



Industry update on 0.50% VLSFO and 0.10% ULSFO experiences

By Muhammad Usman

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Agenda

IMO (PPR5) (Annex VI – Reg 14 & 18)

ISO (TC28/SC4/WG6)

CIMAC (WG7)

Experiences with 0.10% ULSFO

Preparatory actions!



MARPOL Annex VI

2005 - MARPOL Annex VI entered into force (adopted 1997)



2008 - Revised MARPOL Annex released (MEPC 176(58))



2012 (3.50%) Outside ECA-SOx / 2015 (0.1%) inside ECA-SOx



2016 (October) MEPC 70 decided 14.1.3 shall be effective on 1st Jan 2020



2018 - PPR5 just concluded last week and MEPC72 is to convene from 9th April

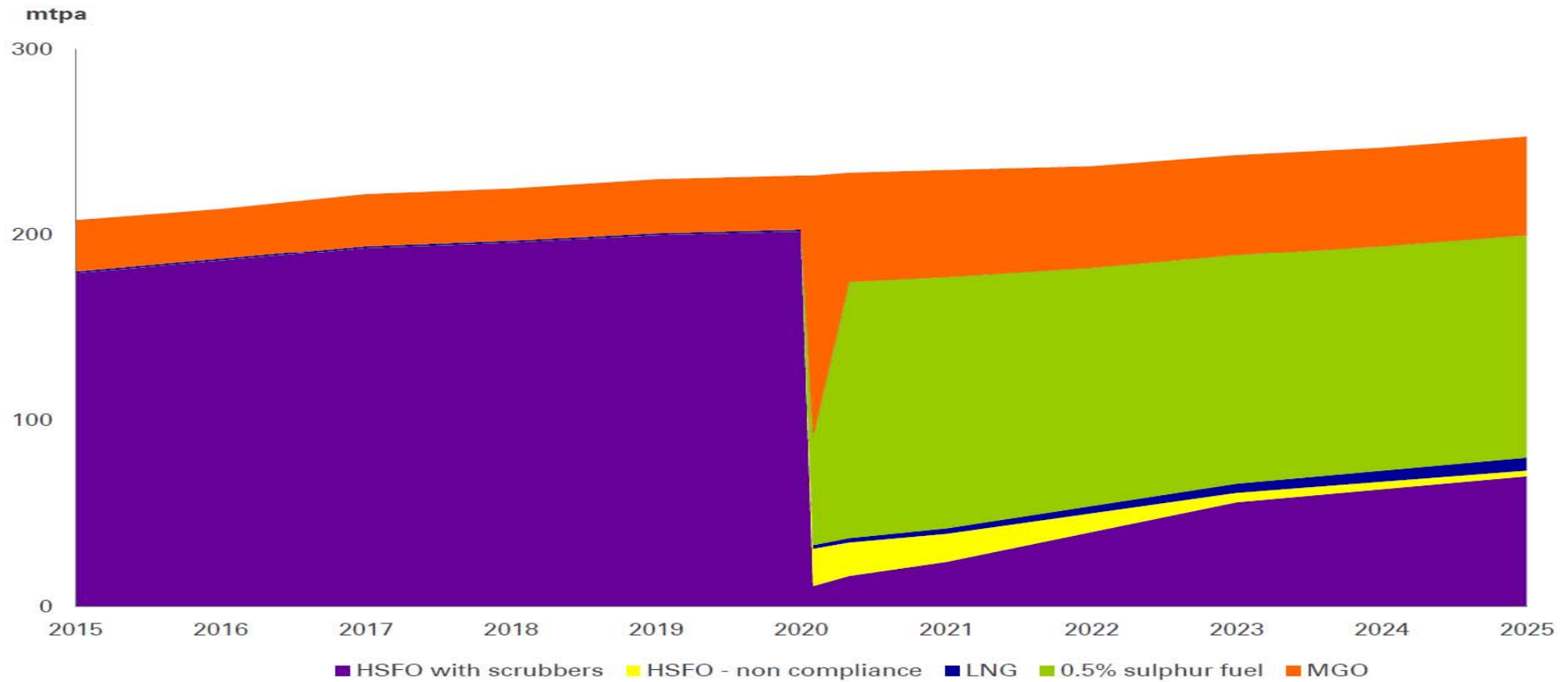
Main implementation concerns of regulation 14.1.3

