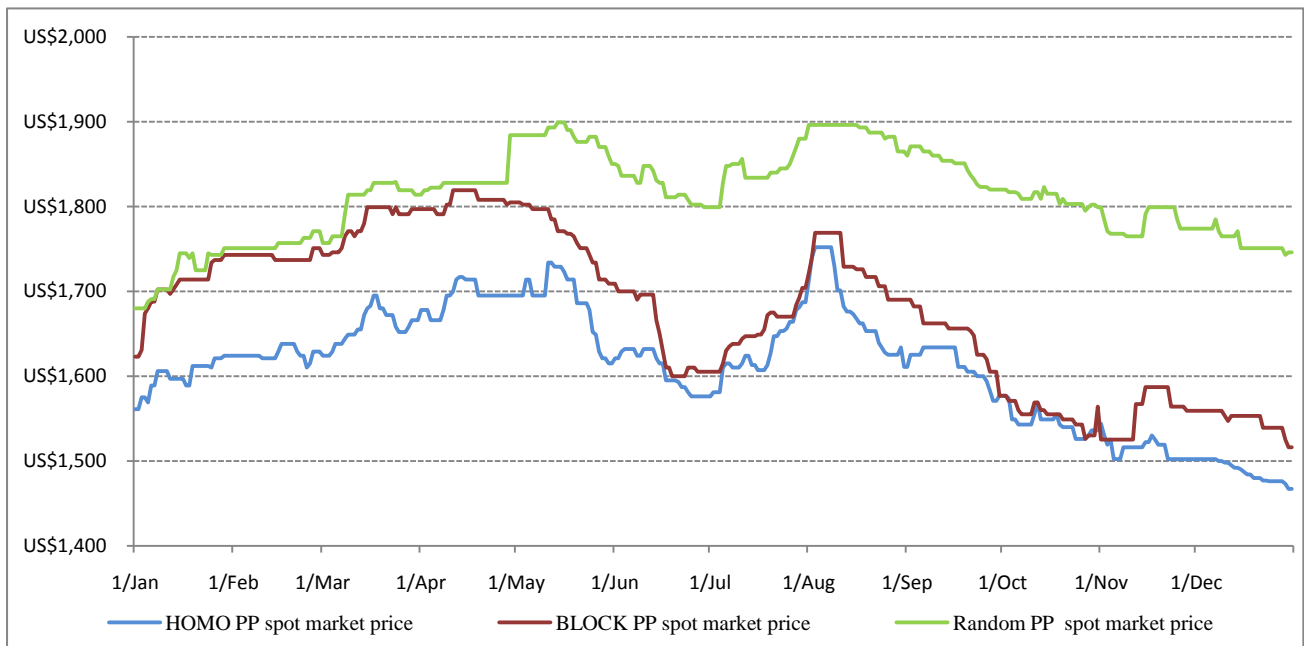


Table 4: Price Volatility of PP (2011)

Price Volatility in 2011	
HOMO PP	↓16.3%
BLOCK PP	↓16.7
Random PP	↓11.5%

More and more PP chemical plants shifted the production capacities from Homo PP to Block PP, as the profit margin of Homo PP was relatively low. However, as this year’s downstream demand was not good, the supply of Block PP was higher than the demand. This resulted in Block PP having the highest price volatility in the year. The price gap to Homo PP was narrowed. The price of both Block PP and Homo PP was almost the same for half of the years.



Analysis of Factors affecting Plastic Market in 2012

Global Economy

2011 saw the massive earthquake in Japan, large scale slowdown of economic growth in second quarter in US, worsening Europe debt crisis and the growing tension in the Middle East. The world economy passed the difficult year. Fortunately, the developing countries could still maintain the high growth rate. The world economy could keep the growth rate at 3%.

Which direction would the global economy go to in 2012? Would the Europe debt crisis be





relieved, or would the euro zone go toward the end? What would be economic recovery status in US? Would the developing countries including China continue to support the global economy during the crisis?

Europe – Near Recession

In 2011, the headlines were mostly covered by the news about the Europe debt crisis. There were 16 European Union summits in the last two years. However, the Europe debt crisis continued to spread, from Greece to Ireland, Spain, Portugal and Italy, and even to the leading countries Germany and France. The world credit rating agencies said that they may downgrade European Union's credit ratings.

