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# TRCC CANADA

## Monthly Bulletin



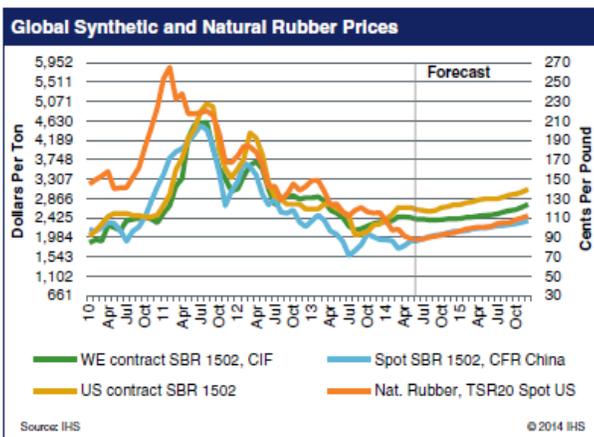
**TRCC Canada**

Leading World Technologies Through Innovation

July 2014 issue

## Executive Summary

**Butadiene:** The US butadiene contract price marker posted by HIS Chemical decreased just over 3 cents per pound to 63.6 cents per pound for July. The split range this month is 62 to 71 cents per pound.

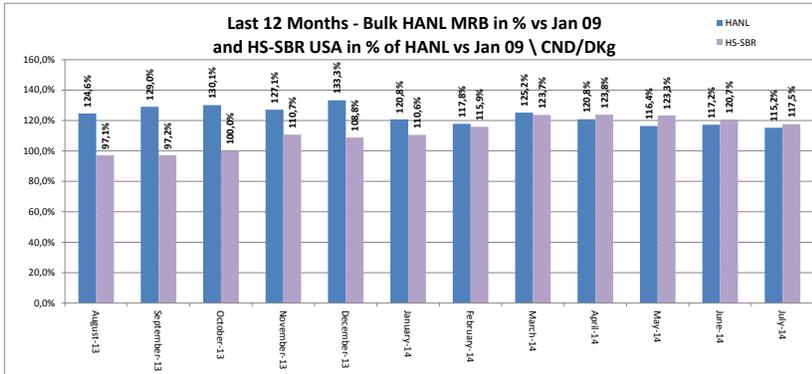


**Synthetic Rubber:** In the US, fundamental demand continues to be stronger than it has been for the past couple of years. The synthetic rubber market in Europe showed a slight positive trend in the domestic market. In Asia, synthetic rubber demand remained flat amid soft tire and vehicle markets.

**Natural Rubber:** Average June natural rubber prices on the SICOM rose 0.6 cents from last month, averaging roughly 77.7 cents per pound (\$1,713 per ton) for the month. Natural rubber prices have been affected by slower growth in the major economies and by robust global supplies. Current price levels are near five year lows.



## Trending between Natural and Synthetic Rubber Latexes



The reported price of bulk natural rubber latex published on the Malaysian Rubber Board (MRB) and the North American price of bulk synthetic rubber latex (HS-SBR) decreased in July versus the previous months. At the end of July, the gap between the market price of natural rubber latex and synthetic rubber latex was 2.0% in favor of the former.

