



THE BALTIC EXCHANGE INVESTOR INDICES (BII) **2023** **WHITE PAPER** III

Published by:
The Baltic Exchange



This paper looks in detail at the various indicators provided by the Baltic Exchange for dry bulk shipping investors, how they are constructed and how they can be used to help support entry and exit decisions in this sector.

TABLE OF CONTENTS

01.	INTRODUCTION
02.	WHAT'S ON OFFER?
03.	STANDARD VESSEL TYPES
04.	WHAT DO THE NUMBERS SHOW US?
05.	STANDARDISED ASSESSMENTS AND ROUTES
06.	TRACKING OPERATIONAL COSTS
07.	OUR PANELLISTS
08.	GLOSSARY



The BII White Paper **INTRODUCTION** 2023

Baltic Dry Index 2000 - 2023



The Baltic Dry Index (BDI) is well known beyond shipping industry circles. A respected composite benchmark that reports the cost of moving major dry bulk industrial materials such as iron ore, coal and grains by sea, the BDI is closely watched by investors, economists and analysts, as well as shipping market participants.

The Baltic Exchange has recently enhanced its data product range with a suite of investor indices, which gives lenders, funds and other shipping industry backers a clear view of data relevant to vessel investment

decisions. This white paper looks in detail at the various indicators provided by the Baltic Exchange for dry bulk and tanker shipping investors, how they are constructed and how they can be used to help support entry and exit decisions in this sector.

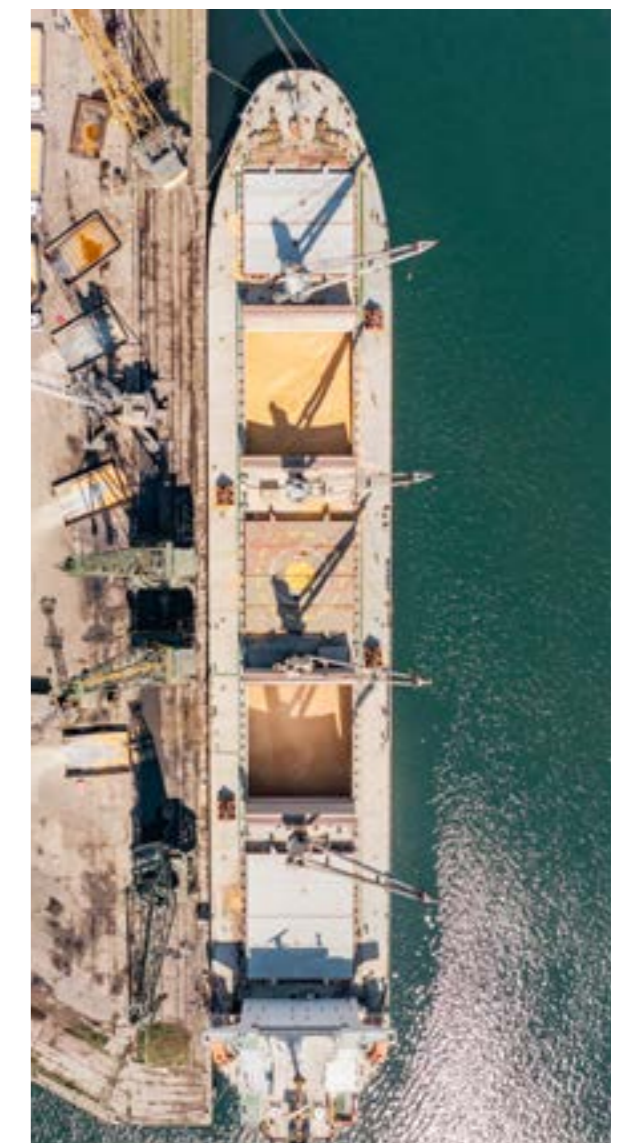
“Successful investing in the shipping industry is about timing...”

Successfully investing in the shipping industry is about timing. Freight rates are cyclical with the various segments moving between trough, recovery, peak and collapse. Freight rates are determined by the balance of ships and cargoes, but the decision as to whether or not to invest in shipping is driven by a complex range of factors. These include global trade demand, timecharter rates and forecasts, market sentiment, fleet renewal, regulatory requirements, and demolition, as well as newbuild and second-hand prices.

Ships are also depreciating assets with a working life of anything between 10 and 30 years: the choice to scrap early, extend their lives or sell is dependent on the owner's view of future returns from the freight market versus scrap prices, operating costs and asset values. Ship values fluctuate over the course of the cycle and successful investment relies on knowing when to enter and exit. Having a snapshot five-year view of the financial prospects of dry bulk carriers or tankers is useful for shipping investors looking to time the markets, especially in an era of high

volatility.

The Baltic Exchange Investor Indices (BII) is an easy-to-use online dashboard displaying data relevant to vessel investment decisions, residual value, health of earnings, spot and five-year timecharter earnings; purchase and recycling values; and running costs. They offer a high level of clarity and transparency for investors in the dry bulk sector, including for Capesize, Panamax, Supramax and Handysize vessel types, and the tanker market, including for Very Large Crude Carrier (VLCC), Aframax, Suezmax and Medium Range (MR) vessels.



What's **ON OFFER?**

Dry: Daily indices for Capesize, Panamax, Supramax and Handysize ships, as well as a set of generic dry bulk indicators.

Tankers: Daily indices for VLCC, Aframax, Suezmax and MR tankers.

