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# New York Energy Forum IMO2020 Market Issues

Stephen Jones  
12 February 2019

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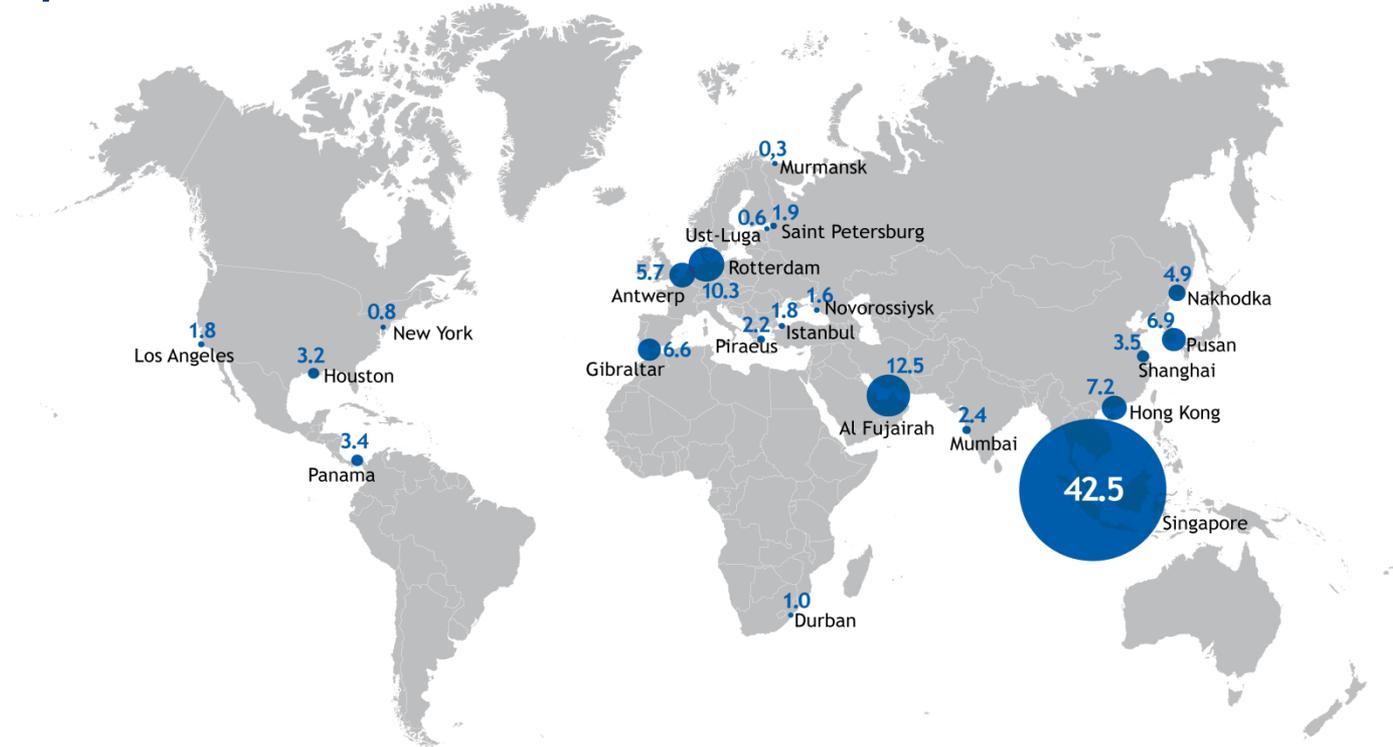
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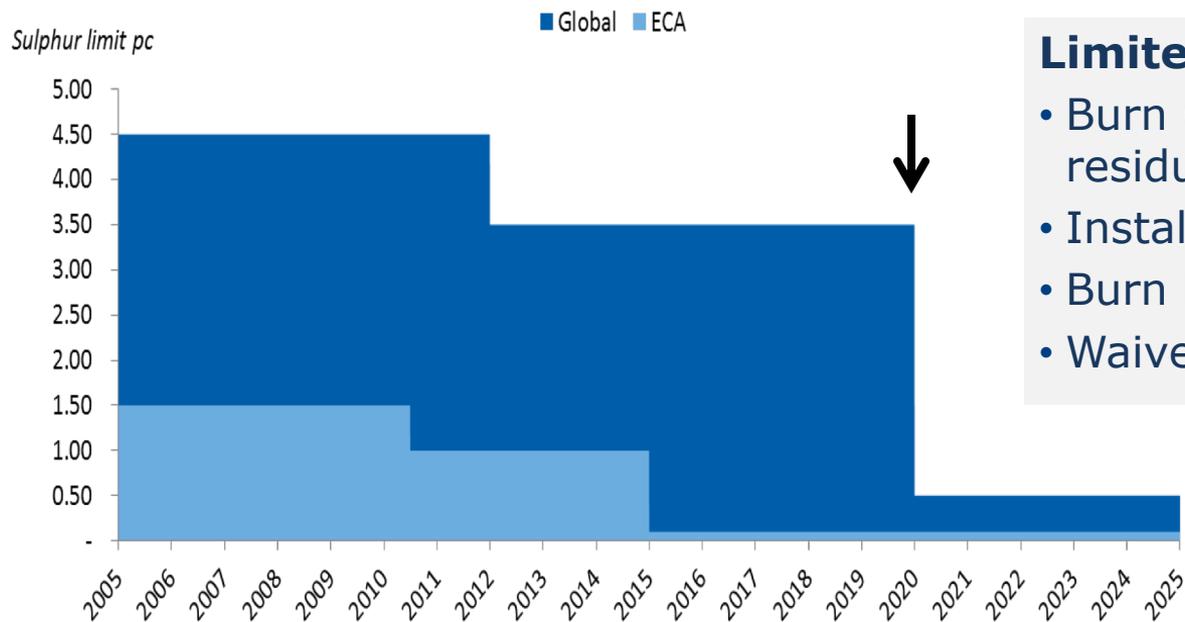
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# Today's marine fuel market



