

GREAT AMERICAN GROUP ADVISORY & VALUATION SERVICES

Chemicals/Plastics Monitor July 2011 - Volume 3

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Introduction

Welcome to the third issue of the *Chemicals/Plastics Monitor* from Great American Group Advisory & Valuation Services (“GA”). This publication will provide you with market value and industry trends for a variety of chemicals and plastic-based products. The enclosed information represents a composite of GA’s industry expertise, well-respected industry publications, liquidation and appraisal experience, and contact with industry personnel. Due to the commodity nature of certain chemicals and plastic resins, timely reporting is necessary to understand an ever-changing marketplace. In addition, pricing trends are impacted by a number of macroeconomic indicators that should be monitored, and GA strives to contextualize these indicators in order to provide a more in-depth perspective of the market as a whole.

The *Chemicals/Plastics Monitor* relates information covering many chemicals and plastics, including industry trends, market pricing, and their relation to our valuation process. GA provides our customer base with a concise document highlighting the chemicals and plastics industry. Please feel free to utilize our contact information shown in this and all *Chemicals/Plastics Monitor* issues. GA welcomes the opportunity to make our expertise available to you in every possible way.



Trends in Recovery Values

Trend Tracker
NOLVs: Mixed
Sales Trends: Increasing
Gross Margin: Mixed
Inventory: Mixed
Pricing: Mixed

Recovery values for chemicals and plastics were mixed in the second quarter of 2011 as compared to the first quarter of 2011, but remained above levels from the same period in 2010. In general, recovery values ranged between two points down and two points up, related primarily to a company’s ability to pass along raw material costs to customers.

In the valuation of chemicals and plastic resins, GA compares the selling price, market price, or acquisition price per unit of the inventory to the cost per unit. GA has presented observations regarding some of the recent trends in Net Orderly Liquidation Values (“NOLV”), but recognizes that these trends should not be generalized to all companies.

Due to lags in updating standard costs or other factors, recovery values may fluctuate significantly from deal to deal. GA recommends that the lender monitor chemicals and plastics deals quarterly, as market prices can shift dramatically based on oil and natural gas prices.

GA internally tracks recovery ranges for various chemicals and plastic resins, but we are mindful to adhere to your request for a simple reference document. Should you need any further information or wish to discuss recovery ranges for a particular segment, please feel free to contact your GA Business Development Officer.

ABOUT GREAT AMERICAN GROUP

GA is a leading provider of asset disposition solutions and valuation and appraisal services to a wide range of retail, wholesale and industrial clients, as well as lenders, capital providers, private equity investors, and professional services firms. In addition to the *Chemicals/Plastics Monitor*, GA also provides clients with industry expertise in the form of monitors for the metals, food, automotive, and building materials industries, among many others.

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EXPERIENCE

GA has worked with and appraised numerous companies within the chemicals and plastics industry. While our clients remain confidential, they include well-known and significant global, national, and regional producers and distributors of commodity and specialty chemicals, chemical intermediates, plastics, and resins for uses throughout the construction, automotive, oil and gas, food and beverage, manufacturing, and agricultural industries.

GA has appraised companies such as the following:

- A global manufacturer of chemicals and plastics, a refiner of crude oil, and a significant producer of fuel products, with annual sales of nearly \$20 billion;
- One of the largest global manufacturers and distributors of high-performance polymer resins and resin-based products, with locations throughout the world and sales exceeding \$3.5 billion annually;
- A manufacturer of plastic packaging such as containers, closures, tubes, and bottles, with annual revenue of \$3.5 billion;
- Two of the world's largest producers of integrated fibers and polymers, with annual sales of \$1.4 billion and \$3 billion; and
- One of the nation's leading specialty chemical producers, with annual revenue of over \$1.5 billion.

GA also maintains extensive appraisal experience with a variety of plastic bottle and plastic container manufacturers as well as foam and foam product manufacturers. GA has also appraised a variety of small and middle market commodity and specialty chemical manufacturers and distributors. In addition to our vast liquidation and appraisal experience, GA maintains contacts within the chemicals/plastics industry that we utilize for insight and perspective on recovery values.

