



**BUREAU  
VERITAS**

# VERIFUEL – UNDERSTANDING MARINE FUEL

2020 FUELS

MAR 2020



# MYTHBUSTERS

**Myth No 1: We will experience problems because VLSFOs are blended fuels**

*Fact : HFOs (e.g. RMG380) are – and have always been - blended fuels*

**Myth No 2: Compliance is a 2020 problem**

*Fact : It is not a 2020 problem, it is a 2019 challenge because when we get to 2020 it is too late. Preparation is the key to success*

**Myth No 3: There is no specification for the VLSFOs**

*Fact : ISO 8217 applies to VLSFOs as well as to ULSFO, distillates (e.g. MGO) and HFO*

**Myth No 4: The 2018 fuel incidents were a pre-warning for 2020**

*Fact : Endemic cases occur with regular intervals of some 2-3 years. The one in 2018 were all high sulphur fuel and the cause still remains to be found. There was no indication of deliberate blending of deleterious species*

**Myth No 5: Cat fines will be a big problem for the VLSFOs**

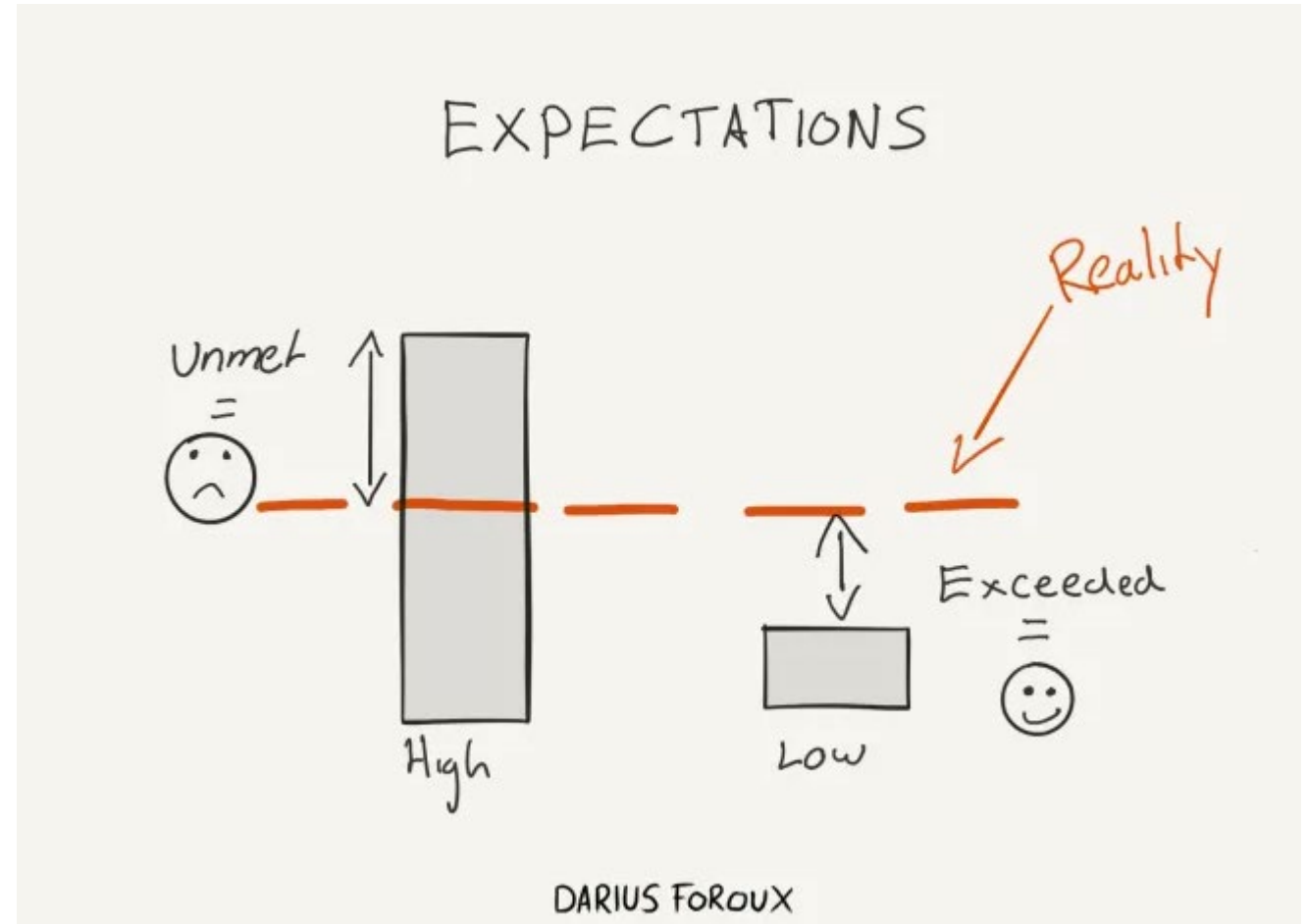
*Fact : The max 1.00% S fuels contained more cat fines on average than the HSFOs. Data so far shows that the VLSFOs, on average, contain same amount of cat fines as the HSFOs but the density and viscosity is lower, ie. Easier removal of cat fines.*