# IMO 2020 MARPOL VI limits bunker sulphur to 0.5 wt%



## Limited options include:

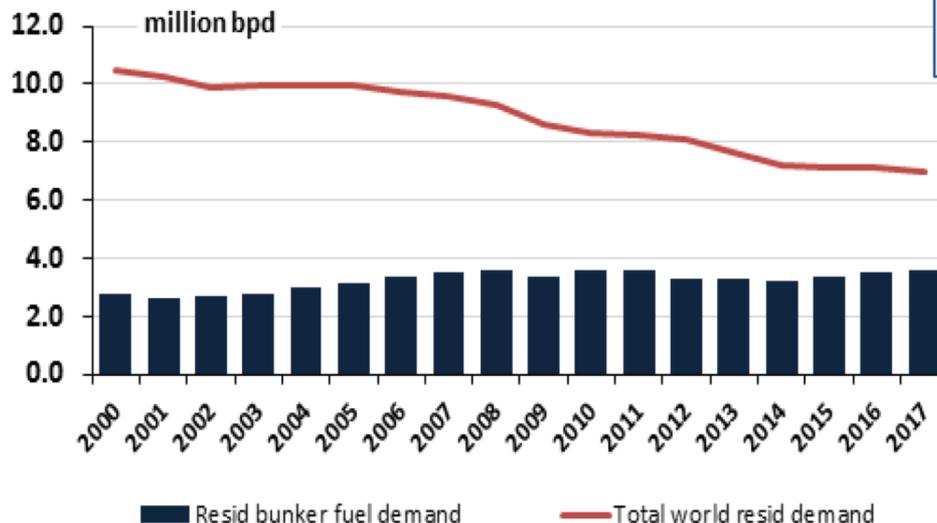
- Burn 0.5 % sulfur fuel, residual fuel or MGO
- Install exhaust scrubbers
- Burn LNG
- Waivers or non-compliance