Consistent implementation	IMO & member States
Cost	Various cost models
Availability	Supply industry (supply linked with demand)
Quality	ISO working with supply industry
Operations	Ship owners with industry/OEM guidelines

2020 likely route to compliance



Total global marine bunker use



Source : BP

Lloyd's Register

Key PPR5 discussion points (Reg 14.1.3)

1. Re-iteration (effective implementation date is 1st Jan 2020)
2. Prohibition of carriage of non-compliant fuel
3. EGCS – Revision of guidelines and temporary malfunction issues
4. Designated on-board sampling points
5. To address various implementation aspects, PPR5 has agreed the TOR and work plan to develop a guideline for 2020 (enforcement, FONAR, safety, quality, verification) meet in July 2018 - fast tracked for MEPC73

ISO/TC28/SC4/WG6 (ISO 8217 - International marine fuel standard)

- Working group comprised of all key stakeholders of bunker industry
- IMO sought ISO (WG6) expertise on fuel quality and implementation
- Currently, PAS being developed
- WG's main focus is development of appropriate test methods to determine stability and compatibility of new formulations and blends
- No Major amendments expected in table 1 or 2

2nd edition ISO 8217:1996

- Catfines and Stability

Lloyd's Register

3rd edition:2005

- Grades, ULO, Reduced water

4th edition:2010

- Future fuels, distillates, H2S, catfines

5th Edition:2012

- H2S enhanced testing

6th Edition:2017

- FAME, BTL, GTL, HVO ... + synthetic fuels

7th Ed:2022/23
PAS by Mid - 2019



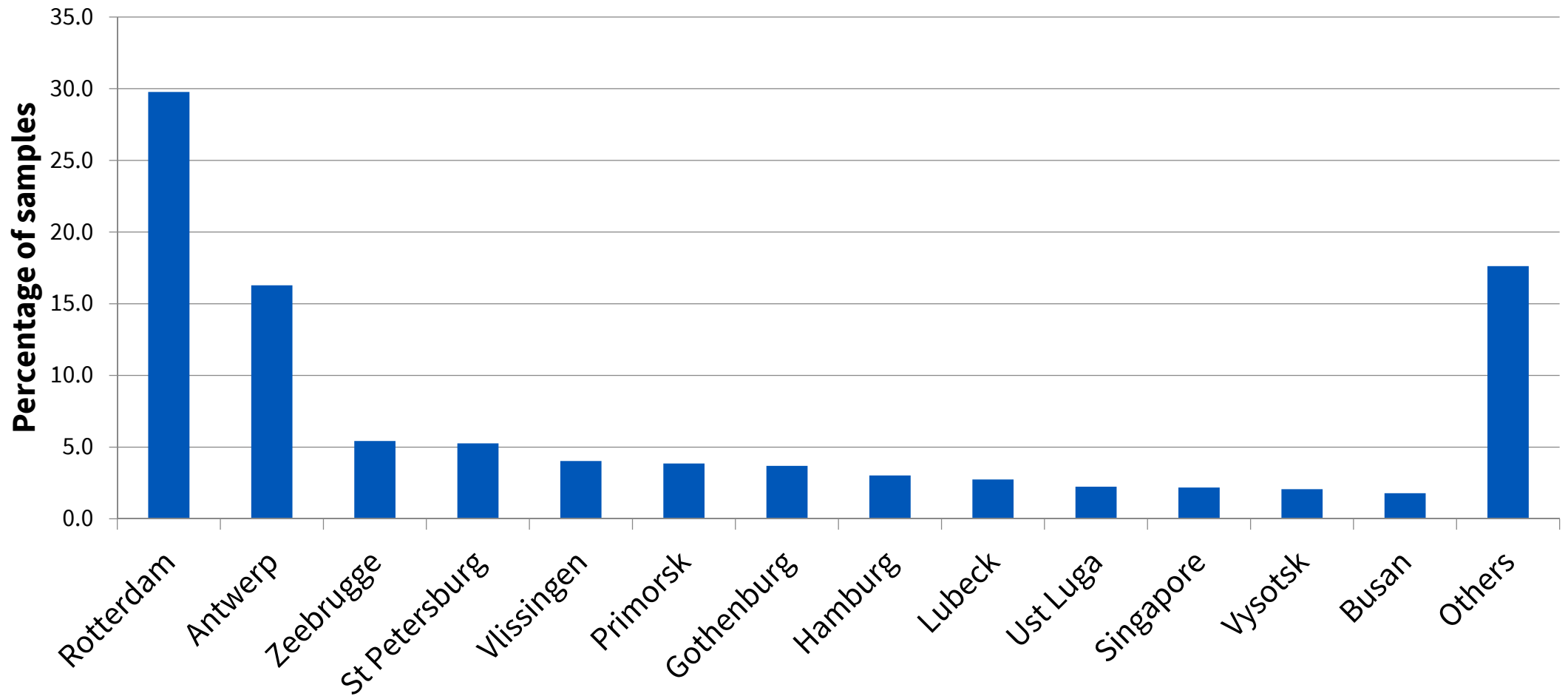
CIMAC (WG7 – Marine fuels)