# VLSFO

## PRE-2020 EXPECTATIONS

- More paraffinic fuels
- Larger variation in viscosity
- Geographical variations

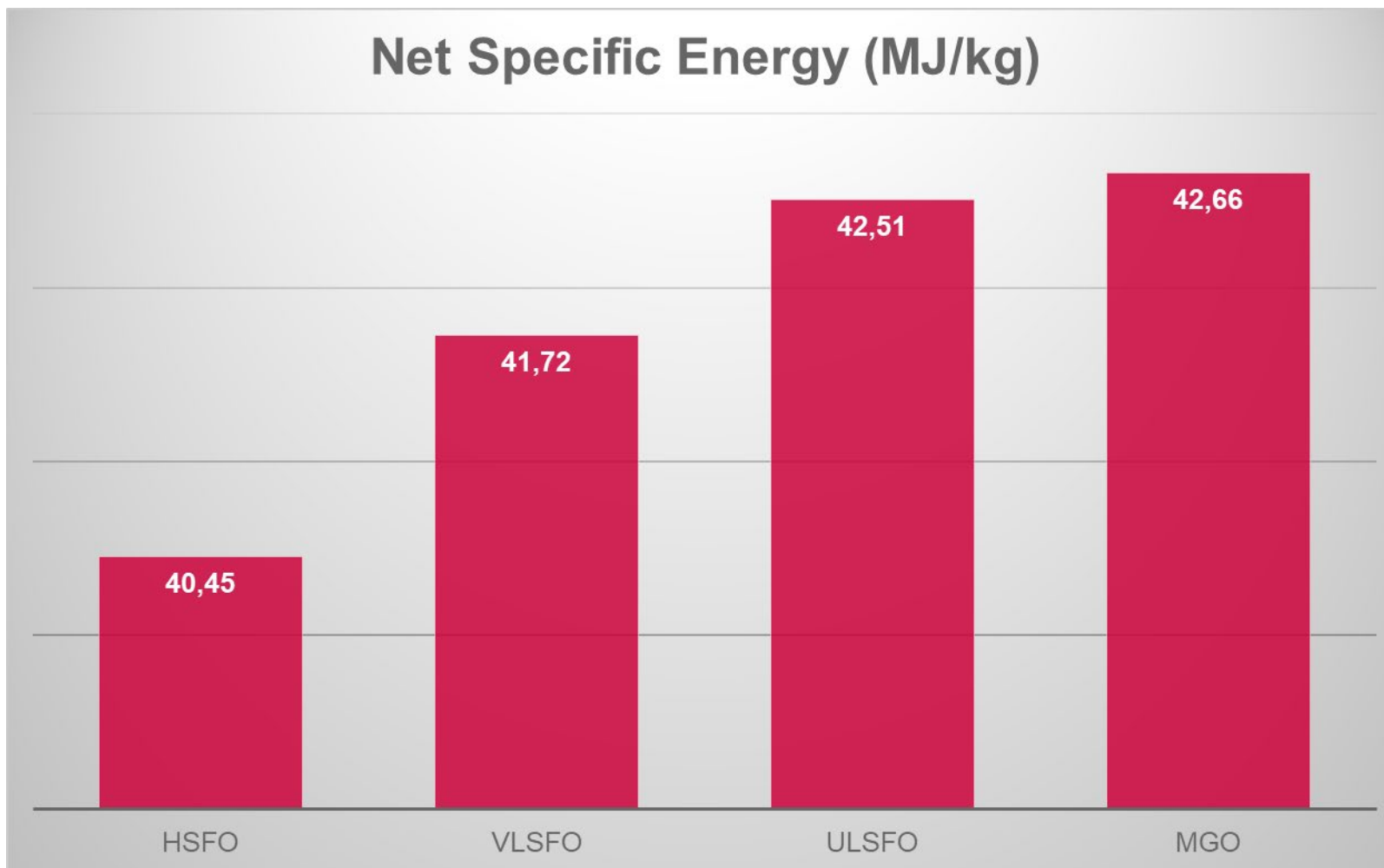


Parameter	VLSFO (Jan-Feb 2020)			HS HFO (Jan-Feb 2019)
	Average	Min	Max	Average
Visc@50°C (cSt)	112.5	2.239	600.0	337.9
Dens@15°C (kg/m <sup>3</sup> )	934.9	828.6	989.4	983.8
Sulphur (% m/m)	0.46	0.06	0.73	2.48
Sediments (% m/m)	0.03	<0.01	Unfilterable	0.04
MCR (% m/m)	5.46	<0.10	14.61	13.19
Pour Point (°C)	76%*	<-33	33	99.9%*
Al+Si (mg/kg)	19	<1	66	28
Ash (% m/m)	0.021	<0.010	0.099	0.045

