

SHIPPING STATISTICS AND MARKET REVIEW 2016

Volume 60 - No. 3

A solid red vertical bar is positioned to the left of the 'Analytical Focus' section header.

Analytical Focus

- World Merchant Fleet
- **World Tanker Market**
- World Bulk Carrier Market
- World Container and General Cargo Shipping
- World Merchant Fleet by Ownership Patterns
- World Passenger and Cruise Shipping/
ISL Cruise Fleet Register
- World Shipbuilding and Shipbuilders
- Major Shipping Nations
- World Seaborne Trade and World Port Traffic

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ISL Comment – World Tanker Market

Page
3-8**(1) WORLD TANKER FLEET**

1.1	Tanker Fleet Development by Type	3
1.2	Size Dimensions of the World Tanker Fleet	4
1.3	Ownership Patterns of the World Tanker Fleet	4

(2) TANKER MARKET FUNDAMENTALS

2.1	Oil and Gas – Production and Consumption Patterns	5
2.2	Seaborne Oil/Oil Products Trade and Port Traffic	6
2.3	Tanker Rates and Prices	8

(3) THE WORLD TANKER SHIPBUILDING MARKET

3.1	New Orders and Order Book	8
3.2	Leading Shipbuilding Countries	9

SUMMARY TABLES - COMMENT

Tab. 1	Liquid bulk imports of the top 3 ports per region 2000 – 2015 (million tons and %)	3
Tab. 2	Monthly figures for newbuilding, second hand and scrapping prices	4
Tab. 3	Tanker order book by ship type as of January 1st, 2015 and 2016	5
Tab. 4	New tanker orders by type during 2012, 2014, 2015	5
Tab. 5	World tanker fleet by type as of January 1st, 2012 and 2016	6
Tab. 6	World tanker fleet – reductions by type 2011, 2014, 2015	6
Tab. 7	World tanker fleet – additions (newbuildings) by type 2011, 2014 and 2015	6

FIGURES - COMMENT

Fig. 1	World oil production and consumption 1995 - 2015	3
Fig. 2	Development of crude oil spot prices (weekly averages) 2010 – 2016	3
Fig. 3	Crude oil trade from Middle East/Gulf by direction in 2014	3
Fig. 4	Shares of global refining capacity of the top refining countries as of January 2015	3
Fig. 5	Monthly time charter rates for selected tanker sizes January 2011 - February 2016	4
Fig. 6	World tanker fleet - share of the ordered tonnage on the existing fleet 1996 - 2016	4
Fig. 7	World tanker order book estimated delivery schedule as of January 1st, 2016	5
Fig. 8	World total tanker fleet – annual tonnage changes January 1st 1998 – January 1st, 2016 ..	5
Fig. 9	World tanker fleet – additions and reductions 2002-2015	6
Fig. 10	World tanker fleet – age structure by major types as of January 1st, 2016	7
Fig. 11	Size of order book in relation to fleet (in %), January 1st, 2016	7

ISL Statistical Tables– World Tanker Market

9-39

(1) WORLD TANKER FLEET

1.1	Key Figures on World Tanker Fleet by Ship Type and Size Class 2016	9
1.2	World Tanker Fleet Development by Type 2012 - 2016	10
1.3	Total Tanker Fleet by Ownership Patterns	11
1.3.1	Total Tanker Fleet by Major Flags 2015 and 2016	11
1.3.2	Total Tanker Fleet by Country of Control 2016	12
1.3.3	Total Tanker Fleet by Year of Build and and Type 2016	13
1.3.4	Total Tanker Fleet by Registered Flag and Country of Control According to Regions and Type 2012 and 2016	14
1.3.5	Total Tanker Fleet by Type and Top 15 Countries of Control 2016	15
1.4	Broken-up Tankers	16
1.4.1	Broken-up Tankers by Ship Type 2008 - 2015	16
1.4.2	Broken-up Tankers by Scrapping Country and Major Country of Control during 2015	16
1.4.3	Broken-up tankers by Size Class during 2015	16

(2) TANKER FLEET MARKET SEGMENTS

2.1	Crude Oil and Product Tankers	17
2.1.1	By Country of Control 2016	17
2.1.2	By Country Groups and Division of Age 2016	18
2.1.3	Additions to Fleet by Top Countries of Control 2011 - 2015	18
2.1.4	By Size Class and Year of Build 2016	19
2.1.5	Size Dimensions 2016	19
2.2	Oil/Chemical Tankers	20
2.2.1	By Country of Control 2016	20
2.2.2	By Country Groups and Division of Age 2016	21
2.2.3	Additions to Fleet by Top Countries of Control 2011 - 2015	21
2.2.4	By Size Class and Year of Build 2016	22
2.2.5	Size Dimensions 2016	22
2.3	Liquid Gas Tankers	23
2.3.1	By Country of Control 2016	23
2.3.1	By Country Groups and Division of Age 2016	24
2.3.3	Additions to Fleet by Top Countries of Control 2011 - 2015	24
2.3.4	By Size Class and Year of Build 2016	25
2.3.5	Size Dimensions 2016	25