01

Health of Earnings Index

Ratio of earnings against operating costs

02

Residual Value Index

Written down cost of a five-year-old vessel, with earnings on the basis of a five-year timecharter and adding back the operating costs

03

Residual Risk Index

Ratio of residual value against recycling value

04

Recycling Values

The sale price of a vessel for recycling on the Asian Subcontinent

05

Implied Five-Year Timecharters

Calculated from forward curves in the FFA market

06

Spot Timecharter Earnings

Derived from a basket of commonly traded routes

07

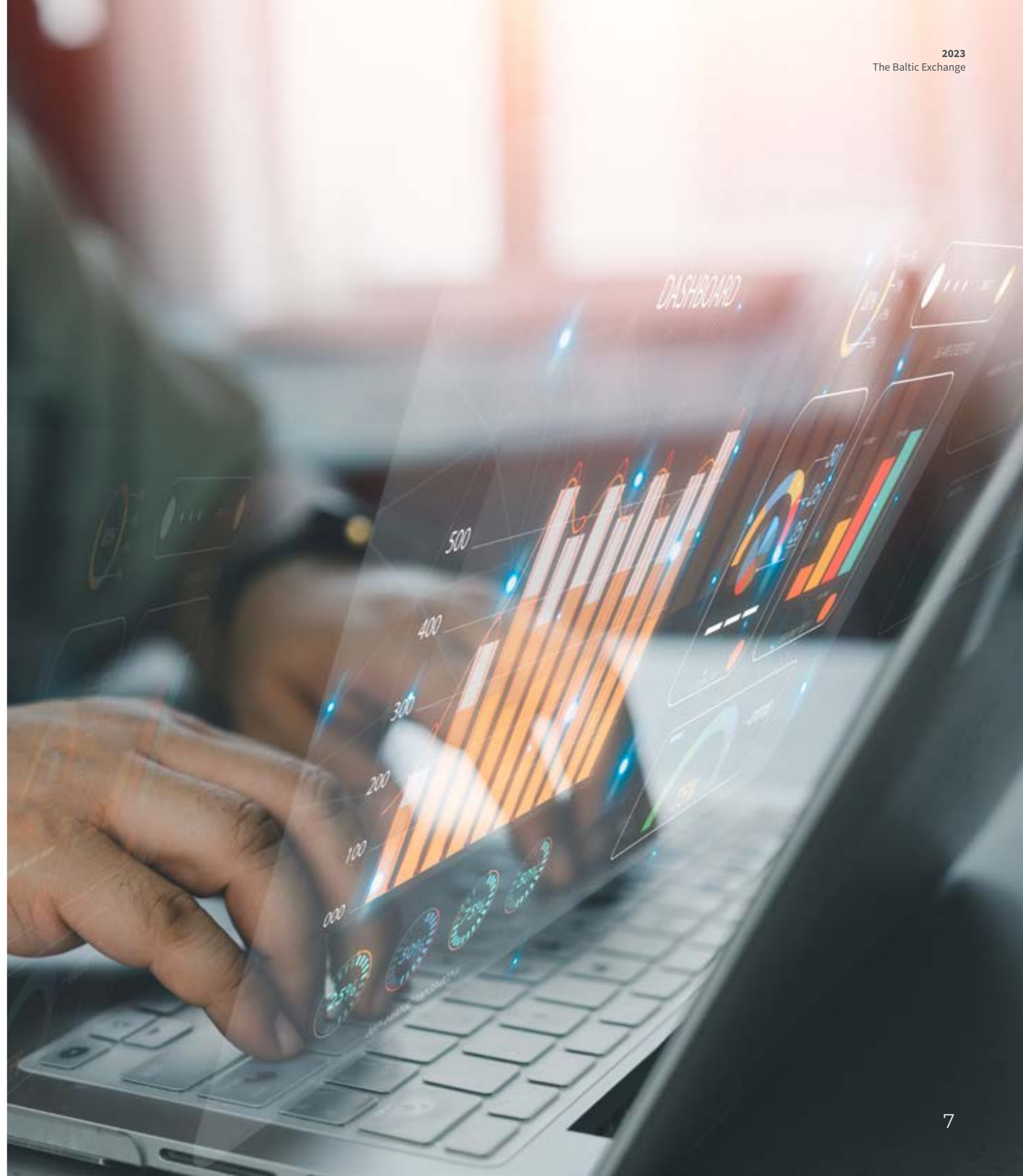
Daily OPEX

Covers crewing, insurance, stores, repairs, expenses and management fees

08

Second-Hand Valuation

Based on weekly assessments of a five-year-old vessel by leading S&P brokers

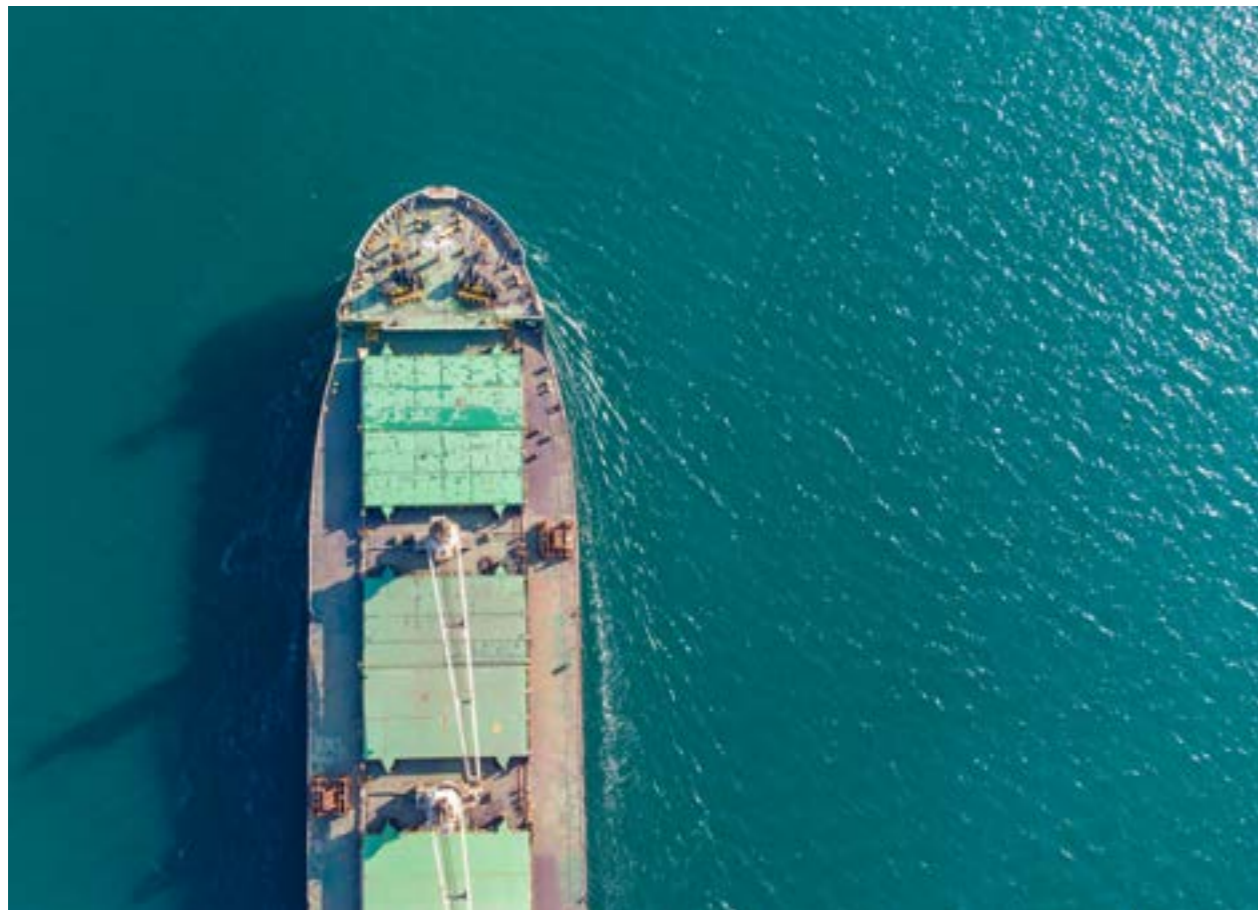


STANDARD VESSEL TYPES

Underpinning the BII is a set of clearly defined vessels types. The four major dry bulk segments are Capesize, Panamax, Supramax and Handysize while for tankers, the crude oil trade is covered by VLCC, Aframax and Suezmax, while refined products such as gasoline is carried by MR tankers.

Dry bulk vessels are designed to transport large volumes in several large holds. The most common dry bulk products include raw materials such as iron ore, coal, coking coal, grain, bauxite, scrap metal and soybeans. Simple in design, their focus is on cubic capacity, access to holds and loading equipment. Smaller dry bulk carriers have specialist equipment to handle specific products, such as cement, stone, paper rolls or wood products, and are versatile enough to call at a wide range of ports around the world.

Tankers are designed to transport dangerous bulk liquid cargoes safely. All tankers are constructed with a double hull and employ safety measures such as an inert gas system to reduce the risk of onboard fires. Most tankers will have several tanks divided into compartments. These tanks can employ heating systems to ensure that the cargo maintains its fluid state.



Dry Bulk



Capesize

A non-scrubber fitted vessel

- 180,000mt dwt on 18.2m SSW draft
- Max age 10 yrs
- LOA 290m
- Beam 45m
- TPC 121
- 198,000 cbm grain
- 14 knots laden or 15 knots ballast on 62mt fuel oil (380cst), no diesel at sea
- 12 knots laden or 13 knots ballast on 43mt fuel oil (380cst), no diesel at sea



Panamax

A non-scrubber fitted vessel

- 82,500mt dwt on 14.43m SSW draft
- Max age 12 yrs
- LOA 229m
- Beam 32.25m
- TPC 70.5
- 97,000 cbm grain
- 13.5 knots laden on 33mt fuel oil (380cs t) or 14 knots ballast on 31mt fuel oil (380cs t) + 0.1 MGO at sea