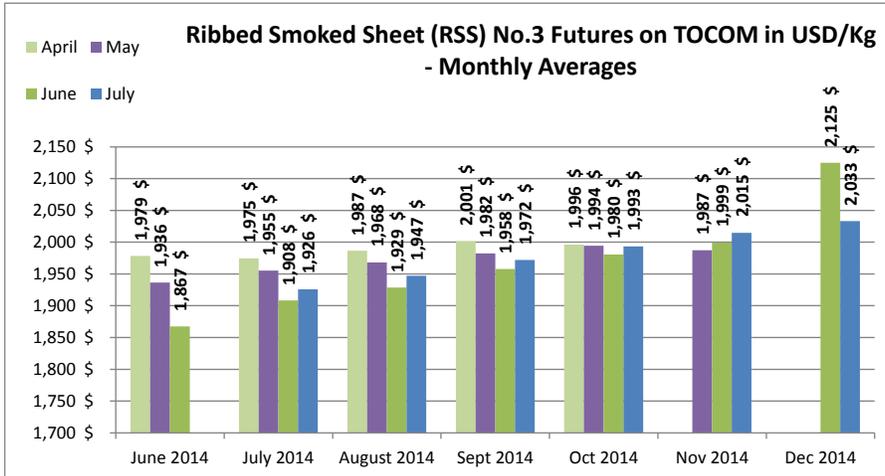


In our past issue, we said it was suggested that the price of NR and NRL should be eventually skyrocketing given the news from SE Asia, such as an extended Wintering due to droughts and the political unrest in Thailand (world largest exporter of NL). This is obviously not the case. There is one overwhelming offset to that news that persist: Supply far

exceeds demand. Demand is actually up globally year upon year, and many trees that were planted during a previous run up of pricing to near \$3.00 for NRL are now productive. Given the current market price for NR and NRL, no one is planting now and it remains possible that in a 3 to 5 years' time frame, the balance will swing the other way and we will see that \$3.00 NRL again.

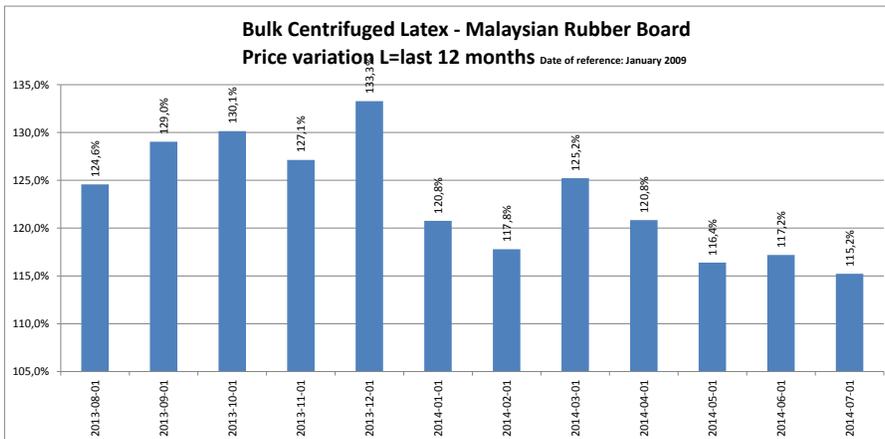
The price of Synthetic Rubber Latex has been on the rise for almost half of the year but is now on a downward slope despite the paving season that I well in effect.

## Trending on Natural Latex Futures on key Commodity Exchanges



The July monthly average RSS3 Futures running down to December 2014 on TOCOM (blue bars on the left hand side graph) are on the rise.

This is rather expected as futures contract always bear a risk premium and thus, the farther away the higher the premium, hence a rise in price going into the future. It remains that for most future months (for instance October 2014 on the above graph), there is no clear rise in monthly average price between April and July 2014, indicating that the market is rather stable. As a matter of fact, natural rubber latex prices have been on the decline since the beginning of the year.



## Butadiene (building block of HS-SBR and XSBR)

### Contract prices

The US butadiene contract price marker posted by HIS Chemical decreased just over 3 cents per pound to 63.6 cents per pound for July. The split range this month is 62 to 71 cents per pound.



### Monthly Market Summary North America

This month's decrease is primarily driven by a concern regarding the differential between US and other regional prices and its impact on downstream derivative economics.

Domestic butadiene production in the US has strengthened as the unplanned extraction unit issues have been resolved and domestically produced crude C4 has increased after the cracker maintenance. There are no planned outages for the remainder of the year for butadiene extraction units. As shown in the Feedstock Section of this report, the most significant cracker maintenance is also complete for the year in the US. So, domestic production should be stable near current levels.

