

Bi-Weekly International Polymers Price Outlook and Strategy

Decision enabling market analysis & price outlook



Report for week beginning 1 July 2017

Global Feedstock Price Outlook Summary

	ICE Brent Crude Oil Aug'17 USD/Barrel	Naphtha CFR Far East USD/MT	Ethylene CFR South East Asia USD/MT	Propylene CFR South East Asia USD/MT	PTA CFR South East Asia USD/MT	MEG CFR South East Asia USD/MT
29 Jun 2017						
Closing Prices	47.42	411.25	885	775	625	805
Change since 16 Jun 2017	+0.05	-0.75	0	+35	-10	+10

	Critical Price drivers	Price Direction
Fundamental Summary	Weak trend in crude oil prices	Downward
	PTA and MEG refinery shutdowns	Upward
	Decline in PP imports to China in coming months	Downward
	High PE product margins	Downward
	Recovery in feedstock prices	Upward

	ICE Brent Crude Oil July'17	Naphtha CFR Far East	Ethylene CFR South East Asia			
Price Outlook Summary	Prices are likely to stay below 51.00 and trade lower towards 44.00.	Prices are likely to stay above 395 and trade higher towards 425 to 435 ahead of turning mixed.	Prices are likely to stay above 870 and consolidate higher towards 950.			
	0 to 1 Month	0 to 2 Months	0 to 1 Months	0 to 2 Months	0 to 1 Months	0 to 2 Months
Direction	Downward	Downward	Upward	Mixed	Mixed	Mixed

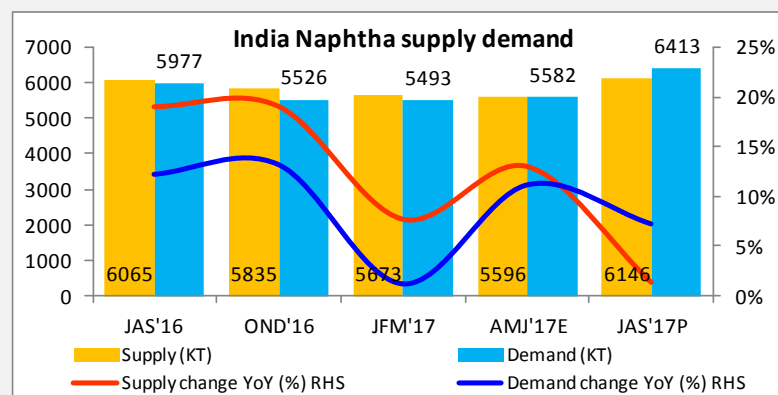
Price Range	44.00 to 51	41 to 51	435 to 395	450 to 395	930 to 870	950 to 870
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Price Outlook Summary	Propylene CFR South East Asia		PTA CFR South East Asia		MEG CFR South East Asia	
	Prices are likely to find support around 680 and trade mixed.	Prices are likely to trade higher towards 670 by holding above USD 625		Prices are likely to trade higher towards USD 855 to 900 by holding above 745		
Direction	0 to 1 Month	0 to 2 Months	0 to 1 Months	0 to 2 Months	0 to 1 Months	0 to 2 Months
Price Range	Downward	Mixed	Upward	Mixed	Upward	Upward
	700 to 800	680 to 800	670 to 625	685 to 625	855 to 745	900 to 745

Products	Expected Price Revision +/-			
	Current Price	July 2017	Aug 2017	Sep 2017
South Korea, HDPE, Injection USD/ton	1140	-10	-20	+20
Saudi Arabia, HDPE, Injection USD/ton	1070	-10	-20	+20
Germany, HDPE, Injection EUR/ton	1335	-10	-20	+20
South Korea, PP, Injection USD/ton	1150	-10	+20	+10
Saudi Arabia, PP, Injection USD/ton	1090	-10	+20	+10
Germany PP, Injection USD/ton	1275	-10	+10	+10
South Korea PET, Bottle USD/ton	960	+10	+10	0
Germany PET, Bottle USD/ton	1105	+10	+10	0

Fundamental Analysis: Feedstock – Upstream (Crude oil and Naphtha)