- 11.5 knots laden on 22mt fuel oil (380cs t) or 12.5 knots ballast on 23mt fuel oil (380cs t) + 0.1 MGO at sea



Supramax

A non-scrubber fitted "Tess58" type vessel

- 58,328mt dwt on 12.80 m SSW
- Max age 15 yrs
- LOA 189.99m
- Beam 32.26m
- TPC 57.5
- 72,360 cbm grain / 70,557 cbm bale
- 5 holds/hatches, 4 x 30 ton cranes + 12 cbm grabs
- 14 knots laden on 33mt fuel oil (380cst) or 14 knots ballast on 32mt fuel oil (380cst), no diesel at sea
- 12 knots laden on 24mt fuel oil (380cst) or 12.5 knots ballast on 23mt fuel oil (380cst), no diesel at sea



Handysize

Non-scrubber fitted self-trimming geared bulk carrier

- 38,200mt dwt on 10.538m SSW
- Max age 15 yrs
- LOA 180m
- Beam 29.8m
- TPC 49
- 47,125 cbm grain / 45,300 cbm bale
- 5 holds / 5 hatches, 4 x 30 ton cranes
- 14 knots on 26mt IFO (380 CST) laden or 24mt IFO (380 CST) ballast + 0.1 MDO at sea,
- 12 knots on 18mt IFO (380 CST) laden or 17mt IFO (380 CST) ballast + 0.1 MDO at sea

Tankers



VLCC

- 305,000 mt dwt built in “first class competitive yard”, European standard B&W main engine
- LOA about 332m, beam about 58m
- Non-coated
- Not ice classed
- 5 years old
- Special survey passed
- Marine Fuel Oil compliant with MARPOL specifications at any time when not burning Gas Oil
- Not scrubber fitted



Suezmax

- 158,000 mt dwt built in “first class competitive yard”, European standard B&W main engine.
- LOA about 275m, beam about 48m
- Non-coated
- Not ice classed
- 5 years old
- Special survey passed
- Marine Fuel Oil compliant with MARPOL specifications at any time when not burning Gas Oil
- Not scrubber fitted



Aframax

- 105,000 mt dwt built in “first class competitive yard”, European standard B&W main engine
- LOA about 248m, beam about 44m
- Non-coated
- Not ice classed
- 5 years old
- Special survey passed
- Marine Fuel Oil compliant with MARPOL specifications at any time when not burning Gas Oil
- Not scrubber fitted



MR Tanker

- 51,000 mt dwt, built in “first class competitive yard”, European standard B&W main engine.
- LOA about 183m, beam about 32.2m, draft about 13.2m.
- Coated, IMO 2/3, Deep Well.
- Not ice classed.
- 5 years old
- Special survey passed
- Marine Fuel Oil compliant with MARPOL specifications at any time when not burning Gas Oil
- Not scrubber fitted

“Ships exist in a very large number of different types and sizes. The value of variances in design and performance of ships relative to a standardised benchmark varies from trade to trade, and in relation to other key inputs such as bunker prices.