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OVERVIEW

As we pass the halfway point of 2011, volatile crude oil prices continue to be the top concern in the chemicals and plastics industries. A number of global concerns, including the debt crisis in Greece, political upheaval in Libya, and interest rates in China, have left experts unsure as to how the crude market will react.

According to a June report by the Deloitte Touche Tohmatsu Limited Global Manufacturing Industry Group, global chemical industry revenue will grow 7.9% annually in the short term, due largely to increased production of automobiles, consumer electronics, and pharmaceuticals. Emerging nations, and particularly China, will continue to drive industry growth. The U.S. and Europe will experience moderate demand, but as prices increase due to escalating feedstocks, revenues are expected to follow.

In the plastics industry, consumer concerns regarding sustainability and environmental responsibility, paired with high crude oil prices, have pushed bioplastics into the forefront of product development. Industry experts believe that the plastics field will undergo significant changes in the coming decade, with a swing toward bioplastics as more capacity comes online. European Bioplastics, a leading bioplastics industry association, recently reported that global bioplastics production could surpass one million tonnes in 2011, and is expected to reach 1.7 million tonnes in four years.

Currently, bioplastics are expanding on a global scale. In addition to new capacity in the U.S., bioplastics projects are scheduled in Brazil, Germany, Italy, Thailand, Malaysia, and Singapore.

RECENT APPRAISAL TRENDS

COMMODITY CHEMICALS

Gross recovery values for commodity chemicals have remained relatively flat in the second quarter of 2011 as compared to the first quarter of 2011, as market prices have finally started to stabilize. Gross recovery values remain above year-ago levels, when the industry was just beginning to exit the economic recession.

Sales within the sector have continued to increase, due predominantly to continued strong demand from downstream manufacturers as the U.S. economy continues to recover. Gross margins have been flat to down as prices have stabilized or even decreased for certain commodity products, the result of decreasing petroleum costs.

SPECIALTY/FINE CHEMICALS

Gross recovery values for specialty/fine chemicals were mixed in the second quarter of 2011 as compared to the first quarter of 2011, but remained above second-quarter 2010 levels. In general, NOLV trends were dependent upon a specialty chemical manufacturer's ability to pass along raw material price increases. Companies that were able to quickly pass along these increases tended to experience slight NOLV gains of up to two percentage points, while companies that had difficulty in passing along prices tended to experience equivalent decreases.

A majority of specialty chemical manufacturers continued to experience increased sales in the second quarter of 2011, which is due primarily to increased production in downstream industries.

Consistent with the previous quarter, most manufacturers within the sector have experienced flat gross margins or modest gains, as most specialty producers do not have the ability to quickly pass along increased costs to customers. However, this trend is also true in the reverse scenario; when costs decrease rapidly, specialty manufacturers tend not to lose margin as rapidly as commodity producers.

PLASTIC RESINS

Gross recovery values for plastics and resins have increased up to two percentage points in the second quarter of 2011 as compared to the first quarter of 2011 and remain higher than year-ago levels. Consistent with the first quarter, demand from downstream manufacturers has remained high. Feedstock costs have begun to stabilize or decrease, which should positively impact the industry in the long term, as manufacturers have experienced resistance to price increases.

Plastic and resin producers have experienced relatively flat sales in the second quarter of 2011.



Gross margin for plastic and resin manufacturers has decreased in recent months, as manufacturers have had difficulties in passing along increased input costs.

