

### Bulk

Bulk commodity vs bulk cargo

Four main characteristics of bulk commodities which influence their sustainability for transport in bulk:

- Volume
- Handling and stowage
- Cargo value
- Regularity of flow

### Factors in the bulk market

Commodity supply industries

Steel production

Growing infrastructure development in developing countries

Urbanization

Used to be Europe, USA and Japan, now BRIC [Brasil, Russia, India, China]

Overcapacity in the fleet + large orderbook

Efficiency

Price and volume

### Reefers

Refrigerator ships

Temperature controlled transportation

Usually food

Competition from containers

### Ships

Capesize bulk carrier > 100.000 dwt, Coal and ore, ULOC, VLOC

Panamax bulk carrier 60.000-100.000 dwt, Coal, crude oil and petroleum, Latin-America

Handymax bulk carrier 40.000-60.000 dwt, Small and large ports, often 4 cranes

Handysize bulk carrier 10.000-40.000 dwt, the smallest bulk carriers, often 4 cranes

OBO carrier Oil/Bulk/Ore, Dry and wet bulk, Cleaning is demanding, expensive to build, not built any more

### History

1850: The first bulk ships built

1900: The first diesel fueled ships with integrated loading and unloading equipment

1958: Thorvald Klaveness built the worlds first special made bulk carrier, Carried fertilizer from Norway

1961: Klaveness was the first in the world to carry cement

### Industrial revolution

From short-sea to deep-sea

Increased trade between the industrialized countries

Increased energy need, increased production

Larger and quicker ships

Specialised bulk carriers

### Dry bulk

Major bulk:

- Iron ore
- Coal
- Grain
- Phosphate rocks
- Bauxite and alumina

Minor bulk:

- Forest products
- Sugar
- Agribulk

### Future trends

Surplus in the market

China's growth? Stagnation?

Other BRIC countries

International bulk fleet

Baltic dry index

### Ship types

Bulk-carriers

Ore-carriers

OBO / Combination Carriers

### Iron ore

20% of the dry bulk

Measured in tons

Steel

Mining

Very dusty

### Coal

Electricity production

Fuel for heating

Mining

Environmentally questionable

### Corn

Food production

Rice, corn, oatmeal, wheat

Demanding transportation-high risk

Ventilation and protection from bad weather and bugs

### Phosphate

Fertilizer

Dusty and absorbs moisture

### Bauxite

Production of aluminum

Indonesia -50% of the export

Kina -70% of import

Hydro

Uncertain trade in the future due to Indonesian stop in export

### Minor bulk

Represents the rest of the dry bulk industry

Sugar, minerals, forest products