

November, 2015

# Meeting ECA requirements – a new challenge & a new opportunity

Energy lives here™

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# Marine industry changes

# Solutions

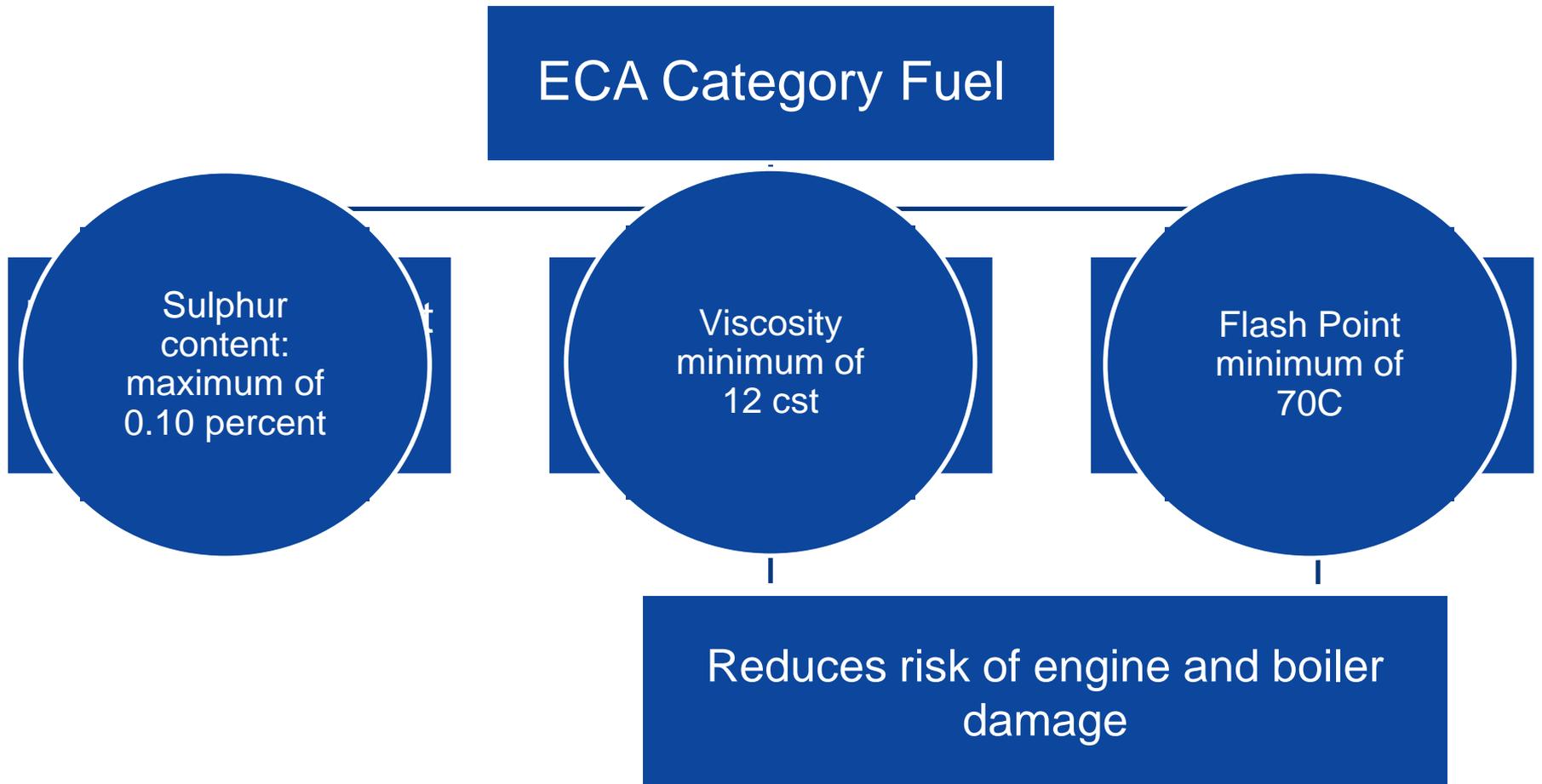
0.10% sulphur Marine Gas Oil (MGO)

New ECA Category fuels

Liquefied Natural Gas (LNG)

