

Coal Shipping 101



Presented to:

Wyoming Infrastructure Authority

Cheyenne – June 11, 2015

Planning to Cover....

1) Overview

2) Vessel Sizes

3) Baltic Dry Index

3) Fleet Capacity

4) Medium Term Outlook

5) Glossary of Terms

Coal Trade - Overview

Coal Market:

- A world-wide industry, with coal mined commercially in over 50 countries.
- Readily available from a variety of sources in a well-supplied global market.
- Can be transported to demand areas quickly, safely and easily by ship and rail.
- A large number of suppliers are active in the international coal market, ensuring a competitive and efficient market.

Coal Trade:

- Traded all over the world, shipped huge distances by sea to reach markets.
- Over last 20 years seaborne trade in steam coal increased about 7% per annum.
- Overall international trade in coal reached 1,342Mt in 2013; while this is a significant amount of coal it still only accounts for about 16% of total coal consumed.
- Indonesia has overtaken Australia as world's largest steam coal exporter; it exported over 300Mt of coal in 2012.
- Australia remains the world's largest supplier of coking coal, accounting for roughly 50% of global supply.



Coal Trade – Overview (2)

Coal Transportation:

- Mode of transit to where it will be used depends on the distance to be covered.
- Conveyor or trucks generally utilized over short distances.
- Trains and barges are used for longer distances within domestic markets, or alternatively coal can be mixed with water to form a coal slurry and transported through a pipeline.
- Ships are commonly used for international transportation, in sizes ranging from:
 - ❖ Handymax – about 20-50,000 DWT
 - ❖ Panamax - about 60-80,000 DWT
 - ❖ Capesize vessels - over 80,000 DWT

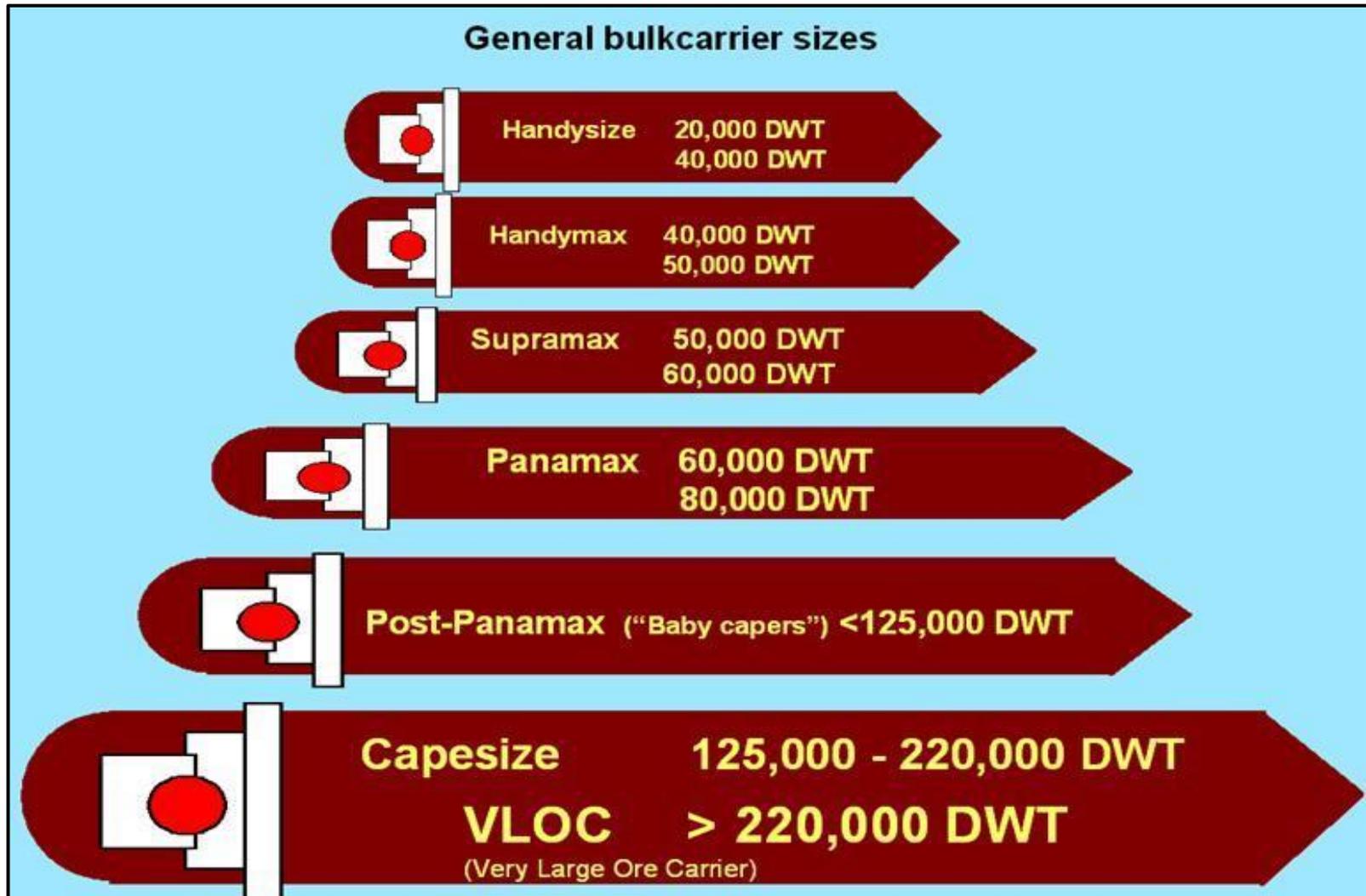
Transportation costs account for a large share of the total delivered price of coal, with international trade in steam coal effectively divided into two regional markets:

