Refined Products: Increased Regional Demand

Beth Brown, US Middle Distillate Managing Editor, S&P Global Platts

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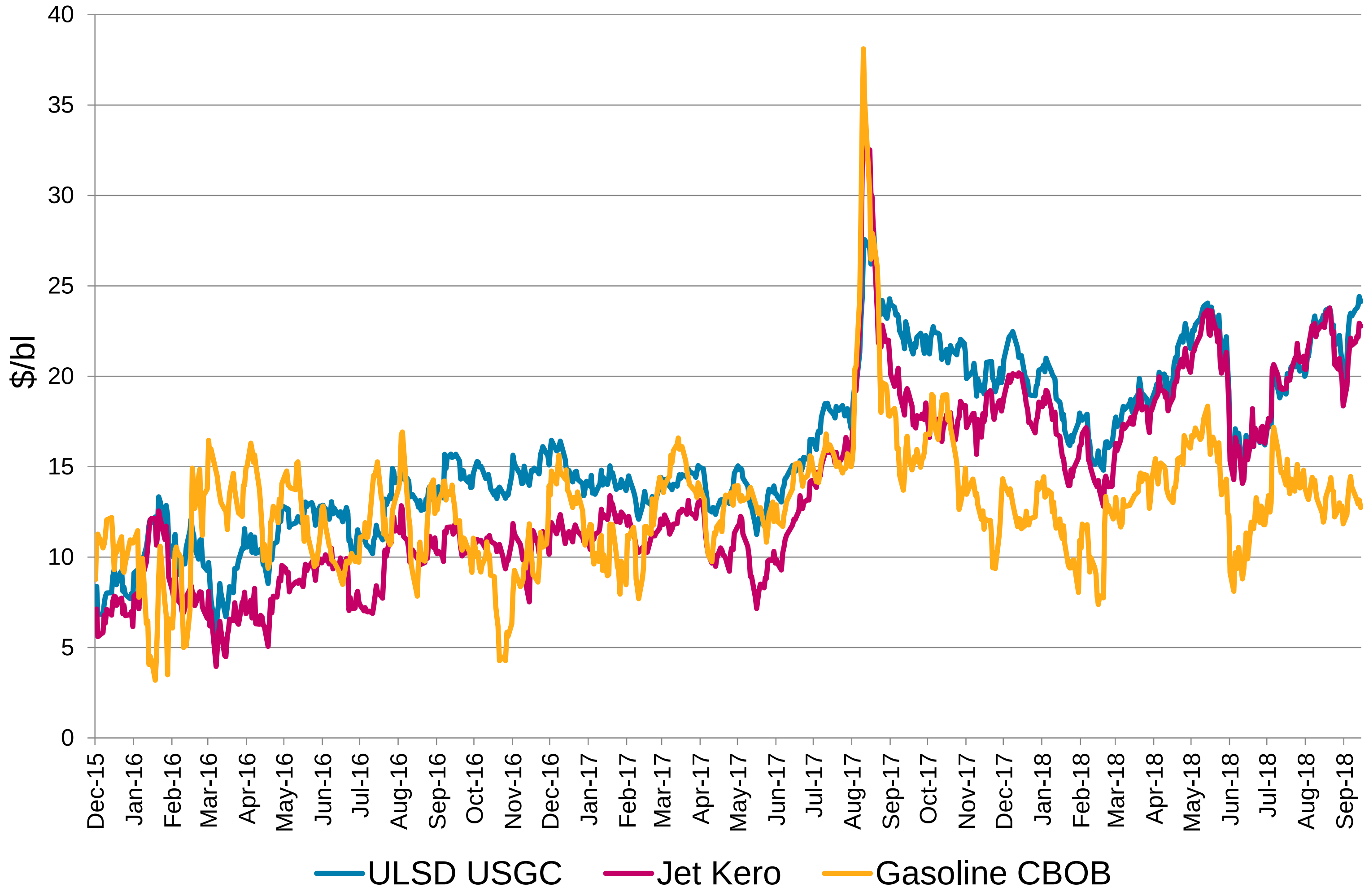
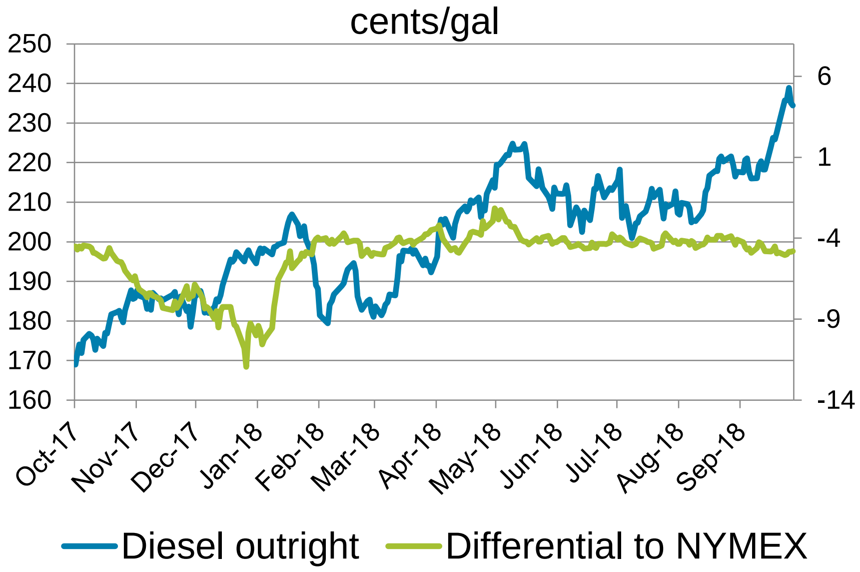
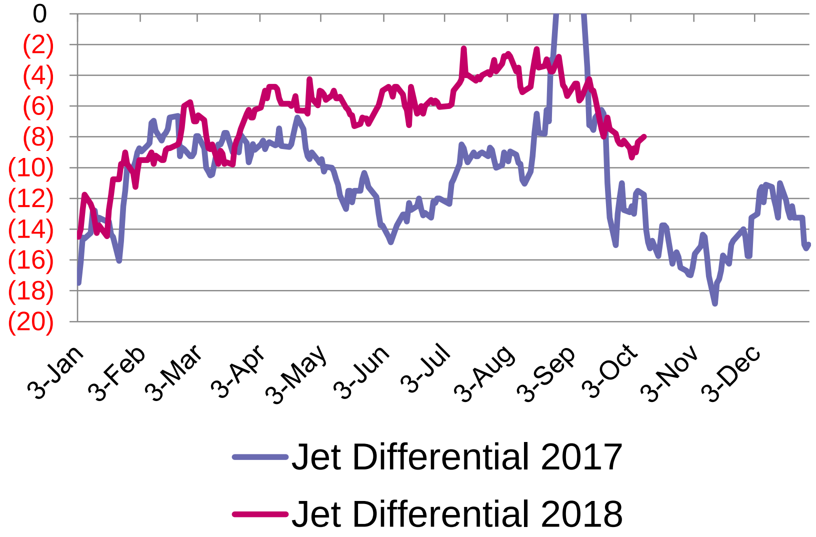
Today's agenda

- US diesel and jet prices, cracks outpace gasoline
- Shifting dynamics in domestic, export demand
- Upcoming changes in North America diesel markets
- MARPOL implications