- An expert group, works closely with the ISO Marine fuels (WG6) (Meets usually same time as ISO WG)
- Produce practical marine fuel guidelines for the industry
- Currently working on guidelines
 - ‘on how to order fuels’ i.e. new blends and formulations
 - On-board fuel cleaning and handling guideline
 - Operational guidelines for new fuel blends

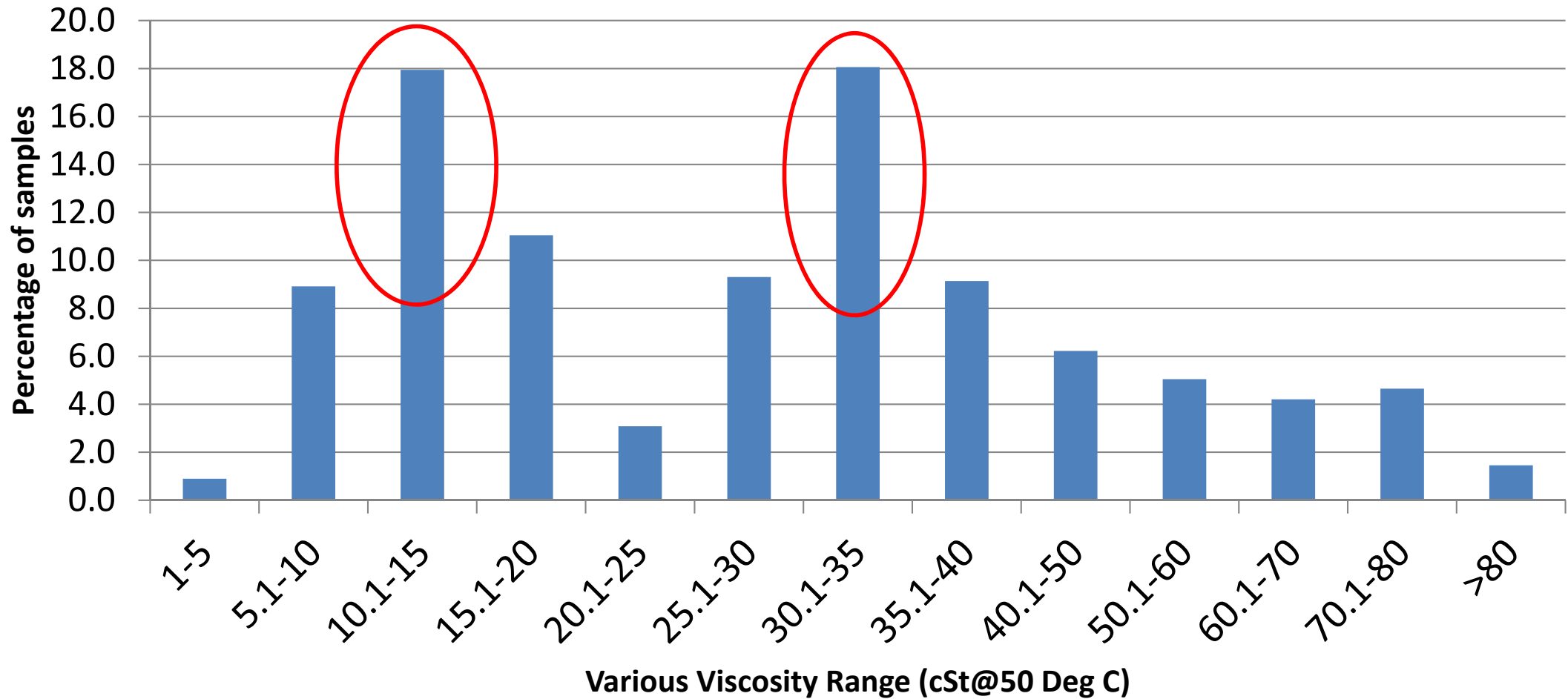
Key quality concerns for 0.50% blends

- Fuel stability (concern for supplier)
- Compatibility with other blends
- Acidity & corrosive potential
- Wide variation in viscosity
- Cold flow characteristics (wax content)
- Combustion (CCAI, ECN, IQT)