It would not take short time to settle the Europe debt crisis. It will take time to unify the financial polices among different EU nations. Greece and other countries need to repay lots of debt. They need to tighten the expense. The establishment and practice of such tightening measures would take time. There would be long way to go before the end of the Europe debt crisis. Its influence already spread out of euro zone, to the whole Europe, as well as to the whole world.

In 2012, there would be lots of resistance to the economic growth in Europe. There would be one third of the government debt due for repayment in Italy and Portugal. The ratio would be 40% and 37% for Greece and France respectively. There would be about 300 billion euros of government debt to be repaid. In the same year, there would be 250 billion euros of debt and 200 billion euro of Collateralized Loan Obligation (CLO) to become due for the banks in Europe. It would be the unusual peak season for debt repayment in Europe. There would be a variety of factors to make the financial market unstable. At the same time, Greece may have second default to the government debt. It may even withdraw from the euro zone. If this situation really happened, not only the banks in Greece would be at risk of run, but also the PIIGS (Portugal, Ireland, Italy, Greece and Spain) would be suffered. It would also put euro into very dangerous status.

USA – Slow Growth

In 2011, the unemployment rate in US dropped to 9% approximately. The inflation rate exceeded 3%, reached the peak at 3.9%, and then fell back a little. The growth rate of GDP was much weaker than expected. The growth rate was at 0.4% in the first quarter in 2011. The whole year was below 2%.

After the 2008 financial crisis, the US economy was recovered with a series of stimulus measures. However, the stimulus was only temporary. In 2011, as the stimulus measures ended, the



economic growth was slowdown. The fundamentals of US economy were still weak.

There would be a lot of challenges ahead for US economy in 2012. Apart from the high level of debt, there would be two issues affecting the economy, Europe debt crisis and the presidential election.

- 1) The financial systems of US and euro zone are inter-related with each other. The deepening Europe debt crisis would definitely affect the banks in US. In additional, the reduced import demand of European nations would hurt the export of US.
- 2) The US presidential election would take place in 2012. The two parties would complicate and lengthen the policy making procedures in order to gain political advantages. This would slowdown the economic recovery in US.

If the economic recovery is slow, the Federal Reserve may offer third round of Quantitative Easing (QE), or second round of Operation Twist. However, the current situation is much different from the moment when the crisis was initially started. If the Federal Reserve offers QE3, it would face the pressure of high inflation internally, and the accusation from other part of the world for making the flooding of hot money. The Federal Reserve would be very cautious in offering this measure.

China – Reduced Growth Rate

2011 saw the tightening monetary policy in China. These included the continual increase of the reserve requirement ratio and the benchmark deposit and lending rates. The upward trend of CPI was under control. But at the same time, the financing of the small and medium enterprises was tightened. The domestic demand was weakened. The economic growth was slowdown.

China Prospects 2012



1. Relax of monetary policy?

In the end of 2011, as the CPI was dropped, the People Bank of China started to reduce the reserve requirement ratio. The market interpreted it as the signal of relaxation of monetary policy. The world economy would still show a lot of uncertainties in 2012. If US and Europe implement QE policy in order to stimulate the economy, China would face another round of flooding of hot money. The recent slowdown of CPI may be heated up again. It is too early to say that the monetary policy would be relaxed at this moment.

2. China's economic policymakers have set the direction of economic outlook in 2012

China's policymakers pledged to guarantee growth in 2012 with prudent monetary policy.





As the Chinese government leadership would change in 2012, the current government would like to create the socially and economically stable environment, by having stable consumer prices and economic growth. Due to the weak economic environment in US and Europe, China's export and domestic investment were slowdown. In order to achieve steady growth of the economy, the Chinese government could only stimulate the domestic demand. It also needs to relieve the financial of the small and medium enterprises, e.g. by cutting the tax to the industrial and commercial sectors.