(3) TANKER MARKET – SHIPPING COSTS AND PRICES

3.1	Second Hand Prices of Tankers, Average Values 2003 - 2015	26
3.2	Contracting Prices for Newbuildings 2003 - 2015	26

(4) COMMODITIES, SEABORNE TRADE, PORTS

	Commodities	
4.1	Oil Production, Consumption and Reserves	27
4.1.1	Development of the World Crude Oil Production 2010-2015	27
4.1.2	Development of the World Oil Demand 2010-2015	27
4.1.3	Major Oil Producing Countries 1985, 1990, 2000, 2005, 2007 - 2014	28
4.1.4	Major Oil Consuming Countries 1985, 1990, 2000, 2005, 2007 - 2014	28
4.1.5	Leading Refining Countries 1985, 1990, 2000, 2005, 2007-2014	29
4.1.6	Major Oil Reserves 1985, 1990, 2000, 2005, 2007-2014	29
4.2	Gas Production, Consumption and Reserves	30
4.2.1	Major Gas Producing Countries 1985, 1990, 2000, 2005, 2007 - 2014	30
4.2.2	Major Gas Reserves by Country 1985, 1990, 2000, 2005, 2007 - 2014	30
4.2.3	Leading Natural Gas – Trade Movements 2014	31
4.2.4	Liquefied Natural Gas – Consumption by Major Countries 2004-2014	31
4.3	Seaborne Trade	
4.3.1	Crude Oil and Oil Products Trade by Exporting Area 2010 - 2014	32
4.3.2	Crude Oil and Oil Products Trade by Importing Area 2010 - 2014	32
4.3.3	Export-Import Matrix 2014	32
4.4	Ports	34
4.4.1	Development of Total Liquid Bulk Traffic at Major Oil Importing Ports 2005 - 2014	34

(5) FUTURE TANKER TONNAGE – TANKERS ON ORDER

5.1	Existing World Merchant Fleet by Ship Type and Major Areas of Build 2016	35
5.2	Order Book Development by Ship Type 2011 - 2016	36
5.3	Tankers on Order by Major Countries of Build and Ship Type 2016	36
5.4	Tankers on Order by Type and Delivery Schedule 2016	37
5.5	Tankers on Order by Top Country of Build and Delivery Schedule 2016	37
5.6	Tankers on Order by Ship Ship Yard and Delivery Schedule 2016	37
5.7	Additions to Orderbook by Ship Type	38
5.7.1	Additions to Orderbook by Ship Type and Major Countries of Build 2013 - 2015	38
5.7.2	Additions to Orderbook by Ship Type and Major Country of Domicile 2013 - 2015	39

FIGURES – STATISTICAL TABLES

Fig. 1	Tanker fleet by year of build and type as of January 1 st , 2016	26
Fig. 2	Contracting Prices for Newbuildings 1993 - 2015	26
Fig. 3	Seaborne Crude Oil trade by Region 2003 - 2014	33

THE TANKER MARKET 2015/2016

Oil prices remain exceptionally low

Driven by an ongoing drop in prices of crude oil (see Figure 2), 2015 saw oil demand increasing beyond what the normal economic growth would have implied. Continuously high production has helped to dampen any immediate hope for a recovery of the oil price. Moreover one of the largest oil producing countries, Iran, has announced to expand production in the near future.

OPEC production increased 3.3 % from 2014 to 2015 up to 38.7 million b/d. There are still some issues in OPEC countries like Libya, Nigeria and Venezuela but on the contrary Iraq increased its exports by about 20 %.

It is assumed that this trend will continue in 2016 as the countries on the Arabian peninsula announced to widen their production as they could not agree on upper production limits

The annual crude oil production capacity increased slightly from 4.0 billion tons in 2010 to 4.2 billion in 2014, the highest value ever. It is expected that the oil production capacity may remain on a high level in 2016.

The global oil consumption rose by 1.8 million b/d in 2015, totalling 94.6 million b/d for the year. Similar to the oil production the consumption is expected to grow further. China's oil consumption growth rates continued to decrease in 2014. Still the recorded growth of 5.7 per cent was significantly higher than the global average.

The oil consumption of European OECD countries climbed by 0.2 million b/d in 2015 and it is expected that this small upswing will go on in 2016. The non-OECD oil consumption increased by 1.3 million b/d in 2015. This development is expected to continue in 2016, with demand rising by almost 1.1 million b/d during the second quarter.

All in all it needs to be noted that the surprisingly strong growth of global oil demand during 2015 has been a one-off-effect, supported by oil prices cut in half compared to 2014. As long as oil prices remain at low levels, this additional demand can be expected to stay. Yet it seems obvious that growth in 2016 will slow down as the oil price stabilized at low levels.

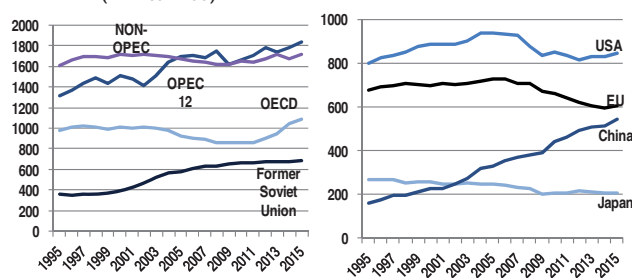
Drop in oil prices gives new impetus to oil trade

Crude oil is the only bulk commodity that shows growth rates above average of all major bulk goods over the last year. In 2015, seaborne crude oil trade increased 4.7 per cent to 1.8 billion tonnes, whereas shipments of oil products climbed about 2.2 per cent to 1.0 billion tonnes. With 2.9 billion tonnes, a little more than a quarter of total seaborne trade in 2015 has been crude oil and oil products. Furthermore another 0.33 billion tonnes of liquefied gas and 0.27 billion tonnes of other liquids were transported by ship. Half a decade ago, the share of oil and oil products was some five per cent higher.