Products cracks against WTI –
Distillates strengthen ahead of IMO demand



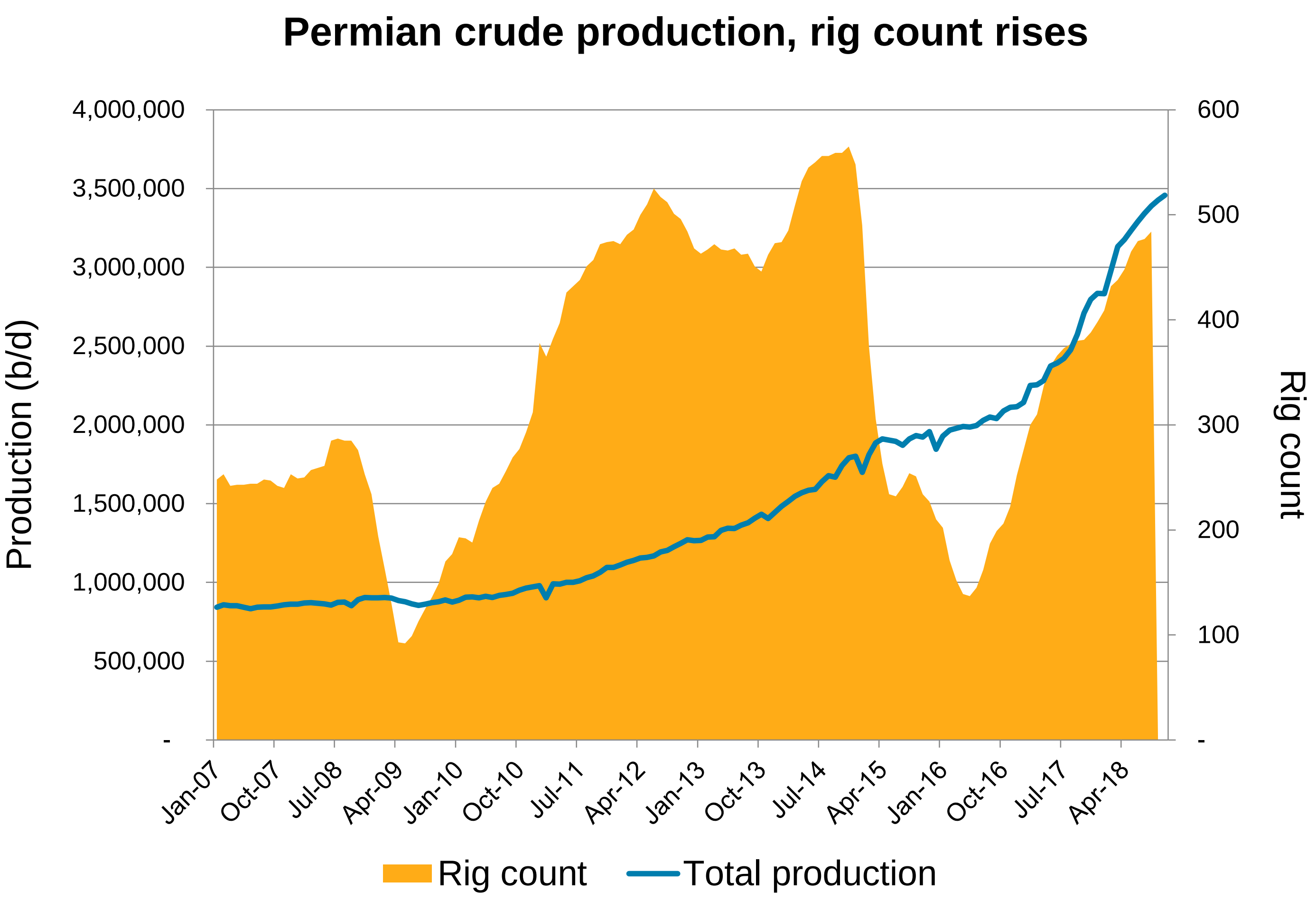




S&P Global Platts Source: Platts

US domestic demand makes up for export slides

- Healthy US economy supporting domestic diesel consumption
- Rising rig counts, crude production increases US diesel demand
- Slight contango in NYMEX ULSD has not supported long-term storage plays



