

Changing Dynamics in the US Aromatics Markets: Drivers and expectations

Kevin Allen, Analyst – Americas
Petrochemicals, S&P Global Platts



Agenda

- Fundamentals and overview
- The impact of PET and PTA on xylenes/toluene
 - Asia
 - North America
- Who benefits:
 - Xylenes
 - Toluene conversion
- Toluene as a blendstock
- Benzene and styrene
 - Imbalanced fundamentals, anti dumping duties and shifting trade flows.

Fundamentals and overview

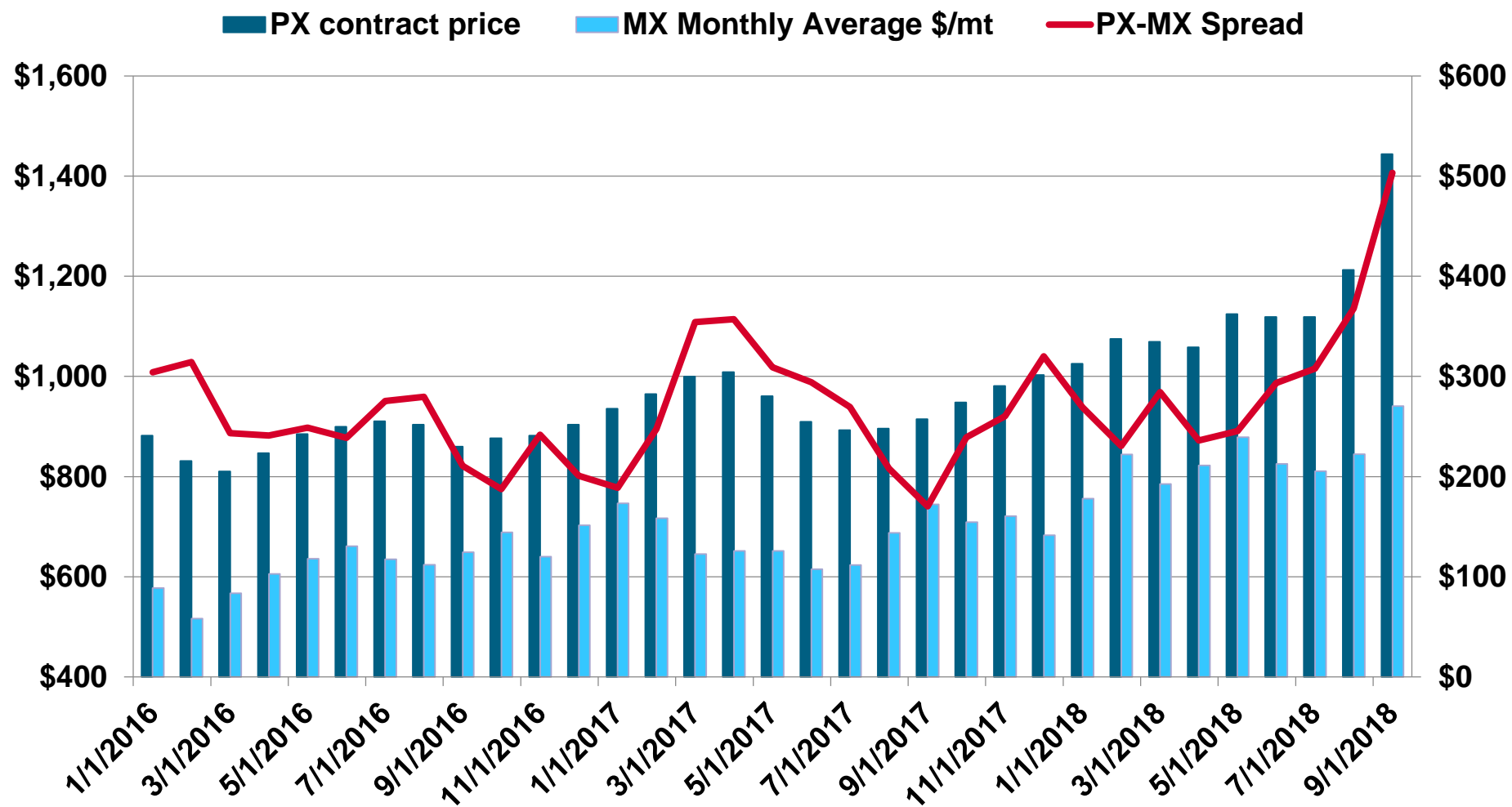
- Energy prices have moved notably higher thus far this year.
 - WTI crude futures up ~ 21%
 - Brent crude futures up ~ 22%
 - RBOB futures have gained ~ 19%
 - Reformate pricing up ~ 16%
- Aromatics prices have had a mixed reaction
 - US spot benzene prices have risen by ~ 8%
 - US spot styrene prices up ~ 1.5%
 - **US spot mixed xylenes up ~ 36%, PX pricing up ~ 44%**
 - US spot toluene prices up ~ 17%