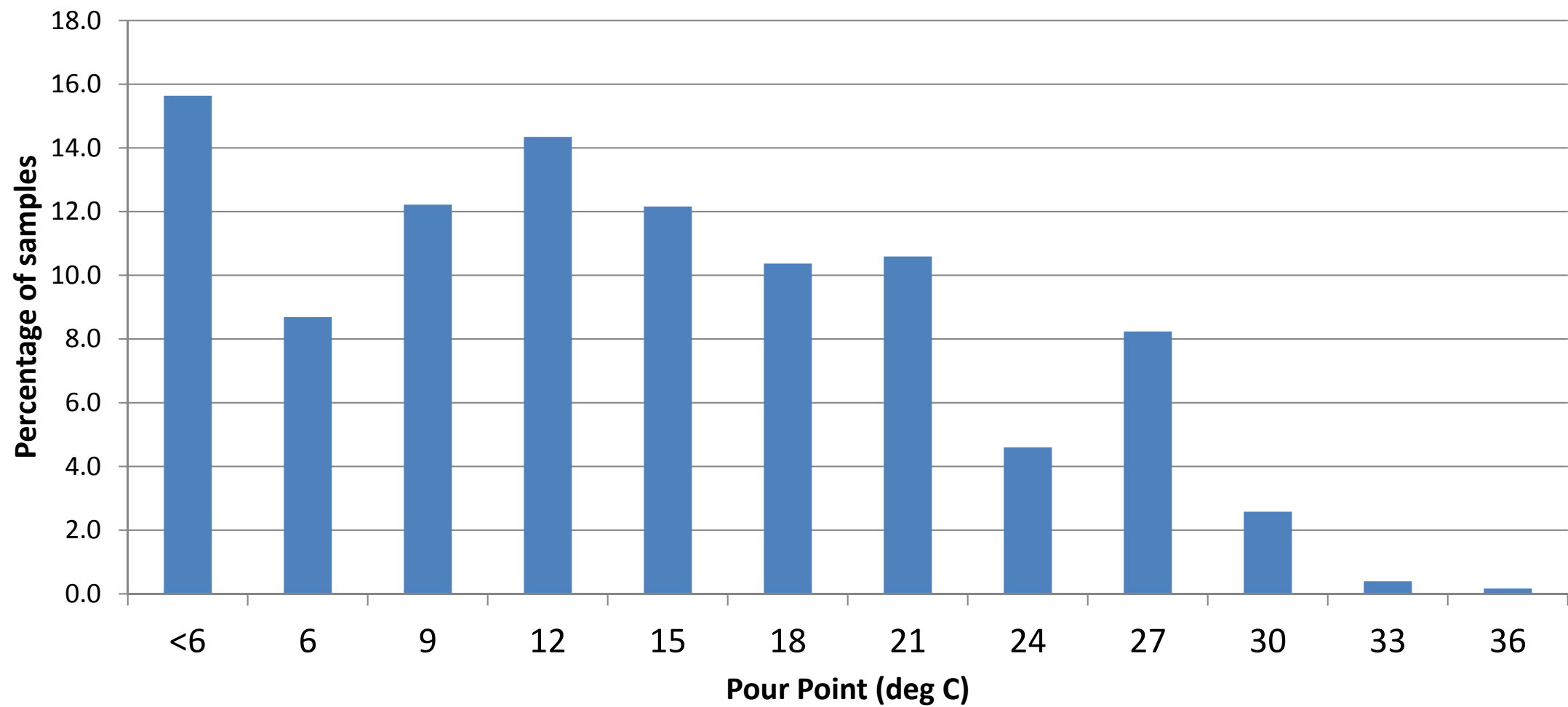
0.10% ULSFO samples distribution (2017)