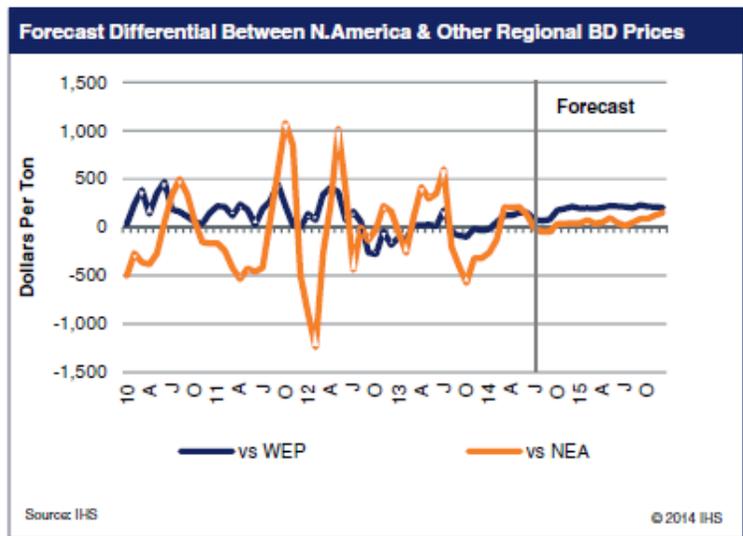
Calculation of Butadiene Contract Marker with Split Settlement Jul-14			
Nominating Company	Capacity On Line Million Pounds	Nomination Cents Per Pound	
ExxonMobil	Baton Rouge	379	
	Baytown	331	
	<b>Total</b>	<b>710</b>	71.0
LyondellBasell	Channelview	240	
	Channelview	615	
	<b>Total</b>	<b>855</b>	62.0
Shell	Deer Park	331	
	Norco	575	
	<b>Total</b>	<b>906</b>	62.0
TPC	Houston	838	
	Port Neches	573	
	<b>Total</b>	<b>1,411</b>	62.0
<b>Total Capacity</b>		<b>3,882</b>	
IHS Chemical Wtd. Avg. Marker			63.6

Domestic butadiene demand remains flat, neither exciting nor depressing. The US butadiene price decrease this month will make it more difficult for butadiene derivative imports, especially synthetic rubber, to displace domestic production. The most significant dynamic in the North American butadiene market right now is the large volume of imports during Q2. Much of the volume was sent to North America due to length in the exporting market, not shortage in the importing market. We also understand that some material, crude C4 and finished butadiene, have been sent to the US unsold, hoping to find a buyer on arrival. The final numbers will not be available for a few more months, but Q2 imports are definitely historically strong, if not at record levels. This has left the market balance somewhat long. However, even at that, some producers from outside America continue to try to export to North America. The notional market price level is currently around 62 cents per pound for August deliveries. The July level was somewhat higher. Exporters from Asia cannot achieve positive margins with freight costs around \$350 per ton and a delivered price at that level.

## Market analysis

As we have noted a number of times, perhaps the most important butadiene market dynamic is the regional price differentials. This is because of the arbitrage impact on the market at every level of the supply chain: crude C4, finished butadiene, butadiene derivative and finished goods. In this month's market analysis, we present our current view of the butadiene price differentials.

The data in graph are the difference between the US contract BD marker and the West Europe contract marker and Korea Spot price, respectively. These are the three prices that we consider most representative of the global market conditions. It bears repeating that the US net transaction price is higher than the marker, so the differential at which the arbitrage window opens is less than the freight cost.



One of the reasons that so much butadiene was sent from Asia to North America in Q2 was the fact that the price differential on this basis was more than \$200 per ton between March and May. Of course, there were other reasons such as weak demand in Asia, and at least for a period, lower than typical freight rates. However, the factor that allowed it to happen was the price differential. Over the past two months, this differential has collapsed to the point where it no longer makes sense to ship butadiene from Asia to North America. This will create a separate set of issues for butadiene producers in Asia since synthetic rubber margins remain flat to negative, so it may be difficult to find an attractive outlet for the butadiene.

In Europe, the primary market driver in the first half of the year has been a somewhat tighter than anticipated market balance due to operating issues. This actually put European derivative producers in the butadiene import market for part of Q2, obviously limiting export availability. However, when production returned to anticipated levels, prices in Europe returned to a relationship that allowed exports to North America. The current length in North America makes imports much less necessary, at least for the next few months, so price levels have tightened up.