The quality of maintenance of ships and the creditworthiness and competence of shipowners may be a factor in the value the market places on a particular ship. The same class of ship may carry a range of cargoes on a great variety of routes.

Different ships, different trades, different cargo sizes, and a myriad different contract terms can all have a bearing on how individual transactions can be related to standardised market benchmarks.

Different market participants may well place differing values on these variants.”

Guide to Market Benchmarks, (March 2023), published by Baltic Exchange Information Services Ltd



WHAT DO THE NUMBERS SHOW US?

Investors can easily analyse the trends and the relationship between asset values, recycling, operational costs and freight rates. The Baltic Exchange undertakes quarterly analysis of the movements in our investor indices.

KEY FINDINGS:

Click here
for full
report



Autumn 2022:

"While earnings have predominantly fallen in the dry bulk sector over the year, asset values have been stable to rising. A five-year-old ECO Cape was about \$46 million a year ago and today it is about \$47 million, while freight rates have dropped dramatically over the year. While five-year freight rates have fallen, supporting calculated residual value, the fall in rates has not been followed by an equivalent fall in asset values yet. While shipping asset values and freight rates often lag each other, the current gulf is pronounced."

Click here
for full
report



Winter 2022:

"There is reason to think that the recent elevated ship recycling values may persist. One reason is, simply, inflation. More importantly, recycling steel from scrap is far less carbon intensive than producing it conventionally. This fits well into the many global initiatives seeking to get to net zero and will be an important part of Chinese clean air initiatives." "Should the current multi-year higher recycle value cycle turn out to be a fundamental trend supported by some of the evolving demand factors discussed above, the fundamental risk of investing in middle aged dry bulk tonnage, particularly in softer freight markets, will have decreased."

Click here
for full
report



Spring 2023:

"For the 2023 year to date, in many cases asset values have risen to levels that equal or exceed estimated cash-flow breakeven levels. We view this as a bullish sign. However, given the extreme volatility of the dry bulk markets historically and the number of variables in today's macro-economic and geo-political environment, one cannot rule anything out." "There are many reasons to justify these 2023 rate-to-value conditions: The dry bulk orderbook is at historic lows; lead-times for newbuilds are 24-36 months; newbuild prices are rising due to inflationary pressures on cost of inputs; yard capacity is scarce; and secondhand dry bulk inventory available for sale is also scarce."

Check our news
page for our
quarterly reports:
[balticexchange.com/en/
news-and-events.html](https://balticexchange.com/en/news-and-events.html)

Click here
for full
report



Summer 2023:

"With freight rates being low for much of 2023 and asset values relatively robust, buyers of dry bulk assets are seeing more potential in the positive market attributes than perilous ones, and we generally agree. The orderbook is bullish for dry bulk freight rates, as are emissions standards for the freight rate outlook for modern eco-vessels. In addition, while Covid feels to be long in the rear-view mirror, restarting an economy the size of China's from strict lockdowns takes time and signals indicate further liquidity and loosening monetary policy may be on China's horizon. Some western economies may also be in a looser monetary policy stance at some time in 2024 as well."



STANDARD ASSESSMENTS AND ROUTES

The Baltic Exchange publishes a set of daily spot freight assessments, forward assessments, weekly S&P and scrapping prices covering four vessel types for the dry bulk sector and four vessel types for the tanker sector.

How do we select our routes?

We have been publishing freight assessments for key shipping segments since 1985. The key criteria for any Baltic Exchange route are its transparency and reportability. The routes cannot be dominated by a single charterer and we require at least five independent panellists to be active.

TRADE VOLUME

A steady and significant volume of trade on index routes or on routes related to them is important. Trades subject to seasonal closures (such as the Great Lakes in North America) are avoided. What constitutes a “reasonable volume” will differ between our different benchmarks. As a guide, a reasonable volume will be an average of two accurately reported fixtures per week measured over a period of 12 months as defined by the vessel size of the particular route.

TRANSPARENCY

A reasonable volume of accurately reported fixtures should be available. Where possible, trades dominated by a sole or limited number of interests are avoided.

STANDARD TERMS

Voyage routes where business is largely concluded on standard terms are favoured.