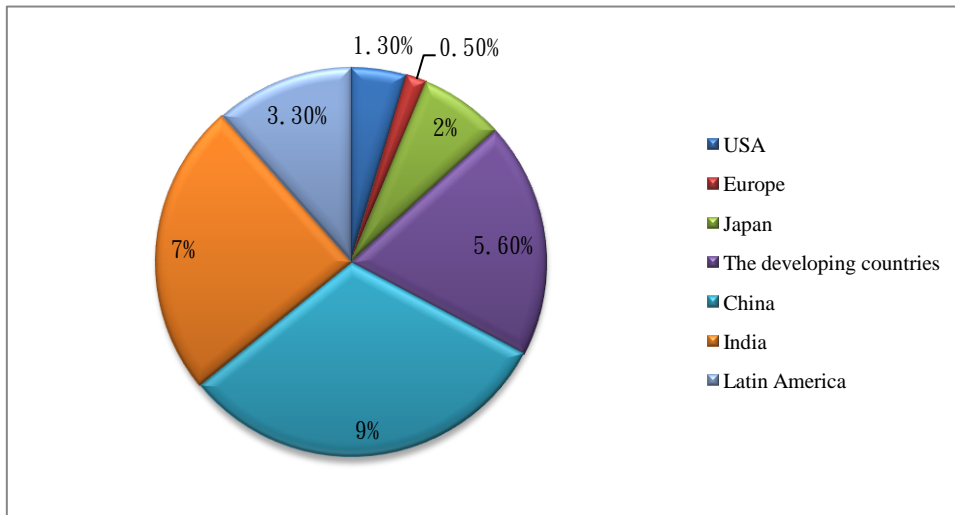
3. China and other developing countries remained to be the driving force of the global economic growth

China and other developing countries would be affected by the weak economic situation in US and Europe. But they would remain to be the driving force of the global economic growth. Traditionally, the growth of the developing countries relied mainly on the export to US and Europe. Although the developing countries attempted to stimulate the domestic demand, export remained to be the major factor to drive the growth of the developing countries. In 2012, the economy in US and Europe would remain weak. The estimated growth rate in 2012 would be even worse than 2011. In 2012, the export by the developing countries would continue to slowdown. In order to avoid high inflation rate, it would be difficult for the developing countries to relax the monetary policy. Their growth rate would be reduced. But they would remain as the driving force of the global economic growth.

The world's economy would be expected to remain weak, caused by the weak economy in the West and the slowdown of economy in the developing countries. According to the estimated data in the World Economic Situation and Prospects 2012 by the United Nations, the projected economic growth would be about 2.6% in 2012, lower than 2.8% in 2011. The projected GDP growth would be 1.3% in US, and below 9% in China, see Fig. 6 below.

The government leadership in China, Hong Kong, Taiwan, USA, Russia, France and North Korea would be changed in 2012. The change in the political environment would lead to uncertainties. Such change would cause difficulties for the economic experts to make the forecast in 2012. The majority of the investors would seek opportunities in Asia Pacific region and other developing countries. The focus would still be China.

Figure 6: Forecast of World Economic Growth



International Oil Prices

As the economic growth would be mild, the oil demand by the US and the developing countries could only show small increase in 2012. The increase in oil output by OPEC would not be high. The oil demand and supply would be basically balanced, or demand would be slightly higher than the supply.

The uncertainties toward the oil price trend in 2012 would be mainly due to the situation in Middle East. The Middle East has been the major source of crude oil supply. The high tension in the Middle East increased the volatility of oil prices. In the end of 2011, the tension between US and Iran (consisted of 5% of world oil supply) was growing. US announced sanction against Iran. Other western countries also follow US measures. The tension between US and Iran continued to increase. If there is war, the oil prices would go up significantly.



Of course, the Europe debt crisis would show negative influence to the oil price, as we mentioned in our Monthly Reports in May 2010 and June 2011.

Due to the tension in the Middle East and the Europe debt crisis, the oil prices would maintain at high range with large volatility in 2012.

Upstream Monomers (Cost Analysis)

The oil prices in 2012 would be similar to 2011. In 2012, the production cost of the upstream monomers would be similar to 2011. As the production cost is concerned, styrene, propylene and other upstream monomers would be difficult for further price increase.

On the other hand, as the demand and supply of monomers is concerned, the new production capacity of upstream monomers in 2012 would be limited. The confirmed new ethylene capacity in China would be 1.3 million tons per year. The new supply of propylene would be limited. The



demand would be proportional to the economic growth. The supply would be a bit tight. As the supply is concerned, the price of styrene and propylene would have room to increase. The first quarter of 2012 would be the peak season for maintenance by the monomer plants. The supply would be tight. There would be good support to the monomer prices, see Appendix 1.

Chemical Plants

It is a common view by the chemical plants that the Europe debt crisis would not be settled soon. There would be worry about the potential breakdown of euro zone. The employment figure in US was poor with the manufacturing sector remained weak. In China, it would maintain growth in the grim environment. The market was cautious to whether China would further relax the monetary policy.