Short term projections published by Clarkson Research predict a small growth of 3.5 per cent in this year for crude oil and 3.6 per cent for oil products, respectively.

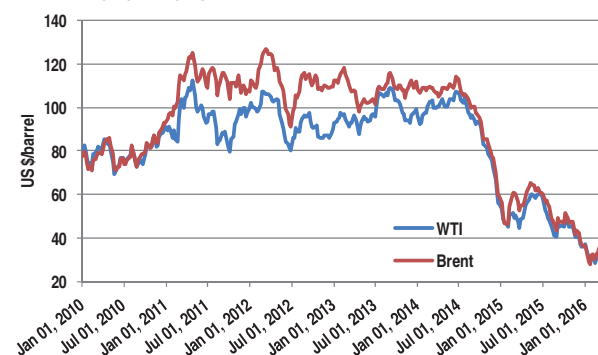
Shipping of chemicals developed in line with previous years and grew by 3.4 per cent in 2015, reaching an annual

Fig. 1: World oil production and consumption 1995 - 2015 (mill tonnes)



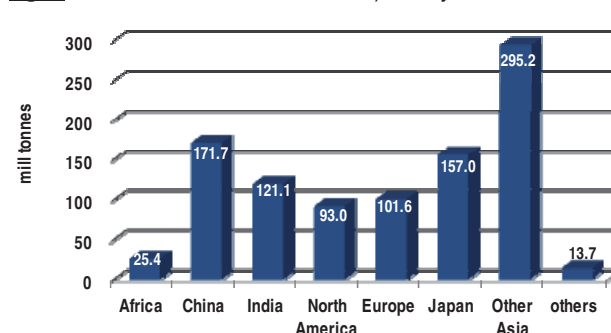
ISL based on U.S. Department of Energy, EIA

Fig. 2: Development of crude oil spot prices (weekly averages) 2010 - 2016



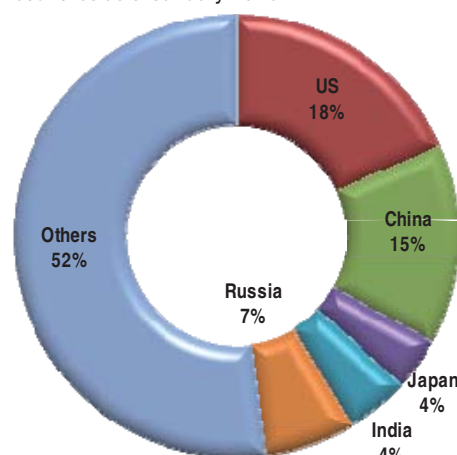
ISL based on U.S. Department of Energy, EIA

Fig. 3: Crude oil trade from Middle East/Gulf by direction in 2014



ISL, based on BP, Statistical review of world energy

Fig. 4: Shares of global refining capacity of the top refining countries as of January 2015



ISL, based on IEA 2016

total of 274 million tons.

The seaborne LNG/LPG trade is expected to grow by around 3.6 per cent, thanks to the development of new offshore gas fields and a steadily growing demand. Consequently, the transported LNG/LPG volumes are estimated to reach 339 million tonnes in 2016 after 327 million tonnes in 2015.

The more or less positive results are mainly sustained by a relatively stable demand growth in Asia and, to a lower extent, Western Europe as well as the ongoing substitution of nuclear power with oil and gas in Japan. In the years to come, the IEA expects a reduction in Middle East crude exports. Experts state this development will result from increasing local refining activities and a lower production in Yemen, Syria and Oman, and by the unstable political conditions.

In 2015, Asia was the biggest crude oil and oil products importing region. 53 per cent of the global oil exports and 35 per cent of the oil products exports, (995 million tonnes and 357 million tonnes respectively), are imported by Asian countries. Admittedly, nearly 50 per cent of these imports have their origin in the former Soviet Union, consequently often transported by pipeline. According to information provided in BP's "Review of World Energy", it is noteworthy that the US are the origin of 50 per cent of crude oil imported by Latin American countries.

Between 2011 and 2015, the seaborne trade volume of crude oil increased by only 0.3 per cent on average per year, whereas shipments of oil products gained around 3.0 per cent on average during the same period. Oil shipments are traditionally mostly affected by demand patterns in OECD countries, but during the last 10 to 15 years the demand growth of oil products in countries like India, China and Vietnam has become increasingly important. Noteworthy is the increasing share of oil product shipments from several OPEC countries to the industrialised economies.

The biggest refinery capacity globally is located in the USA. At the beginning of 2015, its throughput stood at 17.8 million barrel per day, equivalent to 18.4 per cent of the global capacity. China, with a refinery capacity of 14.1 Mbd at the end of 2014, has the second biggest refinery capacity in the world, accounting for 14.6 per cent of the world's total capacity. Together with Russia (6.6 per cent), India (4.5 per cent) and Japan (3.9 per cent) these countries account for nearly half of the global capacity (see Figure 4).