THE EVOLUTION OF BALTIC PRODUCTS

Launch of first tanker assessments

Baltic publishes ship recycling prices

Introduction of Baltic Handysize Index

Forward curves for dry bulk market

Baltic Exchange Investor Indices go live

1985

1998

2001

2004

2005

2007

2008

2009

2019

2020

Launch of the Baltic Freight Index, predecessor to the Baltic Dry Index

Launch of Baltic Capesize and Panamax Indices

Launch of Baltic Dirty and Baltic Clean Tanker Assessments

Introduction of Baltic Supramax Index

Timecharter Equivalent assessments published for tankers

Baltic begins quarterly vessel operational costs assessments

HEALTH OF EARNING INDEX

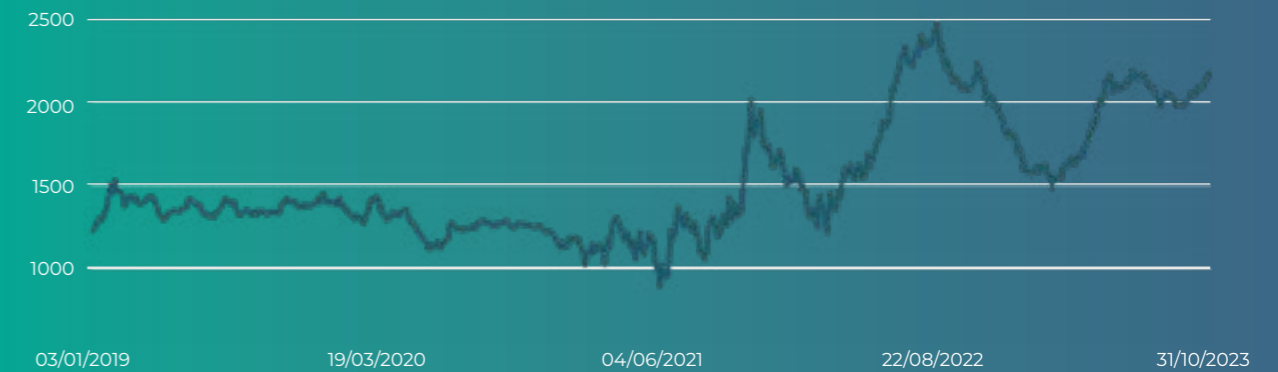


Investors are able to track the relationship between spot income and daily running costs with the Baltic Exchange's Health of Earnings Index. We take spot income on a basket of key routes for each vessel type and divide that by the estimated daily running costs. A negative number shows that daily earnings are below that of daily running costs.

Dry Health of Earnings Index: Jan 2019 - Oct 2023

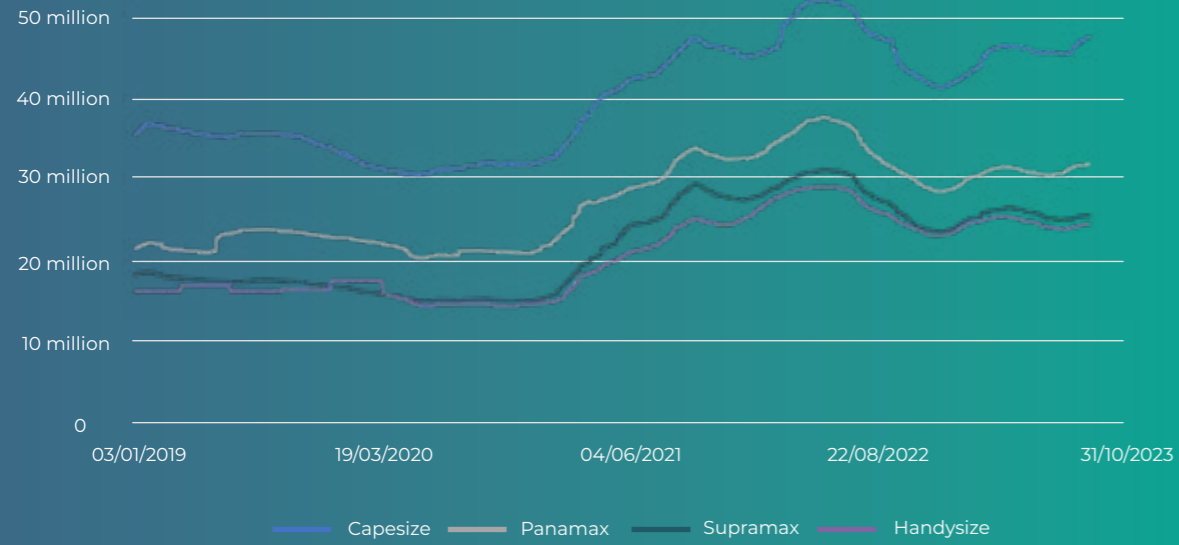


Dry Residual Value Index: Jan 2019 - Oct 2023

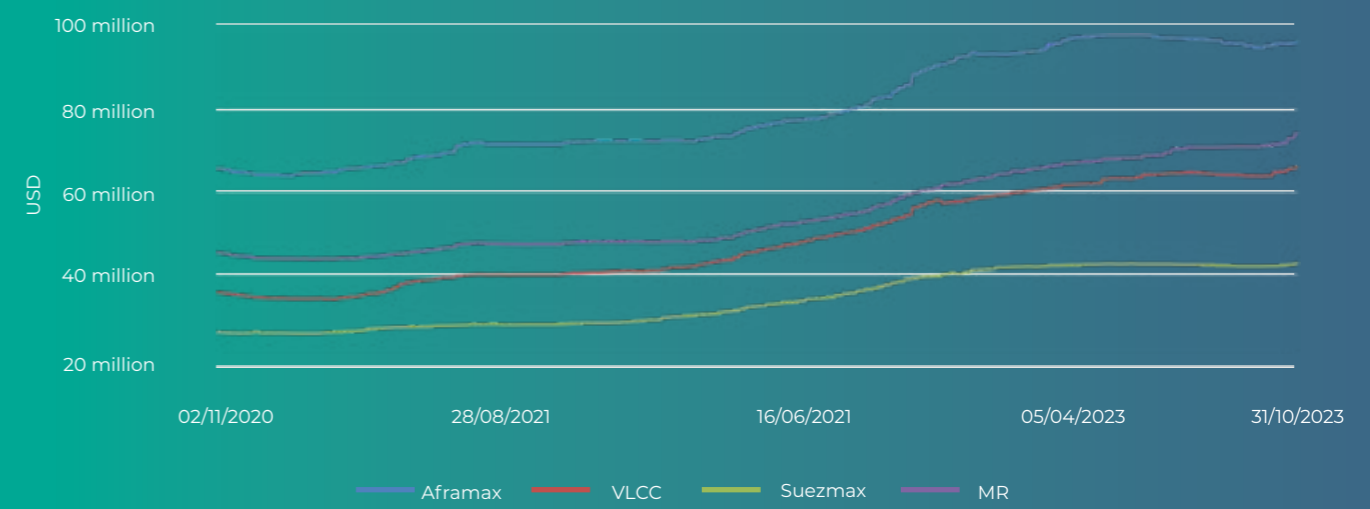


Users of our service are provided with a daily residual value for the vessel types we report on. This is calculated by taking the purchase price for a five-year-old vessel and deducting the net earnings over a five-year period. The net earnings are taken as a five-year timecharter less the daily operating costs. For the purposes of this calculation, we assume that running costs increase by 5% year on year. The five-year timecharter value is derived from the forward curve data provided to us by brokers in the FFA market.