The impact on xylenes from PET and PTA

- Asian PTA pricing supported by robust seasonal PET demand, ban on recycled plastics.
- Asian PTA run rates high amid strong margins.
- Region is net short PX and imports near 14 million mt/year, according to Chinese customs data.
- Deficit to be cut significantly in 2019 and 2020 due to PX capacity additions in the region.
- Asia PET run rates cut headed into October, down 10%.
- Partially offset by restart of Alpek's world-scale PTA facility at Altamira, allocation lifted by BP in S. Carolina.

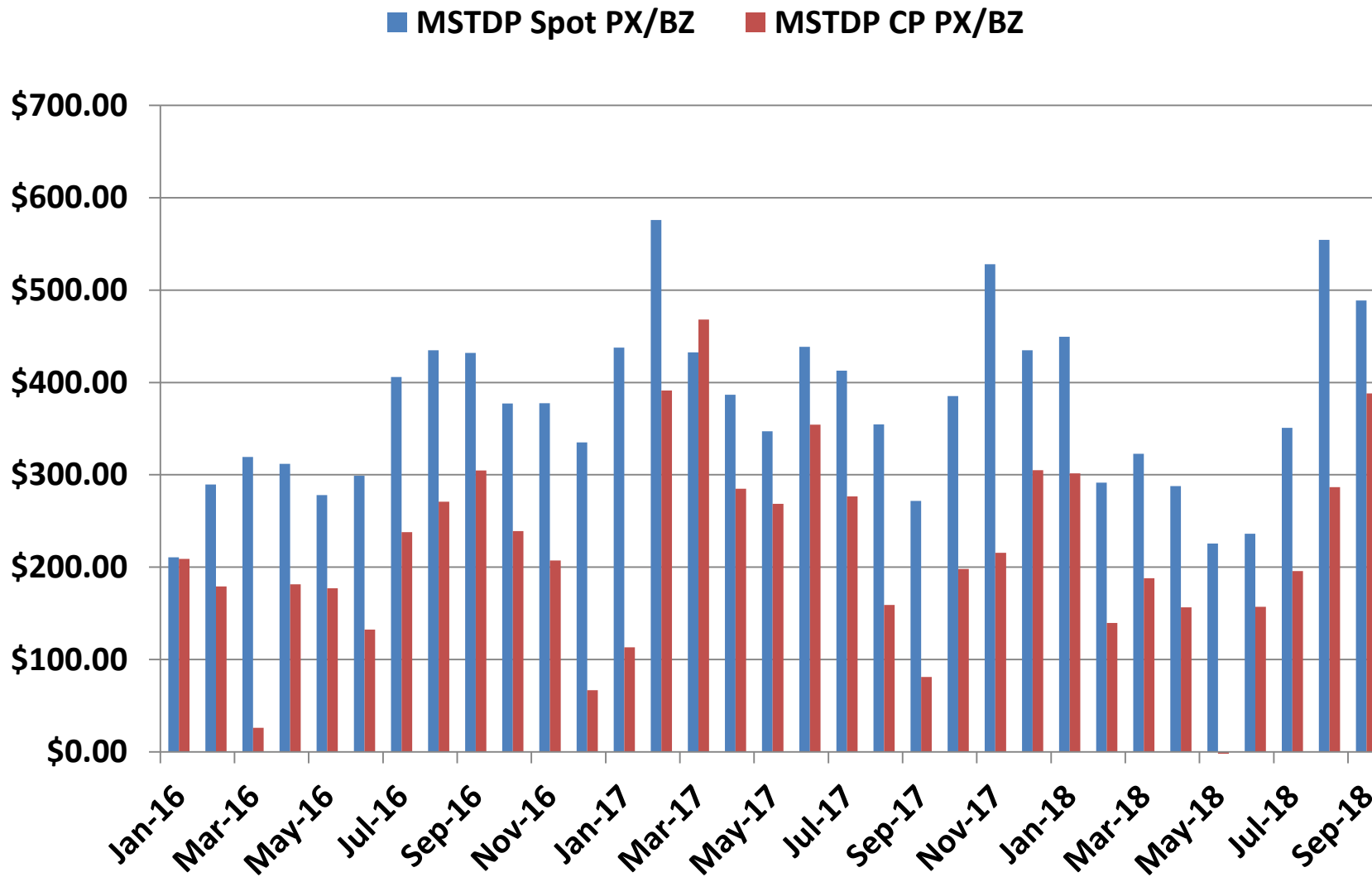
The beneficiaries? Paraxylene and mixed xylenes

