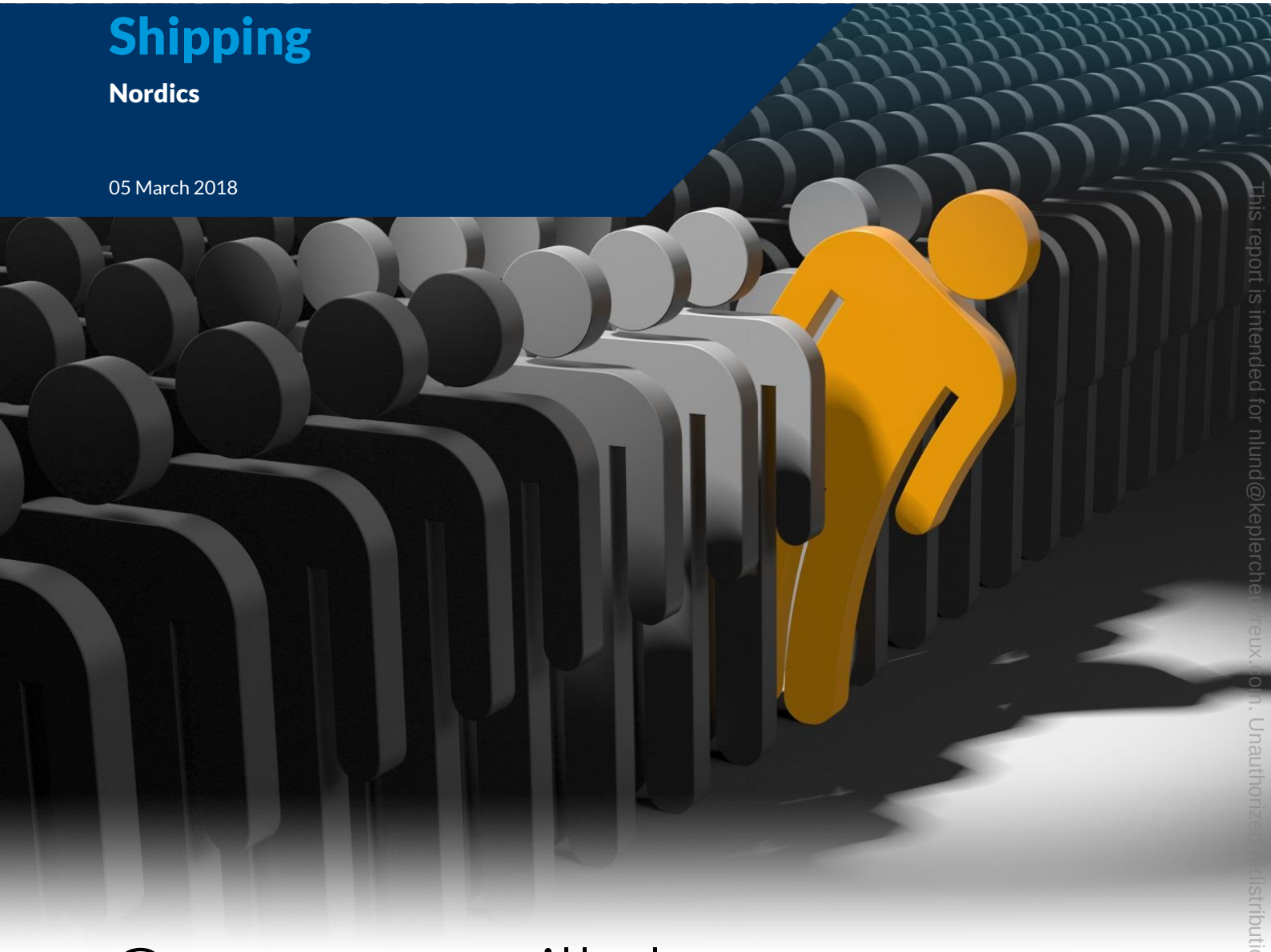
Kepler Cheuvreux | Equity Research

360 Report

Shipping

Nordics

05 March 2018



Consensus will always lack imagination

What's it all about?

The case is building for a prolonged shipping cycle upswing. Newbuild prices seem to have turned after reaching an all-time low in 2016, a year that also saw ship orders hit rock-bottom. One of the few certainties in shipping is that low ship orders are followed by low fleet growth. If we add accelerating demand growth, largely due to the recent acceleration of the shale revolution in the US and a resulting flood of hydrocarbons that needs to be shipped, then most shipping segments look set to improve in 2018-19E. However, the icing on the cake will be new environmental regulations that come into effect on 1 January 2020, which we suspect will increase fuel costs. This is likely to limit vessel speeds, effectively reducing transportation supply by potentially as much as c. 10%.

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Biographies at the end of the report

360 in 1 minute

Investment case summary

All-time low ship orders in 2016 are now resulting in very manageable fleet growth for most shipping segments in 2018-19E. In addition, the US shale revolution is accelerating again and is likely to fuel transportation demand growth in the LPG, LNG and crude tanker markets. We also see solid support from China's war on pollution in the dry bulk shipping market, as this deep, secular trend is likely to reduce highly polluting domestic mining and boost still-increasing seaborne imports of both coal and iron ore. On top of the combination of declining fleet growth and accelerating demand growth, we believe new environmental regulations are set to (at least) double fuel costs. This should limit vessel speeds, effectively taking out as much as 10% of global shipping capacity. The case is building for a prolonged shipping cycle upswing, and we recommend buying six of the ten companies we initiate coverage on in this report.

Key findings of the report

- In the LPG shipping market we believe that demand growth recently exceeded fleet growth. As a result, we expect rates to turn this year and average USD46,000 per day in 2019-20E.
- Dry bulk shipping is well past its trough, but we believe both rates and vessel values have further to go: with fleet utilisation well above 90% in 2020E, we expect Capesize rates at USD35,000 per day.
- We expect record high demand growth for LNG shipping and model rates to improve to USD103,000 per day in 2020E.
- Oil tankers are likely to struggle for another 12-18 months with high fleet growth, but this is also where we expect most action in 2020, as the new sulphur cap will induce more trading both in different crude qualities and in oil products.

Buy all shipping apart from oil tankers, LPG has c. 75% upside

With the focus on the very low starting point, we believe it is only a lack of reasonable imagination that prevents investors from realising that now is the time to selectively add exposure to late-cyclical, volatile industries such as shipping. On a one-year horizon, we believe Avance Gas and BWLPG offer the most upside (average of c. 75%), followed by dry bulk (c. 30%) and LNG shipping/FSRUs (c. 25%). Oil tanker owners are likely to experience another 12-18 difficult months, which makes liquidity risk too relevant, and we believe investors should stay away from those despite 2020E looking highly profitable with VLCC rates at USD66,000 per day.

Summary of key changes and valuation

We initiate coverage on ten shipping companies

Table 1: KECH recommendations

Ticker	Curr. (price)	MCAP USDm	KECH recommendations: Rating	Target (local)	Last close	Potential	NAV/SOP valuation: Current NAV	Base NAV	Change (%)	Revisions: Old rating	Old target	Revision
Dry bulk:												
DNORD	DKK	818.7	Buy	143.0	118.5	21%	117.2	143.3	22%	n/a	n/a	
GOGL	NOK	1,305.4	Buy	100.0	71.6	40%	64.0	87.3	36%	n/a	n/a	
Oil tankers:*												
CCOR	SEK	65.9	Hold	12.5	11.45	9%	18.6	18.1	-3%	n/a	n/a	
DHT	USD	521.2	Hold	3.8	3.66	4%	5.1	4.8	-6%	n/a	n/a	
EURN	EUR	1,263.5	Hold	6.9	6.51	6%	7.0	7.0	0%	n/a	n/a	
FRO	NOK	662.6	Hold	32.0	30.8	4%	35.6	35.8	1%	n/a	n/a	
LPG:												
AVANCE	NOK	177.7	Buy	40.0	21.8	84%	32.3	51.5	59%	n/a	n/a	
BWLPG	NOK	612.4	Buy	58.0	34.1	70%	39.9	65.9	65%	n/a	n/a	
LNG:												
FLNG	NOK	516.8	Buy	14.0	11.1	26%	12.4	14.0	13%	n/a	n/a	
HLNG	NOK	546.3	Buy	70.0	55.9	25%	55.9	70.6	26%	n/a	n/a	

Source: Kepler Cheuvreux. *KECH also cover the italian shipping company D'Amico International Shipping (Reduce, TP EUR0.2)

Table 2: Valuation summary

Ticker	Last close	EV USDm	NAV/SOP valuation: Current P/NAV	Base P/NAV	Current EV/GAV	Base EV/GAV	EV/EBITDA: 2018E	2019E	2020E	Dividend yield: 2018E	2019E	2020E
Dry bulk:												
DNORD	118.5	850	1.01x	0.83x	1.01x	0.83x	6.9x	6.4x	3.1x	0.0%	0.0%	24.3%
GOGL	71.6	2,345	1.12x	0.82x	1.06x	0.89x	8.9x	7.5x	4.0x	4.1%	6.2%	26.5%
Oil tankers:												
CCOR	11.5	196	0.62x	0.63x	0.83x	0.84x	23.0x	12.3x	3.6x	4.4%	4.4%	35.4%
DHT	3.66	1,409	0.72x	0.77x	0.87x	0.90x	12.4x	10.3x	2.7x	2.2%	2.2%	55.0%
EURN	6.51	2,129	0.93x	0.93x	0.96x	0.96x	15.8x	10.2x	2.5x	0.0%	0.0%	36.6%
FRO	30.8	2,270	0.87x	0.86x	0.96x	0.95x	13.8x	9.5x	3.0x	0.0%	0.0%	63.1%
LPG:												
AVANCE	21.8	591	0.67x	0.42x	0.87x	0.71x	11.7x	3.6x	2.9x	0.0%	0.0%	65.0%
BWLPG	34.1	1,787	0.85x	0.52x	0.95x	0.76x	10.6x	3.8x	3.0x	0.0%	0.0%	57.4%
LNG:												
FLNG	11.1	1,186	0.90x	0.79x	0.95x	0.90x	25.9x	12.1x	6.2x	0.0%	0.0%	21.0%
HLNG	55.9	2,415	1.00x	0.79x	1.00x	0.92x	13.6x	11.0x	8.5x	1.4%	1.4%	7.1%

Source: Kepler Cheuvreux

Table 3: Key financials

Ticker	Fleet information: GAV USDm	Avg. age	Leverage ratio	EBITDA (USDm): 2018E	2019E	2020E	EPS (USD/share): 2018E	2019E	2020E	DPS (USD/share): 2018E	2019E	2020E
Dry bulk:												
DNORD	841	4.6	4%	123.5	133.4	273.7	0.34	0.80	4.55	0.00	0.00	3.64
GOGL	2,208	3.1	44%	263.8	313.0	579.7	0.75	1.12	3.00	0.37	0.56	2.40
Oil tankers:												
CCOR	237	7.0	66%	70.7	131.8	450.9	-3.20	-1.77	5.07	0.50	0.50	4.05
DHT	1,613	4.7	63%	113.2	136.3	514.8	-0.25	-0.17	2.52	0.08	0.08	2.01
EURN	2,260	6.9	41%	135.2	208.3	852.3	-0.85	-0.43	3.63	0.00	0.00	2.90
FRO	2,373	2.3	71%	164.6	237.8	751.9	-0.42	0.00	3.08	0.00	0.00	2.46
LPG:												
AVANCE	677	4.1	70%	50.7	166.4	201.5	-0.19	1.62	2.24	0.00	0.00	1.79
BWLPG	1,890	5.8	66%	169.1	467.0	595.0	0.03	2.16	3.10	0.00	0.00	2.48
LNG:												
FLNG	1,246	-0.6	56%	45.8	98.4	191.7	0.04	0.14	0.37	0.00	0.00	0.30
HLNG	1,601	1.2	63%	177.8	219.5	284.1	0.51	0.74	1.57	0.10	0.10	0.50

Source: Kepler Cheuvreux

Top picks – LPG is our favourite segment

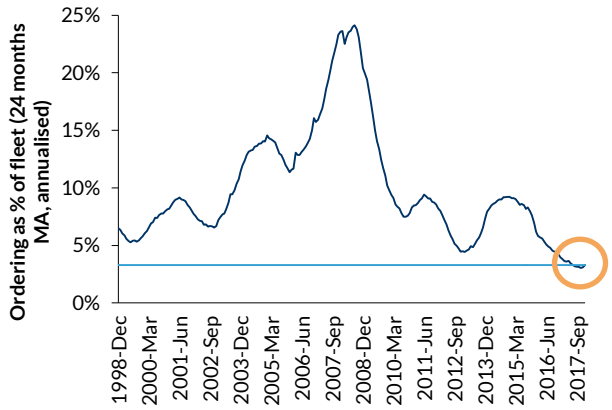
Table 4: Top picks in this report

Company	Rating	Target	Last close	Pot.	Comment
Avance Gas (AVANCE)	Buy	40.0	21.8	84%	LPG shipping is our favourite segment: We expect VLGC fleet growth to bottom out at 0% YOY in 2019, and with demand growth at 6-7% per year for 2018-20E we believe VLGC rates have the potential to again reach towards USD50,000 per day. Avance offers pure spot exposure to the improved LPG market, and trades at 30% discount to NAV.
BW LPG (BW LPG)	Buy	58.0	34.1	70%	Another highly attractive bet on the improved LPG market: for the market leader with its 38 VLGCs, our market outlook implies 3x EV/EBITDA for 2020E. BW LPG trades at a 15% discount relative to Clarkson's current market values. Given our forecast, we see 25% upside in Clarkson's values, equal to a 65% upside in BW LPG's NAV (Base NAV NOK 66/share).
Golden Ocean (GOGL)	Buy	100.0	71.6	40%	The best is yet to come: We expect to again see fleet utilisation above 90% in 2020E and expect Capesize rates at USD35,000 per day due to: 1) fleet growth in 2018E and 2019E remaining subdued due to low ordering; 2) the war on pollution in China. Golden Ocean has c. 35% upside to our base case NAV, and currently trades at P/NAV 1.15x on low asset values in historical context.

Source: Kepler Cheuvreux

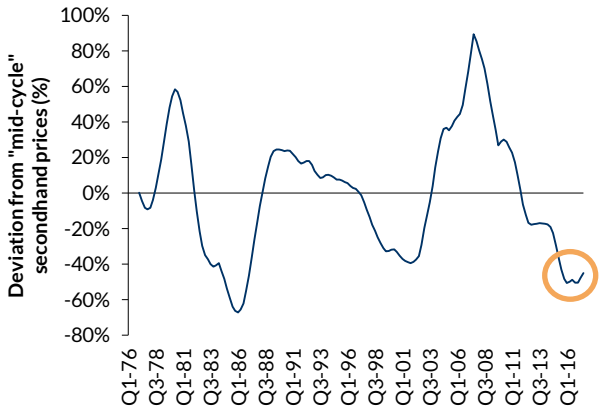
Investment case in six charts

Chart 1: Ship orders reach 20-year low...



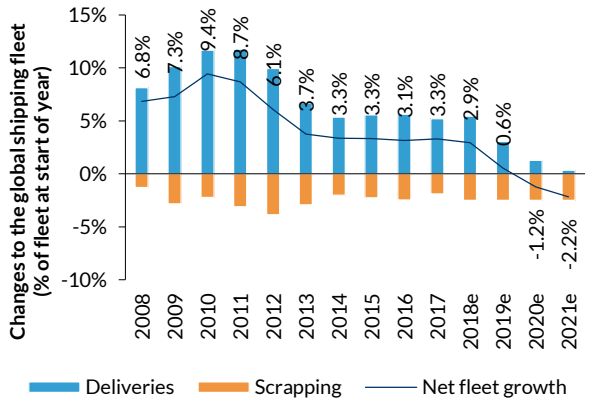
Source: Kepler Cheuvreux

Chart 2: ...marking the trough in this cycle...



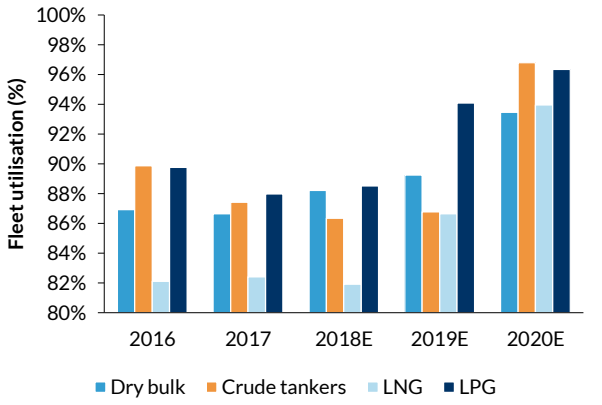
Source: Kepler Cheuvreux

Chart 3: ...resulting in low supply growth in 2018-19E...



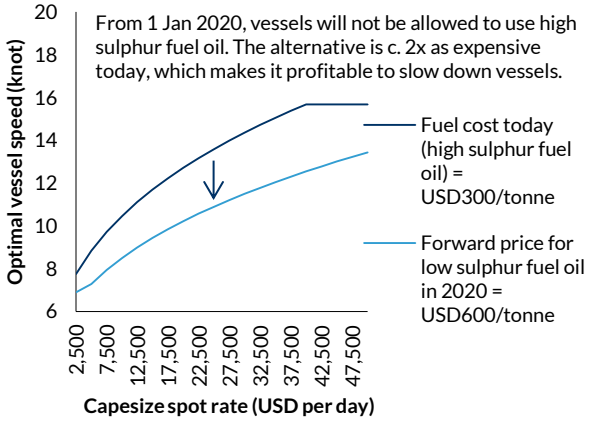
Source: Kepler Cheuvreux

Chart 4: ...and supporting higher fleet utilisation across segments



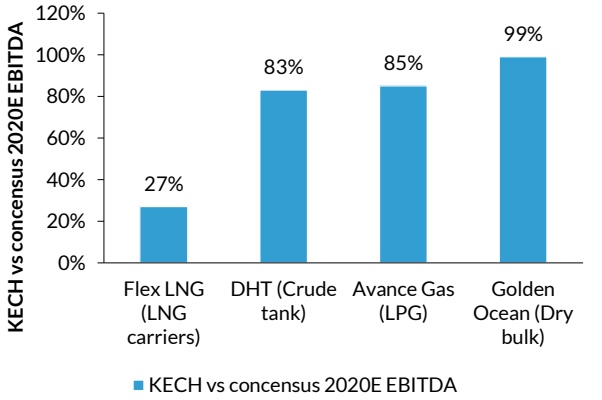
Source: Kepler Cheuvreux

Chart 5: Moreover, new environmental regulations will reduce supply by "forcing" the world fleet to sail slower...



Source: Kepler Cheuvreux

Chart 6: ...and, all in all, we expect a prolonged cycle upswing and are c. 70% above consensus in 2020E.



Source: Kepler Cheuvreux

Contents

Investment case summary

All-time low ship orders in 2016 are now resulting in very manageable fleet growth for most shipping segments in 2018-19E. In addition, the US shale revolution is accelerating again and is likely to fuel transportation demand growth in the LPG, LNG and crude tanker markets. We also see solid support from China's war on pollution in the dry bulk shipping market, as this deep, secular trend is likely to reduce highly polluting domestic mining and boost still-increasing seaborne imports of both coal and iron ore. On top of the combination of declining fleet growth and accelerating demand growth, we believe new environmental regulations are set to (at least) double fuel costs. This should limit vessel speeds, effectively taking out as much as 10% of global shipping capacity. The case is building for a prolonged shipping cycle upswing, and we recommend buying six of the ten companies we initiate coverage on in this report.

Ship orders hit 20-year low...

In 2016 and 2017, ship orders amounted to 2.8% a year of the global fleet, which compares with an average of 11% a year in the preceding ten years.

...driving vessel prices to all-time lows ...

The record low order intake in 2016 forced shipyards to lower their selling prices despite the main price factor – steel - appreciating strongly through the year. Prices for both newbuilds and second-hand vessels hit all-time lows in 2016, when adjusted for inflation. In Q3 2017, Panamax newbuild prices averaged USD24m, which is the lowest level, when CPI adjusted, since the start of our data in 1976. And this is not a dry bulk phenomenon: the average price for a VLCC newbuild was USD81m in Q4 2017, the lowest since Q1 1986, when the average was USD79m.

...and guaranteeing low fleet growth in 2018-19E...

Due to the low ordering in 2016 and 2017, global fleet growth is likely to slip down towards zero in 2019E and potentially, depending on new ordering this year, into negative territory in 2020E. We also expect healthy demand growth across segments.

...which implies higher fleet utilisation across segments

We estimate that LNG, LPG and dry bulk shipping will all continuously improve fleet utilisation in our forecast period, 2018-20E. The one exception is crude tankers, where the ordering of new vessels through 2017 will cause fleet growth to accelerate in 2019E.

New regulations to limit vessel speed...

New regulations will force vessels to use more expensive fuel from 1 January 2020. On the back of the spread between compliant fuel and current high-sulphur fuel oil, we estimate a reduction of c. 17% in the optimal speed, reducing supply further by c. 10%.

...making 2020E the first year in a synchronous cycle

From 2020, we also expect oil tanker rates to prosper, making 2020E the first year since 2007 with (almost) all shipping segments booming simultaneously.

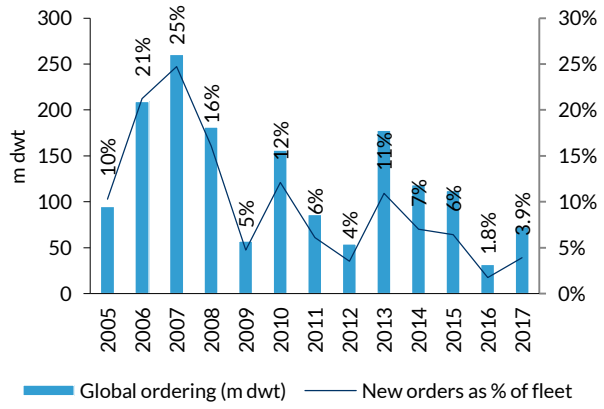
Record-low ordering of new vessels…

Due to record low ordering in 2016 and 2017, global fleet[1] growth is likely to slip towards zero in 2019E and potentially - depending on new ordering this year - into negative territory in 2020E. Using the current order book for delivery in 2018-21, which is at an all-time low of 10% of the current fleet, together with a scrapping assumption at ten-year average of 2.5% results in 2.9% fleet growth in 2018Ee, 0.5% in 2019E, and -1.2% in 2020E, on average 0.8% annual growth, which compares to a ten-year average of 5.5%. Low ordering has also driven down prices for newbuilds and second-hand vessels to all-time-low territory.

2016 saw all-time low new ordering

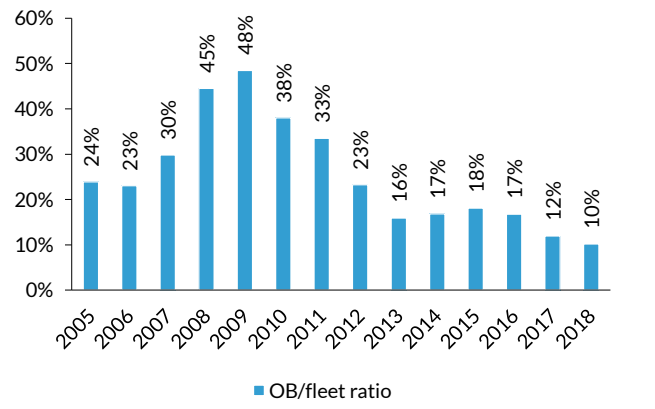
The 31.6m DWT of new ordering done in 2016 across all shipping segments marked an all-time low[2], and when compared with the existing fleet, it accounted for only 1.8%. Although new orders picked up to 72.8m DWT in 2017 (3.9% of the fleet, compared with a ten-year average of 8.8%), the order book to fleet ratio decreased from 12% to 10% during 2017, which is the lowest number on record (back to 2005) and compares with a peak of 49% in 2009.

Chart 7: Few new orders in 2016 and 2017



Source: Clarkson, Kepler Cheuvreux

Chart 8: Compressed order book-to-fleet ratio to new lows

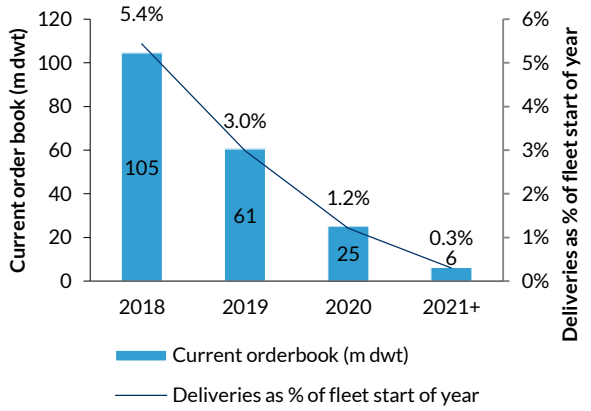


Source: Clarkson, Kepler Cheuvreux

Using only the current order book (i.e. assuming no scrapping or cancellations of orders) indicates fleet growth across all shipping segments of 5.4% in 2018, 3% in 2019, and 1.2% in 2020. When adjusting for scrapping equal to the ten-year average of 2.5% of the fleet a year, this yields net fleet growth of 2.9% in 2018, 0.5% in 2019E and -1.2% in 2020E.

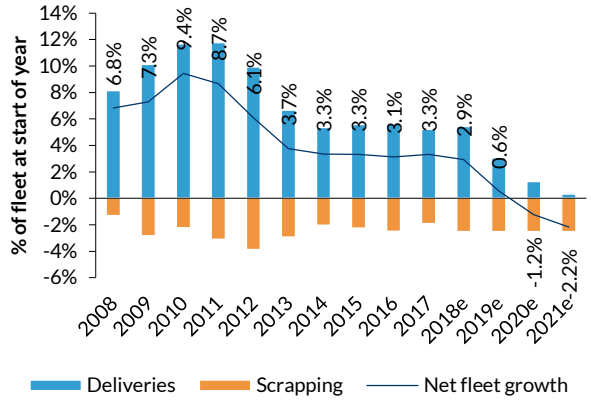
[1] All shipping segments, incl container, chemical and other segments not covered on a standalone basis in this report.
[2] Data back to 1996.

Chart 9: Current order book...



Source: Clarkson, Kepler Cheuvreux

Chart 10: ...together with normalised scrapping yield negative fleet growth in 2020E



Source: Clarkson, Kepler Cheuvreux

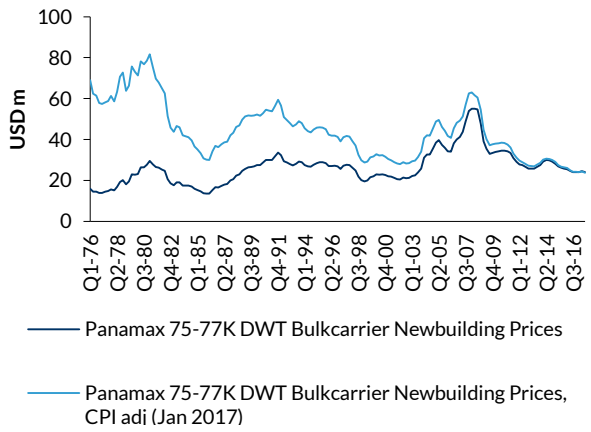
This looks to be the trough of the cycle

In addition to lower future fleet growth, the record low order intake in 2016 forced shipyards to lower their selling prices, despite the main price factor – steel - appreciating strongly throughout the year.

Actually, both newbuild and second-hand prices reached all-time lows in 2016, when adjusted for inflation. In Q3 2017, Panamax newbuild prices averaged USD24m, which is the lowest level, when adjusted for CPI, since the start of our data in 1976. This is not a dry bulk phenomenon: the average price for VLCC newbuilds was USD81m in Q4 2017, the lowest since Q1 1986, when the average was USD79m.

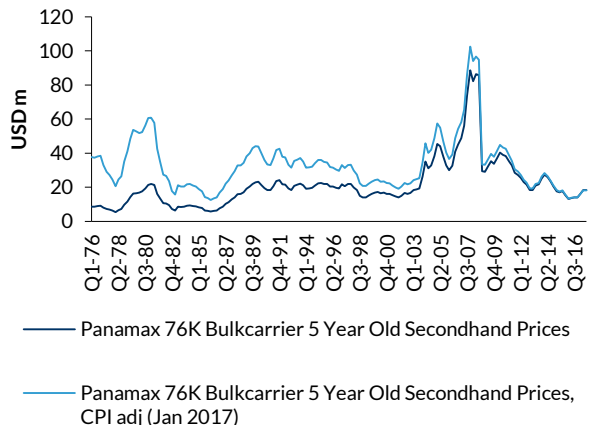
In the charts below we show our methodology for quantifying the past newbuild price cycles. We adjust the nominal prices for CPI before we construct a simple HP filter based on the ln-transformed, CPI-adjusted time series. The deviation between the CPI adjusted, ln-transformed time series and the HP filter is labelled "deviation from mid-cycle".

Chart 11: Newbuild prices, 1996-2017



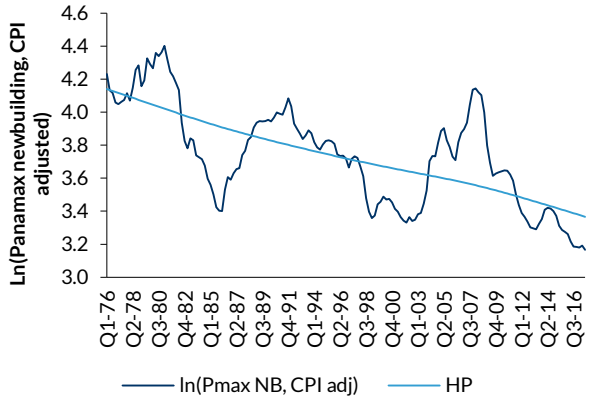
Source: Clarkson, Kepler Cheuvreux

Chart 12: Second-hand prices, 1996-2017



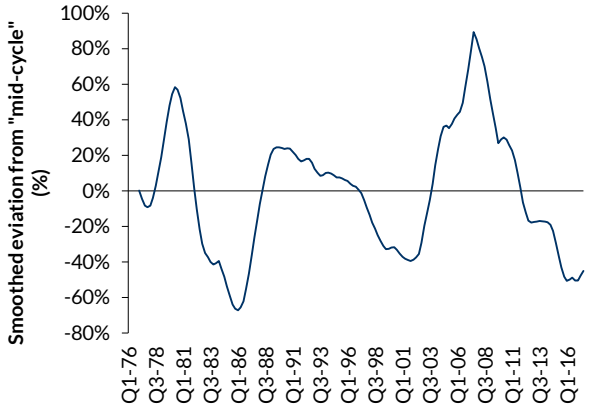
Source: Clarkson, Kepler Cheuvreux

Chart 13: HP filter used on ln-transformed CPI-adjusted newbuild prices



Source: Clarkson, Kepler Cheuvreux

Chart 14: Resultant deviation from "mid-cycle", trend-adjusted newbuilding prices

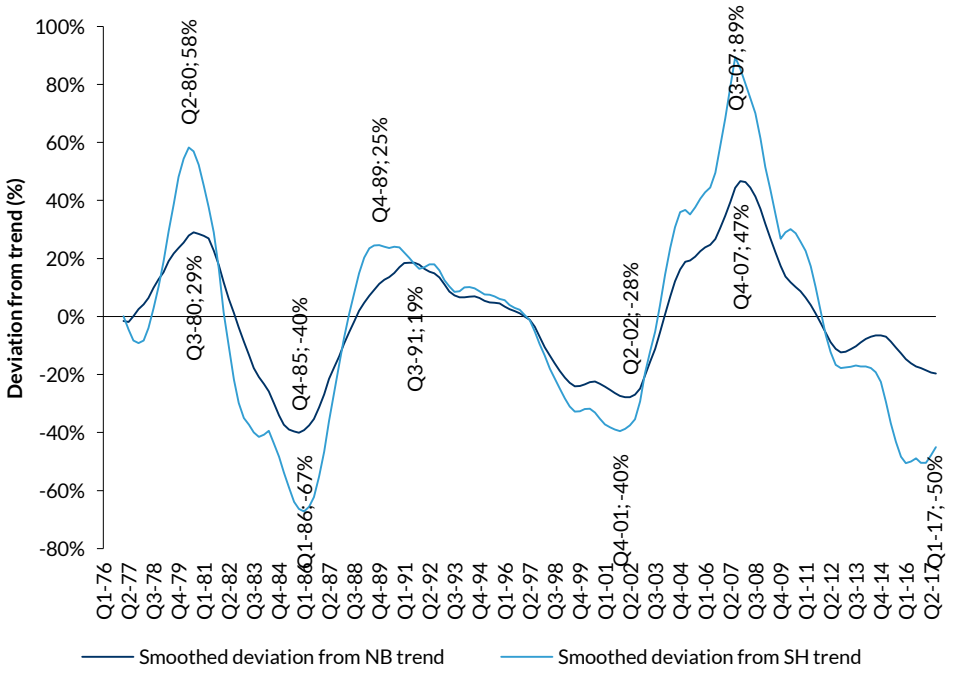


Source: Clarkson, Kepler Cheuvreux

In the chart below we show the result from the same exercise on second-hand prices. The latter are generally more volatile, and hence the amplitudes in the cycle are wider.

From the peak in Q2 1980, it took almost six years to reach the trough in Q1 1986, while the subsequent upturn lasted 3.5 years. From there, i.e. Q3 1989, it took 12 years to reach the bottom in Q4 2001. Then came a strong cycle, driven by China, in which it took about six years to reach the peak. If Q1 2017 turns out to be the trough of this cycle, the down-cycle lasted 9.5 years, about the average of the two former downturns.

Chart 15: Deviation from both newbuilds and second-hand price cycles



Source: Clarkson, Kepler Cheuvreux

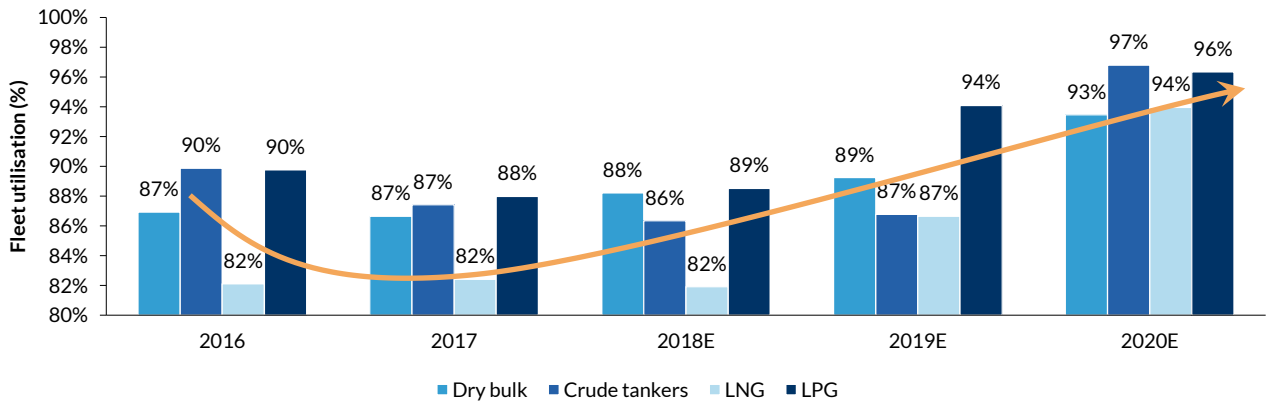
...results in higher fleet utilisation...

On the back of very manageable fleet growth combined with healthy demand growth, LNG, LPG and dry bulk shipping are all set to continuously improve fleet utilisation in our forecast period of 2018-20E. The one exception is crude tankers, where ordering of new vessels 2017 will again accelerate fleet growth in 2019E.

Crude tankers only segment not to see fleet utilisation improve in 2018-19E

In the chart below we show how fleet utilisation improved for all segments, except for crude tankers, in 2018-19E.

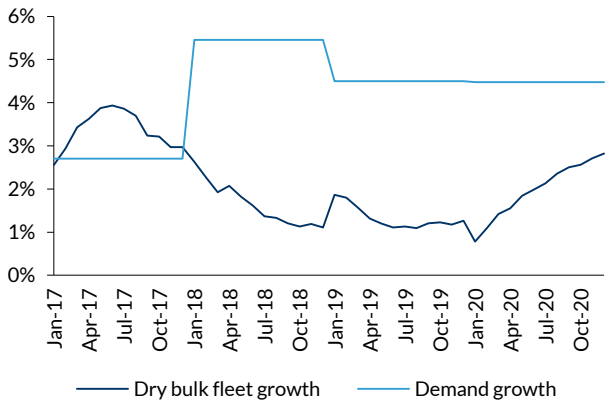
Chart 16: Fleet utilisation in dry bulk, crude tankers, LNG and LPG



Source: Kepler Cheuvreux

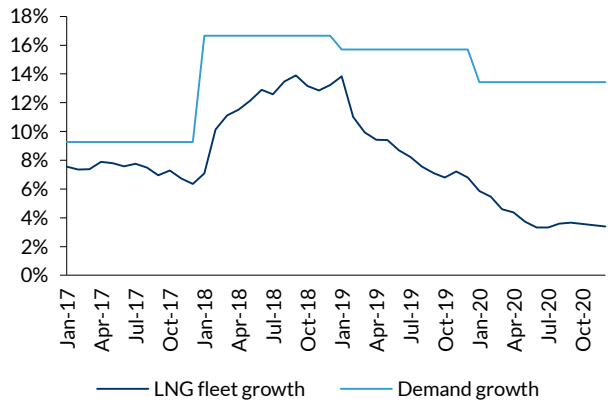
The problem in the crude tanker market becomes more obvious when dissecting it on monthly time resolution; the ordering done through 2017 will make fleet growth accelerate again in 2019E before coming down to more manageable levels in 2020E. For the other segments, conventional fleet growth is in most cases well below demand (tonne-mile) growth through the forecast horizon.

Chart 17: In dry bulk...



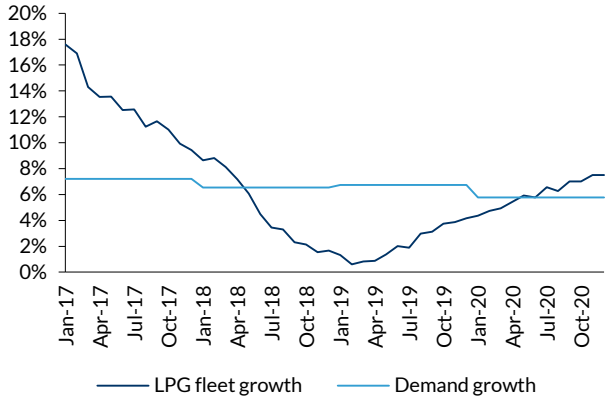
Source: Clarkson, Kepler Cheuvreux

Chart 18: ...LNG and...



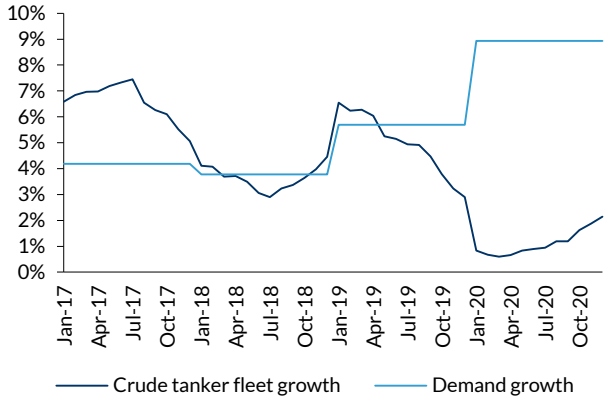
Source: Clarkson, Kepler Cheuvreux

Chart 19: ...LPG shipping demand growth is likely to outpace fleet growth in 2018E and 2019E, but...



Source: Clarkson, Kepler Cheuvreux

Chart 20: ...not in the crude tanker segment where fleet growth again accelerates in 2019E due to 2017 new ordering



Source: Clarkson, Kepler Cheuvreux

...but it is not only about fleet utilisation

In general, there is an underlying assumption that capital-intensive service industries such as shipping need to see high capacity utilisation to ensure margins comfortably above the cost of day-to-day operations. Although we agree with this, we do not regard high fleet utilisation as a *sufficiency* condition for high freight rates. Fleet utilisation is a *necessary* condition for high rates in the sense that if there are too many vessels, there will be a "race to the bottom", and actual rates will tend towards opex. High fleet utilisation only implies that that charterers need to bid against each other to get their hands on a vessel. But the *limits* to the price discovery in the auction process are dictated by what we like to label "the fundamental arbitrage", i.e. the price difference for the product in question in the consuming region versus the producing region, as this spread determines the value of a transportation service coupling those two markets.

The chart below shows how we think about the price formation in shipping.

Chart 21: Price formation in shipping

FUNDAMENTAL ARBITRAGE (spread between import and export prices)	FLEET UTILISATION (share of the fleet employed)	
	LOW	HIGH
HIGH	SPIKES, but no cigar • Description: too many vessels, but underlying high willingness to pay for transportation services • Spot rate formation: spot rates spike from time to time, but generally rates are set by vessels OPEX	BULL MARKET • Description: 'not enough' vessels and traders are bidding against each other to secure transportation • Spot rate formation: spot rates extract everything between import (CIF/CFR) and export (FOB) prices
LOW	BEAR MARKET • Description: too many vessels and low willingness to pay for transportation services • Spot rate formation: spot rates typically set by vessels OPEX	OK, but dull • Description: end-user prices do not allow for high freight rates; end-user demand destruction if freight cost appreciates • Spot rate formation: rather stable freight rates, few spikes despite tight market

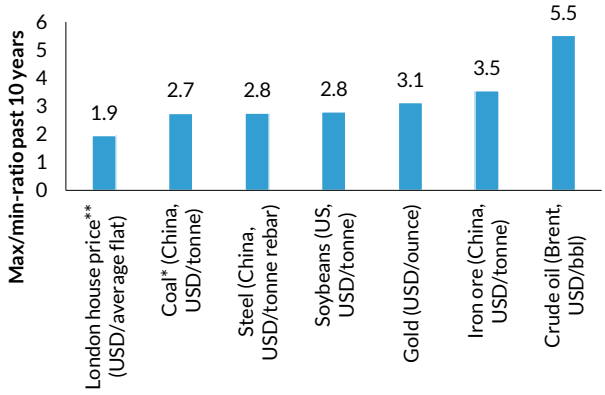
Source: Kepler Cheuvreux

Typical historical examples of bull markets as described above are the dry bulk market back in 2007-08, LPG shipping in 2014-15, and crude tankers in 2015.

To put the volatility in shipping into perspective, below we compare the ten-year high versus the ten-year low for different goods and services. It is no surprise that commodities have peaks that are at multiples of their troughs in this timespan. For instance, the Brent price peak of USD146/bbl on 3 July was 5.5x higher than the trough of USD26/bbl on 20 January 2016.

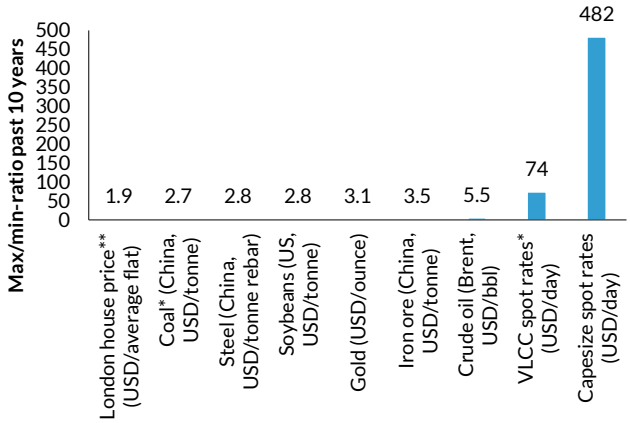
However, the same exercise in shipping underlines the operational leverage in spot shipping: for VLCC rates, the weekly average (Brent price data on a daily resolution) in mid-December 2007 of USD229,484 per day was 74x the average in mid-February 2013 of USD3,109 per day. And for Capesize rates we find that the peak of USD233,988 per day 5on 5 June 2008 was 482x higher than the trough of USD485 per day on 17 March 2016.

Chart 22: Yes, commodities are volatile, but...



Source: Various, Kepler Cheuvreux. *=weekly data. **=monthly data

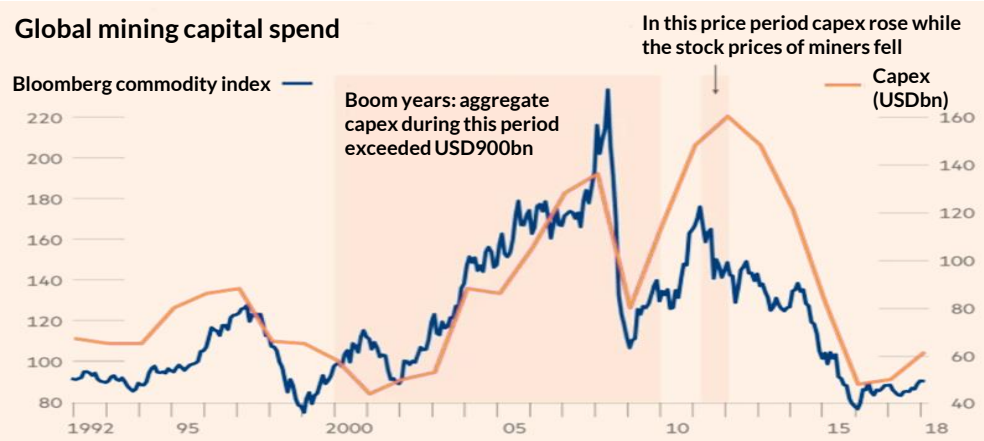
Chart 23: ...not as volatile as shipping.



Source: Various, Kepler Cheuvreux *=weekly data. **=monthly data

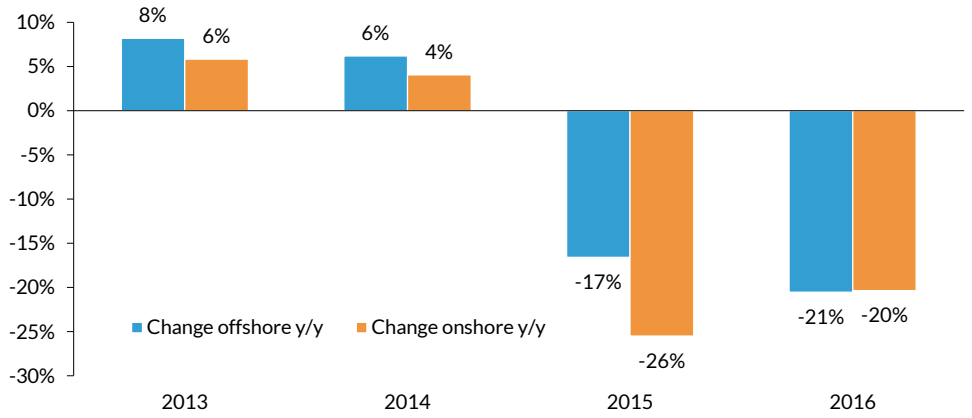
This relationship between commodity prices and freight rates also makes it interesting to see how investments in mining and E&P 5decreased in recent years; if one believes, in line with conventional economics, that decreasing investments in industries which need capex in order to maintain current production is likely to result in higher prices down the road, shipping should also be a (levered) beneficiary of those higher prices now that fleet utilisation is coming back to levels which put the price discovery back in the auction.

Chart 24: Mining capex



Source: Financial Times, 3 February 2018

Chart 25: Changes to E&P capex



Source: Rystad Energy, Kepler Cheuvreux

...and new regulation

Over the next few years, the global shipping industry will implement two major new pieces of regulation: 1) all vessels need to install a cleaning system for ballast water the next time they are in dry dock; and 2) from 1 January 2020, vessels are no longer allowed to use high-sulphur fuel oil (new limit of 0.5% sulphur, down from 3.5%), which is practically the only fuel used for deep sea transportation today (apart from in LNG carriers).

While we do not expect the ballast water regulations to change the industry dramatically, we do believe that the new sulphur cap will force vessel to use significantly more expensive fuel, which we expect will reduce vessel speed.

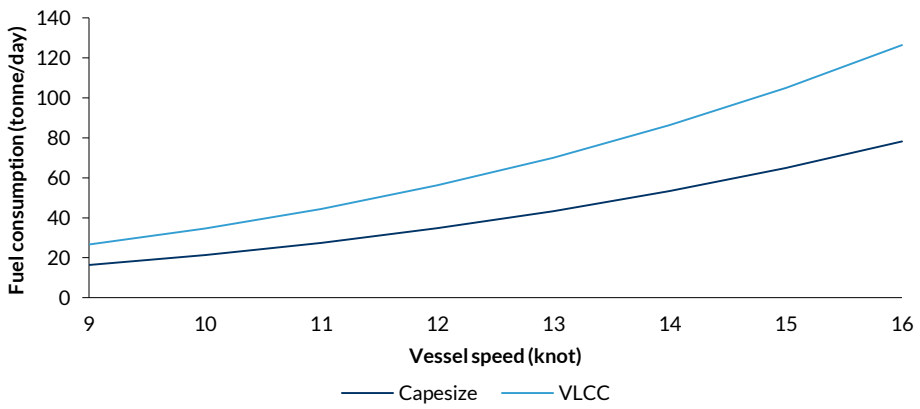
On the back of the spread between compliant fuel and current high-sulphur fuel oil, we estimate a reduction of c. 17% in the optimal speed come 2020. This reduction in supply is likely to happen in all segments, apart from LNG carriers, and in 2020E we also expect the crude and product tanker balance to improve sufficiently for spot rates to spike, as those vessel types are likely to see transportation demand increase, as less sophisticated refineries will need lighter and sweeter feedstock to reduce fuel oil output. Hence, 2020E looks to be the first year since 2007 with (almost) all shipping segments booming simultaneously.

Higher fuel prices are good for the shipping industry

The argument that a higher bunker price is a positive for shipping is still contrarian and needs a bit of background.

There is a non-linear relationship between fuel consumption and vessel speed. A 10% speed reduction will reduce fuel consumption per day by 30%. It is a simple optimisation problem to find the optimal speed: the speed which will maximise return or minimise total transportation cost, depending on which side of the shipping industry you are on. Luckily, the same speed that maximises the TCE also minimises total costs[3].

Chart 26: Speed and fuel consumption, Capesize (dry bulk) and VLCC (crude tank)

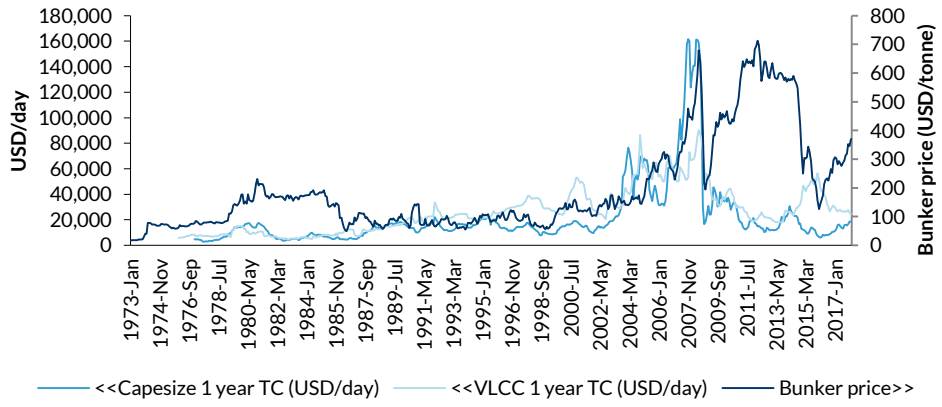


Source: Kepler Cheuvreux

[3] This is only the case if one disregards the financing cost of the cargo. If this is included, the charterer would want a faster speed than the owner.

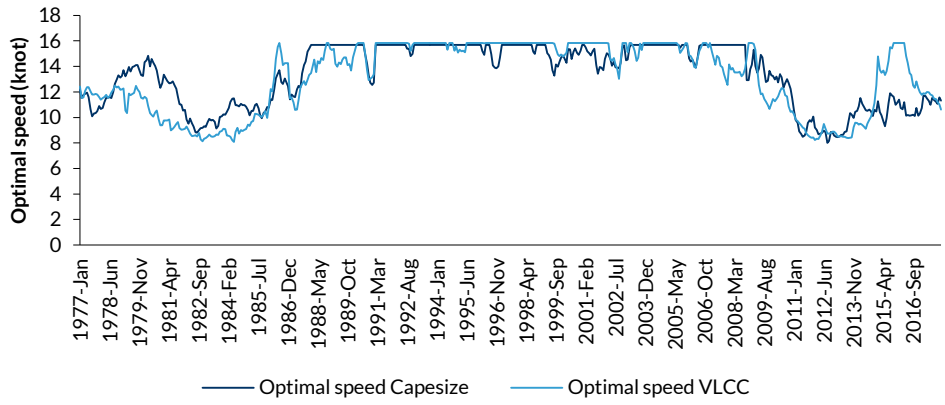
It is worth pointing out that it is the *relative* price between bunker and vessel hire that determines the optimal speed. This is also the reason why the general consensus in the shipping industry until 2010-11 was that a high bunker price was a *negative* to shipping, as it meant higher voyage cost. For a historical perspective, you need to go back to 1980s to find longer periods when this relative price was in the territory that actually incentivised speeds slower than the design speed.

Chart 27: Historical TC rates (Capesize and VLCC) and bunker price



Source: Kepler Cheuvreux

Chart 28: Historical optimal speed based on TC rates and bunker price from chart above

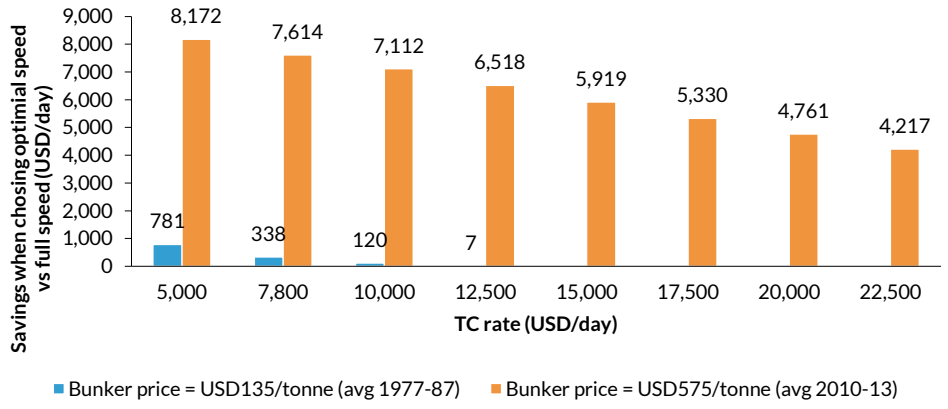


Source: Kepler Cheuvreux

In 1977-87, the average TC rate was USD7,800 per day, and the average bunker price was USD135 per tonne. That combination yielded savings of USD338 per day when choosing optimal speed over design speed. In 2010-13, the average TC rate was USD22,500, and the average bunker price was USD575 per tonne, which results in savings of USD4,218 per day. Hence, the actual improvement in earnings from choosing the optimal speed in 1977-87 equalled about a 5% improvement in TCE, while in 2010-13 the TCE improved by c. 20%, four times more. This is another reason why speed optimisation did not really become relevant to the shipping

industry until we saw the combination of high oil and bunker prices together with weak rates.

Chart 29: Actual savings (or improved TCE) in USD/day for different TC rates and bunker prices

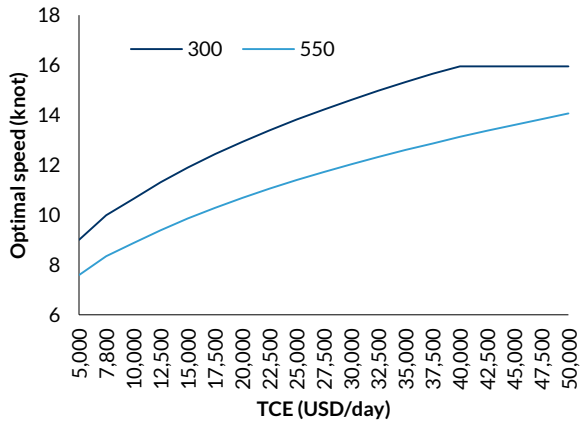


Source: Kepler Cheuvreux

Another way to formulate this is that fuel and vessels are substitutes. One can use more of one at the expense of the other, and if the price of one increases, the demand (and price) for the other will increase.

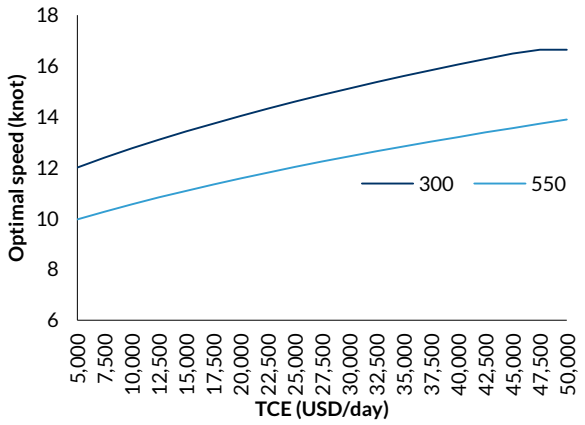
In conclusion, higher bunker prices induce lower vessel speeds, which increases fleet utilisation, which again increases the likelihood of coming into the auction mode where charterers/traders need to bid against each other for every open vessel position. Hence, a higher bunker price is likely to increase freight rates and is a positive to shipping. When we use the 2017 average price for HSFO (USD300/tonne) and the 2020 forward price in 2020 for MGO (USD550/tonne), we find that the optimal speed of a Capesize and VLCC will decrease by c. 17%. Assuming a port ratio of 35% (probably too high in most cases), this effectively reduces transport capacity by c. 10%.

Chart 30: Optimal speed Capesize, bunker price 300 versus 550



Source: Kepler Cheuvreux

Chart 31: Optimal speed VLCC, bunker price 300 versus 550



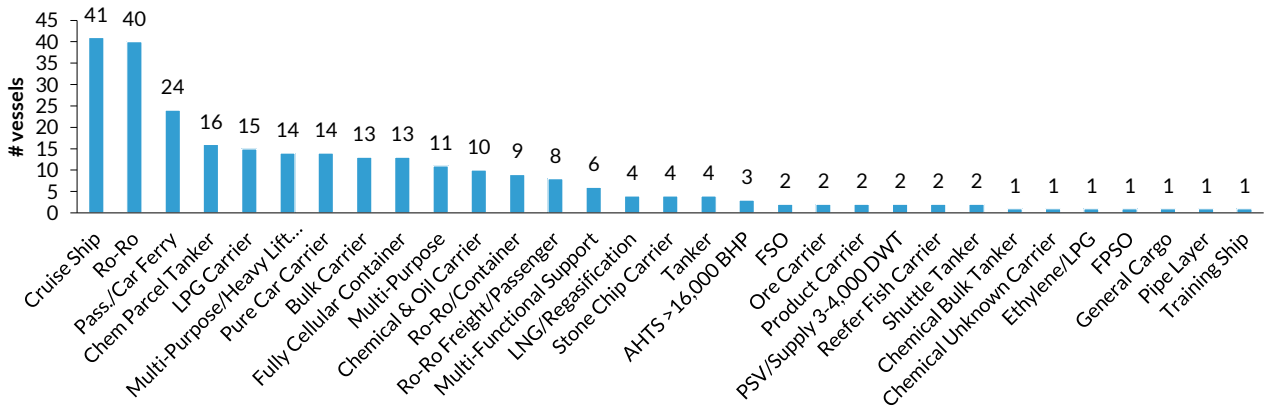
Source: Kepler Cheuvreux

The risk to our case is if the average vessel installs a scrubber

The new maximum limit of 0.5% sulphur content in marine fuel oil, which applies to all vessels, existing and newbuilds, leaves vessel owners with essentially two options: 1) install an exhaust gas cleaning system (EGCS, popularly called a scrubber) and continue to use fuel oil with a maximum 3.5% sulphur content; or 2) use a compliant fuel with less than 0.5% sulphur. This latter option includes LNG.

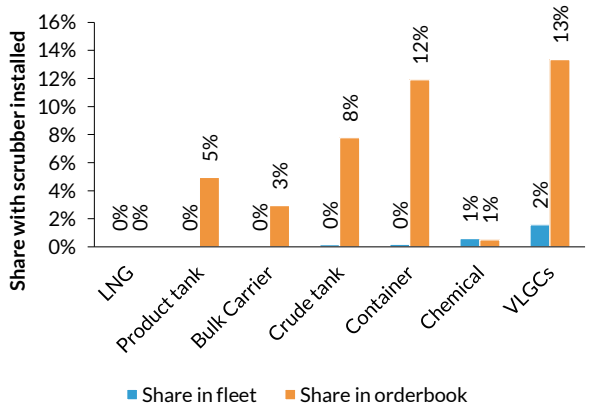
Few vessels have installed a scrubber. From Clarkson's World Fleet Register, we find 268 vessels out of the world fleet of 94,284 vessels that currently have a scrubber installed. The ratio is better in the order book, where 144 vessels are indicated to have been delivered with scrubbers out of a total of 3,543. There are 116 vessels above 10,000 DWT, of which 74 are in the order book.

Chart 32: Vessels in the global fleet (94,284 vessels) with scrubbers installed



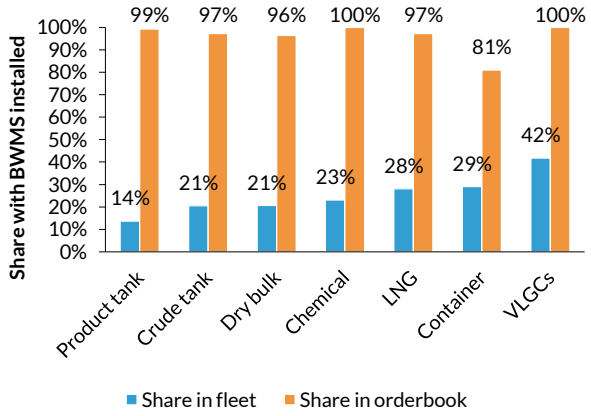
Source: Clarkson, Kepler Cheuvreux

Chart 33: Share of vessels above 10,000 DWT with scrubbers in key segments



Source: Clarkson, Kepler Cheuvreux

Chart 34: Share of vessels above 10,000 DWT with BWMS in key segments



Source: Clarkson, Kepler Cheuvreux

In the chart on the right we show the share of the fleet with a ballast water management system installed. This is also an area with new regulations, but the big

difference is that while the scrubber alternative is optional, all vessels are forced to install a ballast water cleaning system.

The background for the new sulphur limit, which is an amendment to the existing legislation[4], is to prevent harmful air pollution. For instance, this study[5] suggests that there are about 50,000 early deaths in Europe as a consequence of shipping emissions.

To put shipping emissions in perspective, a large container vessel, such as the Emma Maersk, has installed capacity of 100MW. Assuming 85% engine load[6] and specific fuel oil consumption of 170g/kWh, she uses about 347 tonnes of bunker each day when in deep water. Further assuming she spends 30% of her time in port and that the fuel oil she consumes has on average 2.5% sulphur content, she will emit about 949 tonnes of sulphur per year. In comparison, a normal passenger car will use fuel with a maximum of 10ppm (parts per million, 10ppm = 0.001%) sulphur content. Assuming the car travels 15,000km per year using 0.7litre per km, it will emit about 7.56g per year. The Emma Maersk emits 125m times that amount. Put another way, eight Emma Maersks would emit as much sulphur as all passenger cars in the world (assuming 1bn cars).

In our calculations, the scrubber option seems very relevant. The economics behind the investment decision behind a scrubber mainly depends on two factors: 1) how large is the vessel, measured in installed engine capacity; and 2) what is the difference in price between fuel oil with 0.5% and 3.5% (max) sulphur? The cost assumptions are shown in the table below.

Table 5: Scrubber cost

	Fixed installation cost (USDm)	Variable cost (USD/kW)
Open loop, retrofit	2.3	55
Open loop, newbuild	1.9	38
Hybrid, retrofit	2.8	58
Hybrid, newbuild	2.4	44

Source: CE Delft

Using the most expensive version above (hybrid, retrofit), we have calculated the payback period in the following table. As shown here, when assuming a price spread of USD250-300 per tonne in line with the average in recent years, a Capesize which has engine capacity of 15-20MW would have a payback of 2-3 years, a VLCC (30-35MW) of 1-2 years, while the Emma Maersk (100MW) would pay back the investment cost in less than one year.

[4] International Convention for the Prevention of Pollution from Ships (MARPOL), see http://www.imo.org/en/OurWork/Environment/PollutionPrevention/AirPollution/Pages/Air-Pollution.aspx for details.
[5] http://www.ceeh.dk/CEEH_Reports/Report_3/CEEH_Scientific_Report3.pdf
[6] This is probably too much now, given that she will slow-steam; she will likely do about 40% engine load, although she was originally designed to do 85%.

Table 6: Simple payback (in years) for the installation of a scrubber

Engine capacity (1)	5	10	15	20	25	30	35	100
Scrubber cost (2)	3	3	4	4	4	5	5	9
Daily fuel cons. (3)	17	35	52	69	87	104	121	347
Annual fuel cons. (4)	1,899	3,797	5,696	7,595	9,494	11,392	13,291	37,975
Sulphur emissions (5)	47	95	142	190	237	285	332	949
Price spread (6)								
50	32.5	17.8	12.9	10.4	9.0	8.0	7.3	4.5
100	16.3	8.9	6.4	5.2	4.5	4.0	3.6	2.3
150	10.8	5.9	4.3	3.5	3.0	2.7	2.4	1.5
200	8.1	4.5	3.2	2.6	2.2	2.0	1.8	1.1
250	6.5	3.6	2.6	2.1	1.8	1.6	1.5	0.9
300	5.4	3.0	2.1	1.7	1.5	1.3	1.2	0.8
500	3.3	1.8	1.3	1.0	0.9	0.8	0.7	0.5

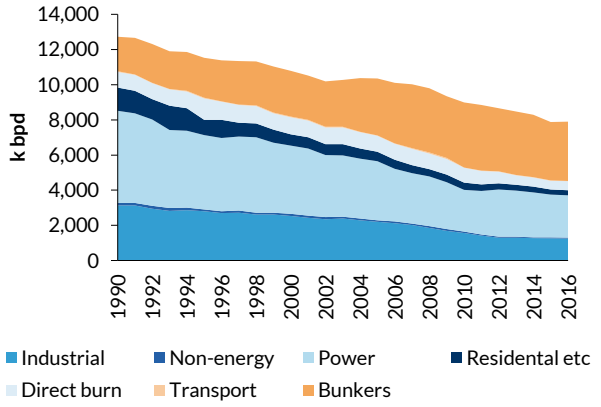
Source: Kepler Cheuvreux

In the table above: (1) is the total installed capacity in MW; (2) is the cost of the scrubber, which we assume to be a hybrid retrofit (USDm); (3) is the daily fuel oil consumption (tonne per day) when in deep sea, assuming specific fuel oil consumption (SFOC) of 170g/kWh at 85% engine load; (4) is the resultant annual fuel consumption (tonne per annum); (5) is the resultant annual sulphur emissions (tonne per annum) assuming an actual average of 2.5% sulphur in fuel oil; and the price spread (6) is the spread between high sulphur fuel oil and the compliant fuel with less than 0.5% sulphur.

Accordingly, one would expect most vessel owners to install a scrubber ahead of implementation in 2020. However, based on our conversations with the industry, this does not seem to be the case. We should expect more newbuilds to be equipped with a scrubber when delivered in 2019-20, but the general scepticism, both against whether the legislation is actually implemented and towards the technological solutions (for instance: would one be allowed to use an open system, i.e. flush the exhaust cleaning water out in the sea?), will limit the number of vessels with a scrubber installed come 2020. Some are even questioning the availability of high sulphur fuel oil (HSFO) from 2020; i.e. even if a scrubber is installed there will not be available HSFO in ports.

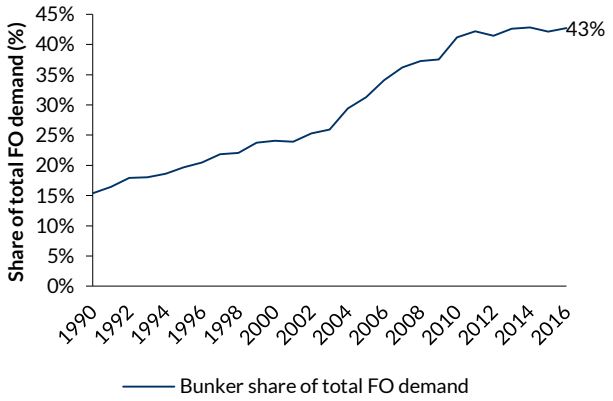
This latter objection we believe is unjustified; the problem is more likely to be the opposite: who will use the HSFO when shipping is no longer allowed? This raises another interesting question, in particular from the oil tankers' perspective: what are the price and trading implications of the new sulphur limit? As shown in the chart below, the marine sector uses almost half the total global fuel oil output, and this demand will almost evaporate overnight come 2020. We believe this will increase the spread between MGO (marine gas oil) and HSFO even further (it is now about USD330 per tonne for 2020). It may also have consequences for the oil market as such as the lost demand in HSFO, say 3m bpd, will flow into the middle distillates pool which probably make is necessary with a higher refinery throughput, i.e. the new sulphur cap on marine fuel oil will induce a demand tilt to the crude oil balance as well. And such a demand tilt will probably widen the spread between fuel oil and distillates even further.

Chart 35: Demand for fuel oil



Source: Shell, Kepler Cheuvreux

Chart 36: Bunker share of total fuel oil demand

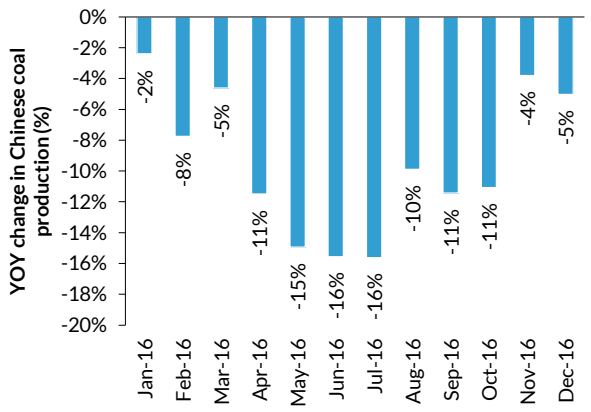


Source: Shell, Kepler Cheuvreux

In conclusion, the risk to our case of decreasing vessel speeds as a consequence of the higher cost of fuel with the new sulphur limit is that many vessels may actually install scrubbers ahead of 2020. If the median vessel actually has a scrubber installed, this vessel will probably also be representative for the price formation in the freight market. Then the freight rate will form basis a vessel with scrubber installed, which would represent very little change from status quo, apart from the scrubber investment cost. And cleaner air.

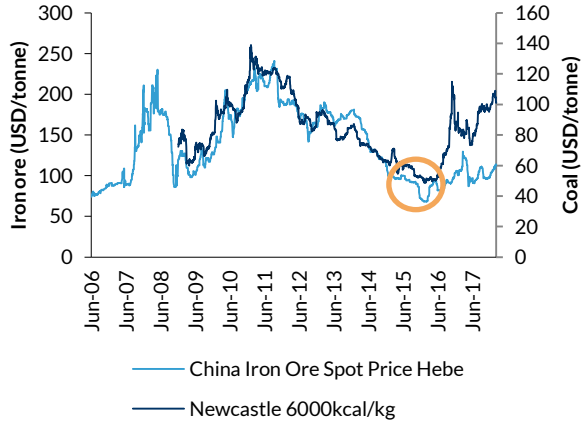
Dry Bulk – Investment case in six charts

Chart 37: "War on pollution" in China finally implemented...



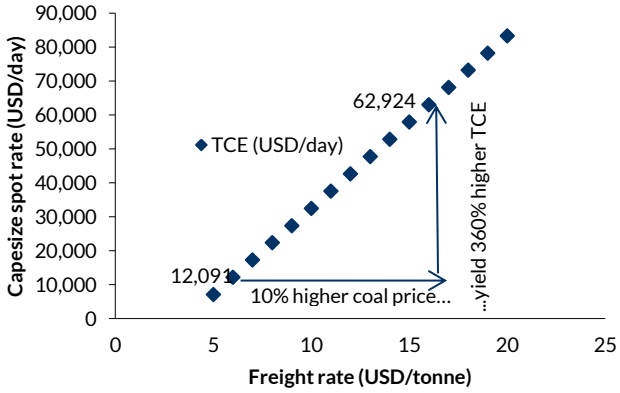
Source: Bloomberg, Kepler Cheuvreux

Chart 38: ...which has lifted commodity prices and...



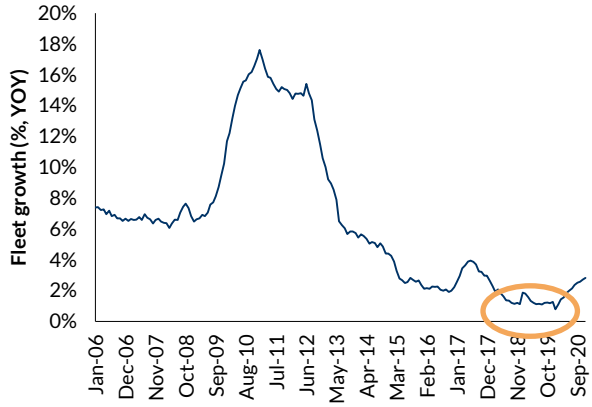
Source: Bloomberg, Kepler Cheuvreux

Chart 39: ...increased willingness to pay for dry bulk shipping



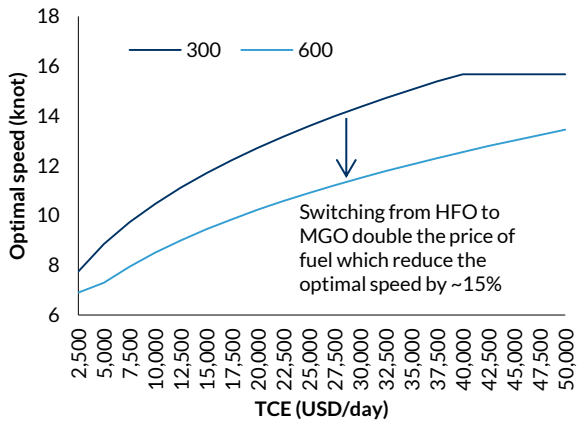
Source: Kepler Cheuvreux

Chart 40: The very limited fleet growth in 2018-19E...



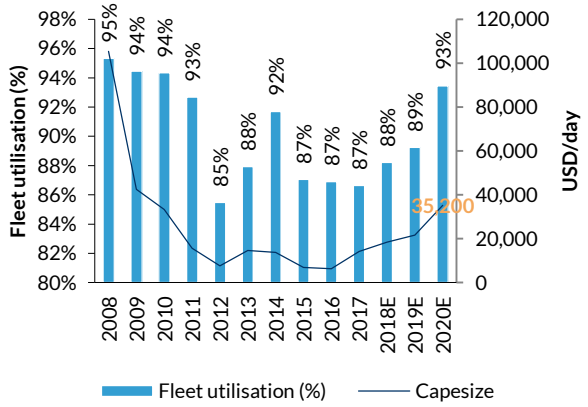
Source: Clarkson, Kepler Cheuvreux

Chart 41: ...added to a speed reduction in 2020E as a result of the new sulphur cap...