Source: EIA

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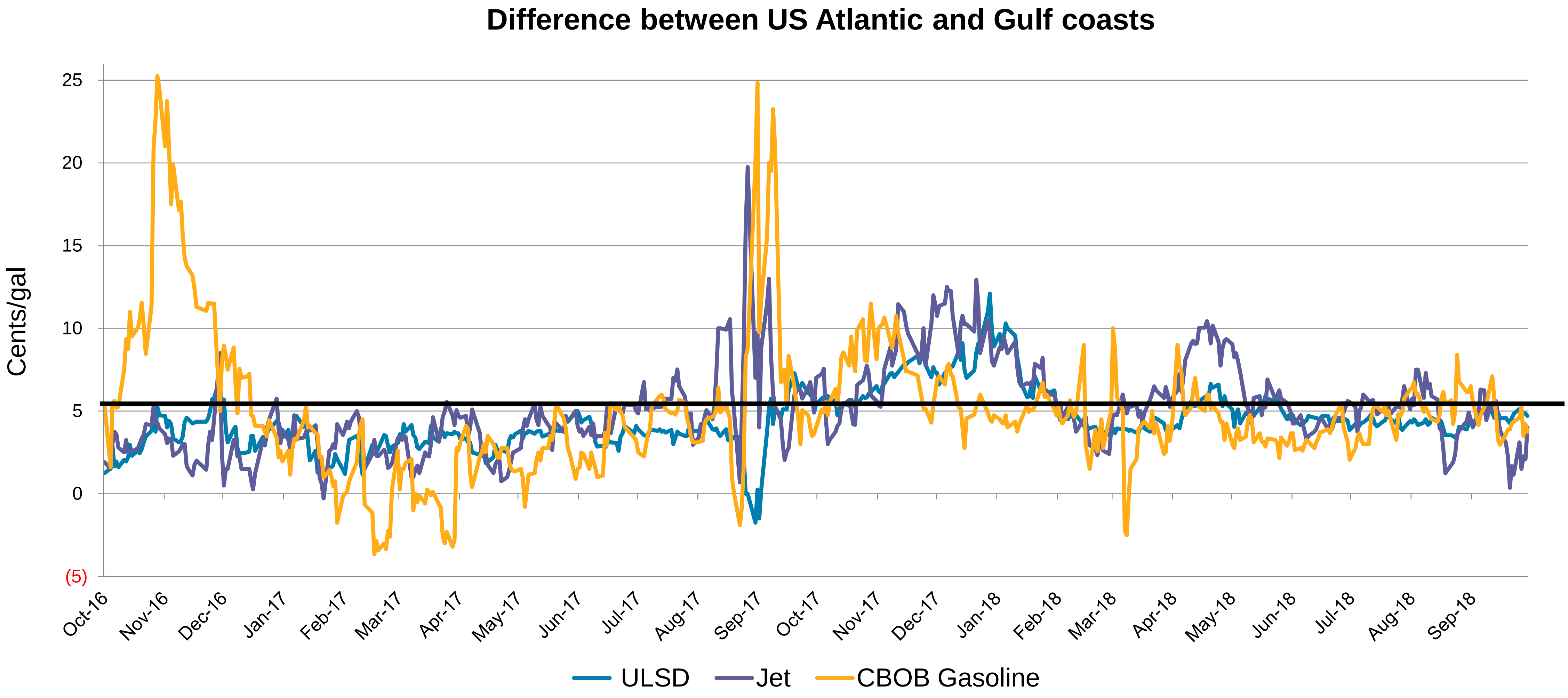
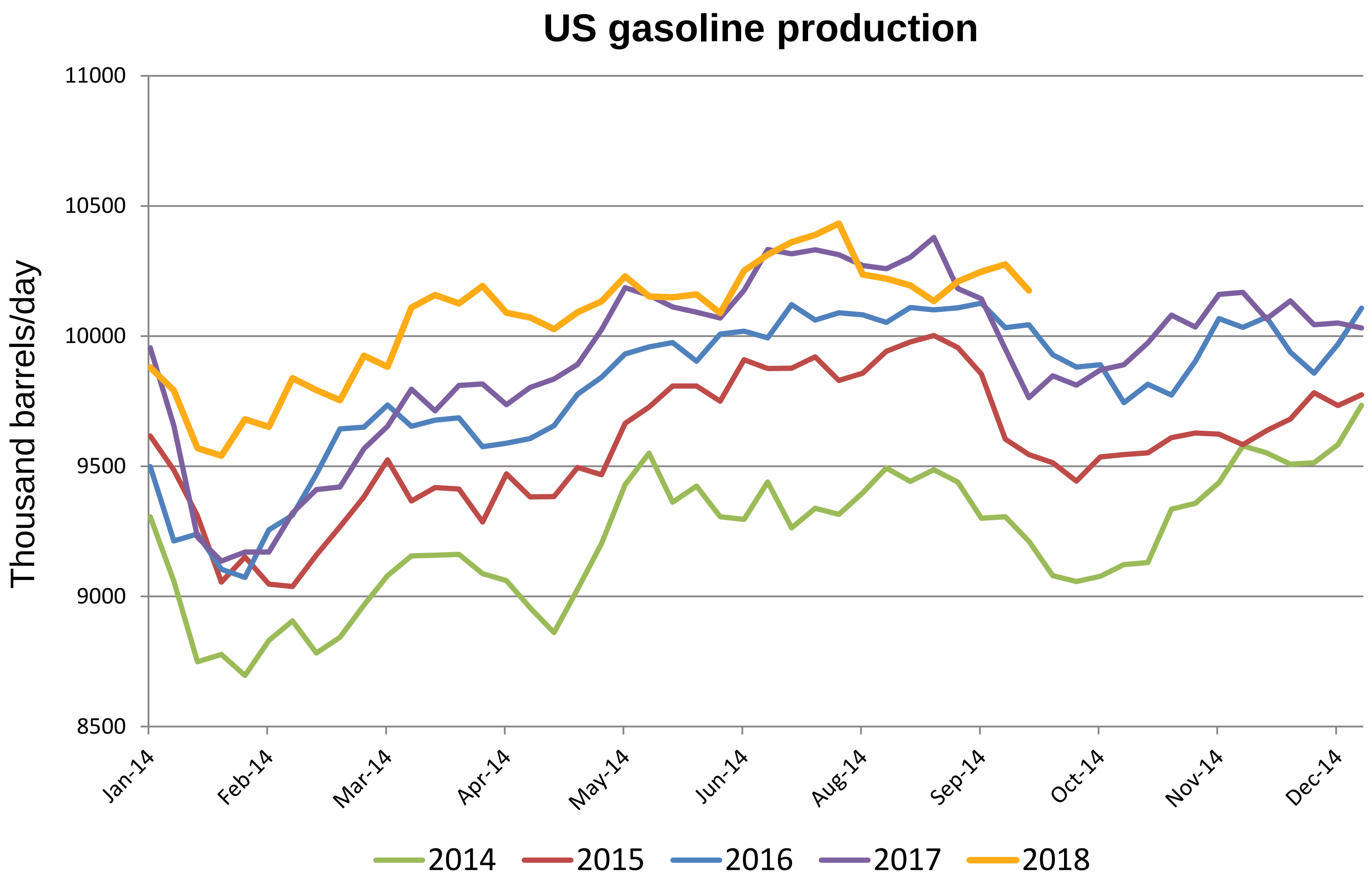
Traditional flows competing with domestic demand



Source: Platts

US gasoline production surges on domestic, foreign demand

- Strong production to keep pace with domestic and foreign demand
- Mexico creates year-long demand
- NYH refineries produce more gasoline, less distillate, which has backed out imports



Source: EIA

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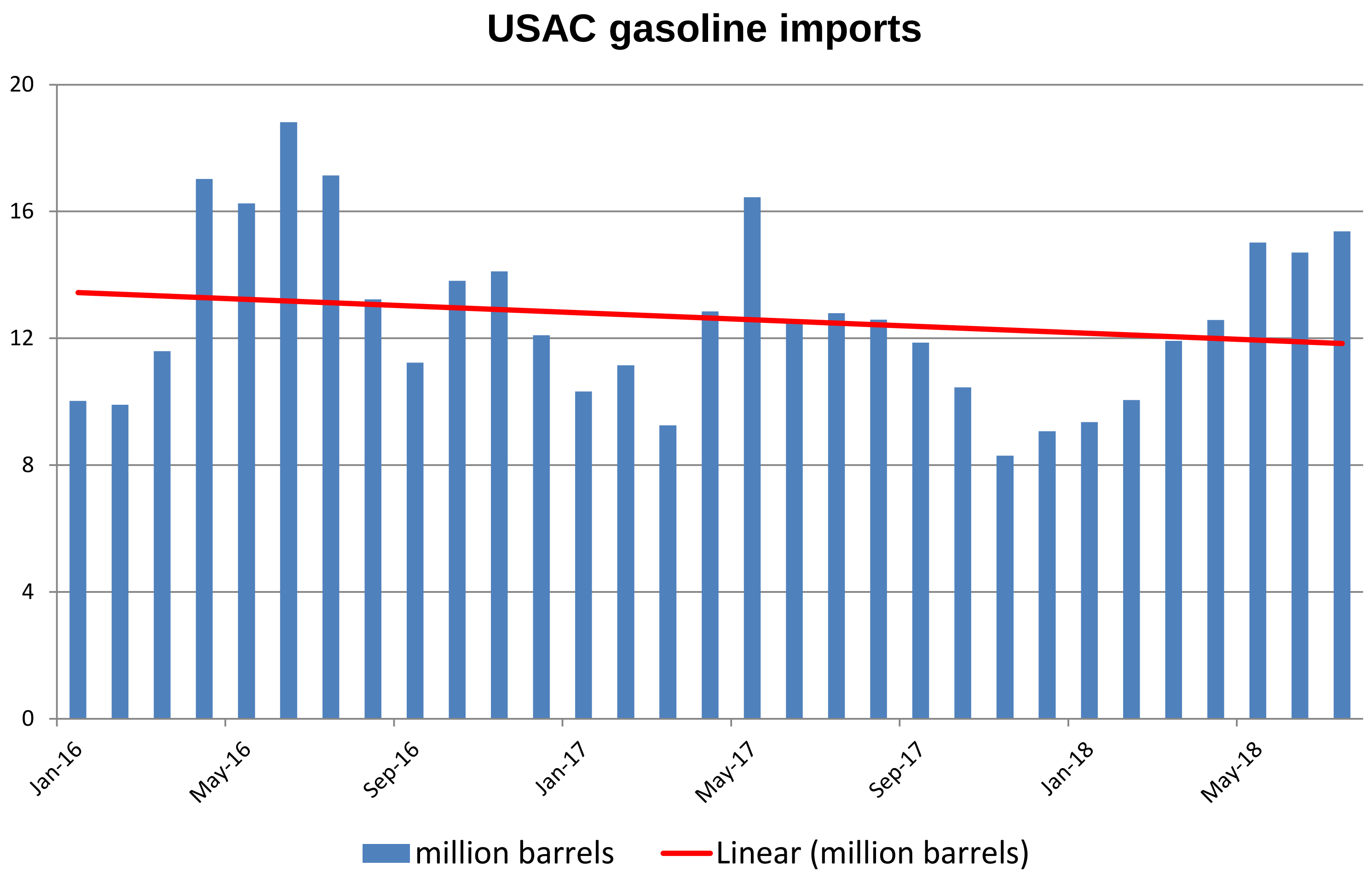
US Atlantic Coast imports edge lower