Five-year-old bulk carriers second hand valuations: Jan 2019 - Oct 2023

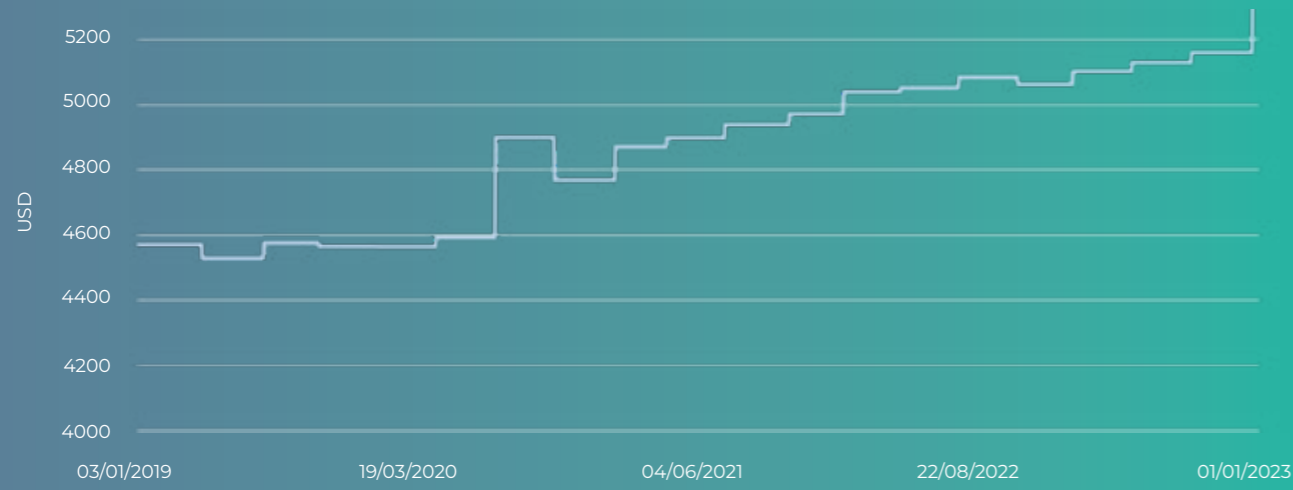


Five-year old second-hand tanker price by vessel type Nov 2020 - Oct 2023



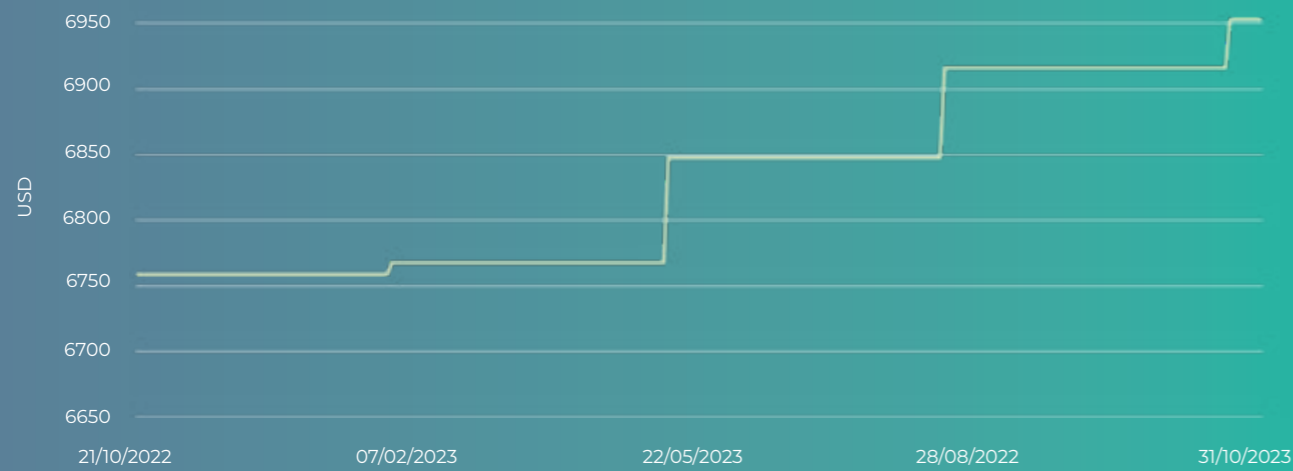
TRACKING OPERATIONAL COSTS

Average daily running costs of a capesize : Jan 2019 - Oct 2023



Average daily running cost calculated using BII data for crewing, insurance and technical costs related to Capesizes and VLCCs.

Average daily running costs of a VLCC: Oct 2022 - Oct 2023



The Baltic Exchange's quarterly Operating Expense Index (BOPEX) assessments are made by third-party ship managers who quote OPEX budgets for owners' business every day. It is an assessment of costs today, not a backward looking or an assessment by the owner's accounts department. About 15% of the dry bulk fleet is estimated to be managed by third-party managers and the five managers that currently make the assessments (Anglo-Eastern, Columbia Shipmanagement, Synergy, Fleet Management and V Group) collectively provide technical management services to a fleet of more than 2,600 vessels, including bulkers and tankers, as well as a broad range of other vessel types to add context to their assessments.

The Baltic Exchange's BOPEX assessments for each vessel type is broken down into three main areas: crewing, insurance and technical (stores, repairs, expenses and management fees). While the indices also include dry docking costs, these numbers are amortised over five years and published separately so do not contribute to the assessment.



Crewing

Crewing expenses include fully loaded wages, union fees and dues, victualling and domestic provisions, medical, travel, training and managers fees related to crewing or an apportionment.