**Impact on refining and shipping will be significant**

# MARPOL applies to small volume, but has big impacts

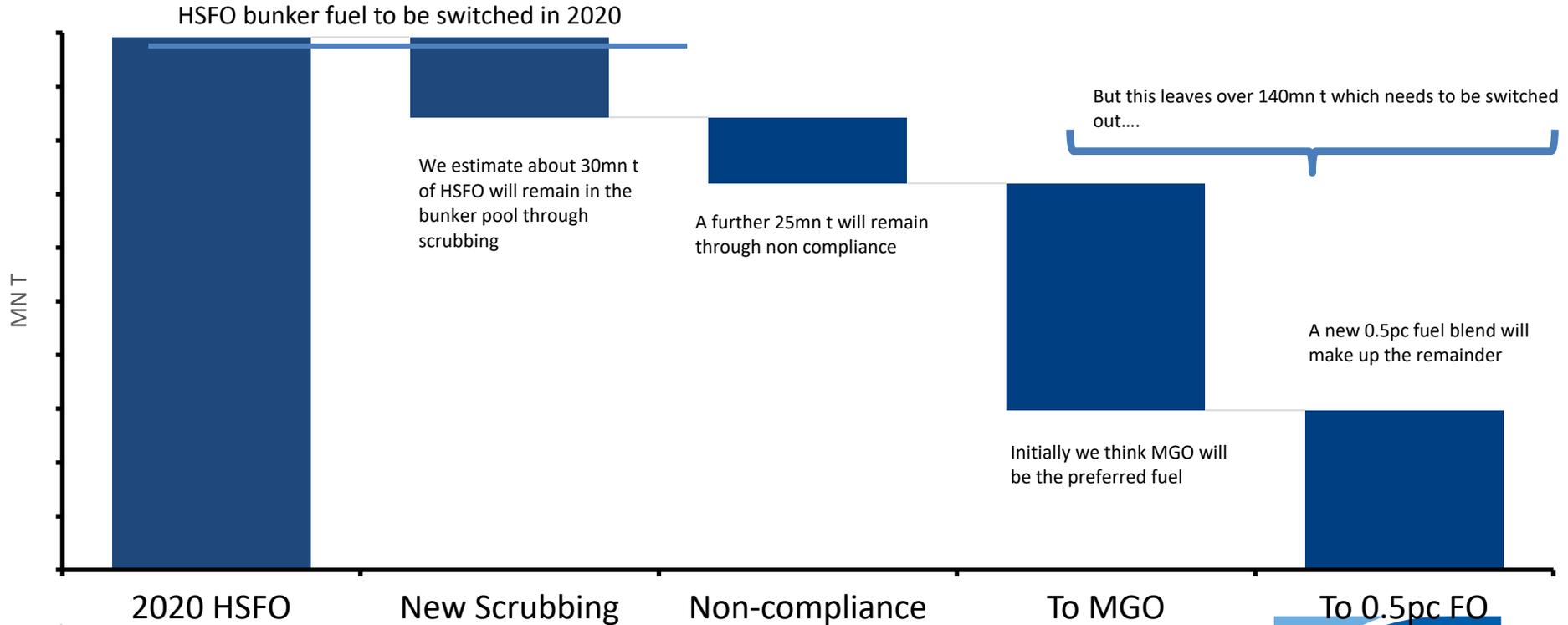
- Without wide adoption of ship-based solutions by January 2020, significant volume of high sulfur resid will be displaced from bunkers.
- High sulfur resid will have to find other dispositions or be converted to low sulfur fuel.
- Low sulfur distillate demand will rise significantly.