- USAC takes 70-80% of total US imports
- Seasonality: high before summer, low before winter
- Imports down on high domestic production, more Jones Act vessels



Source: US Customs

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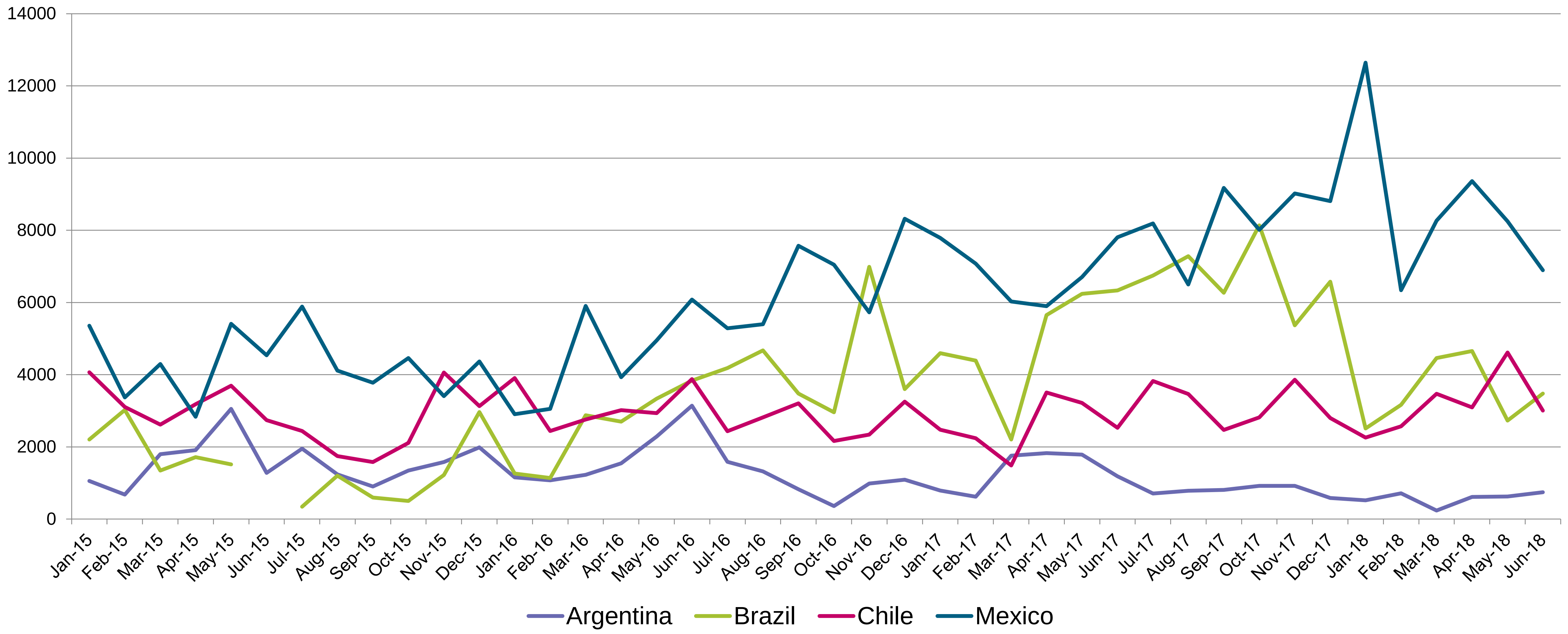
US ULSD exports to biggest demand areas stagnate



Source: EIA

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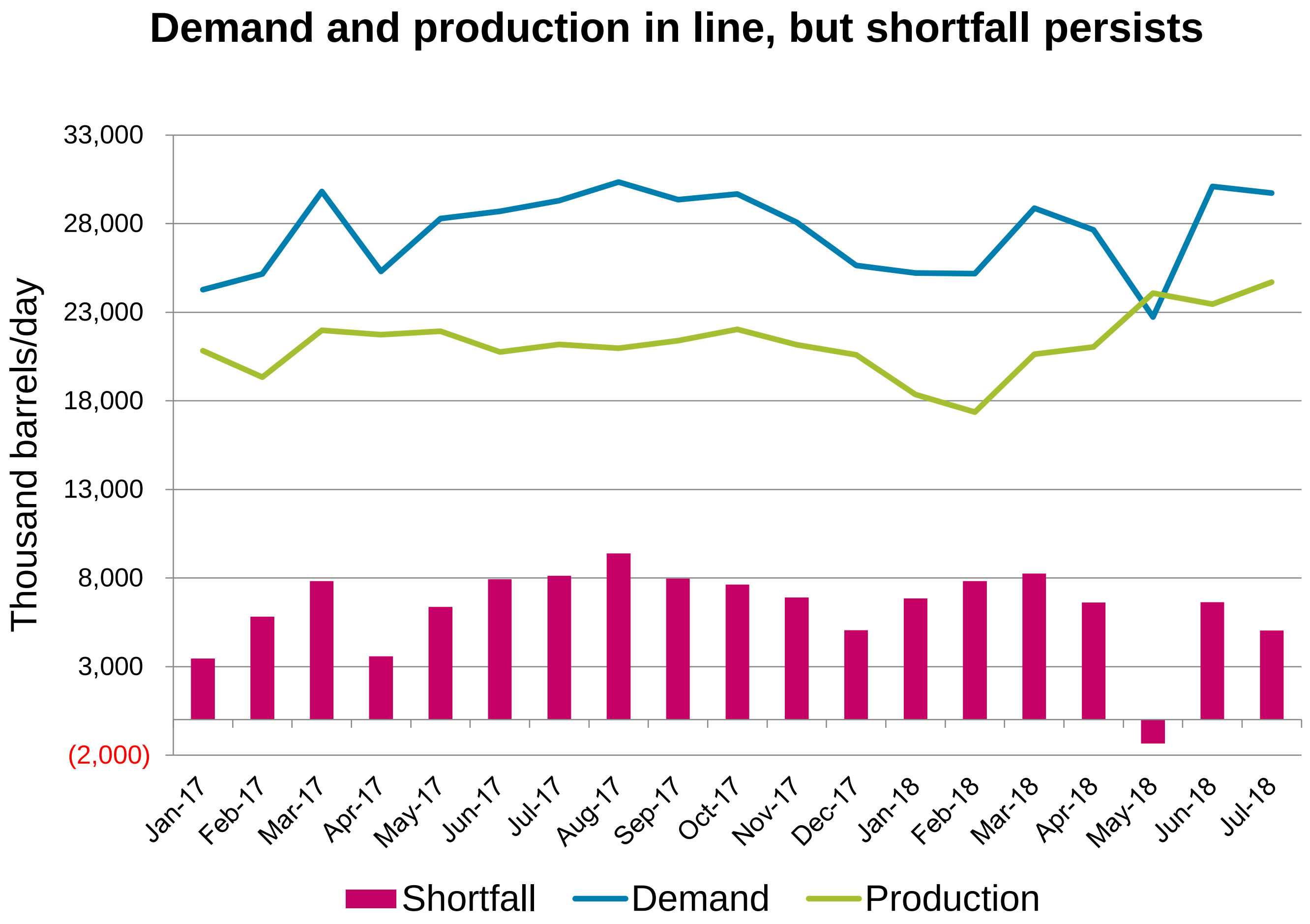
Brazil diesel balance