\* Number of samples with PP < 21°C

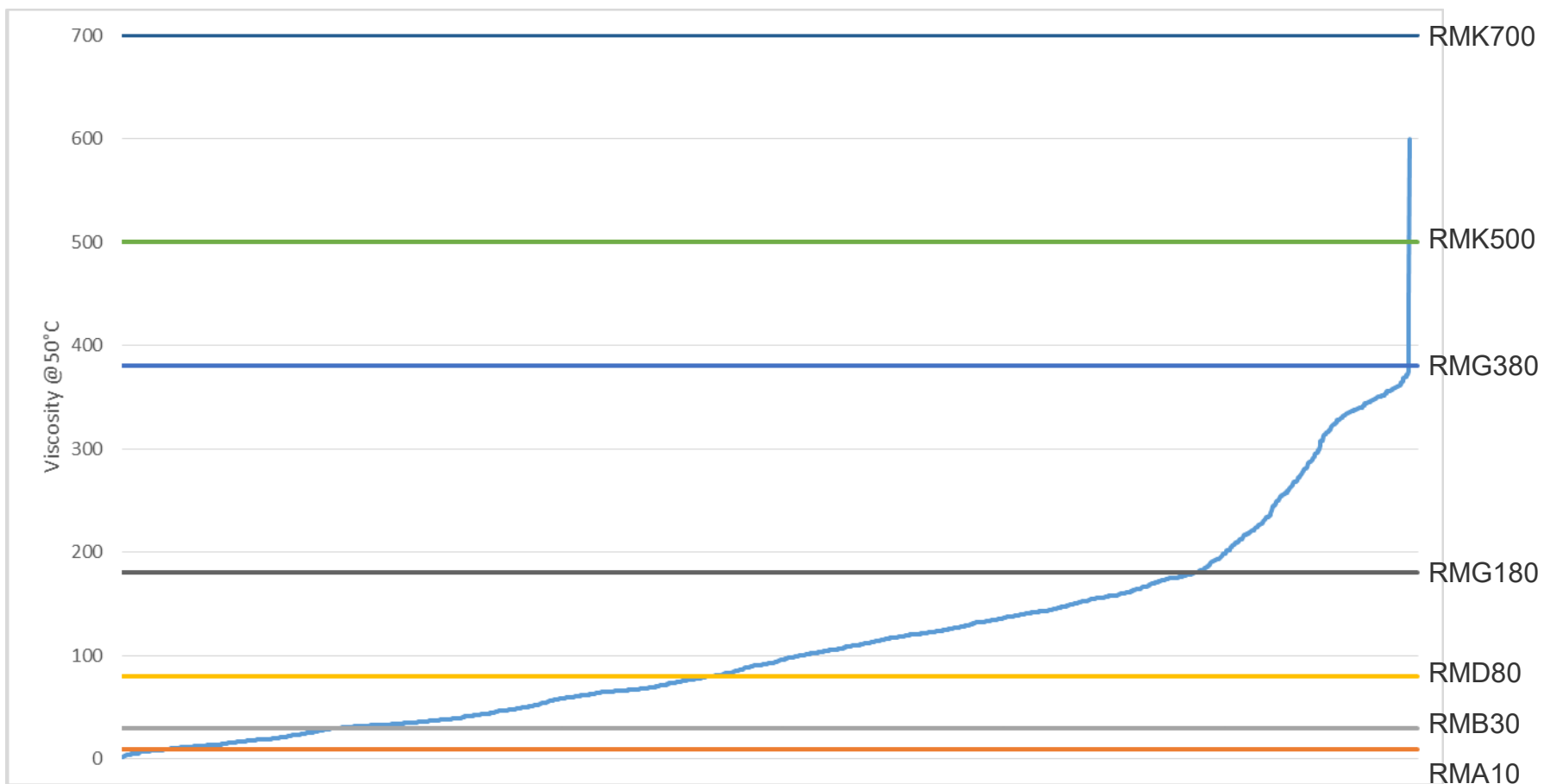
# ALL FUELS

## AVERAGE ENERGY CONTENT