Therefore, the demand would not be optimistic in 2012, especially in the first half of the year. In the second half of the year, the situation could be improved. On the other hand, there were some views that the economy would not be good in the coming 1 and 2 years.

The new capacities of PS, ABS and PP would be small in 2012. In the second half of 2011, the chemical plants generally maintained at low production rate. The demand and supply were basically balanced. In 2012, as there could be some growth in the economy, the demand could be further increased. The new capacity of the chemical plants in 2011 could be released. But as a whole, the chemical plants would not achieve full production capacity.

With the uncertainties in the economy in 2012, the chemical plants would aim at controlling the output effectively, by reducing the output or adjusting the ratio of different plastics in the right time.


According to ECFA between China and Taiwan, the Block PP would be exempted from duty into China. Source said that various chemical plants in Taiwan have already arranged some manpower to prepare the work. The competitiveness of Block PP from Taiwan would be further increased.


Demand from Downstream Manufacturers

Toys Industry

In 2011, the peak season of toy industry was shortened. Traditionally, the peak season was from May to November. But in 2011, it was only from June to September. Due to the economic situation in US and Europe, the order volume was reduced. It was reported by some toy manufacturers that the decrease was over 30%.

Some leading manufacturers could benefit from their strong research and development power and the quality management ability. They were able to participate in the research and development





work by the brand owners, so as to satisfy the increasing demand of the buyers. On the other hand, some small and medium toy manufacturers lacked the ability to transfer the cost to the downstream buyers. Their order volume was decreased significantly. The operation environment was poor. There were only few manufacturers involved in factory expansion or improving the production facilities.

In 2012, based on the economic situation in US and Europe, the order situation of the toy industry would be similar to 2011. There would be little room to grow. The business could be further concentrated to the leading manufacturers.

Electrics Industry

There was about 20% growth in the electrics industry. As the products were mainly necessary items, they were less impacted by the economic crisis. Some manufacturers actively open new sales markets. Apart from US and Europe, they actively promoted their products to the Middle East, Latin America and South East Asia, etc. The overall business was stable.

The manufacturers which enjoyed the higher growth rate generally owned their brand names and showed stronger product design ability. Their sales and marketing ability were stronger. Apart from export, they were also strong in Chinese domestic market. Some leading manufacturers which offered energy saving products could enjoy good market feedback.

Most electrics manufacturers predicted that the demand in 2012 would be more stable than 2011. Some manufacturers with good order forecast predicted that there would be 10% growth in 2012.

Electronics Industry

The business in 2011 was generally stable. Some manufacturers which demonstrated strong product design ability and offered fashion products could enjoy 10-30% growth rate. Manufacturers which focused in the traditional products were not optimistic to the business.

For the high technology products, the product life cycle is short and the competition is very keen. In 2012, the order forecast would be stable. Manufacturers with strong creativity and having popular design could show growth in the coming year.

Houseware Industry

The industry was not largely affected by the economic crisis. But as the profit margin was small, the manufacturers faced tough challenges of rising raw material cost and labour cost. Some business was lost to the factories in the inner part of China or other developing countries with lower labour cost. Large scale manufacturers with strong product design capacity showed business growth with their economies of scale.



It was predicted that the business would be stable in 2012, with cautions about rising production cost and lack of labors.

Table 5: Order Forecast 2012

Order Forecast in 2012 as Compared to 2011	
Toys Industry	Stable to negative, with difficulties of growth
Electrics Industry	Stable to positive, with room to growth
Electronics Industry	Stable
Houseware Industry	Stable

Prospects of Plastic Market in 2012

In the beginning of the financial crisis in 2008, the governments took the prompt measures to stimulate the economic recovery. In 2009 to 2010, various countries were recovered from the crisis. The economy was improved. However, the side effect of the stimulus measures appeared in 2011. We could not see the end to Europe debt crisis. Rather, the crisis seemed deepening. Germany, the leading country in Europe, was also affected. The global economy was slowdown. Meanwhile, Japan experienced the unprecedented earthquake, tsunami and nuclear pollution. China and other developing countries were trying to tackle the high inflation. The economic outlook at present is more complicated than it was when the crisis started.

4 years have passed. There are still lots of obstacles ahead. When and how to improve the employment rate in US? Could Europe move out of the debt crisis? Would the monetary policy be relaxed in China?