Source: Kepler Cheuvreux

Chart 42: ...which is set to lift the fleet utilisation rate to a 10Y high and Capesize rates to around 5x the 2016 average



Source: Clarkson, Kepler Cheuvreux

Dry bulk investment case summary

Although the dry bulk market has been recovering for more than a year now, we believe the best is still to come. All-time-low ordering of new vessels in 2016 is likely to lead to 2018-19E fleet growth remaining subdued. Meanwhile, due to the ongoing war on pollution in China, we expect to see healthy growth in imports, given that Chinese domestic production of coal and iron ore is the least competitive in the world, and thus likely to be partly substituted by imports. Chinese authorities' ambitions to curb domestic output will likely also support commodity prices, which again leads to greater willingness to pay for dry bulk transportation services. We estimate that a 10% increase in the price of coal could lift Capesize spot rates by c. 370%, from the current rate of USD14,000 per day to USD64,000 per day. However, this assumes that the full price increase will be pocketed by the ship owners. This is probably too optimistic given that the fleet utilisation rate is still below 90%. However, by 2020E, partly due to lower vessel speeds owing to the higher bunker price triggered by the new sulphur cap, we expect fleet utilisation to top 90% again and see Capesize rates reaching USD35,000 per day — the highest yearly average in 11 years. Against this promising backdrop, we initiate coverage on both Golden Ocean Group and D/S Norden with Buy ratings.

It's the "War on pollution", stupid! And it's structural

In March 2014, Chinese Premier Li Keqiang said "*We will resolutely declare war against pollution as we declared war against poverty*"[7]. Since initiating the first market reforms in the late 1970s, 800m people have been lifted out of poverty[8]. In 2016 the reduction of permitted operating days in coal mining (as part of the "war on pollution") was the main reason for the turnaround in both coal prices and Chinese coal imports, both of which are significant positives for dry bulk shipping. In the global coal and iron ore markets, Chinese production is the most expensive and we expect imports to China to grow more than end consumption, simply because domestic mining will likely decline.

No need to be afraid of the current heights

The other, also generally underestimated, consequence of the "war on pollution" is higher prices. Over the past two years, the steam coal price in Australia has more than doubled from USD50 per tonne to USD105 per tonne which makes transportation services much more valuable: a 10% higher coal price in China now (i.e. an increase of c. USD10 per tonne) would drive the Capesize spot rate from Australia up by a whopping c. 360% (from USD14,000 per day to USD65,000 per day) should the full increase in the coal price translate into a higher freight cost. Although that is not likely to happen now, as the fleet utilisation rate is too low, it is not hard to imagine, as we do, that the Capesize spot rate could appreciate to

[7] https://www.reuters.com/article/us-china-parliament-pollution/china-to-declare-war-on-pollution-premier-says-idUSBREA2405W20140305
[8] http://www.worldbank.org/en/country/china/overview#1

USD35,000 per day in 2020E, after three years of a tightening fundamental balance. This is only a USD4 per tonne higher Chinese coal price, equivalent to a 4% increase.

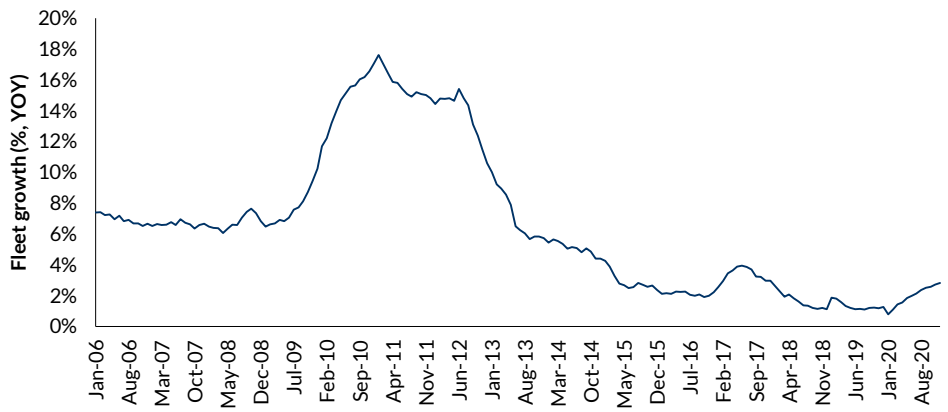
Dry bulk supply

The dry bulk fleet now (as of end-January) has a capacity of 821m dead weight tonnes (DWT), which we expect to grow by 1% a year in 2018E and 2019E, and 3% in 2020E. For the past ten years, annual growth of the fleet has averaged 8% and we expect annual growth to average 1.7% over 2018-20E.

Underlying these net growth estimates are expectations of 3%/ 3%/ 4% deliveries (as a percentage of the fleet at the start of the year and adjusted for slippage) and 2%/2%/1% scrapping for 2018E/19E/20E. Our scrapping estimates are actually reduced from our model of raw output, despite the need for ballast water treatment systems and the new sulphur limits on fuel oil, both of which we expect to negatively impact the economic viability of older vessels.

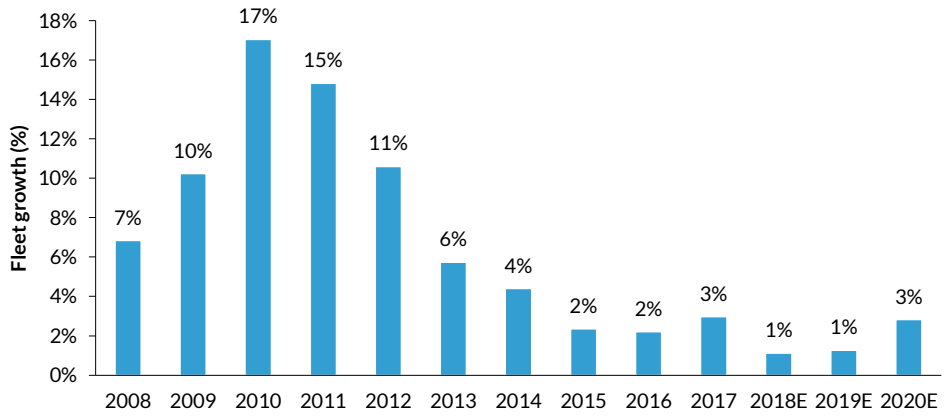
We also expect the implementation of the new sulphur regulations from 1 January 2020 to at least double the price of fuel, which again will reduce optimal vessel speeds by c. 15%. A 15% reduction in speed typically removes around 10% of the effective dry bulk transportation supply when adjusted for port ratios, while we have opted to only decrease the speed by 0.5 knots in 2020E, or around 4%.

Chart 43: YOY dry bulk fleet growth, monthly time resolution



Source: Clarkson, Kepler Cheuvreux

Chart 44: Annual dry bulker fleet growth



Source: Clarkson, Kepler Cheuvreux

Fleet overview

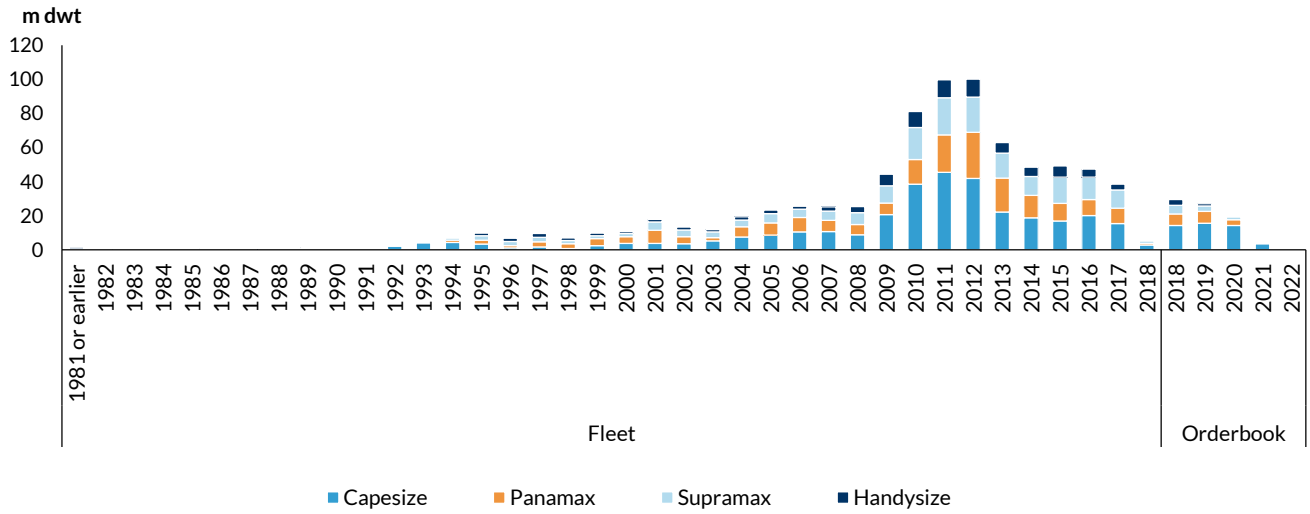
We expect the fleet to grow by 1% in 2018E, 1% in 2019E and 3% in 2020E. For the past ten years, annual growth of the fleet has averaged 8%. Over 2018-20E, we expect it to average 1.7%. Our fleet growth forecast of 3% for 2020E falls to 2% if we include solely the current order book (i.e. excluding any further contracts for 2020E).

Currently, the dry bulk fleet (as of end-January) has a capacity of 821m DWT. It breaks down as follows: 40% Capesize (those above 100,000 DWT), 25% Panamax (between 65,000 and 100,000 DWT), 24% Supramax (between 40,000 and 65,000 DWT) and 12% Handysize (between 10,000 and 40,000 DWT).

The average age of the dry bulk fleet is 9.4 years (based on Capesize at 8.1, Panamax at 9.1, Supramax at 8.9 and Handysize at 10.8 years).

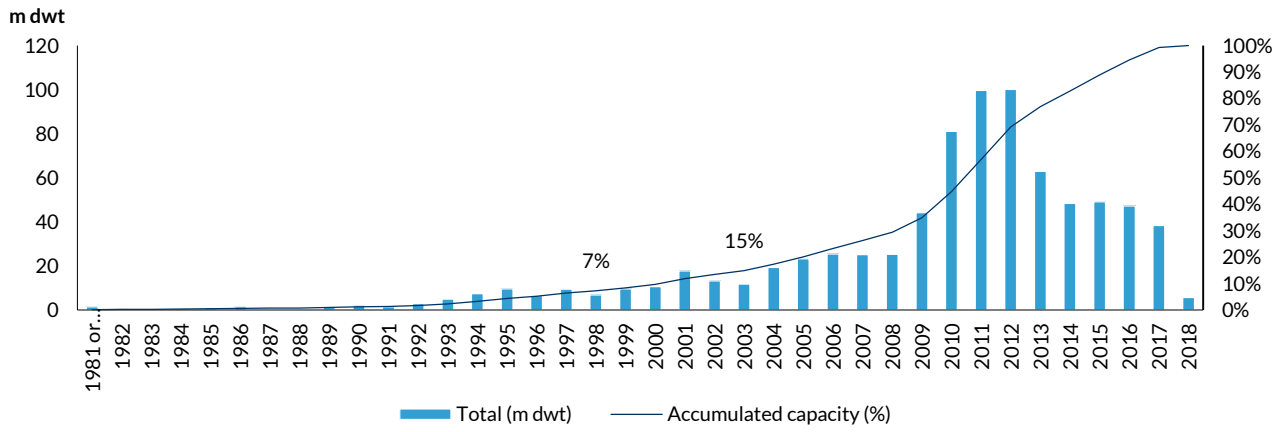
41% of the current fleet was built in China, 40% in Japan, and 13% in South Korea.

Chart 45: Dry bulk fleet and order book by year of delivery



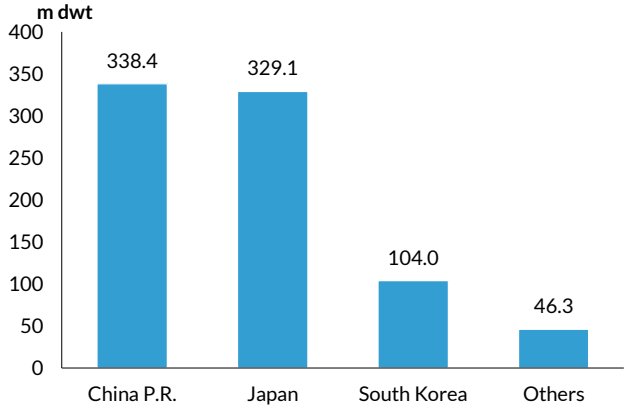
Source: Clarkson, Kepler Cheuvreux

Chart 46: Dry bulk fleet by year of delivery: 7% will be more than 20 years old this year, and 15% will be 15 years or older



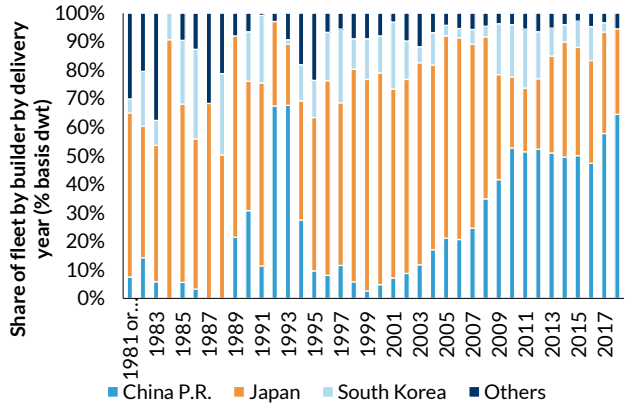
Source: Clarkson, Kepler Cheuvreux

Chart 47: Dry bulk fleet by building country



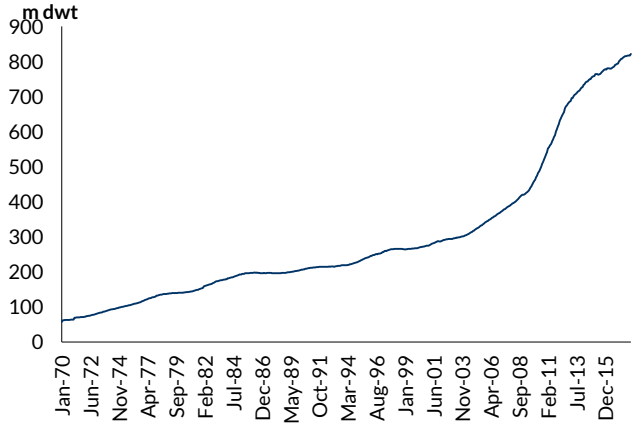
Source: Clarkson, Kepler Cheuvreux

Chart 48: Dry bulk fleet by building country and year of delivery



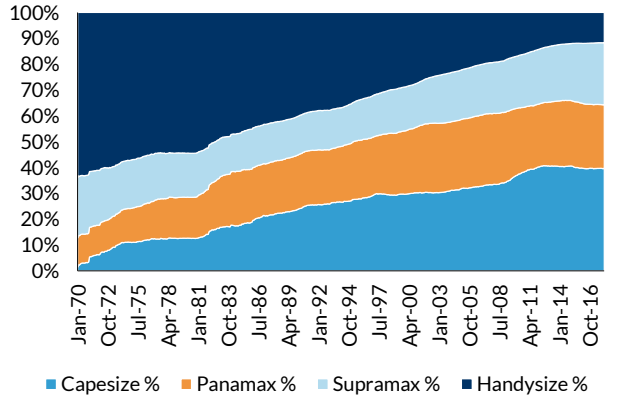
Source: Clarkson, Kepler Cheuvreux

Chart 49: Dry bulk fleet development



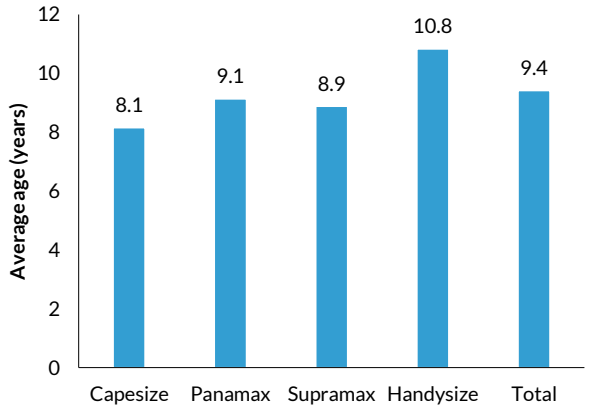
Source: Clarkson, Kepler Cheuvreux

Chart 50: Dry bulk fleet development by vessel size



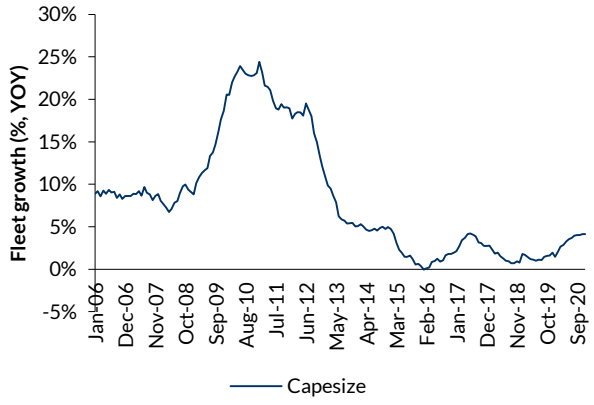
Source: Clarkson, Kepler Cheuvreux

Chart 51: Dry bulker fleet average age, current fleet



Source: Clarkson, Kepler Cheuvreux

Chart 52: Capesize fleet growth, monthly resolution, including forecast



Source: Clarkson, Kepler Cheuvreux

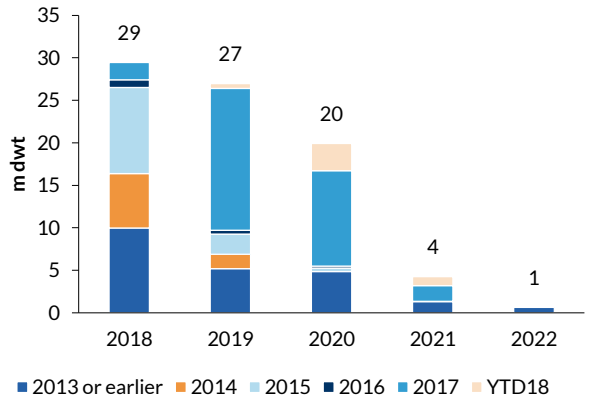
Order book

Currently, the order book stands (as of end-January) at 81m DWT, accounting for 10% of the fleet. This compares with an average ratio of 17%/36% in the past 5/10 years respectively. 29m DWT (36%) of the current order book have a contracted delivery date in 2018E (February to December), 27m DWT (33%) in 2019E, and 20m DWT (25%) in 2020E.

The order book breaks down as follows: 59% Capesize, 21% Panamax, 13% Supramax and 7% Handysize.

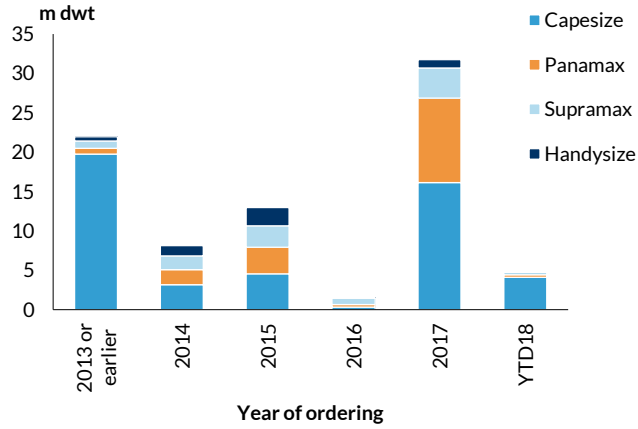
Chinese shipyards account for 61% of the current order book, Japanese shipyards for 25% and South Korean yards for 8%.

Chart 53: Order book by year of delivery



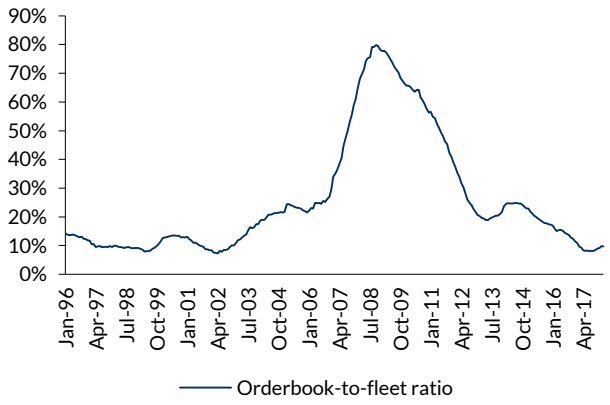
Source: Clarkson, Kepler Cheuvreux

Chart 54: Order book by year of ordering



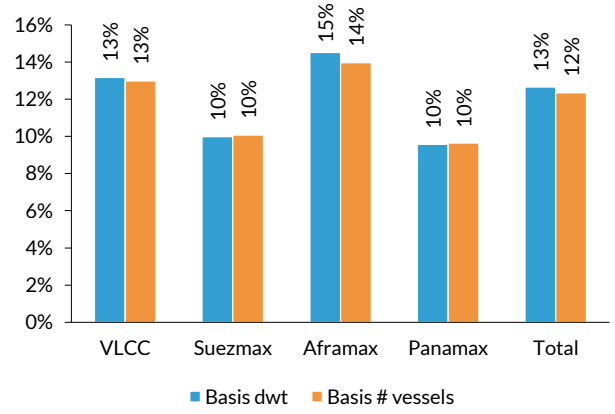
Source: Clarkson, Kepler Cheuvreux

Chart 55: Historical order book-to-fleet ratio



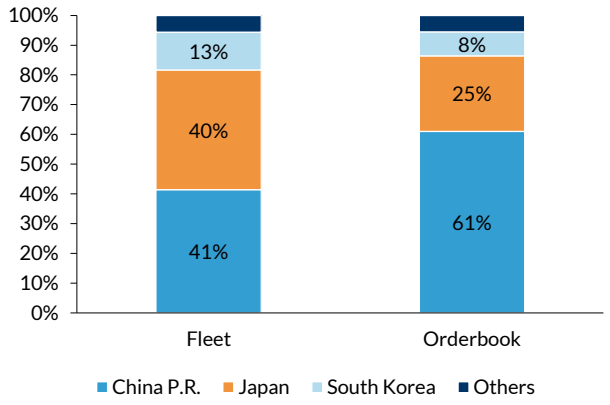
Source: Clarkson, Kepler Cheuvreux

Chart 56: Current order book-to-fleet ratio



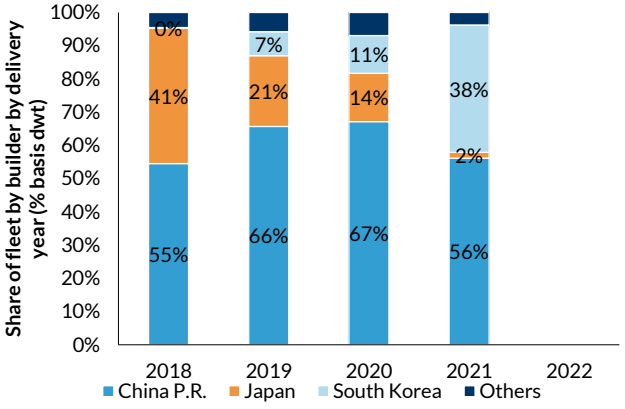
Source: Clarkson, Kepler Cheuvreux

Chart 57: Fleet versus order book by building country



Source: Clarkson, Kepler Cheuvreux

Chart 58: Order book by building country

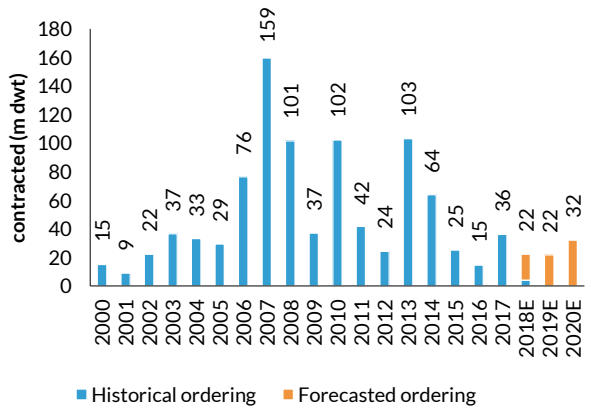


Source: Clarkson, Kepler Cheuvreux

New contracting

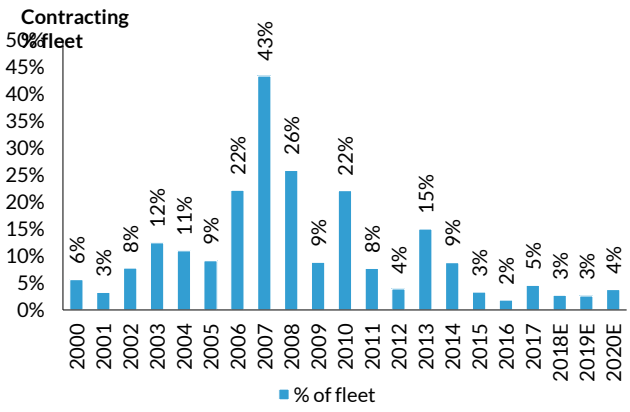
For contracting, we model 22m DWT in 2018E (including 4m ordered in January), down 39% from the 36m DWT ordered in 2017. Compared with the fleet at the start of the year we expect new orders of 3% in 2018E, 3% in 2019E, and 4% in 2020E.

Chart 59: Dry bulk new ordering by year



Source: Clarkson, Kepler Cheuvreux

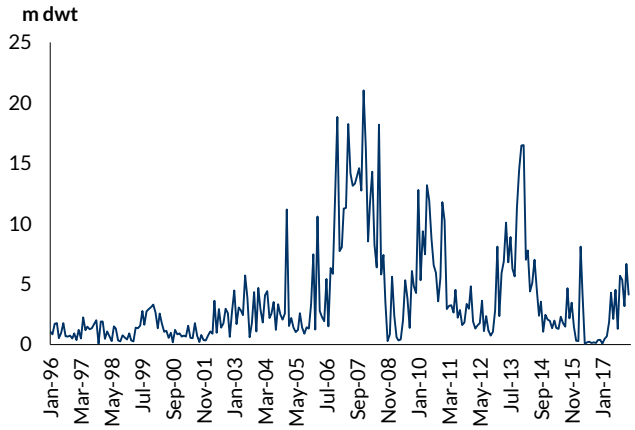
Chart 60: Dry bulk new ordering as a percentage of fleet at the beginning of the year



Source: Clarkson, Kepler Cheuvreux

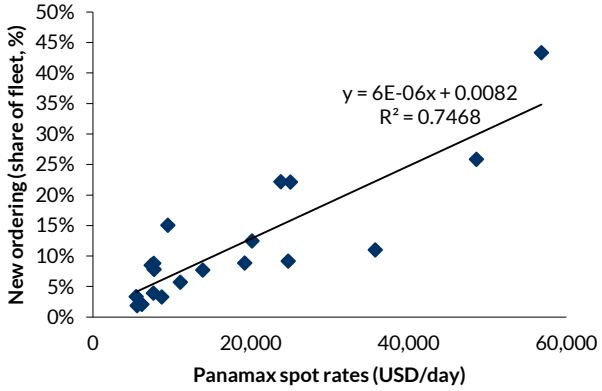
As for the other shipping segments, we model new contracting as an endogenous variable which depends on spot rates. The simple regression model is shown below. Factors such as increasing newbuilding prices, rising global interest rates, banks' reluctance to finance new vessels, and the technological risk associated with choosing which type of engine to buy (LNG, or MGO/HFO with scrubber), have all led us to reduce our new contracting estimates from the model output. In our forecasts, we have reduced the new contracting estimate by 70%.

Chart 61: Dry bulk new orders by month



Source: Clarkson, Kepler Cheuvreux

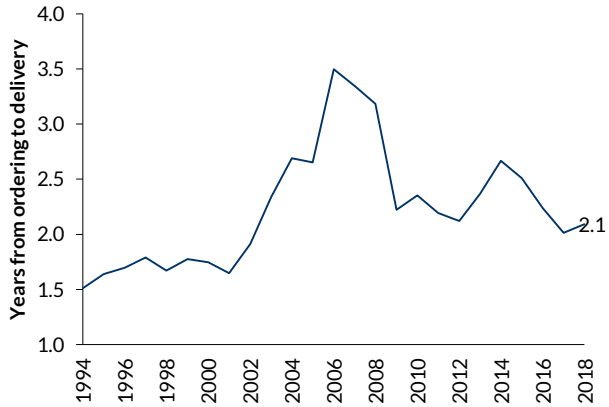
Chart 62: New orders regression model (2011-17)



Source: Clarkson, Kepler Cheuvreux

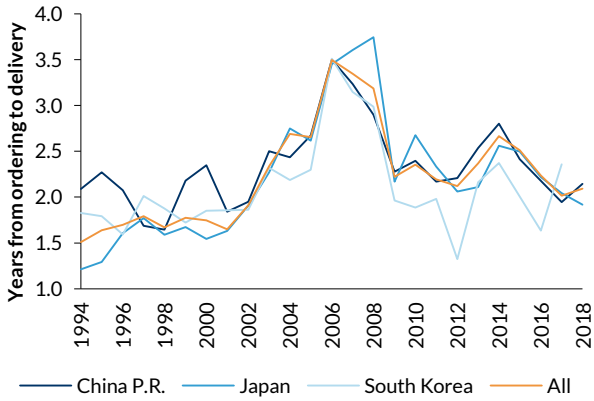
Over the past decades, it has taken from two to three years for a dry bulker vessel to be delivered. In our modelling, we now assume it takes 24 months from the time an order for a dry bulker vessel is placed to when it is delivered.

Chart 63: Years from order to delivery (by ordering year)



Source: Clarkson, Kepler Cheuvreux

Chart 64: Years from order to delivery by building country



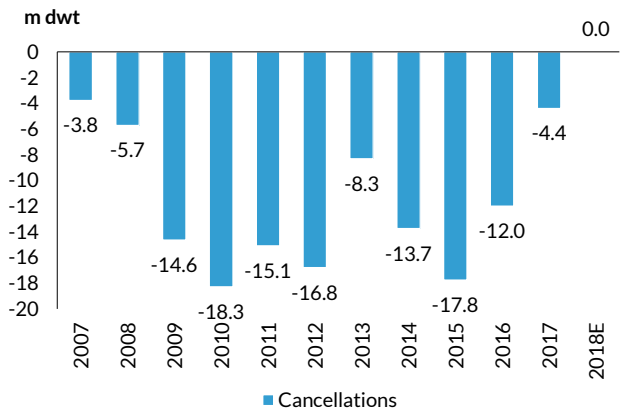
Source: Clarkson, Kepler Cheuvreux

Cancellations

The dry bulker order book has seen cancellations decline in recent years. Last year, only 4m DWT of the order book were cancelled, equivalent to 5% of the order book as it stood at the beginning of 2017.

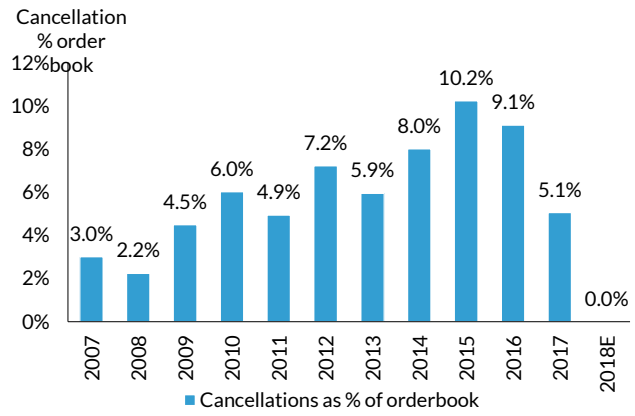
We take a statistical approach to our forecast, and assume that 14m DWT of the order book, or 18% of the current order book will be cancelled. Estimated cancellations break down as follows: 7m DWT in 2018E, 4m DWT in 2019E and 3m DWT in 2020E.

Chart 65: Historical cancellations



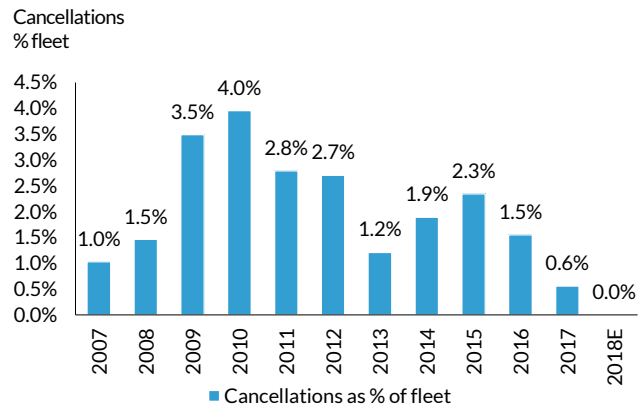
Source: Clarkson, Kepler Cheuvreux

Chart 66: Historical cancellations as % of order book



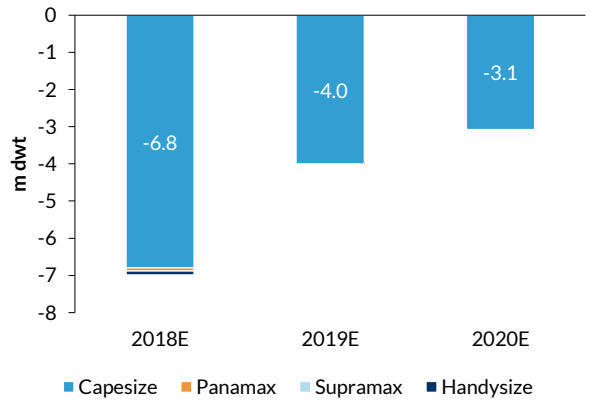
Source: Clarkson, Kepler Cheuvreux

Chart 67: Historical cancellations as % of fleet



Source: Clarkson, Kepler Cheuvreux

Chart 68: Historical cancellations as % of order book

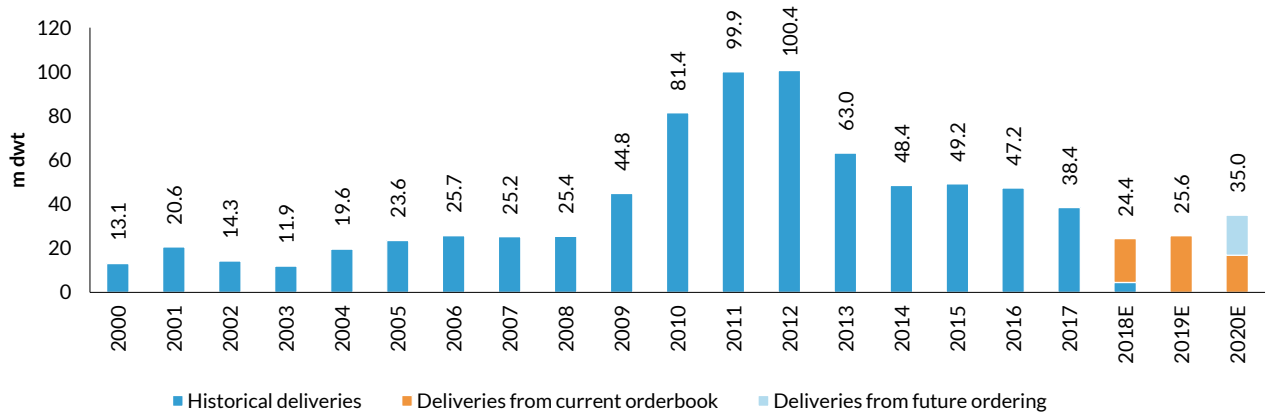


Source: Clarkson, Kepler Cheuvreux

Deliveries

We expect 24m DWT to be delivered this year, or a 3% increase versus the start of this year. For 2019E, we expect deliveries of 26m DWT, 3% of the fleet, while 35m DWT (4%) should be delivered in 2020E. The latter includes 18m DWT of vessels that have yet to be ordered. Excluding future new orders, deliveries in 2020E would amount to only 18m DWT, or 2% of the fleet.

Chart 69: Deliveries to the dry bulker fleet

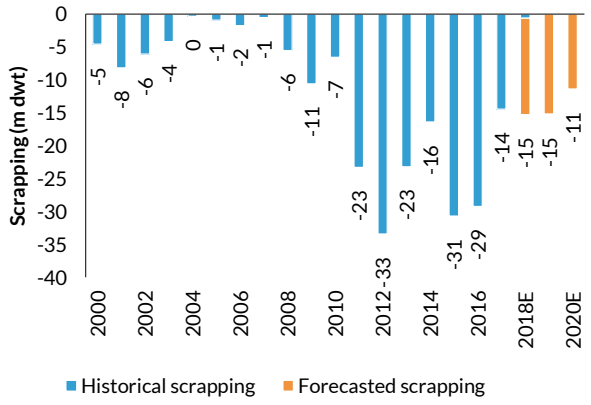


Source: Clarkson, Kepler Cheuvreux

Scrapping

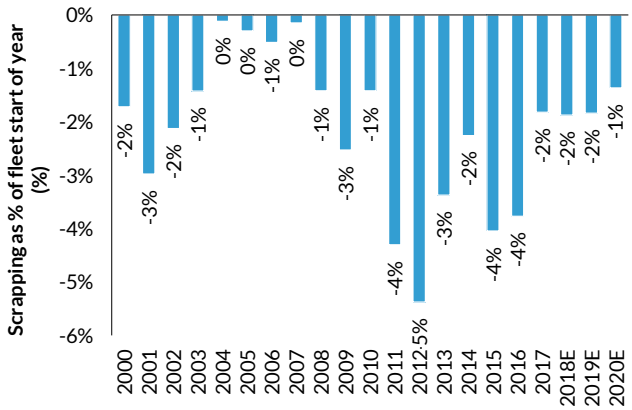
Scrapping of the dry bulker fleet decreased to 15m DWT last year, down by c. 50% from c. 30m DWT in 2015 and 2016. We expect scrapping to amount to c. 15m DWT on average per year in 2018E and 2019E, while the higher spot rates in 2020E are likely to curtail scrapping again.

Chart 70: Scrapping of dry bulker vessels



Source: Clarkson, Kepler Cheuvreux

Chart 71: Scrapping as % of fleet

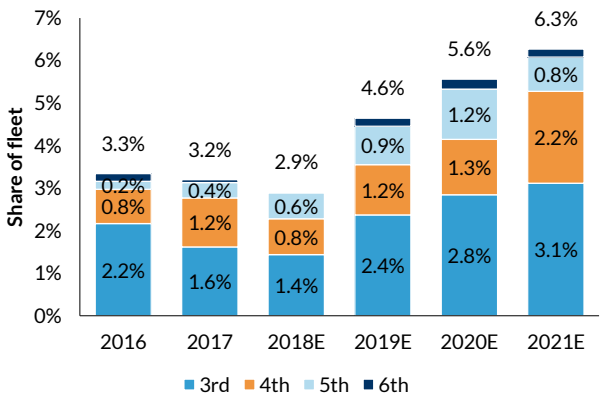


Source: Clarkson, Kepler Cheuvreux

Our scrapping model is based upon a multivariate regression analysis with spot rates and steel prices used as explanatory variables. Please note that we do allow ourselves some leeway in our final assessment of the scrapping estimates. As it stands now, we reduce our forecast by 40% compared with the raw output from our model.

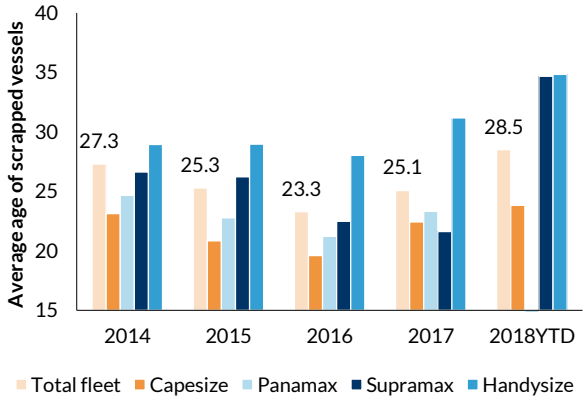
The renewal surveys, which are carried out every five years, are typically catalysts for scrapping decisions. In 2018-20E, 1.5-3% of the fleet will undertake its fourth or fifth renewal survey (i.e. it turns 20/25 years old) each year, broadly in line with our scrapping forecasts.

Chart 72: Share of fleet going though renewal surveys



Source: Clarkson, Kepler Cheuvreux

Chart 73: Average scrapping age



Source: Clarkson, Kepler Cheuvreux

Transforming the amount of vessels into actual transport capacity

In our modelling, we transform the fleet into actual supply capacity in terms of available transportation services measured in cubic-meter-miles per year. We do this by multiplying the aggregated vessel volume by the normal service speed of those vessels, before adjusting for the time spent in ports for both normal cargo operations and additional waiting (labelled port congestion), and the capacity implicitly held back in terms of slow steaming. This leaves us with a net capacity metric which we cross-check using our demand model to arrive at an estimate for the fleet utilisation rate.

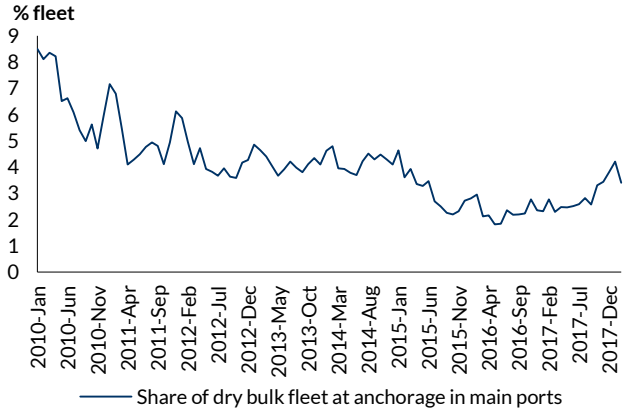
As deliveries of vessels are front-end loaded each year (January is typically the month with the most deliveries), the change in transport capacity tends to amplify the percentage change in the fleet, which is the main reason for the uneven growth in transport capacity compared with the "clean" fleet growth.

Port congestion

The additional time required beyond the time needed for normal cargo operations in port, is called port congestion. At the beginning of February, Clarkson reported that 7% of the Capesize fleet, 4% of the Panamax fleet and 1.5% of the Supramax fleet had been held up due to port congestion.

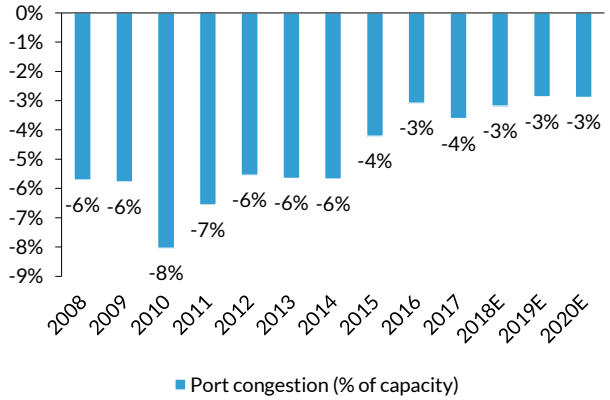
Effectively, we assume that the amount of transportation capacity held back due to congested ports will remain constant at c. 3% of the total capacity, down from c. 4% currently.

Chart 74: Historical floating storage



Source: Bloomberg, Kepler Cheuvreux

Chart 75: Share of fleet employed in floating storage

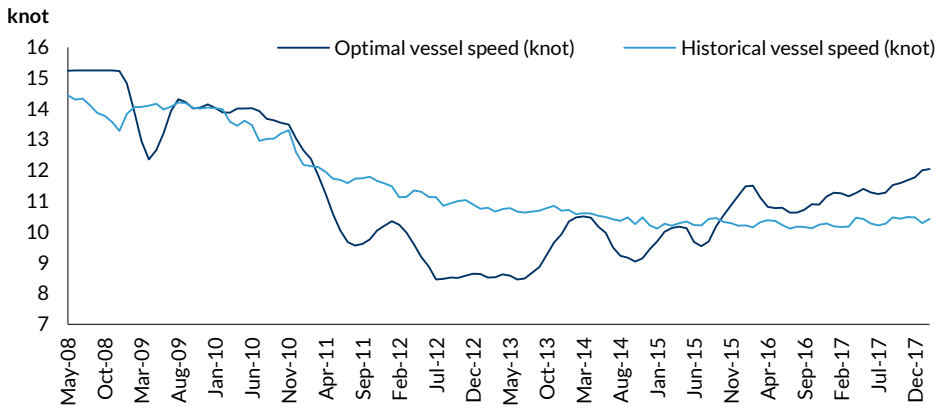


Source: Bloomberg, Clarkson, Kepler Cheuvreux

Vessel speed

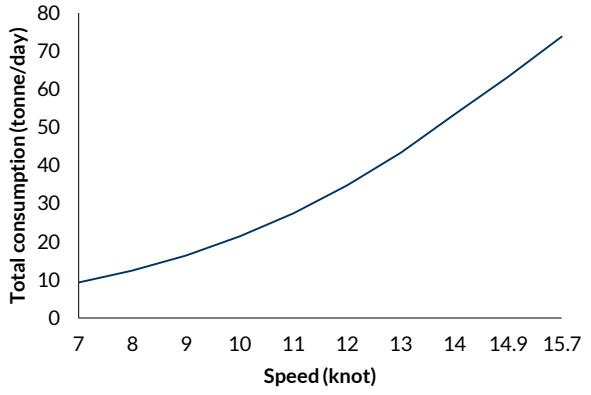
In our modelling, we also adjust for slow steaming in our assessment of actual fleet utilisation. We also calculate the optimal speed of the vessels, which we use as a guide for the future speed of the fleet. This is a rather straightforward exercise as fluid mechanics allow for a direct modelling of fuel consumption as a function of the speed. We use that relationship (called the Bernoulli equation) to express the total (operating) cost for the vessel as a function of speed. This is then differentiated with respect to speed and the optimal speed is calculated on this basis.

Chart 76: Actual and historical optimal vessel speed



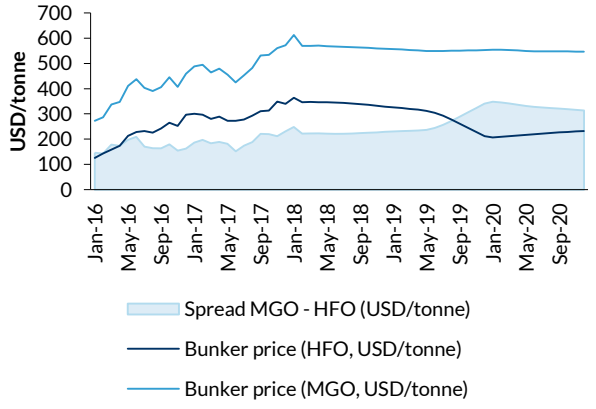
Source: AIS Live, Bloomberg, Kepler Cheuvreux

Chart 77: Fuel consumption as a function of speed, Capesize



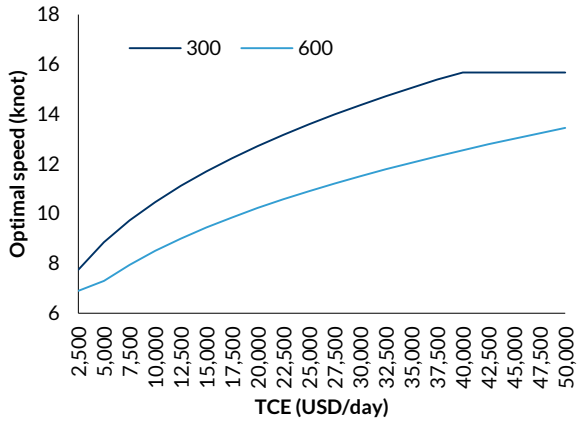
Source: Kepler Cheuvreux

Chart 78: Historical and future bunker prices



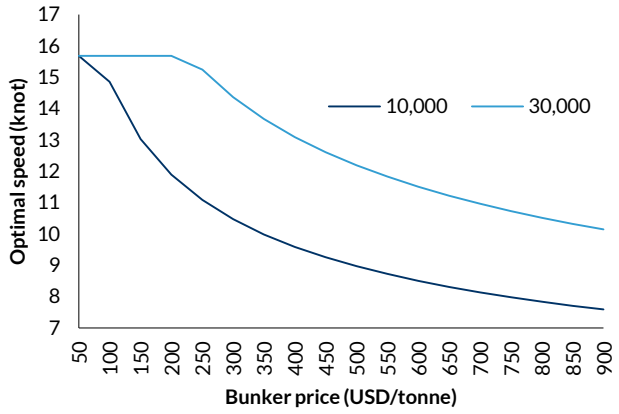
Source: Bloomberg, Kepler Cheuvreux

Chart 79: Optimal speed as a function of TC-rates, assuming bunker price at USD300/tonne or USD600/tonne



Source: Kepler Cheuvreux

Chart 80: Optimal speed as a function of bunker prices, assuming TC rate at either USD10,000/day or USD30,000/day



Source: Kepler Cheuvreux

Dry bulk shipping demand

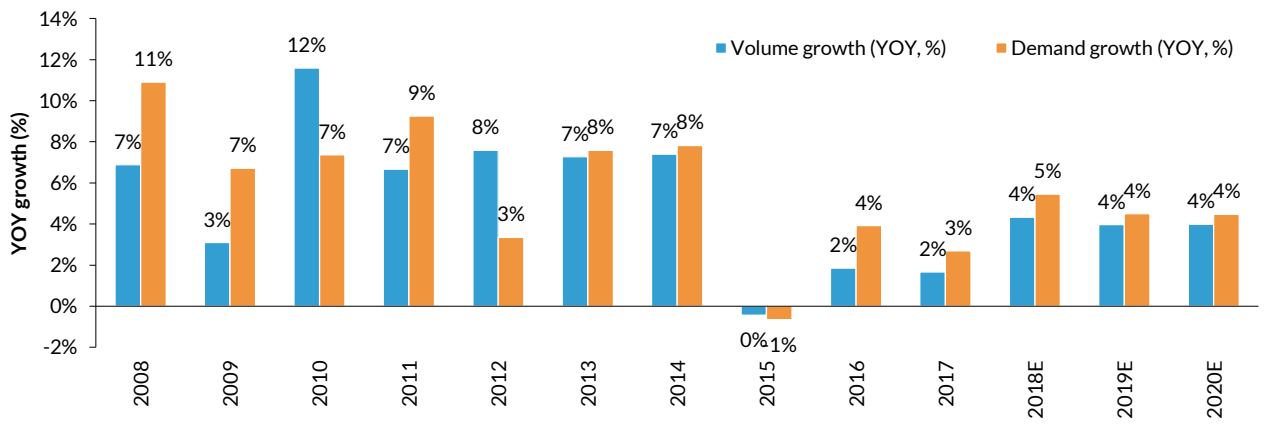
For 2017, we estimate (although not all the data is firm yet) 2% growth in the main dry bulk commodities (the same as in 2016). In both years, growth was driven by the iron ore and grain trades. The coal trade has been rather weak in recent years, but we expect it to return to growth from 2018E as we believe China will continue to reduce its domestic coal production more than its consumption, and this should lead to increased coal imports.

Going forward, we assume Chinese steel production growth of 4% a year for 2018-20E, a decline of 7.5% a year in domestic iron ore production, and a decline of 5% a year in steel exports. In total, this results in Chinese steel demand growth of 4-5% a year, and iron ore import growth of c. 75-80m tonne a year (6-7% a year, down from past five- and ten-year averages of 8 and 11% respectively) which accounts for c. 90-95% of the projected increase in the global iron ore trade.

In the coal trade, we factor in a reduction of Chinese coal demand of 3% a year (in line with the five-year average), and a 5% decline in domestic production which is above the 3% a year average decline observed over the past five years. This results in import growth of about 50-60m tonnes a year, which exceeds our forecast for global coal trade growth of 35-40m tonnes a year, which is based on our assumption that European imports will decline by around 5% a year.

US hydrocarbons (see the LNG and LPG sections for more on these) are also relevant for the dry bulk trade. Export of US coal reached its highest level since Q3 2013 in Q4 2017. This shift occurred just after global coal prices started to rise again and much of the growth has, as with LPG and LNG, been driven by long-haul transport to Asia.

Chart 81: Growth in traded dry bulker volumes and tonne-mile transportation demand



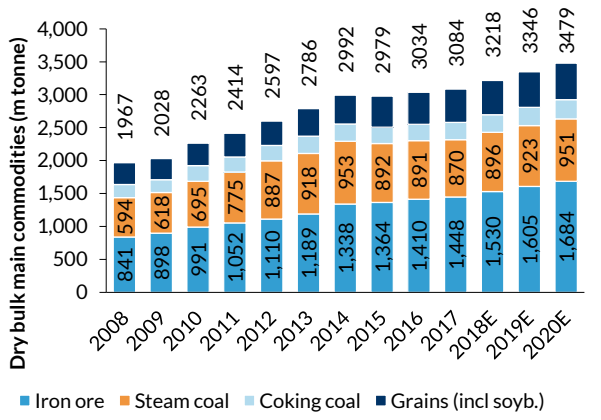
Source: Clarkson, Bloomberg, Kepler Cheuvreux

The dry bulk trade

We estimate a 2% increase in traded dry bulker volumes in 2017, the same as in 2016. In both years, growth was driven by a c. 40-45m tonne increase in iron ore, while the grain trade also contributed positively. The coal trade has been rather weak in recent years, but we also expect the coal trade to return to growth from 2018E, as we believe China will continue to reduce its domestic coal production more than consumption which will drive up coal imports.

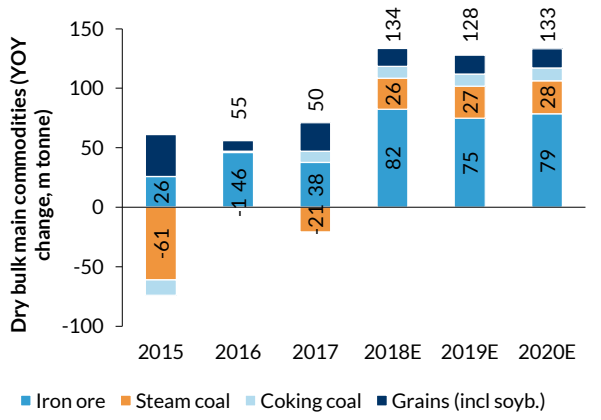
We expect the trade to grow by 4% a year on average over 2018-20E. The main drivers will be Chinese iron ore and coal imports, which we expect to grow as China scales back its unprofitable, and environmentally damaging domestic production, in favour of imports.

Chart 82: Total dry bulker trade



Source: Clarkson, ITC, Kepler Cheuvreux

Chart 83: Annual change in the dry bulker trade

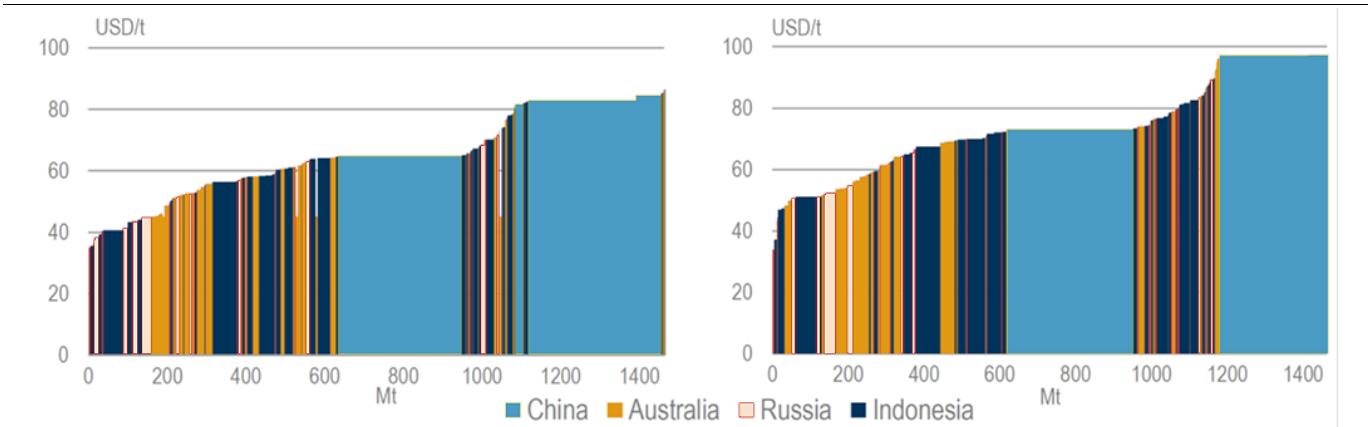


Source: Clarkson, ITC, Kepler Cheuvreux

China's war on pollution

In March 2014, Chinese Premier Li Keqiang said "*We will resolutely declare war against pollution as we declared war against poverty*"[9]. Since initiating the first market reforms in the late 1970s, 800m people have been lifted out of poverty[10] and in 2016 the reduction of permitted operating days from 330 to 276 in coal mining was the main reason for the turnaround in both coal prices and Chinese coal imports. In 2016, coal imports were up by 25% (after a 37% decline over 2013-15) and they continued to grow by 8% in 2017. We expect import growth to continue because of China's intention to reduce coal consumption and mining. Chinese coal mining pollutes and is the most expensive in the global market, hence domestic production is likely to decline more than the decrease in domestic consumption. Therefore, imports should continue to grow. The iron ore market is in the same position. Chinese output is the most expensive and we expect iron ore imports to China to exceed the increase in the demand for iron ore for Chinese steel production, simply because domestic iron ore production will likely decrease.

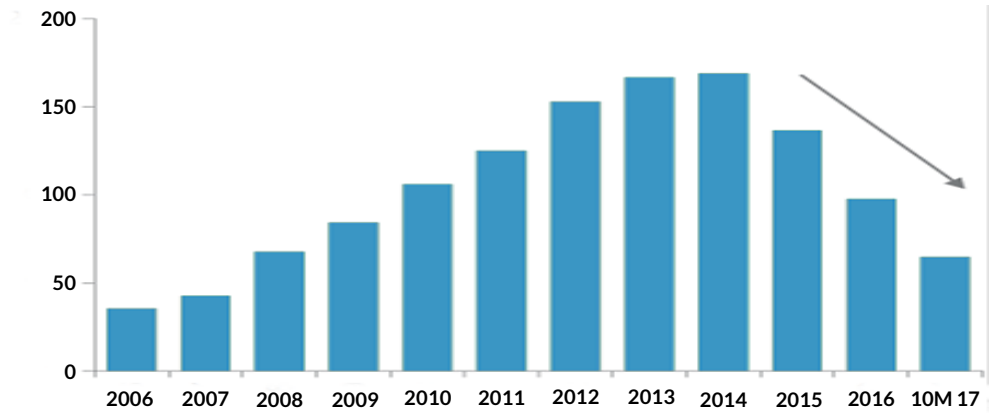
Chart 84: Chinese cost curve thermal coal



Source: IEA

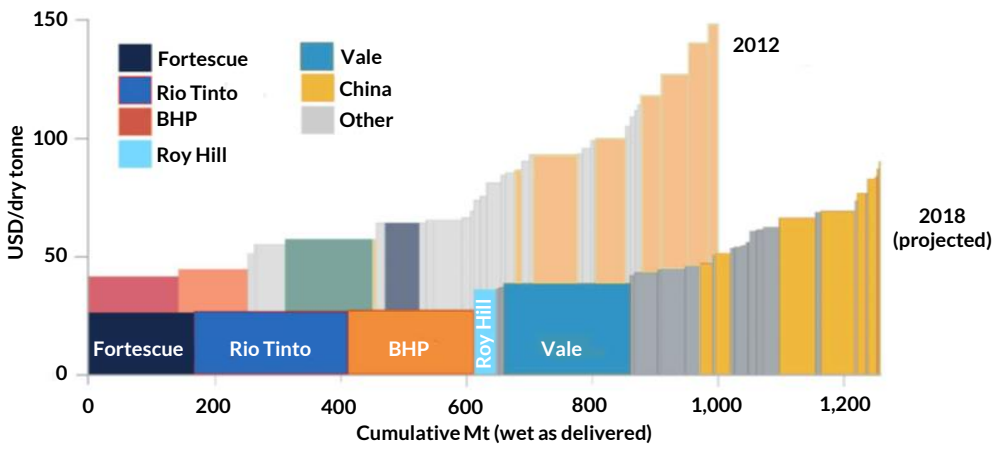
[9] https://www.reuters.com/article/us-china-parliament-pollution/china-to-declare-war-on-pollution-premier-says-idUSBREA2405W20140305
[10] http://www.worldbank.org/en/country/china/overview#1

Chart 85: Fixed asset investments in the ferrous industry in China (RMBbn)



Source: Vale

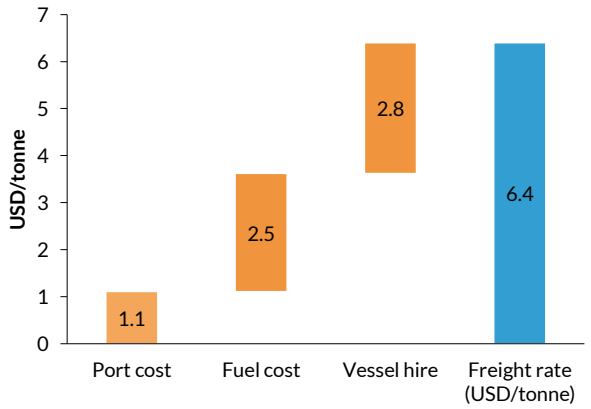
Chart 86: China's iron ore supply curve



Source: Fortesque

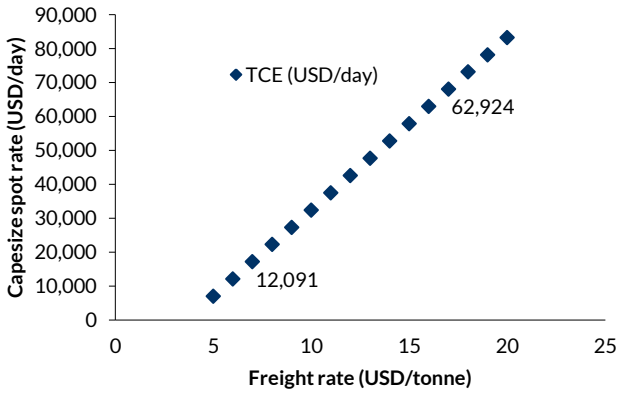
The other, also widely underestimated, consequence of the "war on pollution" is higher prices. At the beginning of 2016, coal in Australia was priced at USD50 per tonne. It increased to USD85 per tonne at the beginning of 2017 and now at the start of 2018 it stands at USD105 per tonne. This rapid appreciation makes transportation services much more valuable: a 10% higher coal price in China now (i.e. an increase of around USD10 per tonne) would lift the Capesize spot rate for Australia by c. 360% (from USD14,000 per day to USD65,000 per day) if the full increase in the coal price is passed on to customers in the form of higher freight costs.

Chart 87: Breakdown of transportation costs from Australia to China for 180,000 tonnes of coal



Source: Kepler Cheuvreux

Chart 88: Sensitivity of TCE (USD per day) versus freight cost (USD per tonne)



Source: Kepler Cheuvreux

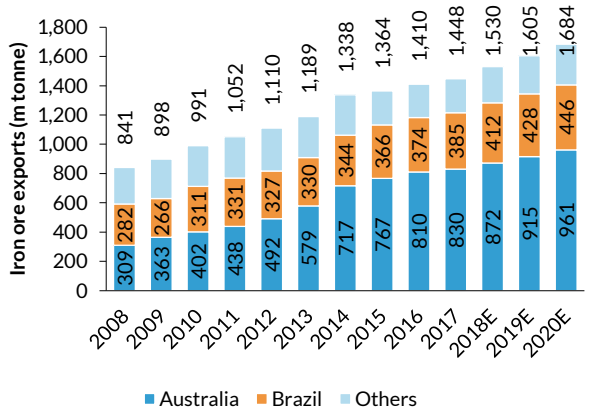
Iron ore trade and the steel market

2017 was a good year for the steel market, with gross margins improving and global production up by 79m tonnes from 2016, or 5%, which is the largest annual incremental increase since 2011. Out of the total 79m increase in output, China accounted for 38m tonnes, in line with its overall market share of 50% (with total production of 845m tonnes versus global production of 1,688m tonnes).

This improvement in the steel market has had an impact on both the iron ore and coking coal markets. Combined with China's supply-side reforms aimed at curbing unprofitable, environmentally damaging steel production, this has led to an increase in iron ore imports (up by 50m tonnes in 2017 versus 2016).

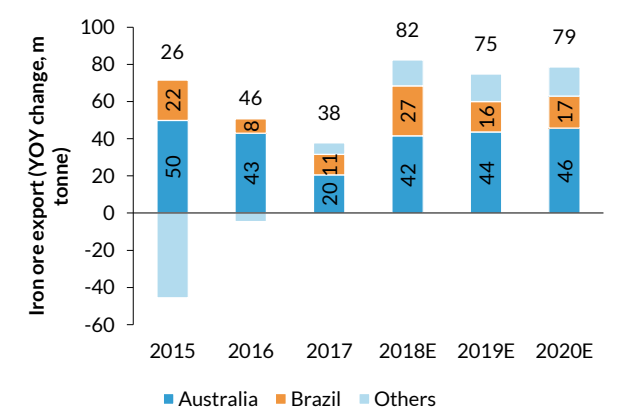
Going forward, we assume Chinese steel production growth of 4% a year over 2018-20E, representing a decline of 7.5% a year in domestic iron ore production and a decline of 5% a year in steel exports. In total, this results in Chinese steel demand growth of 4-5% a year and iron ore import growth of c. 75-80m tonnes a year (6-7% a year, down from the five- and ten-year averages of 8% and 11% respectively). This accounts for around 90-95% of the projected increase in the global iron ore trade.