MONITORING POINTS

Monitoring Point	Impact
Monitor oil and natural gas prices.	As oil and natural gas are the primary feedstocks for a majority of chemicals and plastics, any shifts in pricing would impact downstream prices.
Monitor the state of the automotive and housing markets.	Chemicals and plastics are used in many industries, particularly the automotive and housing markets. As a result, any changes in these markets could significantly impact recovery values.
Monitor inventory levels.	As the majority of commodity chemicals and plastics operations run continuously, significantly high inventory levels could indicate a lack of demand, while significantly low inventory levels could indicate production issues or inventory shortages.
Monitor inventory costing.	Due to the potential for dramatic price shifts, the frequency of updates to standard costs and reserve amounts should be monitored. Changes in market prices may not be reflected in the recovery values if inventory costs are not updated.
Monitor the state of the global chemicals and plastics industry.	The chemicals and plastics industry is significantly impacted by new capacities and global demand. Should expected capacity come online in the Middle East, or should Asian demand not meet expectations, overall market dynamics would be impacted.

PRICING TRENDS

FEEDSTOCKS OVERVIEW

A majority of chemicals and plastics are derived from petroleum or natural gas. Any fluctuations in the prices of these commodities impact the downstream chemicals and plastics sectors.

PETROLEUM

According to a report by the *Wall Street Journal*, the International Energy Agency (“IEA”) announced on June 23 that it planned to release 60 million barrels of crude oil from emergency stocks. Despite pleas from oil consuming countries, OPEC refused to increase oil production earlier in the month.

The purpose of the release is to offset production lost to current political upheaval in Libya. The release led to a decrease in oil prices on the spot market to a four-month low. According to the report, this is only the third time in history that the IEA has intervened in the global oil trade.

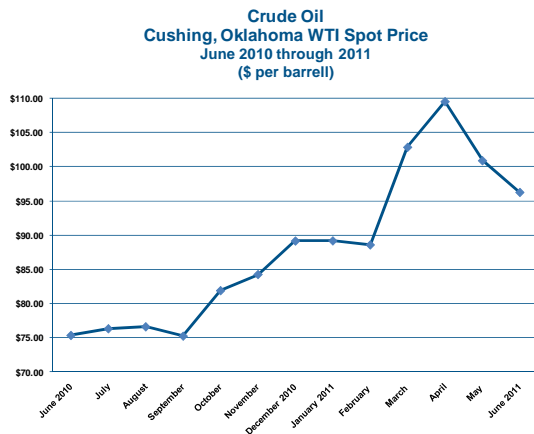


PRICING TRENDS - FEEDSTOCKS

PETROLEUM (cont.)

According to data from the Energy Information Administration (“EIA”), West Texas Intermediate crude oil prices averaged nearly \$110 per barrel in April. Since then, prices have fallen, with May averaging just over \$100 per barrel and June averaging \$96.26 per barrel. Thus far, July prices have hovered between \$90 and \$100 per barrel.

According to the EIA, U.S. crude oil inventory for the week ended July 1 totaled 358.6 million barrels, a decrease of 0.9 million barrels from the previous week. Inventory levels are “above the upper limit of the average range for this time of year.”



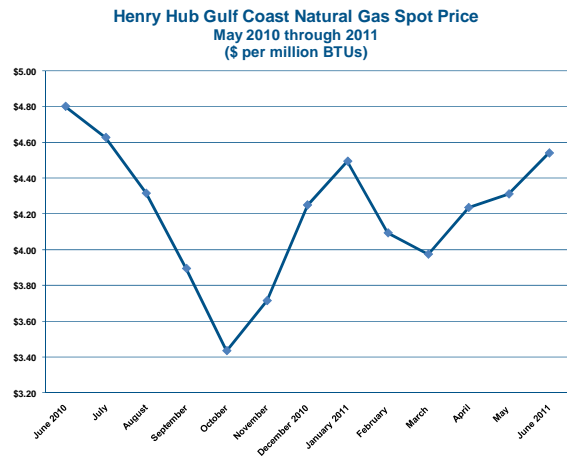
NATURAL GAS

According to estimates from the EIA, working gas in underground storage totaled 2,527 billion cubic feet (“Bcf”) as of July 1, 2011, which represents a 95 Bcf net increase from the previous week.