## World Bunker Fuel Resid & Resid Demand

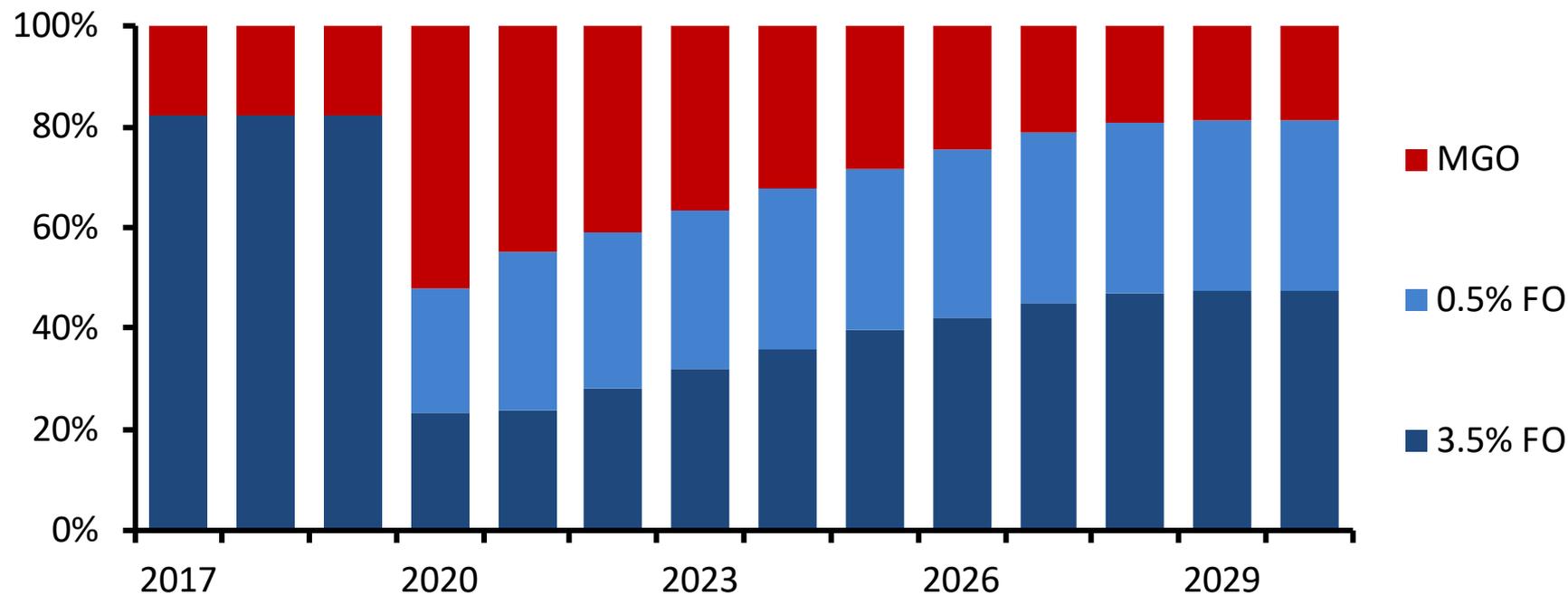


IEA estimates that up to **1.2 mn bpd of low sulfur distillates and 0.9 mn bpd of VLSFO** will be pulled into the bunker market in 2020

# IMO 2020 will disrupt typical trade (price) of HSFO



# The bunker marker faces a multi-fuel future

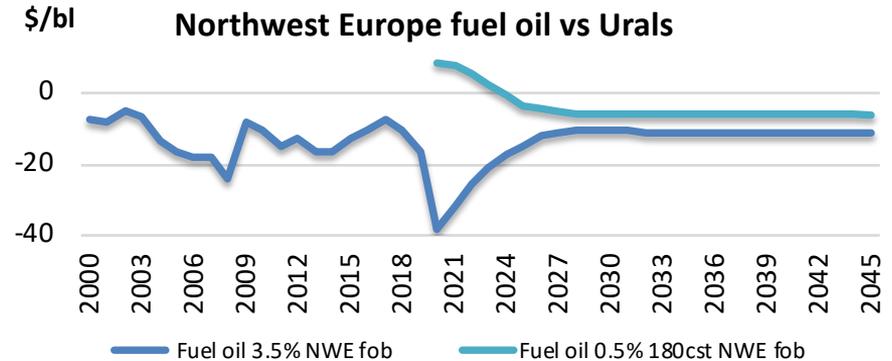




# 0.5pc FO price must offset FCC revenue loss

- FCC cracking refineries should achieve at least the same margin whether the FCC is at higher or lower rates to make LS VGO available.
- The 0.5pc FO will need to price at a significant premium to HSFO in order to ensure this happens.
- This will free up sufficient capacity to produce 0.5pc sulfur fuel oil.
- There will be a corresponding reduction in naphtha, gasoline and gasoil production.

FCC cracking refinery (Urals)				
	+/-	2020 Prices	Yield*Price	
Propane	-4.3%			
Butane	-1.3%			
Naphtha	-1.4%			
Gasoline	-14.4%			
Jet Kerosene	0.3%			
Gas Oil	-2.6%			
ULSFO 180cst	25.6%			
HSFO 380cst	-6.7%			
Total				\$0.00/bl