Chart 89: Iron ore trade by main exporter



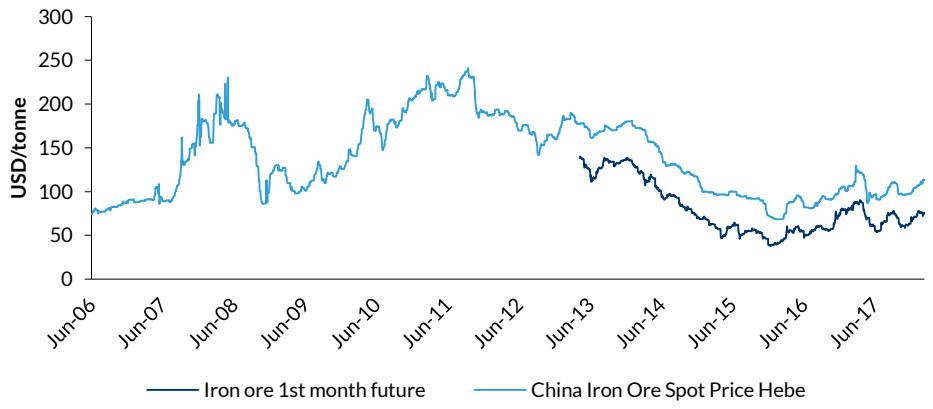
Source: Clarkson, Kepler Cheuvreux

Chart 90: Annual change in the iron ore trade



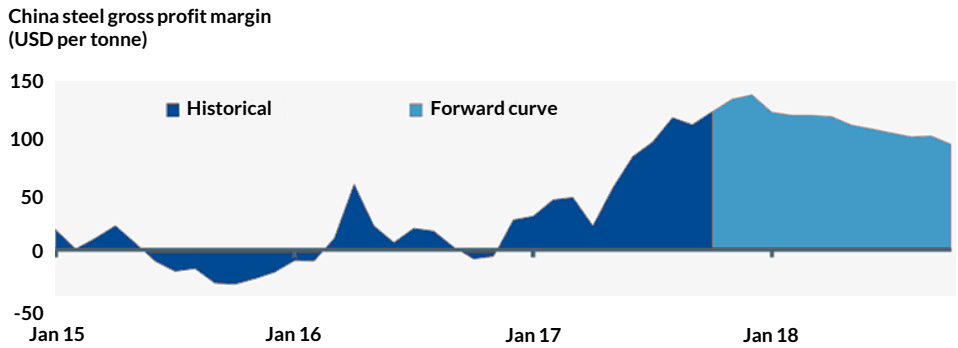
Source: Clarkson, ITC, Kepler Cheuvreux

Chart 91: Chinese iron ore prices



Source: Bloomberg

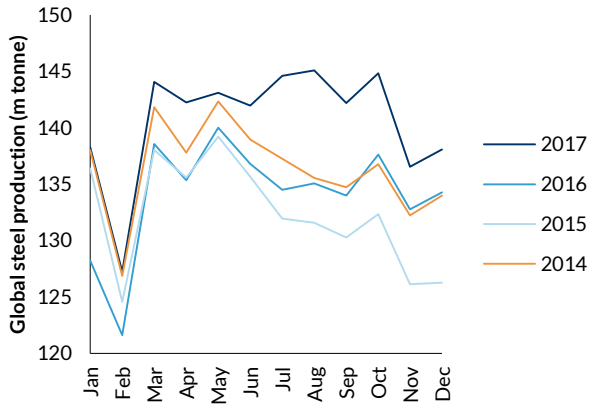
Chart 92: Chinese steel gross profit margin



Note: forward margin calculation based on forward curve as of 3 November 2017.
Coking capacity includes a few cities outside '2+26' region which also join winter production cut.
Source: NBS, Fenwei Energy, Mysteel, SHFE, DCE, BHP

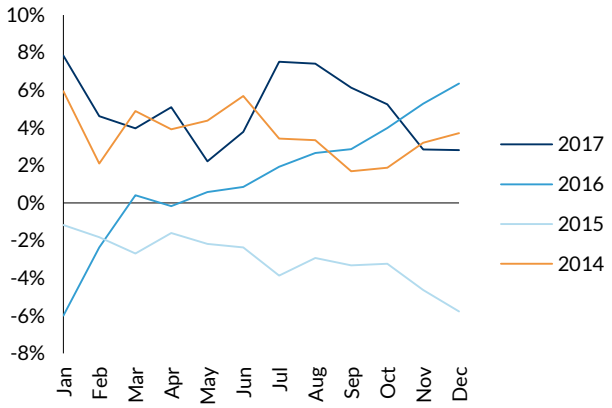
Source: BHP

Chart 93: Global steel production



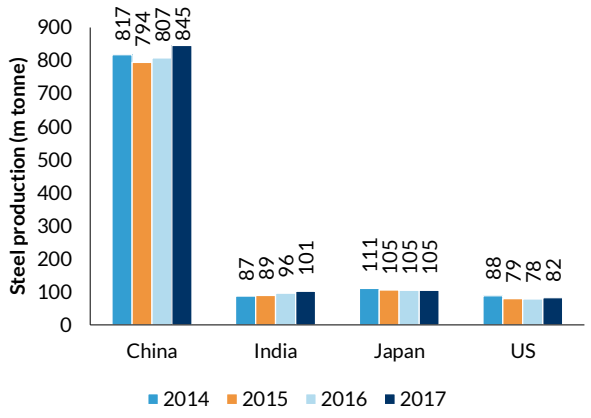
Source: Bloomberg, Kepler Cheuvreux

Chart 94: Global steel production growth YOY



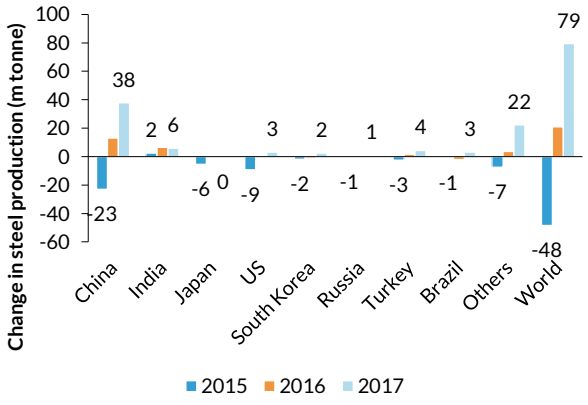
Source: Bloomberg, Kepler Cheuvreux

Chart 95: Top-four global steel producers



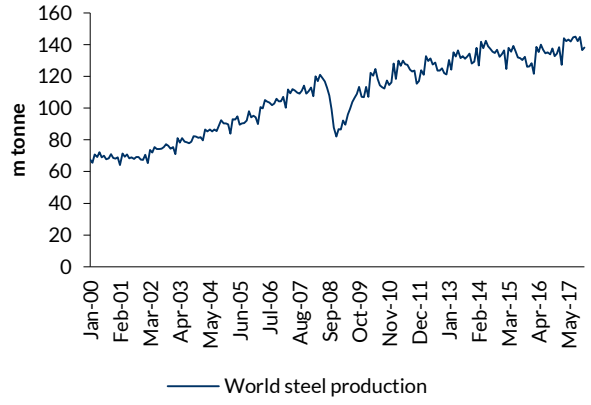
Source: Bloomberg, Kepler Cheuvreux

Chart 96: Annual production change for the top-eight countries



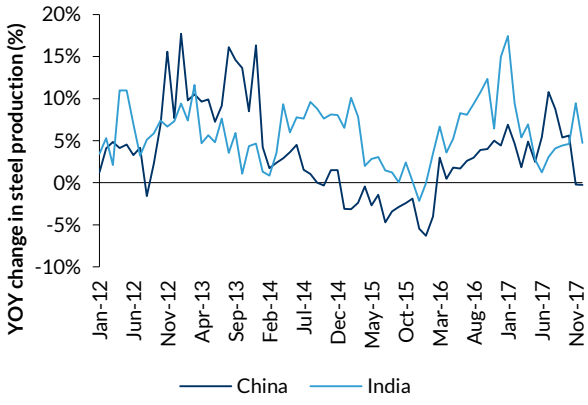
Source: Bloomberg, Kepler Cheuvreux

Chart 97: Global steel production



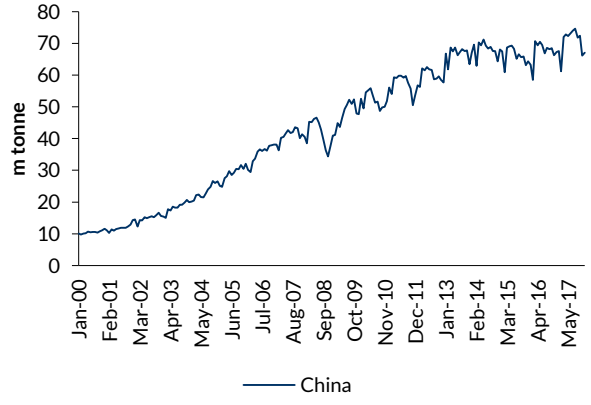
Source: Bloomberg, Kepler Cheuvreux

Chart 98: Chinese and Indian steel production growth YOY



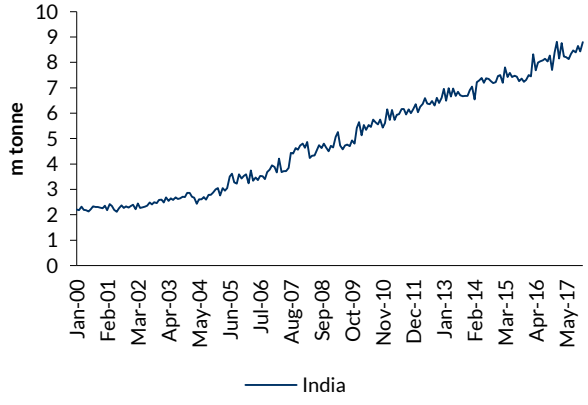
Source: Bloomberg, Kepler Cheuvreux

Chart 99: Chinese steel production



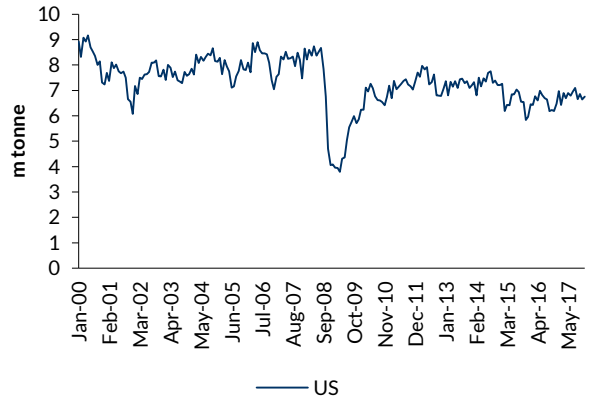
Source: Bloomberg, Kepler Cheuvreux

Chart 100: Indian steel production



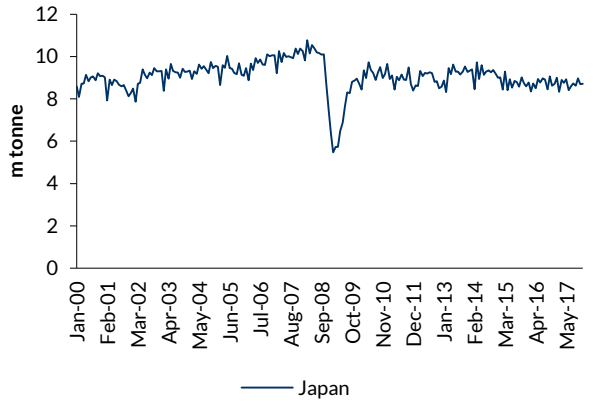
Source: Bloomberg, Kepler Cheuvreux

Chart 101: US steel production



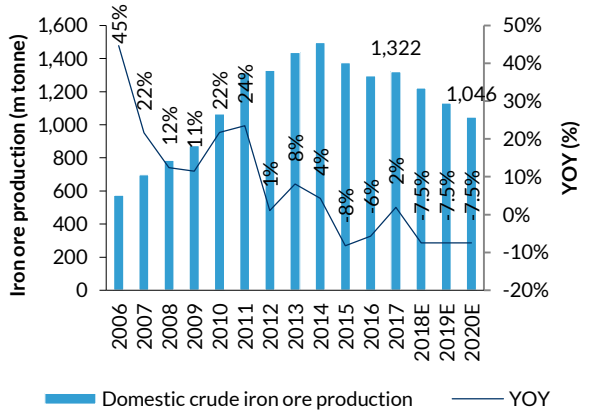
Source: Bloomberg, Kepler Cheuvreux

Chart 102: Japanese steel production



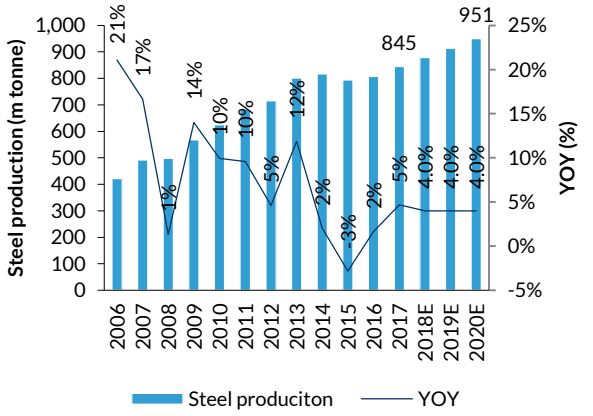
Source: Bloomberg, Kepler Cheuvreux

Chart 103: Chinese steel balance: domestic iron ore production



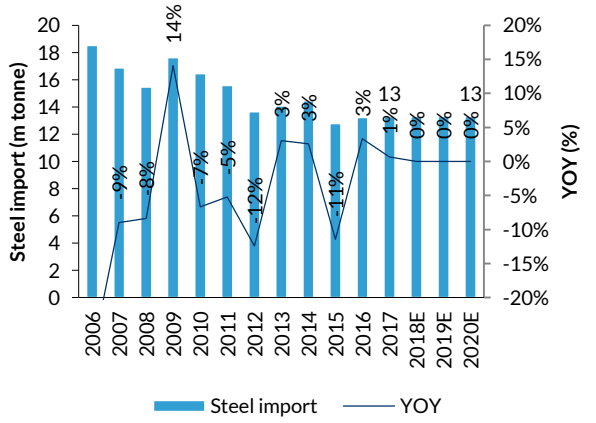
Source: Bloomberg, Kepler Cheuvreux

Chart 104: Chinese steel balance: steel production



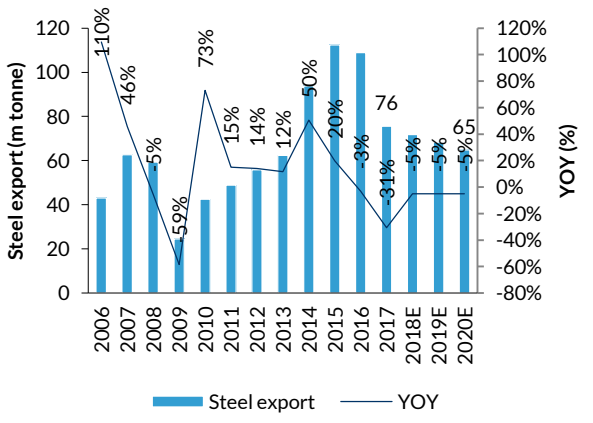
Source: Bloomberg, Kepler Cheuvreux

Chart 105: Chinese steel balance: steel imports



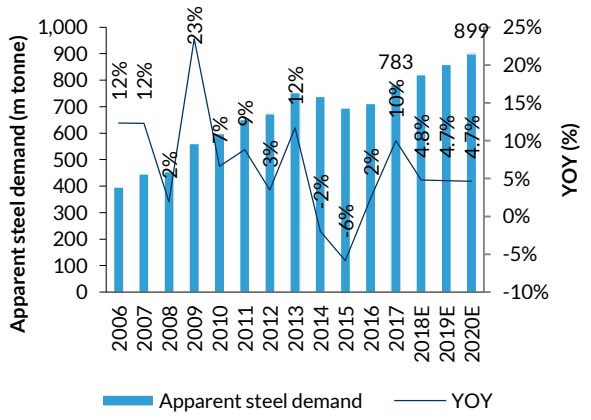
Source: Bloomberg, Kepler Cheuvreux

Chart 106: Chinese steel balance: steel exports



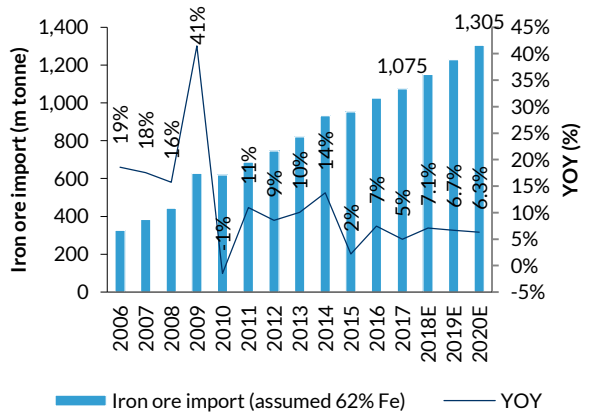
Source: Bloomberg, Kepler Cheuvreux

Chart 107: Chinese steel balance: implied steel demand



Source: Bloomberg, Kepler Cheuvreux

Chart 108: Chinese steel balance: resulting iron ore imports



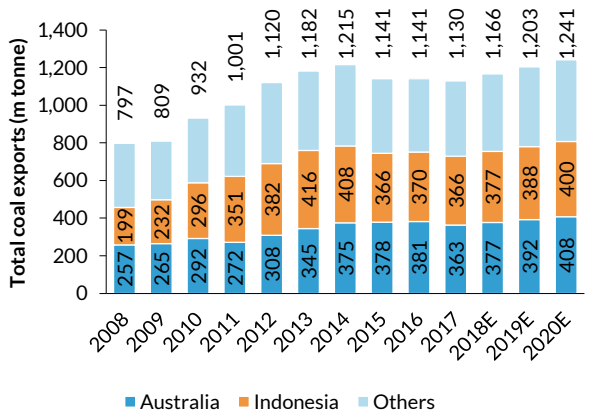
Source: Bloomberg, Kepler Cheuvreux

Coal trade

The steam coal (coal used mainly for electricity production) trade is estimated (we do not have all of the data yet) to have declined by c. 20m tonnes or 2% in 2017. However, the coking coal (coal used for steel production) trade increased by 9m tonnes. In total, the coal trade saw a decline of c. 10m tonnes, or around 1%. Going forward, we forecast around 3% annual growth, driven by China, which we believe will continue to focus on environmental improvement by reducing the usage of domestically mined coal. We factor into our estimates a 3% annual reduction in Chinese coal demand (in line with the five-year average), and a 5% annual decline in domestic production. This is above the average decline of 3% per year observed over the past five years. This results in import growth of around 50-60m tonnes, which is well above our forecast for an annual increase in the global coal trade of around 35-40m tonnes (underpinned by our belief that European imports will decline by around 5% a year).

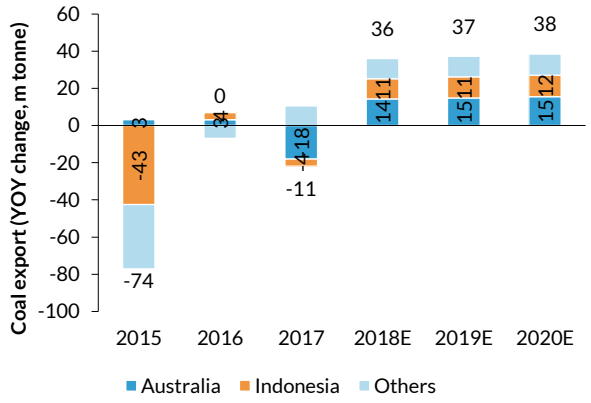
US hydrocarbons had a strong impact on the coal market again (see the LNG and LPG sections for more on this trend). In Q4 2017, US coal exports reached their highest level since Q3 2013. This demonstrates the agility of the US energy industry and suggests that the US is likely to dominate this segment in the coming years. But as the following charts show, exports are only viable when the price is right. And the incremental increase in demand obviously comes from Asia.

Chart 109: Coal trade by main exporter



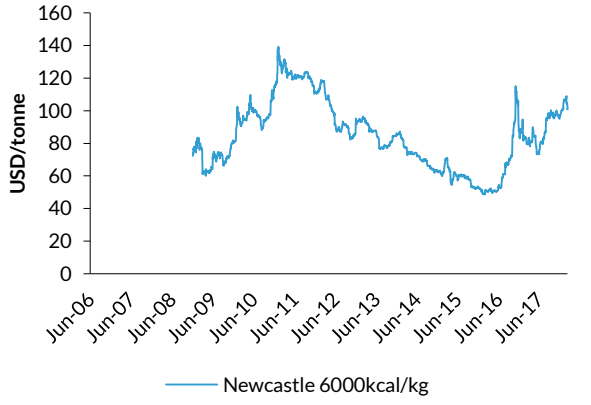
Source: Clarkson, Kepler Cheuvreux

Chart 110: Annual change in the coal trade



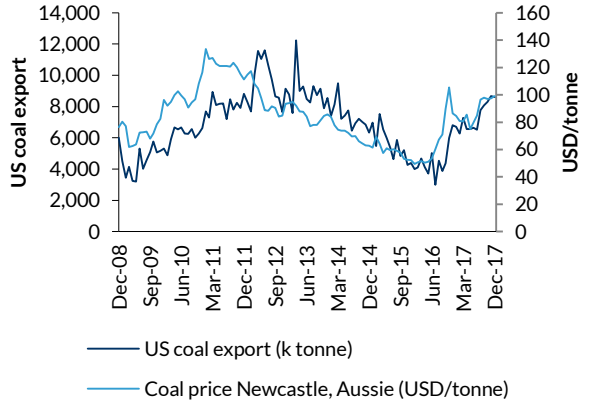
Source: Clarkson, ITC, Kepler Cheuvreux

Chart 111: Australian coal price



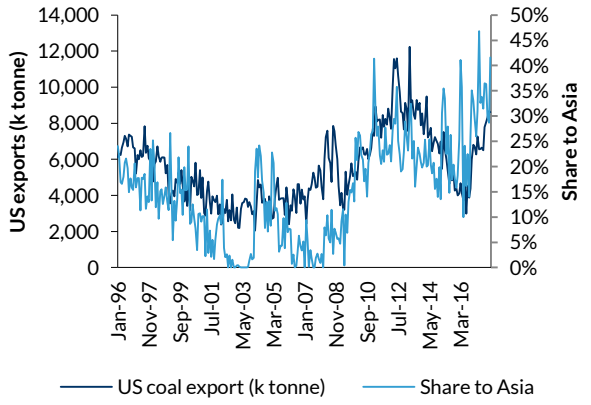
Source: Bloomberg, Kepler Cheuvreux

Chart 112: US coal export by month versus coal price



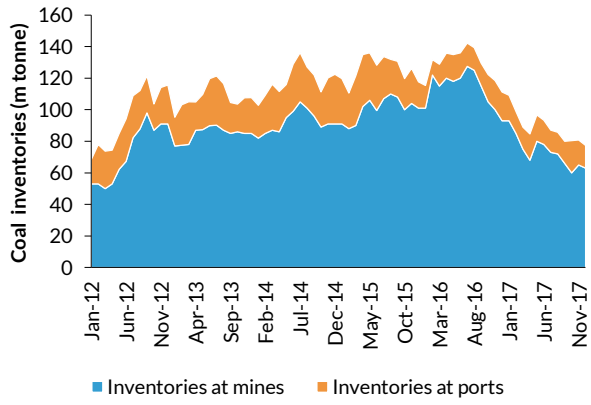
Source: Bloomberg, EIA, Kepler Cheuvreux

Chart 113: US coal exports by month versus share to Asia



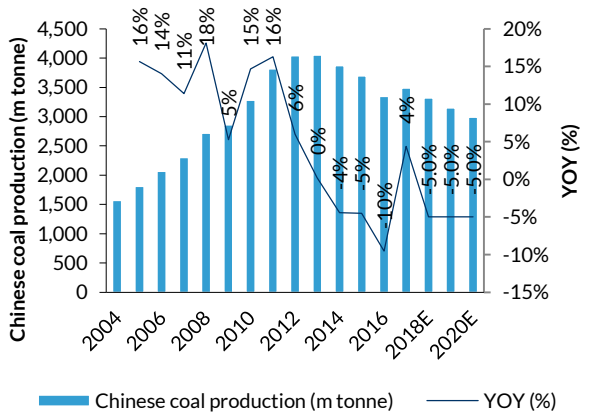
Source: EIA, Kepler Cheuvreux

Chart 114: Chinese coal inventories



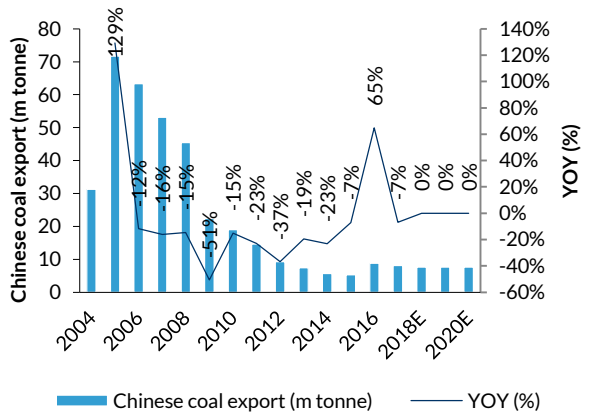
Source: Bloomberg, Kepler Cheuvreux

Chart 115: China coal balance: coal production



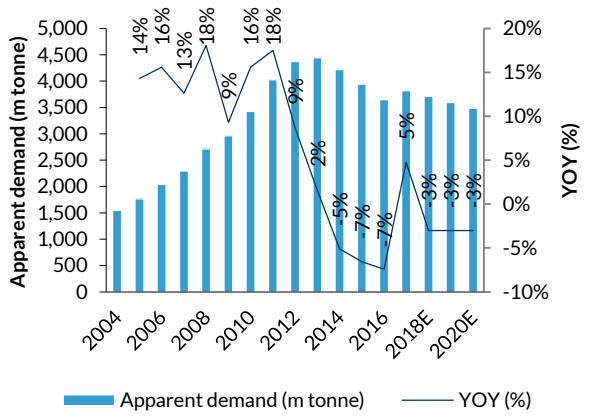
Source: Bloomberg, Kepler Cheuvreux

Chart 116: China coal balance: coal exports



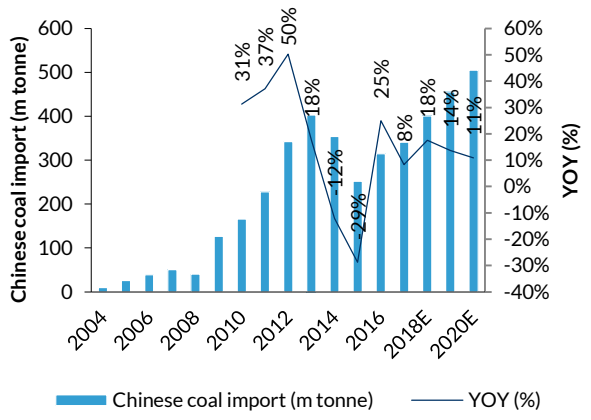
Source: Bloomberg, Kepler Cheuvreux

Chart 117: China coal balance: apparent demand



Source: Bloomberg, Kepler Cheuvreux

Chart 118: China coal balance: resulting imports



Source: Bloomberg, Kepler Cheuvreux

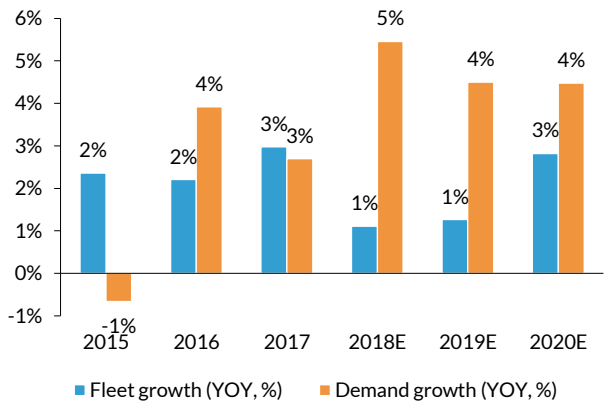
Dry bulk market balance, rate and value forecast

Market balance and fleet utilisation rate

We expect dry bulk transportation demand to grow faster than transportation supply every year over 2018-20E. Hence, we also believe spot rates will improve and for 2020E we expect rates to come in at USD35,000 per day for the Capesize segment.

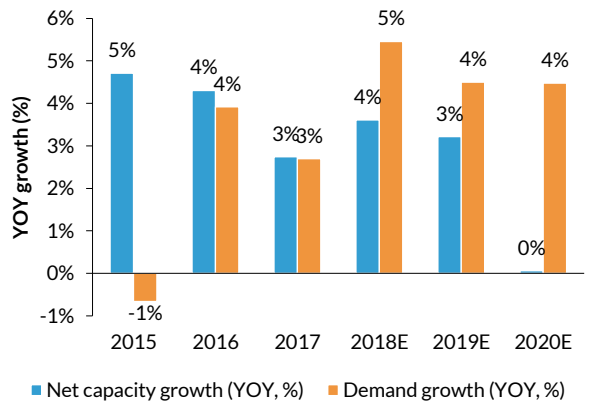
Since we both: 1) decrease the share of vessels held back by port congestion in our estimates; and 2) increase the speed, and account for the fact that the deliveries are typically front-end loaded during the year, the effective supply growth exceeds the conventional fleet growth in 2018-19E. In 2020E, amid lower vessel speeds due to the higher fuel prices stemming from the new sulphur cap, the opposite is true. Fleet growth amounts to around 3% while actual supply growth remains flat, according to our calculations.

Chart 119: Fleet growth versus demand growth



Source: BP, Kepler Cheuvreux

Chart 120: Transportation capacity growth versus demand growth



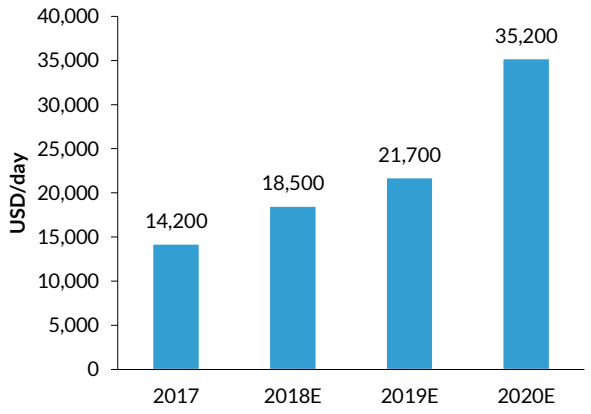
Source: BP, Kepler Cheuvreux

Dry bulk rate forecasts

We model Capesize rates of USD18,500 per day for 2018E, USD21,700 per day for 2019E and USD35,200 per day for 2020E. In 2018-19E, we expect fleet utilisation rate to stay just below 90%, but in 2020E we expect it to move up to 93% — the highest level since the downturn following the bull market of 2006-10.

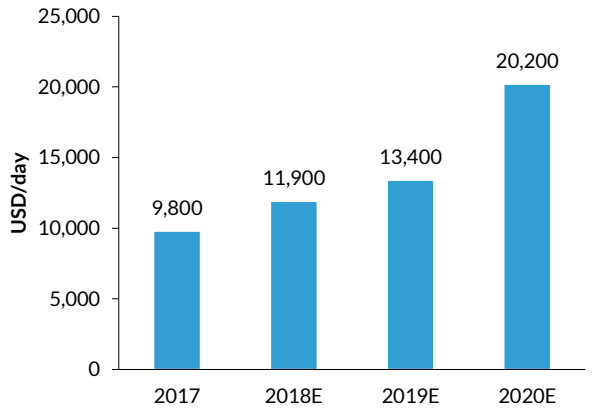
For Panamaxes, we expect rates at USD11,900 per day in 2018E, increasing to USD13.4,000 per day in 2019E and further to USD20,000 per day in 2020E.

Chart 121: Spot rate forecast, Capesize



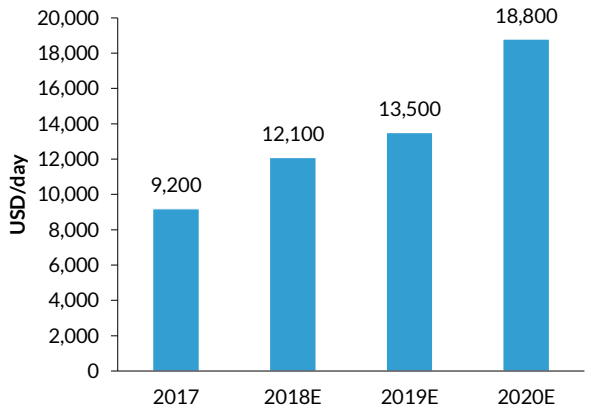
Source: Kepler Cheuvreux

Chart 122: Spot rate forecast, Panamax



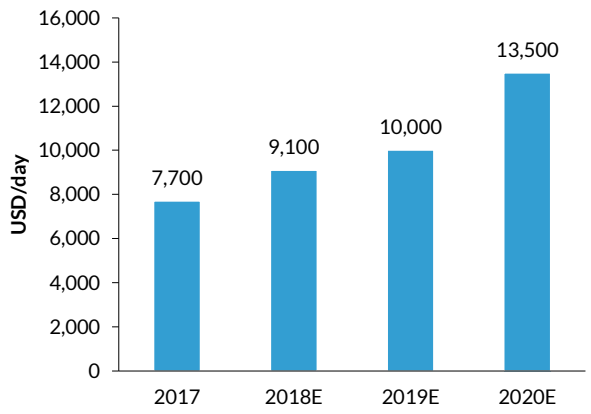
Source: Kepler Cheuvreux

Chart 123: Spot rate forecast, Supramax



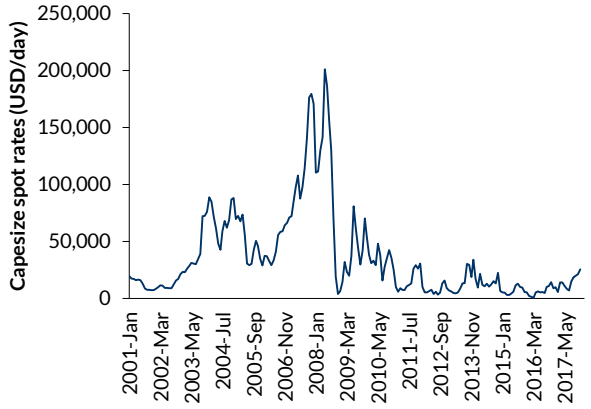
Source: Kepler Cheuvreux

Chart 124: Spot rate forecast, Handysize



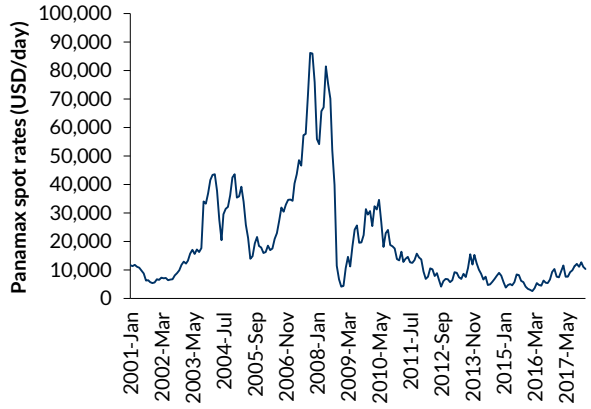
Source: Kepler Cheuvreux

Chart 125: Historical spot rates, Capesize



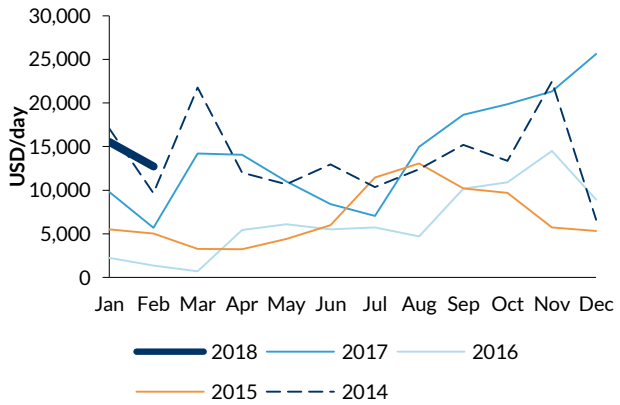
Source: Clarkson, Kepler Cheuvreux

Chart 126: Historical spot rates, Panamax



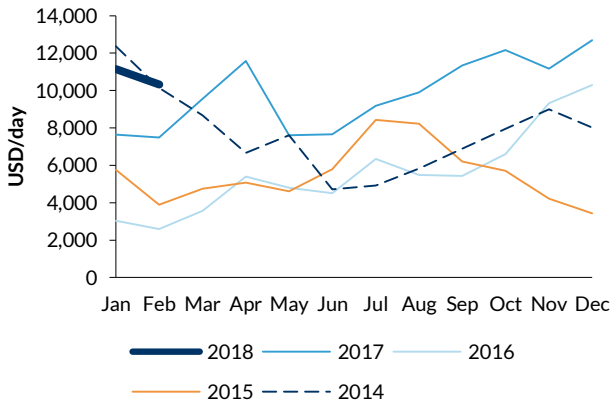
Source: Clarkson, Kepler Cheuvreux

Chart 127: Historical spot rates, Capesize



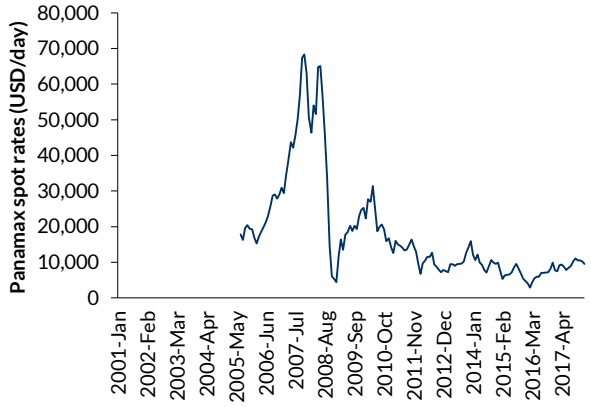
Source: Clarkson, Kepler Cheuvreux

Chart 128: Historical spot rates, Panamax



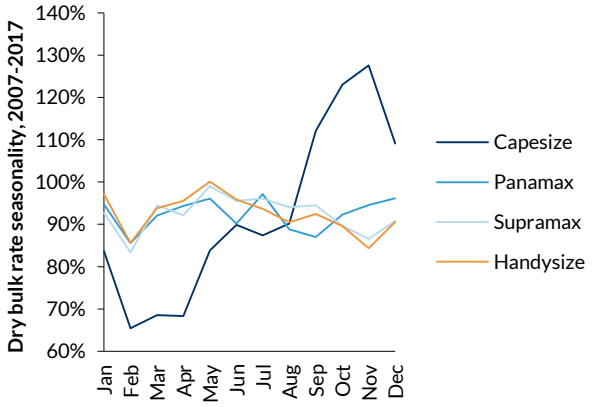
Source: Clarkson, Kepler Cheuvreux

Chart 129: Historical spot rates, Supramax



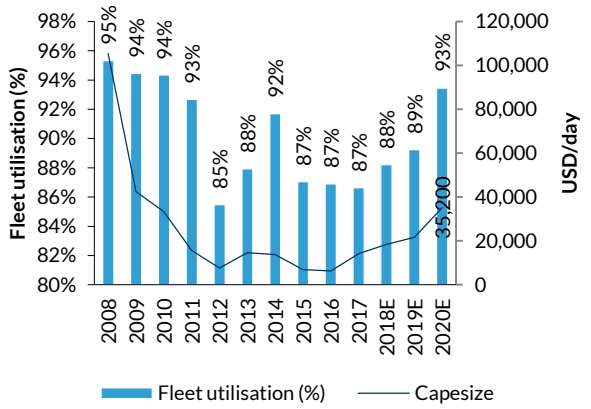
Source: Clarkson, Kepler Cheuvreux

Chart 130: Historical seasonality (2008-17)



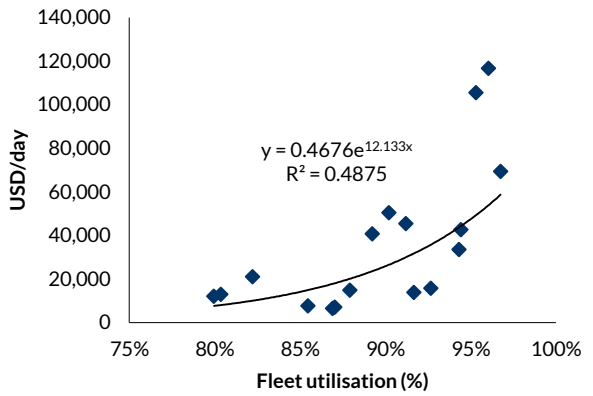
Source: Clarkson, Kepler Cheuvreux

Chart 131: Rate forecast and fleet utilisation



Source: Clarkson, Kepler Cheuvreux

Chart 132: Regression model used for rate forecast

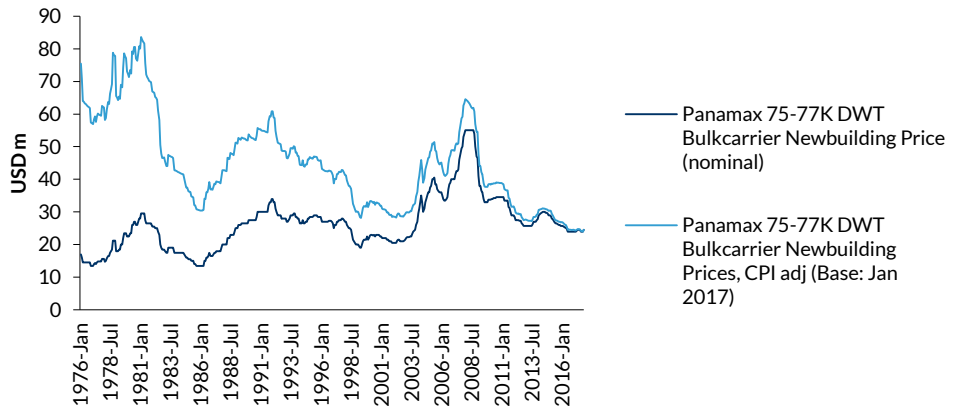


Source: Clarkson, Kepler Cheuvreux

Dry bulk vessel values

Clarkson quotes a price of USD44.5m for a newbuild Capesize, up from USD41.5m at the end of the summer in 2016. When adjusted for inflation, current newbuild prices look very compelling: the current level (which is in the mid-USD20m range for a Panamax vessel) is 10-15% below the last trough in 2003 and 20% below the trough in 1986. For our analysis, we use Panamax vessels as historical values are available from 1976, and, on a relative basis, the values for the Capesize tankers should be very similar.

Chart 133: Historical newbuild prices, Panamax



Source: Clarkson; Kepler Cheuvreux

In the second-hand market, vessel values have appreciated significantly since the trough in the spring of 2016 when the resale value of a Capesize vessel stood at around USD38m, USD10m less than the current USD48m.

However, there is no need to be afraid of the current heights. In March 2014, a Capesize vessel was resold for USD65m (which was still USD100m less than the peak resale value of USD165m recorded in June 2008). We expect the resale value to appreciate to USD55m in a year's time, but if we were to model vessel prices on the back of our 2020 forecasts, we estimate that the resale value of a Capesize would amount to USD66m (see our high-case scenario below). We provide a full set of forecasts in the following section.

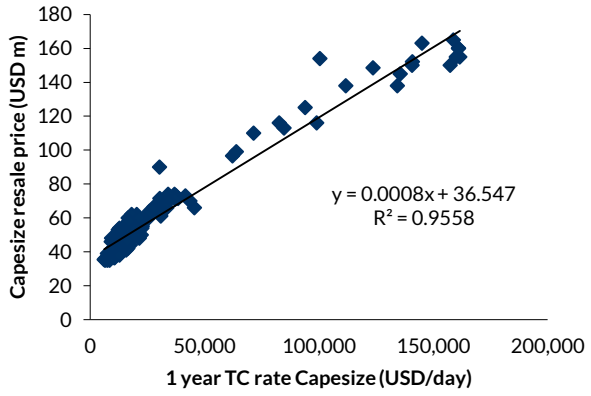
Table 7: Vessel value forecasts, including scenarios

KECH forecast	NB	Resale	5Y	10Y	15y	20Y	Scrap
Capesize	49.1	54.6	42.3	29.7	18.1	11.7	9.1
Panamax	30.8	34.3	25.6	19.8	13.1	8.9	5.2
Supramax	28.8	32.0	24.7	18.6	12.0	7.8	4.0
Handysize	22.6	25.1	19.8	14.6	9.8	6.5	2.8
KECH vs current	**NB**	**Resale**	**5Y**	**10Y**	**15y**	**20Y**	**Scrap**
Capesize	10%	14%	25%	26%	17%	17%	0%
Panamax	20%	18%	9%	36%	19%	19%	0%
Supramax	19%	16%	41%	33%	20%	20%	0%
Handysize	2%	9%	42%	39%	63%	63%	0%
KECH LOW Case	**NB**	**Resale**	**5Y**	**10Y**	**15y**	**20Y**	**Scrap**
Capesize	37.4	41.6	30.3	19.1	11.5	7.4	5.4
Panamax	23.1	25.6	15.1	9.7	5.7	3.9	3.1
Supramax	20.9	23.2	14.7	9.8	5.9	3.8	2.4
Handysize	17.3	19.2	12.0	8.2	4.7	3.2	1.7
KECH HIGH Case	**NB**	**Resale**	**5Y**	**10Y**	**15y**	**20Y**	**Scrap**
Capesize	73.7	80.3	66.1	50.7	31.2	20.2	12.7
Panamax	46.3	52.8	48.1	41.2	29.0	19.8	7.3
Supramax	43.2	50.9	46.0	37.5	25.2	16.4	5.6
Handysize	33.9	37.8	36.6	28.4	20.6	13.7	4.0

Source: Clarkson, Kepler Cheuvreux

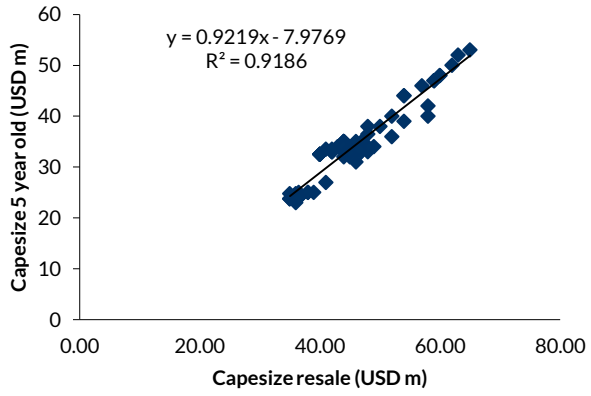
The preceding estimates are based on simple regression models in which we apply our rate forecasts to the historical relationship between earnings and resale vessel values. We then use regression models to estimate the value for the different vessel ages to calculate the resale value.

Chart 134: Regression model with Capesize one-year TC rate versus Capesize resale price



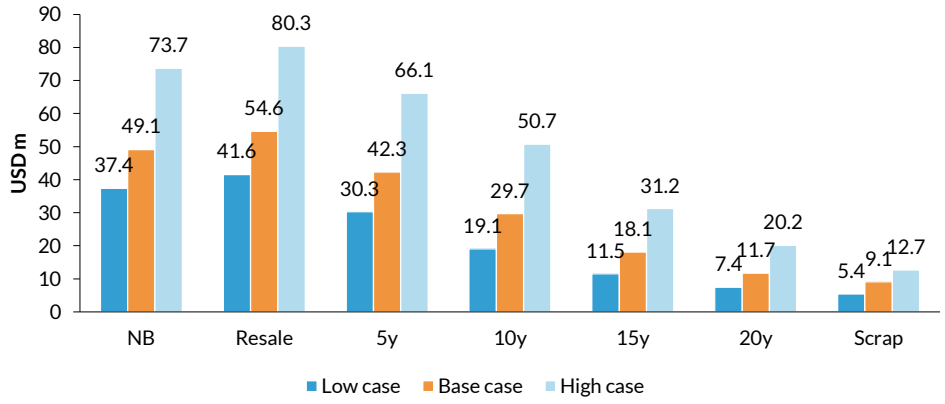
Source: Clarkson, Kepler Cheuvreux

Chart 135: Regression model with Capesize resale price versus five-year old vessel



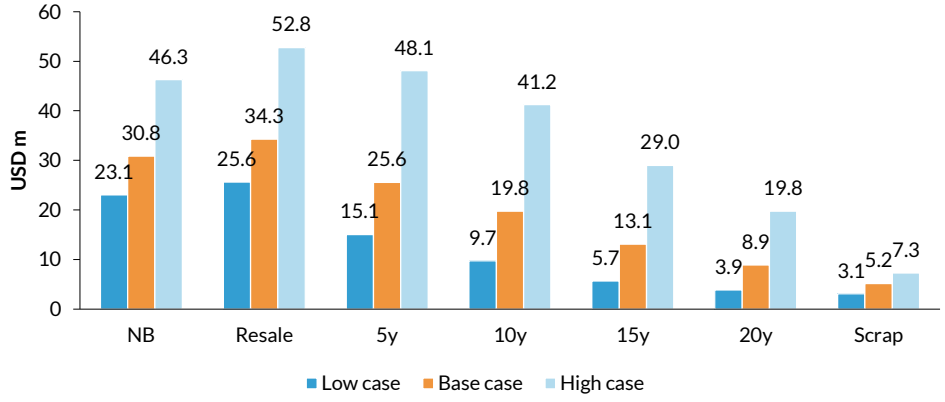
Source: Clarkson, Kepler Cheuvreux

Chart 136: Scenarios for Capesize values



Source: Kepler Cheuvreux

Chart 137: Scenarios for Panamax values



Source: Kepler Cheuvreux

Dry bulk model

Table 8: KECH dry bulk shipping model

FLEET (m DWT)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
Fleet start of year	393	420	463	541	622	688	727	759	777	794	817	827	837
Historical deliveries	25.4	44.8	81.4	99.9	100.4	63.0	48.4	49.2	47.2	38.4	4.6		
Gross order book for delivery											29.4	27.0	19.9
Forecasted cancellations											-7.0	-4.0	-3.1
Postponements											-2.7	2.7	0.0
Deliveries from order book											19.8	25.6	16.9
Historical ordering	101.5	37.0	102.2	41.7	24.4	103.2	63.9	25.3	14.6	36.2	4.1		
Future ordering											18.1	21.8	32.1
Deliveries from future ordering												0.0	18.1
Historical scrapping	-5.6	-10.6	-6.6	-23.3	-33.4	-23.2	-16.4	-30.7	-29.2	-14.5	-0.7		
Scrap price (USD/LDT)	532	291	409	505	433	416	471	350	285	497	400	400	400
Future scrapping											-14.6	-15.2	-11.4
Scrapping as % of fleet (annualised)	-1.4%	-2.5%	-1.4%	-4.3%	-5.4%	-3.4%	-2.3%	-4.0%	-3.8%	-1.8%	-1.9%	-1.8%	-1.4%
Misc.	7.0	8.7	4.0	3.5	-1.2	-0.4	-0.1	-0.6	-0.9	-0.3	2.7	-2.7	0.0
Fleet end of year	420	463	541	622	688	727	759	777	794	817	827	837	861
Fleet growth (YOY, %)	7%	10%	17%	15%	11%	6%	4%	2%	2%	3%	1%	1%	3%
SUPPLY (10^12 tonne-miles)													
Vessel design speed (knot)	14.4	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5
Gross transportation capacity	51.6	55.4	63.6	73.6	84.2	90.1	94.8	97.6	99.9	102.9	104.7	106.1	108.4
Actual port ratio (% of total time)	37%	36%	34%	30%	28%	27%	27%	26%	26%	26%	27%	27%	26%
Normal port operations	-18.9	-20.1	-21.6	-22.1	-23.6	-24.4	-25.1	-25.4	-25.9	-26.9	-27.8	-28.6	-28.4
Port congestion	-2.9	-3.2	-5.1	-4.8	-4.7	-5.1	-5.4	-4.1	-3.1	-3.7	-3.3	-3.0	-3.1
Port congestion (% of capacity)	-6%	-6%	-8%	-7%	-6%	-6%	-6%	-4%	-3%	-4%	-3%	-3%	-3%
Bunker price (HFO, USD/tonne)	472	354	450	618	640	595	532	264	213	300	339	285	221
Bunker price (MGO, USD/tonne)	918	529	683	944	955	904	817	480	383	495	569	555	553
Optimal vessel speed (knot)	15.3	13.8	13.8	10.7	9.2	8.9	9.9	10.2	11.0	11.5	12.1	12.7	11.7
Historical vessel speed (knot)	14.1	14.1	13.4	11.8	11.1	10.7	10.5	10.3	10.2	10.3			
Forecasted speed (knot)											10.5	10.7	10.3
Historical and forecasted speed (knot)	14.1	14.1	13.4	11.8	11.1	10.7	10.5	10.3	10.2	10.3	10.5	10.7	10.3
Slow steaming (% of total gross capacity)	-1%	-2%	-5%	-13%	-17%	-19%	-20%	-21%	-22%	-21%	-20%	-19%	-21%
Slow steaming	-0.8	-1.0	-3.3	-9.4	-14.1	-17.0	-19.3	-20.9	-21.7	-21.7	-21.2	-20.3	-22.9
Net transportation capacity	29.0	31.1	33.5	37.3	41.8	43.6	45.0	47.2	49.2	50.6	52.4	54.1	54.1
Net capacity growth (YOY, %)	12%	8%	8%	11%	12%	4%	3%	5%	4%	3%	4%	3%	0%
TRADE VOLUME (m tonne)													
Iron ore	841	898	991	1,052	1,110	1,189	1,338	1,364	1,410	1,448	1,530	1,605	1,684
Coal	797	809	932	1,001	1,120	1,182	1,215	1,141	1,141	1,130	1,166	1,203	1,241
Grains	329	321	340	361	367	415	439	474	483	507	522	538	554
Total major bulks	1,967	2,028	2,263	2,414	2,597	2,786	2,992	2,979	3,034	3,084	3,218	3,346	3,479
Atlantic to Atlantic	506	401	460	479	496	516	526	531	500	505	507	509	511
Atlantic to Pacific	375	440	469	533	519	551	587	592	651	686	740	783	828
Pacific to Pacific	991	1,111	1,267	1,334	1,513	1,650	1,812	1,787	1,815	1,824	1,903	1,985	2,071
Pacific to Atlantic	95	75	66	67	70	69	67	69	68	68	68	69	69
Total trade	1,967	2,028	2,263	2,414	2,597	2,786	2,992	2,979	3,034	3,084	3,218	3,346	3,479
Volume growth (YOY, %)	7%	3%	12%	7%	8%	7%	7%	0%	2%	2%	4%	4%	4%
DEMAND (10^12 tonne-miles)													
Total trade (tonne-mile)	27.5	29.4	31.5	34.4	35.6	38.3	41.3	41.0	42.6	43.8	46.2	48.2	50.4
Demand growth (YOY, %)	11%	7%	7%	9%	3%	8%	8%	-1%	4%	3%	5%	4%	4%
DRY BULK BALANCE													
Fleet utilisation (%)	95%	94%	94%	93%	85%	88%	92%	87%	87%	87%	88%	89%	93%
Iron ore price (USD/tonne, CIF China)	159	116	147	168	129	135	97	56	59	74			
Coal price (USD/tonne, FOB Australia)	129	72	99	122	96	85	71	58	66	88			
Spot rates (USD/day)													
Capesize	105,391	42,464	33,345	15,688	7,613	14,717	13,719	6,918	6,360	14,200	18,500	21,700	35,200
Panamax	48,653	19,279	25,070	13,963	7,684	9,515	7,730	5,507	5,615	9,800	11,900	13,400	20,200
Supramax	41,232	17,353	22,484	14,366	9,442	10,345	9,825	6,922	6,270	9,200	12,100	13,500	18,800
Handysize	29,056	11,376	16,420	10,541	7,625	8,220	7,683	5,355	5,244	7,700	9,100	10,000	13,500

Source: Clarkson, Kepler Cheuvreux

Valuation, target prices and risks

The dry bulk universe

Initiating coverage on Golden Ocean Group and DS Norden

We initiate coverage on dry bulk shipping companies Golden Ocean Group and DS Norden. In addition, we include Songa Bulk (SBULK), Star Bulk Carriers (SBLK), Scorpio Bulkers (SALT), Safe Bulkers (SB), Diana Shipping (DSX) and Genco Shipping and Trading (GNK) as peers in our dry bulk universe.

- **Golden Ocean Group (GOGL)**: Golden Ocean Group is one of the largest dry bulk shipping groups in the world. It is dual-listed on the Oslo Stock Exchange and NASDAQ (Bloomberg ticker GOGL). As of February 2018, Golden Ocean's fleet consists of 78 vessels, 68 of which were fully-owned vessels, nine were time-charted, and one was a bareboat lease. The fleet is mostly made up of Capesize, and Panamax vessels, and its average age is 3.1 years (value weighted). Thus, it has one of the most modern fleets in our dry bulk peer group.
- **DS Norden (DNORD):** DS Norden is a shipping company listed on NASDAQ Copenhagen under Bloomberg ticker DNORD. It has a long history in the industry (founded in 1871). The company combines long-term ownership and charter positions in dry bulk and product tanker vessels with short-term trading operations. The size of trading in DS Norden's strategy differentiates the group from other dry bulk peers, which normally just take long-term positions in either ownership or charters.

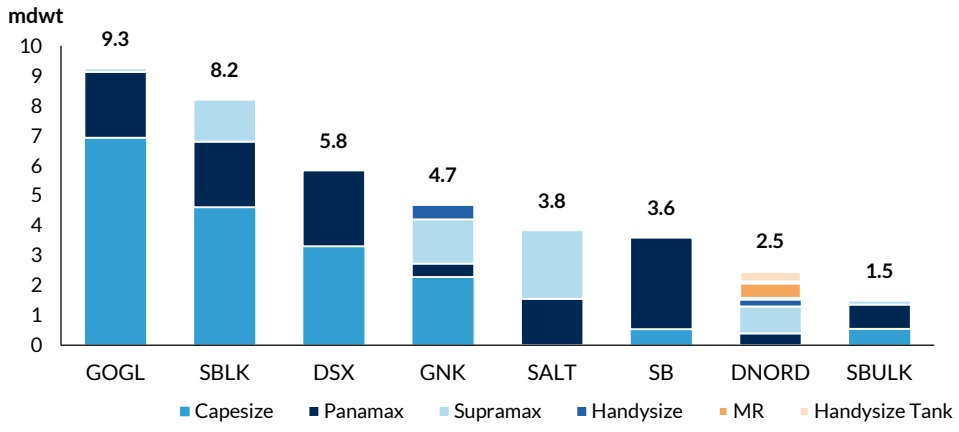
Fleet composition

Sorted by total fleet capacity (owned fleet only), Golden Ocean is the largest peer in our covered universe with a total fleet size of 9.3m DWT, followed by Star Bulk Carriers (5.8m DWT) and Diana Shipping (4.7m DWT). These three companies have a large share of Capesize vessels, which are larger, dry bulk vessels with typical carrying capacity of 180,000-210,000 DWT. Other peers, such as Scorpio Bulkers, Safe Bulkers and DS Norden, specialise in smaller vessel types, i.e., Panamax and Supramax vessels.

Dry bulk peers also differ in terms of vessel ownership. Most own the majority of their vessels, but some also have a charter portfolio. DS Norden, in particular, has a large charter and operational platform, and we estimate that 40-60% of the company's "core" vessel days will come from the charter portfolio in 2018-20E. In comparison, Golden Ocean has 10-12% of its available vessel days from its charter portfolio.

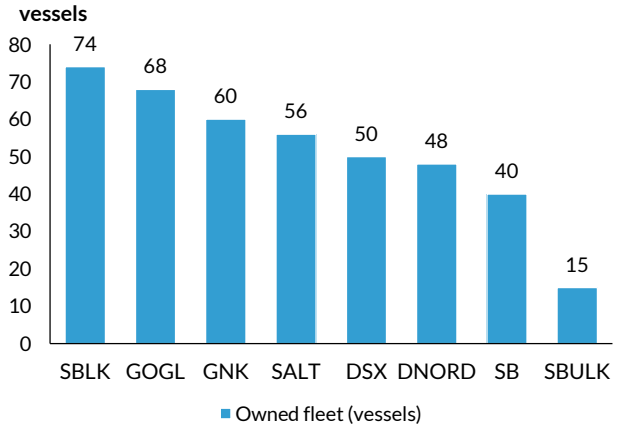
Sorted by overall market capitalisation, Golden Ocean is the largest listed company in the dry bulk segment at USD1.3bn. DS Norden and Star Bulk Carriers are second at c. USD0.8bn.

Chart 138: Dry bulk peers sorted by fleet size (owned vessels only, DWT millions)



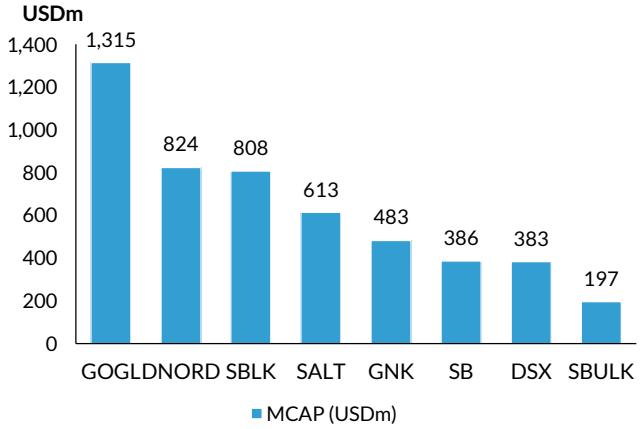
Source: Kepler Cheuvreux

Chart 139: Vessels owned by dry bulk peers (proportionate)



Source: Kepler Cheuvreux

Chart 140: Market cap for dry bulk peers (USDm)



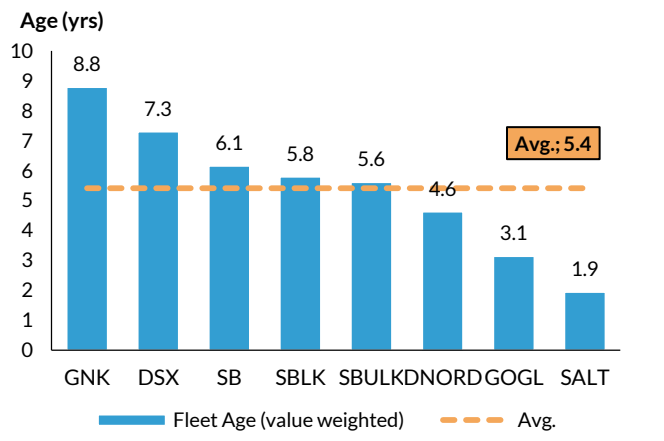
Source: Kepler Cheuvreux

Financial and operational leverage

Financial leverage and fleet age are key metrics to determine the equity risk of a shipping company. In general, an older and more leveraged fleet will increase equity exposure to changes in asset values.

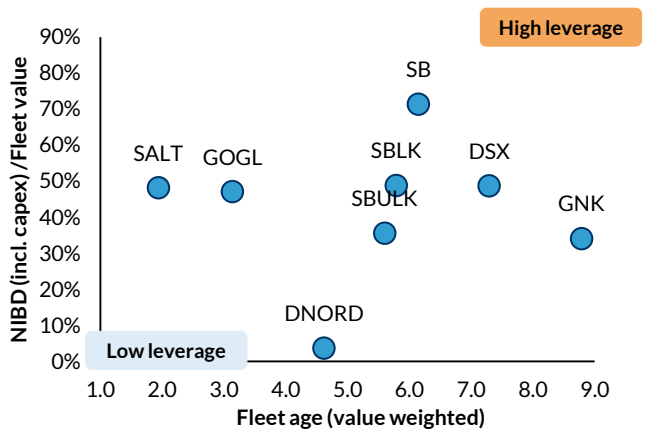
For our listed tanker peers, the average fleet age is 5.2 years. That said, it ranges from 1.7 to 8.5 years. The modern fleets at Golden Ocean and Scorpio Bulkers are a result of large newbuild programmes that were delivered in 2014-17. This contrasts the more diversified fleets of Genko Shipping, Diana Shipping and Safe Bulkers, who have combined older vessels with the orders for newer tonnage.

Chart 141: Avg. fleet age for dry bulk peers (value weighted)



Source: Kepler Cheuvreux

Chart 142: Leverage ratio (NIBD/fleet value) versus fleet age

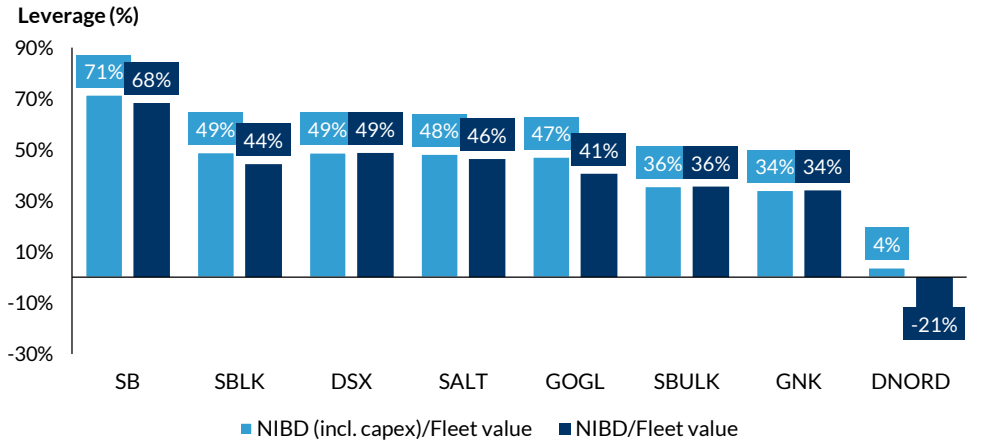


Source: Kepler Cheuvreux

From a strategic perspective, lower operational leverage (from a younger fleet) is typically offset by higher financial leverage. However, in the dry bulk segment, several companies with older fleets have significant financial leverage. Safe Bulkers, for example, has 70% net financial leverage, combined with a 6-year-old fleet. Golden Ocean, on the other hand, has relatively moderate financial and operational leverage, its financial leverage of 47% is combined with average fleet age of 3.1 years. In our view, DS Norden stands out as a special case in terms of the net leverage ratio at only 4% (incl. capex); however, in reality, the group's financial leverage is much higher than this figure indicates. This is because Norden has a large charter portfolio that works as off-balance sheet leverage. We lay out a scenario analysis of DS Norden's impact from the charter portfolio in the company section.

In our net leverage calculations, we include outstanding newbuild capex and acquisition capex as part of the companies' net financial obligations.

Chart 143: Net leverage ratio for dry bulk peers



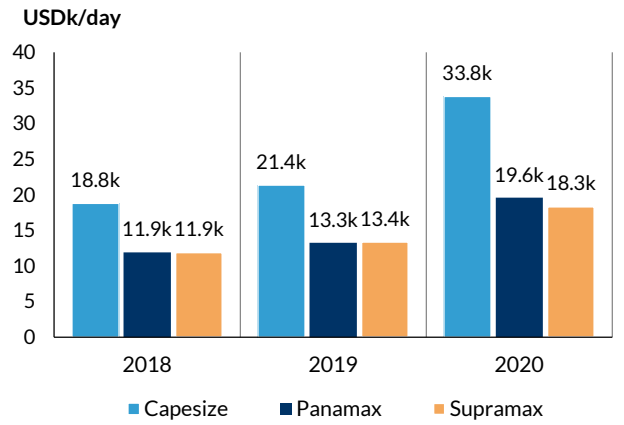
Source: Kepler Cheuvreux

The best is yet to come

We are bullish on the long-term outlook for dry bulk stocks

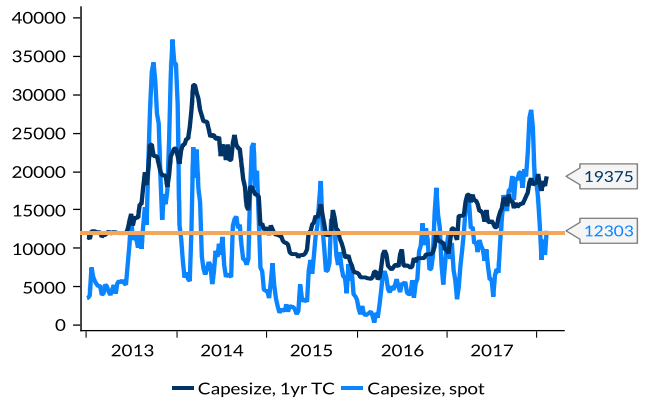
Although the dry bulk market has been improving for more than a year now, we believe the best is yet to come. All-time-low ordering of new vessels in 2016 is likely to lead to 2018-19E fleet growth remaining subdued. Meanwhile, due to the ongoing war on pollution in China, we expect to see healthy growth in imports, given that Chinese domestic production of coal and iron ore is the least competitive in the world and thus likely to be partly substituted by imports. Chinese authorities' ambitions to curb domestic output will likely also support commodity prices, which again leads to greater willingness to pay for dry bulk transportation services. Overall, we see fleet utilisation above 90% in 2020E and expect Capesize rates at USD35,000 per day, which then will be the highest annual average in 11 years.

Chart 144: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

Chart 145: Clarkson's dry bulk spot rates



Source: Kepler Cheuvreux

With Capesize rates at c. USD20,000 per day, we expect to see a solid improvement in the dry bulk companies' profitability in 2018-19E. For instance, for Golden Ocean, we expect EBITDA of USD260-310m in 2018-19E, up from USD150m in 2017. Our rate forecasts imply solid cash generation for dry bulk companies, and we estimate a cash breakeven rate for Capesize vessels of USD12,000 per day. Strong cash generation could lead to increased dividend payouts, and given our outlook for rates and earnings, dry bulk peers could reach dividend yields close to the double digits.

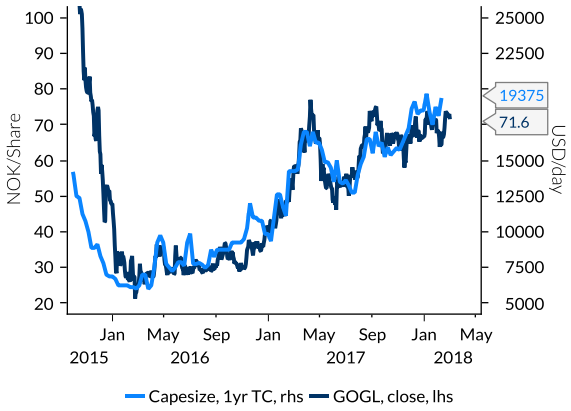
Our long-term estimates are more bullish for the dry bulk segment (EBITDA 2020E +100% from consensus for GOGL). In our view, low supply growth combined with regulatory changes in 2020 could push the dry bulk segment into another high cycle with Capesize rates at USD30,000 per day. Historically, this brings us close to peak 2014 levels for Capesize vessels, but way below 2007-08 figures, when rates were above USD100,000 per day.

After a strong Q4 2017, with Baltic Capesize rates at USD22,900 per day (CS5TC index), spot rates were down to c. USD12,000 per day in January and February 2018. However, the Capesize one-year time charter contract remains strong at

USD19,000 per day, despite spot rate weakness; our 2018E figures are more in line with longer dry bulk contract rates.

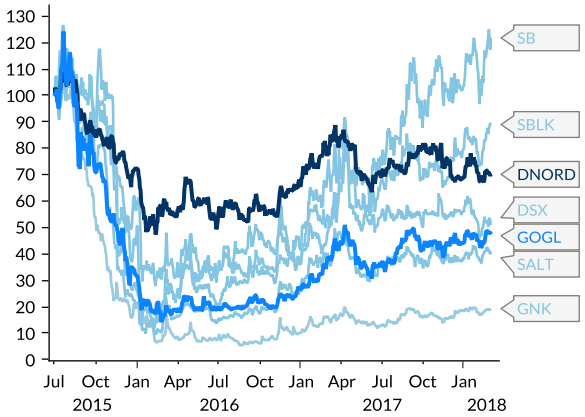
Overall, dry bulk stocks closely follow one-year time charter contracts. With further upside in rates, we expect dry bulk stocks to follow. Although most peers are up more than 100% since the bottom in 2016, we remain positive on the sector in 2018-20E.

Chart 146: GOGL share price versus one-year TC



Source: Kepler Cheuvreux

Chart 147: Share price development for dry bulk peers



Source: Kepler Cheuvreux

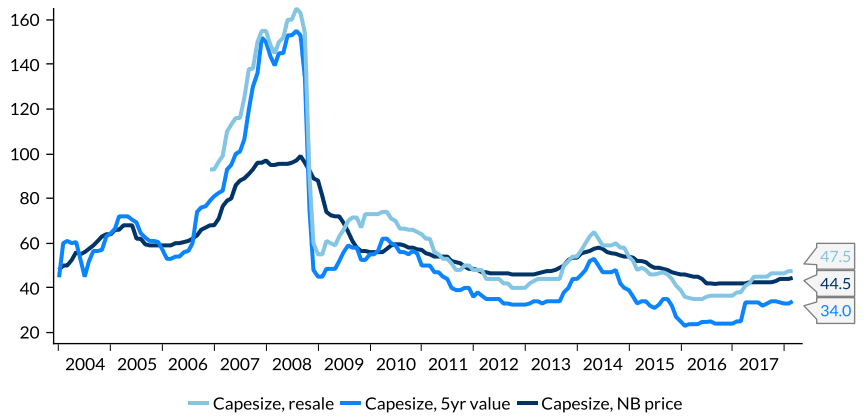
Valuation is still not high from historical perspective

Currently, Clarkson quotes the price for a five-year-old capsize vessel at USD33.5m, up 33% YOY. The resale price is USD47.5m, implying a 5% premium to the current newbuild price of USD44m.

In our view, there should be further upside to vessel values. Using our base-case estimates, we forecast a five-year-old Capesize at USD42m (up 25%). Although this is up significantly from today's levels, our base-case estimates are still low in a historical context. For instance, at the 2014 peak, a five-year-old Capesize was valued at USD53m and USD150m back in 2007.

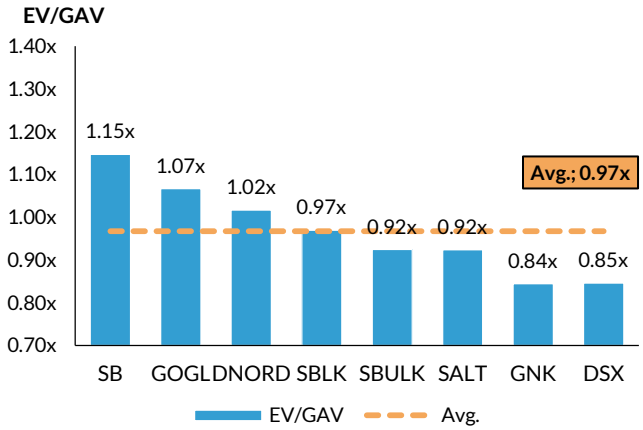
In addition, valuations are currently close to the underlying asset values, which means that upside is not already reflected in prices. Currently, the average dry bulk peer trades at an average EV/GAV close to 1x. This implies a five-year Capesize value of USD34m.

Chart 148: Vessel values for Capesize (newbuild, resale, five-year-old)



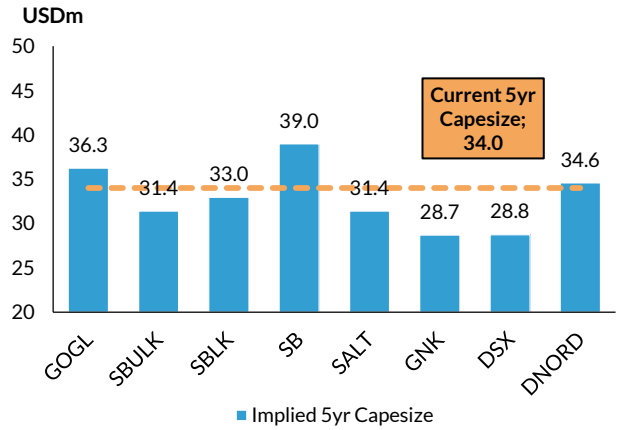
Source: Clarkson and Kepler Cheuvreux

Chart 149: EV/GAV versus current market values for peers



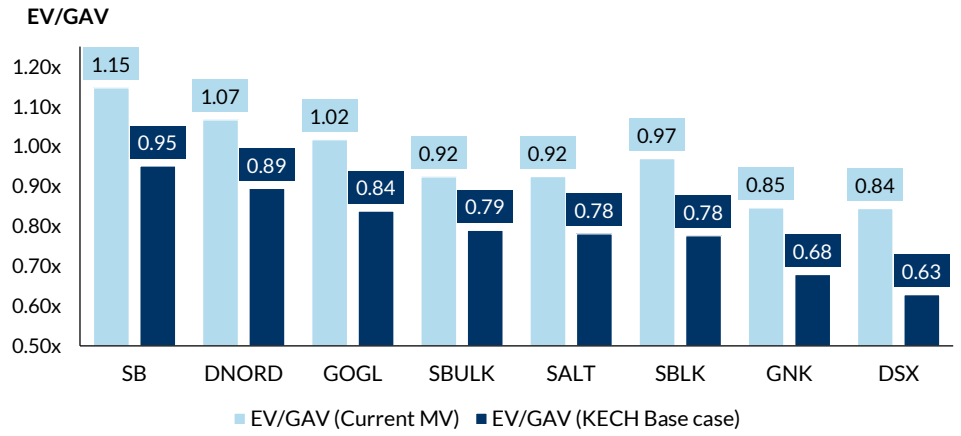
Source: Kepler Cheuvreux

Chart 150: Implied five-year Capesize value (based on EV/GAV)



Source: Kepler Cheuvreux

Chart 151: EV/GAV for dry bulk peers relative base-case scenario and current MVs



Source: Kepler Cheuvreux

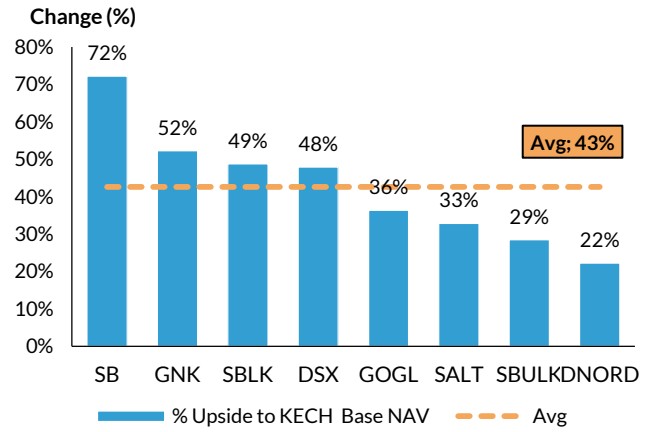
We see 20-80% upside in current NAV valuations

Our base-case value estimates have on average 45% upside in NAVs for our dry bulk peers. Leverage and vessel age are the key differentiating factors in terms of upside potential; in general, an older and more leveraged fleet will lead to greater equity exposure to changes in asset values. For this reason, we estimate that Safe Bulkers, Genco Shipping, Diana and Safe Bulkers have the largest upside in our base-case scenario, but, of course, with an aggressive risk-reward trade-off.

We still find enough upside potential (20-35%) in Golden Ocean and DS Norden to be bullish on valuation.

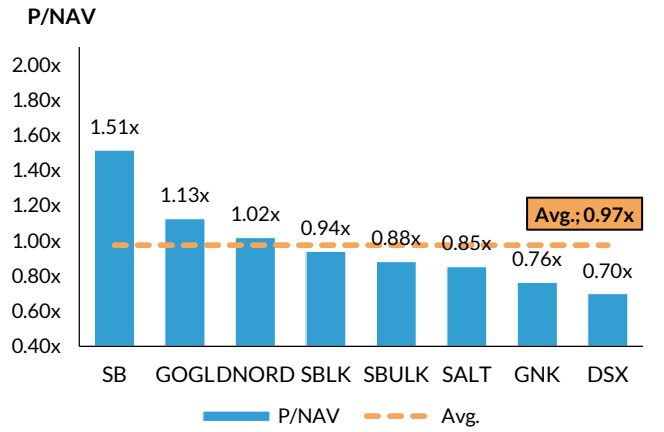
- Golden Ocean is the name we like the best in the sector, and while the company trades at a premium to peers (P/NAV 1.13x), we feel that this is justified by its proven acquisition track record.
- We also find Norden attractive, although it will be somewhat negatively impacted by expected weakness in the tanker market. In our view, Norden's exposure to smaller vessels and low financial leverage makes it well suited for investors that want dry bulk exposure but without peers' high leverage.

Chart 152: Upside to base-case NAV



Source: Kepler Cheuvreux

Chart 153: P/NAV versus current market values

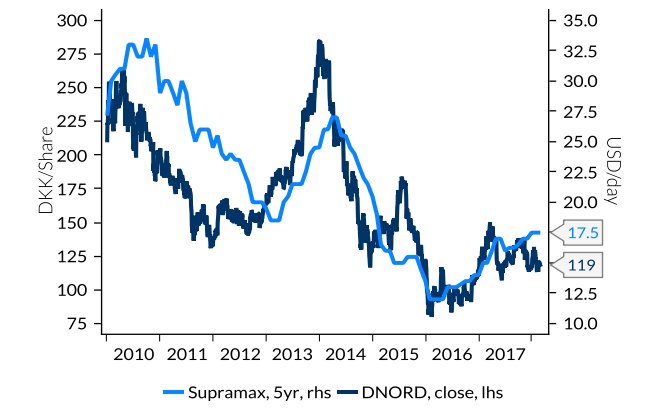


Source: Kepler Cheuvreux

Chart 154: GOGL versus Capesize resale value

Source: Kepler Cheuvreux

Chart 155: DNORD versus Panamax five-year old value

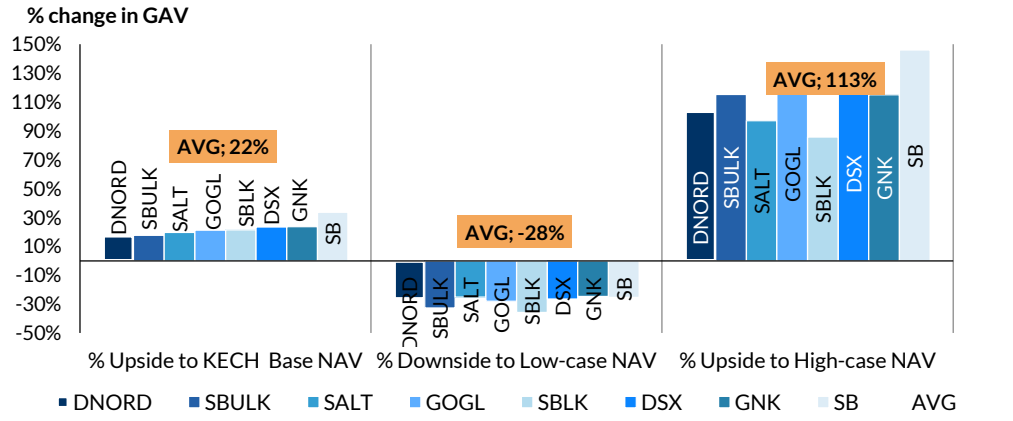


Source: Kepler Cheuvreux

It is only the lack of imagination that makes you afraid of heights

With dry bulk shares up over 100% since the bottom in 2016, it is easy to be afraid of heights. However, with asset values still low in a historical context, we cannot help finding the risk-reward still attractive. It is only a lack of imagination that should make one afraid of the current levels. As late as in March 2014, the Capesize resale value stood at USD65m (still USD100m less than the peak of USD165m in June 2008). We expect resale values to appreciate to USD55m within a year, but if we were to model vessel prices on the back of our 2020E forecasts, Capesize resale values could rise to USD80m (high-case scenario), up 70% from current levels. For our companies, our high-case scenario has an average 113% upside from current asset values (or above 200% calculated on an equity NAV basis).