Exhaust abatement technologies

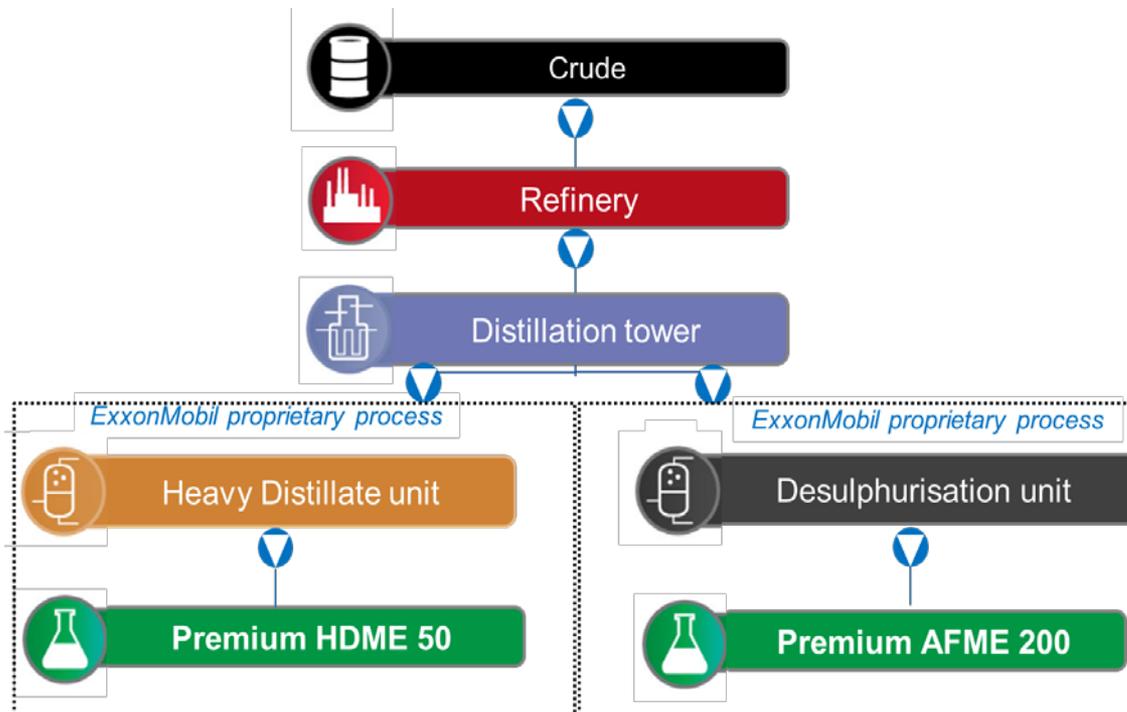
# The new ECA fuel category



# What are ExxonMobil ECA category fuels?

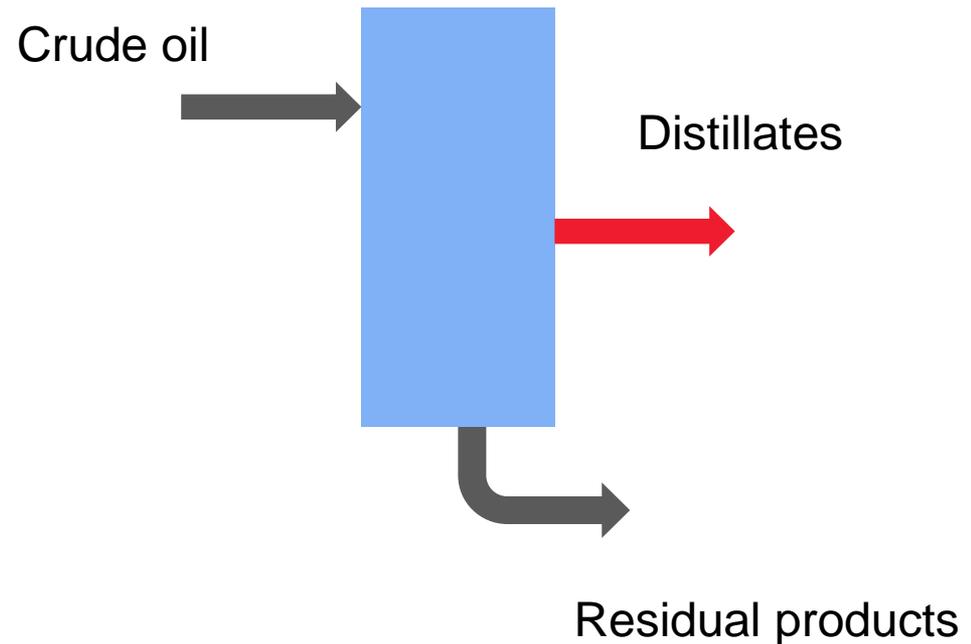
Unique products with advantages over traditional fuel oil

- low sulphur content (0.10%)
- A higher viscosity compared to gasoil
- very low metals & contaminants



# ExxonMobil Premium HDME 50

- **‘Heavy Distillate’** marine fuel
- Guaranteed to ISO 8217: 2012 RMD 80
- Good compatibility except with high asphaltene fuels
- Available in Amsterdam, Rotterdam and Antwerp (ARA) & Hamburg via barge delivery
- NOL - MAN Diesel & Turbo