Insurance

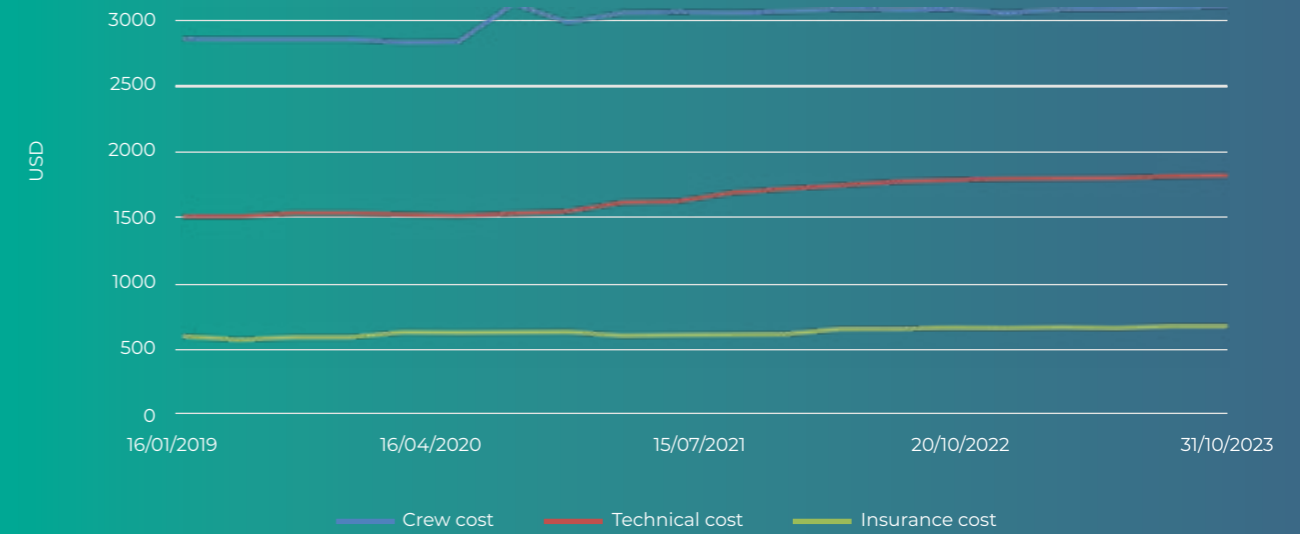
Insurance expenses relate to any potential cover for a vessel trading within INL and excluding HRA; H&M including Disbursements or Freight Interest Insurance; War and Strike Risks; P&I including cargo, crew, third parties, stowaways, damage caused by vessel/ FFO, pollution, and wreck removal; FD&D cover; cost of Baltic standard deductible incidents; and any manager's fees relating to managing insurance or an apportionment.

Technical

Technical expenses include stores (deck, engine, stewards' lubricating oils), repairs (deck, engine, electrical, LSA, FFA, surveys, flag, class, OCIMF vetting, all calibrations, spares, transportation, clearances, superintendent/technician travel and per diem/fees, owners' protective agents, husbandry fees, and launches), and all other expenses and unrecoverables other than insurance, manager's fees relating to technical or an appointment.



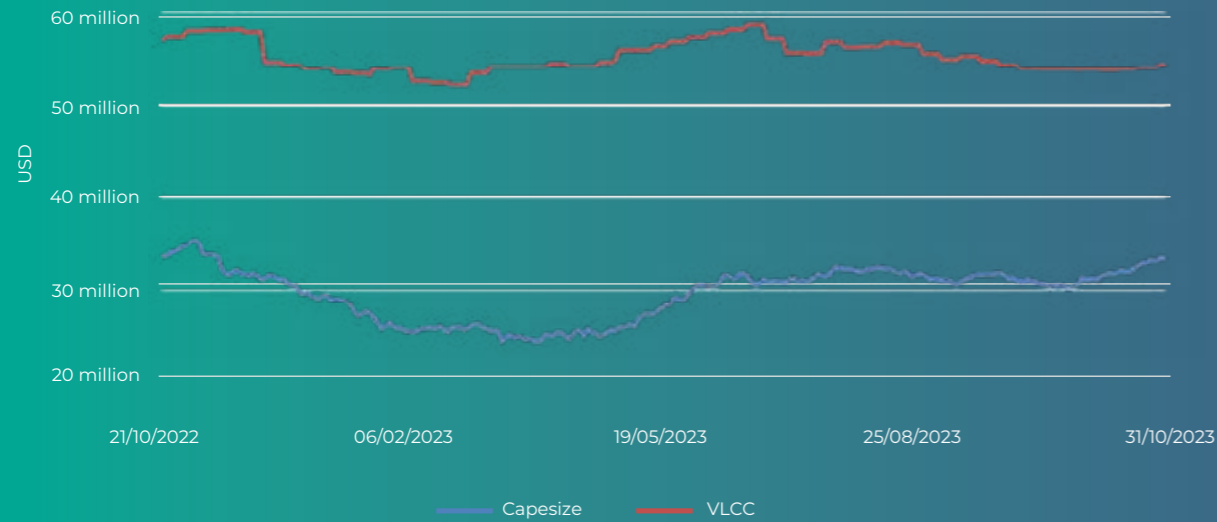
Capesize costs: Crew vs technical vs insurance - Jan 2019 - Oct 2023



VLCC costs: Crew vs technical vs insurance - Oct 2022 - Oct 2023



Residual Value Index of Capesize and VLCC vessels: Oct 2022 - Oct 2023



Residual Risk Index of Capesize and VLCC vessels: Oct 2022 - Oct 2023



Residual Value & Risk Index

The Baltic Exchange uses data from its Investor Indices to run a simple investment calculation, taking the cost to purchase the vessel and running it for five years (with daily running costs assumed to increase 5% year on year) and the income assumption based on employing the vessel for a five-year period timecharter. The calculation provides the implied residual value of the vessel in five years' time. The BII provides this residual value data as one of its indexes.