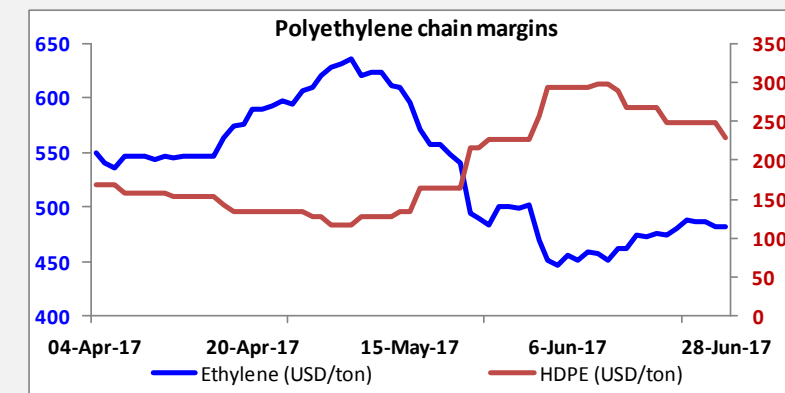
- ❖ Crude oil prices dipped further in the first few days of the last fortnight but started to recover gradually, rising to week highs supported by Dollar weakness and decline in weekly US crude oil production levels.
- ❖ US crude oil inventories witnessed a marginal increase of 0.12 million barrels in the week ending 23rd Jun to 509.21 million barrels from 509.10 million barrels a week earlier. Overall, US crude oil stocks have declined by a cumulative of 26.33 million barrels since the start of April, as the refinery activity has picked up pace.
- ❖ At the demand front, four week average gasoline demand is currently about 2.3% lower compared to the demand during same period last year, despite the start of the summer driving season in US, casting a shadow on demand growth outlook.
- ❖ Meanwhile, US weekly crude oil production levels declined to 9.25 MBpd in the week ending 23rd Jun from 9.35 MBpd a week earlier majorly due to the operations being hit at gulf coast because of Tropical Storm Cindy. Four week average crude oil production is currently 7.2% higher compared to same time last year.
- ❖ At the naphtha front, India's naphtha supply during Apr-Jun'17 quarter is estimated to have increased by 13% to 5.59 million tons compared to 4.95 million tons during same period last year, majorly driven by the production increment.
- ❖ Meanwhile, India's naphtha consumption in the current quarter is estimated to have increased by 11% to 5.58 million tons compared to 5.02 million tons, aided by 30% YoY growth in exports despite the consumption improving at a marginal rate of 2% YoY during Apr-Jun quarter in 2017.
- ❖ Going ahead, however, Naphtha consumption is expected to witness strong growth due to increase in domestic demand for higher packaging sector products demand ahead of festive season as well as fertilizer production along with continuing robust growth momentum in



Naphtha exports is expected remain supportive to prices while the supply growth is expected to moderate due to decline in imports.

Fundamental Analysis: Resins and Films

- ❖ Polyethylene resin prices in South Korea and Middle East witnessed sharp decline in the past fortnight owing to weak demand in the market as well as the impact of decline in feedstock ethylene prices earlier.
- ❖ Meanwhile, polypropylene and PET resin prices remained unchanged in South East Asia and Middle East supported by improving regional buying activity. Further, PET edged higher in European region supported by rise in feedstock PTA prices.
- ❖ China's Polypropylene imports in the first five months of 2017 have increased by 18.2% YoY to 1392 thousand tons compared to 1178 thousand tons during same month last year amid lower operating rates due to extended refinery maintenances along with strong demand. China's PP margins have declined in the past two years, due to improving operating rates and new capacities coming online in the market. During 2016, total PP imports to China have declined by 11.2% to 3017 thousand tons from 3397 thousand tons during 2015.
- ❖ Going ahead, despite the strong demand growth in China due to the refineries ramping up production in the coming months with facilities coming back online after the maintenances, PP imports are likely to grow at a marginal pace.
- ❖ Feedstock Ethylene prices were unchanged during last two weeks, stabilizing after the sharp 12% decline in prices during past month owing to weakness in upstream prices along with decline in regional demand.
- ❖ Firmer trend in feedstock prices compared to PE product prices has led to recovery in margins for Ethylene in the past fortnight. Going ahead, with crude oil prices turning higher, Ethylene prices are