- US diesel exports to Brazil fall following truck drivers' strike, though concerns remain about supply
- Local diesel production higher year-on-year each month May-August, but down in August
- Diesel sales have risen since the price subsidy
  - 3.9% increase year on year in August – 32.68 million barrels



Source: JODI Data

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Platts Brazil delivered pricing

Freight pricing includes:

1. Port dues (includes terminal fees/charges, pilotage, national and local light dues, port clearance, customs, and more)
2. 72 hours of loading and discharge time
3. One port to port journey includes four days of port time

Source Platts

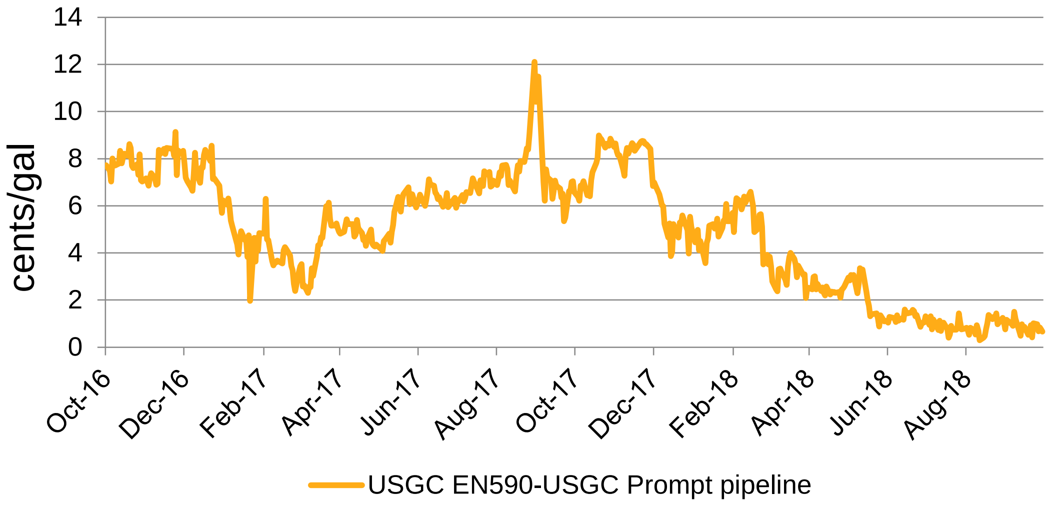
Delivered calculation – Houston-Santos

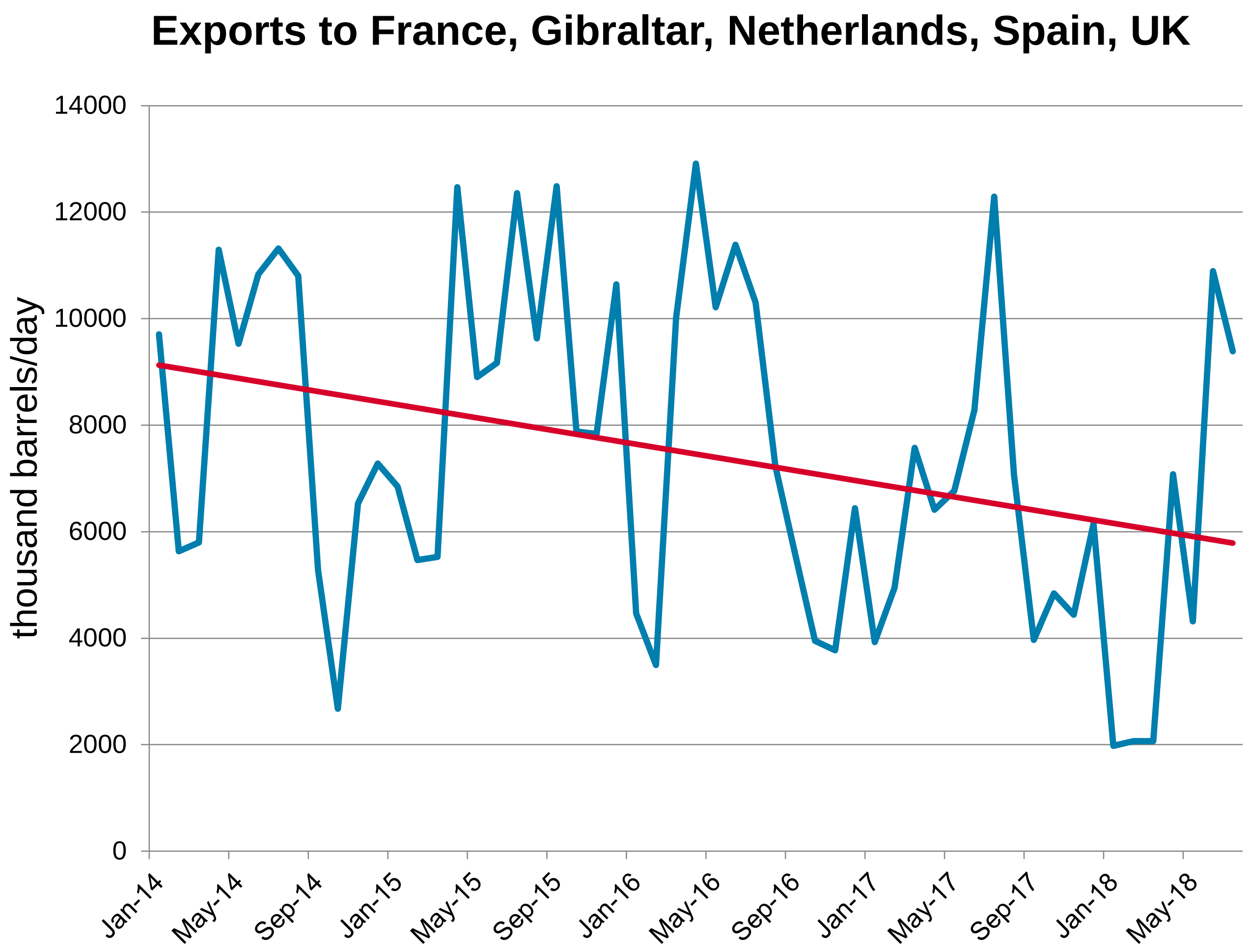
$98.41/b	Gulf Coast diesel (15-30 days)
+$0.504/b	Waterborne loading costs + S10 diesel quality difference
-$0.89/b	RVO subtracted
+$2.76/b	Freight costs
$100.78/b	Delivered cost

Does not include demurrage or taxes due to the variability from transaction to transaction and the rate charged per day.