# Low S versus high S product differentials will widen

## USGC ULSD - 3% HSFO Differential

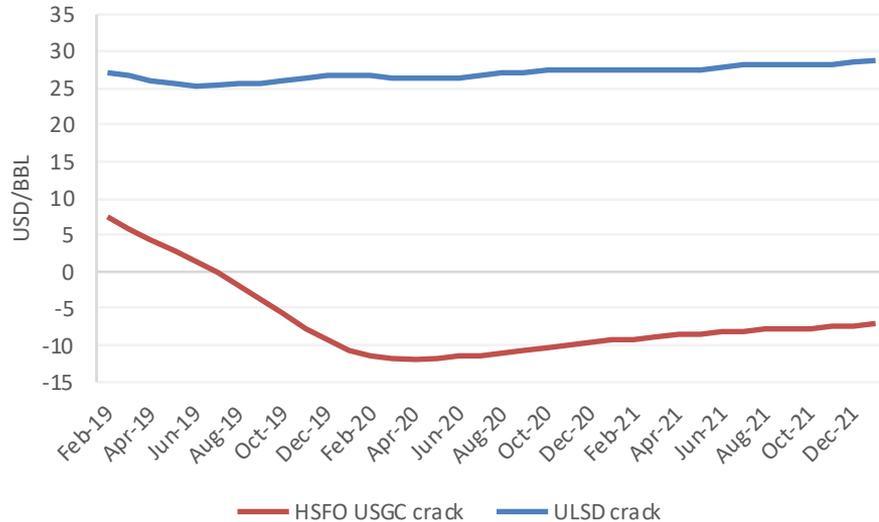
(fob, through January, 2018)



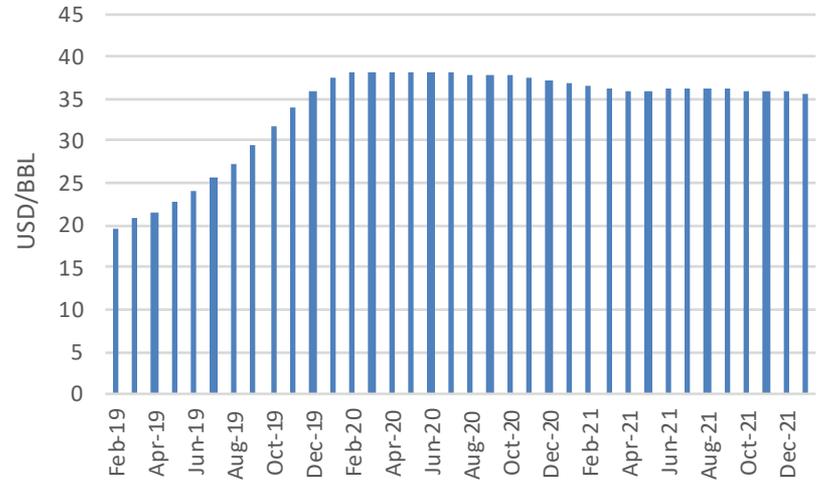
Sample results from Argus model runs. (Two high probability scenarios.)

# Forward market already reflects steepening spreads

## Forward Cracks (11Feb2019)



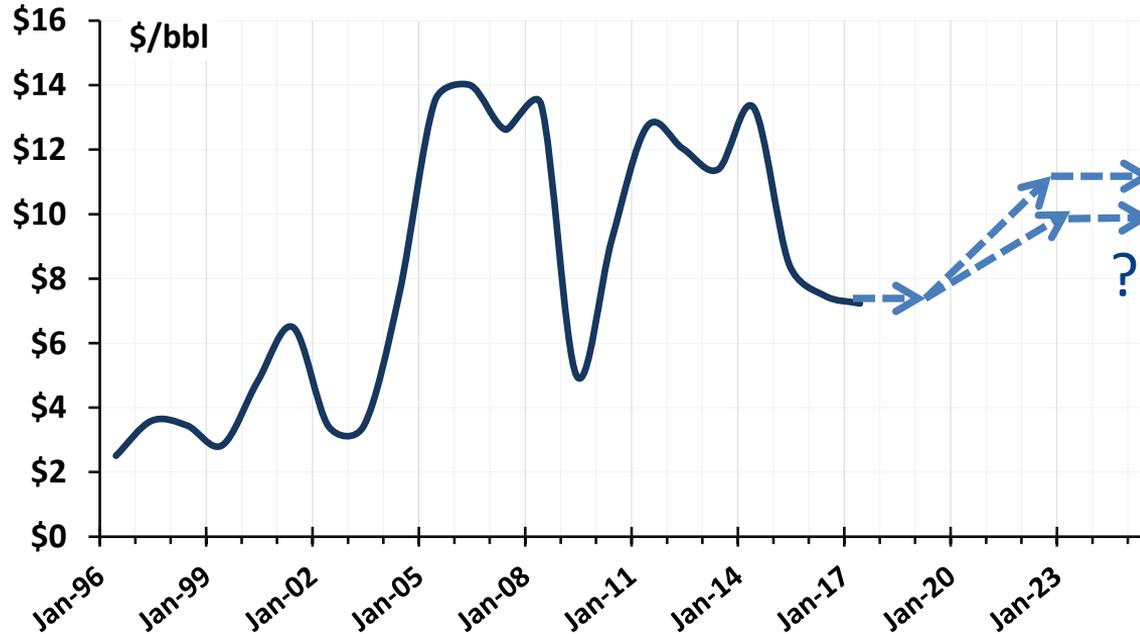
## Light/Heavy (ULSD vs HSFO Forward Curves)