Liquid bulk traffic of the leading ports is determined by the market trends in seaborne oil trades and the exploitation of new natural deposits like the US activities in shale oil production, which changed, for example, the Port of Corpus Christi from an importing port of liquid bulks to a more export-oriented port.

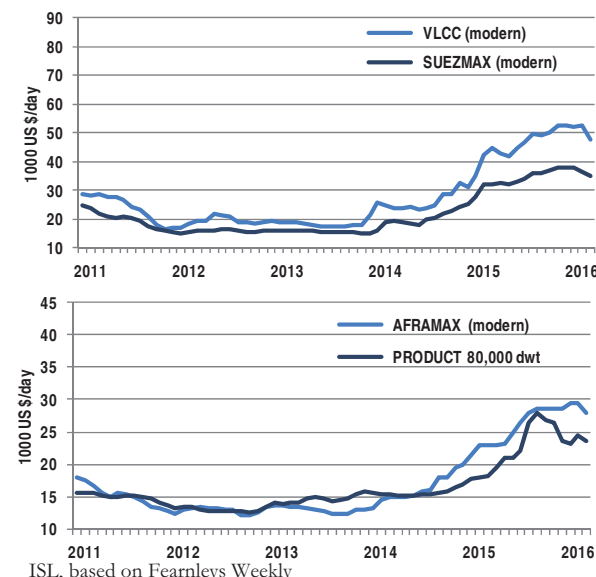
North European and South European ports showed contrasting developments concerning their liquid bulk traffic. Whilst the leading North European ports with the exception of Antwerp consistently showed negative year-on-year results, the Mediterranean ports listed in the table on page 42 all show increasing figures. Based on figures from EUROSTAT, about 42 per cent of the liquid bulk imports handled at South European ports came from other

Tab. 1: Liquid bulk imports of the top 3 ports per region 2000 – 2015 (million tons and %)

	2000	2005	2010	2014	2015	%-change over prev. year	Average growth rate 2005 - 2015
America major 3	136.92	133.97	164.19	172.57	173.87	0.8	2.6
Asia major 3	180.29	195.28	207.46	207.00	210.10	1.5	0.7
Europe major 3	174.10	227.69	239.27	230.54	271.74	17.9	1.8

ISL Port Data Base 2015

Fig. 5: Monthly time charter rates for selected tanker sizes January 2011 - February 2016

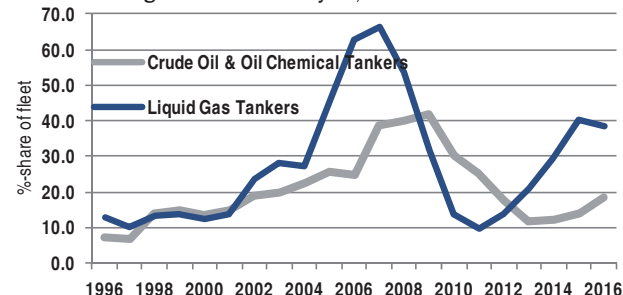


Tab. 2: Monthly figures for newbuilding, second hand and scrapping prices

	Unit	2013 Jan.	2014 Jan.	2015 Jan.	2015 Nov.	2015 Dec.	2016 Jan.	% change over prev. year
Newbuilding Prices								
Product 47000	mill US \$	32.0	38.0	37.0	35.5	35.5	35.0	-5.4
Aframax 105000	\$	46.0	54.0	53.0	52.0	51.5	51.0	-3.8
Suezmax 150000		57.0	67.0	65.0	63.5	64.0	63.0	-3.1
VLCC 300000		88.0	100.0	97.0	95.0	93.0	92.0	-5.2
Second hand prices (five years old vessel)								
305000 dwt	mill US \$	60.0	65.0	81.0	80.0	80.0	80.0	-1.2
160000 dwt	\$	43.0	45.0	60.0	60.0	60.0	60.0	-
105000 dwt		29.0	35.0	46.0	46.0	46.0	46.0	-
C 47000 dwt		26.0	30.0	27.0	28.0	28.0	29.0	7.4
Demolition prices								
Far East	US \$/ Displ. t	400.0	350.0	250.0	160.0	160.0	145.0	-42.0
Pakistan/India		430.0	455.0	415.0	305.0	280.0	298.0	-28.2

Source: ISL, based on Fearnleys (Newbuildings) and Platou (Second hand and scrapping)

Fig. 6: World tanker fleet - share of the ordered tonnage on the existing fleet as of January 1st, 1996 - 2016



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

European countries, one third was imported from Africa and only 19 per cent arrived directly from Asia (e.g. Middle East); the remaining 5 per cent originated in America. By contrast, in the North European ports inbound liquid bulk traffic from other European countries amounted to 66 per cent and 17 percent of the imported liquid bulk came from Africa. Another 14 per cent came from Asia and 3 per cent from America. The analysis of the period 2005-2014 points to the fact that growth rates for all importing regions are more or less stable, while short-term developments differ noticeably. U.S. and European ports grow rather slowly, with European ports importing much larger volumes of liquid bulk.