A) Atlantic market: made up of importing countries in Western Europe, notably the UK, Germany and Spain.

B) Pacific market: which consists of developing and OECD Asian importers notably Japan, Korea, Taiwan and China.



General Bulk Carrier Vessel Sizes



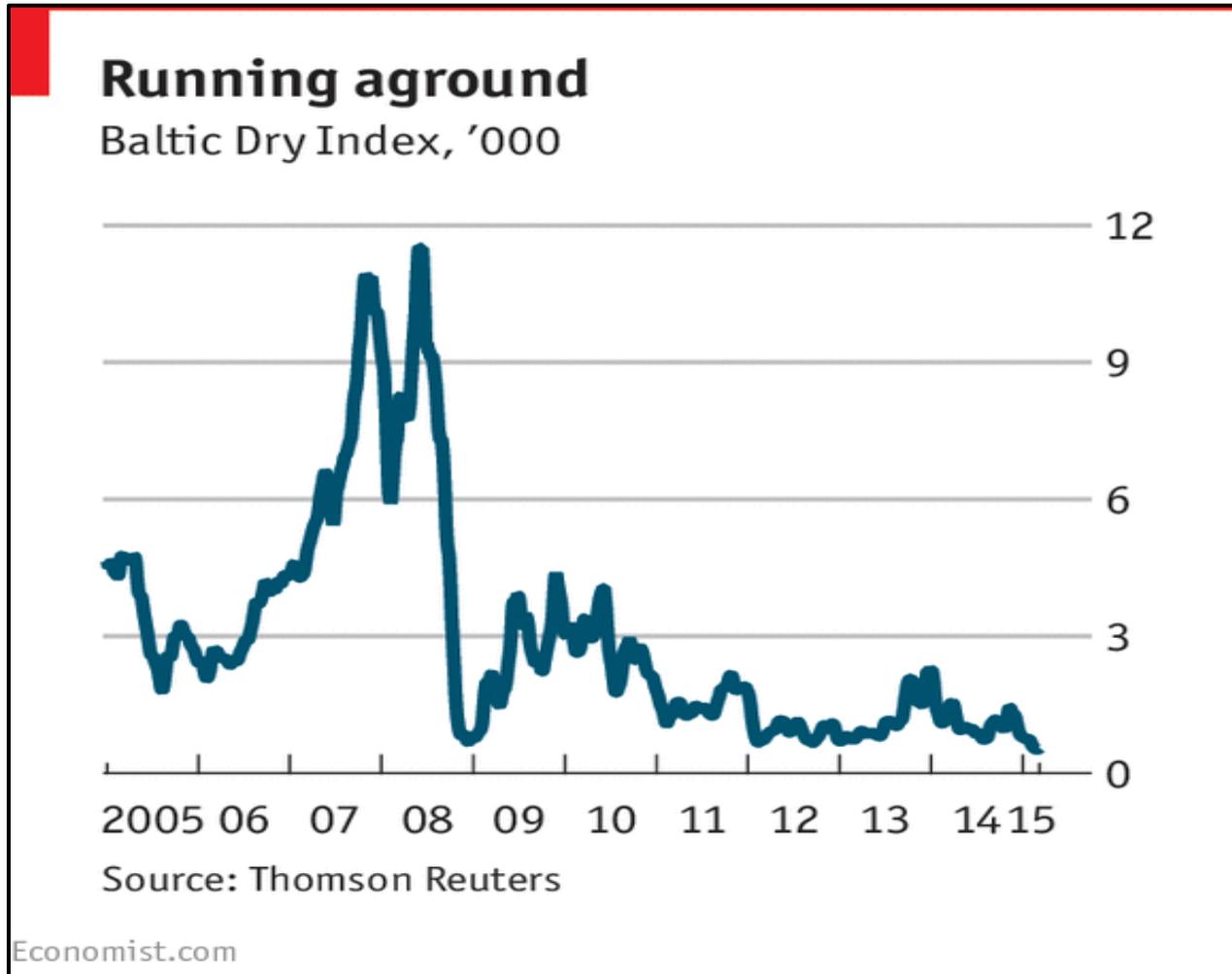
Baltic Dry Index

- Baltic Dry Index (BDI) is an economic indicator issued daily by the London-based Baltic Exchange.