Looking forward, we do not consider butadiene imports from Asia to North America to be economically attractive for extended periods. So, the forecast differential between these regions is

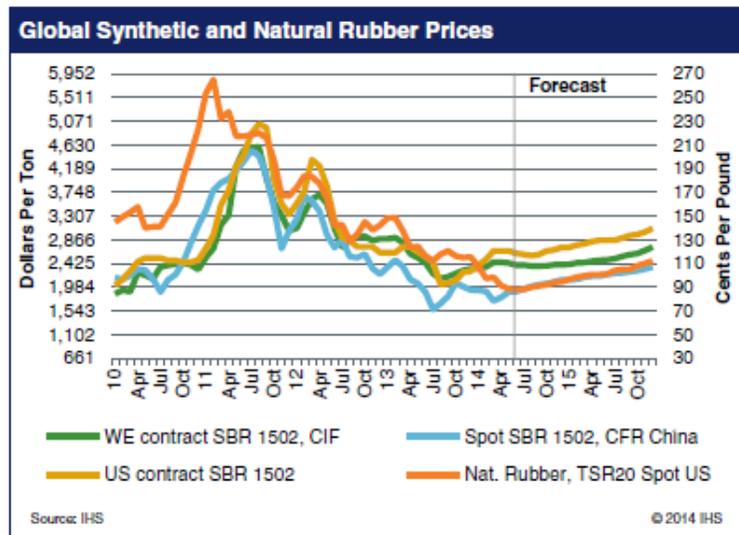


quite low. On the other hand, North America will require imports from Europe and the price differential must be there to justify them.

## Synthetic Rubber

### Monthly Market Summary

In the US, fundamental demand continues to be stronger than it has been for the past couple of years. This is not to say that demand is robust and growing because neither is the case. The market seems to have stabilized at a somewhat higher level with relatively weak growth prospects for the rest of the year. Market participants remain quite cautious about the demand outlook for the rest of this year and next, but there is a difference between caution and pessimism. We continue to expect rubber demand to increase as the global economies improve, especially in the developed world. Automotive markets are improving, which should flow through to the rubber markets.

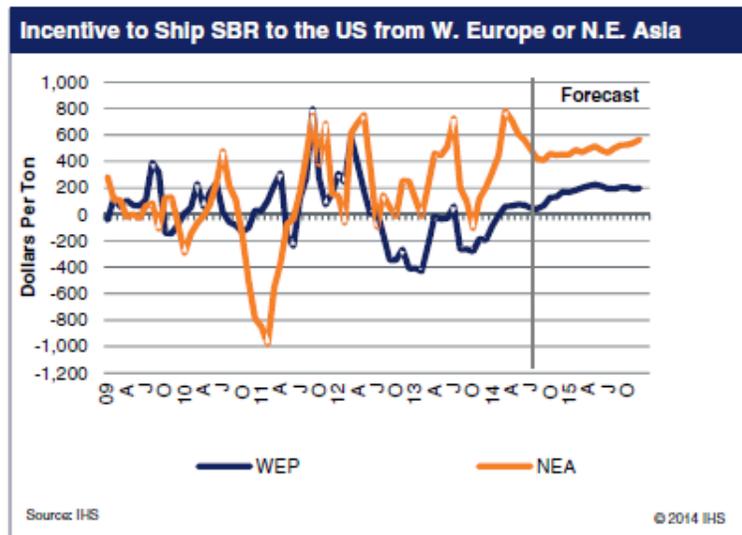


The big issue in the US market remains how will the demand be supplied? North America synthetic rubber supply is strong with many producers running at healthy operating rates. The butadiene settlement this month has also strengthened their ability to compete against lower cost imports. We understand that rubber imports from Asia and Central Europe are being sold into the market. However, the flood of imports that was feared when the butadiene regional price differentials were at their near term peaks a couple of months ago did not materialize. The arbitrage window for synthetic rubber imports to North America appears to be open, but incentives are much lower than they were.