Strong demand leads to unexpectedly high earnings

As a result of the overall strong demand growth for tanker tonnage, average earnings – particularly for large crude vessels – were up significantly in 2015.

Currently, the tanker market benefits from the collapsed crude oil prices, and ongoing high OPEC production. Though fleet growth exceeds demand, the supply side is reduced by using larger units as storage units as long as crude oil prices remain low. Backed by above average trade growth, tanker rates soared to the highest levels since 2008/2009.

Crude tanker time charter rates increased significantly at the end of 2015, reaching their highest levels since mid of 2009 with US\$ 52,500 per day in the VLCC sector. This leads to a more relaxed situation for tanker owners, as this is noticeably above the estimated costs of US\$ 25,000 per day owners must earn to break even. This recent increase was primarily due to robust Chinese crude oil imports, an increase in long-haul movements from the Atlantic basin to Asia, and seasonal factors.

Even the LNG shipping is still in a good condition, although rates for a VLGC gas carrier are at US\$ 48,000 at the end of January 2016. That is 23.7 per cent lower than the 2015 average, but still enough to stay in the black.

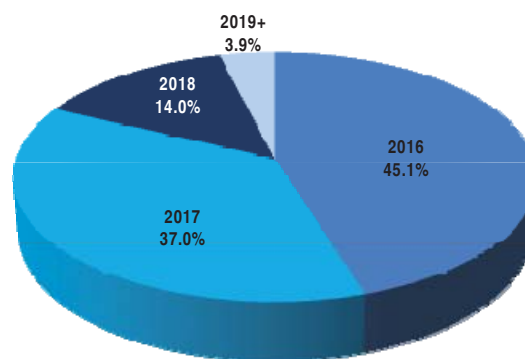
During the past year, newbuilding prices as well as second hand prices have been mirroring the market situation. During 2015 second-hand and building prices more or less stagnated. A buyer had to pay around US\$ 80 million for a five year old VLCC at the end of 2015. One year earlier, this ship would have been 1.2 per cent more expensive. A new VLCC costs around US\$ 92.0 million, 5.2 per cent below the 2014 prices.

Renewed interest in oil tankers

Whereas the dry bulk market experienced a troublesome year, 2015 has been defined as one of the best years for the tanker market. Both the crude oil tanker and oil product tanker markets enjoyed an extraordinarily strong freight market throughout 2015. Looking at the gas tankers, the LPG market showed exceptional strength during 2015, whereas the LNG market remained at low levels since mid-2015.

In contrast to the bulker or container market, the situation in the tanker segment was marked by moderate fleet growth in previous years. In 2015, 25 million dwt of new tanker tonnage entered in operation in 2015, up 18 per cent year-on-year. At the same time, only 93 tankers (2.5 million

Fig. 7: World tanker order book estimated delivery schedule as of January 1st, 2016 (in 1000 dwt, dwt % share)



Tab. 3: Tanker order book by ship type as of January 1st, 2015 and 2016

Tanker type	2015			2016			% change	
	No. of ships	1000 dwt	1000 cgt	No. of ships	1000 dwt	1000 cgt	dwt	cgt
Total Oil tankers	952	74893	20943	1049	101086	24752	35.0	18.2
- Crude/product tankers	422	56460	10663	589	86182	16220	52.6	52.1
- Oil/chemical tankers	530	18433	10280	460	14904	8532	-19.1	-17.0
Liquid gas tankers	385	19958	16938	362	19692	16865	-1.3	-0.4
- LPG tankers	227	7286	4441	207	6978	4254	-4.2	-4.2
- LNG tankers	158	12672	12497	155	12714	12611	0.3	0.9
Total	1337	94851	37881	1411	120777	41618	27.3	9.9

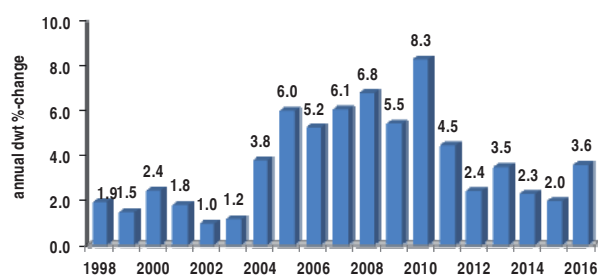
Source: Clarkson Research Services

Tab. 4: New tanker orders by type during 2012, 2014, 2015

Ship type	2012			2014			2015			dwt-% change '14/'15
	No of ships	mill dwt	mill cgt	No of ships	mill dwt	mill cgt	No of ships	mill dwt	mill cgt	
Oil tankers	281	14.9	4.5	336	27.5	7.4	418	47.1	10.5	71.2
- Crude/product tankers	153	10.5	2.1	155	22.5	4.3	288	43.0	8.1	91.1
- Oil/chemical tankers	128	4.4	2.4	181	5.0	3.1	130	4.1	2.4	-18.3
Liquid gas tankers	85	4.2	3.7	183	9.9	8.1	92	4.8	3.9	-51.1
- LPG tankers	50	1.2	0.8	108	4.2	2.4	60	2.3	1.4	-44.2
- LNG tankers	35	3.0	2.9	75	5.7	5.8	32	2.5	2.5	-56.1
Total	366	19.1	8.2	519	37.4	15.5	510	51.9	14.4	38.8

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer. Note: Figures are partly revised

Fig. 8: World total tanker fleet – annual tonnage changes January 1st 1998 – January 1st, 2016 (dwt-%)



Source: Up to 2011 based on IHS Fairplay, since 2012 on Clarkson Research Services Limited (CRSL). Please see disclaimer

dwt) were sent to ship breaking yards, the lowest level of the past 20 years. The total tanker fleet increased by a moderate 3.6 per cent to 600 million dwt at the start of 2016.