- BDI provides an assessment of the price of moving major dry bulk raw materials by sea taking in 23 shipping routes measured on a “timecharter”
- BDI covers Handysize, Supramax, Panamax, and Capesize dry bulk carriers carrying a range of commodities including coal, iron ore and grain.

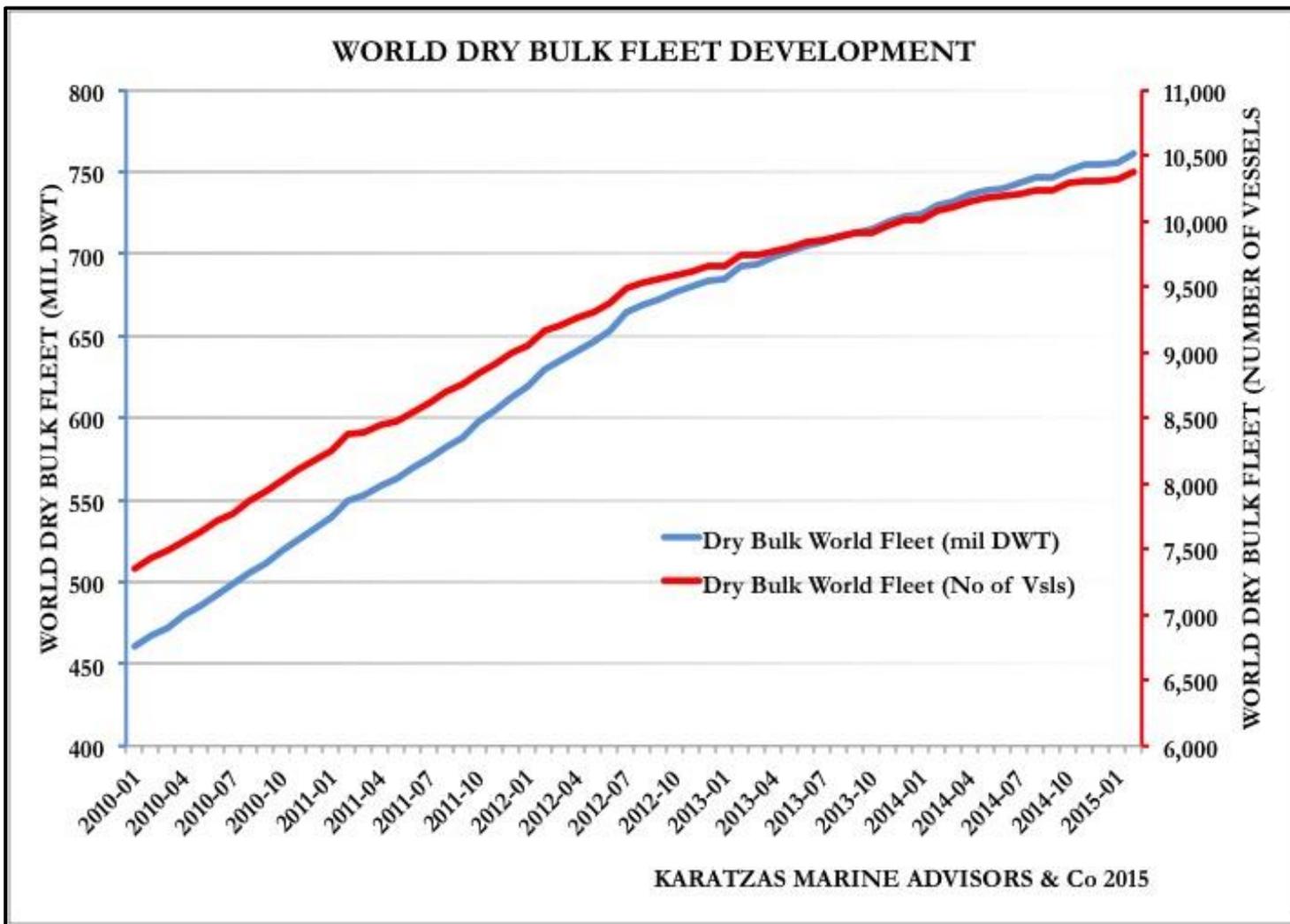
Baltic Dry Index Lows:

- Large number of ship orders before the financial crisis caused an oversupply in the shipping market, while meanwhile the financial markets were crashing.
- Global growth fell precipitously, and demand for commodities such as oil, coal, iron, and copper plummeted.
- World economy has recovered from the lows of the financial crisis, but not enough to match the oversupply of vessels available for shipping.
- Analysts: shipping market is still 20% oversupplied compared to demand.
- BDI has fallen over 60% in the past six months, hitting a 30-year low in 2015.

Baltic Dry Index (2005 – 2015)



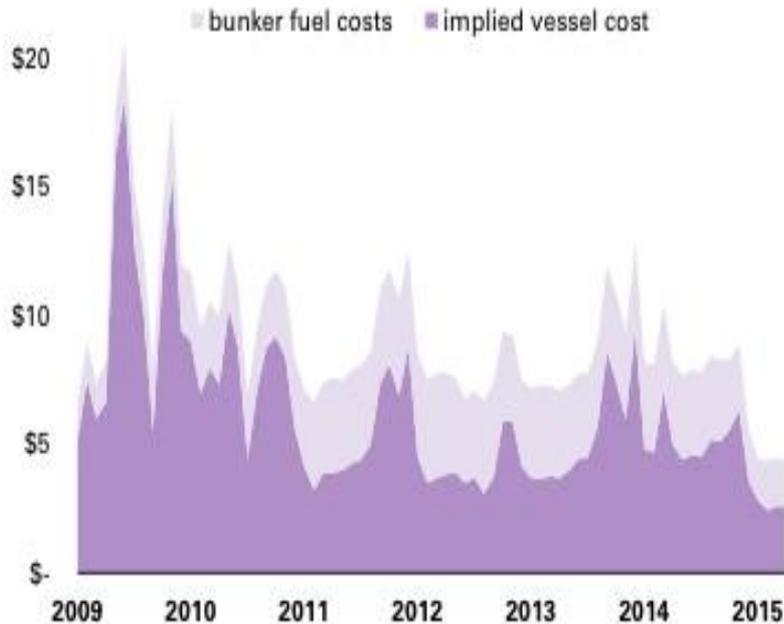
Rapid Development of Fleet Capacity



Weak Freight Market Set to Last

Exhibit 4: Cheap fuel + cheap ships = cheap freight

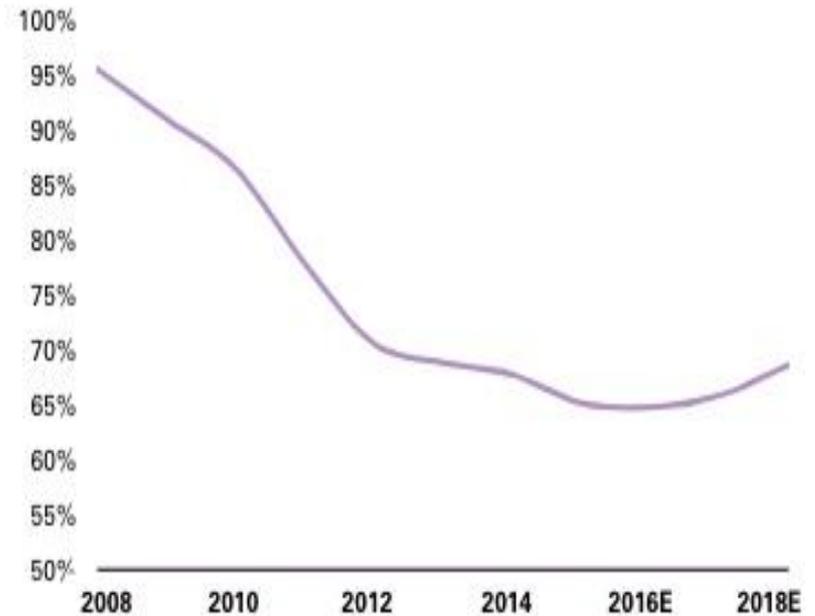
Australia-China freight rate – US\$/t



Source: McCloskey, Goldman Sachs Global Investment Research

Exhibit 5: Weak freight market set to last

Vessel fleet utilization rate – Cape + Panamax only



Source: Goldman Sachs Global Investment Research



Coal Shipping Terms Glossary

BDI - *Baltic Dry (Freight) Index* - an index reflecting a composite number of routes, issued on a daily basis.

Brokerage - the remuneration for brokers' time and effort in negotiating the Charter Party (*qv*); expressed as a % of freight or hire payment received by shipowner.

Bunkers - term for fuel used by a vessel.

Capesize - a ship of about 80,000 DWT. (A vessel which is too large to transit the Panama Canal and thus has to sail via Cape of Good Hope from Pacific to Atlantic and vice versa.)

Charter Party - document containing details of the fixture of the chartered vessel.

Standard form charter parties for various trades are normally used, but some charterers use private forms.

CIF - *Cost, Insurance and Freight* - method of selling cargo where seller pays for loading costs, ocean freight and insurance.

Demurrage - financial compensation paid by charterer to the vessel for delays after the laytime has expired at the load/discharge port.