- Strong demand in Asia has had a knock on effect on US xylene prices.
- Spot mixed xylene prices touched 320 cents/gal in September.
- PX contract rose 10.50 cents to 65.50 cents/lb in September



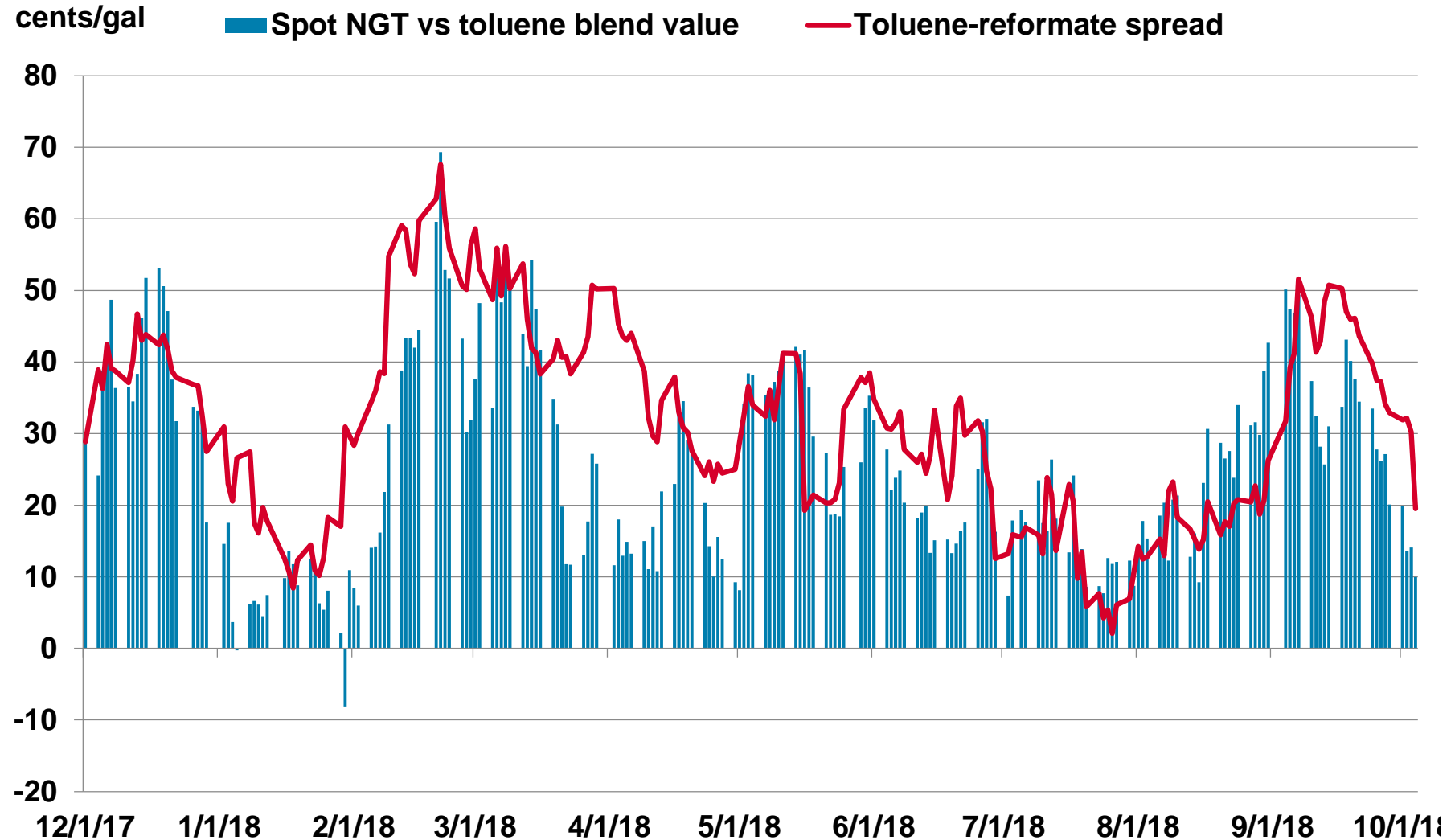
Toluene conversion benefits from stronger PX