Due to the good market conditions, in 2015 the volume of new tanker tonnage ordered reached its highest level since 2008. A total of 510 tankers of a combined 52 million dwt were contracted globally. Thus, after three years of strong ordering, more than 1,400 tankers with a combined capacity of 120 million dwt have been on order early in 2016. While the last ordering wave around ten years ago was a reaction to IMO's single hull phase out scheme and strong crude demand growth from China, the current phase is driven by nothing but high market earnings driven by high demand in response to weak oil prices.

The ratio of deadweight tonnage under construction to the trading tanker fleet rose from 16.4 per cent to 20.1 per cent. We expect that the scheduled deliveries of tanker capacity will outperform demand growth in 2016 and thus probably exert some downward pressure on what have been the highest tanker charter rates since 2008/2009 in 2016.

▪ Crude oil, oil product and oil/chemical tankers

After having peaked at more than 4 per cent in 2011, the crude oil and oil product tanker fleet growth has been declining and in 2015 it slowed to 2 per cent. In 2015, only 125 crude oil and oil product tankers with a combined 12 million dwt were delivered. At the end of 2015, the crude oil and oil product tanker fleet comprised 7,065 tankers with 444 million dwt.

In 2015, contracting in the crude/product sector increased by 91 per cent y-o-y in tonnage terms to 43 million dwt, the highest level since 2008. At the start of 2016, the crude oil and product tanker order book comprised 589 vessels of 86 million dwt, up by 53 per cent year on year in 2015. The order book for crude oil and product tankers corresponded to 19.4 per cent of the existing crude oil and oil product tanker fleet in terms of dwt, compared with 13.0 per cent one year earlier.

In 2015, a total of 206 oil/chemical tankers were reported delivered, equivalent to 7.6 million dwt, a year-on-year increase of 7.8 per cent. In the same year, only 0.3 million dwt of oil/chemical tanker tonnage was recycled. At the beginning of 2016, the oil/chemical tanker fleet comprised 5,204 ships with a capacity of 102 million dwt.

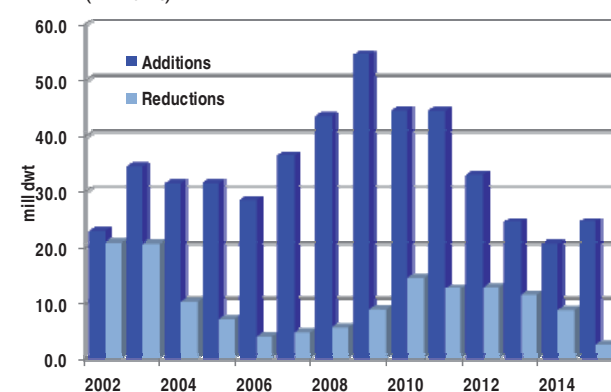
At the start of 2016, the oil/chemical tanker order book comprised 460 vessels of 15 million dwt (8.1 million compensated gross tons), down by 20.1 per cent year on year in terms of capacity. At the start of 2016, the order book for oil/chemical tankers was equivalent to 14.6 per cent of the fleet in dwt-terms, down from 19.7 per cent at the start of 2015.

▪ Liquid gas tankers

The liquid gas tanker fleet comprised 1,770 tankers with a capacity of 90 million cbm. Together with the oil/chemical tanker fleet, the LPG/LNG tanker fleet features the highest tonnage growth within the total tanker fleet. In the period 2012-2016, this fleet segment expanded by 5.5 per cent on average annually.

In 2015, the LNG carrier fleet capacity increased by 7.1 per

Fig. 9: World tanker fleet – additions and reductions 2002-2015 (mill dwt)



Source: Up to 2010 based on IHS Fairplay, since 2011 on Clarkson Research Services Limited (CRSL). Please see disclaimer

Tab. 5: World tanker fleet by type as of January 1st, 2012 and 2016

Ship type	2012			2016			Av. dwt/cbm growth
	No	mill dwt	mill cbm	No	mill dwt	mill cbm	
Total Oil tankers	11324	492.3	-	12269	545.7	-	2.6
- Crude/product tankers	6576	408.4	-	7065	443.9	-	2.1
- Oil/chemical tankers	4748	83.9	-	5204	101.7	-	5.0
Liquid gas tankers	1567	44.0	72.7	1770	54.5	90.4	5.6
- LPG tankers	1194	15.1	19.6	1327	19.4	25.8	7.2
- LNG tankers	373	29.0	53.1	443	35.0	64.6	5.0
Total	12891	536.3	72.7	14039	600.1	90.4	2.9