Chart 156: Change in asset values in KECH scenario analysis



Source: Kepler Cheuvreux

Dry bulk stock ratings

We initiate coverage with Buy ratings on dry bulk stocks

In conclusion, we find solid market fundamentals and a compelling long-term story enough to warrant a Buy rating for our dry bulk stocks.

The tables below list a summary of key metrics, valuation and ratings for our entire dry bulk segment including peers.

Table 9: Summary figures, valuation and sensitivities for dry bulk peers

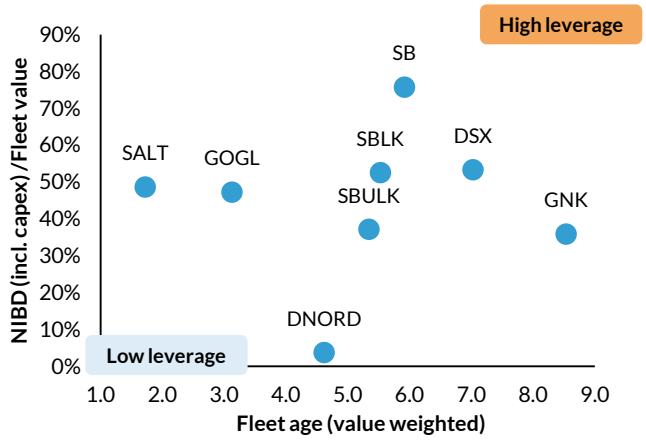
	GOGL Golden Ocean	DNORD D/S NORDEN	SBULK Songa Bulk	DSX Diana Shipping	SBLK Star Bulkers	SB Safe Bulkers	SALT Scorpio Bulkers	GNK Genco Shipping
KECH recommendations:								
Price	71.6	118.5	43.0	3.7	12.6	3.8	8.0	14.0
Rating	Buy	Buy	Not covered	Not covered	Not covered	Not covered	Not covered	Not covered
TP	100.0	143.0	n/a	n/a	n/a	n/a	n/a	n/a
Upside (%)	40%	21%						
Market info								
# shares	144.2	42.2	35.9	103.5	64.2	101.5	77.1	34.5
Market cap (USDm)	1,315.5	824.3	196.6	383.0	807.7	385.8	613.3	482.8
Currency	NOK	USD	USD	USD	USD	USD	USD	USD
Current valuation:								
NAV/share (local)	**63.5**	**116.4**	**48.7**	**5.3**	**13.4**	**2.5**	**9.3**	**18.3**
P/NAV (current)	**1.13x**	**1.02x**	**0.88x**	**0.70x**	**0.94x**	**1.51x**	**0.85x**	**0.76x**
EV/GAV (current)	**1.07x**	**1.02x**	**0.92x**	**0.85x**	**0.97x**	**1.15x**	**0.92x**	**0.84x**
Scenarios:								
Base case (NAV/share)	**86.6**	**142.4**	**62.6**	**7.8**	**19.9**	**4.3**	**12.4**	**27.9**
% change	**36%**	**22%**	**29%**	**48%**	**49%**	**72%**	**33%**	**52%**
High case (NAV/share)	179.3	220.1	138.5	17.5	44.7	13.0	28.3	60.0
% change	182%	89%	184%	231%	233%	418%	204%	228%
Low case (NAV/share)	33.1	73.2	21.7	2.4	6.0	-0.1	3.9	10.0
% change	-48%	-37%	-56%	-54%	-55%	-102%	-58%	-45%
EBITDA 2018, USDm (base case)	**263.8**	**123.5**						
EBITDA 2019, USDm (base case)	**313.0**	**133.4**						
EBITDA 2020, USDm (base case)	**579.7**	**273.7**						
EV/EBITDA 2018E	**8.9x**	**6.9x**						
EV/EBITDA 2019E	**7.5x**	**6.4x**						
EV/EBITDA 2020E	**4.1x**	**3.1x**						
Sensitivities:								
Change NAV per 10% vessel value	219.1	85.6	34.7	109.9	167.7	86.5	138.7	96.2
in % of current NAV	19%	5%	16%	20%	20%	34%	19%	15%
Change EBITDA per USD 1,000 spot	24.9	11.1						
in % of 2018E EBITDA	9%	9%						
Fleet info:								
# vessels owned	68.0	48.0	15.0	50.0	74.0	40.0	56.0	60.0
Fleet value, USDm	2,207.8	840.9	345.5	1,067.3	1,677.9	890.5	1,387.9	959.2
Avg. fleet age (value weighted)	3.1	4.6	5.6	7.3	5.8	6.1	1.9	8.8
NIBD (incl. capex)/fleet value	47%	4%	36%	49%	49%	71%	48%	34%
Spot days (2018), %	88%	52%						
Spot days (2019), %	95%	71%						
TC in days (2018), %	12%	68%						
TC in days (2019), %	12%	62%						

Source: Kepler Cheuvreux

Risks and scenario analysis

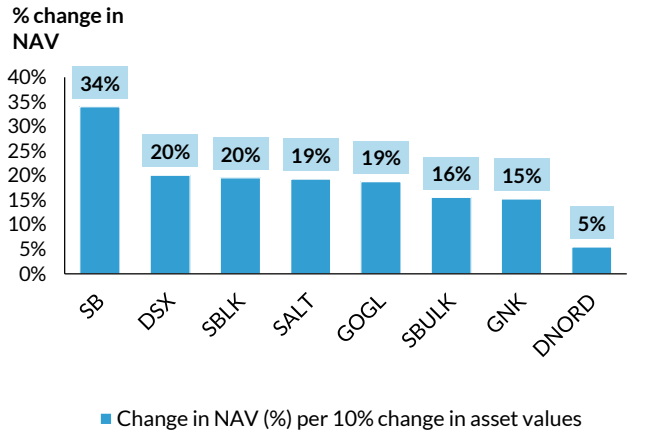
Due to the high volatility of shipping segments, investors should be aware of the sensitivity of net asset values to changes in vessel values. Equity exposure to changes in asset values is enhanced by financial leverage and the age of the underlying fleet. In the charts and tables below, we list the dry bulk peers' NAV sensitivity to changes in asset values, including a scenario analysis with different high and low values.

Chart 157: Financial leverage (NIBD) versus fleet age



Source: Kepler Cheuvreux

Chart 158: (%) change in NAV versus 10% change in asset values



Source: Kepler Cheuvreux

Table 10 Summary of NAV scenarios for our dry bulk peer universe

	Current NAV		KECH base case NAV			KECH low case NAV			KECH high case NAV		
	USDm	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV
Peer group NAV:											
GOGL	1,168	1.13x	1,593	36%	0.83x	608	-48%	2.16x	3,296	182%	0.40x
DNORD	810	1.02x	990	22%	0.83x	509	-37%	1.62x	1,531	89%	0.54x
SBULK	223	0.88x	286	29%	0.69x	99	-56%	1.98x	633	184%	0.31x
SBLK	859	0.94x	1,278	49%	0.63x	388	-55%	2.08x	2,865	233%	0.28x
SB	255	1.51x	439	72%	0.88x	-6	-102%	n/a	1,319	418%	0.29x
SALT	719	0.85x	955	33%	0.64x	303	-58%	2.02x	2,185	204%	0.28x
GNK	632	0.76x	963	52%	0.50x	346	-45%	1.39x	2,073	228%	0.23x
DSX	548	0.70x	810	48%	0.47x	252	-54%	1.52x	1,815	231%	0.21x
Average		**0.97x**		**43%**	**0.68x**		**-57%**	**1.83x**		**221%**	**0.32x**
Asset values:											
Capesize (resale)	48.0		54.6	14%		41.6	-13%		80.3	67%	
Capesize (5yr)	34.0		42.3	25%		30.3	-11%		66.1	94%	
Capesize (10yr)	23.5		29.7	26%		19.1	-19%		50.7	116%	
Panamax (resale)	30.0		34.3	14%		25.6	-15%		52.8	76%	
Panamax (5yr)	23.5		25.6	9%		15.1	-36%		48.1	105%	
Panamax (10yr)	15.0		19.8	32%		9.7	-35%		41.2	175%	

Source: Kepler Cheuvreux

Valuation tables

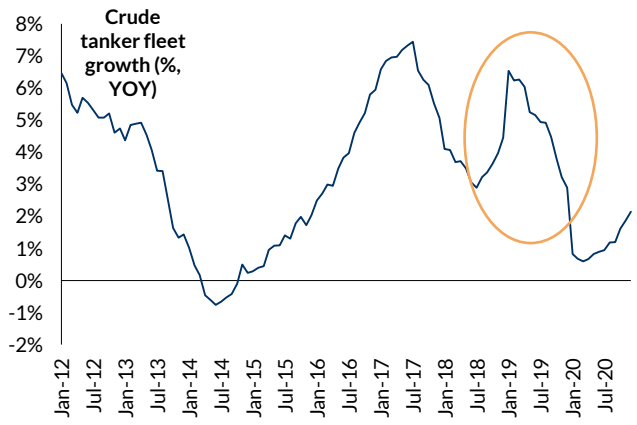
Table 11: NAV breakdown

	Golden Ocean Buy, TP 100 Currency: NOK		DS Norden Buy, TP 143 Currency: DKK		Songa Bulk Not covered Currency: NOK		Star Bulk Not covered Currency: USD		Safe Bulkers Not covered Currency: USD		Scorpio Bulkers Not covered Currency: USD		Genco Shipping Not covered Currency: USD		Diana Shipping Not covered Currency: USD	
NAV (USDm)	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**	**# vessels**	**NAV Current**
Fleet:																
Capesize	36	1,443			3	100	21	683	3	96			13	341	18	543
Panamax	28	608	4	61	10	204	26	427	36	739	18	497	6	63	32	556
Supramax	2	43	6	88	2	43	24	416			36	835	26	398		
Handysize			7	96									15	160		
MR product tank			11	243												
Handysize tank			10	159												
Fleet on water	66	2,095	38	647	15	347	71	1,526	39	835	54	1,332	60	962	50	1,099
Newbuildings	2	96	8	209	0	0	3	151	1	30	2	55	0	0	0	0
Fleet value	68	2,191	46	856	15	347	74	1,677	40	865	56	1,387	60	962	50	1,099
Contract portf.		17		-15		-2		1		25		1		-3		-32
GAV (USDm)		2,208		841		346		1,678		890		1,388		959		1,067
NIBD		-895		174		-123		-745		-608		-643		-327		-520
Future capex		-145		-205		0		-74		-28		-26		0		0
NAV (USDm)		1,168		810		223		859		255		719		632		548
# shares		144.2		42.2		35.9		64.2		101.5		77.1		34.5		103.5
NAV/share		63.5		116.4		48.7		13.4		2.5		9.3		18.3		5.3
Share price		71.6		118.5		43.0		12.6		3.8		8.0		14.0		3.7
P/NAV		1.13x		1.02x		0.88x		0.94x		1.51x		0.85x		0.76x		0.70x
EV (USDm)		2,355		855		319		1,627		1,022		1,282		810		903
EV/GAV		1.07x		1.02x		0.92x		0.97x		1.15x		0.92x		0.84x		0.85x

Source: Kepler Cheuvreux

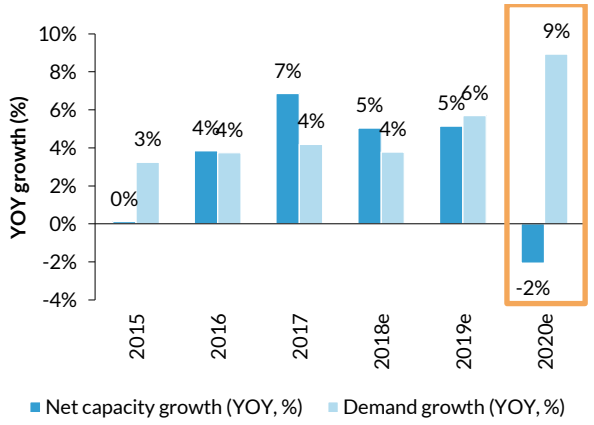
Oil tankers - Investment case in six charts

Chart 159: Crude tanker owners ordered too many in 2017...



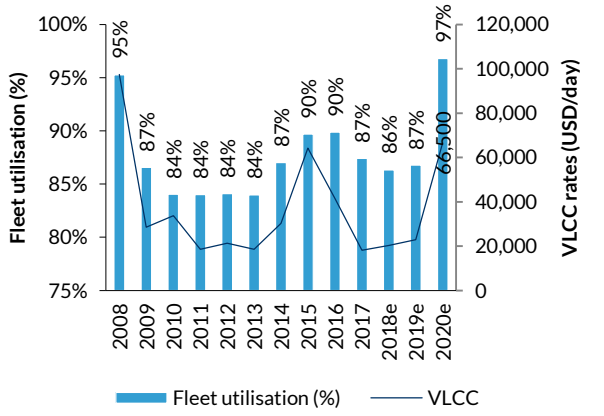
Source: Clarkson, Kepler Cheuvreux

Chart 160: ...so the balance will not improve until 2020E...



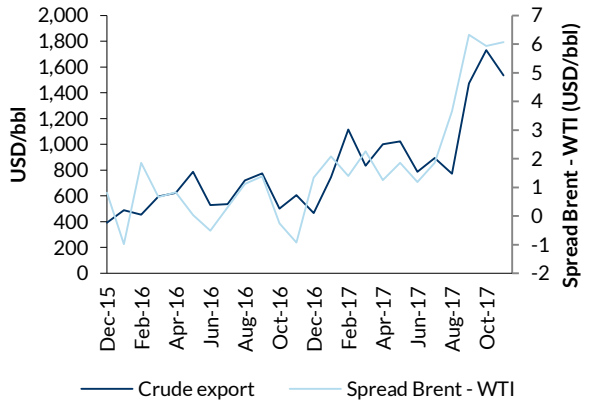
Source: US Census, Kepler Cheuvreux

Chart 161: ...but then rates could come up with a bang!



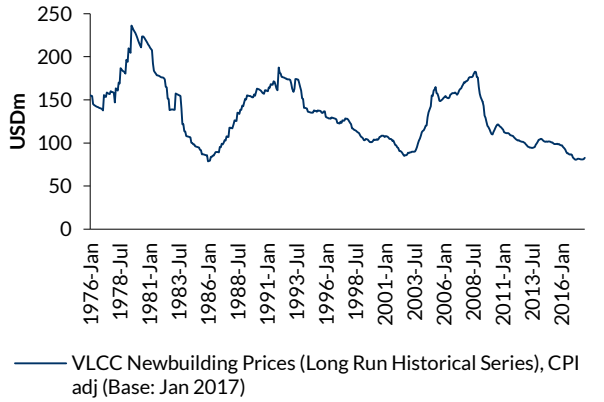
Source: EIA, Kepler Cheuvreux

Chart 162: US crude exports have saviour potential...



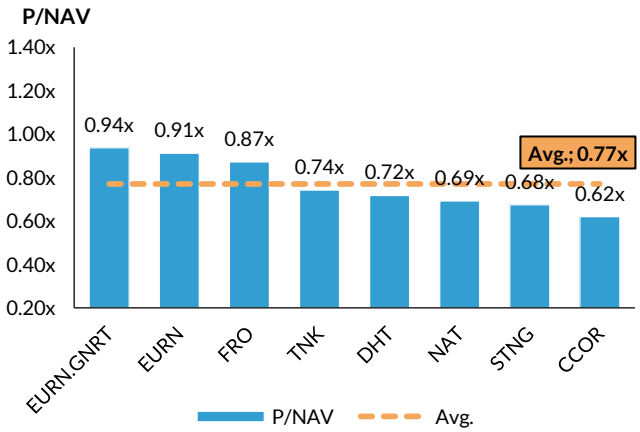
Source: EIA, Kepler Cheuvreux

Chart 163: ...and CPI - adjusted newbuild prices are close to all-time lows (Q1 1986 at USD79m, now USD84m)...



Source: Clarkson, Kepler Cheuvreux

Chart 164: ...all of which, in combination with current discounts to NAV, makes it too late to short equity - Hold on!



Source: Clarkson, Kepler Cheuvreux

Oil tanker investment case summary

2017 was difficult for the crude tanker market, and we expect more of the same in 2018. That said, we think that US crude exports are likely to continue to grow and the reduction in floating storage has come to an end. Fleet growth simply remains too strong, and H1 2019 may also be a disappointing six months with spot rates at or below cash breakeven levels. However, by 2020E we see the light at the end of the tunnel getting much brighter, with very large crude carrier (VLCC) spot rates at USD66,500 per day and forecast fleet utilisation in the high 90% region forecast for 2020E. The main reason for our optimism in 2020E, apart from much lower fleet growth, is the impact from a tighter cap on sulphur in marine usage of fuel oil, which we think will: 1) lower fleet speeds; 2) cause more trading in various crude qualities and dirty oil products; and 3) increase floating storage of fuel oil again, which we believe will be problematic to get rid of. Until 2020E, we prefer companies that preserve cash in what we expect to be a choppy tanker market, including product tankers.

Oil tankers are still on the slide…

After a difficult 2017, fleet growth is set to continue in 2018. While we are positive on several fundamental factors, such as the continued growth in US crude exports and a levelling-off in the reduction of floating storage, it is difficult to foresee demand growing sufficiently higher than supply for the crude tanker balance to tighten meaningfully this year. In 2019, much will depend on upon whether OPEC opts to scrap its current self-inflicted output restrictions. To us, it is not apparent that the only way out is for OPEC to scale back to 2016-output-levels, given the US shale industry's vitality. With current momentum in the US, OPEC could actually be forced to further reduce output like in the 1980s. However, as the alternative source of exports in such a scenario would be the US, it is not a foregone conclusion that this would be a negative for the crude tanker market; we are not too worried.

…but there is bright light at the end of tunnel

We model VLCC rates of USD20,300 per day for 2018E, USD22,900 per day for 2019E and USD66,500 per day for 2020. In 2018-19E, we expect fleet utilisation to stay at 86-87%, while going into Q4 2019, we see the first effects of the new sulphur cap. Finally, in 2020E, fleet utilisation is expected to move well into the 90% region (KECH: 97%). This last figure also accounts for what we expect to be an increase in floating storage of "unwanted" heavy fuel oil (HFO) and a slowdown in vessel speeds (only by 0.25 knots though).

Too late to short – Hold on until 2020

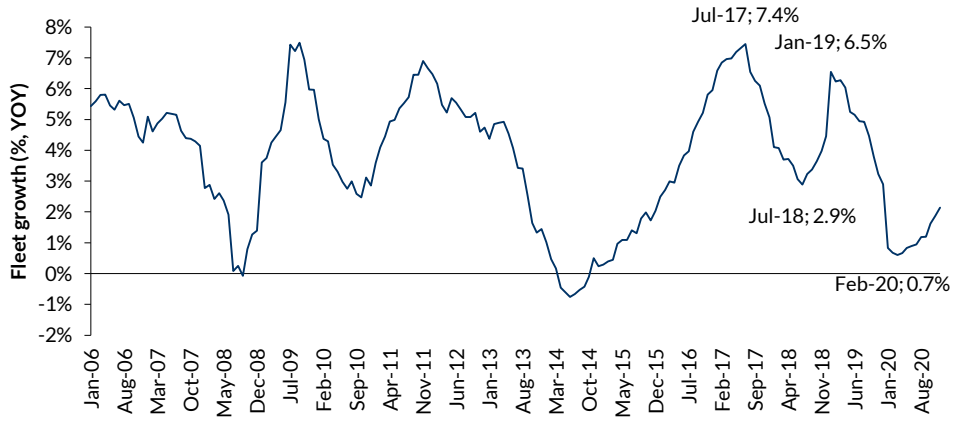
Despite our longer-term optimism, we are quite confident that the equity market will find it difficult to believe in mega profits in 2020E if it sees spot rates just above opex in 2018-19. Thus, we are sceptical on tanker stocks on a one-year perspective, but a strategy of buying the companies with good liquidity (Euronav, Frontline), instead of those with shorter-reaching cash, could prove profitable.

Crude tanker supply

As of end-January, the size of the crude tanker fleet in dead weight tonnes (DWT) was 392m, and we expect it to grow by 4% in 2018E, 3% in 2019E, and 2% in 2020E. The ten-year annual average growth rate of the fleet is 4%, and we expect 3% average annual growth in 2018-20E.

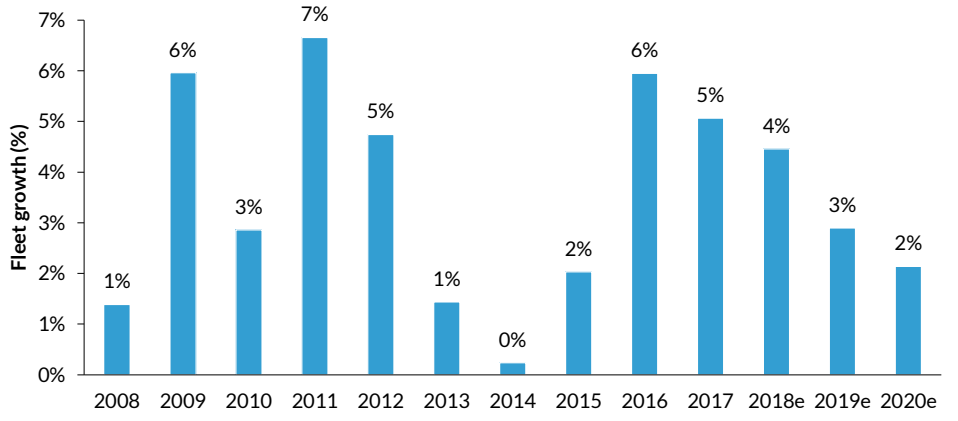
Behind these net growth estimates are expectations of deliveries of 6%, 4%, and 3% in 2018E/2019E/2020E and scrapping of c. 2% in 2018-19E, which is slightly lower than in 2017. However, given our optimism for spot rates in 2020E, we cut our scrapping estimate to 1% for 2020E, despite the regulatory changes mentioned at the start of this report.

Chart 165: YOY crude tanker fleet growth, monthly time resolution



Source: Clarkson, Kepler Cheuvreux

Chart 166: Annual crude tanker fleet growth



Source: Clarkson, Kepler Cheuvreux

Fleet overview

We expect the fleet to grow by 4% in 2018E, 3% in 2019E and 2% in 2020E. The ten-year annual average growth rate of the fleet is 4%, and we expect 3% average annual

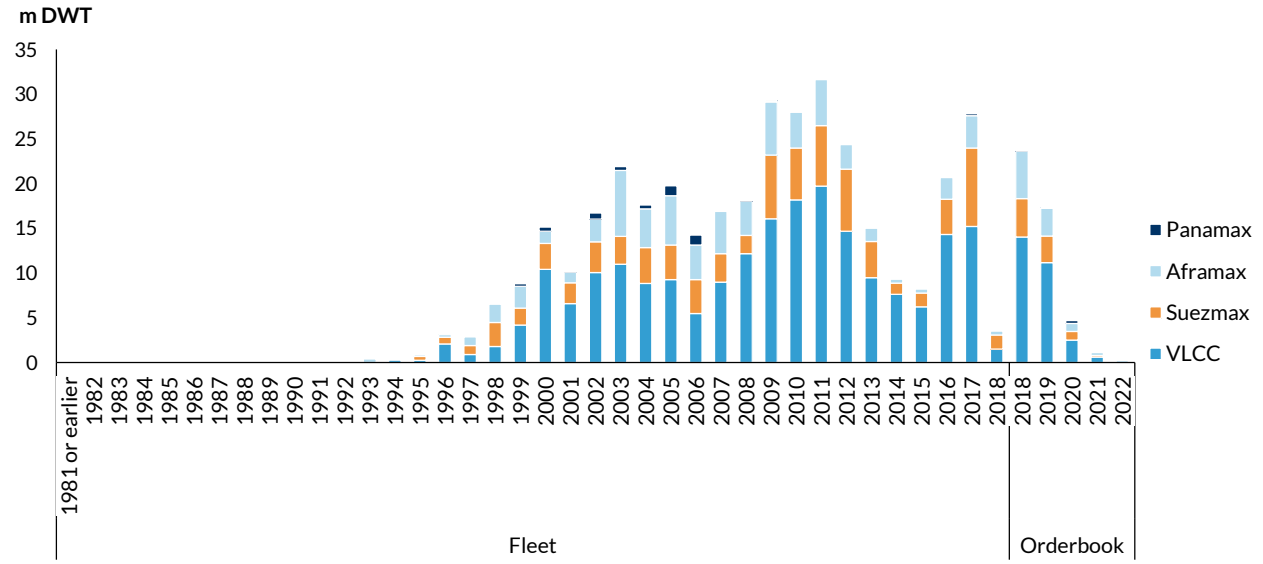
growth in 2018-20E. Fleet growth in 2020E of 2% is reduced to 1% if we only include the current order book (no more contracting for 2020).

As of end-January, the size of the crude tanker fleet in dead weight tonnes (DWT) was 392m. The makeup is as follows (based on Clarkson's definitions): 58% very large crude carriers (VLCC) that are above 200,000 DWT; 22% Suezmaxes (125,000-200,000 DWT); 18% Aframaxes (85,000-125,000 DWT); and 2% Panamaxes (55,000-85,000 DWT).

Average vessel age is 10.2 years (VLCC: 9.4 years; Suezmax: 9.6; Aframax: 11.2; Panamax: 13.1).

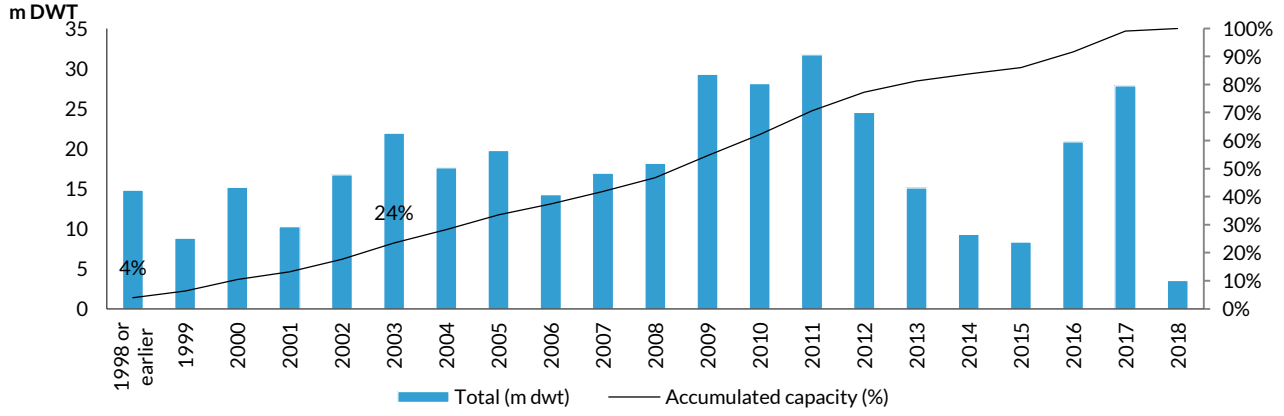
Chinese yards have built 20% of the current fleet, while Japanese yards are responsible for 24%, and South Korean yards built 53%.

Chart 167: Crude tanker fleet and order book by year of delivery



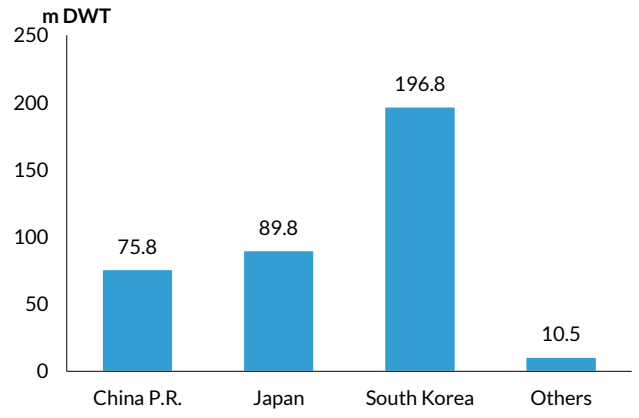
Source: Clarkson, Kepler Cheuvreux

Chart 168: Crude tanker fleet by year of delivery: 4% is over 20 years old this year, while 24% is 15 or older



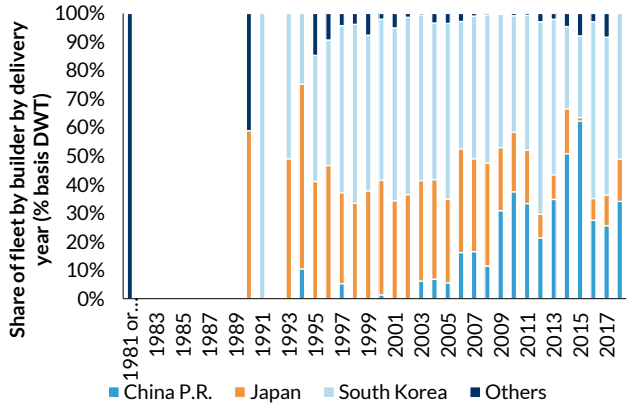
Source: Clarkson, Kepler Cheuvreux

Chart 169: Crude tanker fleet by country of build



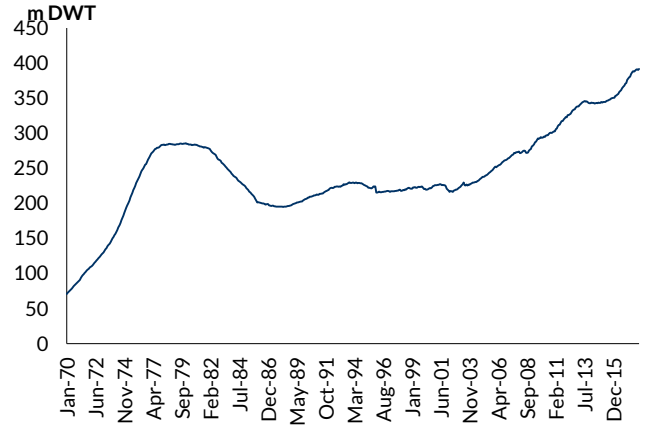
Source: Clarkson, Kepler Cheuvreux

Chart 170: Crude tanker fleet by country of build and year of delivery



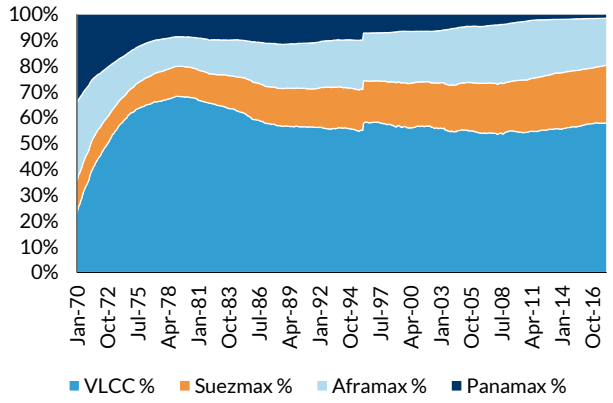
Source: Clarkson, Kepler Cheuvreux

Chart 171: Crude tanker fleet development



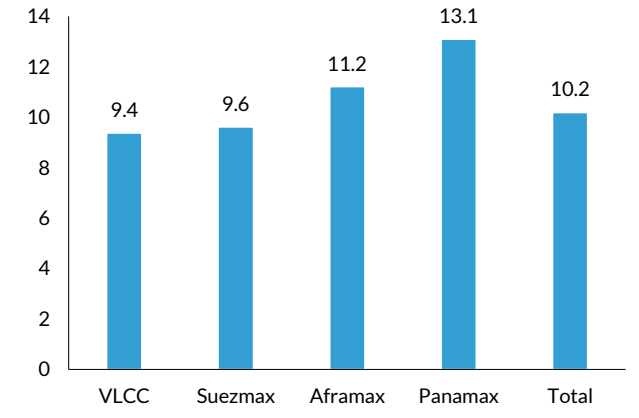
Source: Clarkson, Kepler Cheuvreux

Chart 172: Crude tanker fleet development by vessel size



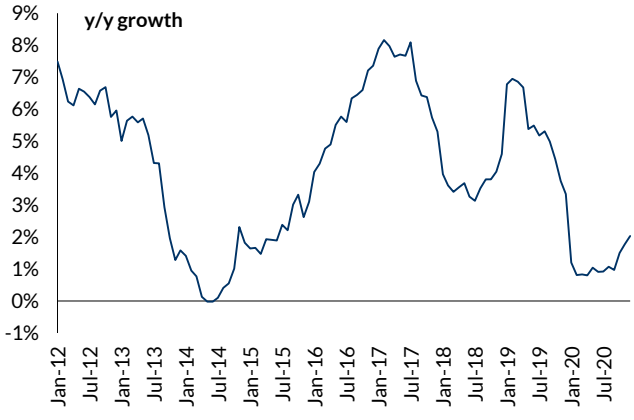
Source: Clarkson, Kepler Cheuvreux

Chart 173: crude tanker fleet average age, current fleet



Source: Clarkson, Kepler Cheuvreux

Chart 174: VLCC fleet growth, monthly resolution, including forecast



Source: Clarkson, Kepler Cheuvreux

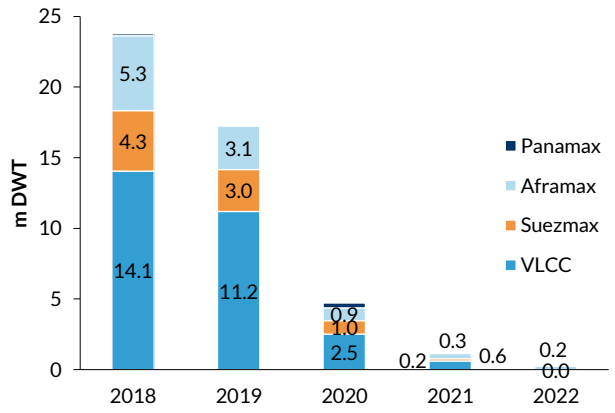
Order book

The end-January order book is made up of 47.2m DWT, which would be 13% of fleet size (12% in terms of vessels). This compares with an average ratio of 15% and 20% in the past five and ten years, respectively. Currently, 23.8m DWT (50%) of the order book have a contracted delivery date in 2018E, with 17.3m DWT (37%) in 2019E and 4.7m DWT (10%) in 2020E.

The order book breaks down as follows: 60% VLCCs; 18% Suezmax; 21% Aframax; and 1% Panamax.

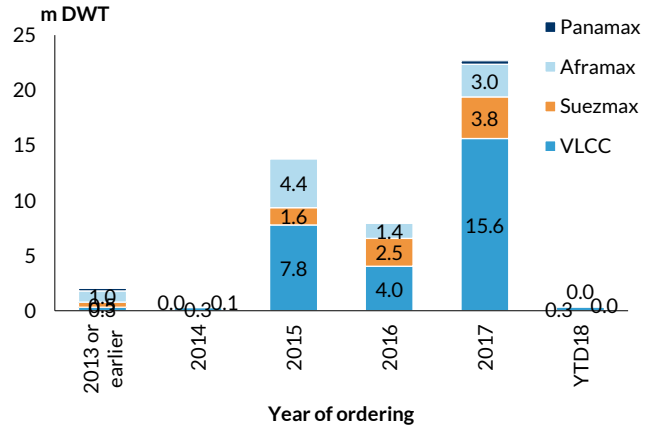
Chinese yards have 27% of the current order book, while Japanese yards are responsible for 25%, and South Korean yards have 42%.

Chart 175: Order book by year of delivery



Source: Clarkson, Kepler Cheuvreux

Chart 176: Order book by year of order

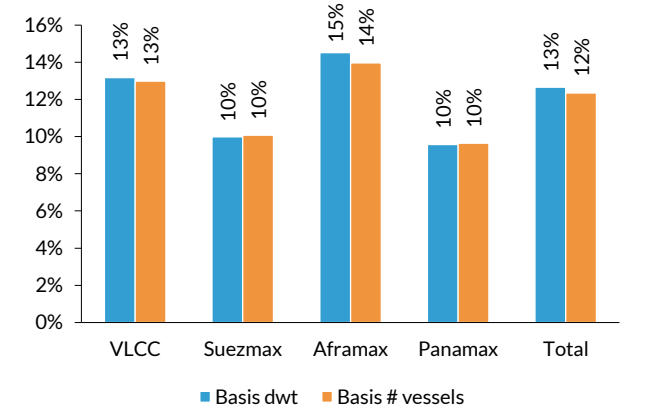


Source: Clarkson, Kepler Cheuvreux

Chart 177: Historical order book-to-fleet ratio

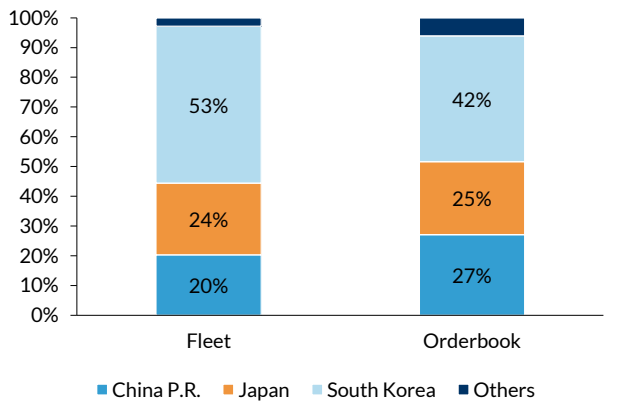
Source: Clarkson, Kepler Cheuvreux

Chart 178: Current order book-to-fleet ratio



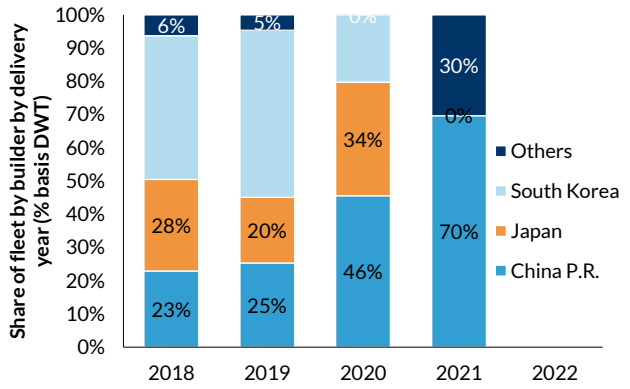
Source: Clarkson, Kepler Cheuvreux

Chart 179: Fleet versus order book by country of build



Source: Clarkson, Kepler Cheuvreux

Chart 180: Order book by country of build

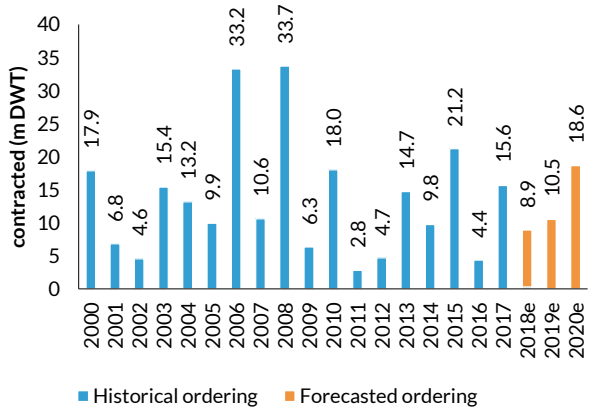


Source: Clarkson, Kepler Cheuvreux

New contracting

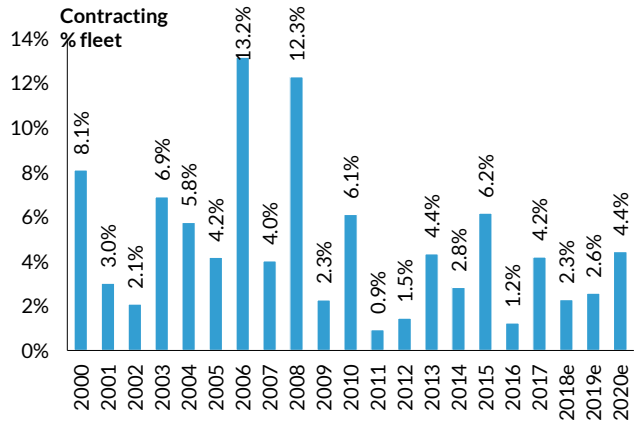
We model 8.9m DWT in 2018E of contracting (including 0.3m ordered in January), or 2% of the fleet, which would be a 61% decrease from the 22.7m DWT ordered in 2017. Compared with the fleet at the start of the year, we expect new orders of 2% in 2018E, 3% in 2019E and 4% in 2020E.

Chart 181: Crude tanker new orders by year



Source: Clarkson, Kepler Cheuvreux

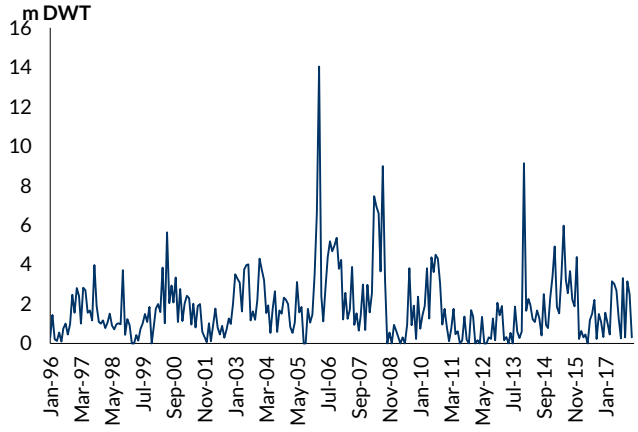
Chart 182: Crude tanker new orders as % of start-of-year fleet



Source: Clarkson, Kepler Cheuvreux

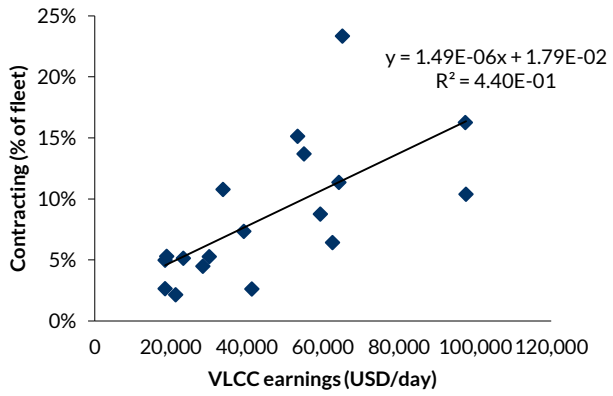
As for the other shipping segments, we model new contracting as an endogenous variable that depends on spot rates. Our simple regression model is shown below. Increasing global interest rates and continued scepticism at banks about financing new vessels could allow us to reduce our new contracting estimates from the model output. Thus, in our forecasts, we cut our new contracting estimate by 50% compared to the model's output.

Chart 183: Crude tanker new orders by month



Source: Clarkson, Kepler Cheuvreux

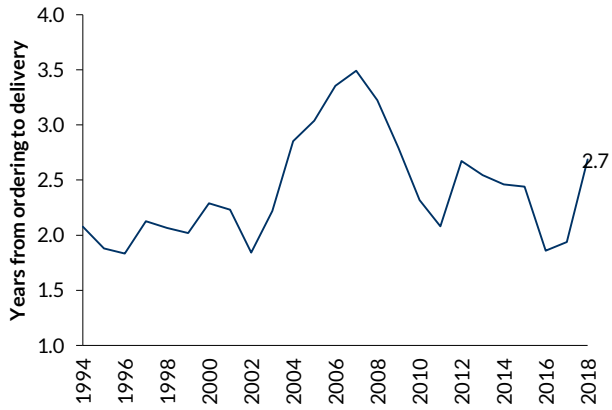
Chart 184: New ordering regression model (2011-17)



Source: Clarkson, Kepler Cheuvreux

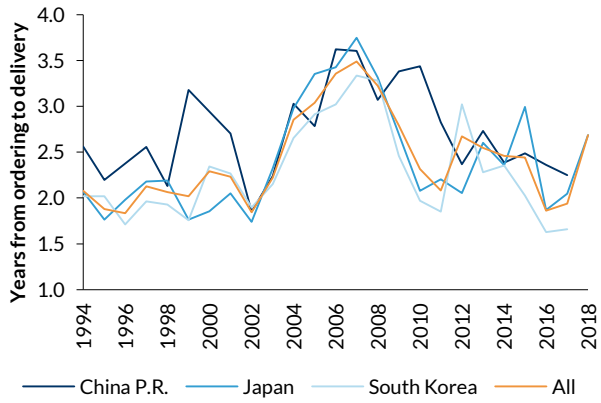
Over the past few decades, the time from order to delivery of crude tankers has been 2-3 years. In our model, we now assume it takes 24 months from the month the vessel is ordered until delivery.

Chart 185: Years from order to delivery (by ordering year)



Source: Clarkson, Kepler Cheuvreux

Chart 186: Years from order to delivery by country of build



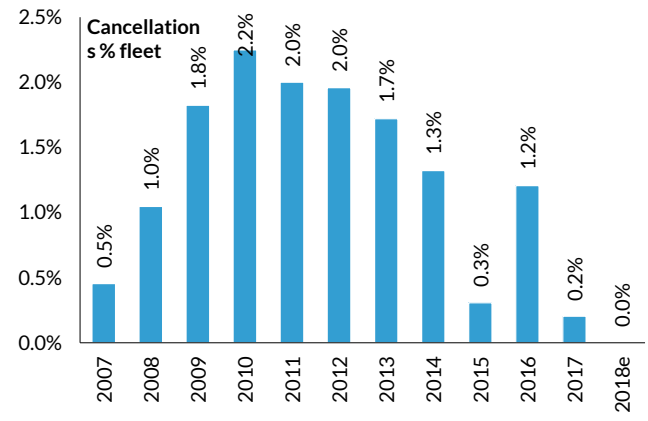
Source: Clarkson, Kepler Cheuvreux

Cancellations

The crude tanker order book has seen the number of cancellations drop in recent years. In 2017, only 0.8m DWT fell out of the order book, which was equivalent to 1.4% of the order book, as it stood at the beginning of the year.

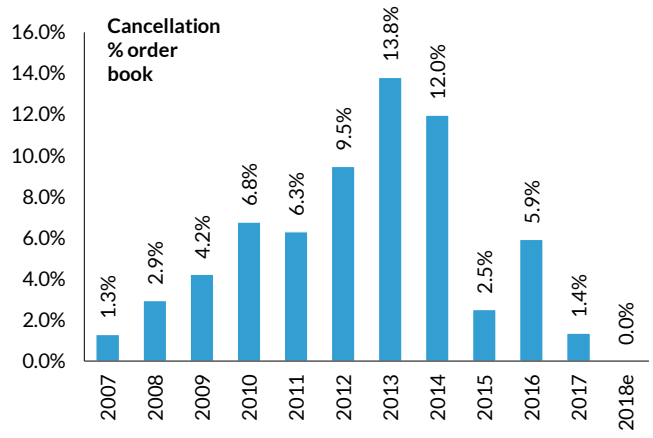
In our forecast, we cancel, based on a statistical approach, 1.2m DWT of the order book, or 2.6% of the current order book.

Chart 187: Historical cancellations as percentage of fleet



Source: Clarkson, Kepler Cheuvreux

Chart 188: Historical cancellations as percentage of order book

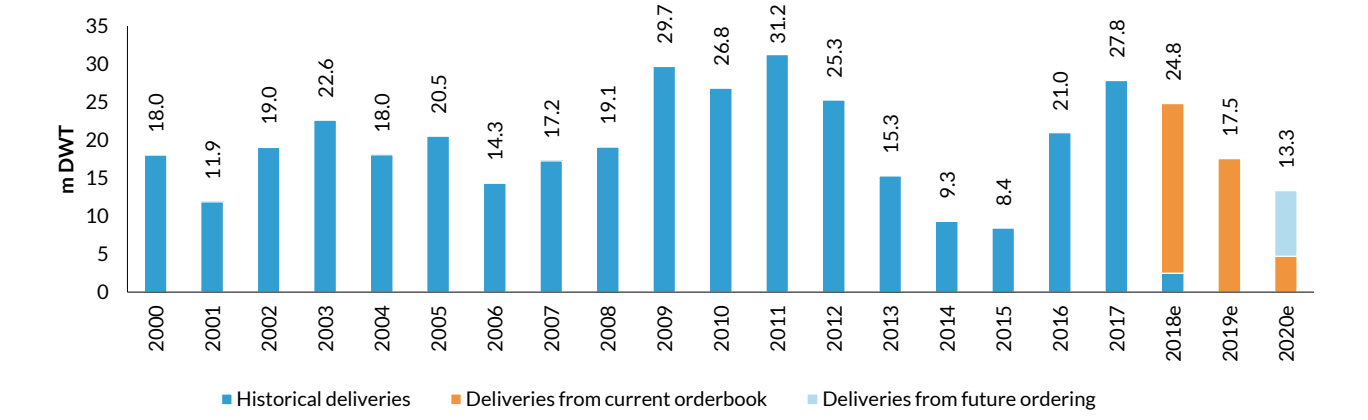


Source: Clarkson, Kepler Cheuvreux

Deliveries

We expect 24.8m DWT to be delivered this year, or 6% compared with the fleet at the start of this year. For 2019E, we expect deliveries of 17.5m DWT, 4% of the fleet, and 13.3m DWT (3%) should be delivered in 2020.E This last figure includes 8.6m DWT of vessels yet to be ordered; without including future new ordering, deliveries in 2020E would be only 4.7m DWT or 1% of the fleet.

Chart 189: Deliveries to the crude tanker fleet

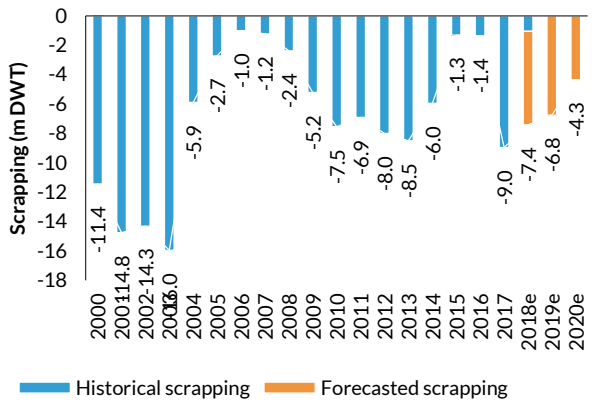


Source: Clarkson, Kepler Cheuvreux

Scrapping

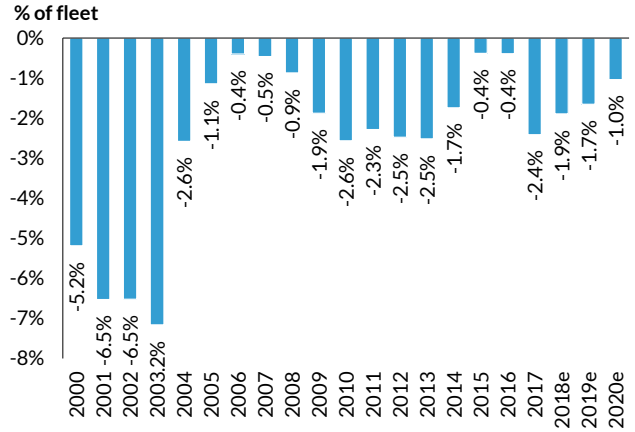
Scrapping in the crude tanker fleet increased to 9m DWT last year, up from c. 1m DWT per year in 2015-16. We expect annual average scrapping of c. 7m DWT in 2018-19, while higher spot rates in 2020E are likely to reduce scrapping again.

Chart 190: Scrapping of crude tanker vessels



Source: Clarkson, Kepler Cheuvreux

Chart 191: Scrapping as % of fleet

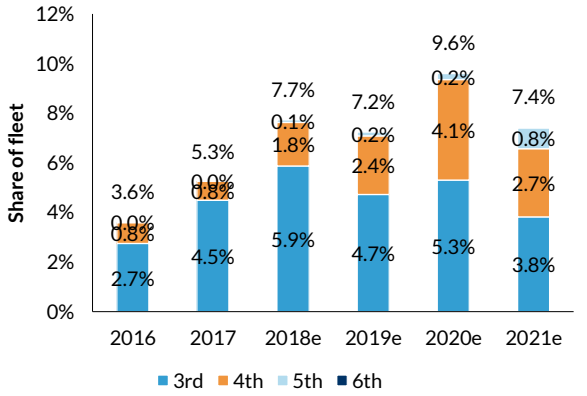


Source: Clarkson, Kepler Cheuvreux

Our scrapping model is based on a multivariate regression analysis with spot rates and steel prices as explanatory variables. Please note that we allow ourselves some discretion in our final assessment of the scrapping estimates; as it stands now, we reduce our forecast by 25% compared with the raw model output.

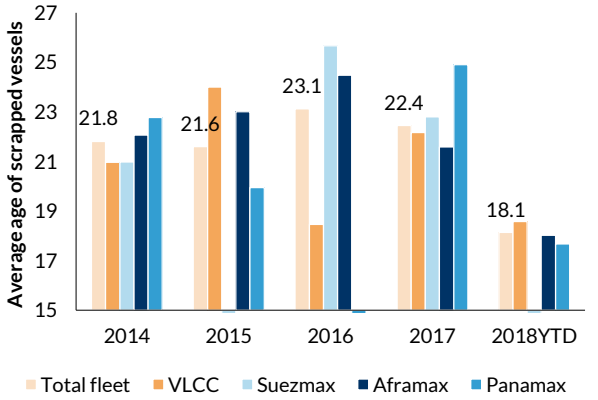
Renewal surveys, which come in five-year intervals, are typically catalysts for scrapping decisions. In 2018-20, 2-4% of the fleet will undergo its fourth renewal survey (turns 20) each year, which is fairly consistent with our scrapping forecasts.

Chart 192: Share of fleet going though renewal surveys



Source: Clarkson, Kepler Cheuvreux

Chart 193: Average scrapping age



Source: Clarkson, Kepler Cheuvreux

Transforming vessels into actual transport capacity

In our model, we transform the fleet into actual supply capacity in terms of available transportation services measured in cubic-metre-miles per year by multiplying the aggregate vessel volume by the normal service speed of those vessels before we adjust for the time spent in ports, the usage of tankers to store oil (floating storage), and the capacity implicitly held back in terms of slow steaming. This leaves us with a

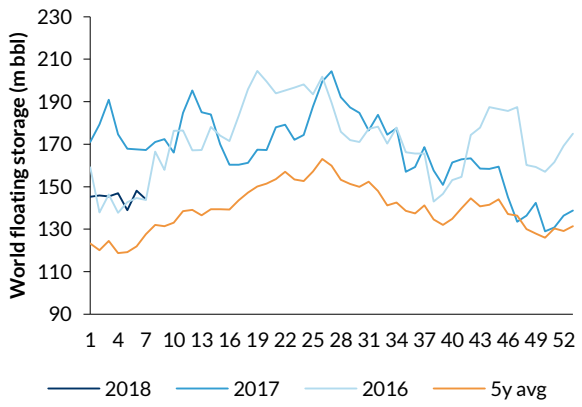
net capacity metric, which we cross with our demand model to arrive at an estimate for fleet utilisation.

As deliveries of vessels tend to happen at the beginning of the year (January typically sees the most deliveries), the change in transport capacity tends to amplify the percentage change in the fleet. This is the main reason for the uneven growth in transport capacity compared with the "clean" fleet growth.

Floating storage

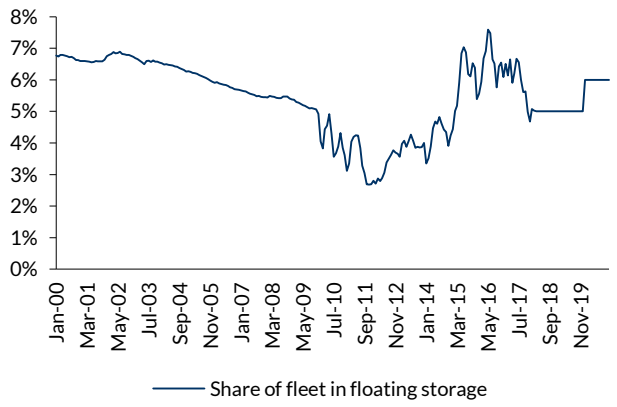
The share of the crude tanker fleet that is registered as floating storage (not moving in the last 14 days or longer with a draft, indicating loaded condition) has come down in recent past months, as the oil price curve moved further into backwardation. We expect the share to flatten out at around 5% of the fleet, but in 2020E, we believe the oversupply of HFO will mean more has to go into floating storage. Thus, we increase our estimate from 5% to 6% in 2020E.

Chart 194: Historical floating storage



Source: Bloomberg, Kepler Cheuvreux

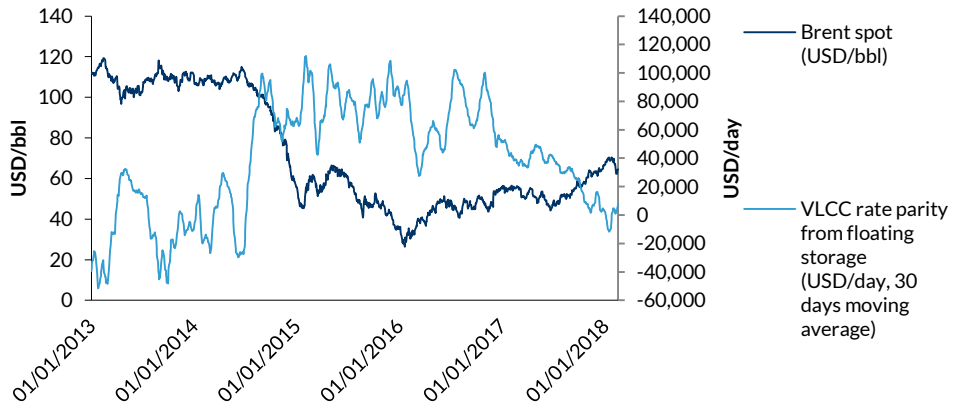
Chart 195: Share of fleet employed in floating storage



Source: Bloomberg, Clarkson, Kepler Cheuvreux

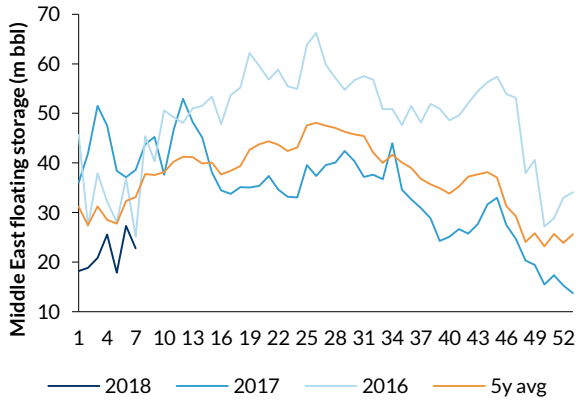
Following the oil price depreciation in H2 2014, which resulted in contango in the forward curve in 2015 and 2016, it became profitable to store crude on vessels and occasionally, this was the price setting mechanism for crude tanker spot rates (and on a few occasions also one-year TC rates).

Chart 196: Oil price versus willingness to pay for VLCC for three months of floating storage



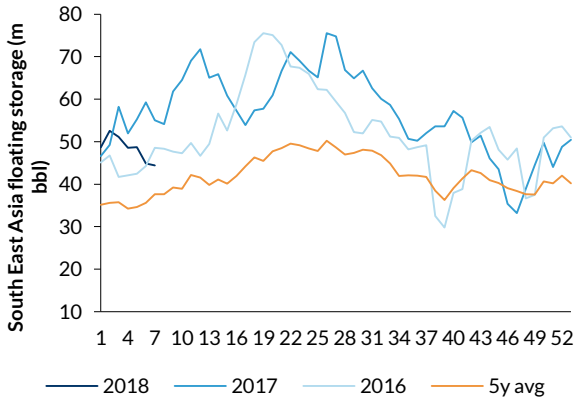
Source: Bloomberg, Poten, Kepler Cheuvreux

Chart 197: Floating storage in the Middle East



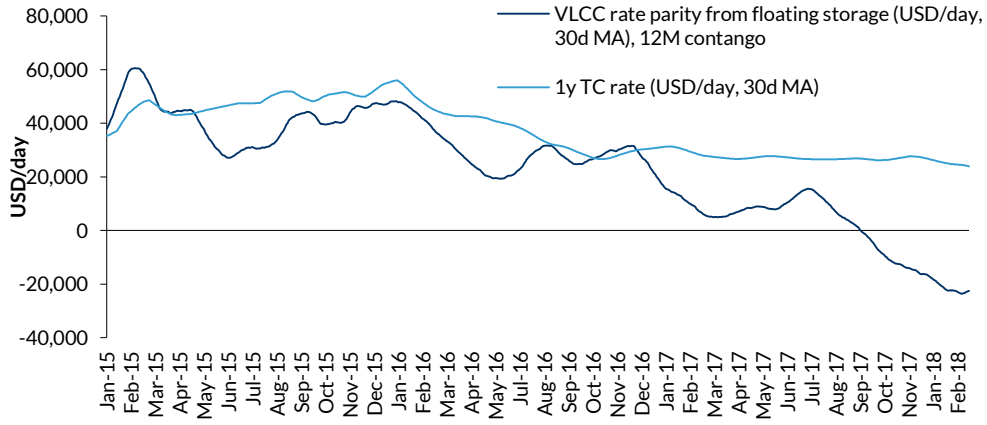
Source: Bloomberg, Kepler Cheuvreux

Chart 198: Floating storage in Southeast Asia



Source: Bloomberg, Kepler Cheuvreux

Chart 199: Willingness to pay for VLCCs for one year of storage versus one-year TC rates



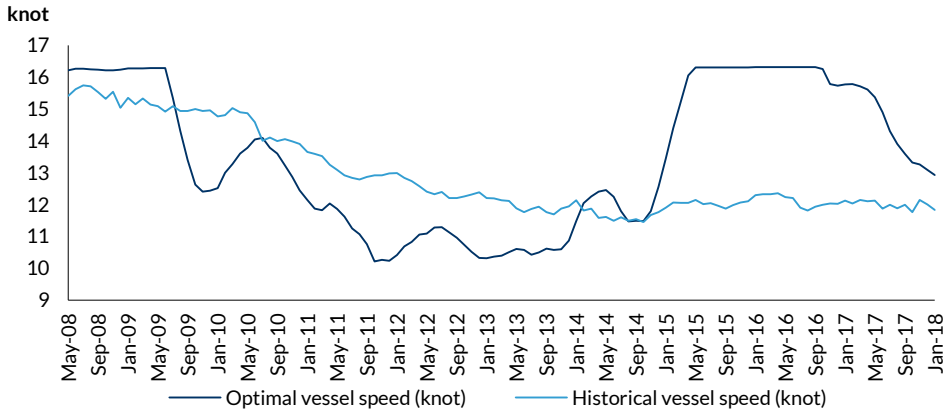
Source: Bloomberg, Clarkson, Kepler Cheuvreux

Vessel speed

In our model, we adjust for slow steaming in our assessment of actual fleet utilisation. We also calculate the optimal speed of the vessels, which we use as a guide for the future fleet speeds. This is a rather straightforward exercise, as fluid mechanics allow for a direct model of fuel consumption as function of speed. We use that relationship (Bernoulli Equation) to express the total (operating) cost for the vessel as a function of speed, which we use to find the optimal speed.

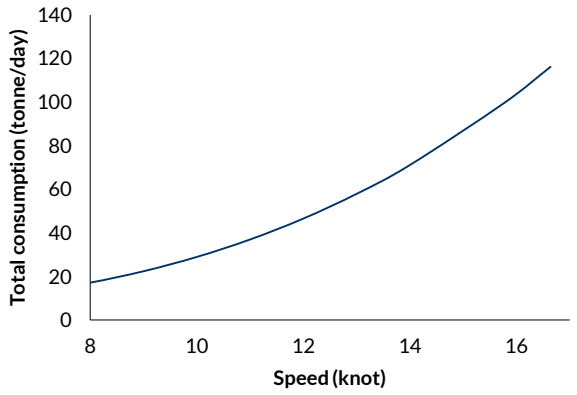
The 2015-16 boom in crude tanker rates marked a turnaround in vessel speeds. That said, it did not match the magnitude that the model had expected. We believe this is mostly due to the lack of agility in the shipping industry.

Chart 200: Actual and historical optimal vessel speeds



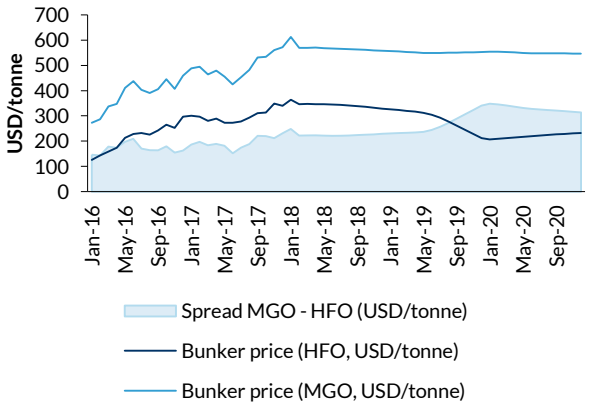
Source: EIA, Kepler Cheuvreux

Chart 201: Fuel consumption as a function of speed (VLCC)



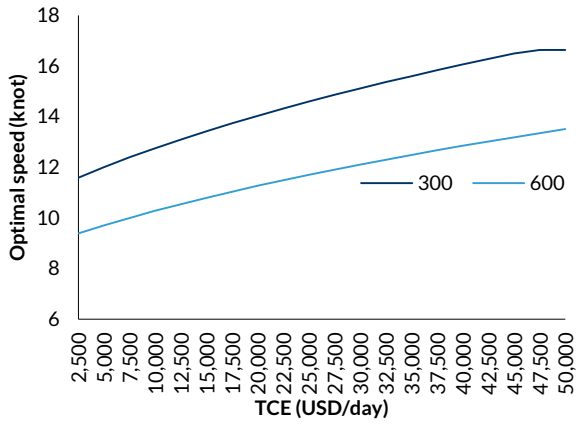
Source: Kepler Cheuvreux

Chart 202: Historical and future bunker prices



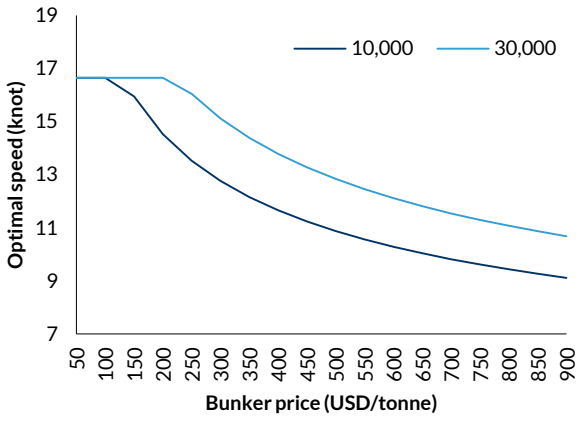
Source: Bloomberg, Kepler Cheuvreux

Chart 203: Optimal speed as a function of TC-rates, assuming bunker price at USD300 per tonne or USD600 per tonne



Source: Kepler Cheuvreux

Chart 204: Optimal speed as function of bunker prices, assuming TC rate at either USD10,000/day or USD30,000/day



Source: Kepler Cheuvreux

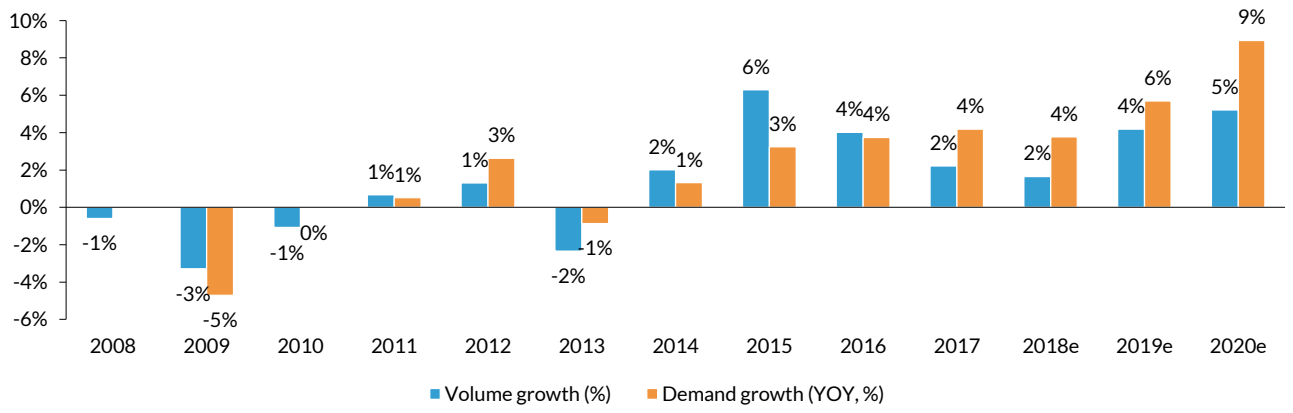
Crude tanker shipping demand

We estimate a 2% increase in traded crude tanker volumes in 2017. We expect the trade to grow by another 2% in 2018E, 4% in 2019E and increase to 5% in 2020E, as we expect the new sulphur cap on marine usage to lead to higher utilisation of global desulphurisation capacity.

Like in both the LPG and LNG markets, the US is about to become a very significant player in the crude tanker market. Although exports were banned until December 2015, the country is likely to become a top-ten player this year. We forecast exports of 1.4m bpd in 2018E, which is about the same level as Norway (c. 1.4m bpd in 2017). Looking only at global export growth, we expect the US to contribute c. 40% of growth, about the same as the Middle East, which we expect to back off their cuts in 2019E and increase output by another 1m bpd in 2020E, as the world could need more throughput in the refineries to make up for the shortfall from high-sulphur fuel oil (HFO) that is no longer suitable for marine usage.

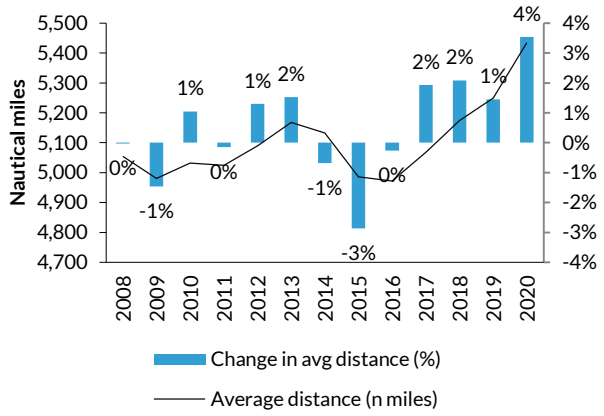
When crossing our volume forecasts with distances, we see a c. 2% annual increase in the average distance crude is carried. Concretely, we forecast demand growth of 4% for 2018E, 6% for 2019E and 9% in 2020E.

Chart 205: Growth in traded crude tanker volume and tonne-mile transportation demand



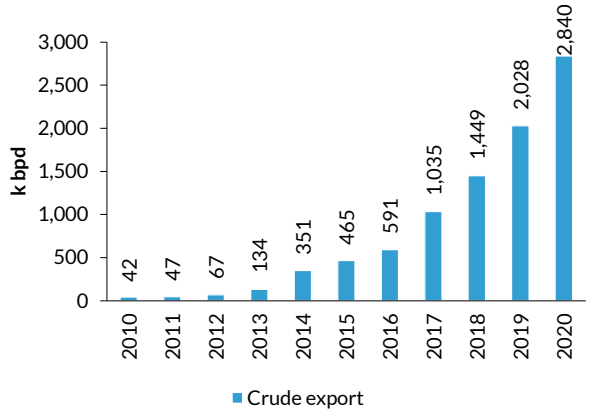
Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 206: Average distance crude tanker trade increases...



Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 207: ...mostly due to continued growth in US exports



Source: EIA, BP, Kepler Cheuvreux

The crude tanker trade

We estimate a 2% increase in traded crude tanker volumes in 2017. We expect the trade to grow by another 2% in 2018E, 4% in 2019E and 5% in 2020E. This last figure is due to the fact that we expect the new sulphur cap on marine usage (see own section in the start of this report) to lead to higher utilisation of the global desulphurisation capacity.

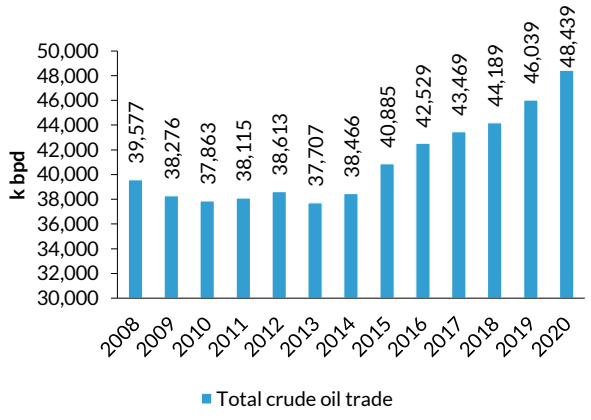
When crossing our volume forecasts with distances, we forecast a c. 2% annual increase in the average distance crude is carried. Concretely, we see crude oil transportation demand growth of 4% for 2018E, 6% for 2019E and 9% in 2020E. The high growth in 2020 is mainly due to our belief that most of the additional refining in 2020E will be done in East Asia, which has generally newer facilities than other regions, and much of it will need to come from the US, where crude sulphur content is generally low.

Import growth will predominantly happen in Asia. We expect Chinese import growth to slow from an average 11% per year in the last three years to a still strong 9%

average per year in 2018E-20E. India is expected to increase imports by 6% per year in 2018-20E, down from 7% per year in 2015-17.

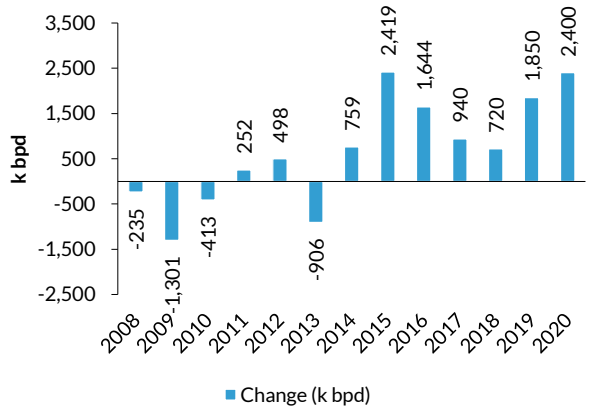
For a full breakdown of all our forecasts related to the global trade in crude oil, please see the table at the end of this section.