It would still be a difficult year in 2012. The recovery of global economy would be weak. The oil prices would be kept at high level due to regional political tension and tight supply. The chemical plants would face high production cost and weak demand. The plastic price would be pushed up due to high oil prices.

Table 6: Quarterly Forecast of Plastic Prices in 2012

Quarterly Forecast of Plastic Prices in 2012	
Q1	With lots of monomer production facilities in Asia under maintenance, the plastic prices would show good support due to high production cost even the downstream demand would be low. Price reduction would be limited.





Q2	As most of the monomer production facilities would be re-activated, the upstream supply would be more. The pressure of production cost to the chemical plants would be less. The downstream demand would become higher in this quarter. But as the economic recovery would be weak in US and Europe, the increase in demand would not be significant. It is difficult for the plastic prices to go up.
Q3	The economic situation could be improved in US and Europe. The monetary policy in China may be relaxed. The downstream demand would be increased, so is the plastic prices.
Q4	It is the traditionally low season of plastics. As the demand would be weak, it is difficult for plastic prices to go up. But the potential relaxation of monetary policy in China could stimulate demand. The practice of the accumulation of plastic inventory in fourth quarter as we went through before may be repeated in 2012, which could influence the plastic prices in the low season.

Table 7: Forecast of Individual Plastic Resins in 2012

Forecast of Individual Plastic Resins in 2012	
PS	The demand from the household industry would be stable, as the industry would not be seriously affected by the economic crisis. The demand from the toy industry would be reduced. But the magnitude would not be big, as the use of PS in the toy industry is not much. As the production capacity of PS is not high, the demand and supply could be balanced. The price volatility would be relatively low.
ABS	The toy industry would not be optimistic in 2012. The weak industry demand would show big influence to the demand of ABS. Since October 2011, the new production facilities of Formosa Ningbo, Zhenjiang Chi Mei and LG Yongxing Ningbo have been activated. In 2012, the demand would be weaker than the supply.
PP	The worry about recession in Europe affected the export to Europe market. The influence would be big to products made of PP. Meanwhile, the low cost PP from the Middle East would show big influence to the similar PP from East Asia and South East Asia. In the Middle East, the majority of PP is Homo type. Small portion is b=Block type. Very few portion is Random type. Therefore, the impact of high end Random type would be less. The price volatility of Random type would be low.

Appendix 1: Activities of Chemical Plants in Asia in 2012

Styrene Facilities

Country	Company	Status	Period in 2012	Product	Capacity (thousand tons/
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					year)
Japan	Denka	Maintenance	Nov	PS	270
Japan	Nippon Steel	Maintenance	25 Feb – 29 Mar	PS	230
Japan	Asahi Kasei	Maintenance	1 Mar – 15 Apr	PS	320
Japan	Nippon Steel	Maintenance	31 Mar – 26 Apr	PS	190
Japan	Asahi Kasei	Maintenance	6 Mar – end of Mar	PS	390
Japan	Idemitsu	Maintenance	mid Mar – mid Apr	PS	210
Japan	Denka	Maintenance	May	PS	240
Japan	Taiyo	Maintenance	Sep for 1 month	PS	370
Japan	Idemitsu	Maintenance	mid Sep – mid Oct	PS	120
Taiwan	FCFC	Maintenance	second half of 2012	PS	250
Taiwan	FCFC	Maintenance	second half of 2012	PS	350
Taiwan	FCFC	Maintenance	second half of 2012	PS	600
Taiwan	TSMC	Maintenance	Q4	PS	140
Saudi Arabia	Petrochemical	Maintenance	Jun	PS	600
Kuwait	Polystyrene	Maintenance	Q4	PS	450

Propylene Facilities

Country	Company	Status	Period in 2012	Product	Capacity (thousand tons/ year)
Korea	Honam	Maintenance	1 Mar – mid May	Propylene	360

Korea	YNCC	Maintenance	Mar for 30 days	Propylene	270
Japan	Tosoh	Maintenance	Mar	Propylene	270
Japan	Asahi Kasei	Maintenance	May for 40 days	Propylene	300
Japan	Mitsubishi	Maintenance	May – Jun	Propylene	170
Japan	Mitsui	Maintenance	end of Jun – Jul	Propylene	450
Japan	JX	Maintenance	Aug – Sep	Propylene	140
Taiwan	FPC	Maintenance	Apr	Propylene	375
Taiwan	FPC	Maintenance	Apr	Propylene	270
Taiwan	FPC	Maintenance	Apr	Propylene	375
Taiwan	FPC	Maintenance	Aug	Propylene	350
Taiwan	FPC	Maintenance	Aug for 40 days	Propylene	375