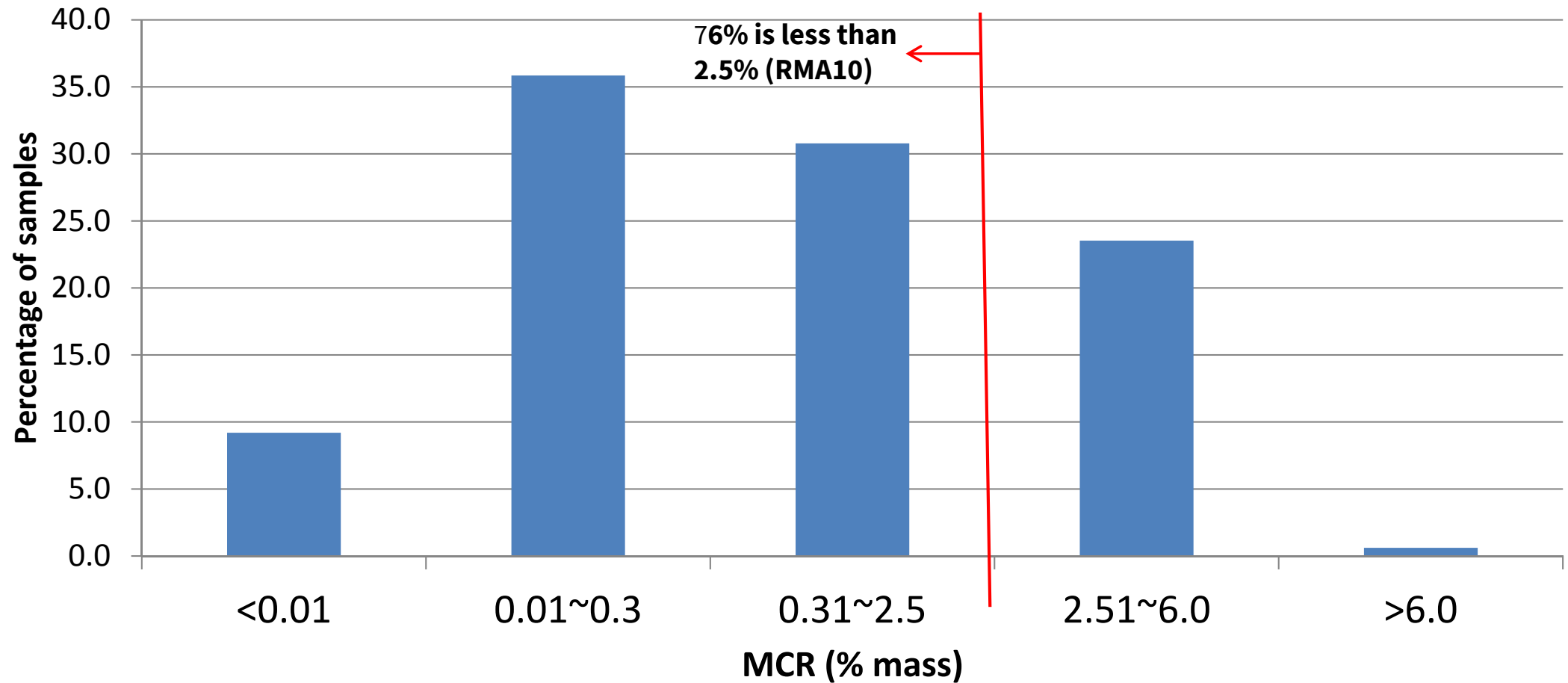
0.10% ULSFO viscosity distribution (2017)