ULSD trans-Atlantic exports slide

- Latin America dominates exports and demand growth
- Refinery upset in Brazil resulted in cargo diversion
- New-build VLCCs from China supplying Northwest European market

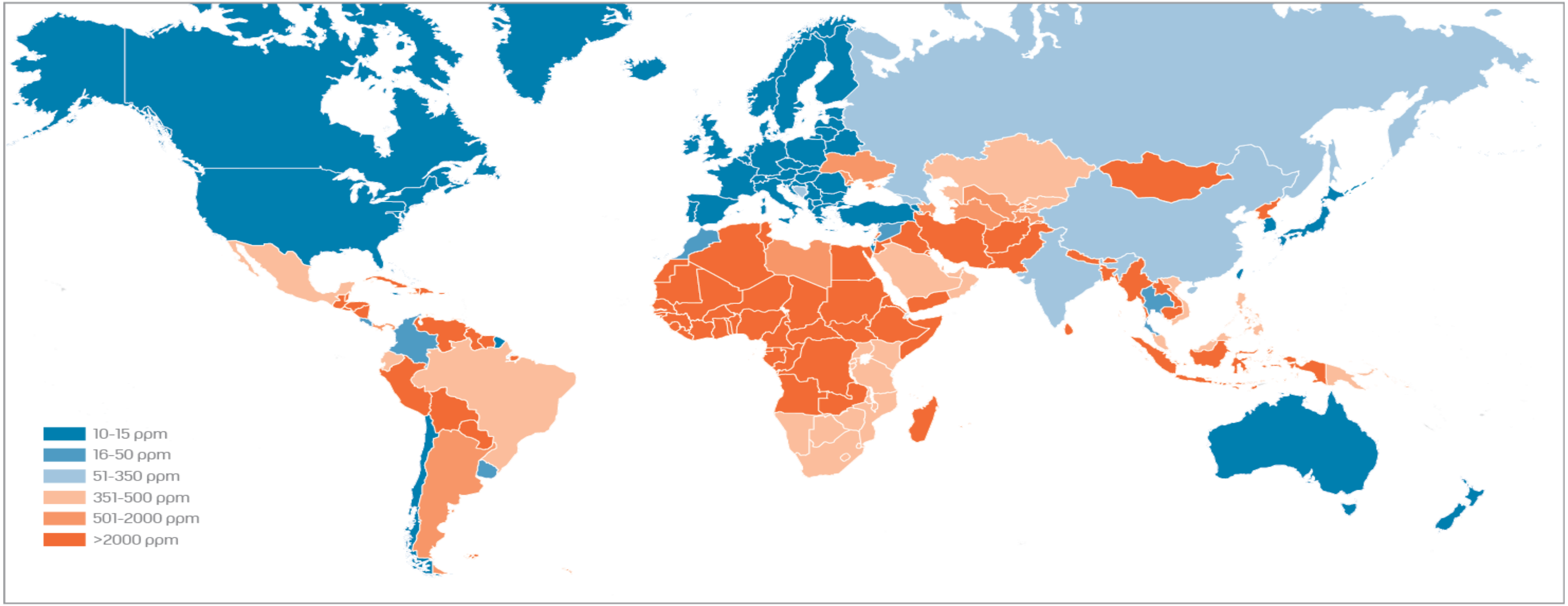




Source: Platts, EIA

Global shift towards ULSD - 2014

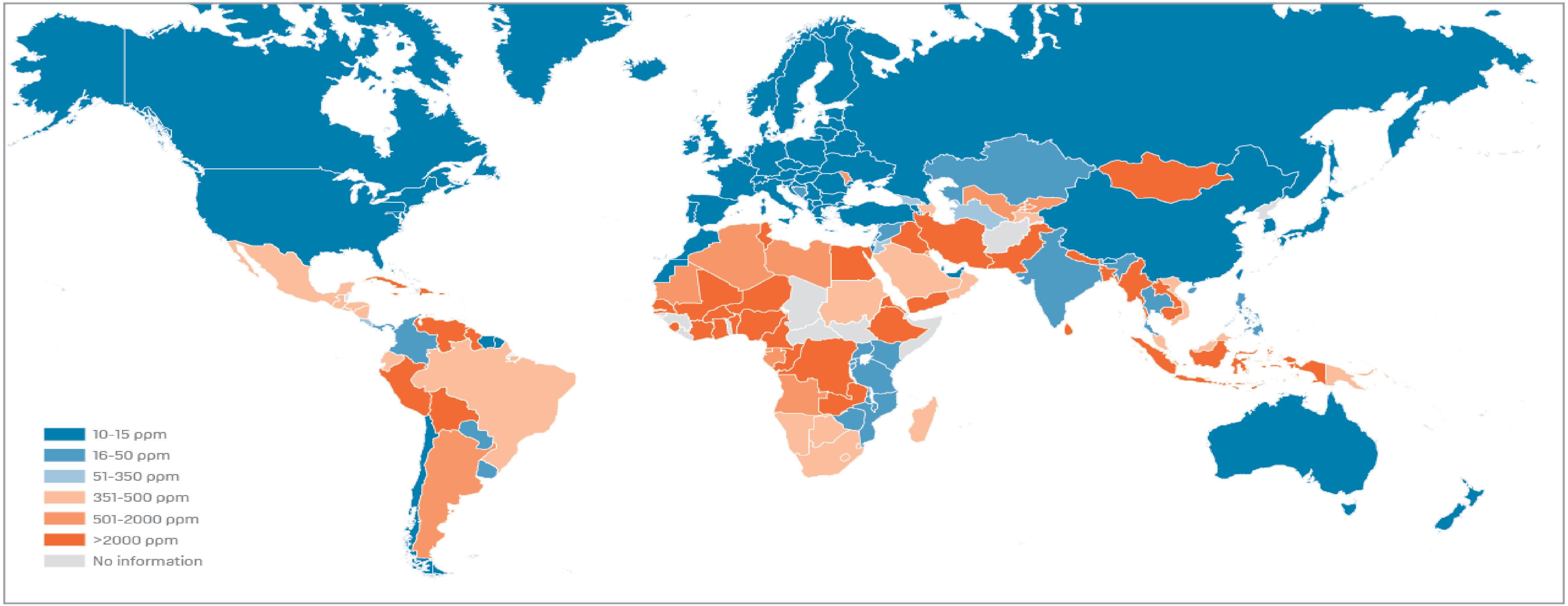
MAXIMUM ON-ROAD DIESEL SULFUR LIMITS 2014