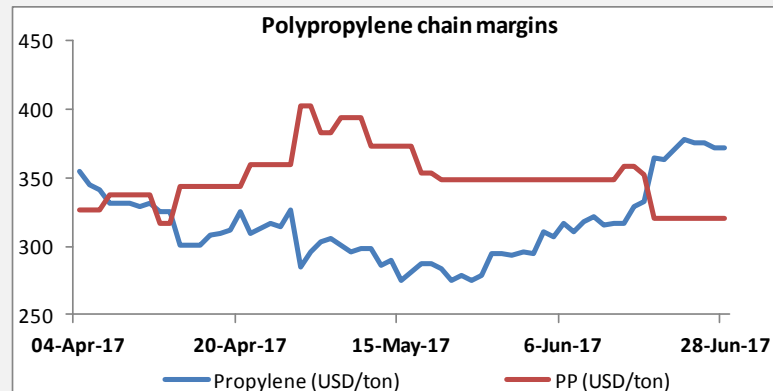
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expected to witness further recovery in Ethylene margins, while product margins are likely to come down in the coming month, resulting in PE material tightness.

- ❖ Meanwhile, Propylene feedstock prices edged higher in the past two weeks supported by recovery in crude oil prices and improving regional demand.
- ❖ Amid recovery in feedstock prices, Propylene margins have improved marginally in the past week. However, Propylene price ratio with crude oil is seen to lower than typical levels resulting in margins being at subdued levels than normal. Extended weakness in Propylene margins along with higher margins for PP products is likely to result in tightness feedstock material availability in the medium term.
- ❖ At the PTA front, prices have edged lower in the past week as the supplies are seen increasing after the capacities shut earlier have come back and started ramping up the production while MEG prices have traded higher in the past two weeks supported by higher demand in the market.
- ❖ Meanwhile, PET product margins continued to remain in a mixed range, but higher than average margins in past year.



Petrochemical

Company	Location	Product	Event	Start	End	Capacity (KTPA)	Impact
Xinjiang Tianye	China	MEG	Maintenance turnaround	Jun 6, 2017	Mid July	250	Downward
Hanbang Petrochemical	China	PTA	Maintenance turnaround	Mid-June	Mid-July	1100	Downward
Sinopec Yangzi Petrochemical	China	PP	Maintenance turnaround	May 15 th	NA	400	Upward
CMMFC (China Man-made fiber corporation)	Taiwan	MEG	Delayed restart	Mid-Feb	NA	200	Upward

ASIA (SOUTH KOREA)

Procurement Strategy: South Korea HDPE Injection

South Korea Injection Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Strategy Review	01 June 2017	30 June 2017	1181.66	1180	100%
	100% of June'17 buying requirements covered at average of USD 1200 compared to market average of USD 1202.				NA
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		

Plant Updates

Global Plant Updates

Plant	Location	Product	Type of closure	Closing date	Restart date	Capacity (KTPA)	Impact
Hengli Petrochemical	China	PTA	Maintenance turnaround	27 Jun	End of July	2200	Upward
Sinopec Shanghai	Shanghai, China	MEG	Maintenance turnaround	10 May 2017	12 July 2017	380	Downward

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	South Korea	2011 to Till Date	0.45%
	HDPE Injection	June 2017	0.14%
	Spot USD/MT		

* Please contact Engagement manager for forward / long term buying strategies

Procurement Strategy: South Korea LDPE Injection

South Korea LDPE Injection Procurement Strategy for spot month*

	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position				1370	100%
	01 June 2017	30 June 2017	1395	Yet to be Priced (Remaining quantity)	
				NA	0.00%
Strategy Review	100% of June'17 buying requirements covered at average of USD 1405 compared to market average of USD 1412.				
	Market	Period	Procurement savings % (Bettering the market average)		
Closed Positions Audit	South Korea LDPE Injection	2011 to Till Date	0.67%		
	Spot USD/MT	June 2017	0.50%		

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Procurement Strategy: South Korea LLDPE Injection

South Korea LLDPE Injection Procurement Strategy for spot month*

	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position				--	0%
	01 June 2017	30 June 2017	1210	Yet to be Priced (Remaining quantity)	
				1180	100%
Strategy Review	100% of June'17 buying requirements covered at average of USD 1210 compared to market average of USD 1221.11.				
	Market	Period	Procurement savings % (Bettering the market average)		
Closed Positions Audit	South Korea LLDPE Injection	2011 to Till Date	0.71%		
	Spot USD/MT	June 2017	0.91%		

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Procurement Strategy: South Korea PP Injection

South Korea PP Injection Procurement Strategy for spot month*

	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position				--	0%
	15 June 2017	16 July 2017	1141.53	Yet to be Priced (Remaining quantity)	
				At current Price	100%
Strategy Review	100% of June'17 buying was covered at an average price of USD 1140 compared to market average of USD 1141.48.				