Source: ExxonMobil

# ExxonMobil Premium AFME 200

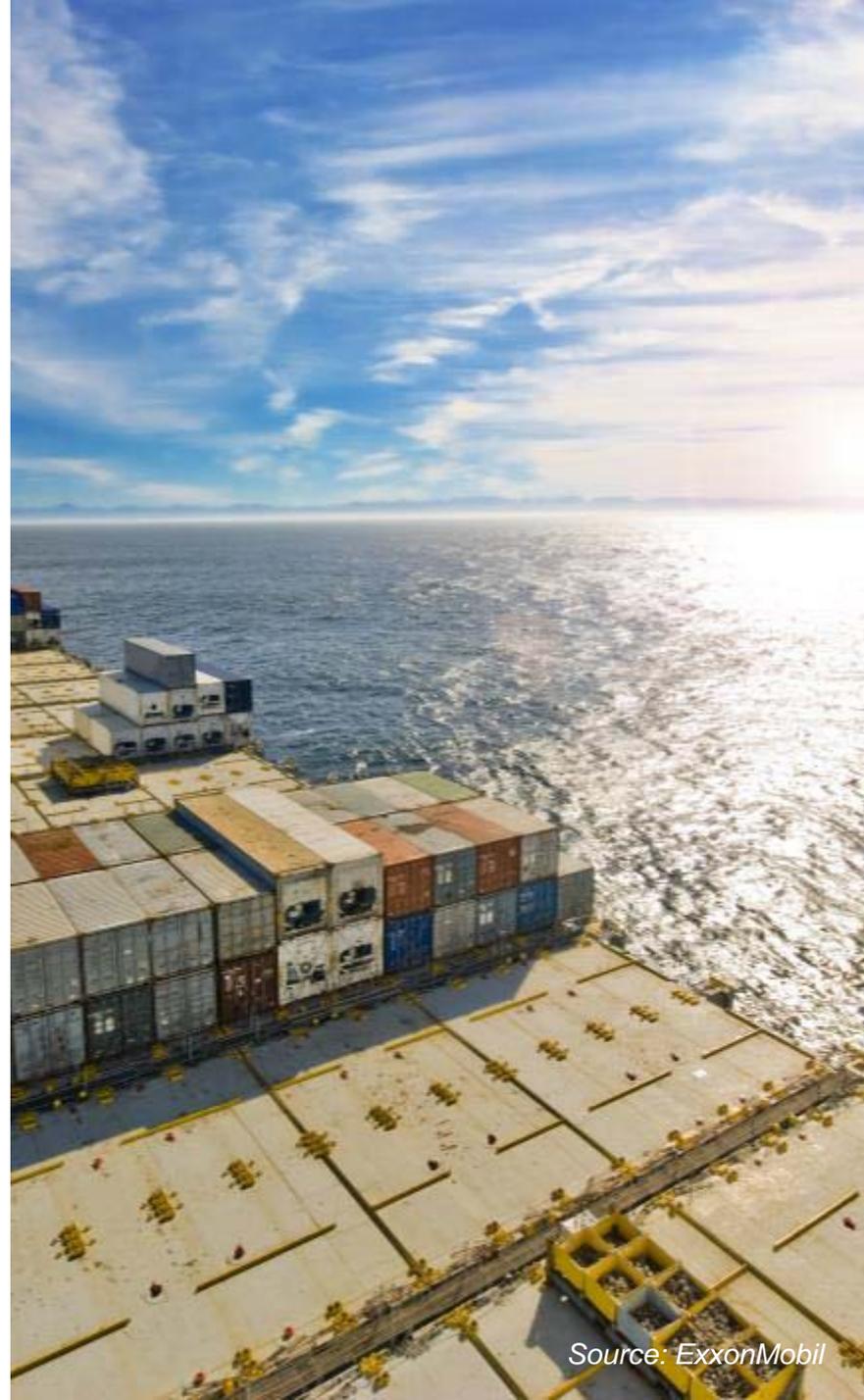
- **'Advanced Fuel'** oil (residual)
- Guaranteed to ISO 8217: 2012 RME 180
- Compatible with ExxonMobil Premium HDME 50 and MGO
- Available from port of Southampton (U.K.) via barge delivery



# Marine fuel stability

Fuel stored for long periods can become unstable.

- The asphaltene content can cause sludge build up
- Filters and pipes can become blocked with un-pumpable residue



# Marine fuel compatibility

Avoid mixing fuels from different sources and formulations to avoid incompatibility

- Incompatibility problems can result in:
  - Power failure
  - Paralysed fuel systems
  - Timely and costly clean-up



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