- Higher PX settlement bodes well for MSTDP operators.
- MSTDP margins at a 10-month high on a spot basis and an 18-month high on a contract basis.
- Margins on a spot and contract basis at a near \$111 and \$84 premium to the 5-year averages, respectively.



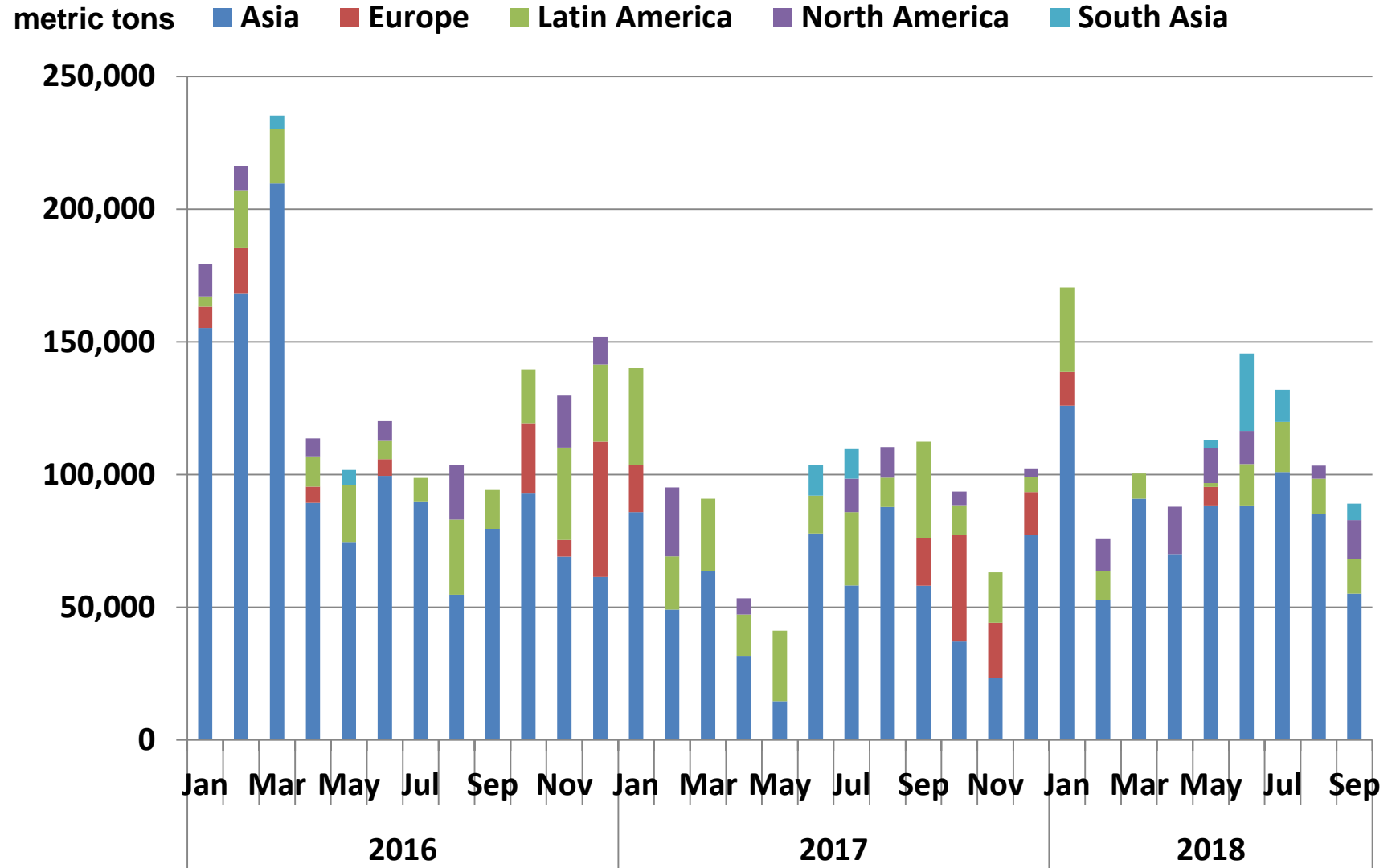
US toluene: reformat and octane demand

- Extraction economics healthy in 2H Aug and September.
- Spread narrowed in 1H October on stronger reformat.