Tab. 6: World tanker fleet – reductions by type 2011, 2014, 2015

Ship type	2011			2014			2015		
	No of ships	1000 dwt	1000 cbm	No of ships	1000 dwt	1000 cbm	No of ships	1000 dwt	1000 cbm
Total Oil tankers	274	12168	-	124	8472	-	70	2283	-
- Crude oil/product tankers	176	10601	-	94	7841	-	54	1997	-
- Oil/chemical tankers	98	1567	-	30	631	-	16	286	-
Liquid gas tankers	26	497	656	32	330	442	23	258	382
- LPG tankers	20	307	383	29	176	173	20	105	101
- LNG tankers	6	191	273	3	154	269	3	154	281
Total	300	12665	656	156	8802	442	93	2541	382

Tab. 7: World tanker fleet – additions (newbuildings) by type 2011, 2014 and 2015

Ship type	2011			2014			2015			capacity-% change '14/'15	average growth % '11-'15
	No of ships	1000 dwt	1000 cbm	No of ships	1000 dwt	1000 cbm	No of ships	1000 dwt	1000 cbm		
Total oil tankers	576	41397	-	338	17138	-	331	19450	-	13.5	-17.2
- Crude oil/product	342	36721	-	165	11535	-	125	11842	-	2.7	-24.6
- Oil/chemical tankers	234	4676	-	173	5603	-	206	7608	-	35.8	12.9
Liquid gas tankers	72	1560	2523	85	3605	6285	116	5126	8495	35.2	35.5
- LPG tankers	56	554	690	53	842	1131	83	2493	3621	220.2	51.4
- LNG tankers	16	1006	1833	32	2763	5154	33	2633	4874	-5.4	27.7
Total	648	42957	2523	423	20743	6285	447	24576	8495	18.5	-13.0

Source: Based on Clarkson Research Services Limited (CRSL). Please see disclaimer

Sources

If not otherwise mentioned, the source for tables and figures concerning the world merchant fleet, special ship type features and order book information is "based on Clarkson Research Services Limited", please quote accordingly. In general merchant fleet data refer to ships of 300 gt and over.

Explanatory notes

Oil tankers: including crude oil tankers and oil/ product tankers
Oil/Chemical tankers including oil/chemical tankers, pure chemical tankers, and other tankers

Liquid gas tankers including LNG, LPG and other liquid gas carriers

cent. 33 LNG carriers (4.9 million cbm) entered into operation during 2015. At the beginning of 2016, the LNG fleet was composed of 443 carriers with a capacity of 65 million cbm.

Contracting declined in 2015, with 32 orders placed (4.8 million cbm), compared to 75 orders in 2014. At the end of 2015, the order book for LNG carriers comprised 155 vessels of 24.5 million cbm, representing 38 per cent of the existing fleet.

At least 83 LPG carriers of a combined 3.6 million cbm were delivered in 2015. Thus, the LPG carrier fleet grew by 15 per cent in 2015, a new record high. At the start of 2016, the LPG fleet was composed of 1,327 carriers with 25.8 million cbm.

After record ordering in 2014 (102 LPG carriers with 5.5 million cbm), contracting activity has slowed during 2015, 60 carriers of a combined 3.5 million cbm has been reported ordered. The LPG order book at the start of 2016 stood at 207 carriers of a combined 10.2 million cbm, an increase of 15.9 per cent compared to 2015. Meanwhile, the LPG carrier order book corresponds to 40 per cent of the total LPG fleet in service in terms of cbm.

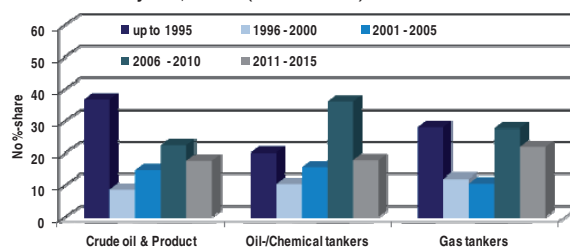
Tanker scrapping down to minimum

Given the good market conditions, it is not surprising that tanker demolition has been strongly subdued with just 93 tankers of a combined 2.5 million dwt in 2015, compared to an annual average of 200 vessels during 2005-2014. Obviously, strong freight rates and low scrap prices have played their part in limiting demolition to the minimum. The average scrapping age for tankers rose from 26.8 years in 2014 to 28.7 years in 2015.

Oil tankers sold in the demolition market during 2015 reached a 20 year low with 2.3 million dwt. According to CRSI, 54 crude oil and product tankers (2.0 million dwt) and 16 oil chemical tankers (0.3 million dwt) were reported broken up. Only five of the reported broken-up oil tanker units were attributable to size classes over 80,000 dwt (Aframax+). The average age for oil tankers scrapped was 29.9 years against 25.8 years one year earlier.

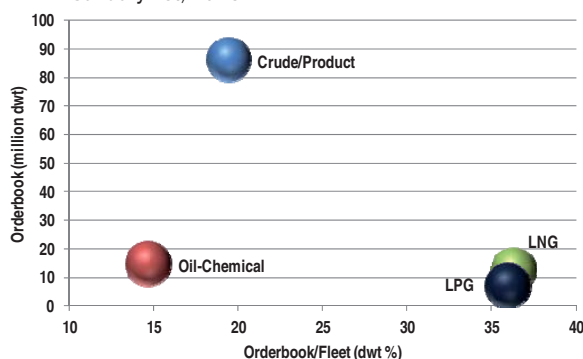
Demolition for gas carriers remained at low levels, just 23 carriers of 0.4 million cbm have been demolished in 2015, compared to 32 units (0.4 million cbm) one year earlier. The LNG fleet is relatively new (young), which reflects in the broken up tonnage: Both, in 2014 and 2015 we recorded only 3 units (each 0.3 million cbm).