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Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)
	South Korea PP Injection	2011 to Till Date	1.02%
	Spot USD/MT	June 2017	0.13%

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Procurement Strategy: South Korea PET Bottle Grade

South Korea PET Bottle Grade Procurement Strategy for spot month*

Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June 2017	30 June 2017	953.33	960	100%
				NA	0.00%
Strategy Review	100% of June'17 buying requirements covered at average of USD 950 compared to market average of USD 944.07.				
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		
	South Korea PET Bottle Grade Spot USD/MT	2011 to Till Date	0.54%		
		June 2017	-0.63%		

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MIDDLE EAST (SAUDI ARABIA)

Procurement Strategy: Saudi Arabia HDPE Injection

Saudi Arabia Injection Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June 2017	30 June 2017	1112.71	1105	100%
				NA	0.00%
Strategy Review	100% of June'17 buying requirements covered at average of USD 1135 compared to market avg of USD 1135.90.				
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		
	Saudi Arabia HDPE Injection Spot USD/MT	2011 to Till Date	0.80%		
		June 2017	0.08%		

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Procurement Strategy: Saudi Arabia LDPE Lamination

Saudi Arabia Qatar LDPE Lamination Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June	30 June	1471.25	--	0%

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Strategy Review	2017	2017	Yet to be Priced (Remaining quantity)	
			Price at Current Level	100%
Closed Positions Audit	100% of June'17 buying requirements covered at average of USD 1480 compared to market average of USD 1493.70.			
	Market	Period	Procurement savings % (Bettering the market average)	
	Saudi Arabia Qatar LDPE Lamination Spot USD/MT	2011 to Till Date June 2017	0.87% 0.92%	
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Procurement Strategy: Saudi Arabia LLDPE Injection

Saudi Arabia LLDPE Injection Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
	01 June 2017	30 June 2017	1204.17	--	0%
Strategy Review	100% of June'17 buying requirements covered at average of USD 1200 compared to market average of USD 1218.18.				
	Market	Period	Procurement savings % (Bettering the market average)		
Closed Positions Audit	Saudi Arabia LLDPE Injection	2011 to Till Date June 2017	0.57% 1.49%		

	Spot USD/MT
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Procurement Strategy: Saudi Arabia PP Injection

Saudi Arabia PP Injection Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
	01 June 2017	30 June 2017	1085.41	--	0%
Strategy Review	100% of June'17 buying requirements covered at average of USD 1090 compared to market average of USD 1076.66.				
	Market	Period	Procurement savings % (Bettering the market average)		
Closed Positions Audit	Saudi Arabia PP Injection Spot USD/MT	2011 to Till Date June 2017	0.79% -1.23%		
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EUROPE (GERMANY)

Procurement Strategy: Germany HDPE Injection

Germany Injection Procurement Strategy for spot month*	
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Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June 2017	30 June 2017	1363.25	1335	100%
				Yet to be Priced (Remaining quantity)	
			NA	0.00%	
Strategy Review	100% of June'17 buying requirements covered at average of EUR 1380 compared to market average of EUR 1409.54.				
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		
	Germany HDPE Injection Spot USD/MT	2014 to Till Date June 2017	0.36% 2.06%		
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Audit	(Bettering the market average)		
Germany LDPE GP Spot USD/MT	2014 to Till Date	0.25%	
	June 2017	2.16%	
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Procurement Strategy: Germany LLDPE Butene

Germany LLDPE Butene Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June 2017	30 July 2017	1417	--	0%
				Yet to be Priced (Remaining quantity)	
			1345	100%	
Strategy Review	100% of June'17 buying requirements covered at average of EUR 1405 compared to market average of EUR 1439.31.				
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		
	Germany LLDPE Butene Spot USD/MT	2014 to Till Date June 2017	0.31% 2.38%		
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Procurement Strategy: Germany PP Injection

Procurement Strategy: Germany LDPE GP

Germany LDPE GP Procurement Strategy for spot month*					
Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
Open Position	01 June 2017	30 June 2017	1445.25	--	0%
				Yet to be Priced (Remaining quantity)	
			Price at Current Level	100%	
Strategy Review	100% of June'17 buying requirements covered at average of EUR 1450 compared to market average of EUR 1482.05.				
Closed Positions	Market	Period	Procurement savings %		