The following table illustrates working gas in underground storage in the lower 48 states (Units in Bcf):

Region	7/1/11	7/1/10	% Change
East	1,189	1,334	(10.9%)
West	351	457	(23.2%)
Producing	987	959	2.9%
Total	2,527	2,751	(8.1%)

For the week ended July 1, 2011, Henry Hub Gulf Coast natural gas spot prices decreased \$0.008 from the previous week, to \$4.32 per million BTUs. On a monthly basis, natural gas hit its low in October 2010, at \$3.43 per million BTUs. Prices climbed through January 2011, when they peaked at \$4.49, before falling to \$4.09 in February and \$3.97 in March. Since then, prices have once again started to climb, averaging \$4.31 in May and \$4.54 in June.



CHEMICALS OVERVIEW

Moody's Investors Services ("Moody's") believes that the U.S. chemicals sector will experience fair growth in the coming 12 to 18 months, particularly for manufacturers of commodity products that have the ability to pass high input costs along to customers. However, growth is expected to slow from 2010 levels. Those companies that sell into emerging markets, and particularly China, will reap the largest benefits of the current economic situation, as long as they are able to pass on increasing costs. The availability of cheap natural gas will benefit manufacturers with operations in North America, such as LyondellBasell, Chevron Phillips, and INEOS.

However, growth is dependent upon a number of factors, the most important of which is continued demand from China, which recently attempted to stem inflation by raising interest rates for the third time this year. Specialty chemical producers will likely struggle in the coming months, as they are less able to pass along price increases.

Strong performance in the chemicals sector is driving increased merger and acquisition ("M&A") activity, with some experts reporting that M&A could reach record levels in 2011. According to ICIS, 27 M&A deals were completed in the first quarter, which matches activity during the peak years of 2004 through 2006.



PURIFIED TEREPHTHALIC ACID ("PTA")

Similar to MEG, PTA is a key feedstock of polyester, with nearly all PTA utilized in the production of polyester fiber, PET bottle resins, and polyester film. The outlook for PTA is mixed. Increased demand for polyester fibers, particularly in China, will have a positive impact on demand; however, reduced use of PET as plastic bottles become thinner and lighter will have the opposite effect. Prices increased slightly in March, but remained fairly consistent in April and May.

MONOETHYLENE GLYCOL ("MEG")

MEG is a feedstock of polyester, which is currently in high demand, particularly in Asia, due to skyrocketing cotton prices. The MEG market has performed an about-face since the beginning of the year, when many experts believed there would be a glut of supply. Due to recent plant shutdowns, MEG supplies are now constricted, with many wondering if there will be enough supply to meet increasing demand.



POLYETHYLENE TEREPHTHALATE ("PET")

The PET industry has started to power its way out of the recession, with more capacity and new plants in the pipeline. Due to BP's weather- and maintenance-related closures of two PTA plants in the U.S., PET manufacturers have been faced with tight feedstock supplies. Supply was so limited that certain manufacturers were forced to limit the amount of product sold to customers. However, BP has brought the two facilities back online, and the market is beginning to stabilize.

Experts predict that demand for PET will increase 6% annually through 2020. Prices have dropped slightly in recent months, largely a result of raw material pricing.