Chart 208: Total crude tanker trade



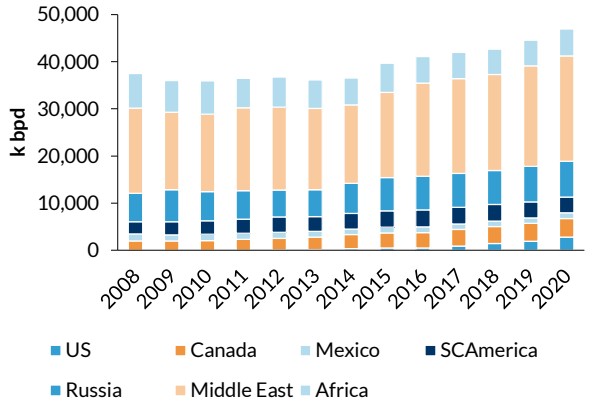
Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 209: Annual change in the crude tanker trade



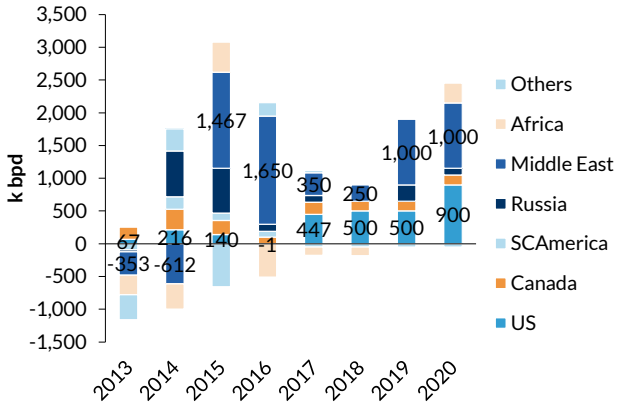
Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 210: Export of crude tanker by main exporting country



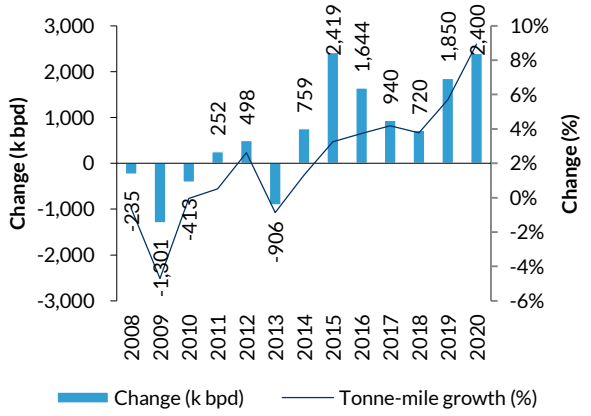
Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 211: Annual change by main exporters



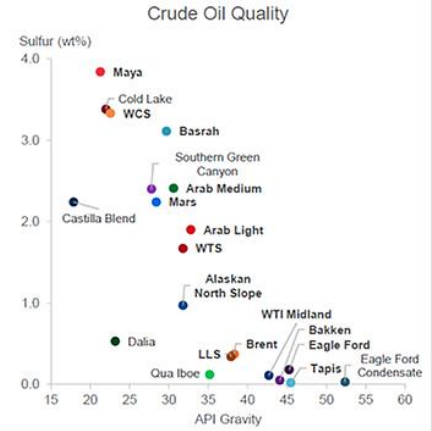
Source: EIA, BP, Bloomberg, JODI, Kepler Cheuvreux

Chart 212: Growth in volumes versus barrel-mile demand



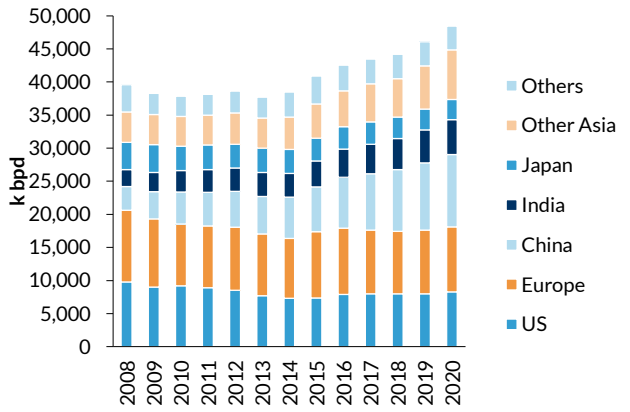
Source: EIA, Kepler Cheuvreux

Chart 213: Quality of global crudes



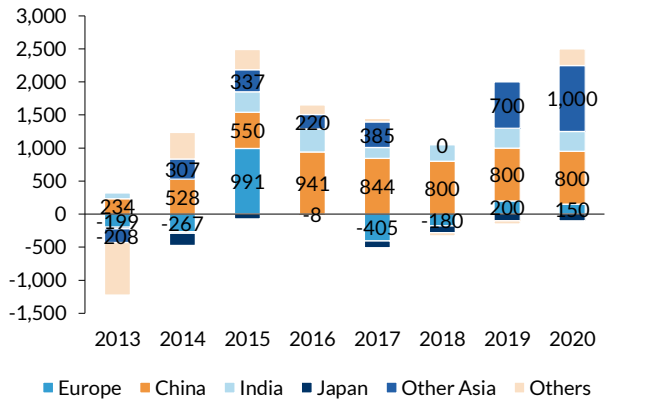
Source: Valero

Chart 214: Import of crude tanker by main importers



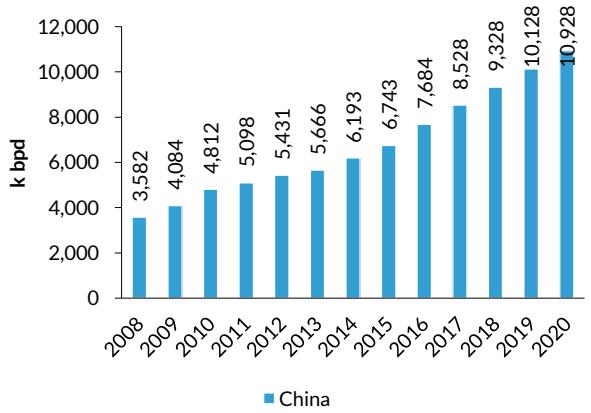
Source: BP, Kepler Cheuvreux

Chart 215: Annual change by main importing regions



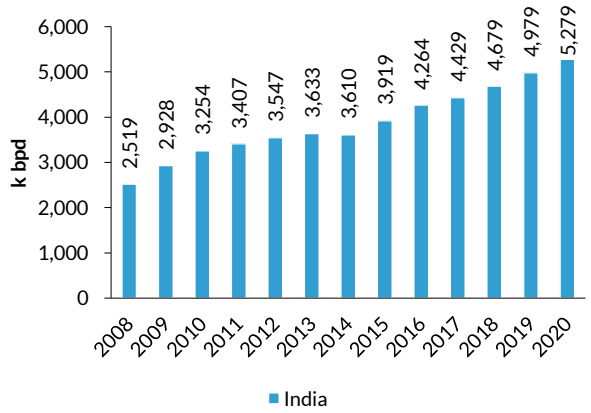
Source: BP, Kepler Cheuvreux

Chart 216: Chinese crude import



Source: BP, Kepler Cheuvreux

Chart 217: Indian crude import



Source: BP, Kepler Cheuvreux

US shale impact

Like in both the LPG and LNG markets, the US is about to become a very significant player in the crude tanker market. Although exports were banned until December 2015, the country is likely to become a top-ten exporter this year. We forecast exports of 1.4m bpd in 2018E, which is about the same level as Norway (c. 1.4m bpd in 2017) and above Mexico at c. 1.2m bpd. We model US crude oil exports of 2m bpd in 2019E and 2.8m bpd in 2020E.

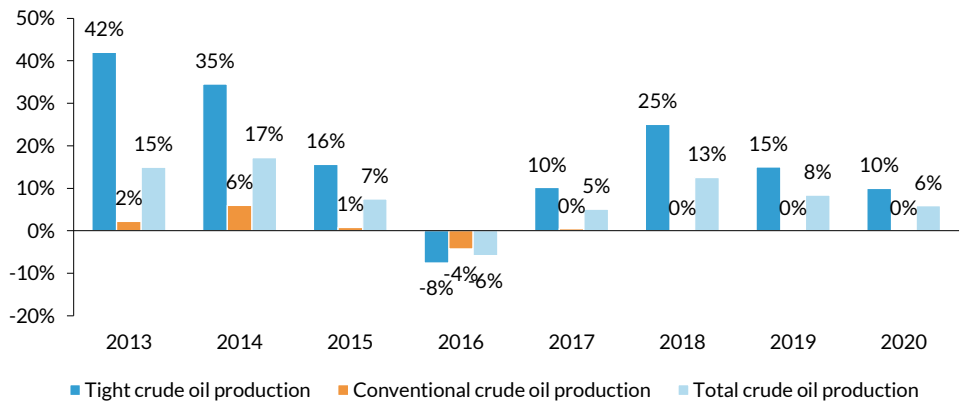
Looking only at global export growth, we expect the US to contribute c. 40% of growth, about the same as the Middle East, which we expect to back off their cuts in 2019E and increase output by another 1m bpd in 2020E, as the world could need more throughput in the refineries to make up for the shortfall from high-sulphur fuel oil (HFO) that is no longer suitable for marine usage.

The main reason for the increase in crude exports, despite the fact that the US remains the world's second-largest gross importer of crude oil, is that domestic refinery capacity spent a lot of money in order to be capable to process an increasing

share of heavy crude oil. That said, with the growth in US shale production, the capacity upgrades that were carried out were not entirely necessary, as US domestic production tends to be lighter crude. In 2017, crude imports averaged an API gravity of 26, while US domestic production had an average API gravity of 39 (the higher the gravity the lighter the oil). This is also the reason why we forecast flat imports in 2018-19E and an increase of 300,000 bpd in 2020E, which we believe will need all available upgraded capacity to run at full utilisation.

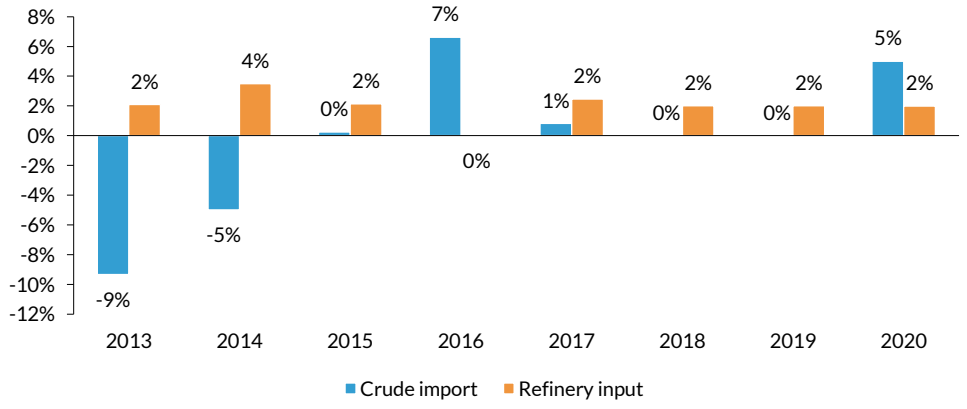
Below, we show our full set of assumptions used for US crude oil. We assume a deceleration in growth from the current c. 25% YOY rate to 15% in 2019E and 10% in 2020E.

Chart 218: US crude production assumptions



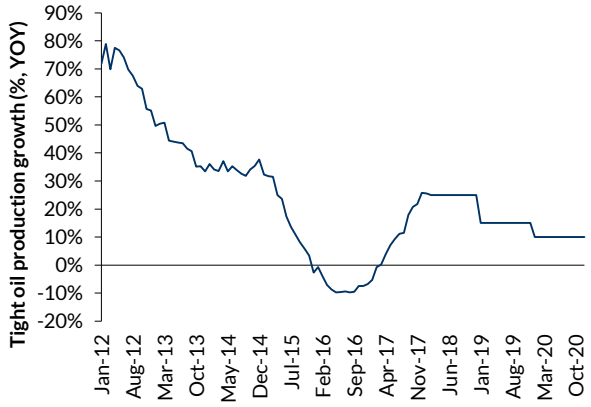
Source: EIA, Kepler Cheuvreux

Chart 219: US crude disposition assumptions



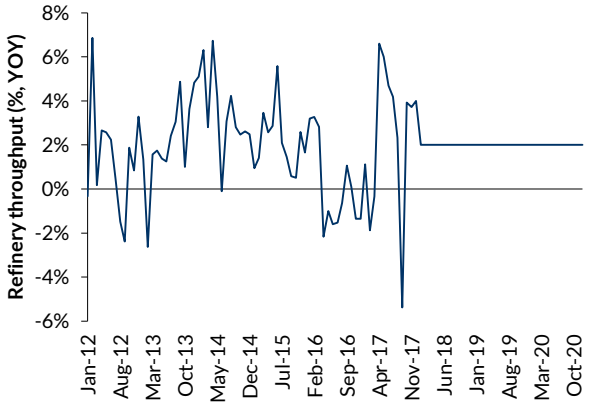
Source: EIA, Kepler Cheuvreux

Chart 220: US tight oil production growth assumption



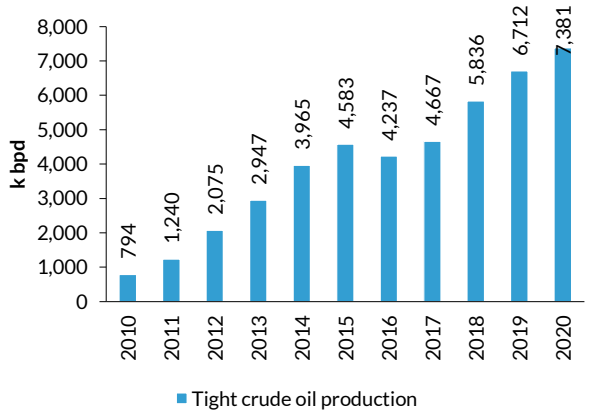
Source: EIA, Kepler Cheuvreux

Chart 221: US refinery throughput growth assumptions



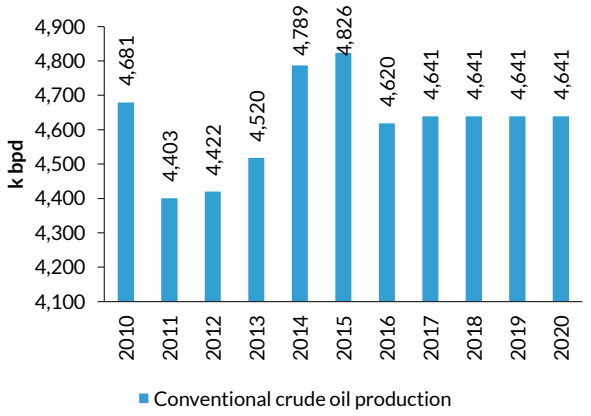
Source: EIA, Kepler Cheuvreux

Chart 222: US tight oil production



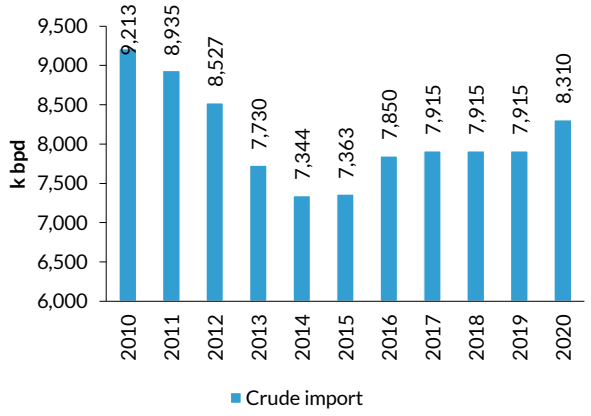
Source: EIA, Kepler Cheuvreux

Chart 223: US conventional oil production



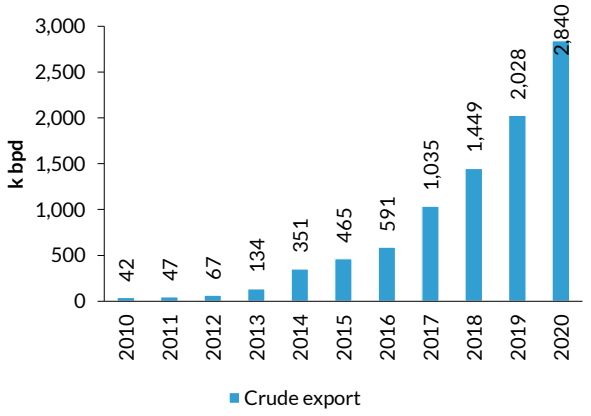
Source: EIA, Kepler Cheuvreux

Chart 224: US crude imports



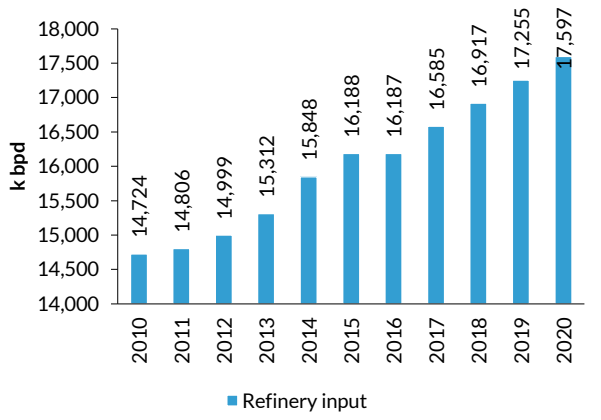
Source: EIA, Kepler Cheuvreux

Chart 225: US crude exports



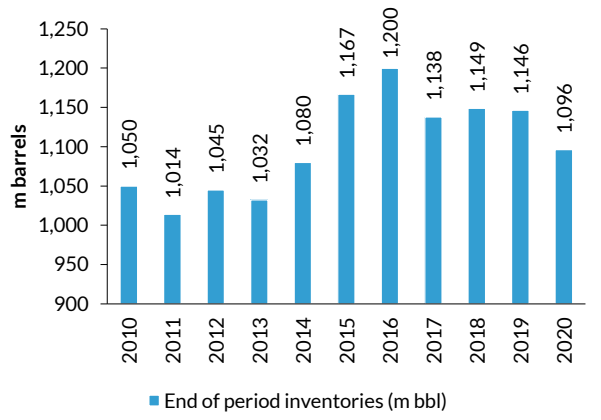
Source: EIA, Kepler Cheuvreux

Chart 226: US refinery throughput



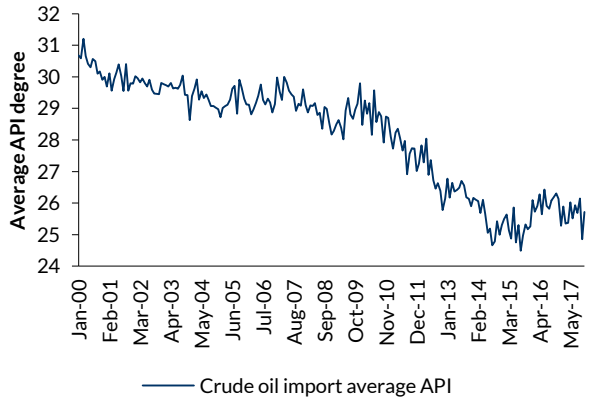
Source: EIA, Kepler Cheuvreux

Chart 227: US crude resulting inventories, end of year



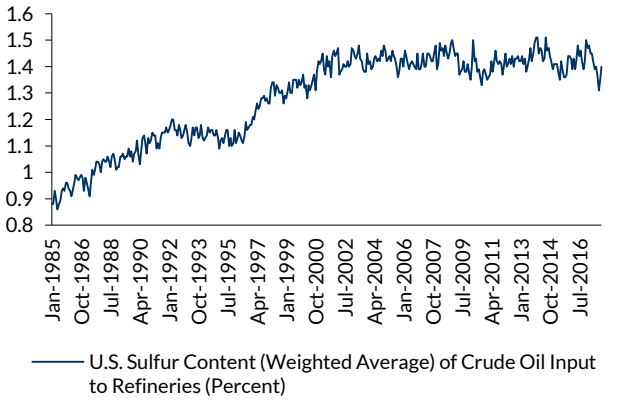
Source: EIA, Kepler Cheuvreux

Chart 228: API gravity of US crude import



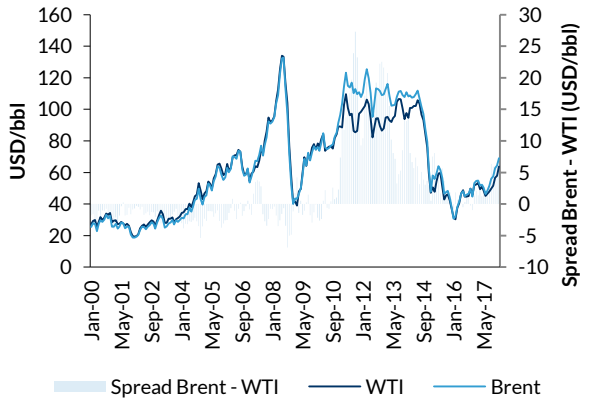
Source: EIA, Kepler Cheuvreux

Chart 229: Sulphur content in US refinery throughput



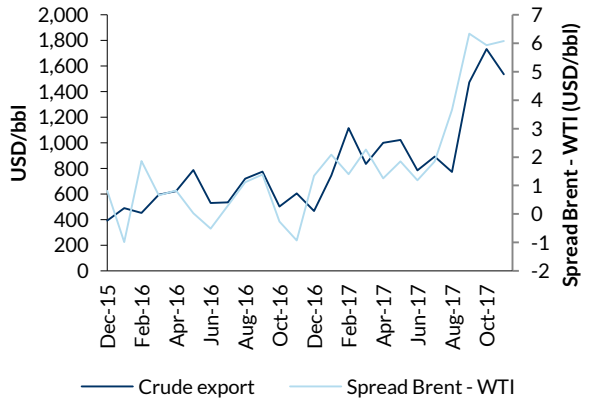
Source: EIA, Kepler Cheuvreux

Chart 230: Brent versus West Texas Intermediate spread



Source: EIA, Kepler Cheuvreux

Chart 231: Spread versus US crude exports

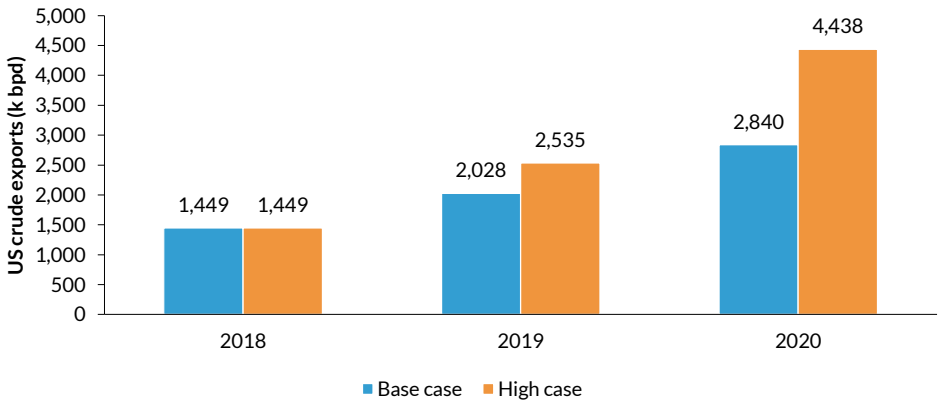


Source: EIA, Kepler Cheuvreux

In order to understand US exports, we assumed that the current 25% YOY growth stays as is through 2020E (in the early days of US shale, growth accelerated to

c. 70% YOY growth in 2012). In such a scenario, US crude exports could reach 4.4m bpd in 2020E.

Chart 232: Scenarios for US crude oil export



Source: Kepler Cheuvreux

Demand summary

Below, we show our full model for the demand side.

Table 12: Crude tanker transportation demand

Exports ('000 bpd)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
US	29	44	42	47	67	134	351	491	490	937	1,437	1,937	2,837
Canada	1,985	1,959	1,999	2,284	2,486	2,673	2,985	3,200	3,302	3,491	3,641	3,791	3,941
Mexico	1,468	1,280	1,360	1,327	1,270	1,204	1,162	1,201	1,220	1,160	1,160	1,160	1,160
SC America	2,575	2,769	2,844	2,921	3,272	3,176	3,365	3,476	3,563	3,515	3,465	3,415	3,365
Europe	243	430	366	264	313	305	173	204	354	373	373	373	373
Russia	6,066	6,790	6,208	6,048	5,678	5,649	6,349	7,034	7,143	7,243	7,243	7,493	7,593
Middle East	18,056	16,428	16,440	17,605	17,578	17,225	16,613	18,080	19,730	20,080	20,330	21,330	22,330
Africa	7,308	6,726	7,025	6,263	6,388	6,089	5,704	6,161	5,653	5,523	5,393	5,393	5,693
Australasia	282	239	285	262	251	203	235	212	189	165	165	165	165
China	89	101	47	32	28	20	12	57	58	58	58	58	58
India	0	2	0	1	0	0	1	3	0	0	0	0	0
Japan	0	0	5	0	0	11	0	6	0	0	0	0	0
Singapore	37	42	37	13	11	2	0	1	2	2	2	2	2
Other Asia	1,440	1,465	1,205	1,048	1,273	1,017	1,517	759	824	922	922	922	922
Total	39,577	38,276	37,863	38,115	38,613	37,707	38,466	40,885	42,529	43,469	44,189	46,039	48,439
Imports ('000 bpd)													
US	9,781	9,015	9,212	8,930	8,527	7,727	7,342	7,364	7,898	7,999	7,999	7,999	8,299
Canada	722	829	622	579	581	688	913	657	587	535	485	435	385
Mexico	40	9	7										
SC America	610	504	419	376	392	503	470	533	494	523	523	523	523
Europe	10,859	10,308	9,341	9,322	9,512	9,313	9,046	10,037	10,028	9,623	9,443	9,642	9,792
Russia							495	523	382	382	382	382	382
Middle East	220	140	226	214	222	216	218	543	504	504	504	504	504
Africa	856	809	349	471	471	323	428	596	528	527	527	527	527
Australasia	489	458	583	538	575	569	538	491	409	409	409	409	409
China	3,582	4,084	4,812	5,098	5,431	5,666	6,193	6,743	7,684	8,528	9,328	10,128	10,928
India	2,519	2,928	3,254	3,407	3,547	3,633	3,610	3,919	4,264	4,429	4,679	4,979	5,279
Japan	4,178	3,654	3,710	3,568	3,652	3,627	3,443	3,370	3,373	3,270	3,170	3,070	2,970
Singapore	1,092	930	800	1,107	948	892	916	918	966	943	943	943	943
Other Asia	4,627	4,590	4,528	4,505	4,755	4,547	4,854	5,192	5,412	5,797	5,797	6,498	7,498
Total	39,577	38,276	37,863	38,115	38,613	37,707	38,466	40,885	42,529	43,469	44,189	46,039	48,439
Change (k bpd)	-235	-1,301	-413	252	498	-906	759	2,419	1,644	940	720	1,850	2,400
Change (%)	-1%	-3%	-1%	1%	1%	-2%	2%	6%	4%	2%	2%	4%	5%
Exports (10^12 barrel-mile)													
US	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.3	0.5	2.2	4.1	5.9	10.1
Canada	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1
Mexico	0.7	0.6	0.6	0.7	0.8	1.0	1.1	1.5	1.8	1.6	1.6	1.6	1.6
SC America	4.3	4.9	5.4	5.9	7.2	7.6	8.3	8.6	9.1	9.5	9.8	10.0	10.3
Europe	0.5	0.9	0.8	0.6	0.7	0.6	0.4	0.6	1.0	1.1	1.1	1.1	1.1
Russia	6.9	8.0	8.3	7.1	6.8	6.9	8.0	8.3	8.1	8.4	8.5	8.7	8.9
Middle East	41.2	36.3	35.6	38.4	38.9	38.5	37.3	39.0	41.6	42.1	42.6	44.5	46.8
Africa	16.5	15.6	16.6	15.2	15.1	14.5	13.9	14.7	13.7	14.1	14.4	15.0	16.0
Australasia	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.2	0.2	0.2	0.2
China	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Japan	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Singapore	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Asia	2.2	2.6	1.6	1.4	1.6	1.3	2.4	1.0	1.0	1.0	1.0	1.0	1.0
Total	73	70	70	70	72	71	72	74	77	80	83	88	96
Change (%)	-1%	-5%	0%	1%	3%	-1%	1%	3%	4%	4%	4%	6%	9%

Source: BP, JODI, Bloomberg, Kepler Cheuvreux

Crude tanker shipping market balance, rate and value forecast

Market balance and fleet utilisation

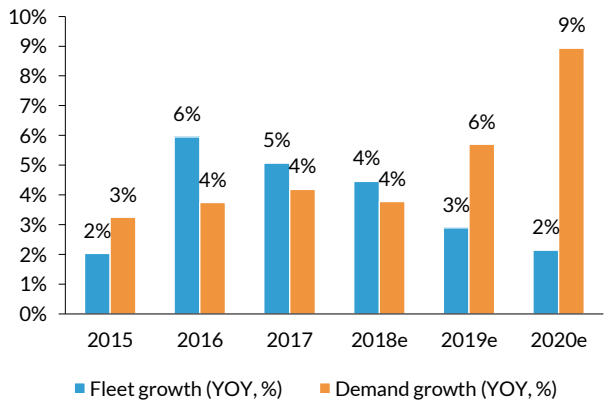
We expect crude oil transportation supply to grow faster than transportation demand in 2018E, and we would not be surprised if the market remained difficult for the next c. 18 months. Spot rates could potentially stay at opex levels (where they are now) for most of the period. The main reason is simply fleet growth, out of the 23m DWT ordered in 2017, about 5m DWT will be delivered this year, but 12.5m DWT is set to be delivered next year.

That said, as of 2020E, we feel confident that the tanker market will recover, possibly dramatically. We see two reasons for this:

1. There are likely to be few deliveries in 2020E, given current market weakness and an approximately two-year lead-time from order to delivery.
2. More importantly, the introduction of the sulphur cap is likely to reduce fleet speeds, given much higher bunker costs, and may lead to more trading in various crude oil qualities and dirty products (in particular HFO).

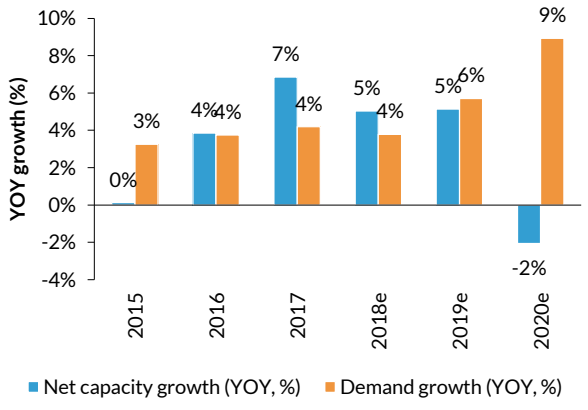
If global refinery capacity is to be able to deliver middle distillates as a substitute for marine HFO demand (and not produce too much HFO), less complex refiners (particularly in Europe) will need to refine sweeter crude, which is likely to come from the US. Thus, the US would need to increase imports of heavier and sourer Middle East qualities. These new trade flows are likely to last. We doubt that HFO demand from shipping will revert rapidly to pre-2020 levels.

Chart 233: Fleet growth versus demand growth



Source: BP, Kepler Cheuvreux

Chart 234: Transportation capacity growth versus demand growth

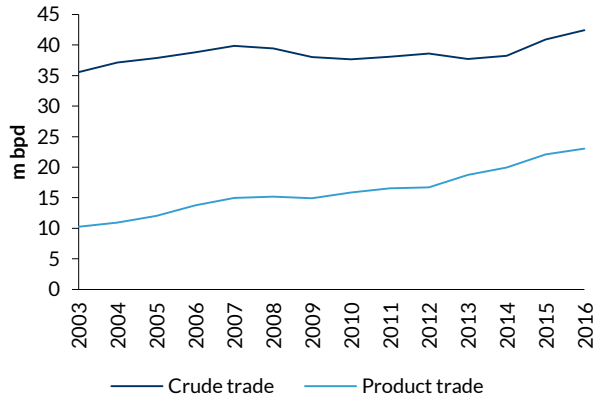


Source: BP, Kepler Cheuvreux

Crude tankers set the course for the other tanker markets

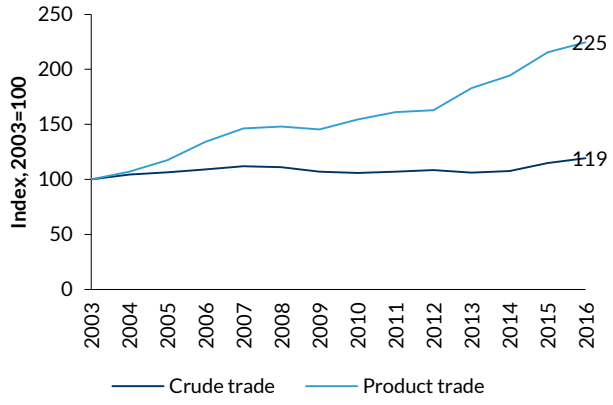
We believe the product tanker segment is best understood as a derivative of the crude tanker market, albeit with lower volatility, give: 1) (potential) fleet migration between the different tanker segments (crude, product and chemicals); and 2) the large share of arbitrage-driven trade in oil products.

Chart 235: Trade in oil products has outgrown crude oil trade in recent years by a lot...



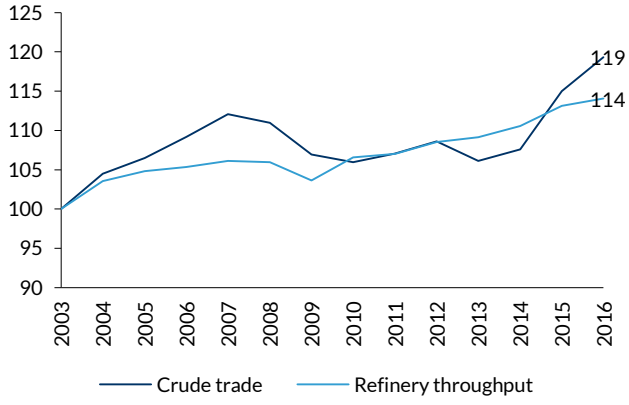
Source: BP, Kepler Cheuvreux

Chart 236: ...and the global trade in crude is up by 19%, while the trade in products is up 125% from 2003 to 2016...



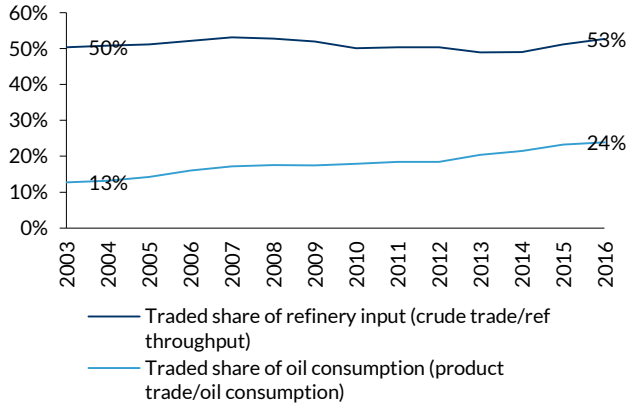
Source: BP, Kepler Cheuvreux

Chart 237: ...as the trade in crude has mirrored refinery throughput...



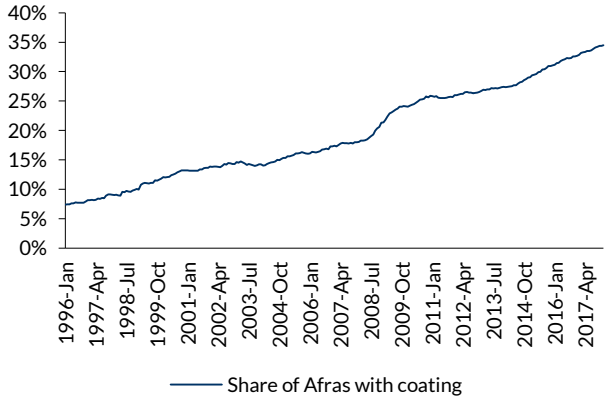
Source: BP, Kepler Cheuvreux

Chart 238: ...and the share of refinery input traded is constant, while the share of traded output (oil products) has doubled



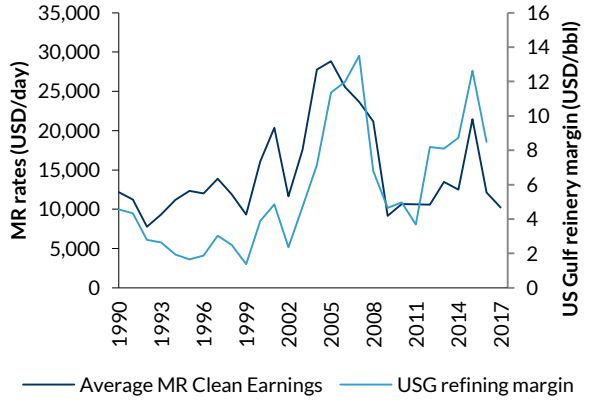
Source: BP, Kepler Cheuvreux

Chart 239: The share of the Aframax fleet with option to trade both crude and clean has increased from 7% to 34%



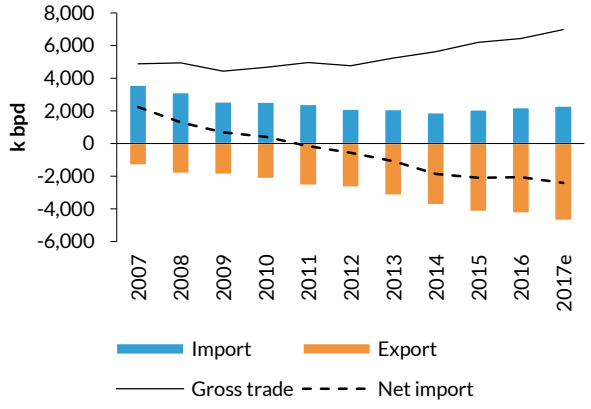
Source: Clarkson, Kepler Cheuvreux

Chart 240: Refinery margins and product tanker rates are positively correlated



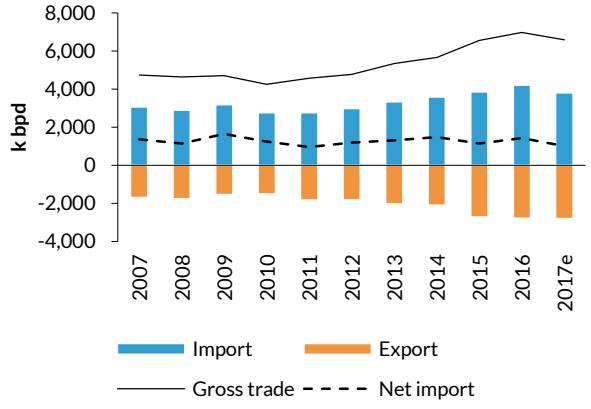
Source: BP, Kepler Cheuvreux

Chart 241: US trade in oil products



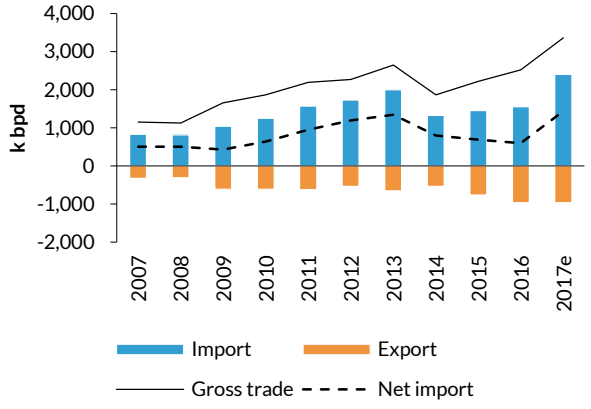
Source: BP, Kepler Cheuvreux

Chart 242: European trade in oil products



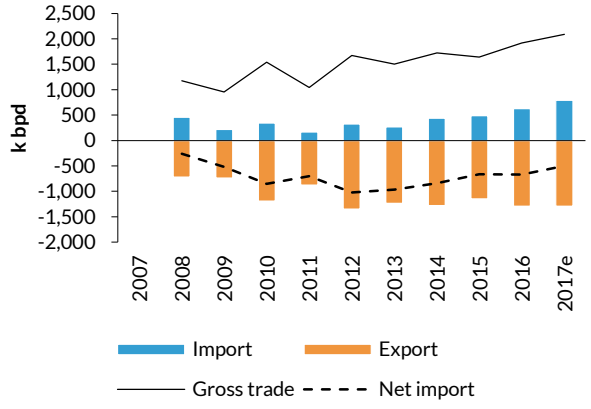
Source: BP, Kepler Cheuvreux

Chart 243: Chinese trade in oil products



Source: BP, Kepler Cheuvreux

Chart 244: Indian trade in oil products

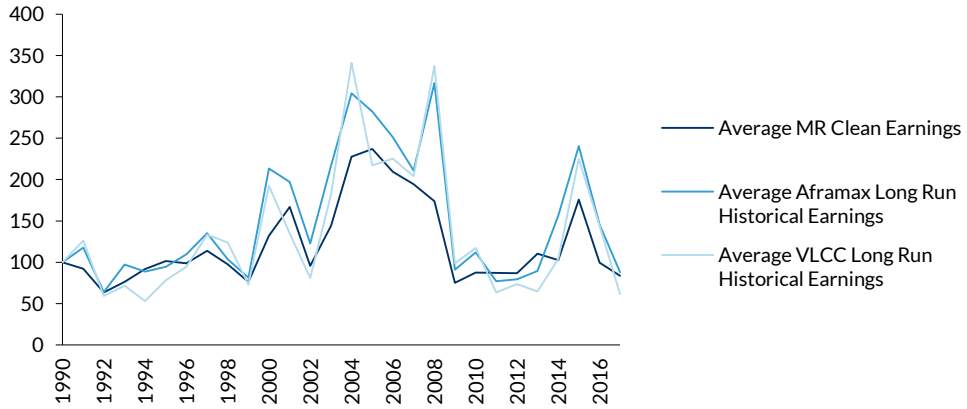


Source: BP, Kepler Cheuvreux

These last few charts above show how the gross trade in oil products has grown, while the net trade is less affected.

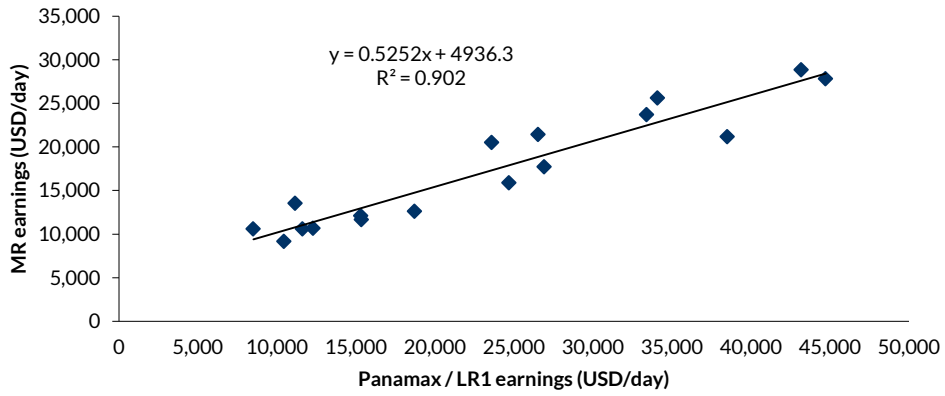
Thus, we derive our product tanker rate forecasts from our crude tanker model, as shown below.

Chart 245: Historical tanker earnings, index (1990 = 100) (long-run)



Source: Clarkson; Kepler Cheuvreux

Chart 246: MR versus Panamax and LR1 spot rates

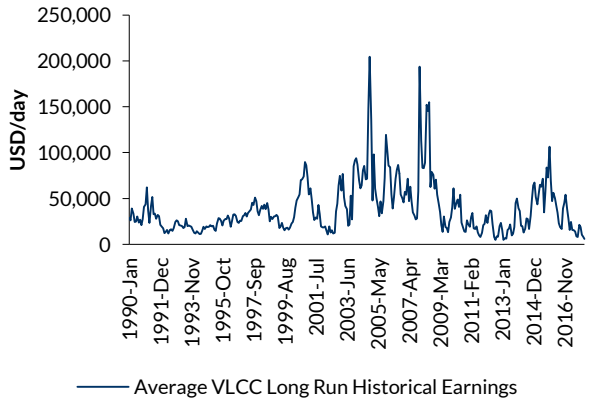


Source: Clarkson; Kepler Cheuvreux

Oil tanker rate forecasts

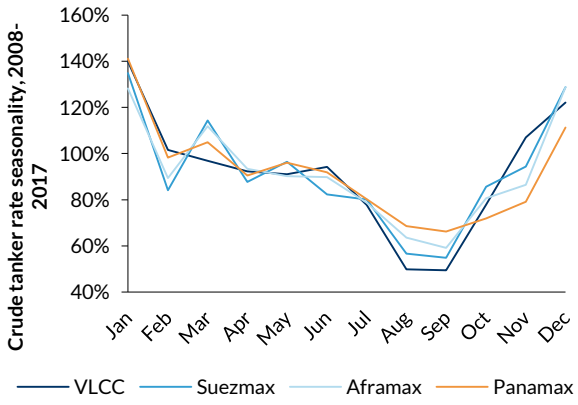
We model VLCC rates at USD20,300 per day for 2018E, USD22,900 per day for 2019E and USD66,500 per day for 2020E. In 2018-19E, we expect fleet utilisation to stay below 90%. However, going into Q4 2019E, we expect to see the first effects of the new sulphur cap on marine usage, and 2020E fleet utilisation is likely to move well into the 90% range (KECH: 97%). This last figure also takes into account what we expect to be an increase in floating storage of "unwanted" HFO and a slowdown in vessel speeds (only by 0.25 knots).

Chart 247: Historical spot rates, VLCC



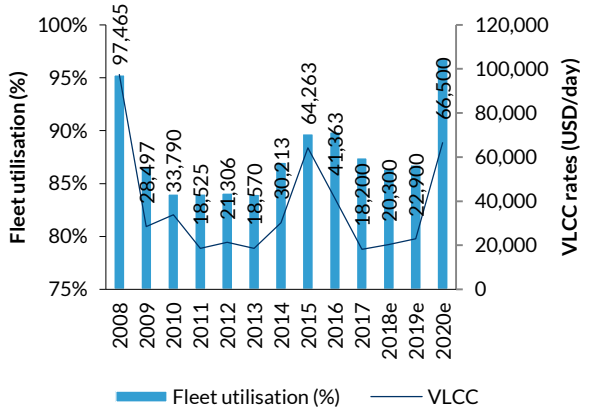
Source: Clarkson, Kepler Cheuvreux

Chart 248: Historical seasonality (2008-17)



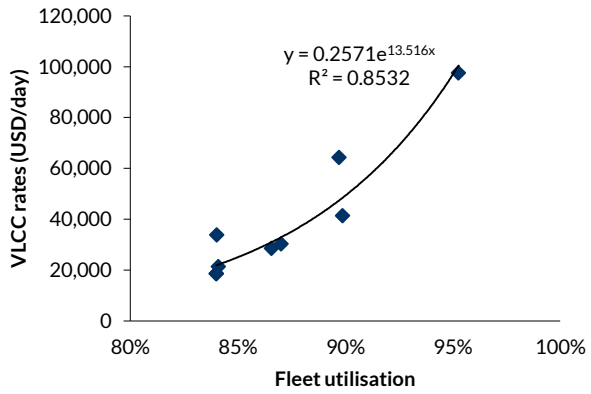
Source: Clarkson, Kepler Cheuvreux

Chart 249: Rate forecast and fleet utilisation



Source: Clarkson, BP, Kepler Cheuvreux

Chart 250: Regression model used for rate forecast

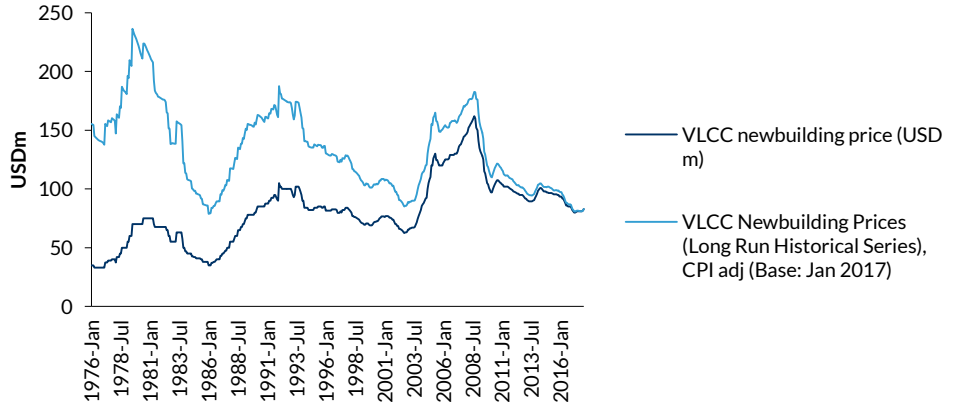


Source: Clarkson, BP, Kepler Cheuvreux

Oil tanker vessel values

Clarkson quotes the price for a newbuild VLGC at USD84m, which is up from USD81.5m at the start of 2018 and also up from the USD81m quoted in February 2017. We believe this should be regarded as another indication that the newbuild market has bottomed out, in particular when one takes into account that the USD81m quoted in February 2017 was an all-time low, save Q1 1986 (USD78.8m), on an inflation-adjusted basis.

Chart 251: Historical newbuild prices, VLCC



Source: Clarkson; Kepler Cheuvreux

In the second-hand market, vessel values have been rather stable over the past year. That said, the value of a five-year-old vessel is down 25% from USD84 in July 2015 to USD63m now.

As we expect a rather flat market at USD20,000 per day for the VLCC market, we do not expect any large changes in asset prices either. As shown in the following table, we model resale prices for various vessel sizes at 1-6% higher a year from now.

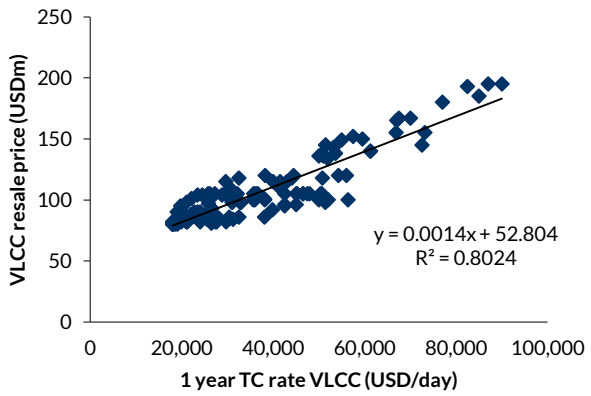
Table 13: Vessel value forecasts, including scenarios

KECH forecast	NB	Resale	5Y	10Y	15Y	20Y	Scrap
VLCC	84.5	85.9	62.6	40.8	25.8	21.9	17.4
Suezmax	57.0	60.4	46.1	31.1	18.1	14.1	9.5
Aframax	45.0	45.4	32.7	20.8	11.8	9.9	7.4
LR1	43.0	40.2	29.3	19.4	11.5	9.1	6.0
MR	35.0	36.6	26.5	17.9	11.0	7.8	4.1
SR	32.0	33.0	23.1	15.0	9.7	6.9	3.4
KECH vs current	**NB**	**Resale**	**5Y**	**10Y**	**15Y**	**20Y**	**Scrap**
VLCC	0%	2%	-1%	2%	3%	3%	0%
Suezmax	0%	7%	10%	15%	7%	7%	0%
Aframax	0%	3%	9%	4%	7%	7%	0%
LR1	0%	1%	5%	2%	10%	10%	0%
MR	0%	5%	6%	2%	16%	16%	0%
SR	0%	3%	5%	15%	21%	21%	0%
KECH LOW Case	**NB**	**Resale**	**5Y**	**10Y**	**15Y**	**20Y**	**Scrap**
VLCC	60.5	67.3	45.9	28.0	18.3	15.5	10.4
Suezmax	40.8	45.3	30.5	18.8	11.7	9.1	5.7
Aframax	33.2	36.9	24.0	14.4	8.1	6.7	4.5
LR1	31.1	34.6	24.4	16.6	10.1	8.0	3.6
MR	21.1	23.5	13.2	9.8	6.2	4.4	2.4
SR	20.8	23.1	12.9	7.6	3.8	2.7	2.1
KECH HIGH Case	**NB**	**Resale**	**5Y**	**10Y**	**15Y**	**20Y**	**Scrap**
VLCC	105.6	119.2	92.4	63.5	39.3	33.3	24.3
Suezmax	71.3	82.4	68.9	49.0	27.4	21.3	13.3
Aframax	56.3	59.3	46.9	31.2	17.9	15.0	10.4
LR1	53.8	47.6	35.6	24.5	15.4	12.1	8.4
MR	43.8	44.5	34.4	21.3	14.0	10.0	5.7
SR	40.0	37.9	28.2	17.8	10.5	7.5	4.8

Source: Kepler Cheuvreux

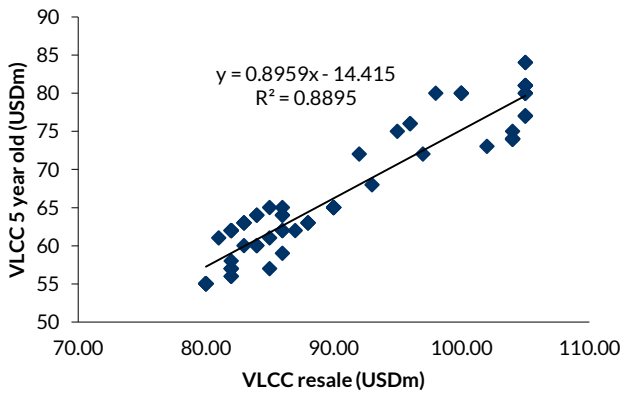
These estimates are based on simple regression models in which we apply our rate forecasts to the historical relationship between earnings and resale vessel values. Then, we use regression models to estimate the value for the different ages of vessels based the resale value.

Chart 252: Regression model with VLCC one-year TC rate versus VLCC resale price



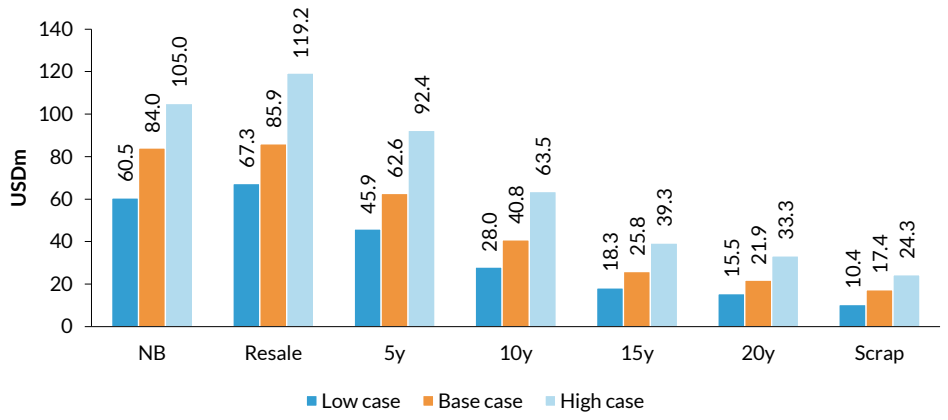
Source: Clarkson, Kepler Cheuvreux

Chart 253: Regression model with VLCC resale price versus five-year-old vessel



Source: Clarkson, Kepler Cheuvreux

Chart 254: Scenarios for vessel values



Source: Kepler Cheuvreux

Crude tanker model

Table 14: KECH crude oil shipping model

FLEET OVERVIEW (m DWT)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
Fleet start of year	274	278	294	303	323	338	343	344	351	372	390	408	420
Historical deliveries	19.1	29.7	26.8	31.2	25.3	15.3	9.3	8.4	21.0	27.8	2.5		
Gross order book for delivery by month											23.8	17.3	4.7
Forecasted cancellations											-0.4	-0.8	0.0
Postponements											-1.0	1.0	0.0
Deliveries from order book											22.3	17.5	4.7
Historical ordering	44.5	12.4	31.7	8.0	6.9	16.8	18.1	39.0	9.6	22.7	0.3		
Future ordering											8.6	10.5	18.6
Deliveries from future ordering												0.0	8.6
Historical scrapping	-2.4	-5.2	-7.5	-6.9	-8.0	-8.5	-6.0	-1.3	-1.4	-9.0	-1.1		
Scrap price (USD/LDT)	575	334	444	515	443	424	471	345	274	377	400	400	400
Future scrapping											-6.3	-6.8	-4.3
Scrapping as % of fleet	-0.9%	-1.9%	-2.6%	-2.3%	-2.5%	-2.5%	-1.7%	-0.4%	-0.4%	-2.4%	-1.9%	-1.7%	-1.0%
Misc.	-12.9	-7.9	-10.8	-4.2	-2.0	-1.9	-2.5	-0.1	1.3	0.0	1.0	0.0	0.0
Fleet end of year	278	294	303	323	338	343	344	351	372	390	408	420	429
Fleet growth (YOY, %)	1%	6%	3%	7%	5%	1%	0%	2%	6%	5%	4%	3%	2%
SUPPLY (10^12 tonne-miles)													
Vessel design speed (knot)	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.5	15.5	15.5	15.5	15.5
Gross transportation capacity	37.1	39.0	40.4	42.5	45.0	46.4	46.4	47.0	49.0	52.1	54.0	56.7	57.5
Actual port ratio (% of total time)	35%	34%	32%	29%	28%	27%	26%	27%	27%	27%	26%	26%	26%
Normal port operations	-12.9	-13.1	-13.0	-12.4	-12.5	-12.4	-12.1	-12.6	-13.1	-13.9	-14.2	-15.0	-14.9
Floating storage	-2.0	-2.0	-1.6	-1.5	-1.5	-1.8	-2.0	-2.8	-3.2	-3.1	-2.7	-2.8	-3.5
Floating storage (% of capacity)	-5%	-5%	-4%	-3%	-3%	-4%	-4%	-6%	-7%	-6%	-5%	-5%	-6%
Bunker price (HFO, USD/tonne)	472	354	450	618	640	595	532	264	213	300	343	285	220
Bunker price (MGO, USD/tonne)	918	529	683	944	955	904	817	480	383	495	569	551	550
Optimal vessel speed (knot)	16.1	14.9	13.4	11.3	10.9	10.5	12.0	15.8	16.2	14.6	13.2	14.1	13.5
Historical vessel speed (knot)	15.5	15.1	14.4	13.1	12.5	11.9	11.7	12.0	12.1	12.0			
Forecasted speed (knot)											11.9	11.9	11.7
Historical and forecasted vessel speed (knot)	15.5	15.1	14.4	13.1	12.5	11.9	11.7	12.0	12.1	12.0	11.9	11.9	11.7
Slow steaming (% of total gross capacity)	0%	-1%	-4%	-11%	-14%	-17%	-18%	-16%	-16%	-16%	-17%	-17%	-18%
Slow steaming	0.1	-0.6	-1.8	-4.5	-6.2	-7.7	-8.4	-7.6	-7.7	-8.5	-9.1	-9.5	-10.4
Net transportation capacity	22.3	23.3	24.0	24.1	24.8	24.5	24.0	24.0	24.9	26.7	28.0	29.4	28.8
Net capacity growth (YOY, %)	2%	5%	3%	1%	3%	-1%	-2%	0%	4%	7%	5%	5%	-2%
CRUDE EXPORT (k bpd)													
Total crude oil trade	39,577	38,276	37,863	38,115	38,613	37,707	38,466	40,885	42,529	43,469	44,189	46,039	48,439
Change (k bpd)	-235	-1,301	-413	252	498	-906	759	2,419	1,644	940	720	1,850	2,400
Volume growth (%)	-1%	-3%	-1%	1%	1%	-2%	2%	6%	4%	2%	2%	4%	5%
CRUDE TANKER TRADE (10^12 tonne-miles)													
Transportation demand (barrel-mile)	21.1	20.2	20.1	20.2	20.8	20.6	20.9	21.5	22.4	23.3	24.2	25.5	27.8
Demand growth (YOY, %)		-5%	0%	1%	3%	-1%	1%	3%	4%	4%	4%	6%	9%
CRUDE TANKER BALANCE AND RATES													
Fleet utilisation (%)	95%	87%	84%	84%	84%	84%	87%	90%	90%	87%	86%	87%	97%
Spot rates (USD/day)													
VLCC	97,465	28,497	33,790	18,525	21,306	18,570	30,213	64,263	41,363	18,200	20,300	22,900	66,500
Suezmax	74,247	25,859	27,596	18,312	17,040	15,547	27,532	46,642	27,260	15,900	17,800	19,800	50,300
Aframax / LR2	50,258	14,498	17,571	12,251	12,546	14,264	24,435	38,083	22,885	13,900	14,600	15,700	35,800
Panamax / LR1	38,503	10,445	12,285	8,507	11,630	11,150	18,717	26,533	15,309	10,200	11,700	12,700	27,100
MR	21,156	9,149	10,651	10,607	10,604	13,522	12,621	21,434	12,083	10,100	11,600	12,200	21,100

Source: Clarkson, BP, JODI, Bloomberg, EIA, Kepler Cheuvreux

Product tanker supply model

Table 15: KECH product tanker supply model

FLEET OVERVIEW (m DWT)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
Fleet start of year	89	102	113	120	125	127	131	136	143	152	159	163	167
Historical deliveries	14.3	14.8	11.1	6.9	6.1	5.6	6.5	8.8	9.9	8.2	1.1		
Gross order book for delivery by month											6.5	5.5	1.5
Forecasted cancellations											0.0	0.0	0.0
Postponements											-0.2	0.2	0.0
Deliveries from order book											6.3	5.7	1.5
Historical ordering	8.1	2.1	5.3	3.7	6.1	17.9	7.0	11.8	2.1	7.3	0.3		
Future ordering											1.5	1.8	2.3
Deliveries from future ordering											0.0	0.0	1.5
Historical scrapping	-1.2	-2.2	-3.8	-1.8	-3.0	-2.2	-1.4	-0.8	-0.8	-1.9	-0.5		
Scrap price (USD/LDT)	575	334	444	515	443	424	471	345	274	377	400	400	400
Future scrapping											-2.3	-2.3	-1.0
Scrapping as % of fleet	-1.3%	-2.2%	-3.4%	-1.5%	-2.4%	-1.7%	-1.1%	-0.6%	-0.5%	-1.2%	-1.8%	-1.4%	-0.6%
Misc.	-0.8	-0.8	-0.4	-0.6	-0.6	-0.1	0.0	-0.2	-0.1	0.0	0.2	-0.2	0.0
Fleet end of year	103	114	121	125	128	131	137	145	154	159	166	167	169
Fleet growth (YOY, %)	15%	10%	6%	4%	2%	2%	4%	6%	6%	4%	4%	1%	2%
SUPPLY (10^12 tonne-miles)													
Vessel design speed (knot)	14.6	14.6	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7	14.7
Gross transportation capacity	12.1	14.0	15.0	15.8	16.3	16.7	17.1	18.0	19.1	20.2	20.8	21.4	21.7
Actual port ratio (% of total time)	39%	37%	33%	30%	28%	27%	26%	25%	25%	25%	24%	24%	23%
Normal port operations	-4.7	-5.2	-5.0	-4.7	-4.6	-4.6	-4.4	-4.5	-4.8	-5.0	-5.0	-5.2	-5.1
Floating storage	-0.8	-0.8	-0.8	-0.9	-1.0	-1.1	-1.1	-1.2	-1.2	-1.3	-1.3	-1.3	-1.3
Floating storage (% of capacity)	-7%	-6%	-5%	-6%	-6%	-6%	-6%	-6%	-6%	-6%	-6%	-6%	-6%
Bunker price (HFO, USD/tonne)	472	354	450	618	640	595	532	264	213	300	340	284	219
Bunker price (MGO, USD/tonne)	918	529	683	944	955	904	817	480	383	495	564	550	548
Optimal vessel speed (knot)	14.1	13.9	11.9	10.9	10.3	11.0	11.2	14.8	15.3	13.6	12.8	13.5	12.7
Historical vessel speed (knot)	14.5	14.1	12.6	11.2	10.7	10.4	9.8	9.5	9.5	9.4			
Forecasted speed (knot)											9.1	9.1	8.9
Historical and forecasted vessel speed (knot)	14.5	14.1	12.6	11.2	10.7	10.4	9.8	9.5	9.5	9.4	9.1	9.1	8.9
Slow steaming (% of total gross capacity)	0%	-2%	-9%	-16%	-19%	-21%	-25%	-26%	-26%	-27%	-29%	-29%	-31%
Capacity taken out in slow steaming	0.0	-0.3	-1.4	-2.6	-3.1	-3.6	-4.2	-4.8	-5.1	-5.5	-6.0	-6.2	-6.6
Net transportation capacity	6.5	7.6	7.8	7.6	7.5	7.5	7.3	7.5	8.1	8.4	8.5	8.8	8.7
Net capacity growth (YOY, %)	15%	17%	3%	-3%	-1%	-1%	-2%	3%	7%	4%	2%	3%	-1%

Source: Clarkson, Kepler Cheuvreux

Valuation, target prices and risks

Oil tanker universe

Initiating coverage on Frontline, Euronav, DHT, and Concordia Maritime

In this report we initiate coverage on the tanker companies, Frontline, Euronav, DHT Holdings and Concordia Maritime. In addition, we include Teekay Tankers (TNK), Nordica American Tankers (NAT) and Scorpio Tankers (STNG) as peers in our tanker universe.

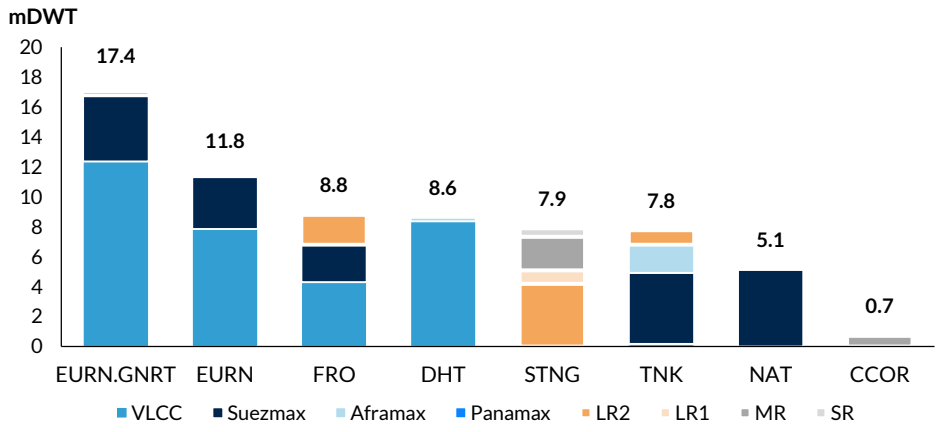
- **Frontline (FRO)**: Frontline is one of the world's largest crude oil tanker companies, listed on the Oslo and New York Stock Exchanges (FRO). Its core fleet consists of 56 crude tankers, 47 of which are fully owned (including five newbuilds), eight are leased on long-term capital leases, and one is chartered in on a short-term contract.
- **Euronav (EURN):** Euronav is a crude tanker company listed on Euronext Brussels and the New York Stock Exchange (EURN) with a long history in the shipping industry. Historically, it has maintained a conservative financial profile, and its current net leverage ratio of 38% is much lower than other tanker peers. In December 2017, the group announced a merger agreement with the US-listed tanker group Gener8, effectively creating the world's largest listed crude tanker company with a combined carrying capacity of about 17.4m DWT.
- **DHT Holdings (DHT):** DHT Holdings is a pure-play crude oil tanker company focussing on the VLCC segment. It has been listed on New York Stock Exchange since 2005 (DHT), as the holding company of DHT Maritime. As of February 2018, DHT's fleet consists of 29 fully-owned crude tankers, including four newbuilds. The fleet is almost purely exposed to the VLCC segment (27), but it also includes two Aframax vessels.
- **Concordia Maritime (CCOR):** Concordia Maritime is a product tanker company listed on the Stockholm Stock Exchange (CCOR). The company currently owns and operates a fleet of 19 vessels (13 owned/leased vessels and 6 vessels on medium/short-term time charters). Of these ten vessels are PMAXs, which have 30% higher carrying capacity than a traditional MR (65,000 DWT versus typically 50,000 DWT).

Fleet composition

Sorted by total fleet capacity (owned fleet only), Euronav is the largest peer in our universe with a total fleet size of 11.8m DWT, followed by Frontline at 8.8m DWT, and DHT at 8.6m DWT. In December 2017, Euronav and Gener8 announced a merger agreement, and the combined entity will become by far the largest listed tanker company with fleet capacity of 17.4m DWT and a market cap of USD1.8bn.

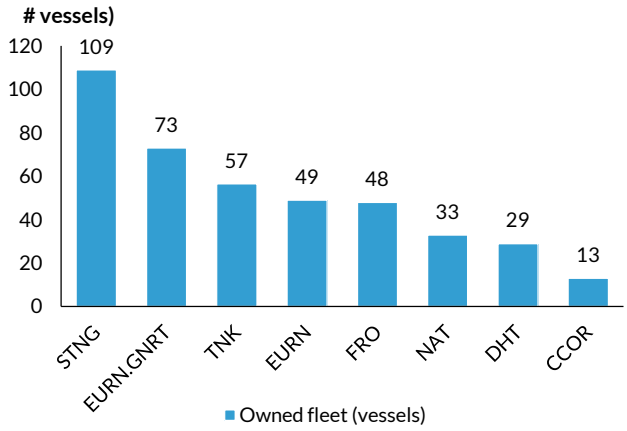
Within the tanker segment, we classify vessels into two subgroups: 1) crude oil tankers; and 2) oil product tankers. The majority of peers primarily focus on crude oil segments (Euronav, Frontline, DHT, Teekay Tankers and Nordic American Tankers), and their fleets consist mostly of VLCC and Suezmax vessels with carrying capacities above 200,000 DWT. Scorpio Tankers and Concordia specialise in product tankers, which are smaller vessels with capacities of 25,000-80,000 DWT.

Chart 255: Tanker peers sorted by fleet size (owned vessels only, DWTm)



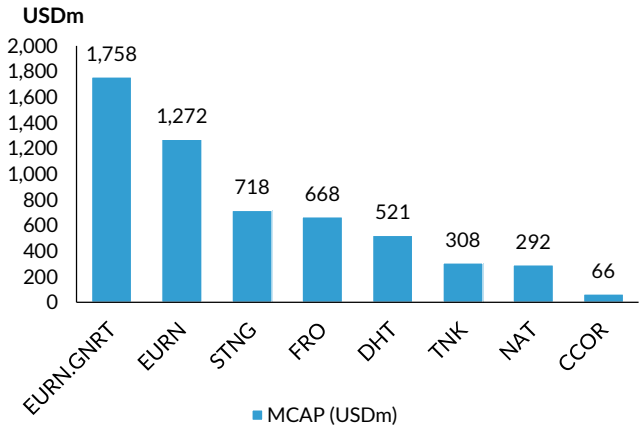
Source: Kepler Cheuvreux

Chart 256: Vessels owned by tanker peers (proportionate)



Source: Kepler Cheuvreux

Chart 257: Market cap for tanker peers (USDm)



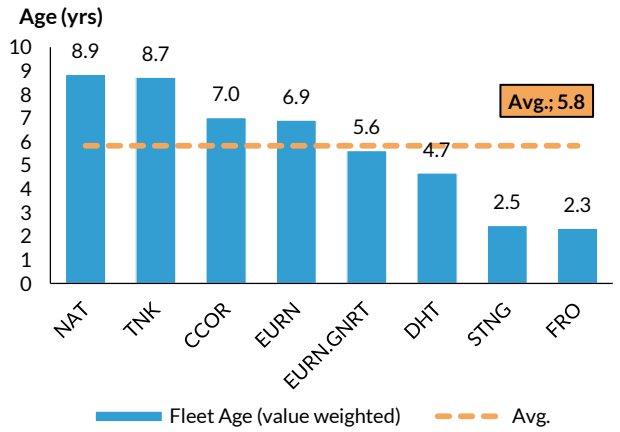
Source: Kepler Cheuvreux

Financial and operational leverage

Financial leverage and fleet age are key metrics for determining the equity risk of a shipping company. In general, an older and more leveraged fleet will increase the equity's exposure to changes in asset values.

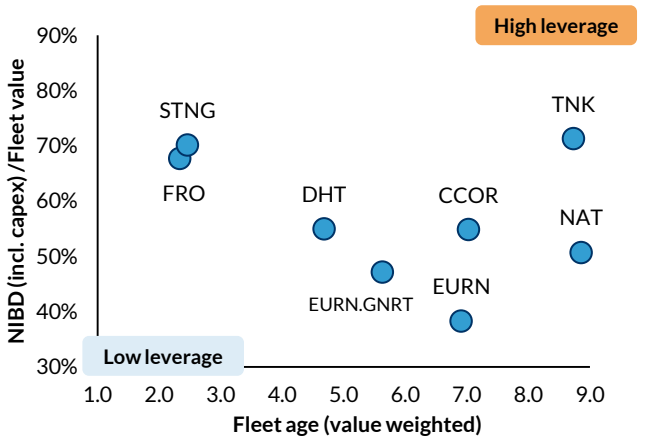
For our listed tanker peers, the average fleet age is 5.5 years, but it ranges from 2.3 to 8.9 years. Modern fleets at Frontline and Scorpio Tankers are a result of large newbuild programmes with delivery taken in 2014-17. This contrasts with the more diversified fleets of Nordic American Tankers, Teekay Tankers, and Euronav, which have combined older vessels with ordering newer tonnage.

Chart 258: Avg. fleet age for Tanker peers (value weighted)



Source: Kepler Cheuvreux

Chart 259: Leverage ratio (NIBD/fleet value) versus fleet age

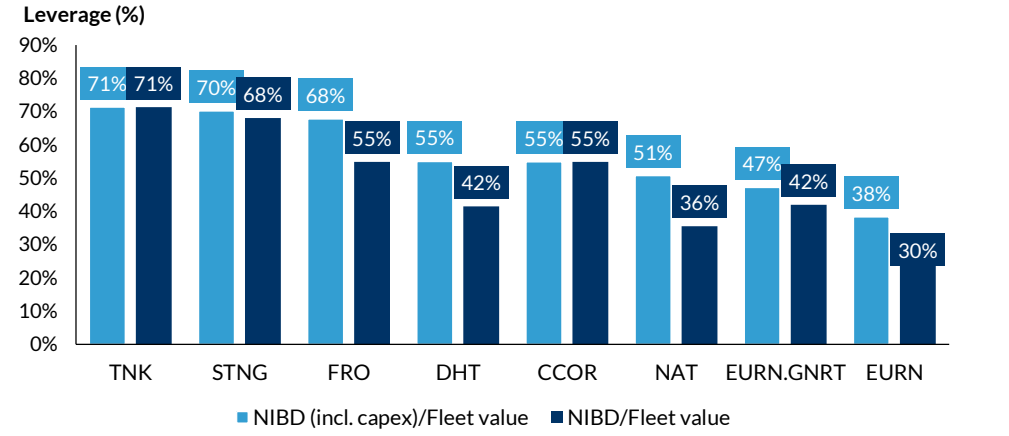


Source: Kepler Cheuvreux

From a strategy perspective, lower operational leverage (due to a younger fleet) is typically offset by higher financial leverage. For instance, the two most modern fleets, Frontline and Scorpio Tankers, have the highest net leverage ratios at 65-70%. The only real exception to this rule-of-thumb in our peer group is Teekay Tankers, with a high average fleet age of 8.7 years, combined with high financial leverage.

In our net leverage calculations, we include outstanding newbuild capex as part of the companies' net financial obligations. As of Q4 2017, Frontline, DHT, Euronav and Nordic American still has remaining vessels in their newbuild programmes.