Source: Stratas Advisors

Global shift towards ULSD – 2018

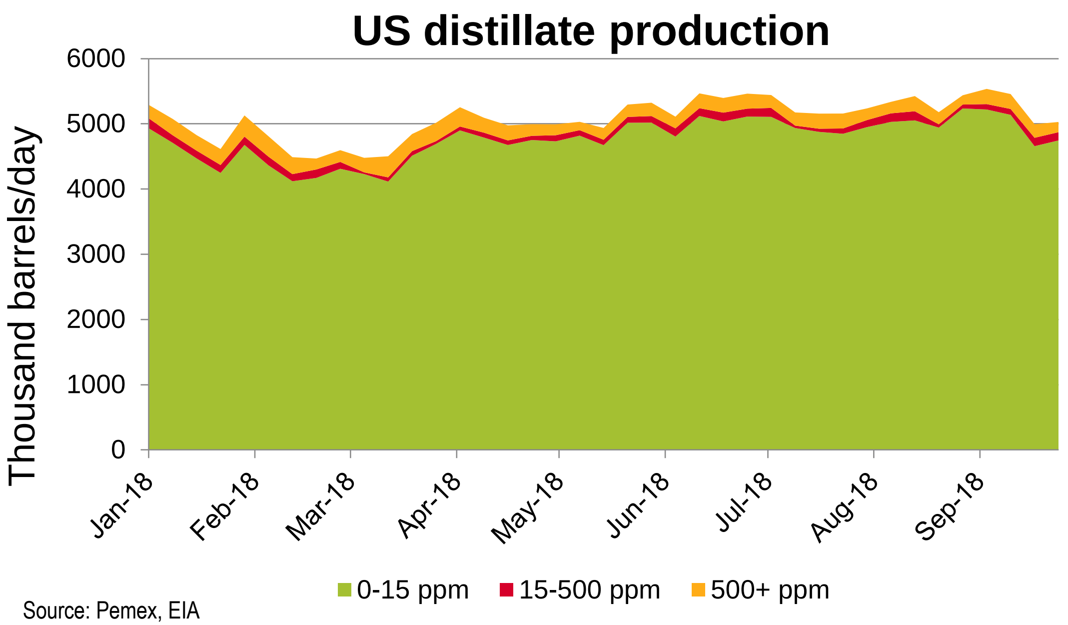
MAXIMUM ON-ROAD DIESEL SULFUR LIMITS 2018



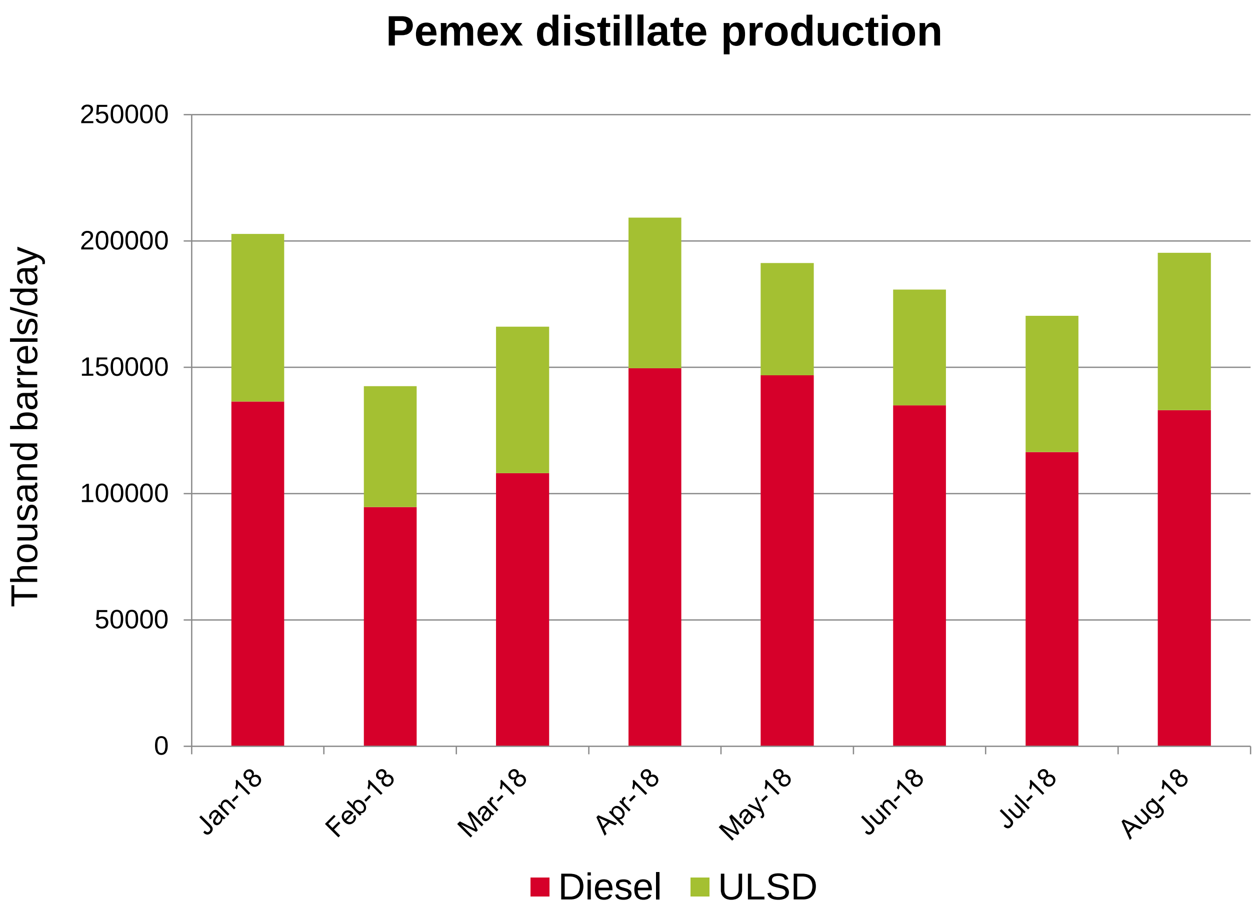
Source: Stratas Advisors, S&P Global Platts

Mexico: Next transition to ULSD

- Nationwide move to 15ppm maximum sulfur expected to increase imports
- Pemex diesel yield in 2018: 19%
- Funding barrier to maximizing ULSD production