PRICING TRENDS - CHEMICALS

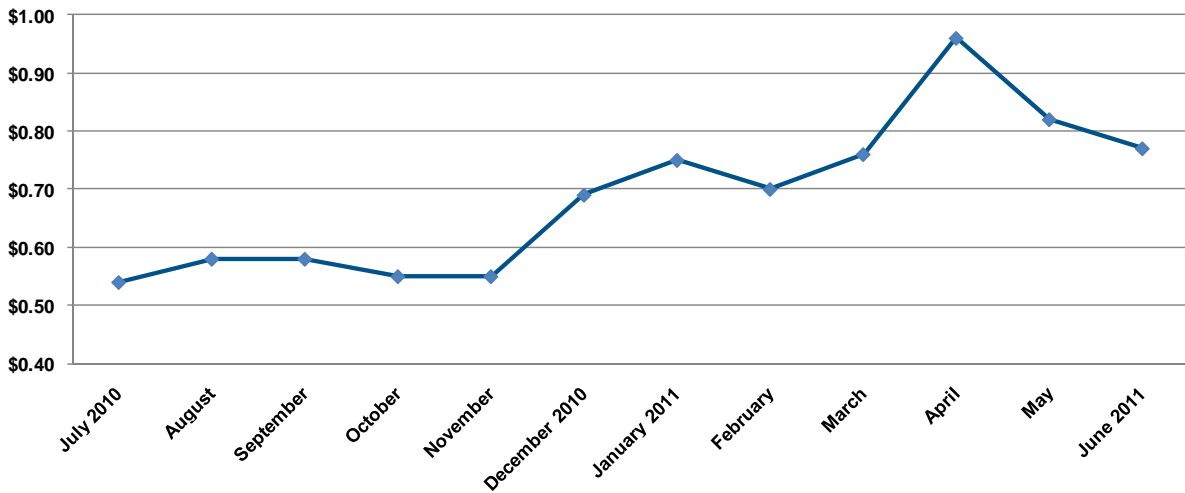
PROPYLENE

Propylene supplies have been low recently, the result of a move toward processing cheap natural gas rather than refining oil, as propylene is a byproduct of the oil refining process. Ethane crackers yield very little propylene byproduct, but currently account for a majority of production; naphtha crackers yield approximately 10 times more propylene, but are less attractive currently due to high crude oil costs.

The tight supply has resulted in skyrocketing prices, with propylene settling at record highs in April before decreasing slightly in May and June. As a result, downstream chemicals - including polypropylene, phenol-acetone, and acrylonitrile - have also experienced significant price hikes.

To offset the sudden drop in supply, a number of producers plan to increase propylene production, though these increases will not likely be seen for two years.

Propylene - Monthly Spot Bulk Prices
July 2010 through June 2011
(\$ per lb)



STYRENE and POLYSTYRENE

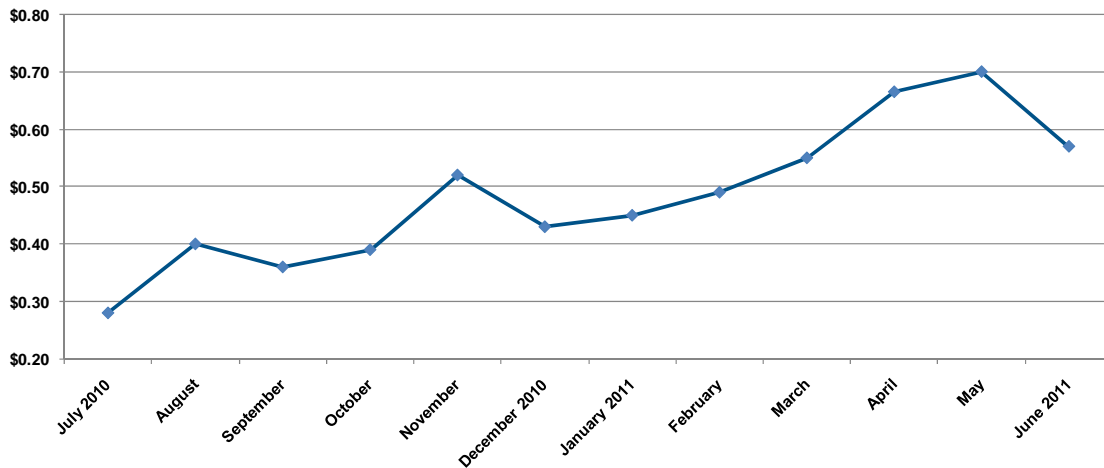
On June 10, 2011, the U.S. National Toxicology Program listed styrene as a potential carcinogen. Industry experts have mixed opinions as to the impact the listing will have on styrene and polystyrene ("PS"). Laurence Alexander, an analyst at Jeffries & Co., believes that many manufacturers have already switched away from PS, as other plastics have more favorable properties; he believes that the remaining markets, such as styrene butadiene rubber used in carpet backing, will be minimally impacted, as there aren't any substitutes with similar performance attributes.