Chart 260: Net leverage ratio for tanker peers



Source: Kepler Cheuvreux

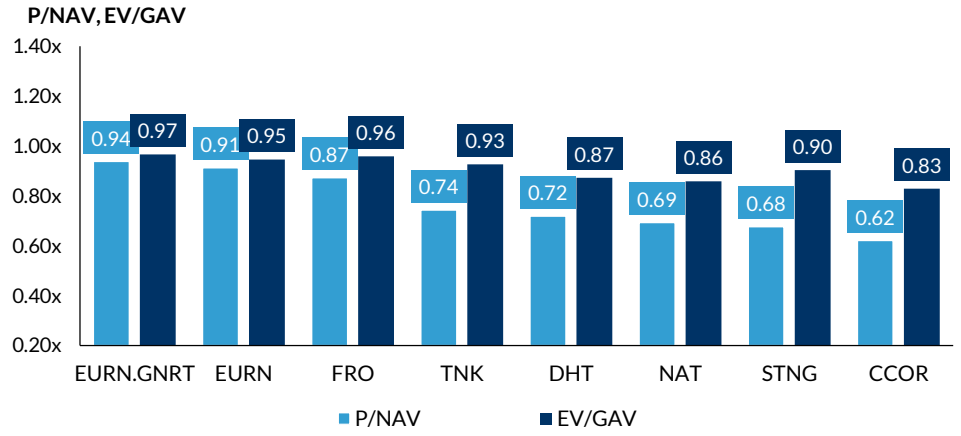
Be cautious when choosing tanker stocks for 2018

Fear of short-term weakness offsets bullish long-term outlook

We find tanker stocks compelling over a longer time span, due to attractive valuations against low-cycle values. Currently, most of the tanker segment trades at 0-15% discounts to underlying asset values (EV/GAV average 0.9x). Our peer analysis

indicates that the implied five-year-old VLCC value from today's stock prices is USD63m, more than 20% below the 2015 high of USD80m.

Chart 261: P/NAV and EV/GAV for peers relative current market values



Source: Kepler Cheuvreux

Despite bullish valuation, we are sceptical on tanker stocks in the short term, as we fear that continued weak freight rates may put pressure on NAVs and perhaps also result in liquidity challenges in some of the companies. Given our view that freight rates will stay at or below cash breakeven levels throughout 2018E, we expect vessel values to remain depressed for the coming year. In addition, we see downside risk to 2018-19 consensus estimates for our covered companies, especially as current spot rates are near opex levels. If rates stay lower for longer, we fear that increasing liquidity risk will take focus away from cheap valuations in the coming months.

Thus, until we reach a turnaround in 2020E, we prefer companies that preserve cash best (Euronav, Frontline), and avoid those with risky balance sheets.

Three reasons to postpone investments in tanker stocks for 2018 (Hold):

- High supply growth will extend rate weakness
- Little upside in NAV valuations on a short-term basis
- We are worried that liquidity risk will become a central topic in 2018

There are good reasons to Buy tanker names when the market turns around:

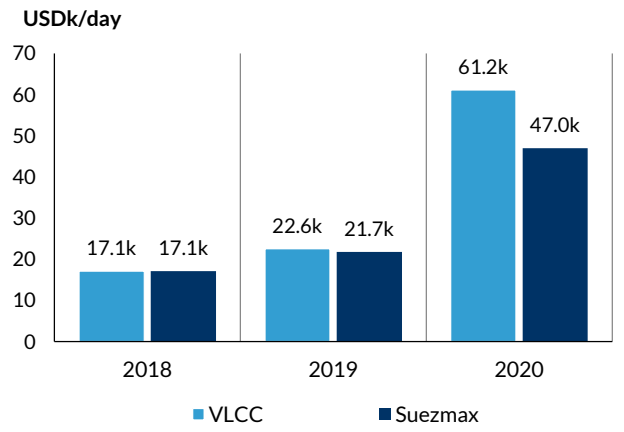
- Tanker stocks are valued at a 0-15% discount to historically low asset values
- High operational and financial leverage gives massive upside to both earnings and valuation once the market get better

Hold, reason one: high supply growth extends rate weakness

2017 was difficult for the crude tanker market, and we expect more of the same in 2018. That said, we think that US crude exports are likely to continue to grow and the reduction in floating storage has come to an end. Fleet growth simply remains too strong, and H1 2019 may also be a disappointing six months with spot rates at or below cash breakeven levels.

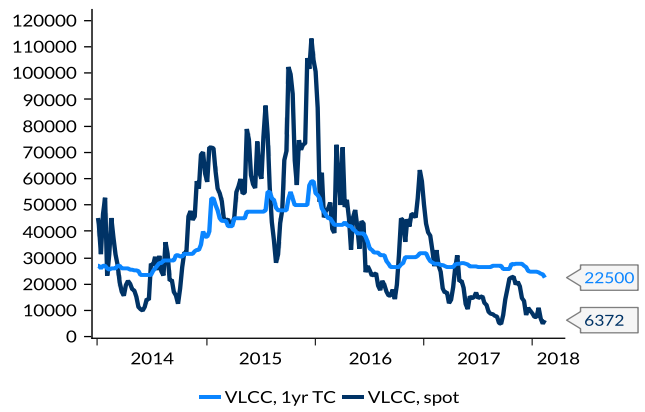
We model VLCC rates of USD20,300 per day for 2018E and USD22,900 per day for 2019E. We see downside risk on consensus EBITDA of 15-40% for our tanker peers. We think the high supply growth may extend rate weakness for longer than consensus expects. While we see a tanker market recovery scenario as of 2020E (more dramatically than consensus), we are sceptical on tanker earnings in the short term.

Chart 262: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

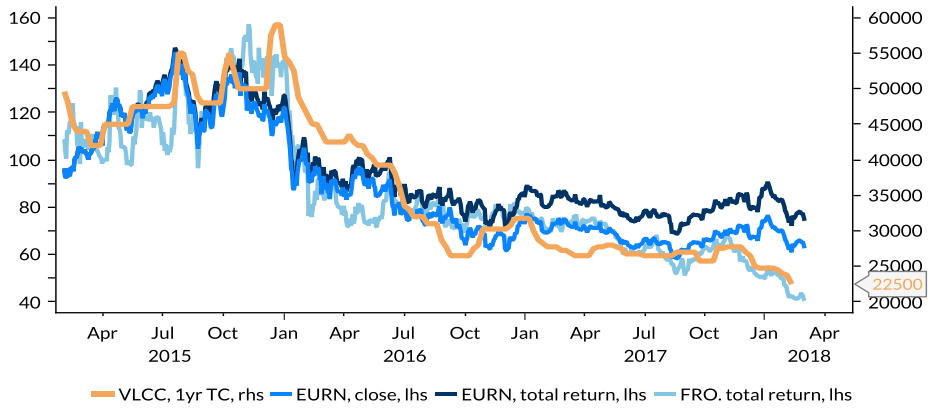
Chart 263: Clarkson's VLCC rates (spot and on one-year time charter)



Source: Kepler Cheuvreux

Despite already weak development in tanker shares, we fear that we could see more of the same, as we forecast continued pressure on freight rates. Tanker shares typically follow the one-year VLCC time charter contract closely, and as we already think Q1 2018 rates are on the weak side relative our 2018E estimates, we expect to see continued downward momentum. Moreover, as Q1 and Q2 are typically characterised by stronger rates, we see downside risk to both our and consensus estimates for 2018E if rates do not recover within the next few months.

Chart 264: EURN, FRO and DHT share prices versus one-year time charter contract for VLCCs



Source: Kepler Cheuvreux

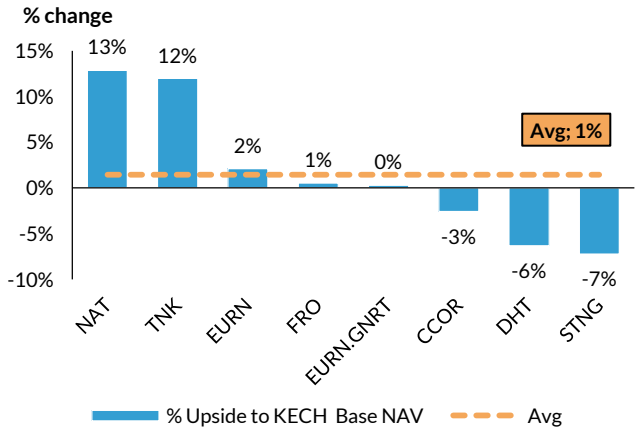
Hold, reason two: lower rates equals low upside in NAV valuation on a short-term basis

With low freight rates, we expect to see continued weak vessel values for 2018E. When we use our rate forecast for the VLCC segment, we estimate a five-year-old vessel value of USD63m one-year forward, flat from the current Clarkson estimate. The chart to the left below shows the changes in NAV to our base-case one-year forward scenario. On average, we see only 1% upside in NAV valuations for our peers. Although we expect some cash generation over the next 12 months, this will not be enough to offset the value decline from vessels becoming a year older.

The differences between peers are primarily due to vessel age, as older fleets have slightly higher upside than more modern ones. The reason is that a vessel generates the same cash flow regardless of the age, but a modern vessel has a relatively larger value decline as it ages by a year.

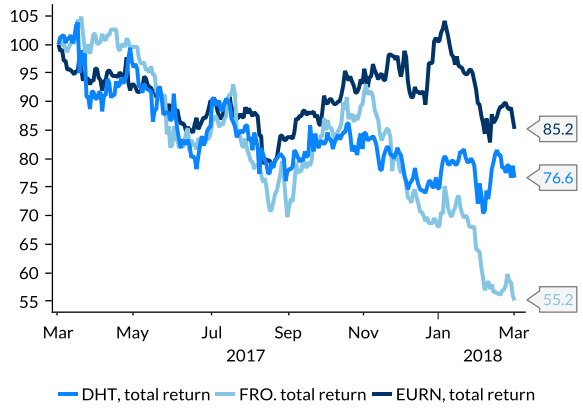
After a drop in tanker shares since December 2017, we find most peers trading at a 0-15% discount to underlying vessel values, or 0-40% on an equity basis (average EV/GAV of 0.91x and P/NAV of 0.77x). On the back of this discount to valuations, it is tempting to think that tanker stocks must be cheap right now. Of course, on a longer-term basis, we agree with this argument, but as we see a prolonged period of weak freight rates in 2018E, we emphasise our scepticism on a short-term basis. In our view, continued weak rates could switch market focus towards balance sheet risk, which would naturally lead to discount valuations for more leveraged peers with tight liquidity situations.

Chart 265: Change in tanker NAVs to our base-case scenario



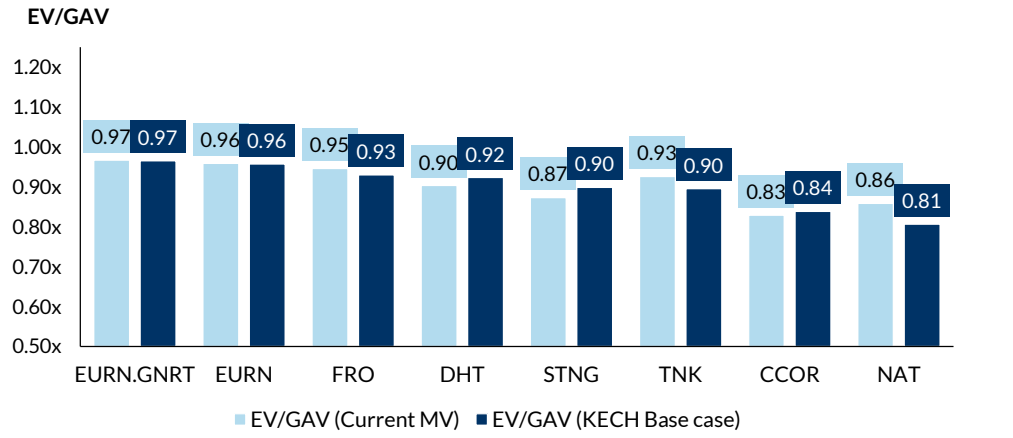
Source: Kepler Cheuvreux

Chart 266: LTM share price development for tanker peers



Source: Kepler Cheuvreux

Chart 267: EV/GAV valuation for tanker peers relative to current and base-case vessel values



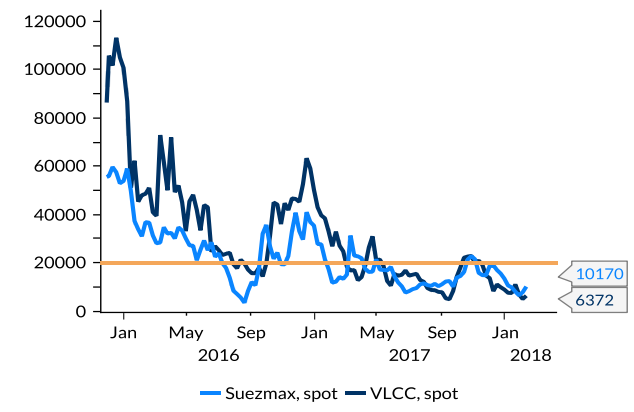
Source: Kepler Cheuvreux

Hold, reason three: we fear liquidity may be a topic in 2018

With current VLCC and Suezmax spot rates below cash breakeven levels, we are worried that liquidity risk will become a central topic for tanker stocks in 2018. The severity of the downturn will, of course, depend on how low rates fall, but at current opex levels of USD6,000-10,000 per day, the cash burn for our companies is significant.

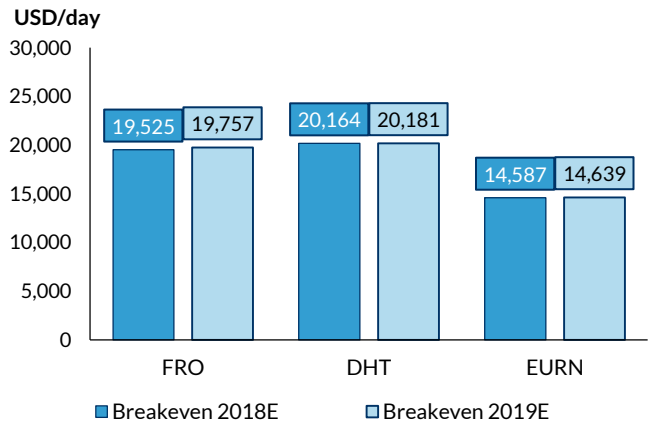
In our company sections, we stress-test their liquidity positions by assuming VLCC rates stay at opex levels (USD10,000 per day) throughout our model period. Overall, we find that Euronav is likely to be the best positioned to prolonged rate weakness, due to its low debt amortisation payments, combined with high available liquidity and no major debt instalments before 2020E. Euronav thus remains our favourite name in the segment, followed closely by Frontline, whose liquidity position should also last until 2019 with opex-level rates. The latter could come as a surprise, given Frontline's high financial leverage ratio, but it has substantial available credit facilities and no major debt instalments before 2020E.

Chart 268: VLCC and Suezmax spot rates



Source: Kepler Cheuvreux

Chart 269: Estimated cash breakeven rates 2018-19E



Source: Kepler Cheuvreux

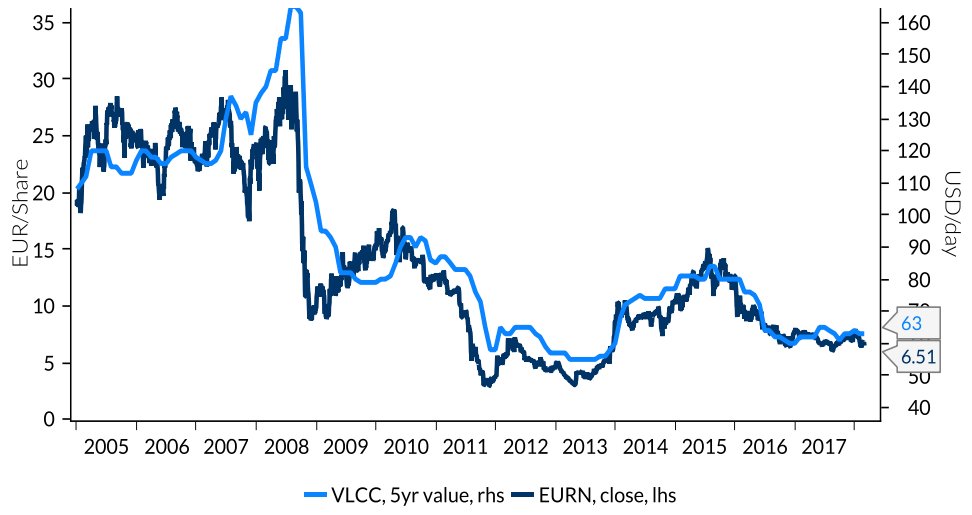
When the market turns, tanker stocks may offer a significant investment opportunity with attractive valuation

While we are cautions on tanker stocks in 2018E, we remind investors that there is significant upside potential in a long-term recovery scenario. Currently, Clarkson quotes the price for a five-year-old VLCC at USD63m, down 23% from the peak in mid-2014 (USD84m). The resale price is USD84m, on par with the current newbuild price of USD83.5m, but it still low in a historical context.

Currently, the most of the tanker segment trades at a 0-15% discount to underlying asset values, or 0-40% when taking into account financial leverage (EV/GAV average of 0.9x and P/NAV of 0.8x). As these low valuations are against historically low vessel values, we do not deny that tanker stocks look compelling on a longer-term horizon. That said, taking into account the short-term risks, we prefer companies that preserve cash and have low leverage ratios for now.

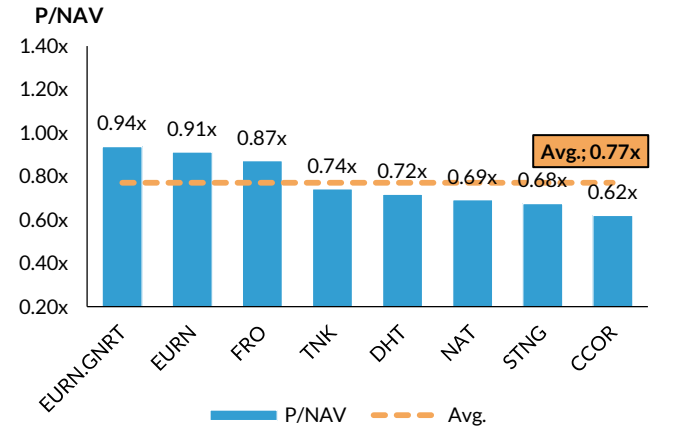
As explained above, Euronav is a natural candidate in such a scenario, due to its solid balance sheet, but with higher valuation and lower leverage, the upside potential is, of course, lower relative to other peers. Frontline could thus be a good alternative for more risk-seeking investors, combining high net leverage ratio with a solid liquid position. However, we must highlight that the risk is considerably higher in Frontline than in Euronav, and for every 10% change in asset values, Frontline's NAV changes by 30%, versus 16-19% for Euronav.

Chart 270: Five-year VLCC value versus Euronav share price



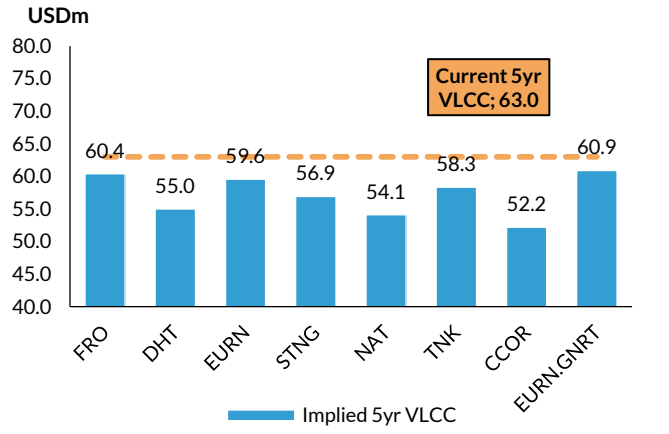
Source: Kepler Cheuvreux

Chart 271: P/NAV versus current market values for peers



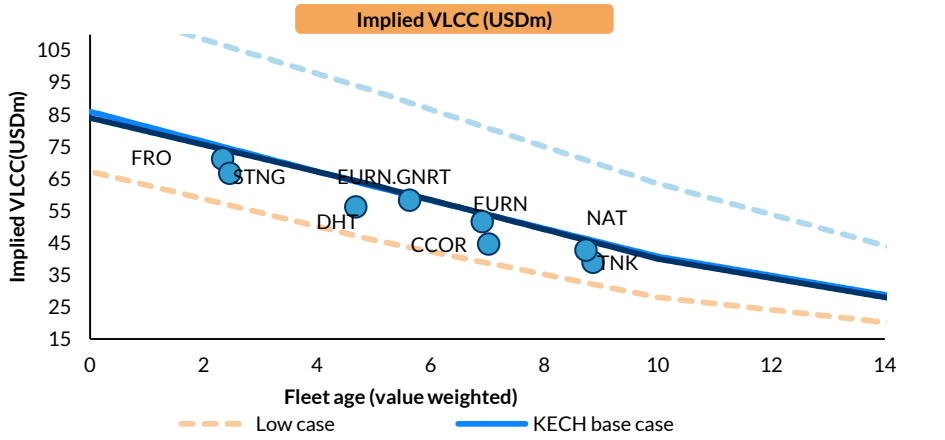
Source: Kepler Cheuvreux

Chart 272: Implied five-year old VLCC value (based on EV/GAV)



Source: Kepler Cheuvreux

Chart 273: Implied VLCC valuation versus our High/Low scenarios for tankers



Source: Kepler Cheuvreux

Tanker stock recommendations

We initiate coverage with Hold ratings on all tanker names

Despite a compelling long-term investment case, we fear the short-term risks will trouble tanker stocks for 2018. We therefore initiate coverage on all stocks with a Hold rating. Until we see a meaningful improvement in the underlying market balance, we will remain cautious towards tanker peers for the upcoming year.

The table below lists a summary of the key metrics, valuation and ratings for our entire crude tanker segment including peers.

Table 16: Summary figures, valuation and sensitivities for tanker peers

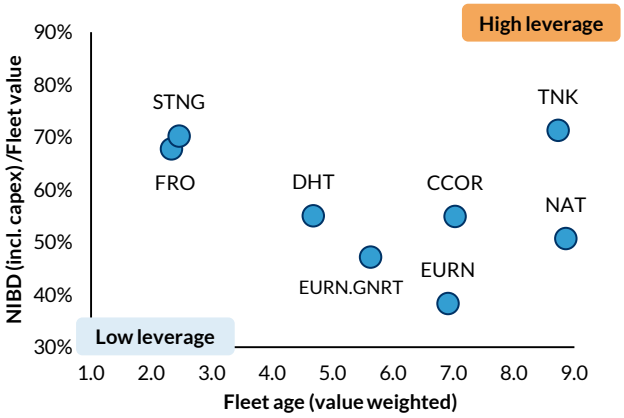
	FRO Frontline	DHT DHT Holdings	EURN Euronav	EURN.GNRT Euronav (merger)	CCOR Concordia Maritime	NAT Nordic American	TNK Teekay Tankers	STNG Scorpio Tankers
KECH recommendations:								
Price	30.8	3.7	6.5		11.5	2.1	1.2	2.2
Rating	Hold	Hold	Hold		Hold	Not covered	Not covered	Not covered
TP	32.0	3.8	6.9		12.5	n/a	n/a	n/a
Upside (%)	4%	4%	6%		9%			
Market info								
# shares	169.8	142.4	159.2	219.9	47.7	141.9	268.2	326.5
Market cap (USDm)	667.7	521.2	1,272.5	1,757.7	66.3	292.4	308.4	718.3
Currency	NOK	USD	EUR	EUR	SEK	USD	USD	USD
Current valuation:								
NAV/share (local)	35.4	5.1	7.1	6.9	18.4	3.0	1.5	3.3
P/NAV (current)	0.87x	0.72x	0.91x	0.94x	0.62x	0.69x	0.74x	0.68x
EV/GAV (current)	0.96x	0.87x	0.95x	0.97x	0.83x	0.86x	0.93x	0.90x
Scenarios:								
Base case (NAV/share)	35.5	4.8	7.3	7.0	18.0	3.4	1.7	3.0
% change	1%	-6%	3%	0%	-3%	13%	12%	-7%
High case (NAV/share)	79.3	9.6	12.2	12.6	27.4	6.2	4.5	6.8
% change	124%	89%	71%	81%	48%	107%	189%	109%
Low case (NAV/share)	3.2	1.7	3.7	3.0	-0.5	1.0	-0.5	-0.7
% change	-91%	-67%	-48%	-57%	-103%	-67%	-132%	-122%
EBITDA 2018, USDm (base case)	164.6	113.2	135.2		8.6			
EBITDA 2019, USDm (base case)	237.8	136.3	208.3		16.0			
EBITDA 2020, USDm (base case)	751.9	514.8	852.3		54.7			
EV/EBITDA 2018E	13.8x	12.4x	15.8x		2.8x			
EV/EBITDA 2019E	9.6x	10.3x	10.3x		1.5x			
EV/EBITDA 2020E	3.0x	2.7x	2.5x		0.4x			
Sensitivities:								
Change NAV per 10% vessel value	232.2	156.6	226.4	355.3	24.4	82.4	142.5	356.3
in % of current NAV	30%	22%	16%	19%	23%	20%	34%	34%
Change EBITDA per USD 1,000 spot	19.1	7.8	16.8		4.3			
in % of 2018E EBITDA	12%	7%	12%		6%			
Fleet info:								
# vessels	48.0	29.0	49.0	73.0	13.0	33.0	56.5	109.0
Fleet value, USDm	2,373.2	1,613.0	2,260.1	3,548.3	236.5	831.5	1,448.1	3,564.5
Avg. fleet age (value weighted)	2.3	4.7	6.9	5.6	7.0	8.9	8.7	2.5
NIBD (incl. capex)/fleet value	68%	55%	38%	47%	55%	51%	71%	70%
Spot days (2018), %	89%	78%	88%		78%			
Spot days (2019), %	100%	96%	100%		98%			
TC in days (2018), %	15%	0%	8%		28%			
TC in days (2019), %	14%	0%	8%		21%			

Source: Kepler Cheuvreux

Risks/scenario analysis

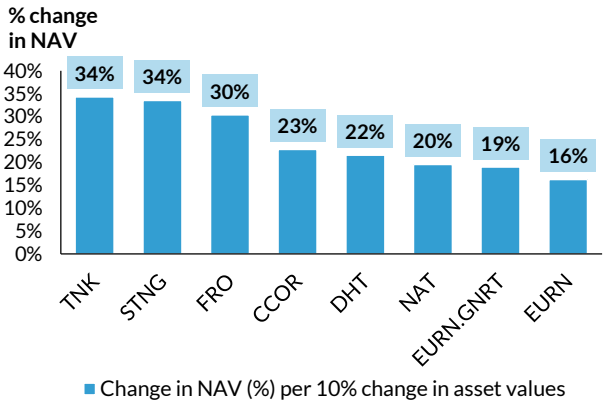
Due to the high volatility of shipping segments, investors should be aware of net asset value sensitivity to changes in vessel values. The equity exposure to changes in asset values is enhanced by financial leverage and the age of the underlying fleet. In the charts and tables below, we list tanker peers' NAV sensitivity to changes in asset values, including a scenario analysis with different high/low values.

Chart 274: Financial leverage (NIBD) versus fleet age



Source: Kepler Cheuvreux

Chart 275: Percentage change in NAV versus 10% change in asset values



Source: Kepler Cheuvreux

Table 17: Summary of NAV scenarios for our tanker peer universe

	Current NAV		KECH base case NAV			KECH low case NAV			KECH high case NAV		
	USDm	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV
Peer group NAV:											
FRO	765	0.87x	770	1%	0.87x	70	-91%	9.54x	1,718	124%	0.39x
DHT	726	0.72x	680	-6%	0.77x	242	-67%	2.16x	1,372	89%	0.38x
EURN	1,395	0.91x	1,433	3%	0.89x	729	-48%	1.75x	2,382	71%	0.53x
EURN.GNRT	1,875	0.94x	1,881	0%	0.93x	812	-57%	2.17x	3,400	81%	0.52x
STNG	1,063	0.68x	986	-7%	0.73x	-237	-122%	n/a	2,225	109%	0.32x
NAT	422	0.69x	477	13%	0.61x	140	-67%	2.09x	876	107%	0.33x
TNK	415	0.74x	465	12%	0.66x	-134	-132%	n/a	1,202	189%	0.26x
CCOR	107	0.62x	104	-3%	0.64x	-3	-103%	n/a	159	48%	0.42x
Average		0.77x		2%	0.76x		-86%	3.54x		103%	0.39x
Asset values:											
VLCC (resale)	84.0		85.9	2%		67.3	-20%		119.2	42%	
VLCC (5yr)	63.0		62.6	-1%		45.9	-27%		92.4	47%	
VLCC (10yr)	40.0		40.8	2%		28.0	-30%		63.5	59%	
Suezmax (resale)	56.5		60.4	7%		45.3	-20%		82.4	46%	
Suezmax (5yr)	42.0		46.1	10%		30.5	-27%		68.9	64%	
Suezmax (10yr)	27.0		31.1	15%		18.8	-30%		49.0	82%	

Source: Kepler Cheuvreux

Valuation tables

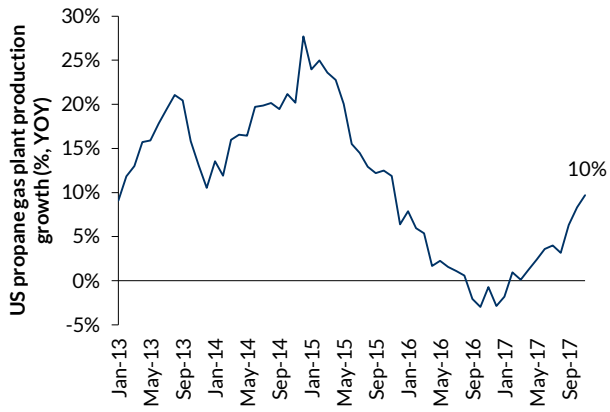
Table 18:NAV breakdown

	Frontline		Euronav		DHT Holdings		Concordia Maritime		Teekay Tankers		Scorpio Tankers		Nordic American Tankers	
	Hold, TP 32 Currency: NOK		Hold, TP 6.9 Currency: EUR		Hold, TP 3.8 Currency: USD		Hold, TP 12.5 Currency: SEK		Not covered Currency: USD		Not covered Currency: USD		Not covered Currency: USD	
NAV (USDm)	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current
Fleet:														
VLCC	10	591	39	2,384	23	1,205			1	31				
Suezmax	16	684	24	610					30	856			30	654
Aframax			1	11	2	25			17	308				
Panamax			2	20										
LR2	17	668							9	230	38	1,483		
LR1											12	417		
MR							11	244			43	1,237		
SR											14	356		
FSO			2	218										
Fleet on water	43	1,942	68	3,244	25	1,230	11	244	57	1,425	107	3,493	30	654
Newbuildings	5	380	5	309	4	336	0	0	0	0	2	70	3	170
Total fleet value (USDm)	48	2,322	73	3,553	29	1,566	11	244	57	1,425	109	3,563	33	824
MTM contract portfolio		51		-4		47		-7		23		1		8
GAV (USDm)		2,373		3,548		1,613		237		1,448		3,564		831
NIBD		-1,302		-1,488		-669		-130		-1,033		-2,428		-296
Future capex		-305		-186		-218		0		0		-74		-126
NAV (USDm)		765		1,875		726		107		415		1,063		422
# shares (fully delivered)		169.8		219.9		142.4		47.7		268.2		326.5		141.9
NAV/share (local)		35.36		6.94		5.10		18.45		1.55		3.26		2.97
Share price (local)		30.84		6.51		3.66		11.45		1.15		2.20		2.06
P/NAV		0.87x		0.94x		0.72x		0.62x		0.74x		0.68x		0.69x
EV (USDm)		2,275		3,431		1,409		196		1,341		3,220		714
EV/GAV		0.96x		0.97x		0.87x		0.83x		0.93x		0.90x		0.86x

Source: Kepler Cheuvreux

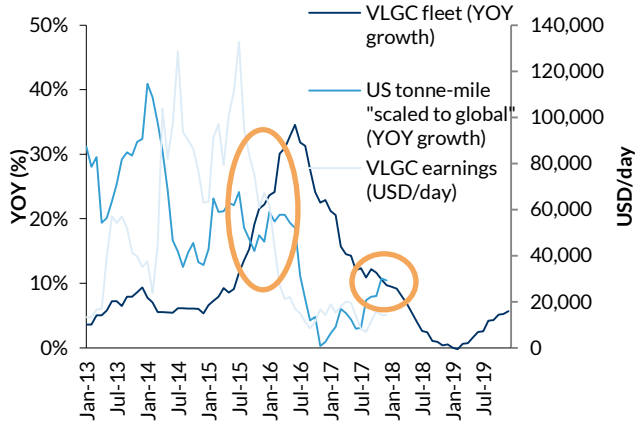
Investment case in six charts

Chart 276: US LPG production growth is growing again and...



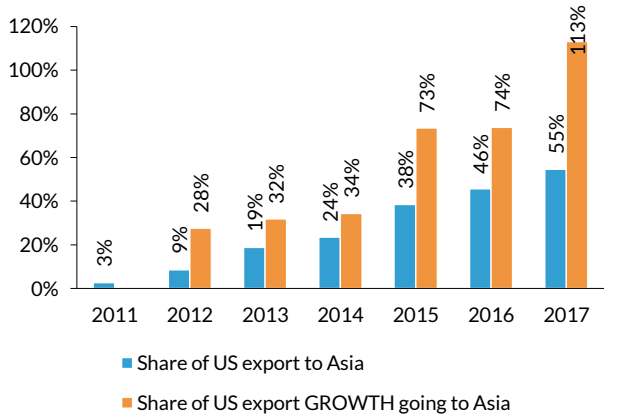
Source: US Census, Kepler Cheuvreux

Chart 277: ...now demand is starting to grow faster than supply



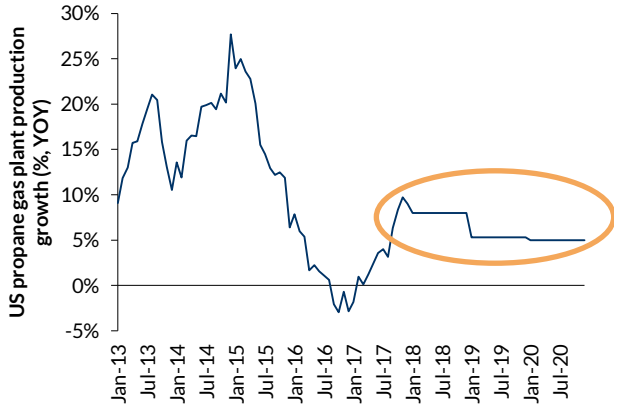
Source: US Census, Kepler Cheuvreux

Chart 278: Asia consumes everything...and then some



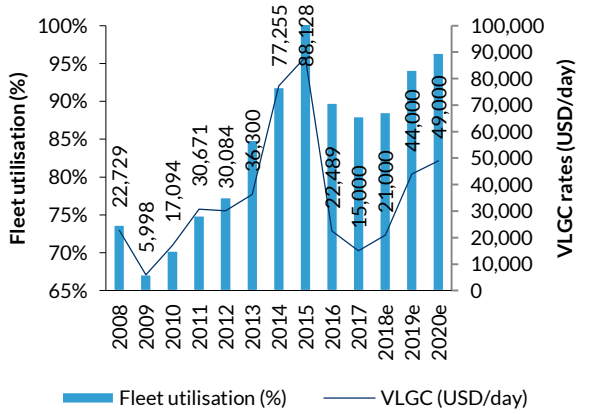
Source: EIA, Kepler Cheuvreux

Chart 279: Although we are cautious in our modelling...



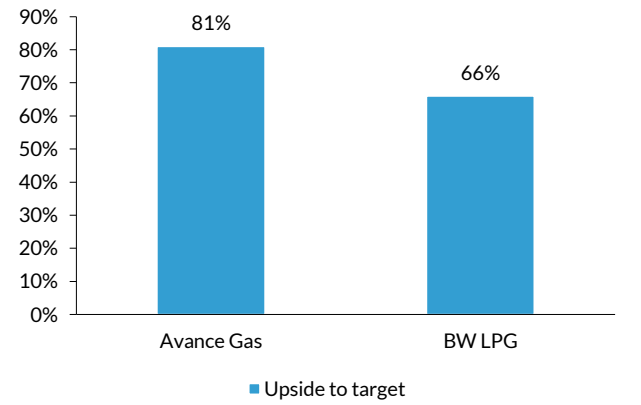
Source: EIA, Kepler Cheuvreux

Chart 280: ...the result is fleet utilisation up to mid-90%, which puts the market in auction mode and rates should rise...



Source: Clarkson, Kepler Cheuvreux

Chart 281: ...resulting in an average c. 70% upside in the two equities we cover



Source: Kepler Cheuvreux

LPG shipping investment case summary

Liquefied petroleum gas (LPG) shipping continues to be a clean play on the US shale story. In November, US propane gas plant production growth again reached 10% YOY. The last time propane production growth reached that number (on its way up) was in 2012-13, when very large gas carrier (VLGC) rates started to appreciate to what turned out to be all-time highs. Latest data, i.e. November/December 2017, shows demand is growing at the same rate as the fleet, about 10% YOY, but the only thing that seems certain in the LPG puzzle is that fleet growth will continue to decline: we expect about 2% fleet growth in 2018 and 4% in 2019, down from 9% in 2017 and 18% in 2016. This, coupled with the momentum in the US shale industry, makes it hard not to become enthusiastic about LPG shipping stocks, where the assets trade at a 10-14% discount to the level they "should", given where the TC market is today, and the stocks themselves trade at an average EV discount of c. 15%. This makes LPG shipping our favourite segment, and our favourite name is Avance Gas (TP NOK35), followed by BWLPG (TP NOK56). We find an average c. 70% upside, as we expect rates to creep towards USD50,000 per day in 2020.

US production growth is picking up again...

In November, US propane gas plant production growth reached double-digit rates again (on its way up) on a YOY basis for the first time since the start of 2013. This is clearly the most important driver for the LPG shipping market, and if we were to assume the same growth path for gas plant production as in the 2013-16 cycle, we would need 60 more VLGCs ordered for 2020 delivery to handle US propane production, compared with our base case. We expect the fleet to grow on average by 4%, while demand should grow by 6% a year. We then think rates will average in the USD40,000-50,000 per day range in 2019E and 2020E.

...and from *now* on demand is set to outgrow supply

With growth in US export having accounted for about 75% of global growth in the past five years, it seems fair to compare the change in US exports directly with the global fleet of VLGCs. When we do that, we find that it was *now* in November/December 2017 that demand growth caught up again with fleet growth. With the current order book, it is practically impossible to see anything other than slower fleet growth in the months ahead (we see 2% fleet growth in 2018E, down from 9% in 2017E). Hence, we expect an inflection point to soon be reached, and when that happens, we would recommend being long LPG shipping.

A growth story at half price, though not without risk

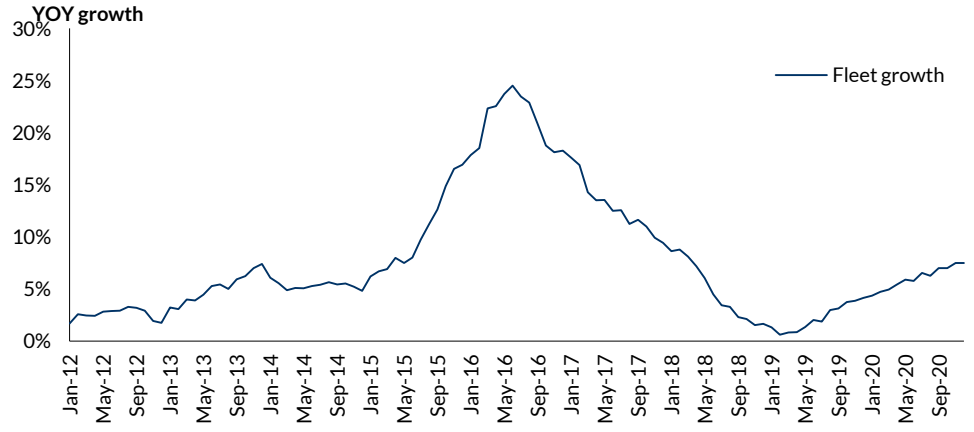
As the upside for the LPG shipping market is driven by activity in the US shale industry, the main risk also relates to US output. As proven in H2 2014, if other hydrocarbon producers aim for a volume maximising strategy, the US shale industry is vulnerable. Specifically, if OPEC abruptly diverges from its strategy of reducing output and again drives down prices, LPG shipping would be hurt again. For now, however, equities can be bought at an implicit average of c. 0.5x P/NAV, as both vessel values and equities are priced below their fair values. It is well worth it.

LPG shipping supply

The LPG fleet is now (end-January) 31.9m m3 (cubic metres), and we expect it to grow only 2% in 2018, 4% in 2019 and 7% in 2020. The fleet has grown on average by 8% over the past ten years, and we expect 4% average annual growth in 2018-20.

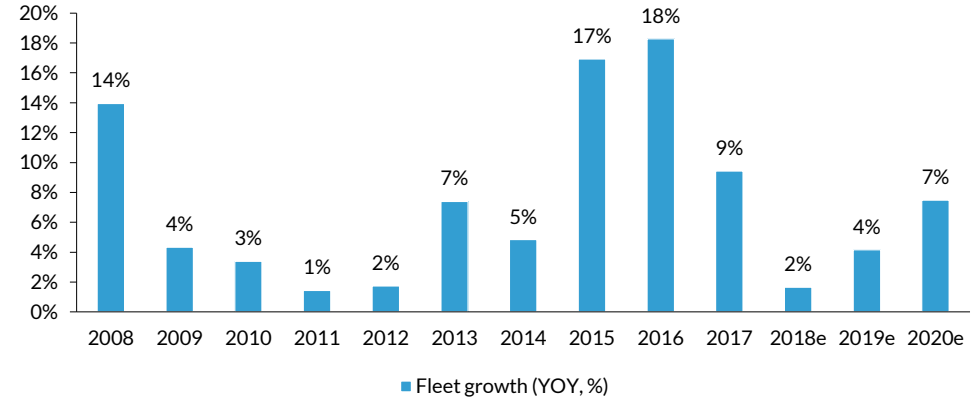
Behind these net growth estimates are expectations of 3%, 5% and 9% deliveries (as a percentage of the fleet at the start of the year and adjusted for slippage) in 2018, 2019 and 2020, respectively. Although we expect a small increase in scrapping from 1% to 2% in 2018, we generally do not expect any significant scrapping in our forecast period despite new regulations also being relevant for the LPG segment, given our positive rate outlook; for 2019-20 we assume 1%.

Chart 282: YOY LPG fleet growth, monthly time resolution



Source: Clarkson, Kepler Cheuvreux

Chart 283: Annual LPG fleet growth



Source: Clarkson, Kepler Cheuvreux

Fleet overview

We expect the fleet to grow by 2% in 2018, 4% in 2019 and 7% in 2020. Over the past ten years, the fleet has grown on average by 8%, and we expect 4% average

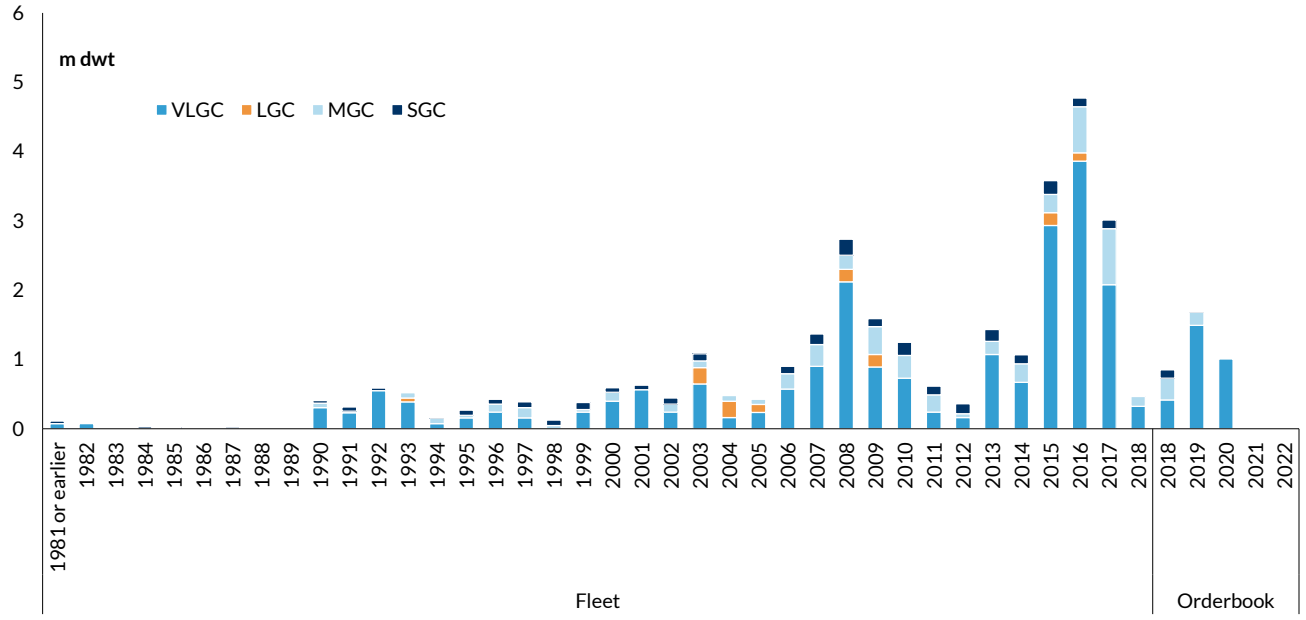
annual growth in 2018-20. Fleet growth in 2020E of 7% drops to 3% if we only include the current order book (i.e. without any further contracting for 2020).

The LPG fleet is now (end-January) 31.9m m3, comprising 69% VLGCs (very large gas carriers, those above 65,000 m3), 4% LGCs (large gas carriers, between 45,000 and 65,000 m3), 17% MGCs (medium gas carriers, between 20,000 and 45,000 m3) and 9% SGCs (small gas carriers, below 20,000 m3).

The average age of the vessels is 10.1 years (8.6, 10.8, 8.4 and 12.1 for VLGCs, LGCs, MGCs and SGCs, respectively).

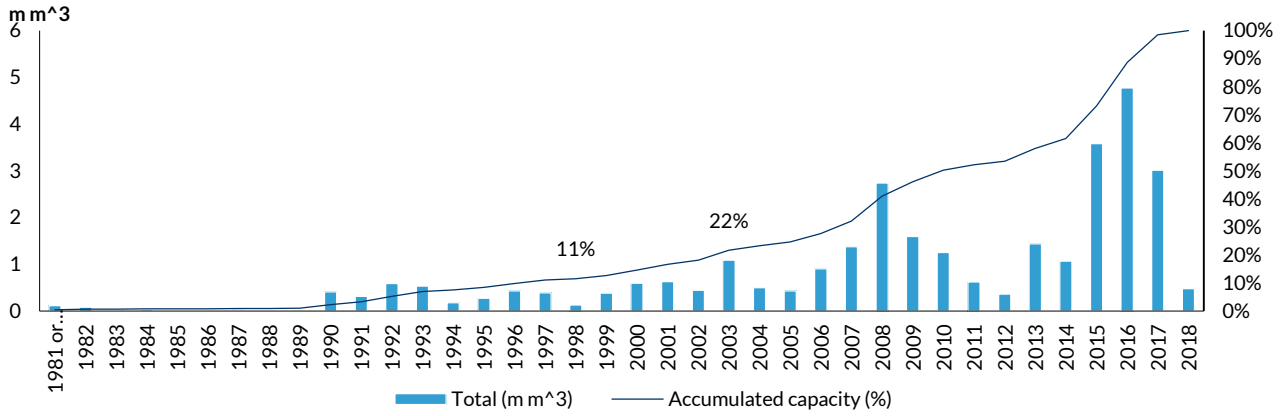
Chinese yards have built 8% of the current fleet, Japanese yards 31%, and South Korean yards 57%.

Chart 284: LPG fleet and order book by year of delivery



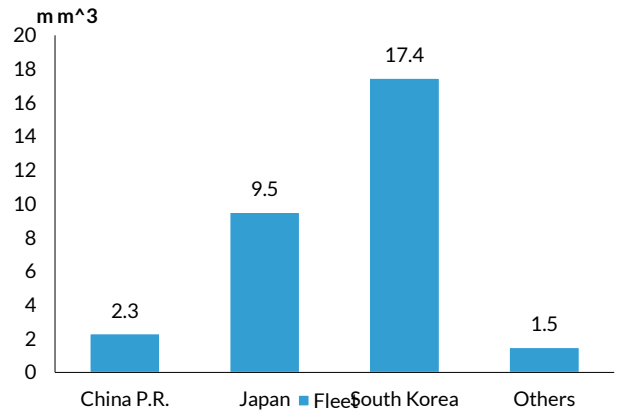
Source: Clarkson, Kepler Cheuvreux

Chart 285: LPG fleet by year of delivery; 11% will be 20 or more years old this year, while 22% will be 15 years old, or older



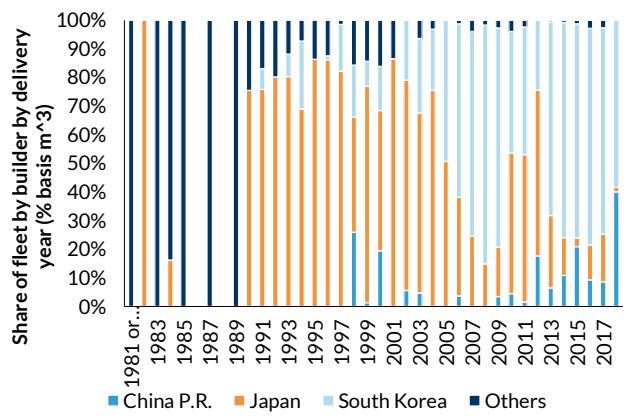
Source: Clarkson, Kepler Cheuvreux

Chart 286: LPG fleet by building country



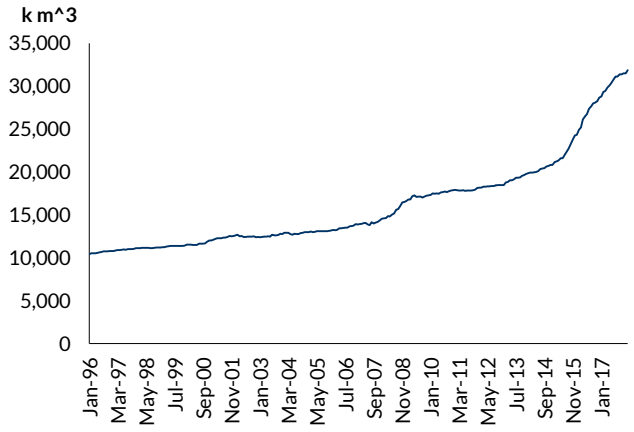
Source: Clarkson, Kepler Cheuvreux

Chart 287: LPG fleet by building country and year of delivery



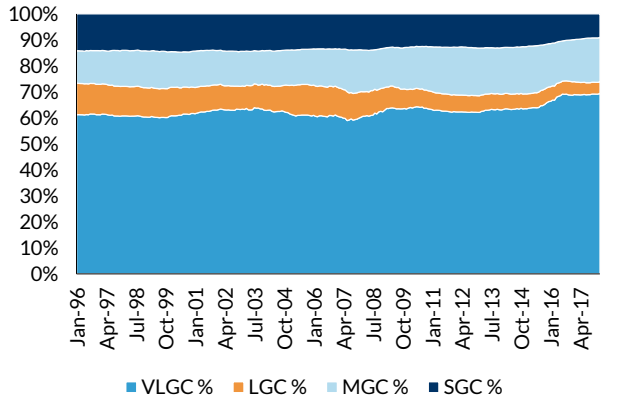
Source: Clarkson, Kepler Cheuvreux

Chart 288: LPG fleet development



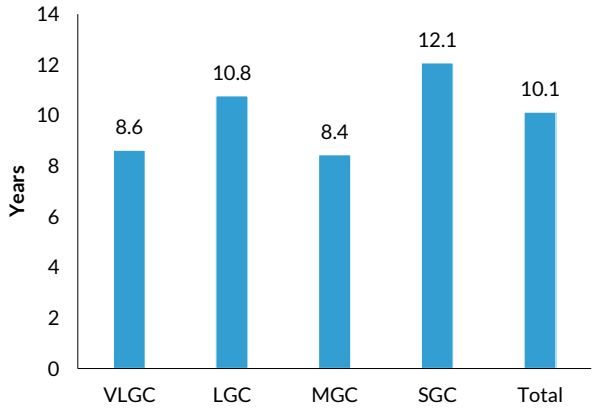
Source: Clarkson, Kepler Cheuvreux

Chart 289: LPG fleet development by vessel size



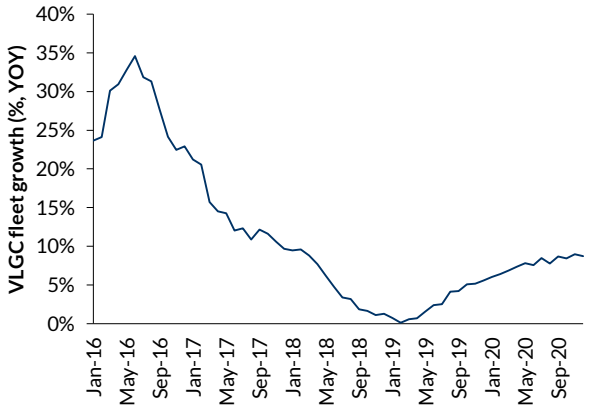
Source: Clarkson, Kepler Cheuvreux

Chart 290: LPG fleet average age, current fleet



Source: Clarkson, Kepler Cheuvreux

Chart 291: VLGC fleet growth, monthly resolution, including forecast



Source: Clarkson, Kepler Cheuvreux

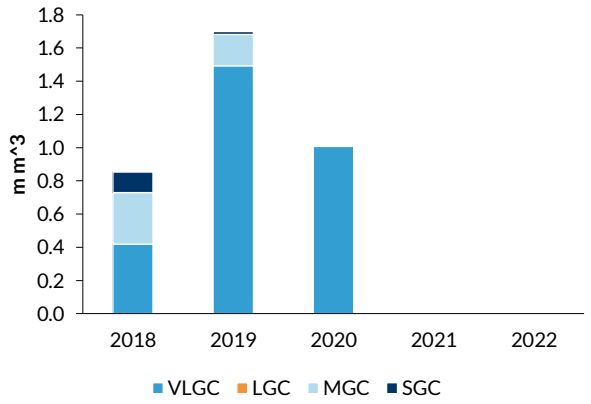
Order book

The order book is (end-January) 3.6m m3 and stands at 11% of the fleet (8% basis vessels). This compares with an average ratio of 30% and 23% for the past five and ten years, respectively. Around 0.9m m3 (24%) of the current order book is expected to be delivered during the remainder (February-December) of 2018, 1.7m m3 (48%) in 2019, and 1.0m m3 (28%) in 2020.

The order book comprises 82% VLGCs, no LGCs, 14% MGCs and 4% below 60,000 m3.

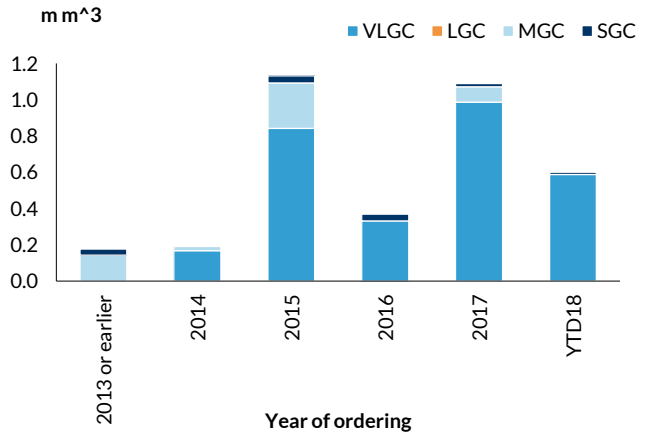
Chinese yards have 33% of the current order book, Japanese yards 30%, and South Korean yards 31%.

Chart 292: Order book by year of delivery



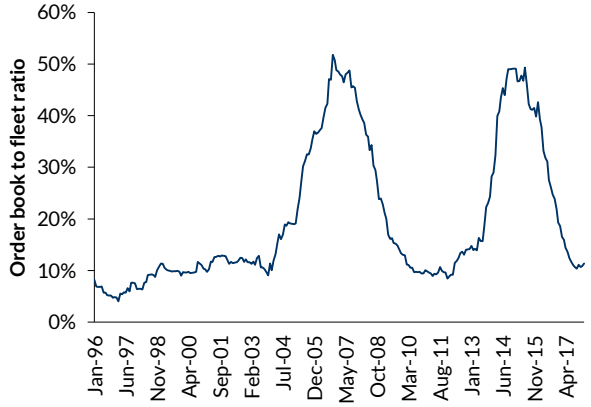
Source: Clarkson, Kepler Cheuvreux

Chart 293: Order book by year of ordering



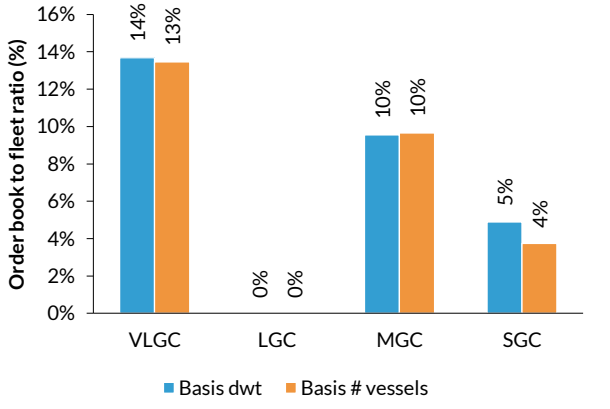
Source: Clarkson, Kepler Cheuvreux

Chart 294: Historical order book to fleet ratio



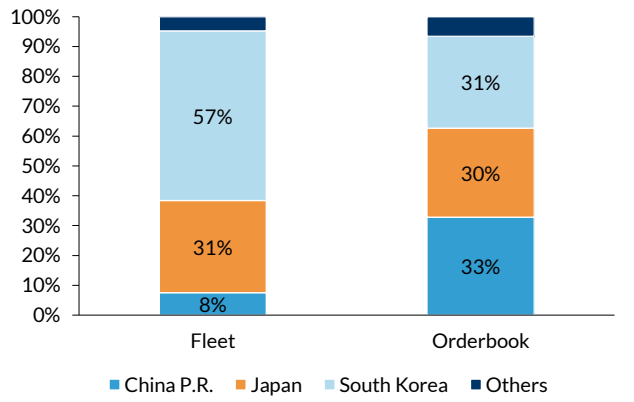
Source: Clarkson, Kepler Cheuvreux

Chart 295: Current order book to fleet ratio



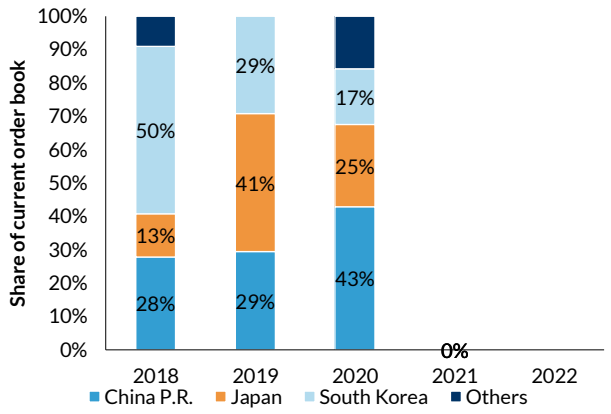
Source: Clarkson, Kepler Cheuvreux

Chart 296: LPG fleet versus order book by building country



Source: Clarkson, Kepler Cheuvreux

Chart 297: Order book by building country

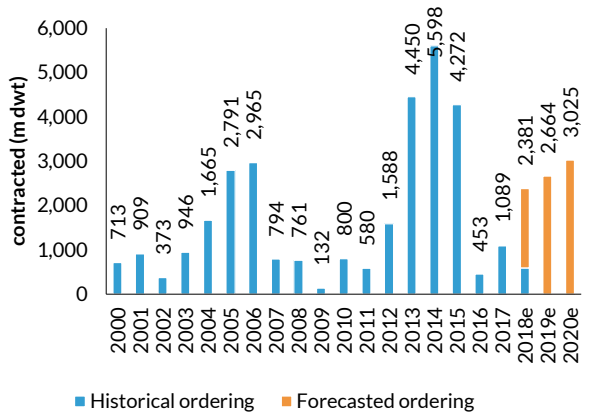


Source: Clarkson, Kepler Cheuvreux

New contracting

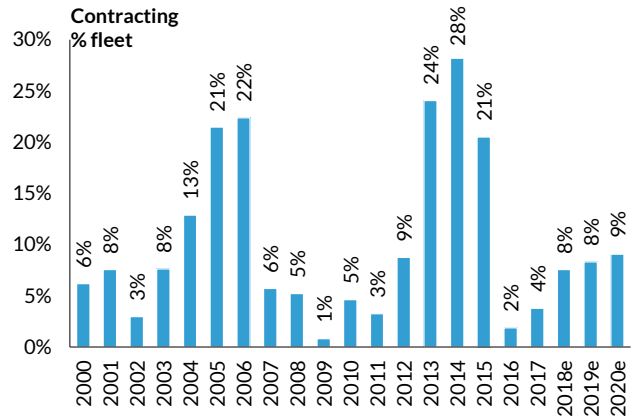
For contracting, we model 2.4m m3 in 2018 (including the 0.6m ordered in January), a 119% increase on the 1.1m m3 ordered in 2017. Compared with the fleet at the start of the year, we expect new orders of 6% in 2018, 7% in 2019 and 8% in 2020.

Chart 298: LPG new ordering by year, including forecasts



Source: Clarkson, Kepler Cheuvreux

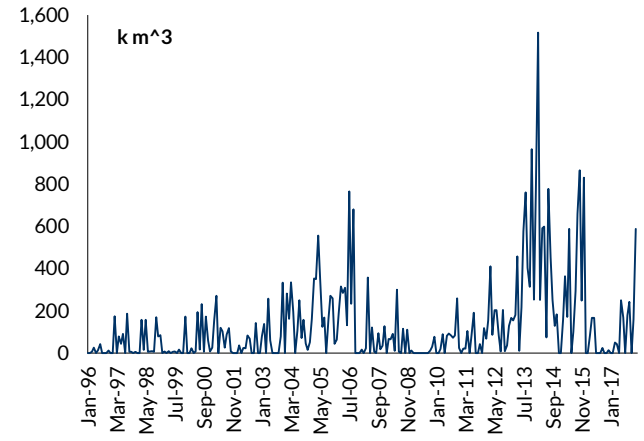
Chart 299: LPG new ordering as % of fleet start of year



Source: Clarkson, Kepler Cheuvreux

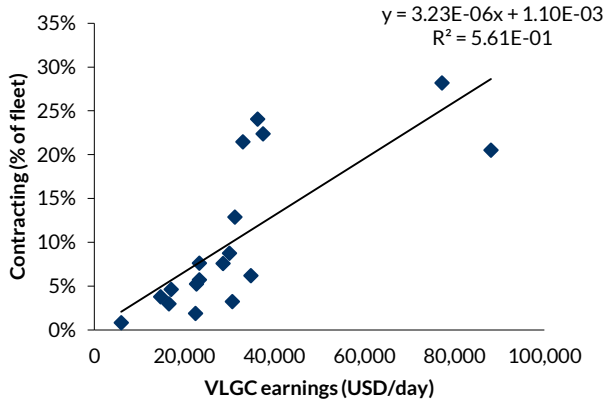
As for the other shipping segments, we model new contracting as an endogenous variable that depends on spot rates (the simple regression model is shown below). Increasing global interest rates and banks' continued reluctance to finance new vessels justify lower contracting estimates than the model output. In our forecasts we have cut our new contracting estimate by 25%.

Chart 300: LPG new ordering by month



Source: Clarkson, Kepler Cheuvreux

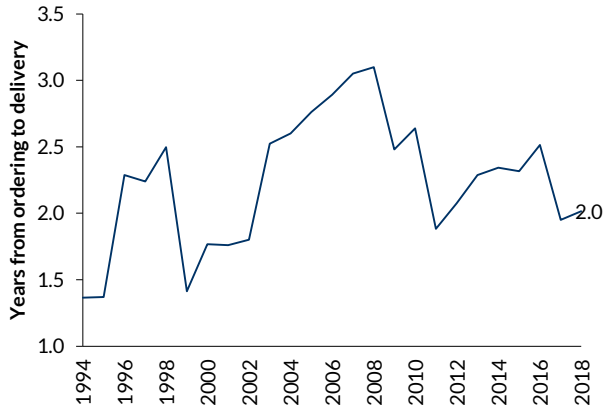
Chart 301: New ordering regression model (2011-17)



Source: Clarkson, Kepler Cheuvreux

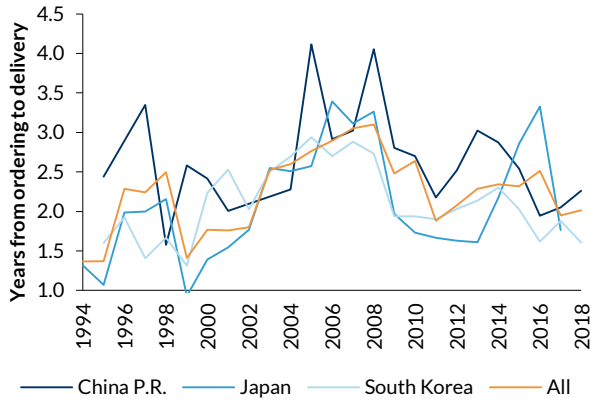
In recent decades, the time from an order being placed for a LPG vessel to delivery has been between 1.5 and 3 years. In our model we now assume it takes 24 months from the month of ordering to delivery.

Chart 302: Years from ordering to delivery (by ordering year)



Source: Clarkson, Kepler Cheuvreux

Chart 303: Years from ordering to delivery by building country

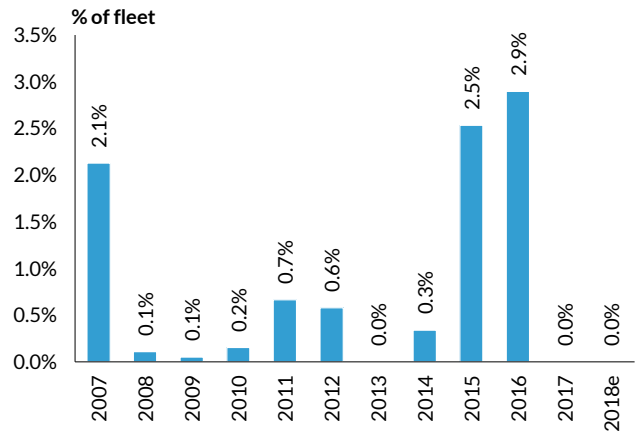


Source: Clarkson, Kepler Cheuvreux

Cancellations

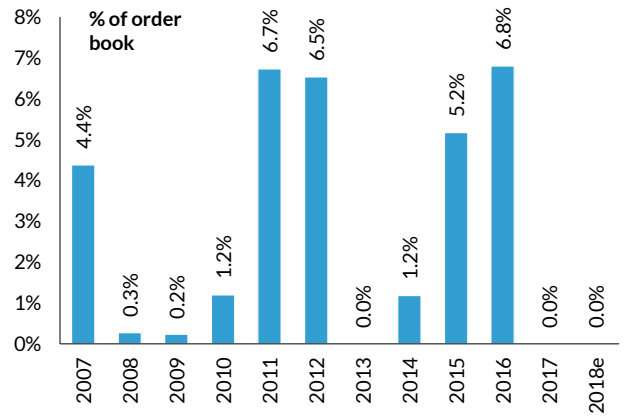
The LPG order book has historically seen few cancellations, and we assume none from the current order book.

Chart 304: Historical cancellations as % of fleet



Source: Clarkson, Kepler Cheuvreux

Chart 305: Historical cancellations as % of order book

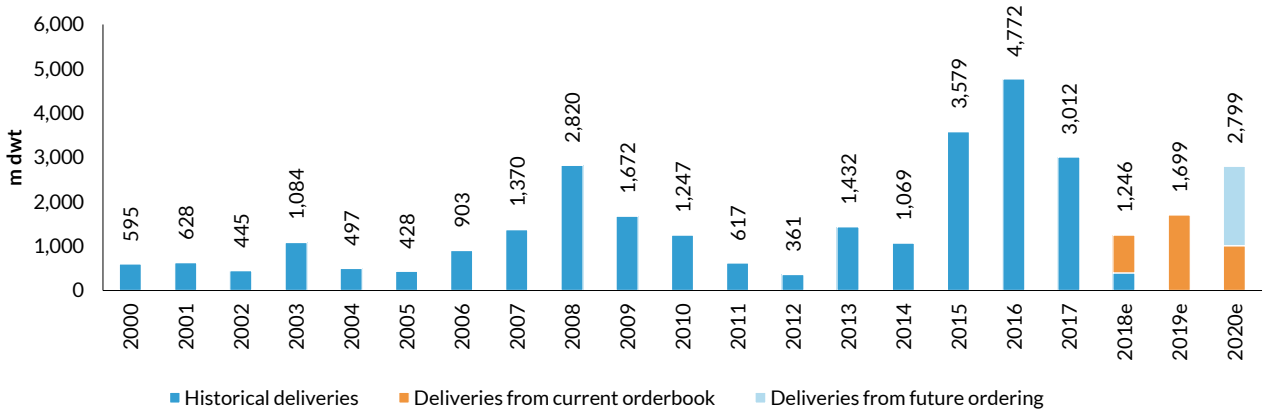


Source: Clarkson, Kepler Cheuvreux

Deliveries

We expect 1.2m m3 to be delivered this year, or 3% compared with the fleet at the start of this year. For 2019, we expect deliveries of 1.7m m3, 5% of the fleet, and 2.8m m3 (9%) should be delivered in 2020.

Chart 306: Deliveries to the LPG fleet



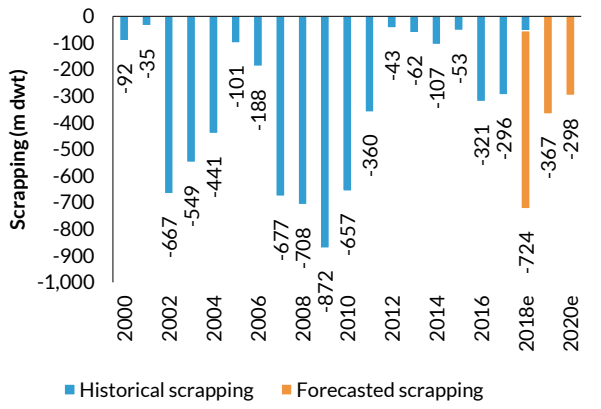
Source: Clarkson, Kepler Cheuvreux

Scrapping

Over the past years, scrapping of the LPG fleet has been limited, and while we expect a small increase from 1% to 2% in 2018, we generally do not see any significant scrapping in our forecast period, despite new regulations also being relevant for the LPG segment.

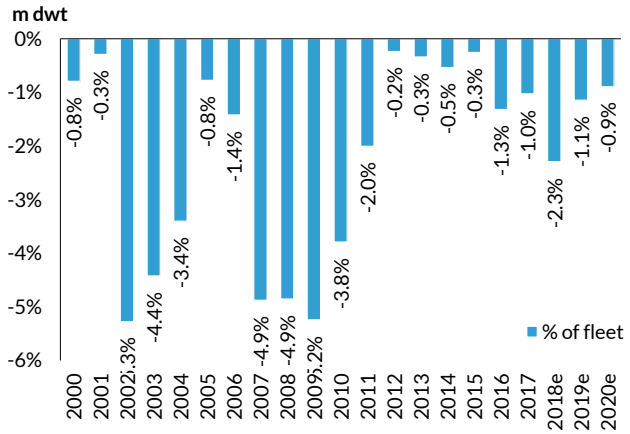
We model scrapping of 0.7m m3 this year (54,000 m3 was scrapped in January), or 2.3% of the fleet, which compares with scrapping of 0.4m m3 (1% of the fleet) in 2017. For 2019 and 2020, given improving spot rates, we again model about 1% of the fleet, or 0.3-0.4m m3, of scrapping.

Chart 307: Scrapping of LPG vessels



Source: Clarkson, Kepler Cheuvreux

Chart 308: Scrapping as % of fleet

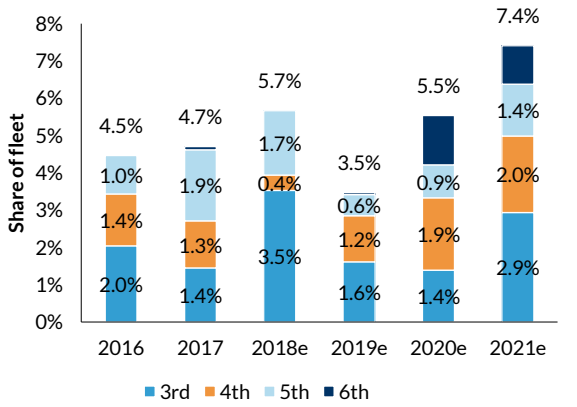


Source: Clarkson, Kepler Cheuvreux

Our scrapping model is based on a multivariate regression analysis with spot rates and steel prices as explanatory variables. Note that we allow ourselves some discretion in our final assessment of the scrapping estimates. As it stands now, we reduce our forecast by 25% compared with the raw model output.

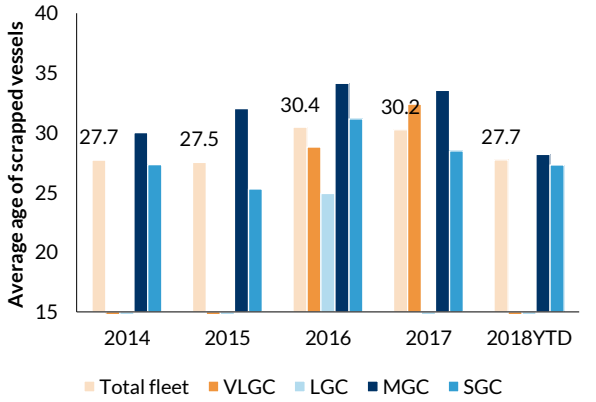
The renewal surveys, which come in five year intervals, are typically catalysts for scrapping decisions. In 2018-20, 1-2% of the fleet will undertake its fifth or sixth renewal survey (required when a vessel turns 25 or 30 years old, respectively) each year, indicating some upside to our scrapping forecasts.