Fig. 10: World tanker fleet – age structure by major types as of January 1st, 2016 (dwt%-share)



Source: Clarkson Research Services Limited (CRSL). Please see disclaimer

Fig. 11: Size of order book in relation to fleet (in %), January 1st, 2016



Source: Clarkson Research Services Limited (CRSL). Please see disclaimer

Explanatory note - Tanker size classes

Handysize:	10,000 < 40,000
Handymax:	40,000 < 60,000
Panamax:	60,000 - 80,000
Aframax:	80,000 - 120,000
Suezmax:	120,000 - 199,999
VLCC:	200,000 - 324,999
ULCC:	>= 325,000

Statistical details "World Tanker Fleet"

Key figures	p. 9
by division of age and type	p. 19, 22, 24
by size class and ship type	p. 19, 22, 24
by summer draught, length and broad and ship type	p. 19, 22, 24
World tanker fleet ranking by flag	p. 11
by registered flag and country of control	p. 12, 17, 20, 22

Statistical details "Commodities, trade and ports"

Oil production, consumption and reserves	p. 27 - 29
Gas production, consumption and reserves	p. 30, 31
Seaborne crude oil trade	p. 32, 33
Liquid bulk traffic at major oil importing ports	p. 34
Freight and charter market	p. 50 - 61
Shipping Prices and costs	p. 62 - 66

Statistical details "The world tanker shipbuilding market"

Tanker order book and new orders by type	p. 36
Tankers on order by type and delivery schedule	p. 37
Additions to the tanker order book by ship type and major countries of domicile	p. 38-39

Guide to relevant market information:

- Simpson Spence & Young: SSY World Oil-Tanker Trend: www.ssyonline.com
- Clarkson: Oil & Tanker Trades Outlook: <http://www.clarksons.co.uk>
- ISL Shipping Statistics Yearbook 2014
- IEA International Energy Agency: <http://www.iea.org>
- BP – Statistical Review of World Energy <http://www.bp.com>
- EIA Energy Information Administration: www.eia.doe.gov

Book Review

ISL SHIPPING STATISTICS YEARBOOK 2015 (ISSN 0721-3220)

The SHIPPING STATISTICS YEARBOOK 2015, published by the INSTITUTE OF SHIPPING ECONOMICS AND LOGISTICS (ISL) is now available. In addition to the print version an online edition is available via "ISL InfoLine".

The conceptual approach of the ISL Yearbook is designed to inform about developments in shipping, world trade, seaborne trade, commodity markets, ocean freight and charter rates, individual profiles of shipping and shipbuilding countries, as well as on world port developments. The most important development trends are summarised in an analytical market comment on shipping, shipbuilding, and ports.

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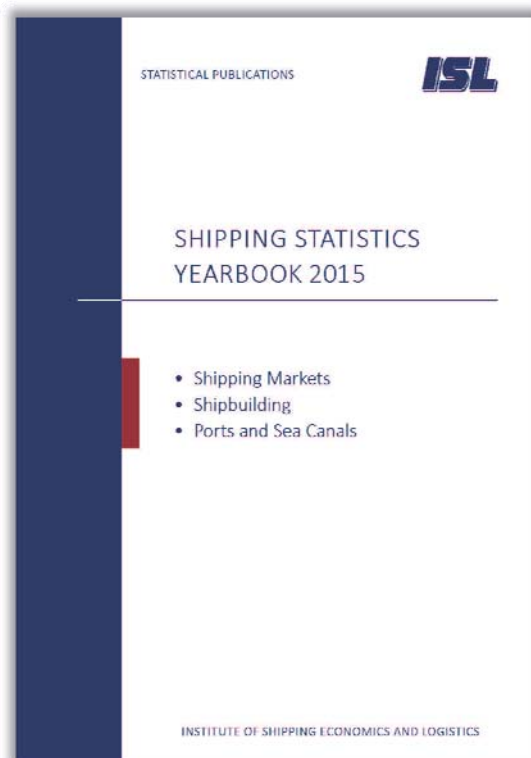
Contains data about the total merchant fleet, broken-up tonnage, casualty returns, special fleets, shipping costs, seaborne trade, world economy, commodities, and freight and charter markets, as well as more than 30 individual country reports.

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Analyses the current world shipbuilding development according to ship types, shipbuilding countries and shipyards. Also, data on deliveries, newbuilding contracts and order book developments are provided.

Ports and Sea Canals

This part contains data on shipping, cargo and container traffic of more than 300 leading world ports for the years 2010-2014, as well as monthly container figures of 61 top container ports up to September 2015. Key figures for single ports are complemented by analytical summary tables and graphs. All information is based on the ISL PORT DATA BASE which contains time series from 1980 onwards. In addition, this section of the yearbook includes traffic figures attributable to the world's major sea canals (St. Lawrence Seaway, Kiel Canal, Panama and Suez Canal).



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