PRICING TRENDS - CHEMICALS

ETHYLENE

U.S. ethylene manufacturers achieved high margins in the second quarter of 2011 due to the prevalence of low-cost shale gas and increased domestic ethane cracking. According to industry reports, margins in the second quarter were 18% higher than in the first quarter. Prices continued to increase through May 2011, before meeting resistance in June as buyers were not willing to continue to pay increased prices. This resistance resulted in a price decrease of over \$0.10 per pound.

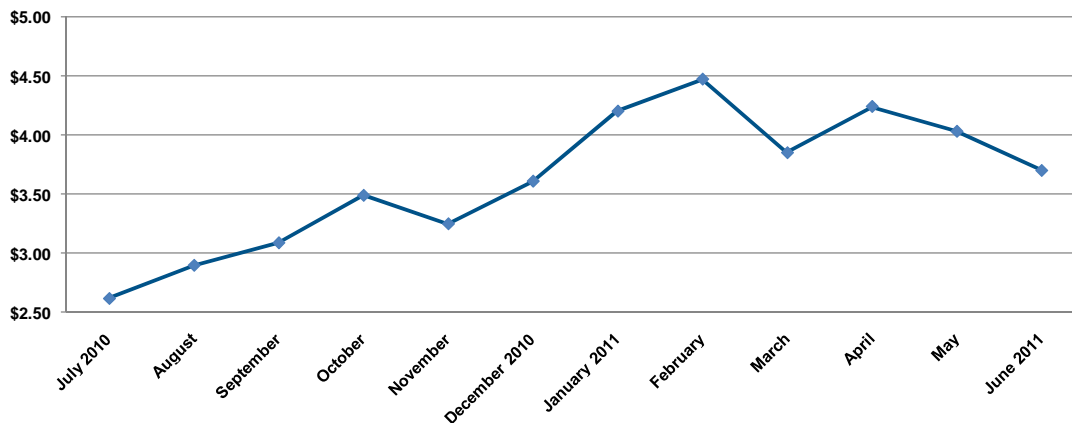
Ethylene - Monthly Spot Bulk Prices
July 2010 through June 2011
(\$ per lb delivered)



BENZENE

Benzene is utilized in the production of a number of intermediates that are used to produce various plastics and other products, including nylon, styrene, phenol, and acetone. The chemical is produced from the steam cracking of petroleum products. As a result, the price of benzene tends to track petroleum prices. Recently, benzene prices have been flat or slightly down as crude oil prices continue to fall from elevated levels.

Benzene - Monthly Spot Bulk Prices
July 2010 through June 2011
(\$ per gallon FOB)