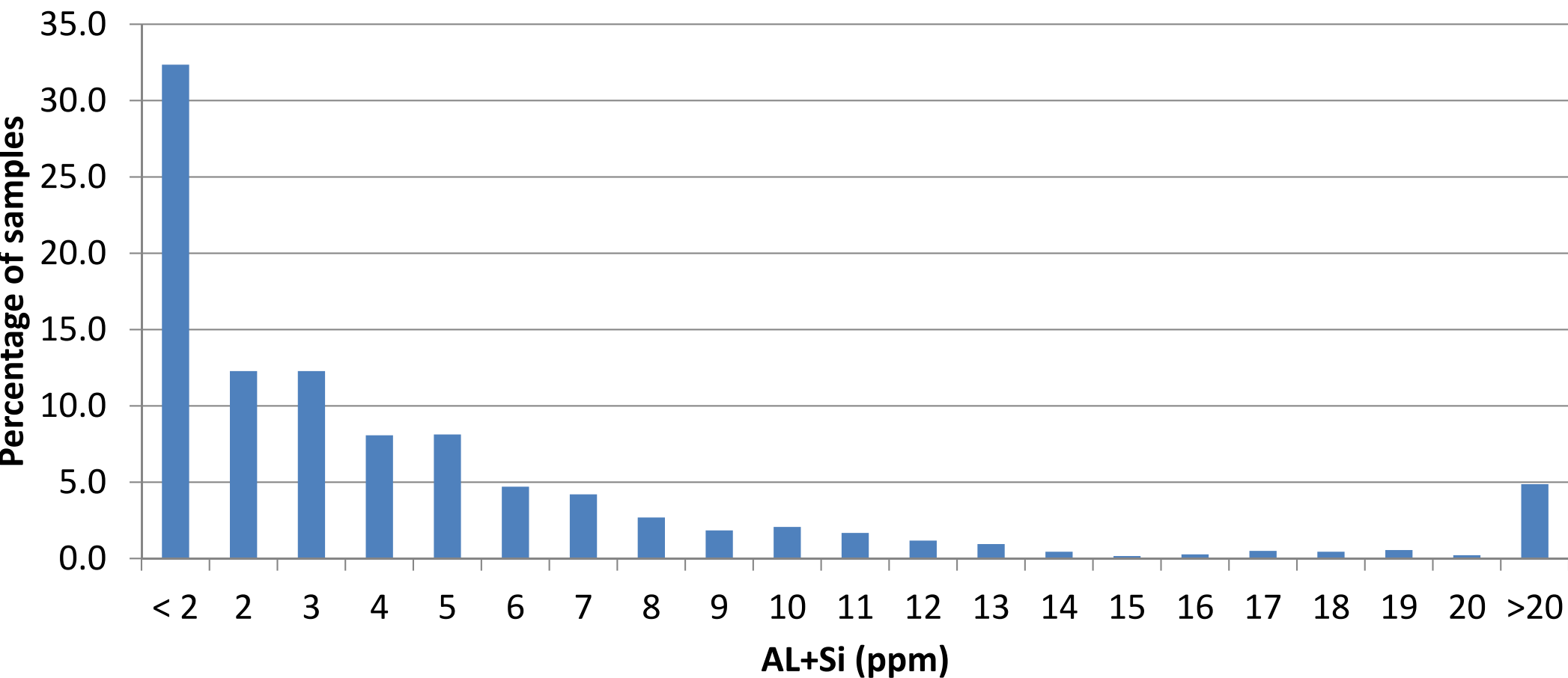
0.10% ULSFO pour point distribution (2017)



0.10% ULSFO MCR (2017)



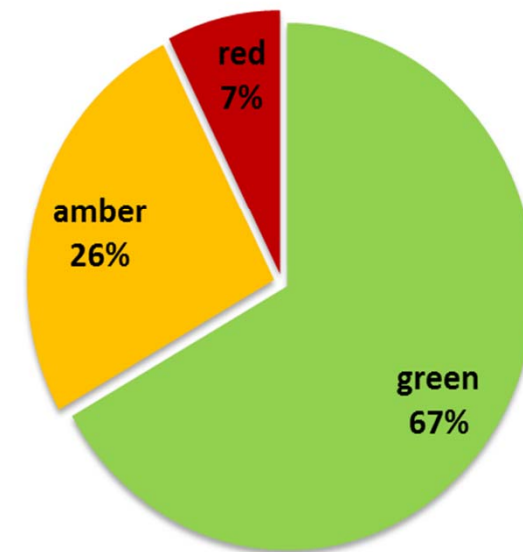
0.10% ULSFO Al+Si distribution (2017)



0.10% ULSFO quality (FOBAS Data)

- >80% of the off specification fuels due to sulphur content (tight margins of error)
- Can we draw similarities and expect similar or more variations in 0.50%?

new fuels for ECA SOx compliance
distribution of analysis reports



Summary

- To comply with 0.50% S regulation - Transition starts now!
- Choose compliance option against ship operating profile
- Plan/consider aspects such as designated sampling points, fuel segregation and crew awareness for future fuel management
- Dialogue with fuel suppliers/charterers (secure supplies/contract)
- Tank cleaning and operational preparedness (transition procedures)

Thank you

Please contact:

Muhammad Usman

Product Manager, FOBAS

Tel: +44 33041 40574

Email: Usman.muhammad@lr.org



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