IHS Chemical's posting for the June medium buyer negotiated SBR1502 price decreased by 2 cents per pound to the 117 to 120 cents per pound range. The IHS Chemical posting for SBR1712 continues to reflect a large differential. The price decreased to 100.5 to 103.5 cents per pound range. The IHS Chemical PBR price decreased to the 123 to 127 cents per pound range.

## Market Analysis

The global markets along the C4 Olefins and Elastomers Value Chain are regulated by international trade, especially of SBR. In recent months, when the arbitrage has been wide open at a number of levels along the value chain, there has been concern in North America that a cost advantaged flood of synthetic rubber would arrive from overseas, especially from Asia, that would put pressure on domestic producers. The trade statistics are several months behind, so it is not possible yet to see if their fears have been realized, though based on discussions with rubber producers, it seems that they have not. However, it is important to continue to watch the arbitrage incentives. That is the topic of this month's market analysis.



The data in the nearby graph show the incentive to ship SBR 1502 from Asia or Europe to the US assuming \$150 per ton freight rates and market prices. Note that very recently, there was an extremely strong driver to move material to the US from Asia. However, over the past couple of months, that incentive has been reduced significantly. This has happened for two reasons. First, SBR prices in Asia have eased up a little over the past three months. At the same time, SBR prices in North America, led primarily by decreasing butadiene prices, have come down. The two price levels have not met in the middle and certainly there continues to be an opportunity to export rubber from Asia to the US, but the incentive is not as strong as it has been.

In the case of exports from West Europe to the US, the story is a bit different. West Europe has surplus production capacity along the value chain, so exports have been important to keeping the assets running at reasonable rates. For much of 2013, this was not the case and producers in Europe suffered. However, the trend has swung back the other direction and exports from West Europe to the US are now possible. As the markets strengthen, this will become more important to meet demand growth and prices will adjust to make sure it is possible.



## Natural Rubber

### Monthly Market Summary

The natural rubber market showed some strength late in the month, but ultimately prices remained mostly flat from last month. Rubber prices seemed to show some strength on the back of higher global crude prices. The average price on the SICOM rose by 0.6 cents per pound from May to 77.7 cents per pound. The average price in May was the lowest monthly price since July 2009, so prices remain at their lowest levels in roughly five years. Daily futures on the SICOM traded between 75 and 82 cents per pound for the month. Current price levels are roughly 30 cents per pound lower than during June 2013 and 60 cents per pound lower than June 2012. Over the past year, natural rubber prices have been affected by slower growth in the major economies, especially China, and robust global natural rubber supplies.



According to the International Rubber Study Group, an output surplus of about 430,000 tons is forecast for 2014. Total days of inventory for 2013 was calculated at 109 days, the second highest inventory level since IHS Chemical began tracking this statistic over ten years ago. The number of days inventory is calculated as the annual supply minus annual demand divided by the estimated demand per day. As shown in the graph Daily Natural Rubber (TSR20) Prices, prices have trended lower since the beginning of 2011. Prices in New York and West Europe decreased in June, falling by just less than a cent and averaging 87.9 and 81.3 cents per pound, respectively, with data for the last week of the month not available at this time. When that data is available, it is likely that prices were slightly higher during that timeframe as crude prices were elevated and natural rubber prices in Asia were trading above 80 cents per pound.

