



# The Impact of Decarbonization on Shipping

Facing the Decade of Decarbonization  
Marine Environment Protection Annual Conference

Michael K. Clare Jr  
Blank Rome LLP

October 24, 2019  
Hornblower Infinity  
New York City

# IMO 2020



3.5% S

MARPOL Annex VI, 2020

0.5% S

0.05% S

LSD to ULSD, 2010

0.0015% S

As a result of the new sulfur regulations, the maritime industry is expected to increase the demand for low-sulfur fuel by **2.0 - 2.5 MMBD** worldwide.

# IMO Vision to Halve GHG Emissions by 2050

- 2018 Initial IMO Strategy on reduction of GHG emissions from international shipping
  - Implement energy efficiency design index for new ships
  - Reduce CO2 emissions per transport work by an average of 40% by 2030 with a goal of 70% by 2050
  - Reduce GHG emissions from international shipping by at least 50% by 2050

# How do we get there – LNG as Marine Fuel

- “2019 Will be the Year of Acceleration for LNG as Marine Fuel”  
- February 2, 2019



- Large order books for LNG powered vessels of all types
- Expanded LNG port infrastructure and additional LNG bunkering vessels

# LNG as Marine Fuel cont.

- Expensive to modify existing vessels for LNG
- LNG newbuilds cost more than traditional engines
- Lack of infrastructure for re-fueling along many routes
- Danger of price spikes for available LNG marine fuel as demand surges
- LNG is not carbon neutral
- New technologies developing

# Alternative Clean Energy Sources

- FLAGSHIPS building two hydrogen fuel-cell vessels
- Port of Antwerp orders the *Hydrotug*, the first hydrogen fueled tug (hydrogen-diesel hybrid)
- NYK - 49,000 dwt methanol-fueled methanol carrier
- MOL to study installation of a hard sail on coal carrier
- C-Job Naval Architect studying feasibility of ammonia as marine fuel
- French IMO delegation: mandatory slow-steaming limits on ship speed/caps on installed power

# Market and Industry Response - Examples

- Through 2018 - \$580 billion in green bonds issued through 2019 - another \$170 to \$180 billion
- University of California announces it will divest all carbon assets from \$84 billion fund
- May 2018 NYK issued green bonds to fund LNG fueled vessels and other NYK projects
- October 2019 - Cargill, Maersk Tankers, and Mitsui announce collaboration to develop fuel-saving technologies and new technical solutions

# Poseidon Principles – Finance Response

*Currently - 12 Banks with US\$100 Billion*

- Principle 1: Annual Assessment of climate alignment
- Principle 2: Third-Party assessment and reporting
- Principle 3: Enforcement through contractual covenant clauses
- Principle 4: Name and shame public reporting



# Going Forward - 2050 and Beyond

## *Decarbonization is Messy*

- Will LNG early adopters be rewarded or get burned?
- What mix of technologies make sense for your fleet?
- What modifications makes sense?
- Decarbonization will require stakeholder buy-in
- We need the right mix of regulatory clarity, public-private partnership and financial investment
- Beware unintended consequences