PRICING TRENDS - PLASTIC RESINS AND POLYMERS

PLASTIC RESINS AND POLYMERS OVERVIEW

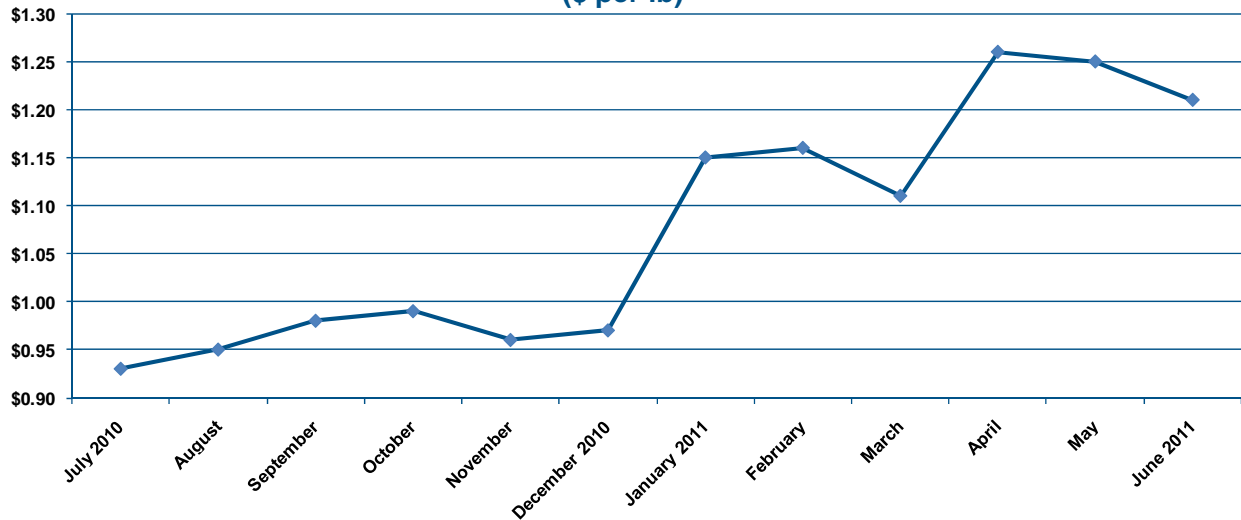
According to a report by the American Chemistry Council, U.S. plastic resin production increased 3.5% in April 2011 versus 2010, with production totaling 6.4 billion pounds. Sales and captive use for the month totaled 6.3 billion pounds of major plastic resins, which represents a 7.4% increase from April 2010.

Year-to-date, production has increased 1.8% from 2010, to 25.2 billion pounds. Sales and captive use have increased 2.6% in 2011, to 24.9 billion pounds.

POLYPROPYLENE

Polypropylene has been significantly impacted by the upstream propylene sector, which has experienced very large price increases due to the availability of cheap natural gas and resultant decrease in petroleum-based propylene production. As a result, the costs to produce polypropylene have increased, while demand has been fairly steady. Previously, experts had expected new capacity from the Middle East to flood the European and North American markets, with the effect of lowering prices; however, the additional capacity has yet to appear on the market, largely the result of start-up delays. As a result, prices remain high.

Polypropylene - Monthly Spot Bulk Prices
July 2010 through June 2011
(\$ per lb)



PRICING TRENDS - PLASTIC RESINS AND POLYMERS

POLYETHYLENE

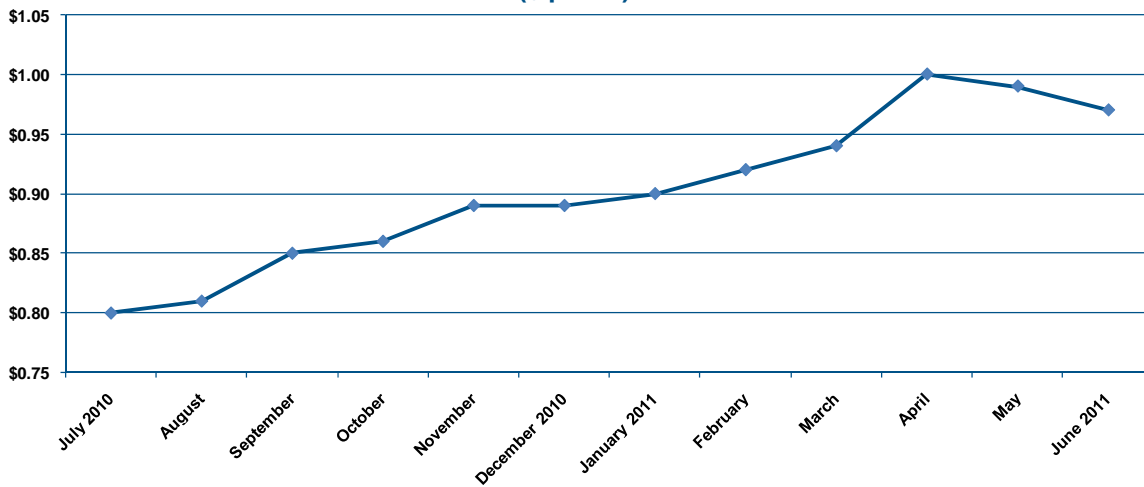
After increasing in price from February through April, domestic polyethylene prices remained relatively flat in May. In June, an overabundance of supply, soft demand, and slight decreases in petroleum pricing caused polyethylene prices to fall slightly, though not enough to offset the increases experienced from January through April.