Draught - vertical distance between the waterline and the keel. Figures quoted refer to a fully-laden vessel.

DWT - *Deadweight Tonnes* - deadweight capacity of vessel comprising cargo, bunker fuel, fresh water, stores etc.

FOB - Free On Board - method of selling cargo excluding ocean freight and insurance, but including loading costs.

Gearless - a ship without means on board for the loading/unloading of cargo.

Handymax - inexact term, but normally taken to mean a vessel of about 40-60,000 DWT.

Coal Shipping Terms Glossary (2)

Handysize - inexact term, but normally taken to mean a vessel of about 10-40,000 DWT.

LOA - Length Overall - total length of vessel aft to fore.

Panamax - vessel of about 60-80,000 DWT. (Technically the maximum size vessel that can transit the Panama Canal - restriction of 32.2 M beam.)

SF - Stowage Factor - used to determine whether a vessel's holds will be filled before the vessel reaches its maximum draught. The SF for coal, depending on type, is between 37 and 48 cubic feet per long ton.

Spot - term for suitably sized vessel readily available for short-term charter, usually in vicinity of charterer's requirement.

Stevedore - company engaged in providing loading/ discharging services for vessels.

Time Charter - fixture whereby charterer hires vessel for a specified period; payment made on a daily basis and includes fuel used, port costs etc.

Trimmed - when vessel is stabilised by (a) leveling off cargo within each hold, and (b) stowing cargo throughout ship so that fore and aft drafts are practically the same.

Trip Time Charter - fixture whereby charterer hires vessel for single voyage or round trip; terms and conditions similar to Time Charter.

Turn Time (TT) - time allowed in the charter party, after NOR tendered and before laytime commences. Usually quoted in hours.

Voyage Charter - fixture whereby the charterer pays a rate per ton loaded or on a lump sum basis.