Chart 309: Share of fleet going though renewal surveys



Source: Clarkson, Kepler Cheuvreux

Chart 310: Average scrapping age



Source: Clarkson, Kepler Cheuvreux

Transforming the amount of vessels into actual transport capacity

In our modelling, we transform the fleet into actual supply capacity, in terms of available transportation services measured in cubic-metre-miles per year, by multiplying the aggregate vessel volume by the normal service speed of those vessels, before we adjust for the time spent in ports and the capacity implicitly held

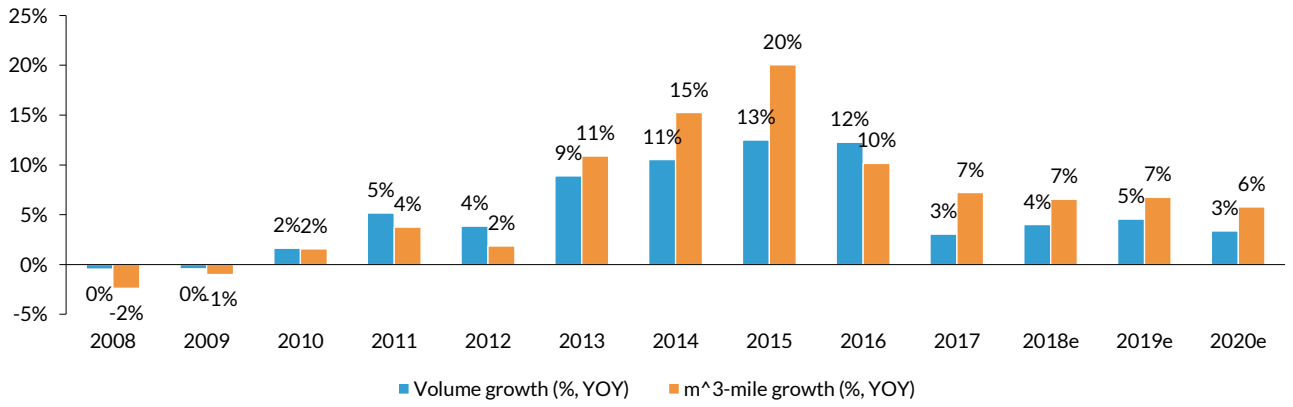
back in terms of slow steaming. This then leaves us with a net capacity metric which we cross with our demand model to arrive at an estimate for fleet utilisation.

As deliveries of vessels are forward-tilted within each year (January is the month with most deliveries), the change in transport capacity tends to amplify the percentage change in the fleet, which is the main reason for the uneven growth in transport capacity compared with "clean" fleet growth.

LPG shipping demand

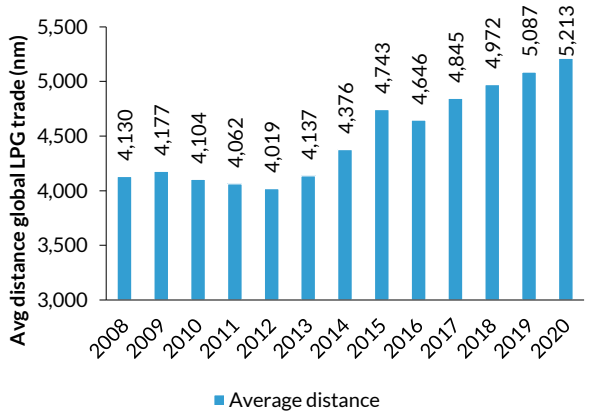
We estimate a 3% increase in traded LPG volumes in 2017. We expect the trade to grow by 4% in 2018 and 5% in 2019, slowing to 3% in 2020. However, as 85% of the growth we expect over the next three years comes from the US, and an increasing share of this travels the long way to Asia, we implicitly expect an increase in the average distance travelled and tonne-mile demand to outpace simple volume growth. We see effective demand (tonne-mile) growth of 7% a year in 2018 and 2019, and 6% in 2020.

Chart 311: Growth in traded LPG volume and tonne-mile transportation demand



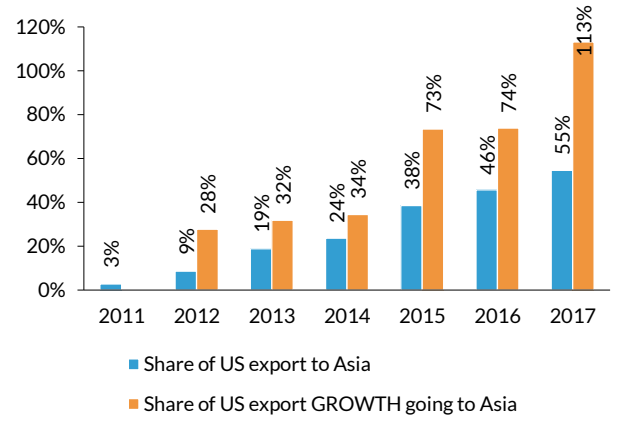
Source: ITC, Kepler Cheuvreux

Chart 312: Average distance global LPG trade increases...



Source: US Census, ITC, Kepler Cheuvreux

Chart 313: ...due to the increasing share going from US to Asia



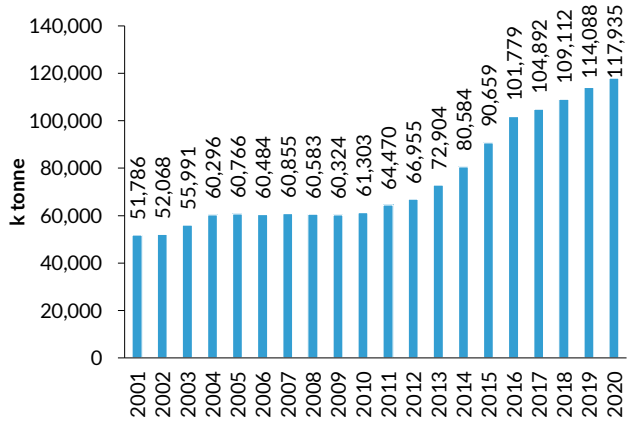
Source: US Census, Kepler Cheuvreux

The LPG trade

We estimate the LPG trade in 2017 to have grown by 3%, or 3.1m tonnes, driven by the US. In fact, US growth was 150% of global growth, due to a decline of 1.5m tonnes from the Middle East. For 2018, we expect the trade to grow by 4.2m tonnes, (4%) and 5m tonnes in 2019 (5%), slowing to 3.8m tonnes in 2020 (3%).

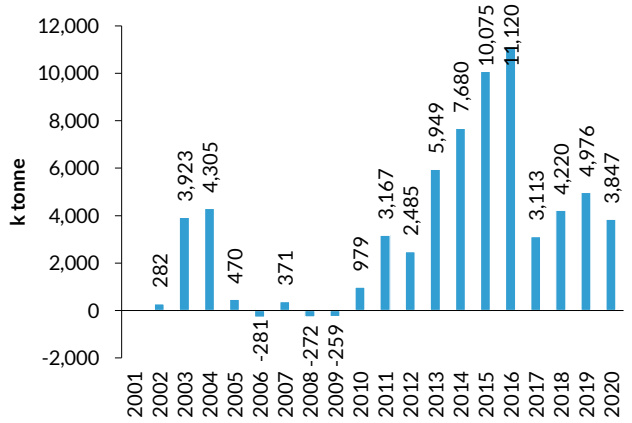
Average annual growth in the LPG trade has been 9% and 6% in the past five and ten years, respectively, and we expect average 4% growth a year over our 2018-20 forecast horizon. In the five years from 2012 to 2017, the US accounted for 75% of global growth (28m out of 38m tonnes). For the next three years, we expect this to grow to 85% for the US, while the Middle East is expected to contribute the remaining 15%.

Chart 314: Total LPG trade



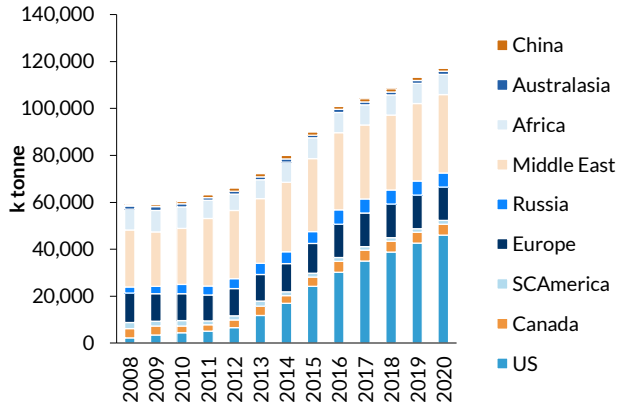
Source: ITC, Kepler Cheuvreux

Chart 315: Annual change in the LPG trade



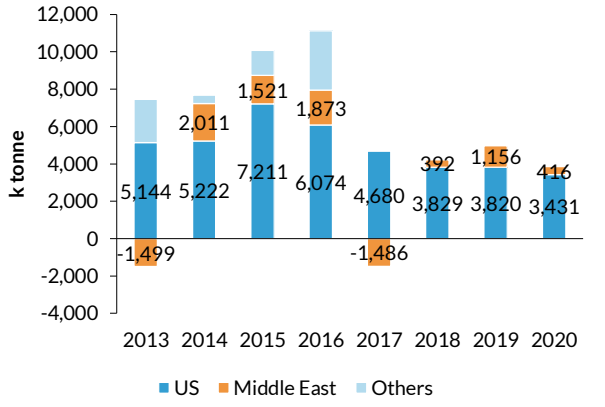
Source: ITC, Kepler Cheuvreux

Chart 316: Export of LPG by main exporting country



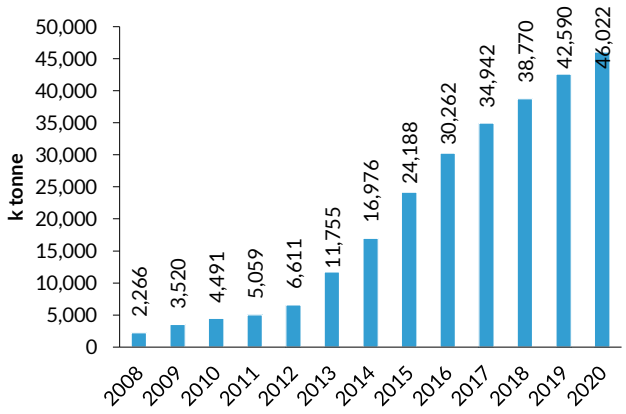
Source: US Census, ITC, Kepler Cheuvreux

Chart 317: Annual change by main exporters



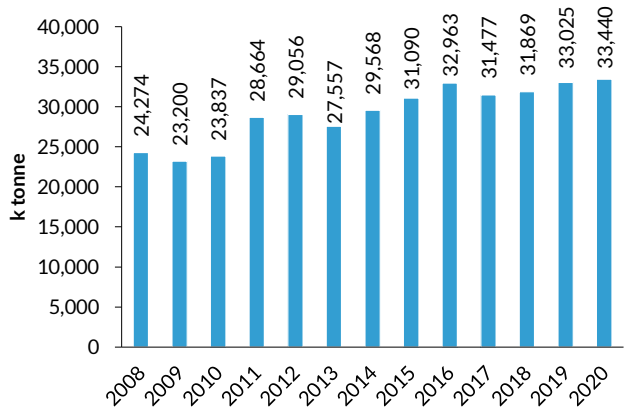
Source: US Census, ITC, Kepler Cheuvreux

Chart 318: US LPG exports



Source: US Census, Kepler Cheuvreux

Chart 319: Middle East LPG exports



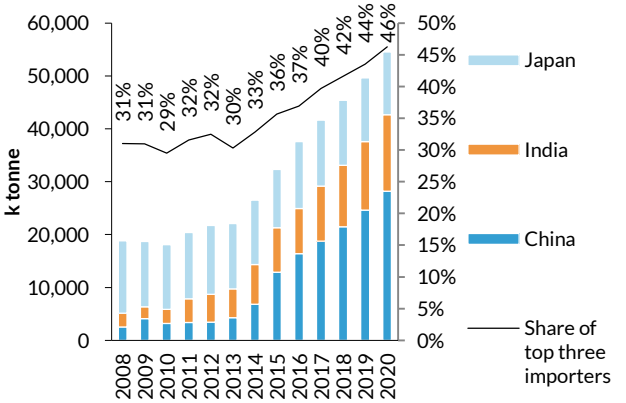
Source: ITC, Kepler Cheuvreux

Over recent years, the big surprise[11] in the LPG market has been the direct import of US LPG to Asia. This is the longest route possible, and even though it is shortened by the new, wider locks[12] in the Panama Canal, it is surprising that Asia imported 113% of the growth in US exports in 2017, i.e. Asian appetite for US LPG is eating into other regions' imports from the US.

On our estimates, we expect imports to Asia - and to China and India in particular - to continue to drive growth in LPG transportation demand. Concretely, we expect Asia to account for 84% of the demand growth in 2018-20, up from 56% in 2013-17.

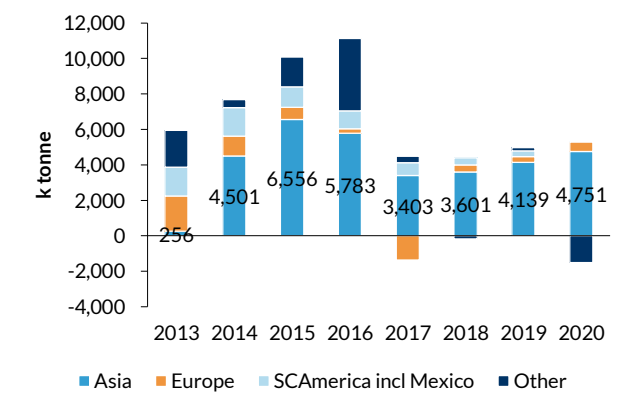
Furthermore, we expect the increase in the share of US exports going to Asia to level out, as we model about 80% of the increase in US exports from 2017 to 2020 going to Asia. This implies that the share of exports to Asia will increase from 55% in 2017 to 61% in 2020, an increase of 6pp or 2pp a year. In comparison, the share increased on average by 10pp a year from 2014 to 2017.

Chart 320: Import of LPG by top three importers



Source: ITC, Kepler Cheuvreux

Chart 321: Annual change by main importing regions

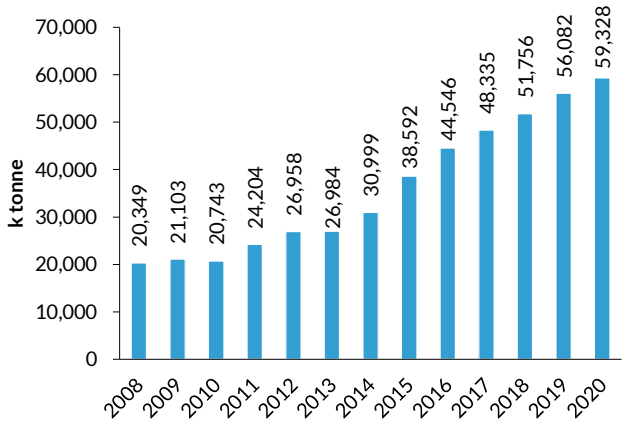


Source: ITC, Kepler Cheuvreux

[11] Ahead of the expansion of US exports, say in 2013, the author of this report thought that Middle East volumes would continue to dominate the Asian market, while Middle East volumes into the Atlantic would begin to be substituted for US volumes; i.e. that the "system" would automatically minimise total distance travelled. That did not happen, and now the story seems to be repeating itself for US LNG exports.

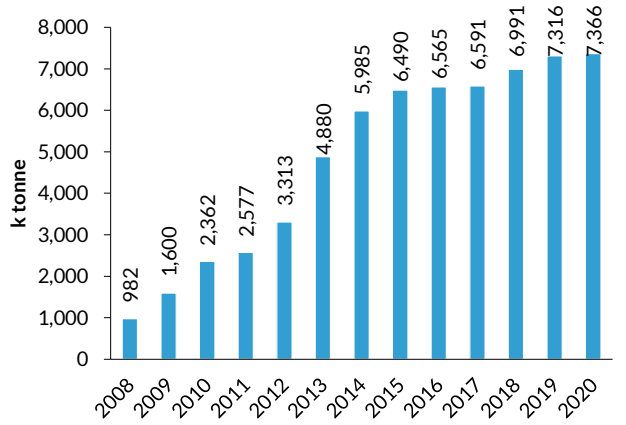
[12] In June 2016, a new set of locks opened, which made it possible for the VLGC fleet to use the canal. This reduced the trip from Houston to China by about 30% (from 15,000 to 10,000 nautical miles).

Chart 322: Asia LPG imports



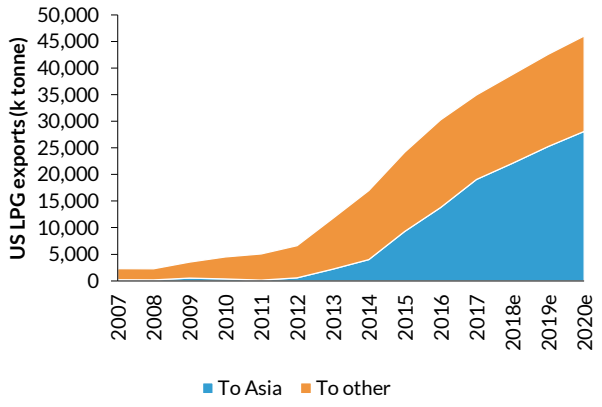
Source: ITC, Kepler Cheuvreux

Chart 323: South and Central America LPG imports



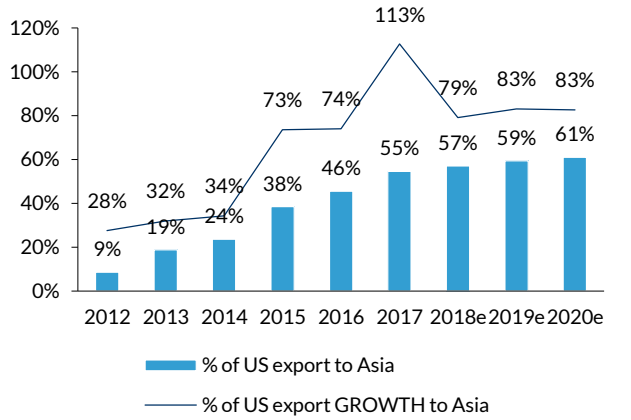
Source: ITC, Kepler Cheuvreux

Chart 324: US LPG exports by importer



Source: US Census, Kepler Cheuvreux

Chart 325: Share of US exports going to Asia



Source: ITC, Kepler Cheuvreux

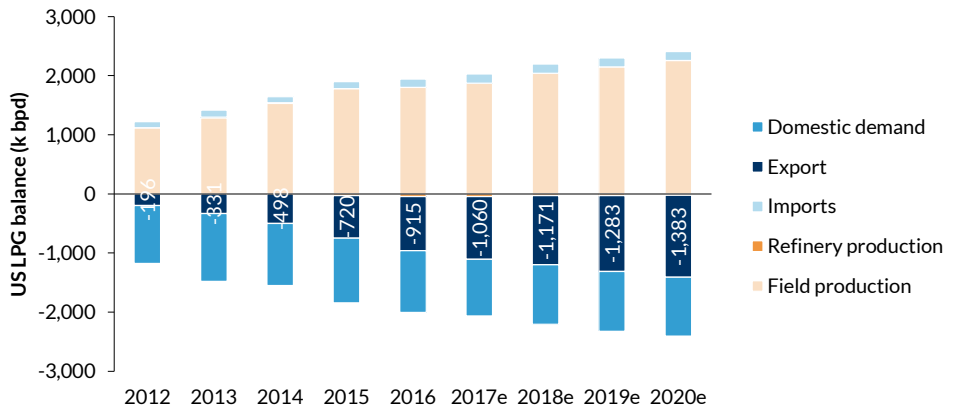
The US LPG market

Given the importance of the US as an LPG exporter, we have estimated the fundamental balance for the US LPG market.

For the aggregated LPG balance (i.e. including butane and propane), we model 9% in 2018, which decreases to 5% in 2019 and 2020. For domestic demand, we assume an increase of 5% in 2018, 1% in 2019 and a decrease of 2% in 2020 (we believe US PDH plants will compress the spread between propylene and propane, which will incentivise steam crackers to substitute propane for ethane).

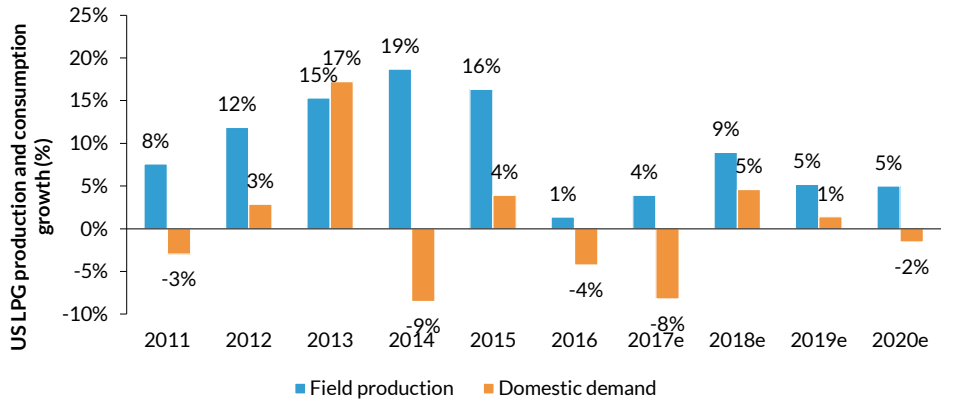
For propane alone, we model a continued 3% annual decline in domestic consumption in 2018-20 (it declined by 4% a year in 2016-17) and field production of 8% in 2018 and 5% in 2019 and 2020.

Chart 326: US LPG balance



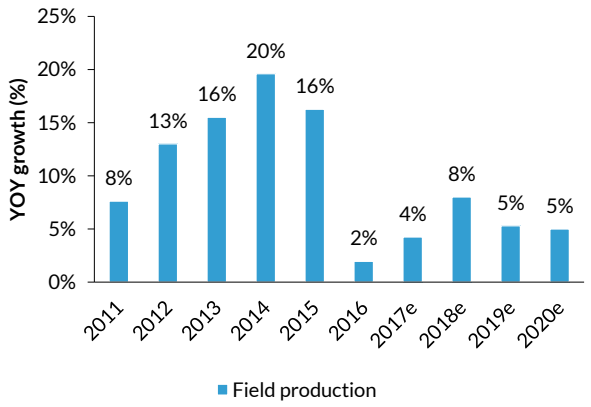
Source: EIA, Kepler Cheuvreux

Chart 327: Main assumption behind our US LPG balance



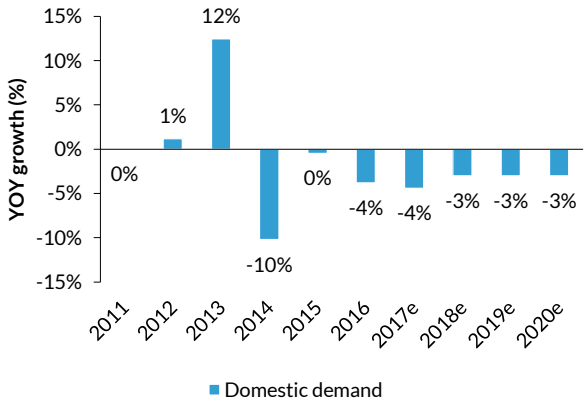
Source: EIA, Kepler Cheuvreux

Chart 328: Propane field production growth



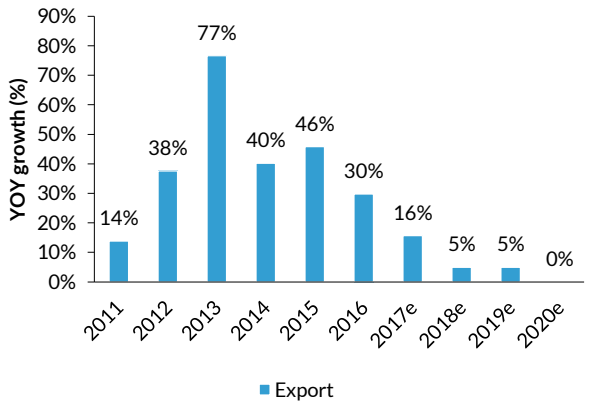
Source: EIA, Kepler Cheuvreux

Chart 329: Domestic propane demand growth



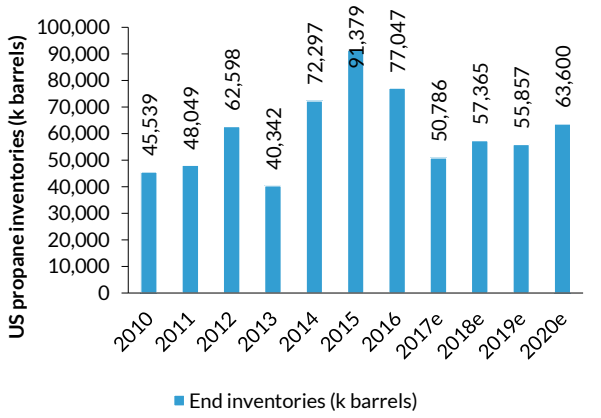
Source: EIA, Kepler Cheuvreux

Chart 330: Propane export growth



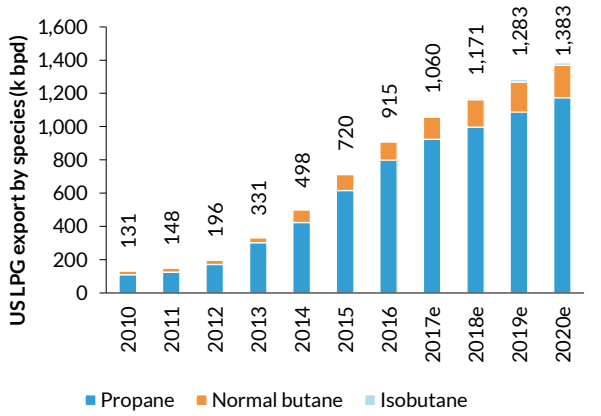
Source: EIA, Kepler Cheuvreux

Chart 331: Propane inventories, end of year



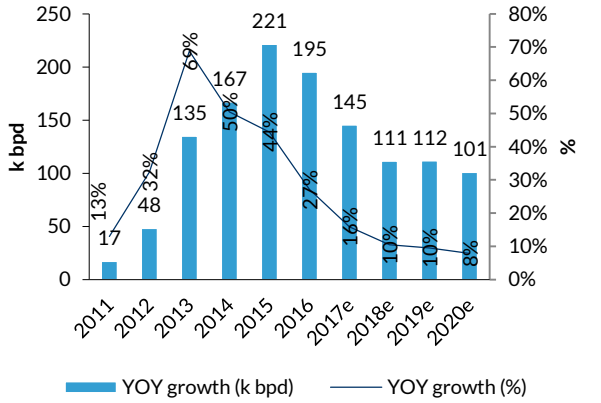
Source: EIA, Kepler Cheuvreux

Chart 332: LPG export by species



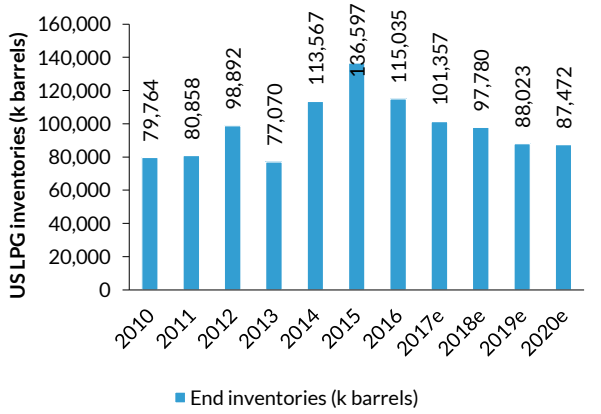
Source: EIA, Kepler Cheuvreux

Chart 333: LPG export growth



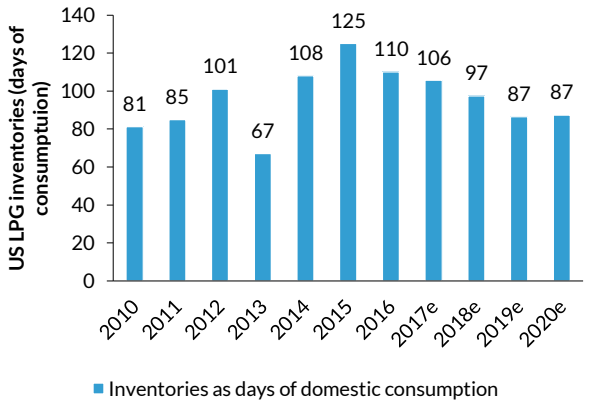
Source: EIA, Kepler Cheuvreux

Chart 334: LPG inventories, end of year



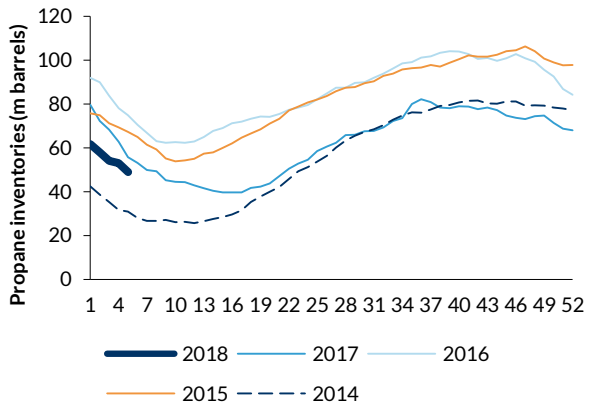
Source: EIA, Kepler Cheuvreux

Chart 335: LPG inventories, days of consumption



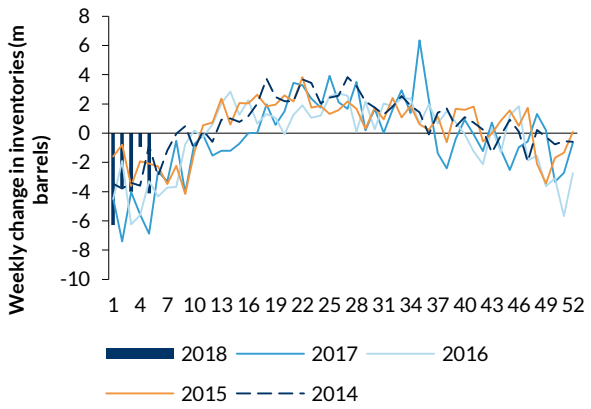
Source: EIA, Kepler Cheuvreux

Chart 336: Propane inventories, weekly resolution



Source: EIA, Kepler Cheuvreux

Chart 337: Weekly changes in inventories

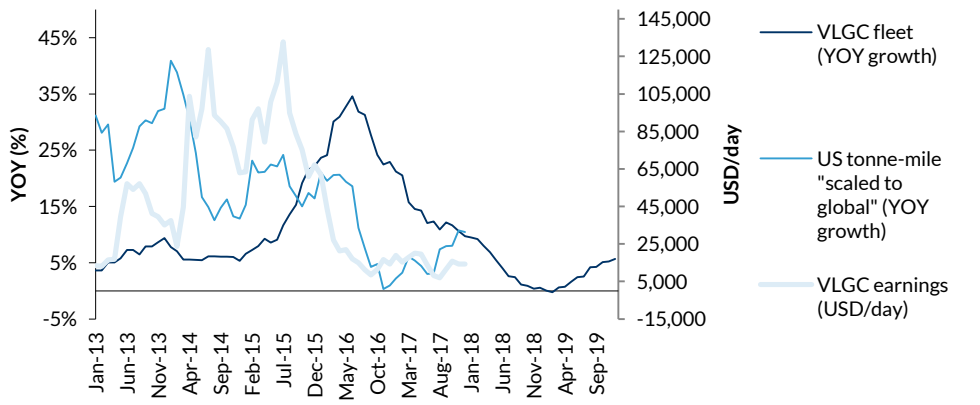


Source: EIA, Kepler Cheuvreux

When focusing our analysis on US exports versus the global VLGC fleet, it is very interesting to see that the drop in VLGC spot rates in 2015 happened about the same time as growth in the VLGC fleet exceeded demand growth from US exports (here we have scaled the US growth down to comparable numbers by multiplying US growth by US global market share at the time).

But even more interestingly, now in November/December 2017, demand growth rose again to the fleet growth level (both on YOY basis). The latter is now heading, with very good visibility, towards zero. We expect an inflection point to be near.

Chart 338: Transportation demand growth from US exports versus VLGC fleet growth

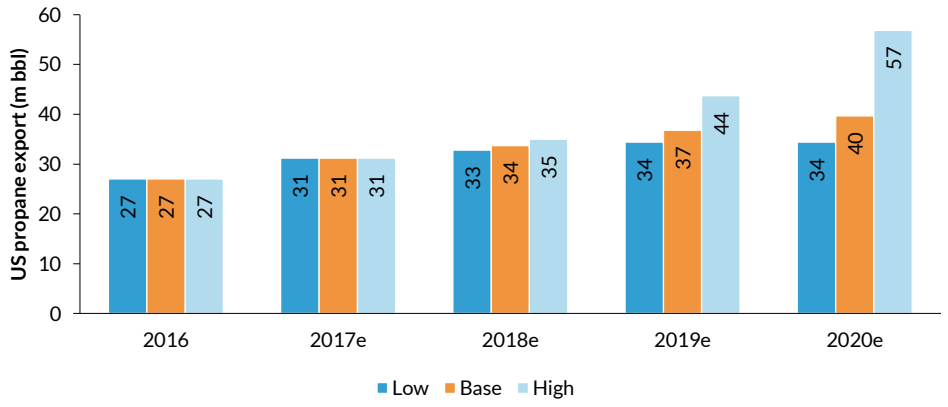


Source: Clarkson, EIA; Kepler Cheuvreux

In order to understand the sample space with regards to US exports, we have built two scenarios. Our high case assumes a "repeat" of 2013-16 growth rates for propane field production (all else equal, i.e. if this high case were to materialise, it would most likely also lift field production of butane, which would mean more product exported). Our low case assumes zero growth in propane field production in 2019 and 2020. As Chart 7 shows, the difference between the scenarios is not very large for 2018E, while from 2019E the gap starts to widen, and in 2020E the high

case yields 17m tonnes more export than our base case. This 17m tonnes of extra export would need about 60 more VLGCs (about 20%), as we assume it takes 3.5 VLGCs to export 1m additional tonnes from the US. That sort of export is simply not possible with an equivalent increase in new orders with 2020 delivery.

Chart 339: Scenarios for US propane export



Source: Clarkson, Kepler Cheuvreux

A very short introduction to the LPG business

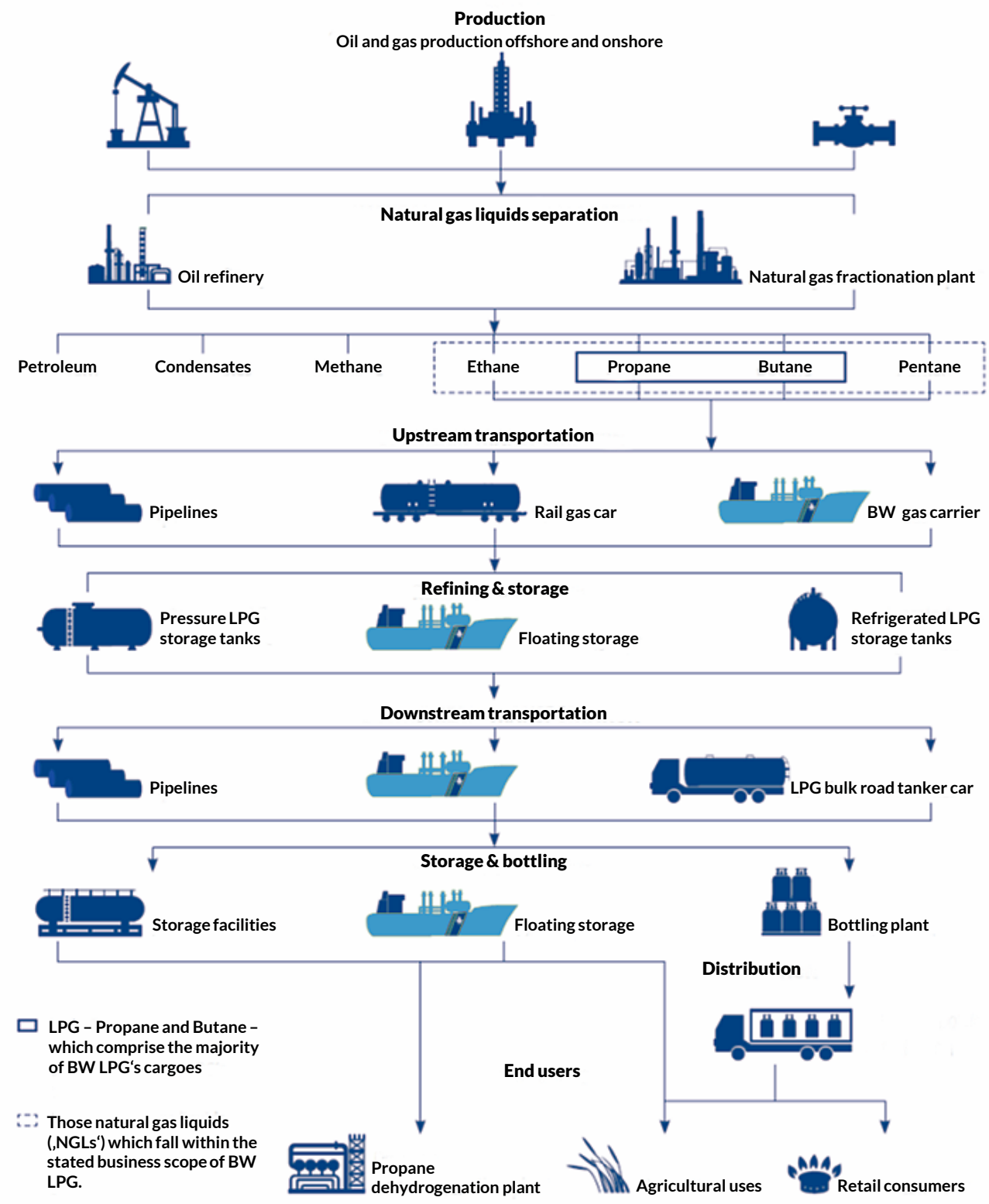
The LPG supply chain starts with extraction from gas and oil fields. The "raw" gas, called y-grade, is then sent to a gas processing plant where it is separated into the different species: methane (CH4), ethane (C2H6), propane (C3H8) and butane (C3H10). Only the latter two classify as LPG. From the gas processing plants, the different species are transported for consumption.

The (potential) seaborne leg of this transportation requires the gas to either be cooled down or put under considerable pressure to reduce its volume. For the deep-sea segment, refrigeration is most common. This is done at export terminals on shore.

At the receiving end, the LPG is heated back up into its gaseous phase in regasification terminals before it is sent for consumption.

As shown in the chart below, LPG can be used in the petrochemical industry (as a propane dehydrogenation plant) or in other various uses (drying crops is one of the seasonal components in US domestic demand), the most commonly known is perhaps as BBQ fuel.

Chart 340: A simplified overview of the LPG supply chain



Source: BWLPG

LPG shipping market balance, rate and value forecast

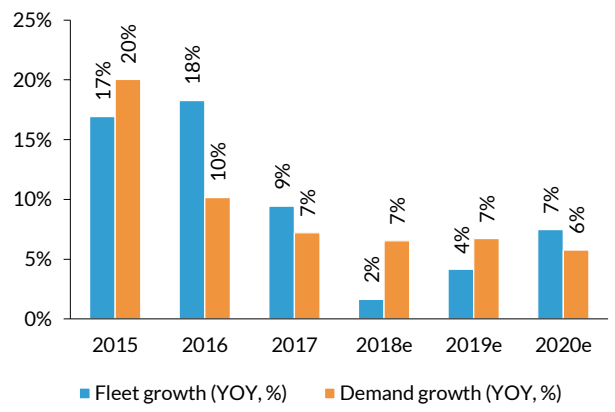
Market balance and fleet utilisation

With growth in LPG, and shipping transportation demand outpacing growth in supply, we expect the market to tighten over the coming years.

However, the exact timing of the inflection point is not (as it never is) easy to predict: when looking only at the US balance, and also when comparing simple fleet growth with demand (tonne-mile) growth, we would be inclined to believe the inflection will happen in 2018, perhaps already in H1 2018. However, when adjusting for the timing of deliveries, which we do in our net transportation capacity estimate, we find that demand and supply both grow at a rather similar rate of 7% in 2018, while the discrepancy becomes very evident for 2019.

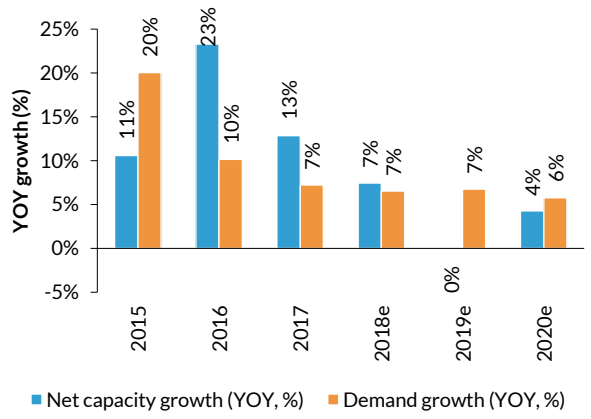
Regardless of the precise timing, we feel confident that the LPG shipping market will improve over the coming years and that the risk of coming in too soon should be limited, given the decent amount of liquidity held in the two stocks we cover; they should both be capable of surviving a weak 2018 without diluting value for current shareholders.

Chart 341: Fleet growth versus demand growth



Source: BP, GIINGL, Kepler Cheuvreux

Chart 342: Transportation capacity growth versus demand growth

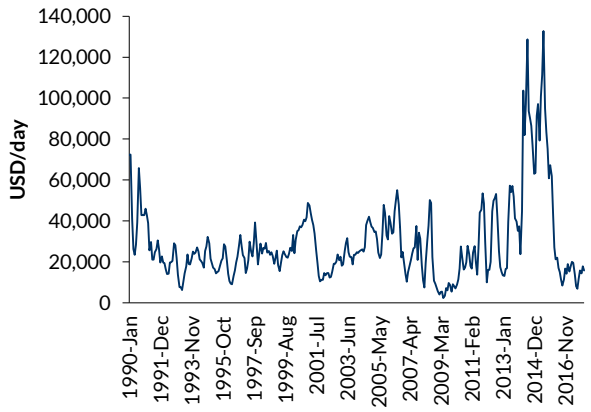


Source: BP, Kepler Cheuvreux

Rate forecast

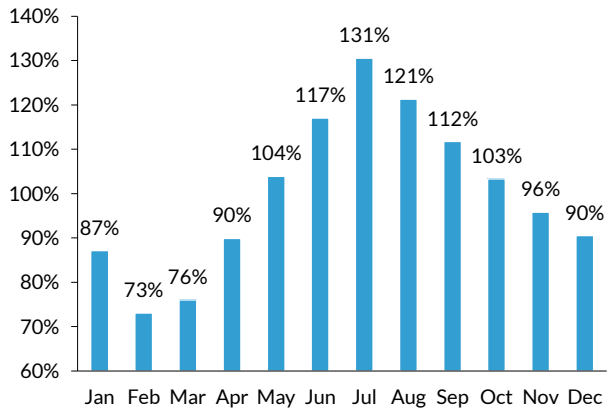
Concretely, we estimate spot rates of USD21,000 per day in 2018, USD44,000 per day in 2019, and USD49,000 per day in 2020. Fleet utilisation should now be about 88%, and we expect a slight uptick this year before utilisation moves well into 90%-plus territory; given the ample availability of LPG in the US, we expect the domestic pricing of LPG to be forced low enough to motivate continued export growth. A spot rate of USD40,000-50,000 per day would need a spread (Asia-US) in the range of USD80-95 per tonne, which corresponds to a Asia-AG spread (basis for the Baltic spot rate assessment) of USD50-60 per tonne.

Chart 343: Historical spot rates



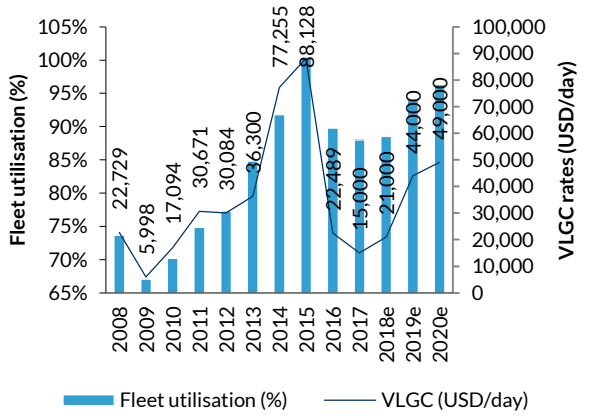
Source: Clarkson, Kepler Cheuvreux

Chart 344: Historical seasonality (2008-17)



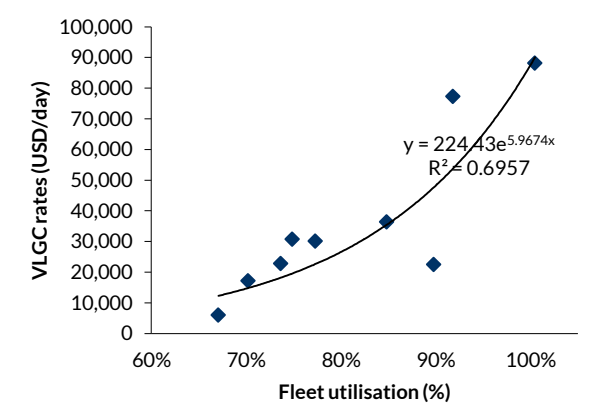
Source: Clarkson, Kepler Cheuvreux

Chart 345: Rate forecast and fleet utilisation



Source: Clarkson, ITC, EIA, Kepler Cheuvreux

Chart 346: Regression model used for rate forecast



Source: Clarkson, ITC, EIA, Kepler Cheuvreux

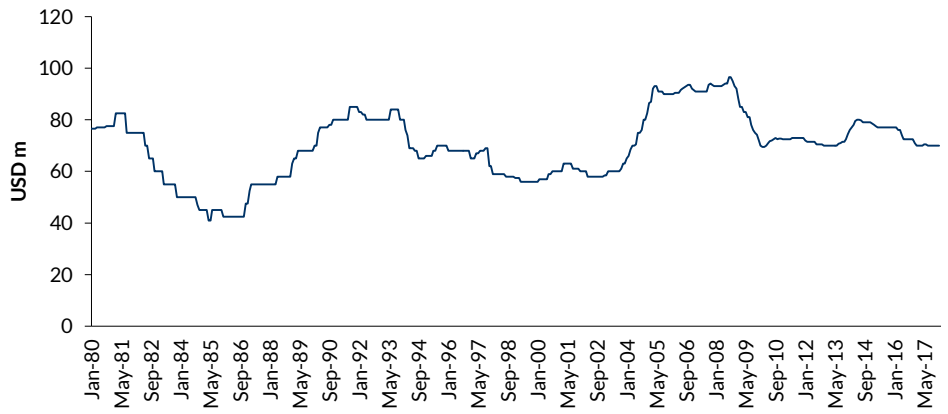
Vessel values

Clarkson quotes the price for a newbuild VLGC at USD70m, the same as a year ago, but down from the USD80m (recent) peak seen in June 2014.

Furthermore, Clarkson quotes a five-year-old VLGC at USD54m. We have used this price and made a linear interpolation assuming scrapping at 30 years of age at USD8m; the same line is also extrapolated "up" to a resale, which then ends up at USD66m, implying a USD4m discount to the current newbuild quote.

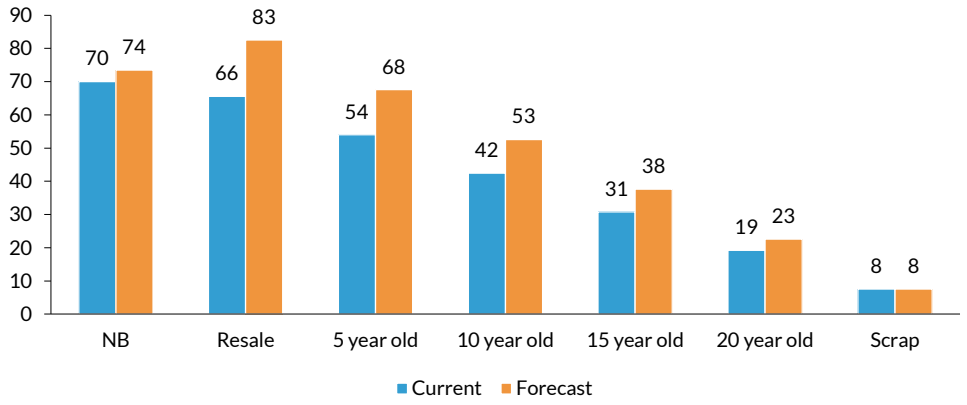
We apply a simple regression between historical VLGC earnings and the price for a five-year-old vessel to arrive at our forecast for a five-year-old vessel of USD68m. From that, we apply the same methodology down to scrap and up to a resale. For a newbuild, we assume a slight increase, given the general optimistic outlook, which should incentivise owners to order, but then mostly due to increased costs from the doubling of steel prices from the start of 2016 to now. Concretely, we assume that newbuild prices will appreciate from USD70m to USD74m.

Chart 347: Historical newbuild prices



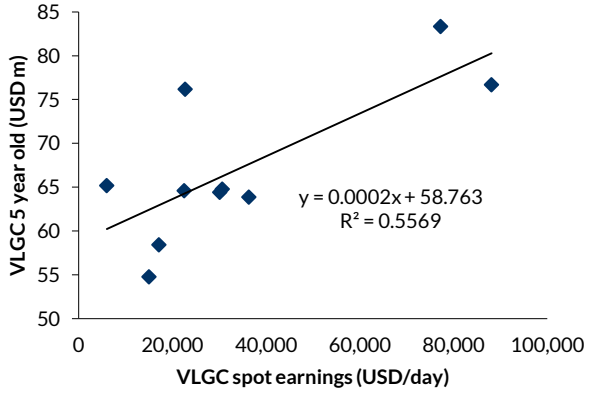
Source: Clarkson, Kepler Cheuvreux

Chart 348: Current prices versus our forecasts



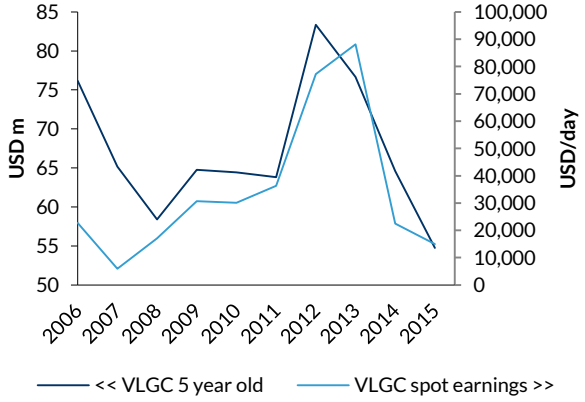
Source: Clarkson; Kepler Cheuvreux

Chart 349: Our simple regression model for vessel values



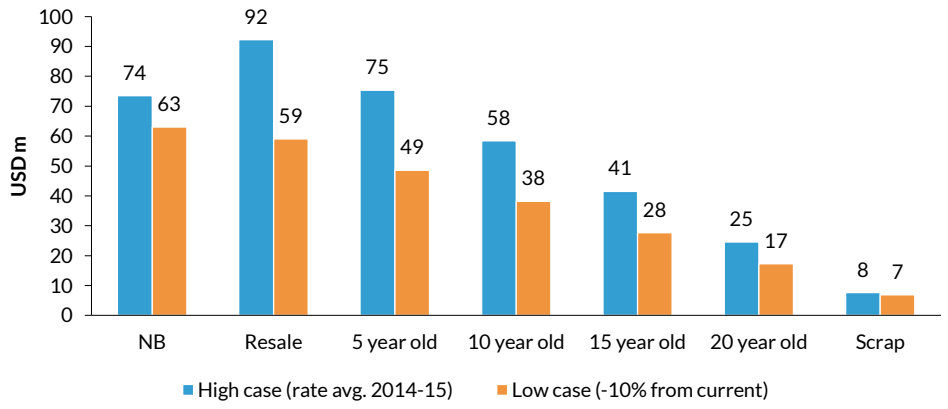
Source: Clarkson, Kepler Cheuvreux

Chart 350: VLGC spot earnings versus price of five-year-old VLGC



Source: Clarkson, Kepler Cheuvreux

Chart 351: High- and low-case scenarios for vessel values



Source: Kepler Cheuvreux

Complete LPG supply/demand model

Table 19: KECH LPG shipping model

FLEET OVERVIEW (k m^3)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
Fleet start of year	14,580	16,616	17,336	17,926	18,184	18,501	19,872	20,834	24,360	28,811	31,528	32,050	33,381
Historical deliveries	2,820	1,672	1,247	617	361	1,432	1,069	3,579	4,772	3,012	393		
Gross order book for delivery by month											852	1,699	1,006
Forecasted cancellations											0	0	0
Postponements											0	0	0
Deliveries from order book											852	1,699	1,006
Historical ordering	761	132	800	580	1,588	4,450	5,598	4,272	453	1,089	588		
Future ordering											1,793	2,664	3,025
Deliveries from future ordering												0	1,793
Historical scrapping	-708	-872	-657	-360	-43	-62	-107	-53	-321	-296	-54		
Scrap price (USD/LDT)	575	334	423	491	434	423	468	344	274	379	408	400	400
Future scrapping											-669	-367	-298
Scrapping as % of fleet	-4.9%	-5.2%	-3.8%	-2.0%	-0.2%	-0.3%	-0.5%	-0.3%	-1.3%	-1.0%	-2.3%	-1.1%	-0.9%
Misc.	-76	-80	0	0	0	0	0	0	0	0	0	0	0
Fleet end of year	16,616	17,336	17,926	18,184	18,501	19,872	20,834	24,360	28,811	31,528	32,050	33,381	35,882
Fleet growth (YOY, %)	14%	4%	3%	1%	2%	7%	5%	17%	18%	9%	2%	4%	7%
LPG TANKER SUPPLY (10^9 m^3-miles)													
Vessel design speed (knot)	16.4	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.5	16.6	16.6	16.6	16.6
Gross transportation capacity	2,229	2,467	2,548	2,584	2,657	2,780	2,932	3,229	3,924	4,431	4,656	4,757	5,057
Actual port ratio (% of total time)	27%	26%	25%	25%	25%	24%	24%	24%	23%	23%	23%	23%	22%
Normal port operations	-596	-643	-641	-641	-647	-662	-700	-765	-916	-1,024	-1,073	-1,094	-1,119
Floating storage	0	0	0	0	0	0	0	0	0	0	0	0	0
Floating storage (% of capacity)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Bunker price (HFO, USD/tonne)	472	354	450	618	640	595	532	264	213	300	345	291	234
Bunker price (MGO, USD/tonne)	918	529	683	944	955	904	817	480	383	495	573	555	553
Optimal vessel speed (knot)	15.0	13.5	13.1	13.7	14.1	14.2	16.2	17.4	17.0	15.0	15.0	17.2	16.1
Historical and forecasted vessel speed (knot)	16.4	16.2	15.9	15.6	15.4	15.2	15.3	15.3	15.5	15.5	15.4	15.4	15.0
Slow steaming (% of total gross capacity)	0%	-1%	-2%	-3%	-5%	-5%	-5%	-5%	-4%	-5%	-5%	-5%	-7%
Capacity taken out in slow steaming	-8	-22	-62	-90	-121	-147	-149	-160	-169	-203	-219	-224	-352
Net transportation capacity	1,624	1,803	1,846	1,853	1,889	1,970	2,083	2,303	2,839	3,204	3,364	3,439	3,585
Net capacity growth (YOY, %)	10%	11%	2%	0%	2%	4%	6%	11%	23%	13%	5%	2%	4%
LPG EXPORTS (k tonne)													
US	2,266	3,520	4,491	5,059	6,611	11,755	16,976	24,188	30,262	34,942	38,770	42,590	46,022
Canada	3,949	3,785	2,792	2,728	3,285	3,963	3,267	3,925	4,625	4,625	4,625	4,625	4,625
Mexico	0	13	0	44	0	0	13	0	0	0	0	0	0
SC America	2,513	2,021	2,347	1,722	1,744	2,161	1,687	1,696	1,588	1,588	1,588	1,588	1,588
Europe	12,605	11,722	11,471	10,980	11,667	11,365	11,935	12,611	14,214	14,214	14,214	14,214	14,214
Russia	2,595	3,159	3,889	3,904	4,165	4,787	5,032	5,141	6,044	6,044	6,044	6,044	6,044
Middle East	24,274	23,200	23,837	28,664	29,056	27,557	29,568	31,090	32,963	31,477	31,869	33,025	33,440
Africa	8,885	9,174	9,163	7,766	6,958	7,988	8,681	8,834	8,615	8,615	8,615	8,615	8,615
Australasia	1,290	1,552	1,404	1,189	1,274	1,311	1,339	1,101	1,244	1,244	1,244	1,244	1,244
China	663	849	916	1,169	1,265	1,259	1,431	1,419	1,320	1,320	1,320	1,320	1,320
India	0	0	3	4	0	0	0	0	0	0	0	0	0
Japan	2	2	0	10	19	41	22	42	32	32	32	32	32
Singapore	225	196	96	175	271	166	211	214	236	236	236	236	236
Other Asia	1,314	1,143	888	1,057	621	526	398	424	555	555	555	555	555
Total	60,583	60,324	61,303	64,470	66,955	72,904	80,584	90,659	101,779	104,892	109,112	114,088	117,935
Change (k tonne)	-272	-259	979	3,167	2,485	5,949	7,680	10,075	11,120	3,113	4,220	4,976	3,847
Change (%)	0%	0%	2%	5%	4%	9%	11%	13%	12%	3%	4%	5%	3%
NH3 trade (k tonne)	19,920	16,888	20,048	20,235	19,082	19,027	18,579	17,834	20,187	20,793	21,417	22,059	22,721
NH3 trade (YOY growth, %)	-1%	-15%	19%	1%	-6%	0%	-2%	-4%	13%	3%	3%	3%	3%
LPG TANKER TRADE (10^9 m^3-miles)													
LPG&NH3 transportation demand*	1,412	1,398	1,421	1,474	1,501	1,665	1,919	2,303	2,537	2,720	2,898	3,093	3,272
Demand growth (YOY, %)	-2%	-1%	2%	4%	2%	11%	15%	20%	10%	7%	7%	7%	6%
LPG TANKER BALANCE AND RATES													
Fleet utilisation (%)	74%	67%	70%	75%	77%	85%	92%	100%	90%	88%	89%	94%	96%
Earnings (VLGC are spot, others 1 year TC)													
VLGC (USD/day)	22,729	5,998	17,094	30,671	30,084	36,300	77,255	88,128	22,489	15,000	21,000	44,000	49,000
LGC (USD/day)	29,821	20,598	20,177	23,607	29,110	32,111	45,881	61,983	24,407	16,700	18,700	28,800	30,600
MGC (USD/day)	28,319	20,444	19,826	21,761	25,681	26,507	31,438	36,423	23,564	14,800	17,600	23,400	24,100
SGC (USD/day)	21,127	17,919	16,206	18,428	17,746	17,295	17,011	16,869	16,026	15,600	15,800	15,700	16,200

Source: Clarkson, Kepler Cheuvreux. *: indexed to 100% in the year 2015

Valuation, target prices and risks

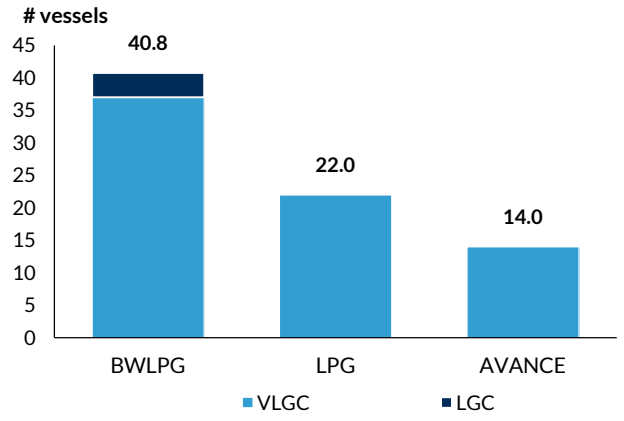
The LPG universe

We initiate coverage on BW LPG and Avance Gas

In this report we initiate coverage on the LPG companies, BW LPG and Avance Gas, both of which are listed on the Oslo Stock Exchange. In addition, we include the NYSE-listed Dorian LPG as a peer in our LPG universe, but without official coverage.

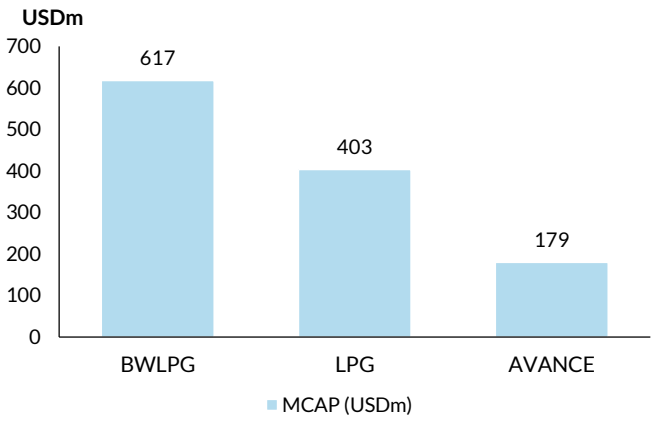
- **BW LPG (BWLPG)**: the company is the world's largest owner of very large gas carriers (VLGCs). The company is listed on the Oslo Stock Exchange and completed its IPO in 2013. BW LPG owns a total of 43 vessels (incl. JV). Three of the vessels are partially owned, and on a proportionate basis BW LPG owns 40.8 vessels, of which 37 are VLGCs and 3.8 LGCs. In addition to its owned fleet, BW LPG leases in ten vessels on time-charter contracts.
- **Avance Gas (AVANCE):** the company is a pure-play owner of VLGCs. It is listed on the Oslo Stock Exchange. The company was created in 2007 from Stolt-Nielsen Gas and completed its IPO in 2014. As of February 2018, the fleet consists of 14 fully-owned VLGCs, of which eight vessels were built at the Jiangnan Changxing shipyard in China, five at Daewoo DSME in South Korea and one at Kawasaki HI Sakaide in Japan. Avance's strategy is to have full utilisation exposure to the spot market.

Chart 352: Vessels owned by LPG peers (proportionate)



Source: Kepler Cheuvreux

Chart 353: Market cap for LPG peers (USDm)



Source: Kepler Cheuvreux

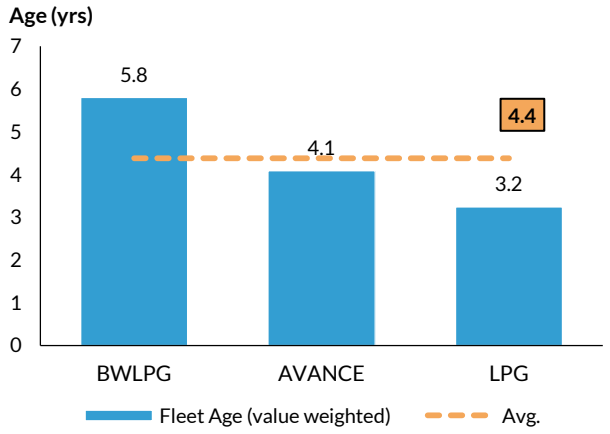
Financial leverage and fleet age are key metrics for determining the equity risk of a shipping company. An older and more leveraged fleet will increase the equity exposure towards changes in asset values.

For our listed LPG peers, the average fleet age is 4.3 years, and most of the companies vessels were delivered during 2014-15. BW LPG has the oldest fleet with an average fleet age of 5.4 years (value weighted), compared to 3.9 years for Avance Gas and 3.2 years for Dorian LPG.

As neither of our LPG peers have any remaining newbuild capex, the only financial commitments are net interest bearing debt. Given Clarkson's value quotes for VLGC

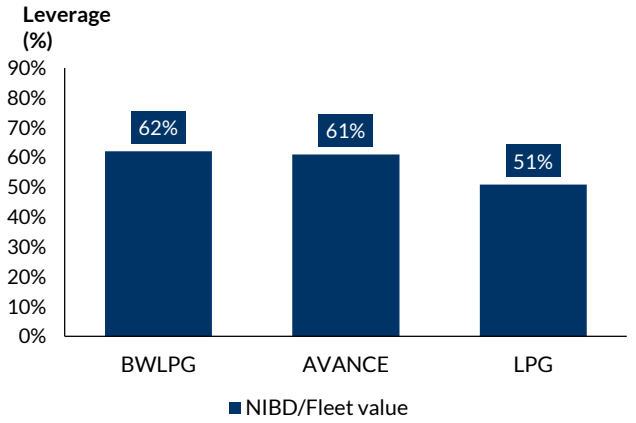
vessels, we estimate a leverage ratio of 60% relative to current fleet values (NIBD/fleet values) for both BW LPG and Avance Gas. Both companies have slightly higher financial leverage than Dorian LPG, which has a 51% leverage ratio.

Chart 354: Average fleet age for LPG peers (value weighted)



Source: Kepler Cheuvreux

Chart 355: Leverage ratio (NIBD/fleet value)



Source: Kepler Cheuvreux

Three good reasons to buy LPG shares in 2018

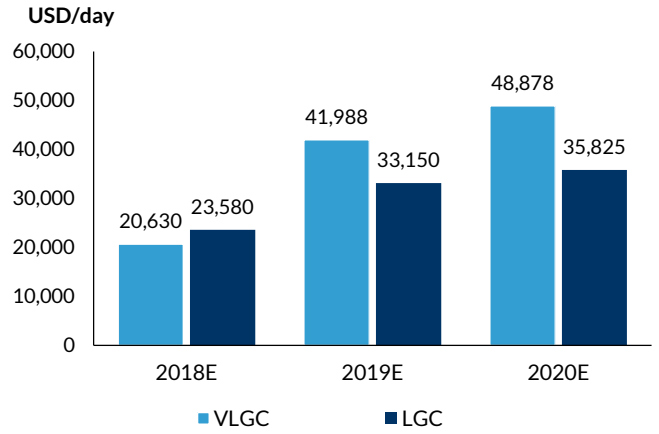
In our view, LPG shipping continues to be a clean play on the US shale story. In November, US propane gas plant production growth reached 10% YOY again. Now in November/December 2017, demand growth is again on par with fleet growth, both about 10% YOY. However, the only thing that seems certain in the LPG puzzle now is that fleet growth will continue to decline. We expect about 2% fleet growth in 2018 and 4% in 2019. This, coupled with the momentum in the US shale industry, makes is hard not to become enthusiastic for the LPG shipping industry.

Concretely, we estimate spot rates of USD21,00 per day in 2018, USD44,000 per day in 2019, and USD49,000 per day in 2020. With rates above USD40,000 per day from 2019, we expect a significant improvement in both Avance's and BW LPG's profitability.

In total, we see three good reasons for investors to Buy LPG shares in 2018:

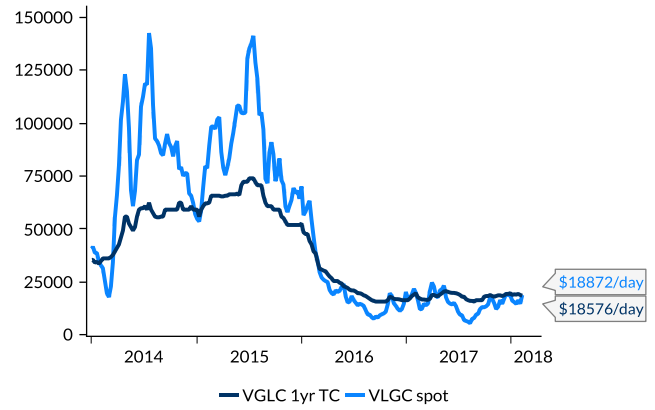
- **We see more than 50% upside in NAVs, given our rate forecasts.**
- **High VLGC rates in 2019 is a non-consensus story.**
- **Limited downside risk as liquidity is secured until 2019 even in a return to opex levels scenario.**

Chart 356: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

Chart 357: Clarkson's VLGC rates (spot and one-year time charter)

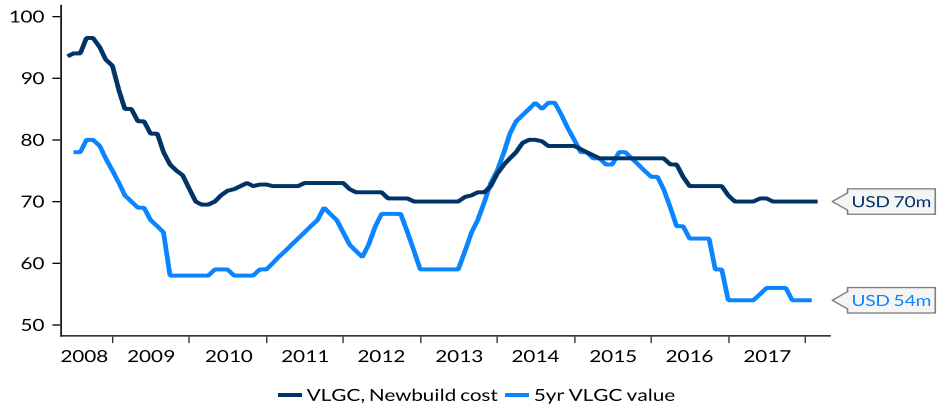


Source: Kepler Cheuvreux

Reason one: we see more than 50% upside in NAVs

Our preferred valuation method for the LPG segment is an equity net-asset-value (NAV) valuation based on estimated fleet values for LPG carriers less net interest bearing debt and other commitments for the company. Our vessel values use Clarkson's quote for a five-year-old second-hand vessel and newbuild costs based on the current benchmark valuation. In our target valuation, we forecast changes in the vessel values based on our freight rate estimates (see sector part for more details).

Chart 358: Clarkson's vessels values for VLGCs (newbuilding price versus five-year-old)

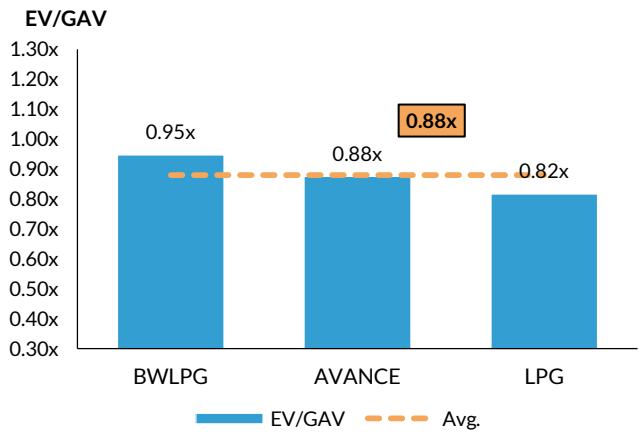


Source: Kepler Cheuvreux

Currently, Clarkson quotes the price for a five-year old VLGC at USD54m, representing a 22% discount relative to the newbuild price. The five-year value is down 38% since the peak in mid-2014 (USD86m) and has not been lower on Clarkson's value quotes since the series began in 2008. Given our positive outlook for the LPG market, we believe 2018 could mark the trough for vessel values, and we see VLGC values up 25% in our base-case scenario.

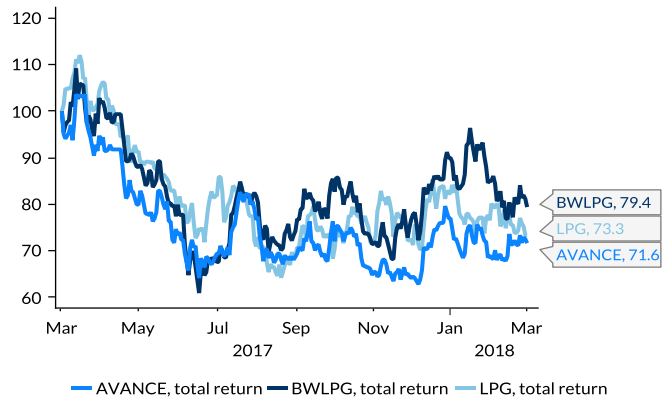
On top of all-time low vessel values, we also find LPG shares at a significant discount to underlying vessel values. We estimate a current average EV/GAV of 0.88x for our peer group, implying an underlying five-year-old VLGC of USD48m. With an expected LPG market turnaround in late 2018/early 2019, we believe the low valuation on LPG shares now presents the best investment opportunity in the shipping space.

Chart 359: EV/GAV rel. current market values



Source: Kepler Cheuvreux

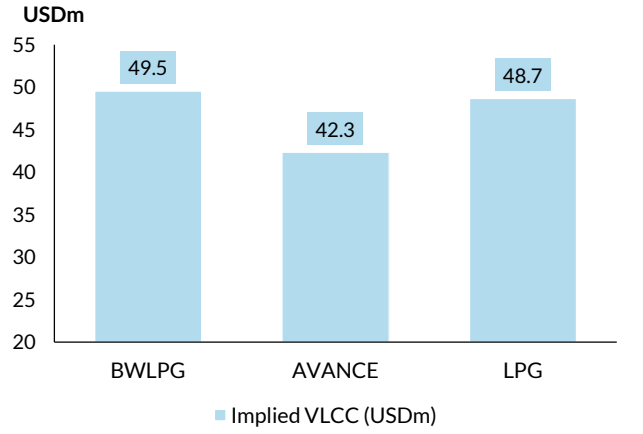
Chart 360: LTM share price development for LPG peers



Source: Kepler Cheuvreux

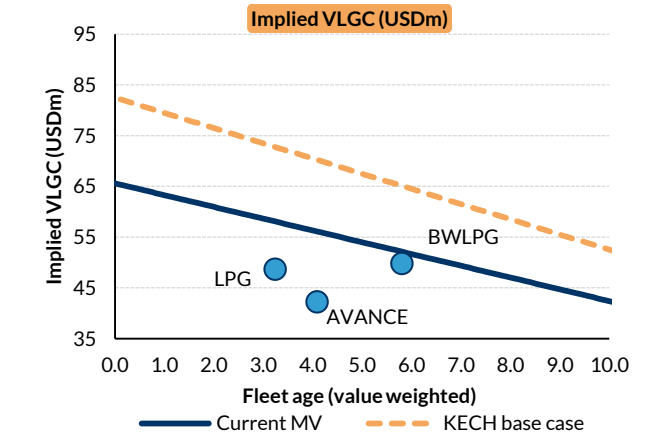
Of our listed peers, Avance Gas has the lowest valuation on a pure EV/VLGC basis, with an implied VLGC value of USD42m. However, with a large share of Chinese built vessels, we believe the shares fairly trade at a discount to the other LPG peers. In our NAV-valuation we have therefore included a 10% discount on Chinese built vessels, which means that the current EV/GAV for Avance Gas is 0.88x. On current market values, BW LPG trades at EV/GAV 0.95x.

Chart 361: Implied EV per VLGC value (USDm)



Source: Kepler Cheuvreux

Chart 362: Implied VLGC value versus fleet age and scenarios



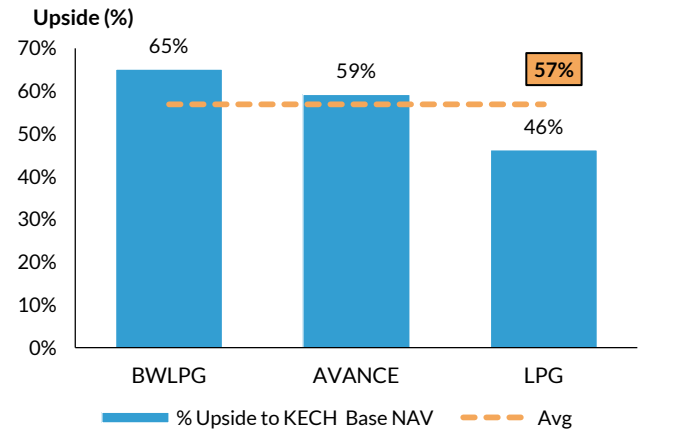
Source: Kepler Cheuvreux

Using our base-case forecast for VLGC freight rates, we estimate a five-year-old value of USD68m, up 25% from the current Clarkson estimate. This translates into

more than 50% upside in NAV for both BW LPG and Avance Gas (assuming values are reached in one year's time (see company parts for calculation details). Although both companies have roughly the same leverage ratio, BW's NAV increases more than Avance's NAV due to higher fleet age.