Source: Pemex, EIA



Pemex ULSD yield since Jan 2018: 43.7%

US ULSD yield since Jan 2018: 93.7%

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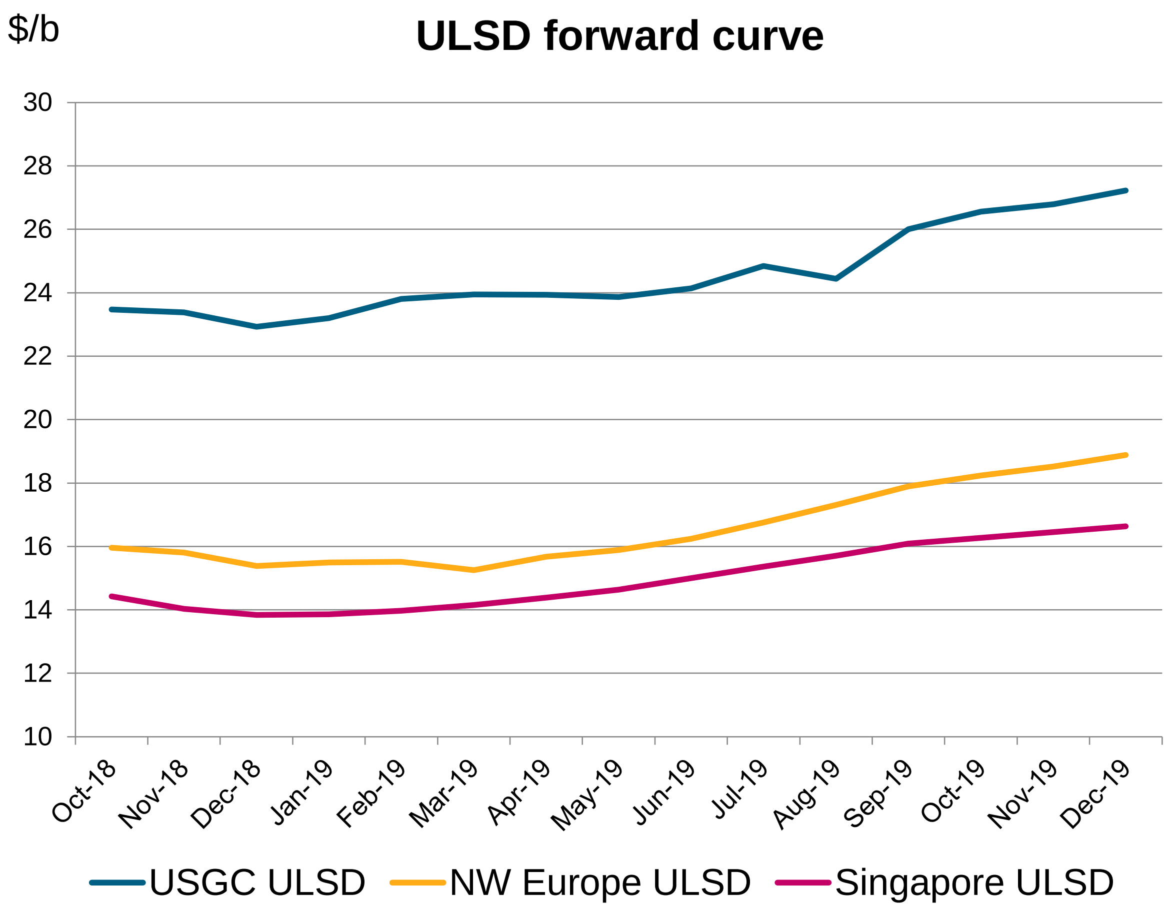
Possible tightening in diesel market due to IMO

- Majority of current bunker demand is HSFO – max 3.5% sulfur
- A high compliance would mean much of current bunker fuel unusable come 2020
- Diesel regarded as the most important substitute – for direct burning and bunker blending
- Most arbitrage flows might be affected as diesel required locally from bunker demand



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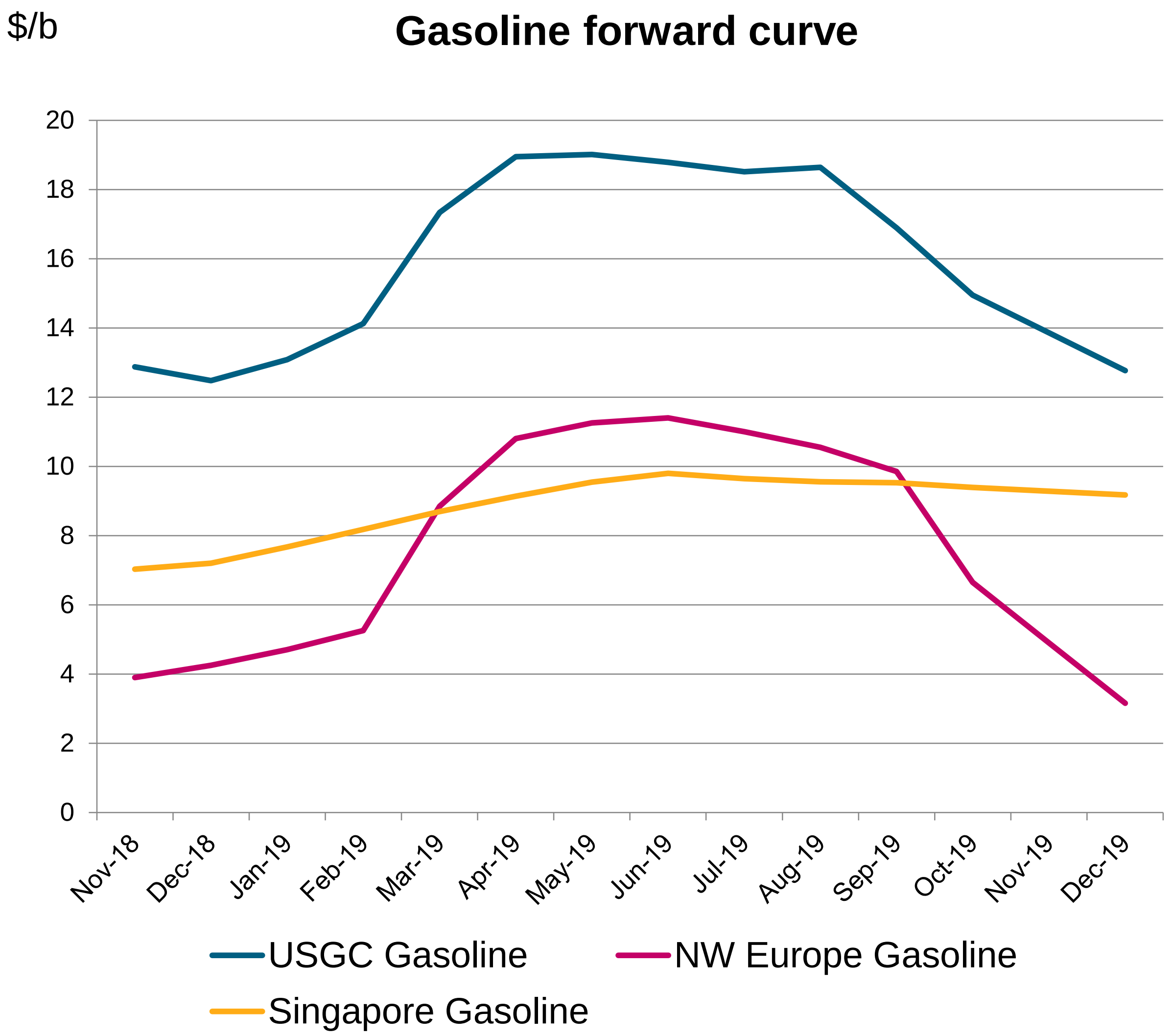
Source: Platts

IMO may have knock-on effect for gasoline

As refineries adjust to high demand for diesel, production of gasoline could be severely disrupted

Unit	Action	Purpose	Result
FCC	Cracking severity change	Maximizing distillates yield	**Lower gasoline component yield**
FCC	Lower run	Diverting VGO to bunker pool	**Lower gasoline component production**
Reformer	Lower run	Bigger distillates cut from CDU	**Lower gasoline component production**



S&P Global Platts Source: Industry; Platts

Thank you

Beth Brown
Managing Editor, US Middle Distillates

elizabeth.brown@spglobal.com