Ethylene Facilities

Country	Company	Status	Period in 2012	Product	Capacity (thousand tons/ year)
Korea	Honam	Maintenance	1 Mar – mid Apr	Ethylene	720
Korea	YNCC	Maintenance	Mar for 30 days	Ethylene	578
Japan	Tosoh	Maintenance	Mar	Ethylene	527
Japan	Asahi Kasei	Maintenance	Mar for 40 days	Ethylene	470
Japan	Mitsubishi	Maintenance	May – Jun	Ethylene	375
Japan	JX	Maintenance	Aug – Sep	Ethylene	260
Taiwan	FPC	Maintenance	Aug	Ethylene	700

Polypropylene Facilities

Country	Company	Status	Period in 2012	Product	Capacity (thousand tons/ year)
Korea	Honam	Maintenance	Mar for 30 days	PP	400

Appendix 2: Major Plastic Events in 2011

14 January 2011	The People Bank of China announced to increase the reserve requirement ratio of financial institutions by 0.5% since 20 January. The international oil prices went down because of the
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	news.
19 January 2011	Guangdong province announced to increase the minimum wage level by 18.6% on average from 1 March.
19 January 2011	As the benzene price in US and Europe surged, there was carry trade by selling the benzene from Asia to US and Europe. The Asian price reached 28-month high with 12 transactions in the day.
29 January 2011	Riots in Egypt were escalated. The international oil prices surged 4%.
9 February 2011	The People Bank of China announced on 8 February night to increase the benchmark 1-year deposit and lending rate by 0.25% on 9 February. The international oil prices continued to drop.
12 February 2011	Egypt tension was improved. The president handed over the power. The international oil prices dropped to 10-week low.
23 February 2011	Libya tension was escalated. WTI surged 8.6% in a day.
23 February 2011	Benzene price in Asia continued to go up, reached 31-month high. It was closed at \$1237-1238 USD/ton FOB Korea on 22 February.
3 March 2011	The tension in Libya led to worry about oil supply. WTI closed above \$100, the first time in 29-month.
8 March 2011	The worry about growing Middle East tension pushed up the oil prices. WTI reached USD105.44/barrel.
11 March 2011	The 9 magnitude earthquake in the North East region of Japan triggered tsunami. The nuclear plants and refinery plants in the coastal areas were shutdown. As Japan was the third largest consumer of oils, the market worried the event would reduce the domestic demand of oil. The oil future of NYMEX was dropped.
14 March 2011	The Fire Department in China announced that expanded polystyrene (EPS), the common material used as thermal insulators, would be prohibited of use in the external walls of the residential buildings, under the new standard. The domestic EPS plants reduced the production rate ahead of reduced market demand. The demand for upstream SM was therefore reduced. The SM market price in Asia continued to fall.
15 March 2011	Nuclear pollution as a result of earthquake in Japan was intensified. The international oil price was down 4%.
19 March 2011	France, US, UK and other alliance took military action against Libya. The tension in Libya was intensified. The oil price continued to go up.
24 March 2011	The debt crisis in Portugal triggered worry about the Europe debt crisis. The international oil prices were down.
6 April 2011	The People Bank of China announced that the reserve requirement ratio would be increased by 0.25%. It was the fourth increase since last October, and the second increase in this year.
7 April 2011	The European Central Bank announced that the key interest rate in the euro zone would be increased by 0.25%, to 1.25%. This was the first time of increase since July 2008.
9 April 2011	The worsening tension in Libya and the worry about instability in Saudi Arabia and Nigeria stimulated the NYMEX oil future to USD113/barrel and Brent future to 32-month high.
11 April 2011	Shell Singapore delayed the re-opening of the monomer production facility which was out of order since mid March in Singapore. In order to satisfy the need of downstream demand of the