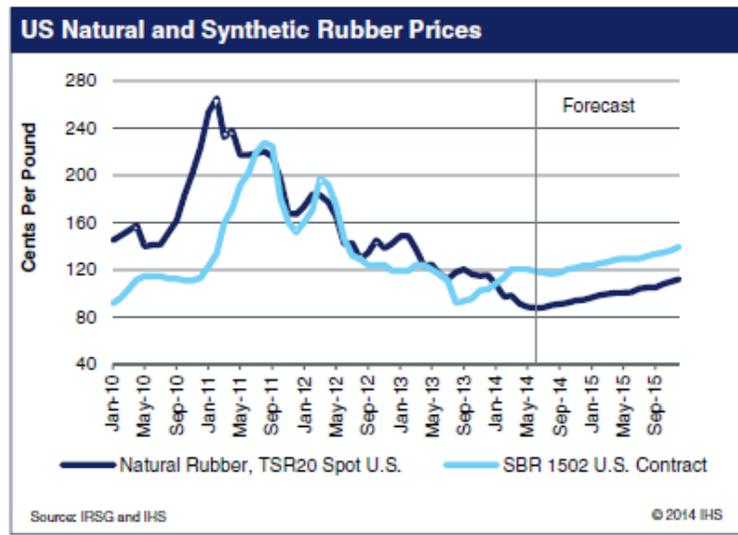
TOCOM natural rubber futures increased in June, ending the month \$100 per ton higher than the May closing price. Monthly prices on the TOCOM through December 2014 also increased from last month, ranging from \$1,950 to \$2,046 per ton. TSR20 futures on the SICOM closed at \$1,713 per ton in June, an increase of \$15 per ton from the May contract price. SICOM TSR20 futures prices through December 2014 were also higher than the strip at the end of last month, ranging from \$1,740 to \$1,790 per ton. TSR20 prices in New York were 0.7 cents lower than May, averaging 87.9 cents per pound, though the final monthly price is unsettled at this time. IHS Chemical forecasts that



USTSR20 prices will increase slightly in July to 88.0 cents per pound and move higher through the rest of 2014, averaging 93.3 cents per pound for the year. For comparison, US TSR20 prices averaged \$1.25 per pound in 2013, which had been the lowest annual price since 2009.

### Market Analysis

In many cases, synthetic rubber serves as a substitute for natural rubber, especially when improved material properties are required. While the demand for both products is generally similar, they are not completely interchangeable. The forces behind the supply of these commodities are very different. On a short term basis, natural rubber supply is largely controlled by factors such as the weather. The wintering and monsoon seasons in Southeast Asia both have a large impact on natural rubber production and inventories, and in turn, natural rubber prices. On a medium to long term basis, natural rubber supply is controlled by the number of rubber trees that are planted as well as the harvesting yield. Typically, there is around a six to seven year capacity lag time from the time that a natural rubber tree is planted to the time at which it produces rubber, and therefore changes in supply can lag well behind demand. Synthetic rubber does not have the same supply constraints that are present in the natural rubber markets, in the sense that production is generally not connected to typical weather conditions and synthetic rubber plants can be built much more quickly. It is also much easier to adjust synthetic rubber operating rates than it is for natural rubber. The synthetic rubber drivers are based on feedstock availability and present market conditions. Changes in the styrene and butadiene markets directly impact the synthetic rubber market, which is not the case with natural rubber as there is no feedstock required in the production of natural rubber.



As shown in the graph US Natural and Synthetic Rubber Prices, the two prices converged in recent years after several years of significant price differentials. In 2009, both natural and synthetic rubber prices were roughly 90 cents per pound. From there, natural rubber prices diverged dramatically from synthetic rubber due to tight global supply. Natural rubber prices tripled to \$2.70 per pound while the increase in synthetic rubber prices was much smaller and lagged the movements seen in natural rubber by roughly six months. The two prices converged again in late 2011, moving closely together until early this year. Since January, the prices have diverged, and our forecast anticipates that this delta will remain through the short-term.



The amount of substitution between natural rubber and synthetic rubber is limited by technical specifications, so even at times when synthetic rubber is more attractive, natural rubber will still have a home. The reverse is also true. Price increases in natural rubber throughout 2010 and 2011 drove positive sentiment in the synthetic rubber markets, which coupled with strong synthetic rubber demand, drove synthetic rubber prices higher. Recently, when natural rubber prices began to ease as global demand weakened and inventories increased, synthetic rubber prices began to come off as well. Through 2016, synthetic rubber prices are expected to trade at a premium relative to natural rubber of about 30 cents per pound. Beginning around 2017, we anticipate that the natural rubber markets will tighten and prices will increase, thus tracking closer to synthetic rubber.