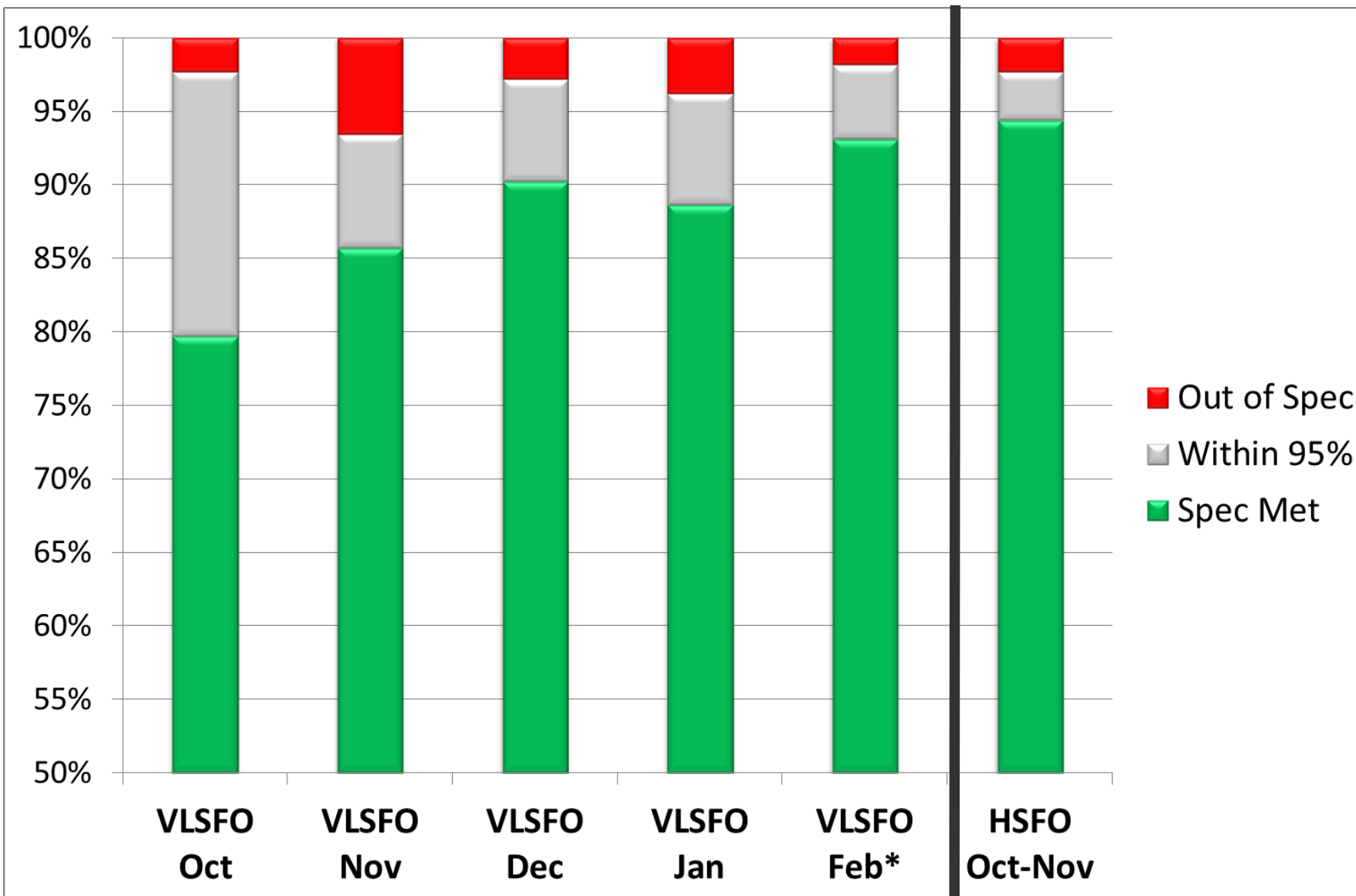
# VLSFO

## JAN-FEB 2020 – VISCOSITY RANGE



# VLSFO VS HSFO