	plant, Shell brought the monomers from the spot market, causing the surge of monomer prices in Asia, including ethylene, styrene, propylene and butadiene.
13 April 2011	The worry about suppressed oil demand due to high oil price, together with Goldman Sachs warning, triggered the plunge of the oil prices by 5.8% in two days.
16 April 2011	The demand of butadiene in US was increased significantly, created the chance of carry trade. The spot inventory of butadiene in Korea and Japan was shipped to USA. The butadiene FOB Korea price surged USD244 or 8.5% in this week.
17 April 2011	The People Bank of China announced that the reserve requirement ratio would be increased by 0.5%, effective from 21 April.
3 May 2011	Bin Laden was killed. The global security risk was lowered. The oil prices were decreased.
5 May 2011	The weak economic data in US and Europe triggered the worry on reduced demand of oil. NYMEX oil future was down below USD100, a drop of nearly 10% in a day.
12 May 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group caught fire at 8pm. The fire did not spread to the petrochemical areas. But as safety precaution, the No. 1 Ethylene Factory (OL-1) with annual capacity of 700k tonnes was shut down temporarily. The output of No. 1 Aroma Factory (ARM-1) was also reduced accordingly.
12 May 2011	The reserve requirement ratio in China was up the fifth time in the year, reached record high 21%.
18 May 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group caught fire again.
20 May 2011	The Shell ethylene cracker in Singapore was reactivated after shutdown for repair work.
27 May 2011	The repeated fire in No. 6 Naphtha Cracker of Formosa Plastic Group resulted in local government's announcement that the whole factory areas would be shut down since 1 June. The ethylene glycol capacity of 1 million tonnes was shutdown. The upstream demand of ethylene was reduced significantly and therefore its output was reduced. As propylene was produced along with ethylene, the output of propylene was reduced as well. This resulted in shortage of propylene supply to downstream plant of Yungsox and Formosa. Some PP factories were shutdown consequently.
9 June 2011	OPEC's meeting on 8 June could not reach agreement to increase oil output. The oil prices surged in the following day.
14 June 2011	The People Bank of China announced that the reserve requirement ratio will be increased by 0.5% on 20 June.
16 June 2011	Euro was dropped significantly against major currencies, as a result of Greece debt crisis. The oil prices plunged as well, reached two-month low.
24 June 2011	IEA announced to release 2 million barrels of oil daily. WTI plunged sharply.
6 July 2011	The People Bank of China announced to increase the benchmark interest rates by 0.25%, the third time in the year.
22 July 2011	European Union reached consensus to rescue Greece. The dollar was plunged. WTI surged over USD100/barrel during the trading session.
26 July 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group caught small scale fire.

26 July 2011	The negotiation for the debt crisis in US could not be completed successfully soon. The cruel oil prices plunged 6.4%.
30 July 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group exploded and caught fire in midnight.
1 August 2011	The No. 6 Naphtha Cracker of Formosa Plastic Group had 7 fire accidents in one year time. The Taiwan authority ordered the suspension of the factory operation and demanded complete checking and maintenance work of the factory.
4 August 2011	Due to the worry in the slowing down of the global economy, investors retreated from the high risk investment market. The oil price plunged by 5.8% to the lowest level since February.
5 August 2011	Standard & Poor's downgraded US credit rating. The market was panic. Oil price plunged 6.4%
9 August 2011	The Federal Reserve said they expected to keep US interest rates at their current levels near 0% until the middle of 2013.
26 August 2011	In the Annual Central Banker Conference, Federal Reserve Chairman Bernanke did not mention any solid quantitative easing measures. But the measures would be discussed in the meeting in September. The oil price rebounded gradually as the market expected new stimulus measure would be announced then.
20 September 2011	Standard and Poor's downgraded Italy's credit rating.
17 November 2011	WTI future surged considerably, passed USD100/barrel and reached half-year high, contributed by the news about the plan to reverse the Seaway oil pipeline direction, which could allow the effective consumption of large oil inventory in Cushing.
1 December 2011	WTI up for the third day due to the joint actions from the central banks around the world
2 December 2011	November PMI (Purchase Manager Index) in China down 3%, the first time in 3 years in the manufacturing sector in China
5 December 2011	People Bank of China announced that the reserve requirement ratio will be lowered. 400 billion RMB will be released.
7 December 2011	Standard and Poor's action of putting 15 euro zone countries on credit watch, was criticized as to speed up the Europe debt crisis.
12 December 2011	The financial meeting of euro zone cannot relieve the crisis. European Central Bank took action again to buy debt.
28 December 2011	Iran warned that if the West banned the export of Iran cruel oil, they would seal off the Strait of Hormuz. The oil future continued to go up for the 6 days after the Christmas holidays
28 December 2011	The December consumer confidence in US reached 8-month high.