- Octane demand softer in September.



The benzene variable: Imports, styrene depress pricing

- US benzene has suffered thus far in the latter half of 2018.
- Higher import volumes through the summer, coupled with issues in the styrene market, pressured benzene prices.
- September benzene averaged ~283.25 cents, lowest in 12 months.



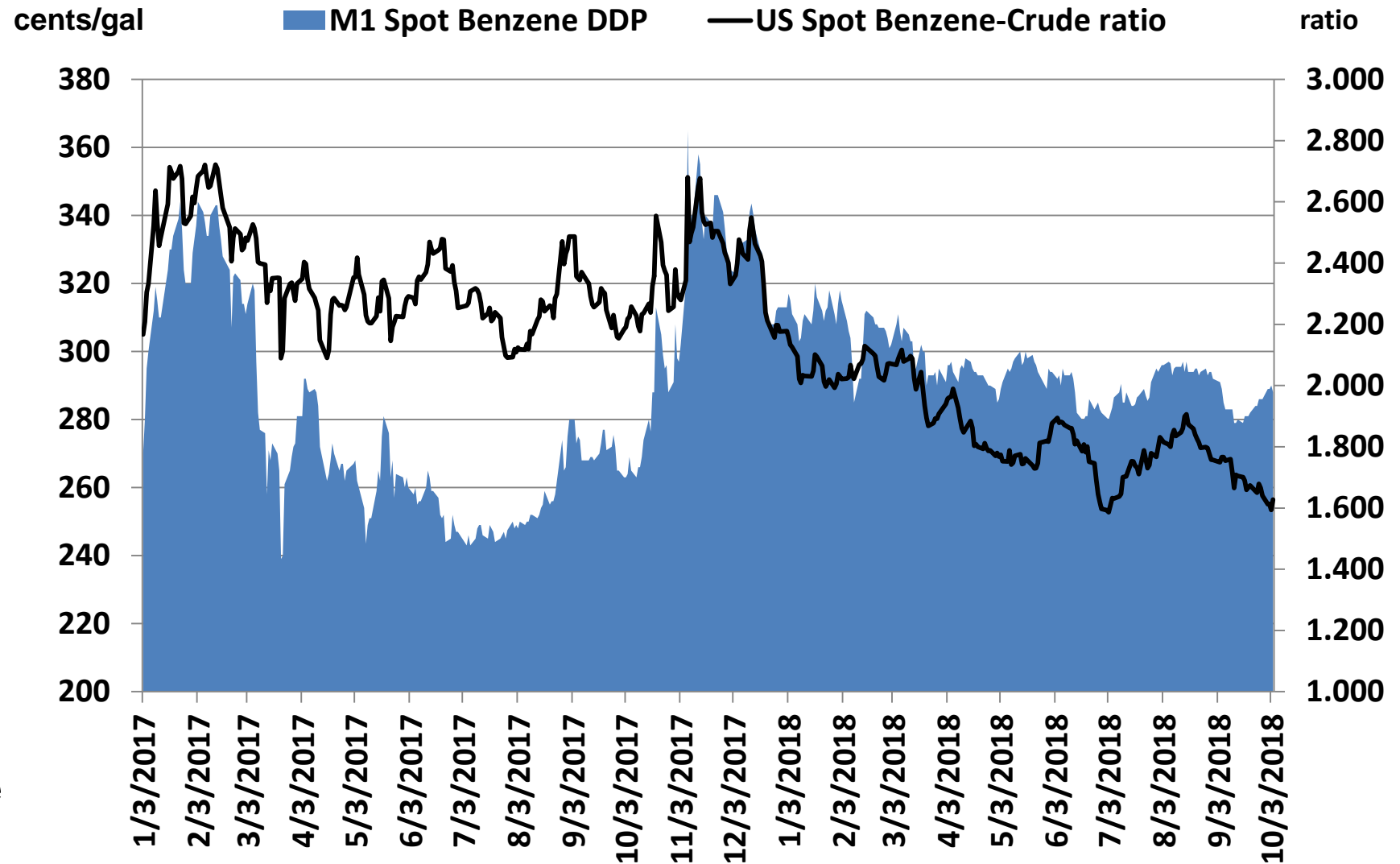
But for how long....