# Likely MARPOL effects

## Light-Heavy Crude Price Differential

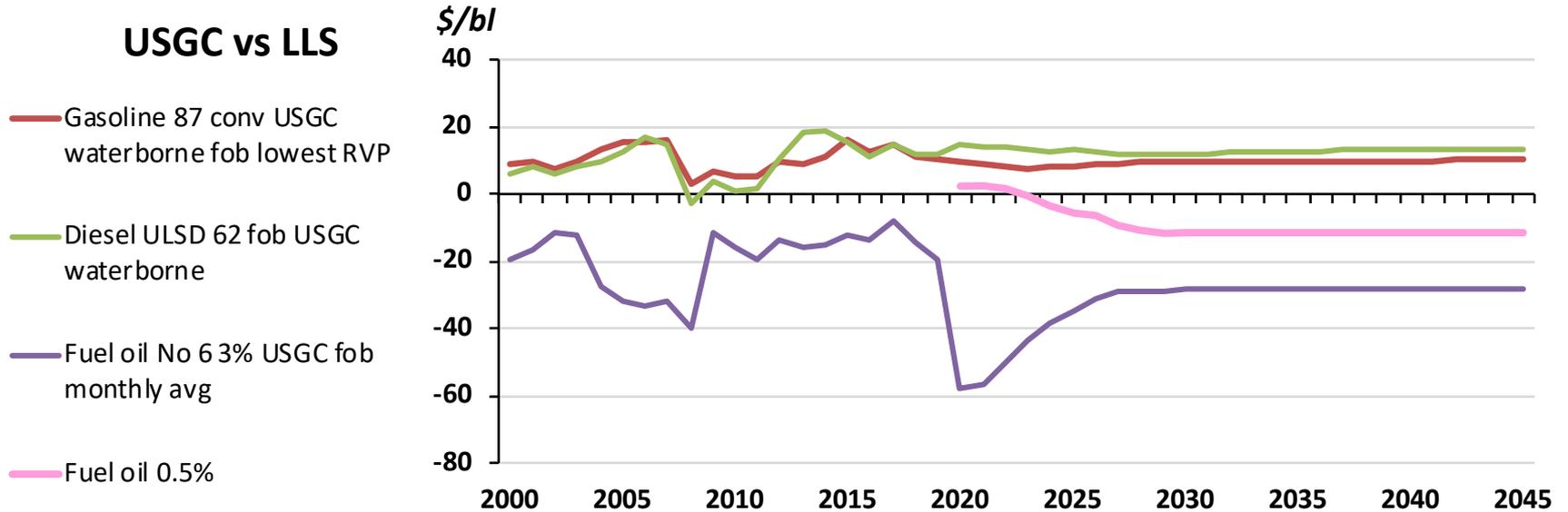
[Brent/North Sea Dated versus Maya (USGC). Yearly avg. prices. ]



