Shipping Market Volatility: Weighted Time Charter Average (all 10 time charter routes) 2005-2017
Shipping Market Volatility: Weighted Time Charter Average (all 10 time charter routes) January – September 2018
Ballast Water Management System (BWMS) Regulation
Table 1 The implementation deadline for BWMS, according to MEPC 71

<table>
<thead>
<tr>
<th>Keel laid</th>
<th>Deadline for the BWMS installation</th>
</tr>
</thead>
<tbody>
<tr>
<td>① Keel laid</td>
<td>Vessels which do not have IOPP Certificate</td>
</tr>
<tr>
<td></td>
<td>By 8 September 2024</td>
</tr>
<tr>
<td>② Before 8 September 2017</td>
<td>Vessels completed IOPP renewal survey on or after 8 September 2014 but prior to 7 September 2017</td>
</tr>
<tr>
<td></td>
<td>By the completion date of first renewal survey associated with the IOPP Certificate on or after 8 September 2017</td>
</tr>
<tr>
<td>③</td>
<td>Vessels other than the above</td>
</tr>
<tr>
<td></td>
<td>By the completion date of the second renewal survey associated with the IOPP Certificate on or after 8 September 2017 or the renewal survey associated with the IOPP Certificate on or after 8 September 2019, whichever comes first</td>
</tr>
<tr>
<td>④ On or after 8 September 2017</td>
<td>All vessels</td>
</tr>
<tr>
<td></td>
<td>By the completion date of the construction</td>
</tr>
</tbody>
</table>

![Timeline Diagram](image)
As per Clarkson research, November 2017

- **CAPE**
  - With BWMS, 17%
  - Without, 83%

- **PANAMAX**
  - With BWMS, 19%
  - Without, 81%

- **HANDYMAX/SUPRA**
  - With BWMS, 20%
  - Without, 80%

- **HANDYSIZE**
  - With BWMS, 14%
  - Without, 86%
Issue with BWMS

- Different systems
- Cost
- Time
- Crew Training
- Space
- Maintenance
New Fuel Regulation 2020
MARINE FUEL SULPHUR SPECIFICATIONS
SULPHUR EMISSION CONTROL AREAS (SECAs)

Source: IMO

Limits for the sulphur content of marine fuels in SECAs:
1% until 31 December 2014
0.1% since 1 January 2015

Since January 2015, all vessels navigating in the Emission Controlled Area (ECA) of the Baltic Sea, North Sea, English Channel and in waters 200 nautical miles from the coast of the US and Canada, had to reduce their sulphur emissions to 0.1%. Vessels are required to use either a distillate, an alternate fuel or install a scrubber that removes sulphur from the exhaust after combustion.

The implementation date for the 0.5% global sulphur cap is set for 2020, as decided by the International Maritime Organization (IMO) Marine Environment Protection Committee at its 70th Session in London.
New Fuel Regulation 2020

IMO Global & ECA sulphur reduction timeline

- **ECA**: 1.5% (2005), 1.00% (2015)
- **GLOBAL**: 4.5% (2005), 3.50% (2015), 0.50% (2020)

IMO Decides on 2020
New Fuel Regulation 2020

1. Compliant Fuel Oil
   - No modification
   - Higher fuel cost than HFO
   - Availability
   - Effect of main engine?

2. HFO with Scrubber
   - Same bunker
   - Can enjoy price gap btwn HFO and compliant fuel
   - Cash out for installation
   - Time
   - Availability

3. LNG Fuel
   - Adoptable to new environmental rules
   - High vessel price
   - Required higher safety skill
   - Not suitable for retrofitting
Gibraltar delivered price 2016-2018

**HS380CST**

**LSMGO**
Singapore delivered price 2000-2018

- $800.00
- $100.00
New Fuel Regulation 2020
What influences shipping
NYK Bulk Business

Our offices handling dry bulk business

NYK Bulkship (Atlantic) NV
Antwerp, Belgium office

NYK Bulkship Shanghai Co., Ltd.
Shanghai, China

NYK Bulkship (Korea) Co. Ltd.
Seoul, Korea

NYK Bulkship (Asia) Pte Ltd
Singapore

NYK Australia Pty Ltd
Melbourne, Australia

NYK Sudamerica (Chile) S.A.
Santiago, Chile

NYK Bulk & Projects Carriers
North America (Vancouver BC,
CANADA)

NYK Global Bulk Marine Service Corporation
(Seattle, USA)

NYK Bulk & Energy Brazil Ltda.
Rio de Janeiro, Brazil

Head Office
Tokyo, Japan
Liybov Bilas

NYK BULKSHIP (ATLANTIC) NV
New York Office
300 Lighting Way, 5th floor
Secaucus, NJ 07094
USA
Tel: +1 201 553 3724
Mob: +1 917 846 4659
Fax: +1 201 974 0162
Email: liybov.bilas@nykgroup.com
Appendix / Supplemental Material
Vessel Type for Biomass Transportation

- **LBC**
  - DWT abt 74,000 – 95,000
  - Gearless
  - 4/4
  - (No of Vsl : NYK Group / World)

- **PANAMAX**
  - DWT abt 74,000 – 95,000
  - Gearless
  - 96 / 2,528
  - (No of Vsl : NYK Group / World)

- **CHIP**
  - DWT abt 50,000 – 60,000
  - Geared
  - 32 / 135

- **SUPRAMAX**
  - DWT abt 52,000 – 65,000
  - Geared
  - 67 / 3,510

- **HANDY**
  - DWT abt 25,000 – 38,000
  - Geared
  - 44 / 3,342

- **MPP**
  - DWT abt 10,000 – 14,000
  - Geared
  - 19 / 130