The closer the residual value gets to the value of the steel – i.e. the recycling value – the lower the risk of the investment. The Baltic Exchange calculates a residual risk index, which is the recycling value as a ratio of the five-year implied residual value.



OUR PANELLISTS

Recycling / S&P

Arrow Chartering (UK)
Banchero-Costa
Barry Rogliano Salles
Braemar ACM
Compass Maritime
Fearnleys
Golden Destiny
JV Shipping
Lorentzen & Stemoco
MJLF & Associates, Inc.
Optima Shipbrokers
JV Shipping
SSY Valuation Services
Sterling Shipping Services
Yamamizu Shipping



Freight

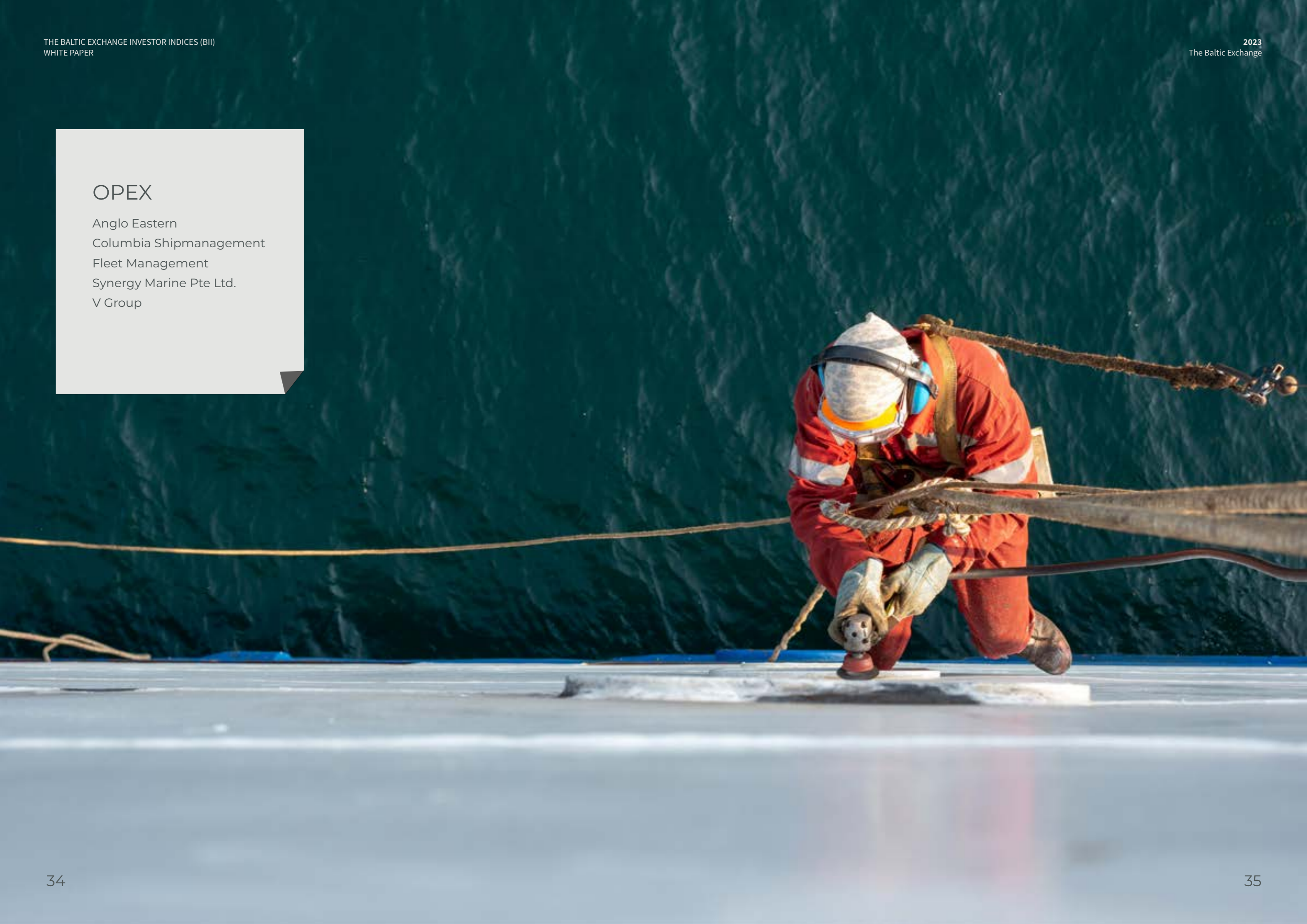
Acropolis Chartering
Arrow Chartering (Singapore)
Arrow Chartering (UK)
Ausea Beijing
Banchemo-Costa
Barry Rogliano Salles
Braemar ACM
Braemar ACM Shipbroking
(Singapore)
Clarksons Platou
Clarksons Platou Asia
Clarksons Platou Shipbroking
(Switzerland)
Doric Shipbrokers
EA Gibson Shipbrokers
Fearnleys
Galbraith's Shanghai
H Vogemann
Hai Young
Hartland Shipping
Hartland Shipping (Singapore)
Howe Robinson Partners
Howe Robinson Partners
(Singapore)
I & S Shipping
Ifchor
Ifchor (Hong Kong)
Interocean Delhi
John F Dillon & Co
Lightship Chartering
Optima International
Rigel Shipping
Simpson Spence Young
Simpson Spence Young (Asia)
Thurlestone Shipping
Thurlestone Shipping
(Singapore)
Yamamizu Shipping Co

FFAs

Affinity
Arrow Chartering (UK)
Braemar ACM Shipbroking
Clarksons Platou Futures
Limited
Freight Investor Services
GFI Brokers
Marex Spectron
SSY Futures
Thurlestone Shipping

OPEX

Anglo Eastern
Columbia Shipmanagement
Fleet Management
Synergy Marine Pte Ltd.
V Group





The Baltic Exchange

a: 77 Leadenhall St, London, EC3A 3DE
t: + 44 (0) 20 7283 9300
e: enquiries@balticexchange.com
w: balticexchange.com