## SPECIFICATION REPORTS



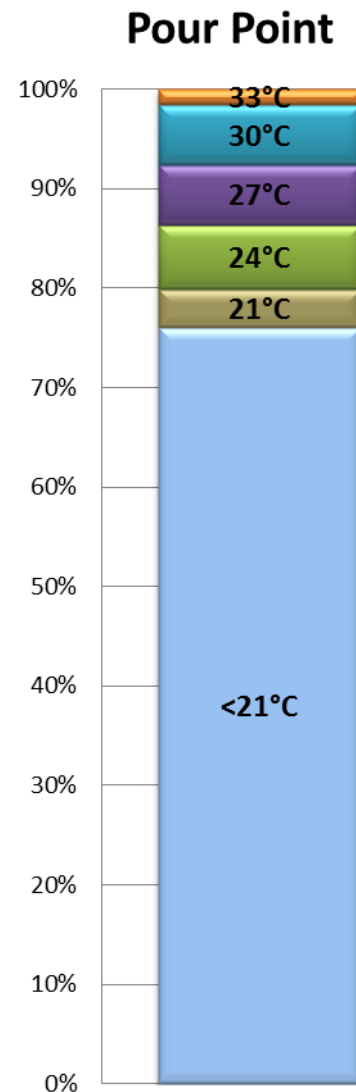
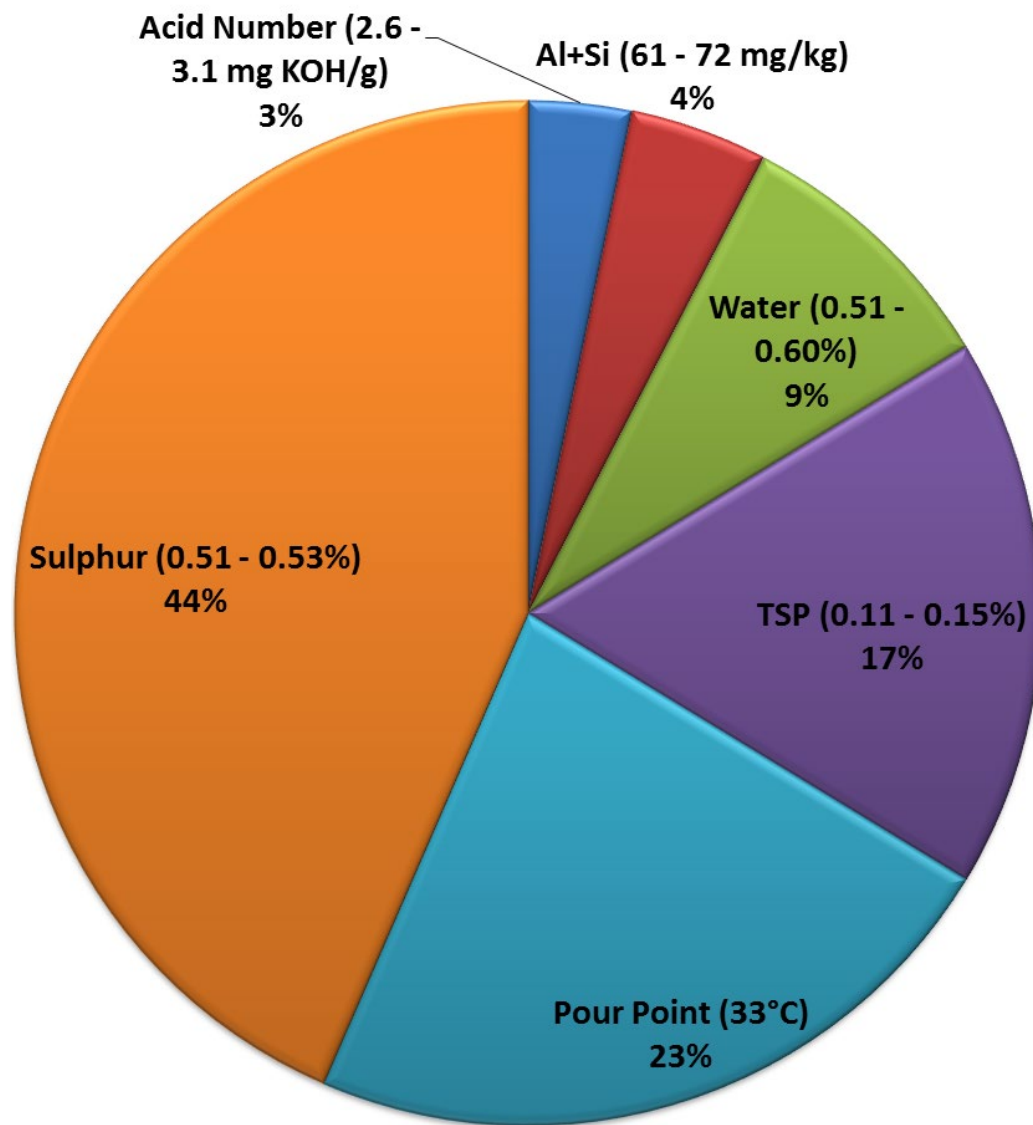
Note (Jan)