- Demand to improve with CosMar restart.
- Unit down for planned 4-6 week maintenance.
- At full rates, max lost benzene demand is between 75-112kt.
- At a minimum lost benzene demand between 30-45kt.

Sabic cap	Total	Daily output	Min SM lost	Unconsumed BZ	Max SM lost	Unconsumed BZ
579,000	1,158,000	3,173	95,178	75,191	142,767	112,786
Total cap						
579,000						
		Daily output	Min SM lost	Unconsumed BZ	Max SM lost	Unconsumed BZ
90% OR		2,855	85,660	67,672	128,490	101,507
80% OR		2,538	76,142	60,153	114,214	90,229
If 1 line		Daily output	Min SM lost	Unconsumed BZ	Max SM lost	Unconsumed BZ
		1,586	47,589	37,595	71,384	56,393
		Daily output	Min SM lost	Unconsumed BZ	Max SM lost	Unconsumed BZ
90% OR		1,428	42,830	33,836	64,245	50,754
80% OR		1,269	38,071	30,076	57,107	45,114

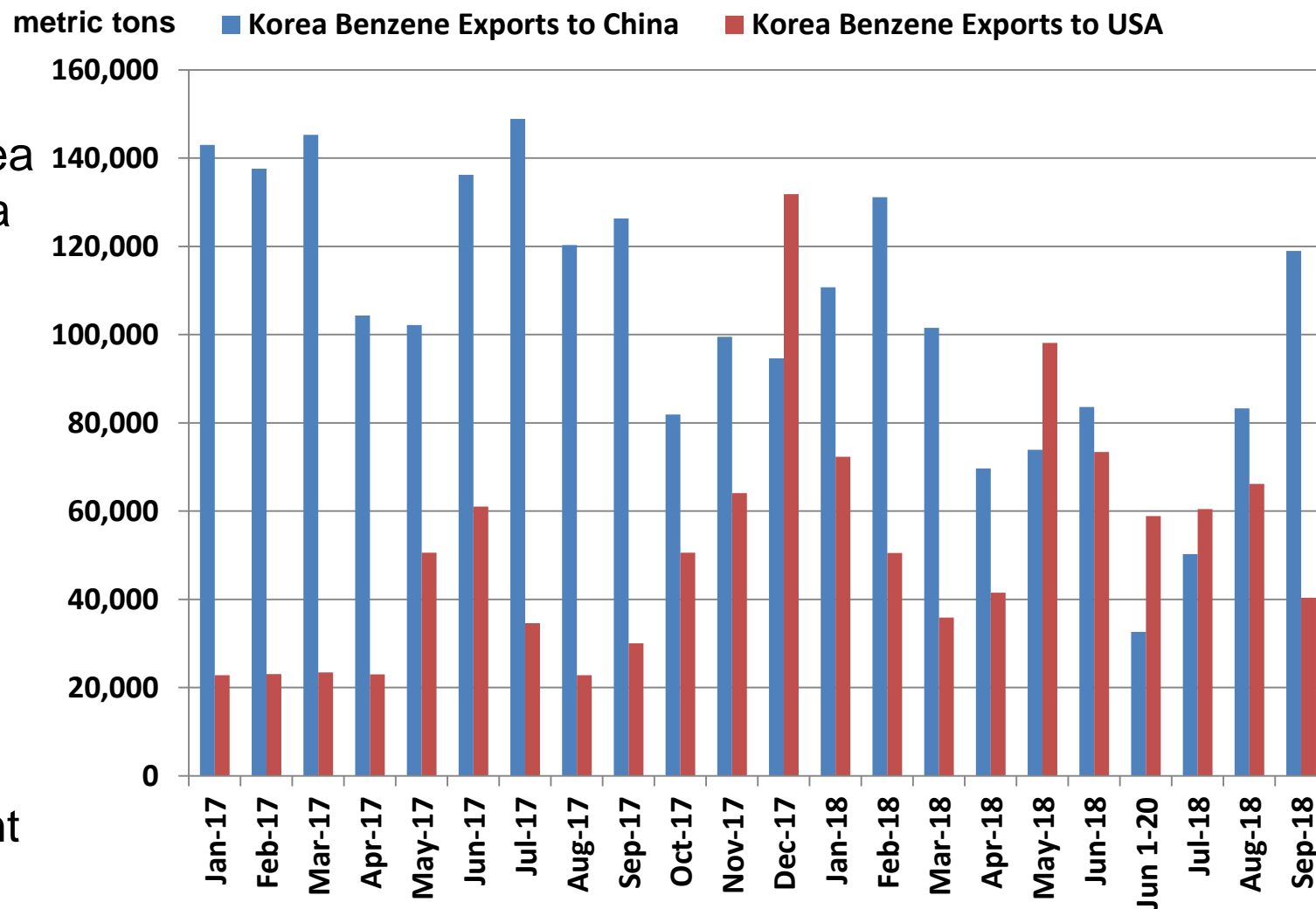
Other factors impacting benzene pricing...

- Benzene theoretically undervalued compared to crude.
- Year-end destocking associated with ad-valorem taxes could impact market.
- Price momentum could be offset by derivative maintenance in Q4 and Q1
- FHR to maintenance on cumene unit in Q4.
- Amsty to take 40-day styrene turnaround in Q1.



And then there is China....

- Chinese benzene demand will play key role in benzene pricing.
- Stronger Chinese imports from Korea translate to lower US volumes and a tighter market.
- China imports spike in September.
- Styrene anti-dumping duties have impacted benzene on the back of lower US styrene exports.
- Trade flows changing and question remains will exports to places like Korea, Taiwan, India etc be sufficient to offset lost demand from China.



Conclusion

- In the near term, US paraxylene prices expected to remain firm.
- Toluene to benefit as MSTDP operators run at high rates to capture strong margins.
- Sustained demand for toluene as an octane booster unlikely.
- MSTDP margins to be heavily influenced by benzene.
- Benzene prices could benefit from crude, destocking but derivative turnarounds could hamper growth.
- Shift in styrene trade flows impacts export volumes and pricing in the US.

Thank you

Kevin Allen
Analyst – S&P Global Platts
kevin.allen@splgobal.com
713.655.2240