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Germany PP Injection Procurement Strategy for spot month*

Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
	01 June 2017	30 June 2017	1298.68	--	0%
				Yet to be Priced (Remaining quantity)	
				Price at Current Level	100%
Strategy Review	100% of June'17 buying requirements covered at average of EUR 1305 compared to market average of EUR 1336.59.				
Closed Positions Audit	Market	Period	Procurement savings % (Bettering the market average)		
	Germany PP Injection	2014 to Till Date	0.55%		
	Spot USD/MT	June 2017	2.36%		

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Procurement Strategy: Germany PET Bottle Grade

Germany PET Bottle Grade Procurement Strategy for spot month*

Open Position	Pricing Window			Already Priced	
	Start	End	Avg Till Date	Weighted Average Price	Quantity
	01 June 2017	30 July 2017	1081.50	--	0%
				Yet to be Priced (Remaining quantity)	
				Price at current level	100%
Strategy Review	100% of June'17 buying requirements covered at average of EUR 1075 compared to market average of EUR 1075.				

Closed Positions Audit

Market	Period	Procurement savings % (Bettering the market average)
Germany PET Bottle Grade	2014 to Till Date	NA
Spot USD/MT	June 2017	0.00%

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Market Prices

Market	Commodity	30-Jun-17	16-Jun-17	Change	% Change
South Korea	Ethylene FOB USD/ton	885	900	-15	-1.67%
South Korea	Propylene FOB USD/ton	820	820	0	0.00%
South Korea	HDPE, Injection USD/ton	1140	1180	-40	-3.39%
Saudi Arabia	HDPE, Injection USD/ton	1070	1110	-40	-3.60%
Germany	HDPE, Injection EUR/ton	1335	1335	0	0.00%
South Korea	LDPE, Injection USD/ton	1365	1395	-30	-2.15%
Qatar	LDPE, Lamination USD/ton	1430	1470	-40	-2.72%
Germany	LDPE, GP EUR/ton	1425	1425	0	0.00%
South Korea	LLDPE, Injection USD/ton	1210	1210	0	0.00%
Saudi Arabia	LLDPE, Injection USD/ton	1200	1200	0	0.00%
Germany	LLDPE, Butene USD/ton	1365	1365	0	0.00%
South Korea	PP, Injection USD/ton	1150	1150	0	0.00%
Saudi Arabia	PP, Injection USD/ton	1090	1090	0	0.00%
Germany	PP, Injection USD/ton	1275	1275	0	0.00%
South Korea	PET, Bottle USD/ton	960	960	0	0.00%

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Germany PET, Bottle USD/ton 1105 1075 30 2.79%

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Report	Coverage #	Price Outlook & Strategies
Bi-Weekly Paper and Paperboards Market Intelligence	NU, FA, PO, PS, FF, MP, 1M, 2M	North India, West India
Quarterly Paper and Paperboards special report	FA, BS, PO, FF, MP, 2M, 4M	
Bi-Weekly Indian Polymers price outlook and strategy	NU, FA, TA, PO, PS, FF, MP, 2W, 1M	HDPE, LDPE, LLDPE, PP, PET, India –RIL, Crude Oil, Naphtha, Ethylene, Propylene, PTA, MEG
Bi-Weekly International Polymers price outlook and strategy	NU, FA, TA, PO, PS, FF, MP, 2W, 1M	Crude Oil, Naphtha, Ethylene, Propylene, PTA, MEG, ASIA (SOUTH KOREA): HDPE, LDPE, LLDPE, PP, PET; MIDDLE EAST (SAUDI ARABIA): HDPE, LDPE, LLDPE, PP; EUROPE (GERMANY): HDPE, LDPE, LLDPE, PP, PET
Quarterly Polymers special report	FA, BS, PO, FF, MP, 2M, 4M, 6M	
Quarterly Laminates special report	FA, BS, PO, FF, MP, 2M, 4M, 6M	

News Update **NU**, Fundamental Analysis **FA**, Balance Sheets **BS**, Weather Analysis **WA**, Policy Impact **PI**, Technical Analysis **TA**, Trading Strategies **TS**, Procurement Strategies **PS**, Price Outlook **PO**, Market Intelligence **MI**, Facts & Figures **FF**, Market Prices **MP**, Price Spreads **PS**, Forward Curves **FC**, Elliott Wave Analysis **EWA**, 5D, 2W, 6W, 2M, 4-6M

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