MGO = 3.5%  
Out of Spec

\* First 3 weeks

VLSFO

JAN – 20 FEB 2020 – WITHIN 95%



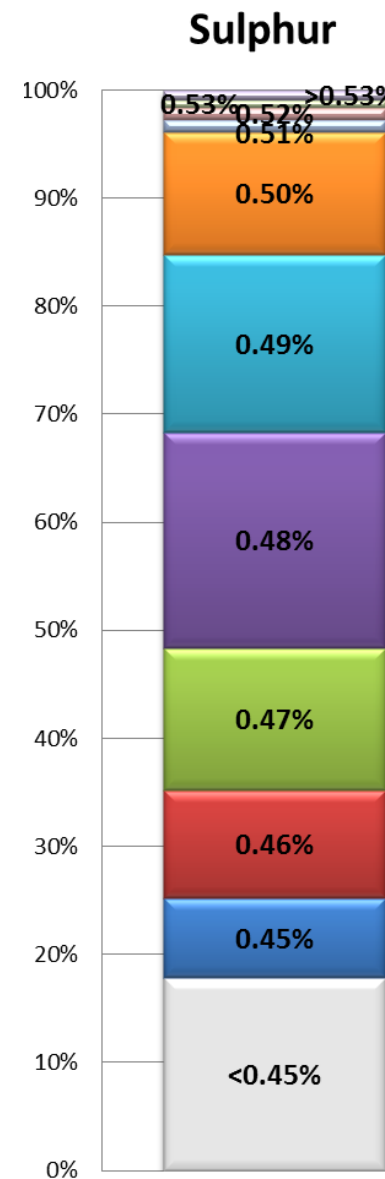
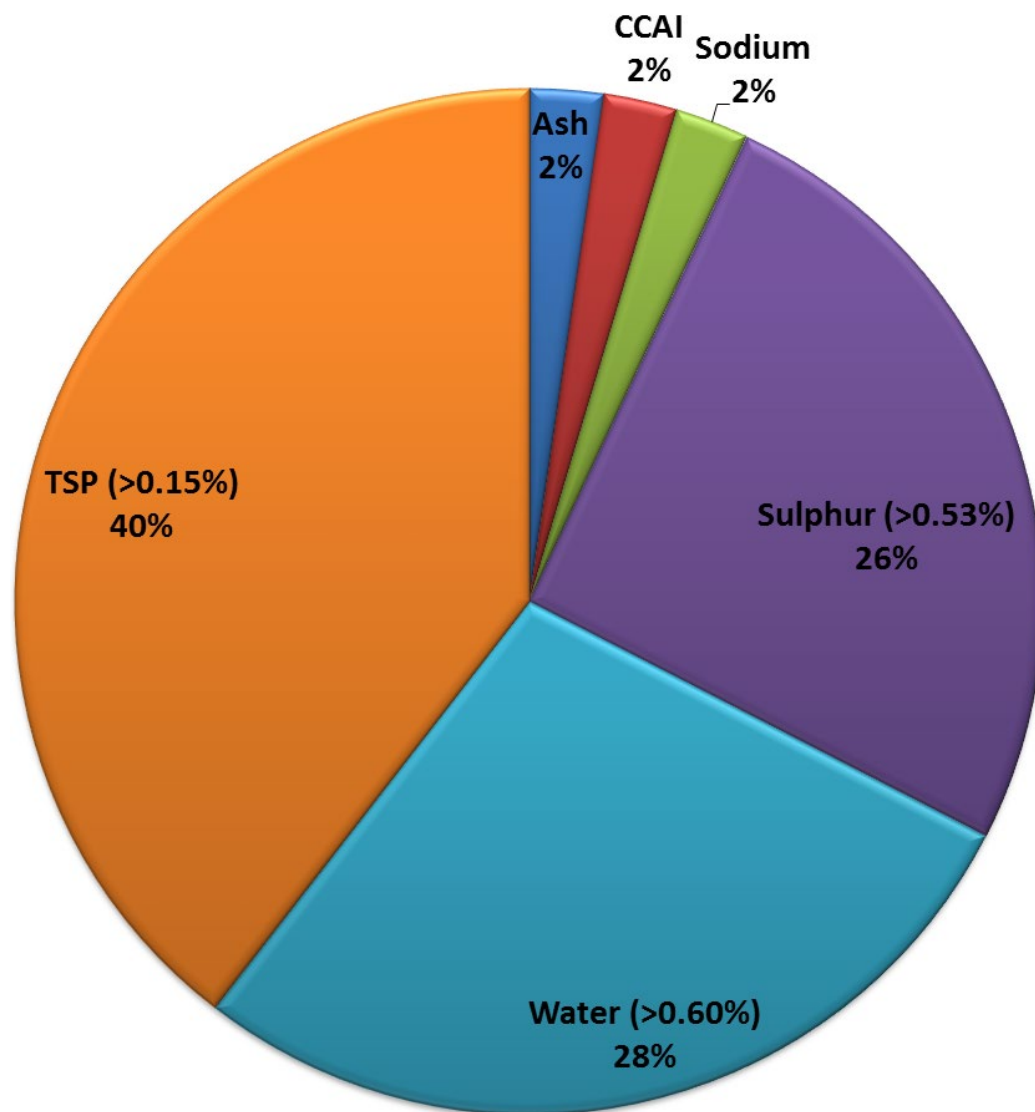
1 out of 4  
VLSFOs has a  
pour point  
above 18°C

HSFO =  
1 out of 100



VLSFO

JAN – FEB 2020, OUT OF SPEC



# 2020 FUELS PROBLEMS ENCOUNTERED

Below cases are confirmed meaning that barges' samples have also been tested in joint analyses:

1. Unstable fuels affecting separators and filters (7 cases)
2. Dirty fuels (grit, clay, sand) affecting separators and filters
3. Unusual odour (ARA, Sweden and Fujairah, no H<sub>2</sub>S presence)



# 2020 FUELS

## HOW MUCH TESTING IS REQUIRED?



Otoscope cones &

Additional tests required



ISO 8217 scope is the Otoscope cone,  
i.e. the starting point and usually enough



**BUREAU**  
**VERITAS**

***Move Forward with Confidence***

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