The prevalence of cheap shale gas continues to make North American polyethylene competitive on a global scale. Construction costs are so low that domestic producers are considering capacity expansion and the construction of new crackers.

Shell Oil Co. recently announced plans to construct an ethylene cracker in an as-yet undetermined location in Appalachia. The company is also considering adding downstream polyethylene production capabilities. The capacity expansion is a result of the afore-mentioned discovery of natural gas; in this case, the natural gas is held in the Marcellus Shale formation.

According to a press release by Shell, "U.S. natural gas is abundant and affordable. With this investment, we would use feedstock from Marcellus to locally produce chemicals for the region and create more American jobs." As the project is in the early stages, capacity is still unknown. Although Shell has not yet given a specific timeframe, the company's spokesperson reported that a cracker and derivatives complex usually takes at least five years to come online.

HDPE - Monthly Spot Bulk Prices
July 2010 through June 2011
(\$ per lb)



PRICING TRENDS - PLASTIC RESINS AND POLYMERS

POLYVINYL CHLORIDE (“PVC”)

U.S. PVC continues to reap the benefits of its pricing advantage over internationally-produced PVC, the result of cheap ethylene from shale gas. The U.S. has become a net exporter of the plastic, with some experts estimating that the U.S. supplied 60% of global PVC in 2010.

As of late, producers have been raising prices in an attempt to further improve margins. Although some global buyers have resisted the pricing increases, experts believe that U.S. PVC prices will remain fairly high.

Going forward, the industry will continue to be impacted by construction rates, as construction is a key end-market for PVC consumption. Until construction rates begin to improve, a majority of domestic capacity will continue to feed the export market.



POLYESTER FIBER

The market for polyester fiber and yarn has been extremely volatile for the last three years. During the recession of 2008 and throughout 2009, consumers significantly decreased their discretionary spending, reducing demand for key items that utilize polyester, such as clothing, automobiles, and upholstered furniture. During 2009 and 2010, as economic recovery began and demand for polyester started to increase, the market was impacted by rapidly escalating raw material and fuel costs.

During this period, polyester production continued its shift from the U.S. and Europe to the Asia-Pacific region, and particularly China, where a cheap labor force allowed polyester to be produced at lower prices. Currently, China dominates world polyester staple fiber production, and capacity continues to increase.

According to a report by the San Francisco Gate, the Asia-Pacific region currently represents the world's fastest-growing polyester market. As the country continues to develop, demand for products that utilize polyester, such as home furnishings, clothing, and automobiles, is expected to keep pace. Global Industry Analysts, Inc. (“GIA”) expects the global market for polyester to reach 39.3 million tons by the year 2015. Furthermore, GIA reports that it expects the continuous annual growth rate for polyester filament yarn to exceed 5.0%.

NYLON

The domestic nylon industry continues to be positively impacted by automotive production, as nylon is a key component of automotive parts and interiors. Prices have increased slightly since the start of the second quarter, a result of higher feedstock prices, increased demand, and fairly tight supply.

CHEMICALS AND PLASTICS REFERENCE SHEET

Chemicals and plastics pricing trend changes for the second quarter 2011 versus the first quarter 2011 are as follows:

	% Change		% Change
Commodity Chemicals		Commodity Plastic Resins	
Propylene	0%	Polypropylene	5%
Ethylene	5%	Linear Low-Density Polyethylene	5%
Toluene	0%	Low-Density Polyethylene	0%
Benzene	0%	High-Density Polyethylene	5%
Styrene	(5%)	Polystyrene	10%
Methanol	0%	PVC	15%
Phenol	5%	Recycled PE	10%
Butadiene	40%	Feedstocks	
Paraxylene	(10%)	Oil	(10%)
		Natural Gas	0%