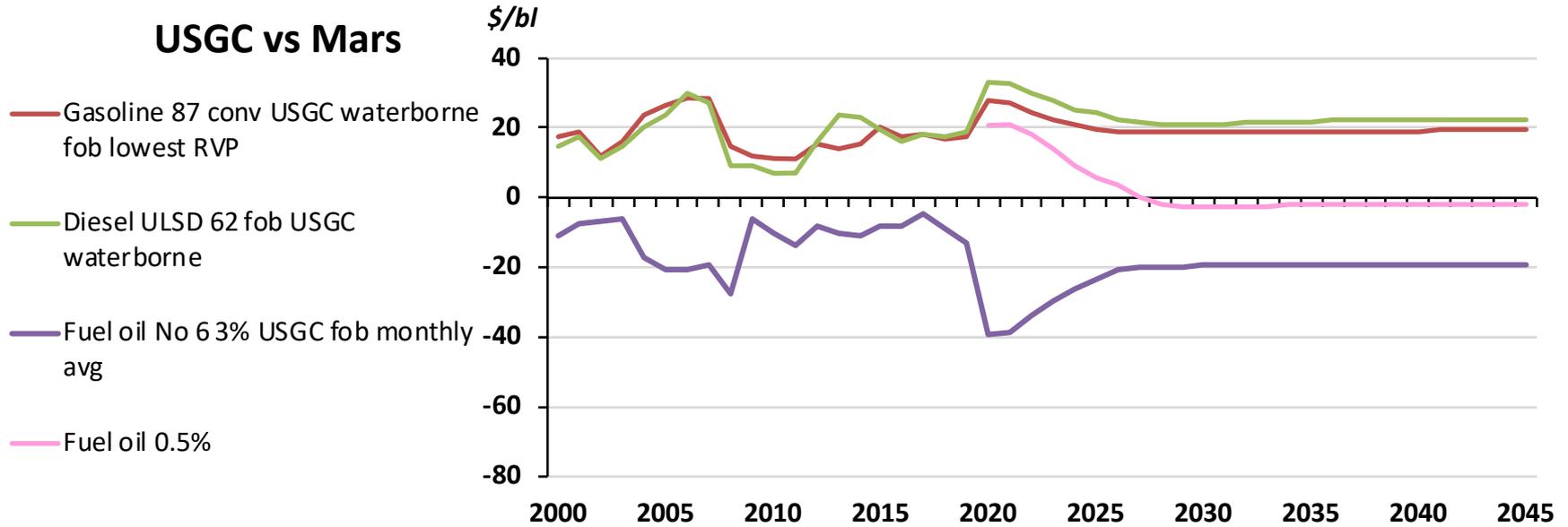
Sample results from Argus model runs. (Two high probability scenarios.)

# MARPOL could drive wide cracks but they appear tempered when shown as light products vs. LLS

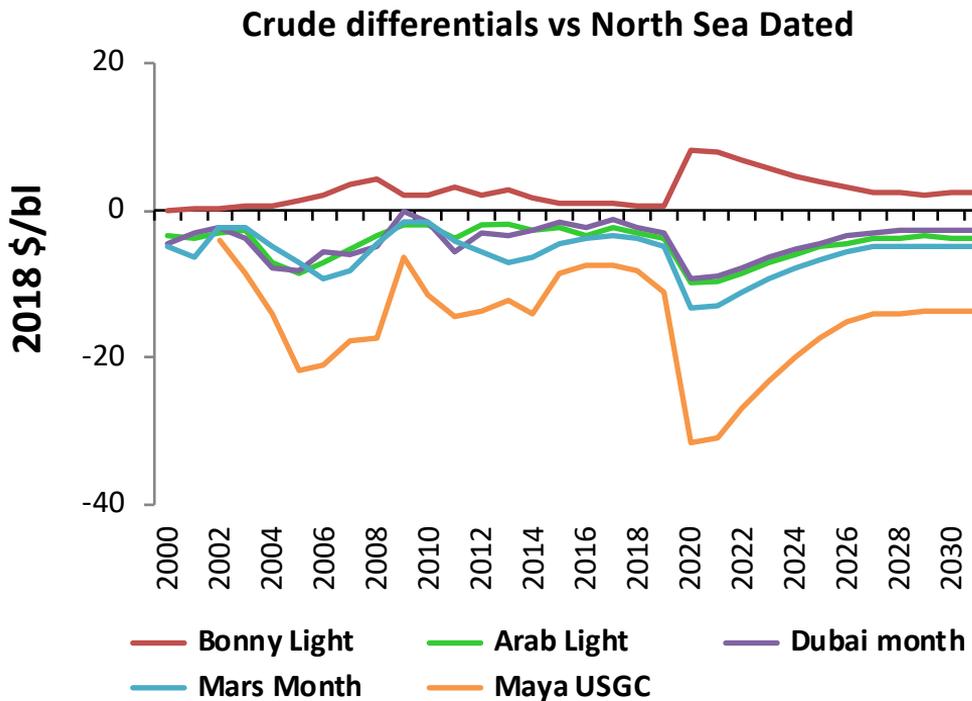
## USGC vs LLS



# MARPOL driven crack spreads show strong values for light products vs. light sour Mars crude oil



# Crude oil spreads follow light/heavy product spreads – a pronounced but temporary IMO effect



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