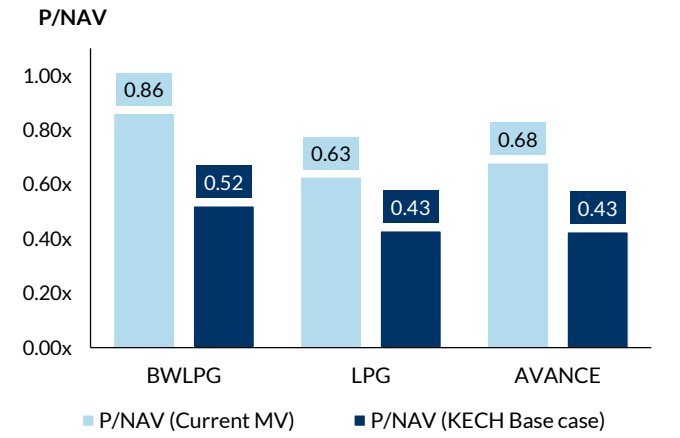
Overall, our valuation indicates a strong discount for LPG shares, relative to both current NAV and our base-case NAV estimate. Avance Gas stands out as the cheapest stock on a P/NAV valuation in both scenarios, but we also find BW LPG attractive on the same metric.

Chart 363: Upside to base case NAV on KECH estimates



Source: Kepler Cheuvreux

Chart 364: P/NAV given current MV and KECH base case



Source: Kepler Cheuvreux

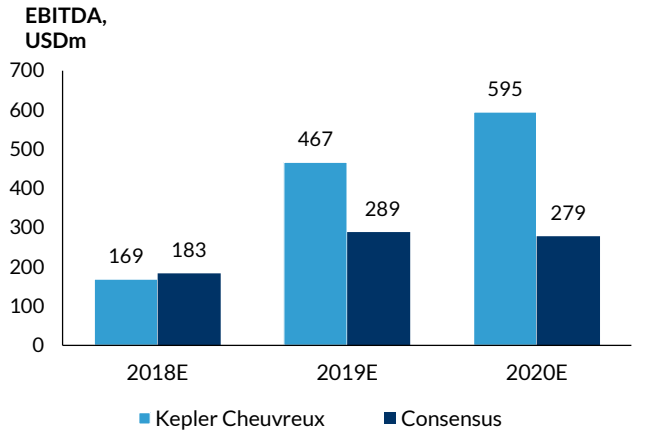
Reason two: Strong VLGC rates in 2019 is a non-consensus story

With VLGC rates above USD40,000 per day from 2019, we expect a significant improvement in both BW LPG and Avance's EBITDA. We estimate an increase in EBITDA from USD173m in 2018 to USD499m in 2019 for BW LPG, and an increase in EBITDA from USD51m in 2018 to USD166m in 2019 for Avance Gas.

Overall, our base-case forecasts are significantly more bullish than consensus for 2019-20 and imply upside of 70-80% in consensus 2019 estimates. Given the current share prices, our 2019-20 estimates indicate an EV/EBITDA of 3.0-3.5x for both Avance and BW LPG. By comparison, the companies trade on an EV/EBITDA of 6-7x on consensus 2019-20E.

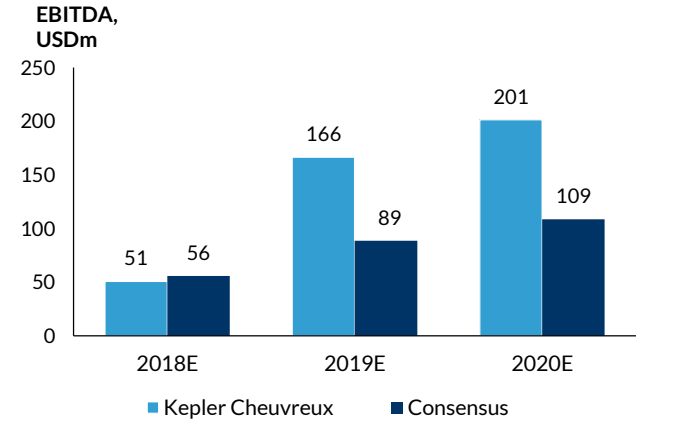
Moreover, although none of the companies pay dividends currently, we have assumed 80% of net profit in dividend from 2020E, at both companies.

Chart 365: BWLPG EBITDA: KECH estimate versus consensus



Source: Kepler Cheuvreux

Chart 366: AVANCE EBITDA: KECH estimate versus consensus



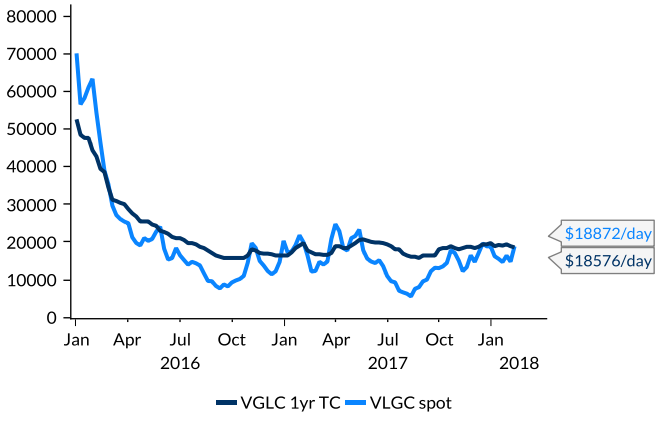
Source: Kepler Cheuvreux

Reason three: limited downside risk as liquidity is secured until 2019 even in a "return to opex levels" scenario

Due to current low freight rates in the LPG segment, investors should be aware of the liquidity risk should rates stay significantly below cash breakeven levels over a prolonged time period. In our model, we assume that BW LPG has a total cash breakeven level of c. USD19,500 per day, while Avance Gas has a breakeven of USD17,800 per day for 2018 and USD19,300 per day for 2019. The difference between the two companies is primarily due to only 50% debt amortisation for Avance Gas until Q2 2019.

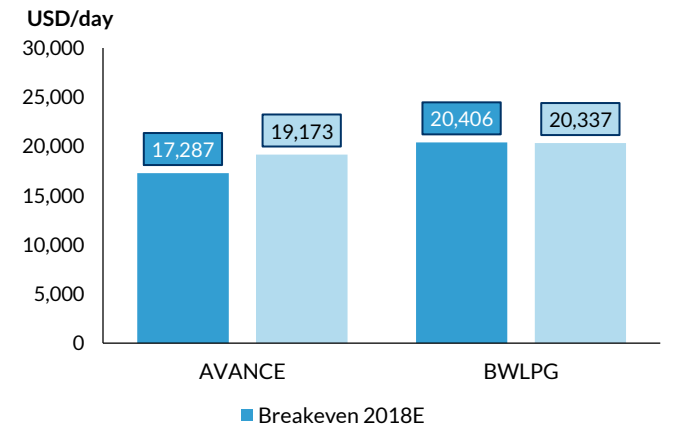
Currently, Clarkson's VLGC spot rate stands at USD18,800 per day and has recovered from the previous low of USD6,000 per day in August 2017. Given our estimate breakeven levels, liquidity should be no problem for either Avance or BW, given current VLGC spot rates. However, should freight rates fall back again, remaining liquidity could become a key topic for both LPG companies going forward.

Chart 367: VLGC freight rates, spot and one-year time charter



Source: Kepler Cheuvreux

Chart 368: Est. cash breakeven 2018-19 for AVANCE, BWLPG

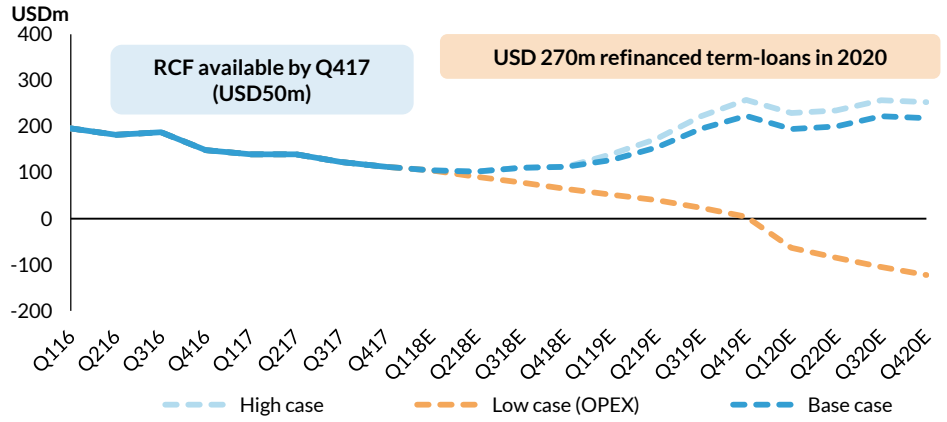


Source: Kepler Cheuvreux

Although we find a low-case scenario less likely in the current context, we illustrate the effect on liquidity of a scenario where VLGC spot rates fall back to opex levels (USD8,000 per day). Our scenario analysis indicates that both Avance Gas and BW LPG have secured liquidity until at least H2 2019, even if VLGCs rates stay at opex for the upcoming years:

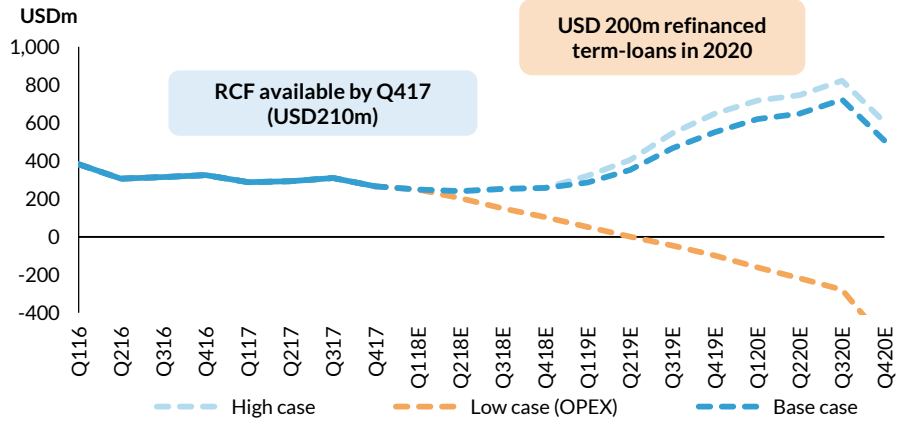
Overall, the companies' solid liquidity position gives us confidence that both Avance Gas and BW LPG are well positioned for our anticipated market recovery in late 2018/early 2019.

Chart 369: AVANCE: scenario analysis for available liquidity (cash + available RCF)



Source: Kepler Cheuvreux

Chart 370: BW LPG: scenario analysis for available liquidity (cash + available RCF)



Source: Kepler Cheuvreux

LPG stock recommendations

We initiate coverage with a Buy on LPG stocks

With low expected fleet growth from 2018-19, and strong momentum in the US shale industry, we find it hard not to become enthusiastic for the LPG shipping stocks whose shares trade at an average EV-discount of 10% against historically low asset values. In total, this makes LPG shipping our favourite segment. Our favourite name is Avance Gas (TP NOK40), followed by BWLPG (TP NOK58), with an average c. 75% upside from their current share price.

Table 20: Summary figures for our universe of LPG peers

	AVANCE Avance Gas	BWLPG BW LPG	LPG Dorian LPG
KECH recommendations:			
Price	21.8	34.1	7.3
Rating	Buy	Buy	Not covered
TP	40.0	58.0	n/a
Upside (%)	84%	70%	
Market info			
# shares	64.5	141.9	55.1
Market cap (USDm)	179.1	617.1	403.4
Currency	NOK	NOK	USD
Current valuation:			
NAV/share (local)	32.1	39.6	11.7
P/NAV (current)	0.68x	0.86x	0.63x
EV/GAV (current)	0.88x	0.95x	0.82x
Scenarios:			
Base case (NAV/share)	51.1	65.4	17.1
% change	59%	65%	46%
High case (NAV/share)	62.3	79.5	24.1
% change	94%	101%	107%
Low case (NAV/share)	18.0	22.6	8.0
% change	-44%	-43%	-32%
EBITDA 2018, USDm (base case)	50.7	169.1	n/a
EBITDA 2019, USDm (base case)	166.4	467.0	n/a
EBITDA 2020, USDm (base case)	201.5	595.0	n/a
EV/EBITDA 2018E	11.7x	10.6x	n/a
EV/EBITDA 2019E	3.6x	3.8x	n/a
EV/EBITDA 2020E	2.9x	3.0x	n/a
Sensitivities:			
Change NAV per 10% vessel value	67.7	190.4	126.2
in % of current NAV	26%	27%	20%
Change EBITDA per USD 1,000 spot	5.1	15.1	
in % of 2018E EBITDA	10%	9%	
Fleet info:			
# vessels	14.0	40.8	22.0
Fleet value, USDm	677.2	1,890.5	1,310.2
Avg. fleet age (value weighted)	4.1	5.8	3.2
NIBD (incl. capex)/fleet value	61%	62%	51%
Spot days (2018), %	100%	86%	
Spot days (2019), %	100%	93%	
TC in days (2018), %	0%	15%	
TC in days (2019), %	0%	10%	

Source: Kepler Cheuvreux

Table 21: NAV breakdown

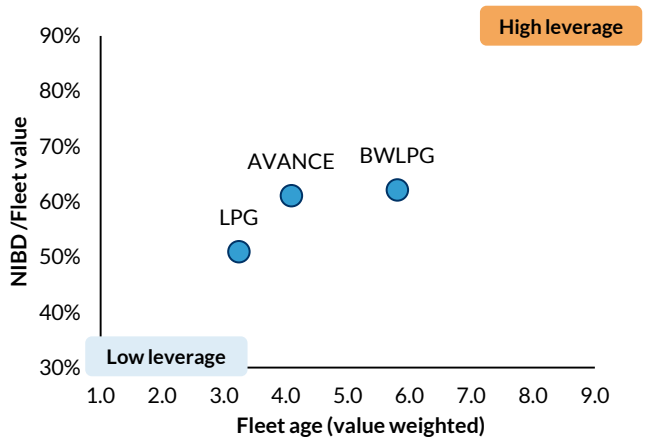
	BW LPG Buy, TP 58 Currency: NOK		Avance Gas Buy, TP 40 Currency: NOK		Dorian LPG Not covered Currency: USD	
NAV (USDm)	# vessels	NAV Current	# vessels	NAV Current	# vessels	NAV Current
Fleet:						
VLGC	37	1,834	14	677	22	1,262
LGC	4	70				
Fleet on water	41	1,904	14	677	22	1,262
Newbuildings	0	0	0	0	0	0
Total fleet value (USDm)	41	1,904	14	677	22	1,262
MTM contract portfolio		-14		0		48
GAV (USDm)		1,890		677		1,310
NIBD		-1,174		-413		-667
Future capex		0		0		0
NAV (USDm)		716		264		643
# shares (fully delivered)		141.9		64.5		55.1
NAV/share (local)		39.6		32.1		11.7
Share price (local)		34.1		21.8		7.3
P/NAV		0.86x		0.68x		0.63x
EV (USDm)		1,791		593		1,071
EV/GAV		0.95x		0.88x		0.82x

Source: Kepler Cheuvreux

Risks/scenario analysis

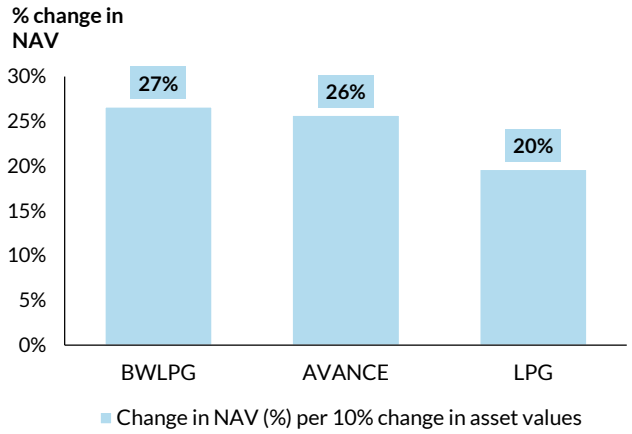
Due to the high volatility of shipping segments, investors should be aware of the sensitivity of the net asset value to changes in vessel values. The equity exposure to changes in asset values is enhanced by financial leverage and the age of the underlying fleet. In the charts and tables below we list the LPG peers' NAV sensitivity to changes in asset values, including a scenario analysis with different high/low values.

Chart 371: Financial leverage (NIBD) versus fleet age



Source: Kepler Cheuvreux

Chart 372: Percentage change in NAV versus 10% change in asset values



Source: Kepler Cheuvreux

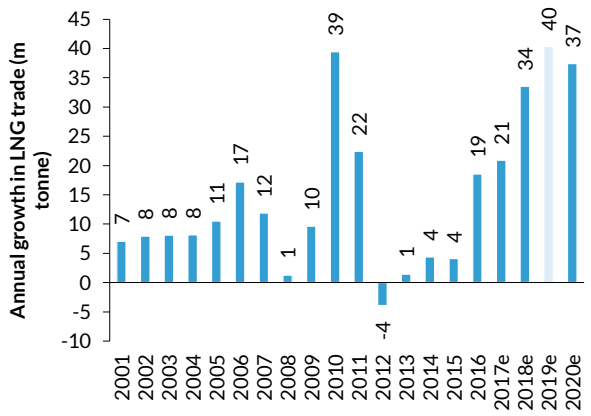
Table 22: NAV scenarios for LPG peers

	Current NAV		KECH base case NAV			KECH low case NAV			KECH high case NAV		
	USDm	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV	USDm	change	P/NAV
Peer group NAV:											
BWLPG	716	0.86x	1,183	65%	0.52x	408	-43%	1.51x	1,439	101%	0.43x
AVANCE	264	0.68x	420	59%	0.43x	148	-44%	1.21x	513	94%	0.35x
LPG	643	0.63x	940	46%	0.43x	440	-32%	0.92x	1,329	107%	0.30x
Average		0.72x		57%	0.46x		-39%	1.21x		101%	0.36x
Asset values:											
VLGC (resale)	65.6		82.5	26%		59.0	-10%		92.3	41%	
VLGC (5yr)	54.0		67.5	25%		48.6	-10%		75.4	40%	
VLGC (10yr)	42.4		52.5	24%		38.2	-10%		58.4	38%	

Source: Kepler Cheuvreux

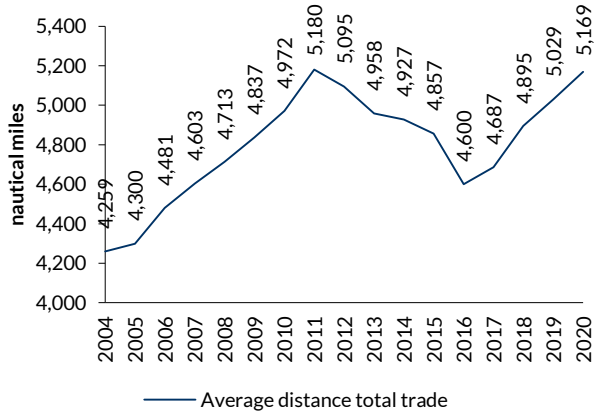
LNG - Investment case in six charts

Chart 373: LNG market set for all-time-high growth...



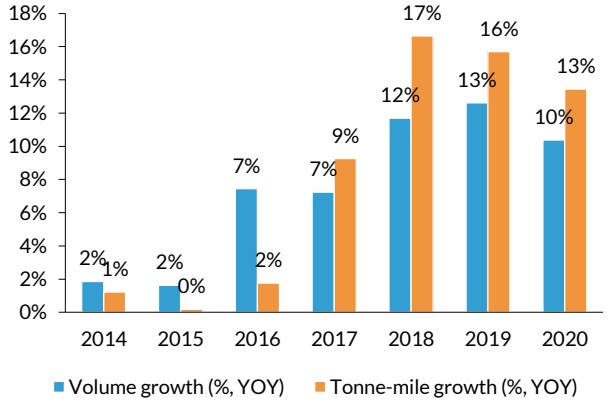
Source: Poten, GIIGNL, Kepler Cheuvreux

Chart 374: ...and longer transportation distances...



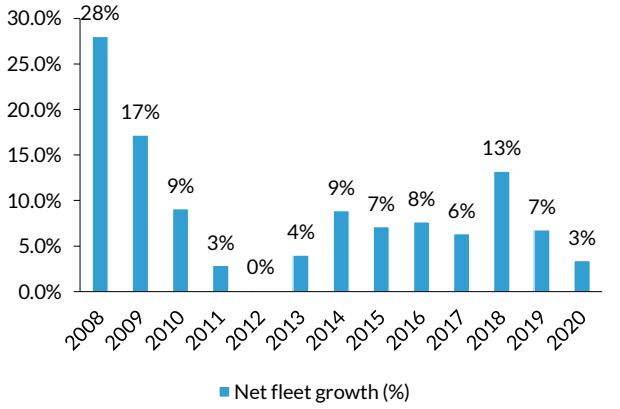
Source: Clarkson, GIIGNL, Kepler Cheuvreux

Chart 375: ...yielding multiple effect on real demand growth



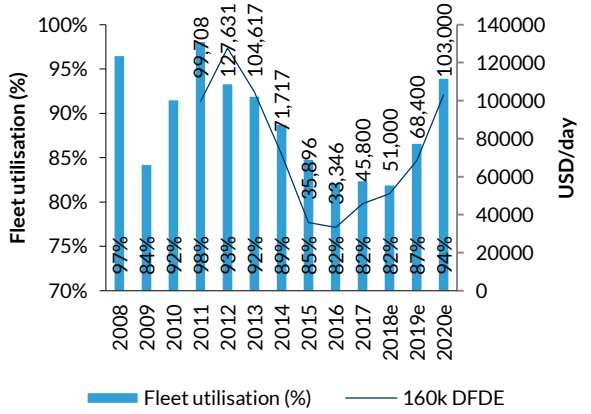
Source: Clarkson, GIIGNL, Kepler Cheuvreux

Chart 376: Despite strong LNG shipping fleet growth...



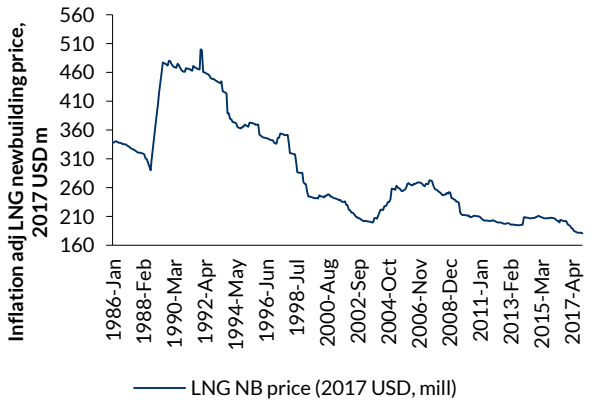
Source: Clarkson, Kepler Cheuvreux

Chart 377: ...fleet utilisation and rates set to rise on higher demand growth...



Source: Clarkson, GIIGNL, Kepler Cheuvreux

Chart 378: ...and now one can enter at cyclical low newbuilding prices



Source: Clarkson, Bloomberg, Kepler Cheuvreux

LNG shipping investment case summary

The liquefied natural gas (LNG) market is set for unprecedented growth. We expect LNG trade to grow by an average of 12% a year over the next three years, while we see the fleet growing by just shy of 8% a year. With higher fleet utilisation, we expect to see higher rates, and in 2020E, we see rates back to six digits (the last time this occurred was in 2012). As in previous years, the main risk to the investment case is potential delays to new liquefaction capacity. That said, with Russia's Yamal project now exporting its first gas ahead of schedule and the ramp-up of US liquefaction capacity going to plan, this risk is now less than it was before, when capacity was added in more remote and less developed locations. Although we expect the LNG fleet to grow considerably, we feel confident that demand growth will outpace supply growth. Moreover, with improving fleet utilisation, we expect higher shipping rates, which should support Flex LNG (Buy, TP NOK14). In order to meet the increase in trade, we also believe the regasification market will see continued growth. Given the superior flexibility and cost advantage of floating storage regasification units (FSRU) versus land-based solutions, we are optimistic for HLNG (Buy, TP NOK71).

New liquefaction capacity to come on time...

The main problem for the LNG shipping market in recent years has been delays to new liquefaction capacity. Plants were pushed ahead, while the vessels ordered to move output from the new plants came on-time. We believe that the situation is different this time around. In 2017, new liquefaction capacity in the US was added as scheduled, and Russia's Yamal project delivered ahead of schedule. In 2018-20E, we estimate c. 90% of the growth in this market will come from the US (56%), Australia (19%) and Russia (15%), all of which should be capable of delivering on time.

...and be utilised, leading to growth in LNG shipping demand...

Liquefaction is the most expensive part (typically USD1,000-3,000 per tonne) of the LNG supply chain, but, when built, it has low operating expenses (a major part is the 10-15% energy loss; i.e. about USD15 per tonne if Henry Hub prices are USD3/MMBtu), which makes it highly likely that it will be used if built. We estimate that for Henry Hub at USD3/MMBtu, a cost insurance and freight (CIF) price in Asia at USD5.7/MMBtu would defend a spot rate for a 160,000 dual-fuel diesel electric (DFDE) of above USD100,000 per day. Despite high fleet growth (average 8% a year), our belief in strong growth in liquefaction capacity leads us to expect strong improvements in fleet utilisation and rates of USD103,000 per day in 2020E.

...and supporting the FSRU market

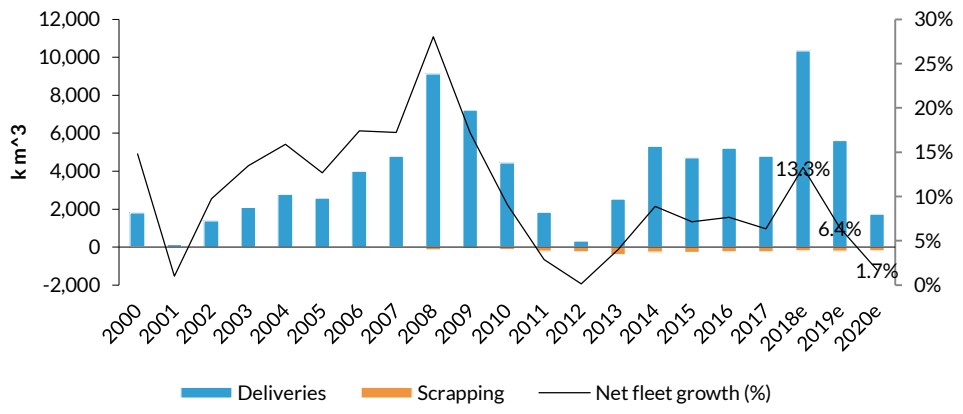
We believe the strong growth in the overall LNG market is also likely to support the FSRU market. Although we believe this market is likely to see some margin compression on tougher competition, its cost and flexibility advantages versus land-based solutions make us more confident about continued growth in the FSRU market.

LNG shipping supply

The LNG fleet capacity is currently (end-January 2018) 75.2m m3 (cubic metres), and we expect it to grow by 13% in 2018E, 7% in 2019E and 4% in 2020E. This compares with 6% growth in 2016, and 7% and 9% average annual growth over the past five and ten years, respectively.

Behind these net growth estimates are expectations of growth of 14%, 7%, and 4% from capacity delivery (as a percentage of the fleet at the start of the year and adjusted for slippage) and 0.3%, 0.3% and 0.2% in scrapping for 2018, 2019 and 2020, respectively.

Chart 379: Expected changes to LNG's fleet



Source: Clarkson, Kepler Cheuvreux

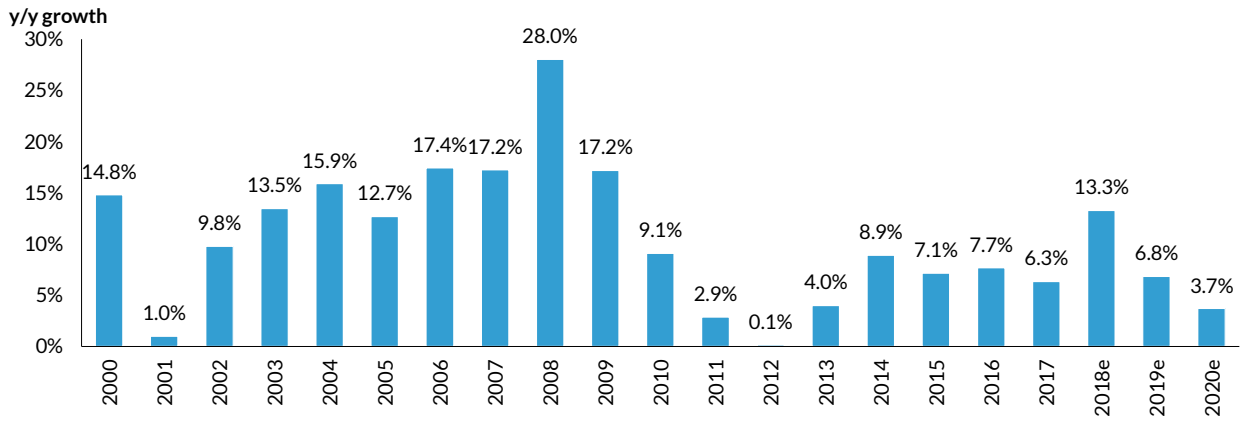
Fleet overview

We expect the fleet to grow by 13.3% in 2018, 6.8% in 2019 and 3.7% in 2020. The average annual growth of the fleet over the past ten years was 9%, and we expect 7% average annual growth in 2018-20E.

The LNG fleet is now (end-January) 75.2m m3, 77% of which is made up of vessels above 140,000 m3, 22% between 100,000 and 140,000 m3, 1% between 60,000 and 100,000 m3, and 1% below 60,000 m3. The average age of the vessels is 9.9 years (7.0/19.3/23.3/7.4 for 140+/100-140/60-100/<60k m3.

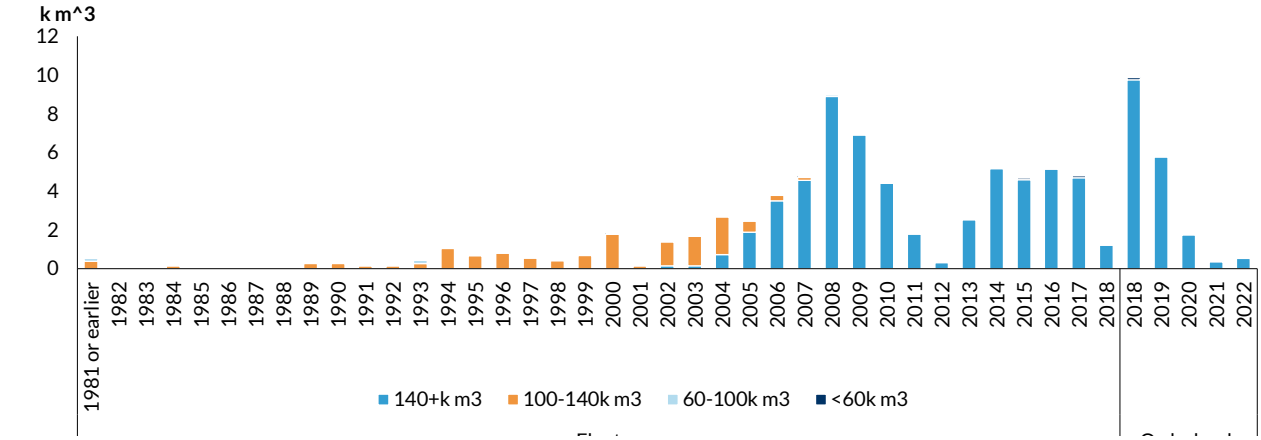
Chinese yards have built 4% of the current fleet, Japanese yards are responsible for 18%, and South Korean yards have built 74%.

Chart 380: LNG fleet growth



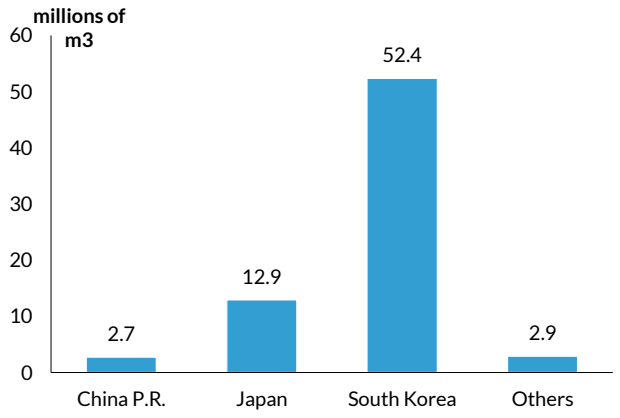
Source: Clarkson, Kepler Cheuvreux

Chart 381: LNG fleet and order book by year of delivery



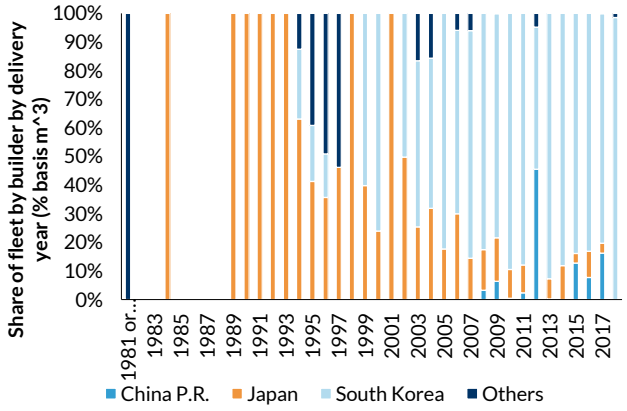
Source: Clarkson, Kepler Cheuvreux

Chart 382: LNG fleet by building country



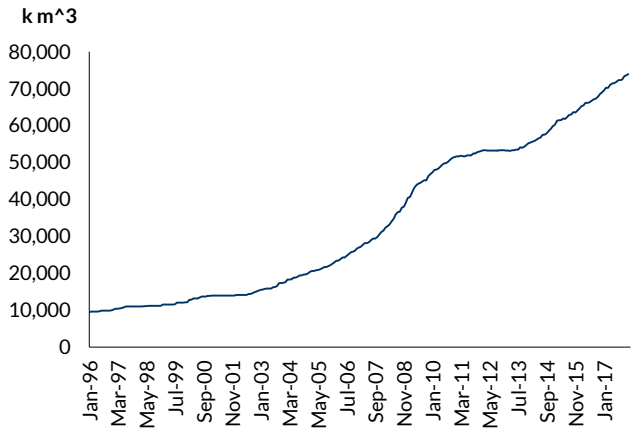
Source: Clarkson, Kepler Cheuvreux

Chart 383: LNG fleet by building country and year of delivery



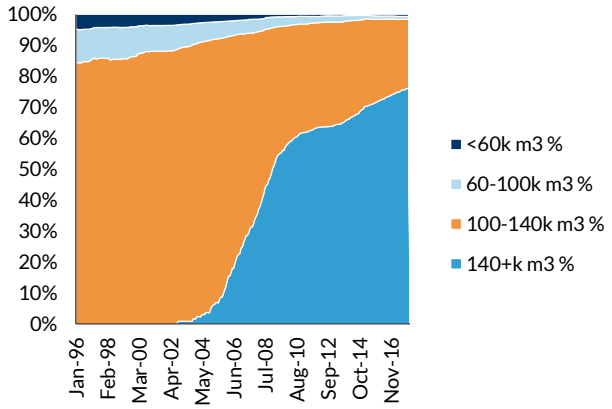
Source: Clarkson, Kepler Cheuvreux

Chart 384: LNG fleet development



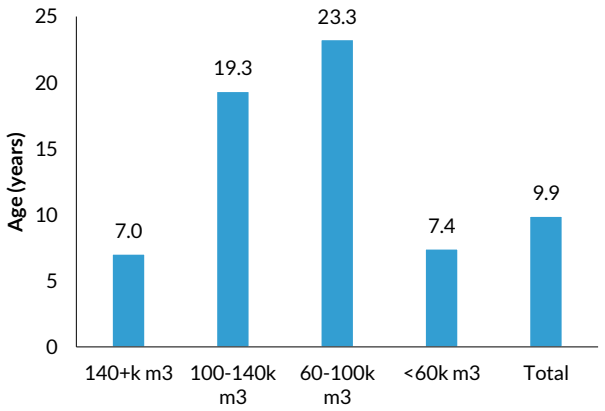
Source: Clarkson, Kepler Cheuvreux

Chart 385: LNG fleet development by vessel size



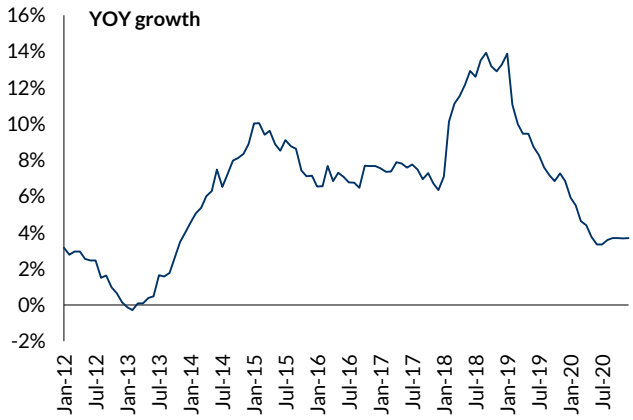
Source: Clarkson, Kepler Cheuvreux

Chart 386: LNG fleet average age, current fleet



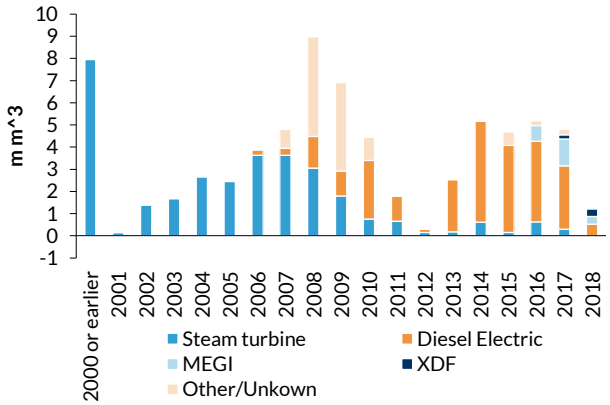
Source: Clarkson, Kepler Cheuvreux

Chart 387: LNG fleet growth, monthly resolution, including forecast



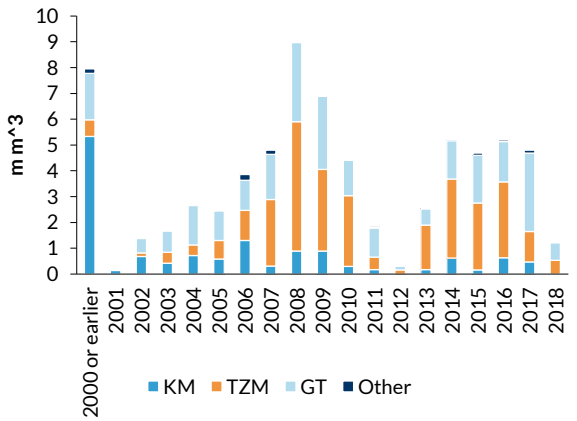
Source: Clarkson, Kepler Cheuvreux

Chart 388: Vessels by engine type and year of delivery



Source: Clarkson, Kepler Cheuvreux

Chart 389: LNG fleet by tank type



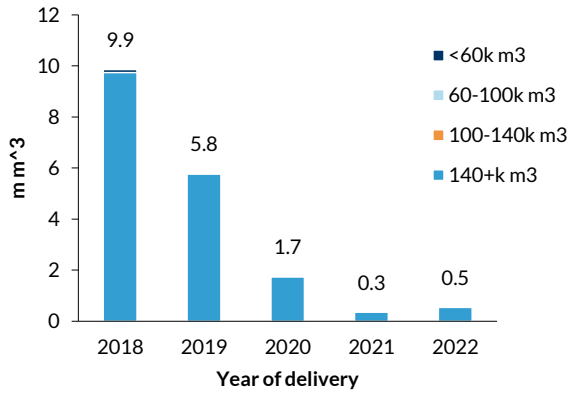
Source: Clarkson, Kepler Cheuvreux

Order book

The end-January order book was for 18.3m m3, or 26% of the fleet (24% basis vessels). This compares with an average ratio of 35% and 30% in the past five and ten years, respectively. Around 9.9m m3 (54%) of the current order book is expected to be delivered during the remainder (February-December) of 2018E, 5.8m m3 (32%) in 2019E, and 1.7m m3 (9%) in 2020E.

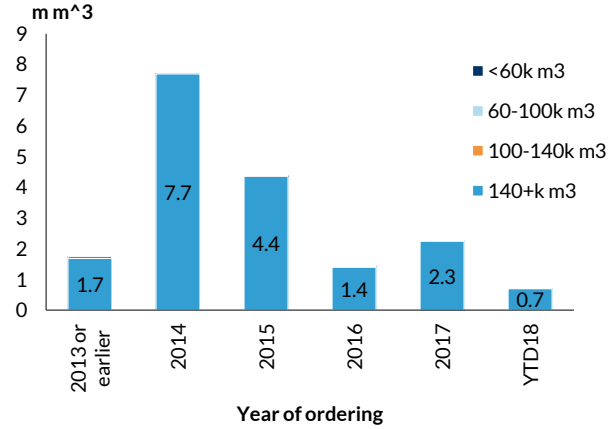
With the exception of eight small vessels, totalling 140,000 m3, the order book is entirely made up of vessels above 140,000 m3. Chinese yards have built 4% of the current fleet, Japanese yards are responsible for 18%, and South Korean yards have built 74%.

Chart 390: Order book by year of delivery



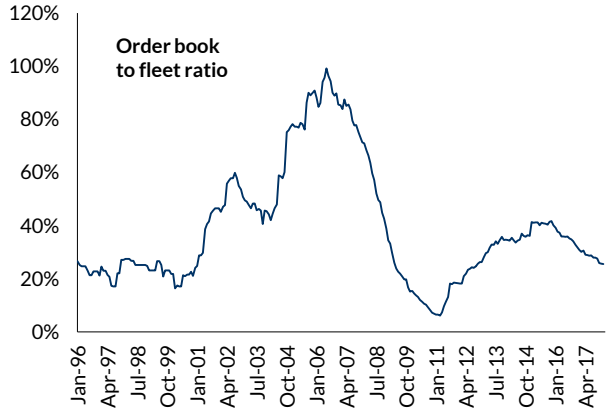
Source: Clarkson, Kepler Cheuvreux

Chart 391: Order book by year of ordering



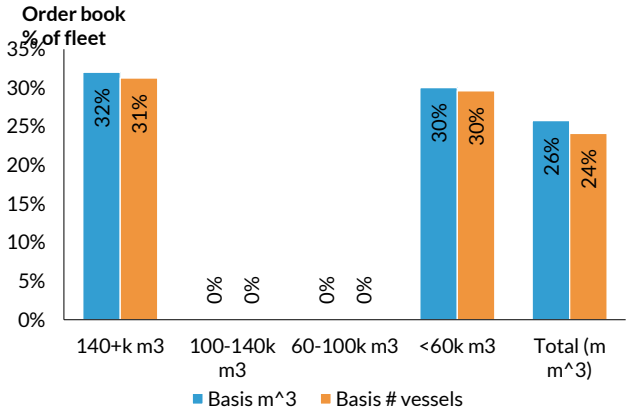
Source: Clarkson, Kepler Cheuvreux

Chart 392: Historical order book/fleet ratio



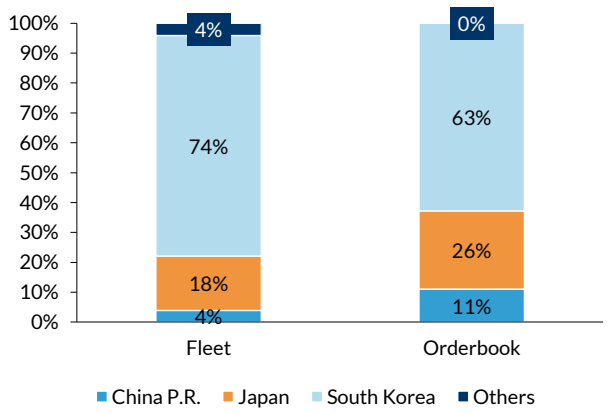
Source: Clarkson, Kepler Cheuvreux

Chart 393: Current order book/fleet ratio



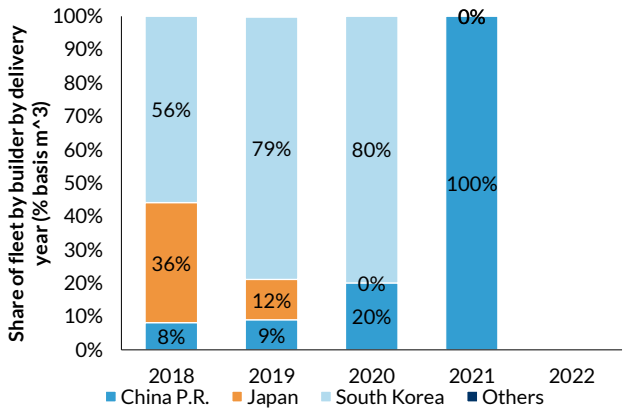
Source: Clarkson, Kepler Cheuvreux

Chart 394: LNG fleet versus order book by building country



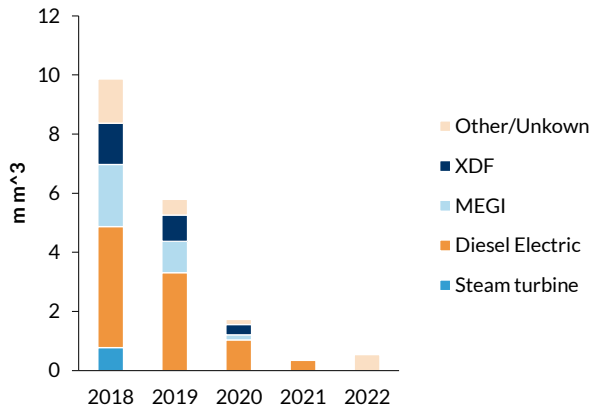
Source: Clarkson, Kepler Cheuvreux

Chart 395: Order book by building country



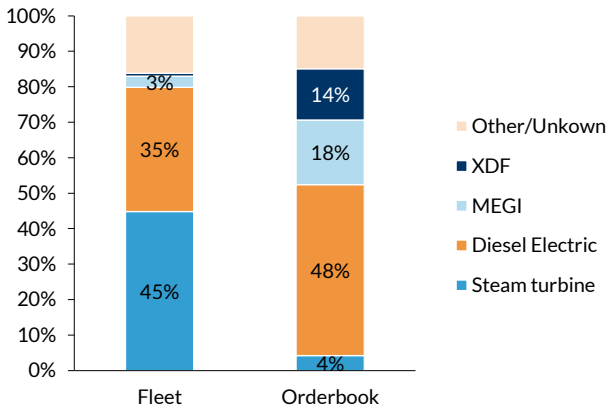
Source: Clarkson, Kepler Cheuvreux

Chart 396: Order book by engine type and year of delivery



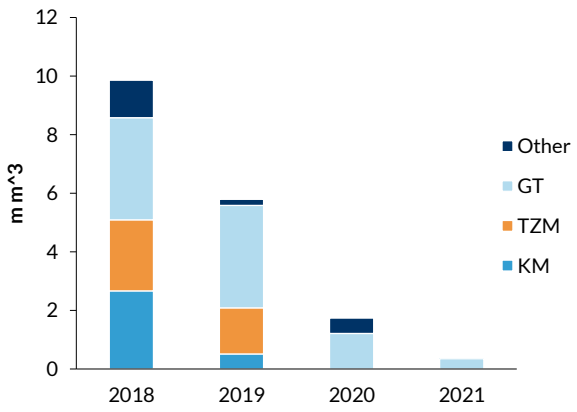
Source: Clarkson, Kepler Cheuvreux

Chart 397: Fleet and order book with engine type



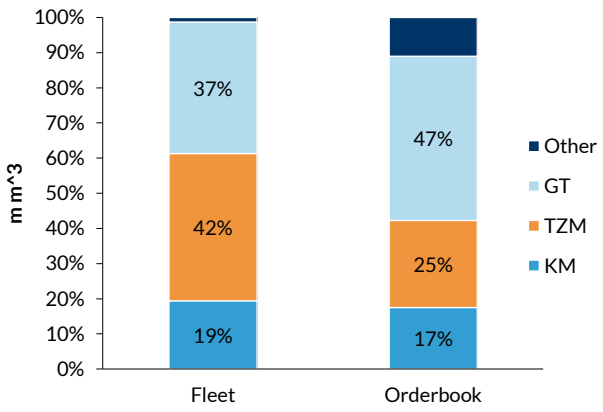
Source: Clarkson, Kepler Cheuvreux

Chart 398: Order book by tank type and year of delivery



Source: Clarkson, Kepler Cheuvreux

Chart 399: Fleet and order book with tank type

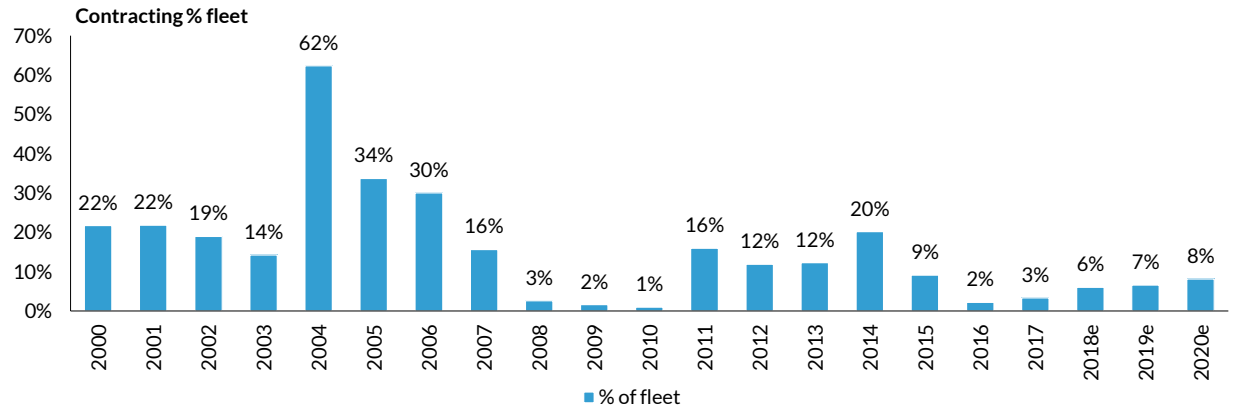


Source: Clarkson, Kepler Cheuvreux

New contracting

We model 4.4m m3 to be contracted in 2018 (including 0.5m ordered in January), which represents a 93% increase from the 2.3m m3 ordered in 2017 (and 212% more than the 1.4m m3 ordered in 2016). Compared with the fleet at the start of the year, we expect new orders of 6% in 2018, 7% in 2019 and 8% in 2020.

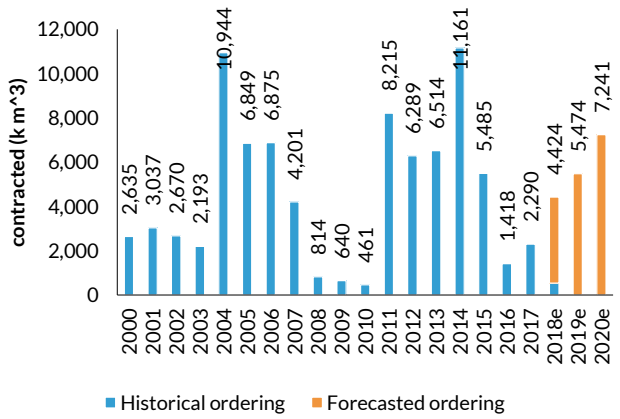
Chart 400: New contracting as percent of fleet at the start of year



Source: Clarkson, Kepler Cheuvreux

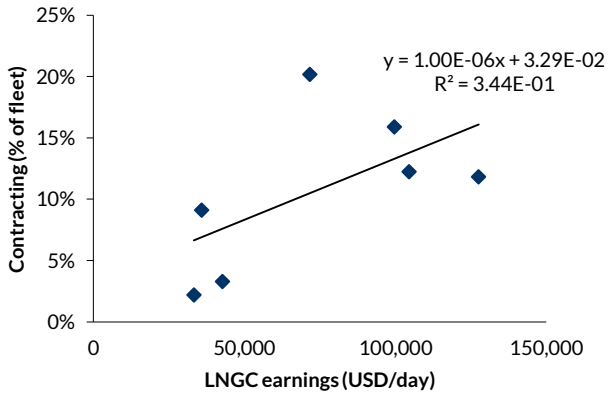
As for the other shipping segments, we model new contracting as an endogenous variable that depends on spot rates (the simple regression model is shown below). Increasing global interest rates and banks' continued reluctance to finance new vessels justify lower contracting estimates than the model output. In our forecasts, we have cut our contracting estimate by 40%.

Chart 401: LNG new ordering by year, including forecasts



Source: Clarkson, Kepler Cheuvreux

Chart 402: New ordering regression model (2011-17)

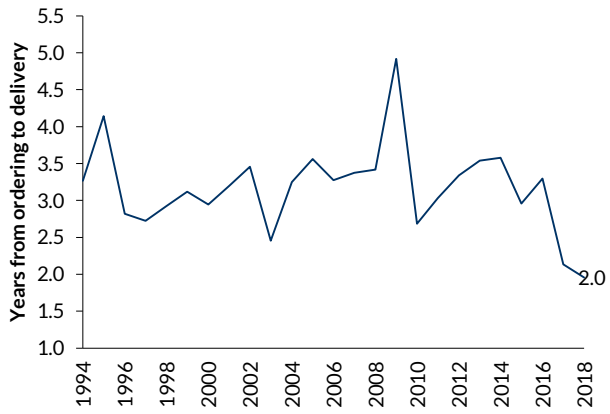


Source: Clarkson, Kepler Cheuvreux

In recent decades, the time from an order being placed to the delivery of LNG vessels has been about three years. In 2017, this dropped significantly to about two years. In our model we now assume it takes 30 months from the month of ordering to delivery. In order to change our 2020 fleet growth estimate, we would need to see

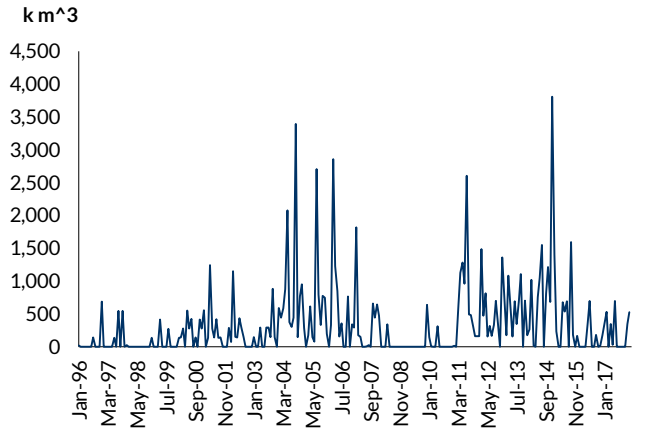
the orders placed in H1 2018, which is to say we expect the lead-time until delivery to increase again.

Chart 403: Years from ordering to delivery (by ordering year)



Source: Clarkson, Kepler Cheuvreux

Chart 404: New ordering by month

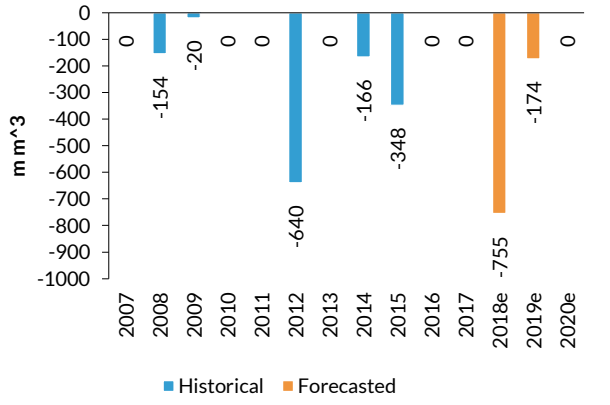


Source: Clarkson, Kepler Cheuvreux

Cancellations

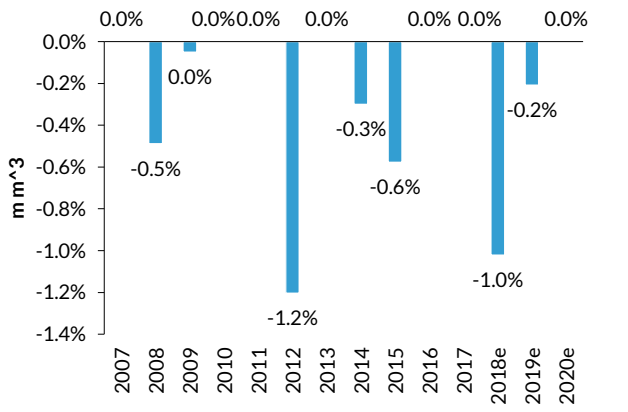
The LNG order book has historically seen few cancellations, and out of the gross order book of 18.3m m3, we expect 0.9m m3 to be cancelled, i.e. cancellations of 5% of the order book (or 1% of the fleet in 2018 on a standalone basis).

Chart 405: Historical and forecast cancellations



Source: Clarkson, Kepler Cheuvreux

Chart 406: Cancellations as percent of fleet start of year



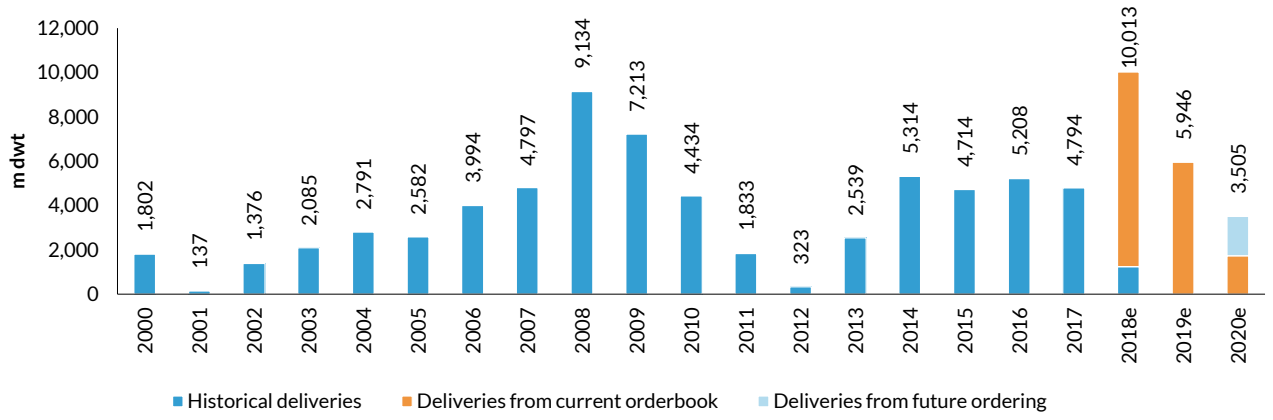
Source: Clarkson, Kepler Cheuvreux

As our estimates of future cancellations are based on a statistical approach (we cancel the orders that were made more than 40 months ago), we do not have a bottom-up estimate that allows us to pinpoint which yards or owners are likely to account for the actual cancellations.

Deliveries

After adjusting the gross order book for expected cancellations and postponements, we expect 10m m3 to be delivered this year, or 13.6% compared with the fleet at the start of this year. For 2019, we expect deliveries of 5.9m m3, 7.1% of the fleet, and 3.5m deadweight tonnage or DWT (3.9%) to be delivered in 2020.

Chart 407: Deliveries to the LNG fleet



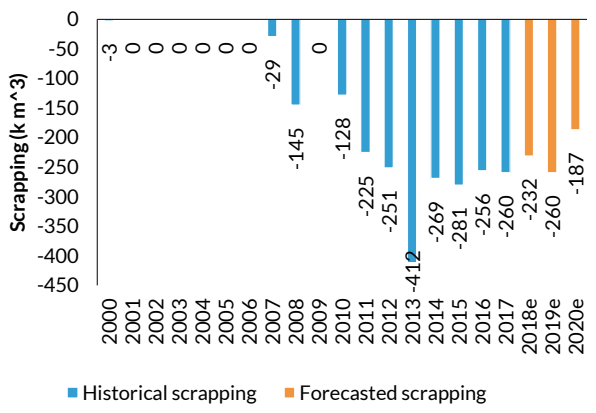
Source: Clarkson, Kepler Cheuvreux

Scrapping

Scrapping of the young LNG fleet has been very limited, and we do not expect any significant scrapping in our forecast period, despite new regulations also being relevant for the LNG segment.

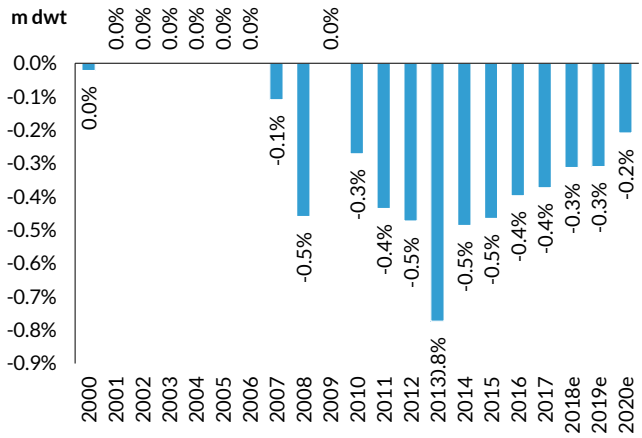
We model scrapping of 0.2m m3 this year, or 0.3% of the fleet, which compares with the 0.3m m3 that were scrapped (0.4% of the fleet) in 2017. Also for 2019E and 2020E, we model in about 0.2m m3 of scrapping.

Chart 408: Scrapping of LNG vessels



Source: Clarkson, Kepler Cheuvreux

Chart 409: Scrapping as % of fleet

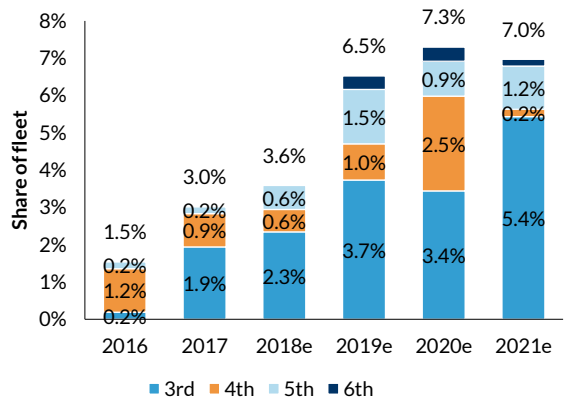


Source: Clarkson, Kepler Cheuvreux

Our scrapping model is based on a multivariate regression analysis with spot rates and steel prices as explanatory variables. We allow ourselves some discretion in our final assessment of the scrapping estimates. As it stands now, we reduce our forecast by 25% compared with the raw model output.

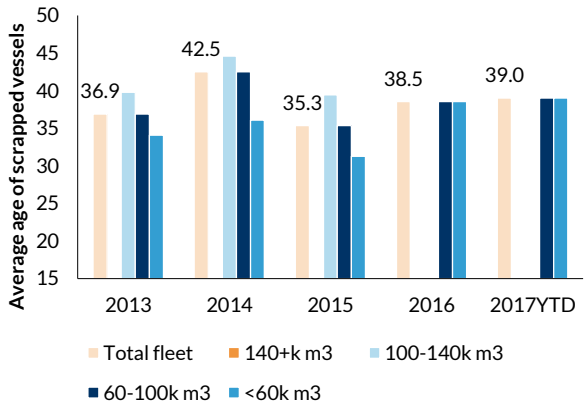
One should also be aware that there is an increasing amount of scrapping candidates ahead. Five-year renewal surveys are typically catalysts for scrapping decisions, and in 2019 and 2020, 1-2% of the fleet faces its fifth of sixth renewal survey (turns 25 and 30 years, respectively).

Chart 410: Share of fleet going though renewal surveys



Source: Clarkson, Kepler Cheuvreux

Chart 411: Average scrapping age



Source: Clarkson, Kepler Cheuvreux

Transforming the amount of vessels into actual transport capacity

In our model, we transform the fleet into actual supply capacity in terms of available transportation services measured in cubic metres/mile a year by multiplying the aggregated vessel volume by the normal service speed of those vessels before we adjust for the time spent in ports and the capacity implicitly held back in terms of slow steaming. This then leaves us with a net capacity metric which we cross with our demand model to arrive at an estimate for fleet utilisation.

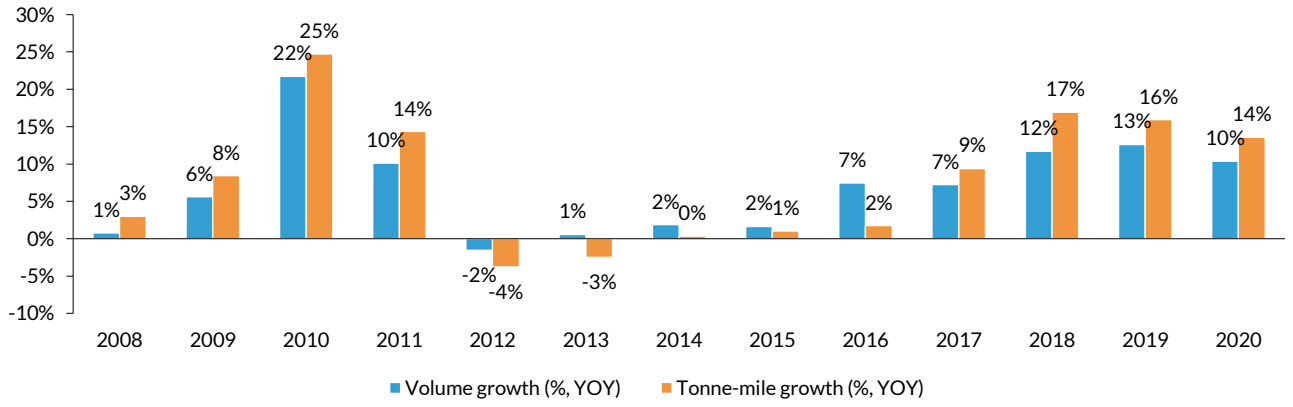
As deliveries of vessels are forward-tilted within each year (January is the month with most deliveries), the change in transport capacity tends to amplify the percentage change in the fleet. Together with an increase in our vessel speed estimate from 17.4 knots in 2017 to 18.5 knots in 2018, this is the main reason for the higher growth in transport capacity compared with the "clean" fleet growth.

LNG shipping demand

We expect growth in LNG transportation demand of 16% in 2018, 15% in 2019 and 13% in 2020. In terms of volumes traded, we expect growth of 11% (30.9m tonne) in 2018, 40.5m tonne (13%) in 2019, and 40.3m tonne (11%) in 2020.

The main reason for the relatively higher growth in tonne-miles compared with volumes is an increase in the average distance travelled, predominantly because we expect c. 40% of the growth in US exports to travel the long way to Asia.

Chart 412: Growth in traded LNG volume and tonne-mile transportation demand



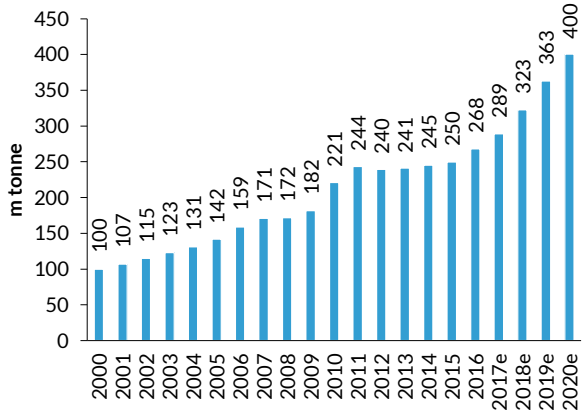
Source: GIIGNL, Poten, Kepler Cheuvreux

The LNG trade

We estimate the LNG trade in 2017 to have grown by 8%, or by 21m tonnes, driven by new liquefaction capacity coming on stream in the US (+12m tonnes, only from Sabine Pass) and Australia (+5m tonnes, Wheatstone and Gorgon).

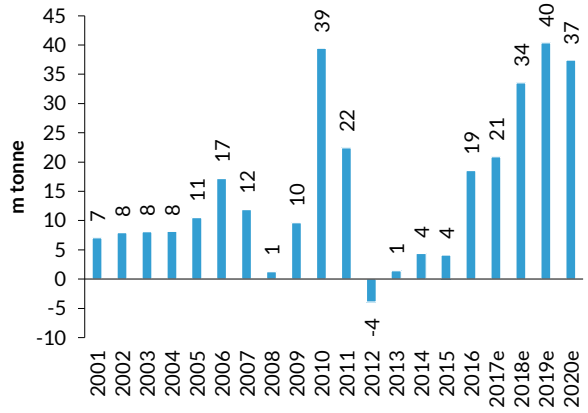
The same two countries are expected to contribute 75% of the global growth from 2017 to 2020, and, together with Russia (Yamal), this figure increases to 90%. Concretely, we expect the US to grow its exports from 13m tonnes in 2017 to 76m tonnes in 2020. Australia is expected to grow its exports from 50m tonnes in 2017 to 71m tonnes in 2020, and Russia from 11m tonnes in 2017 to 27m tonnes in 2020.

Chart 413: Total LNG trade



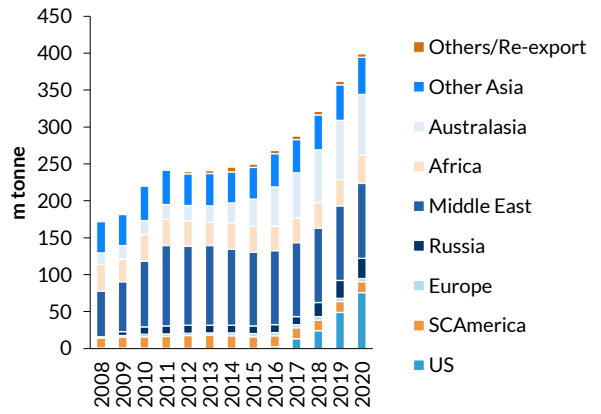
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 414: Annual change in the LNG trade



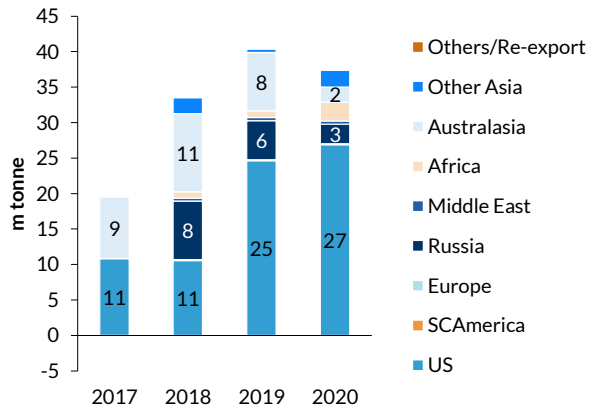
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 415: Export of LNG by country



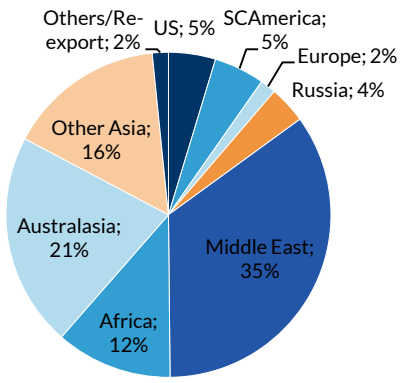
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 416: Annual change by exporters



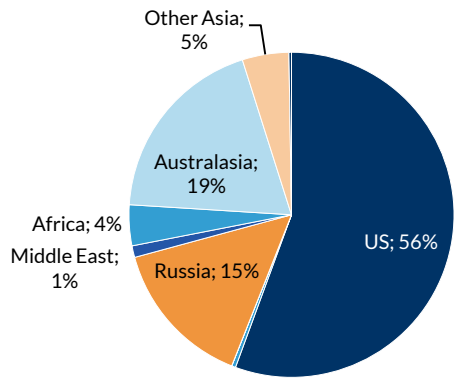
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 417: Share of exports 2017



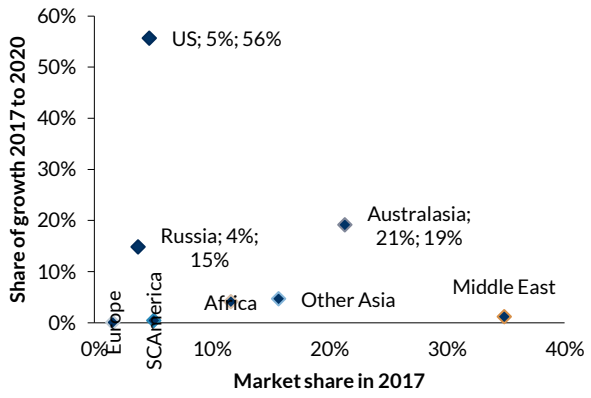
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 418: Share of global growth 2017-20E



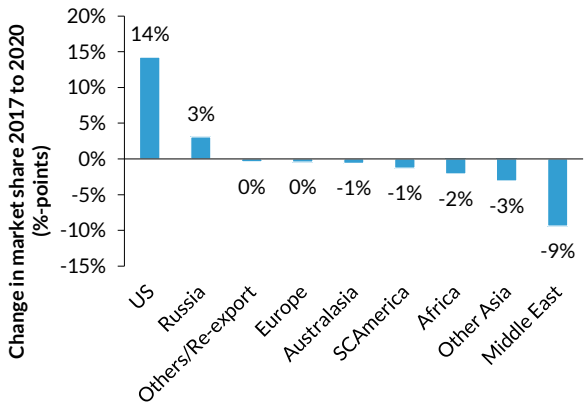
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 419: 2017 market share versus share of growth to 2020E



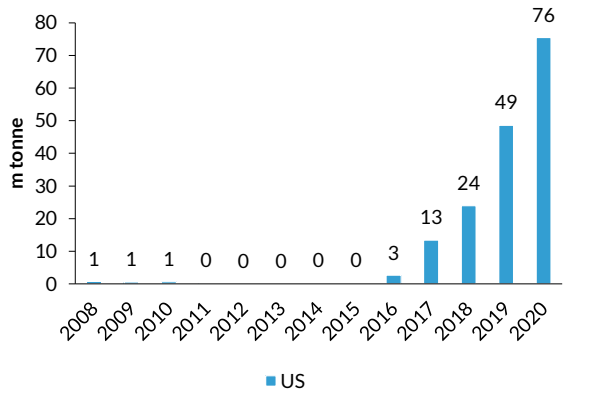
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 420: Change in market share from 2017-20E



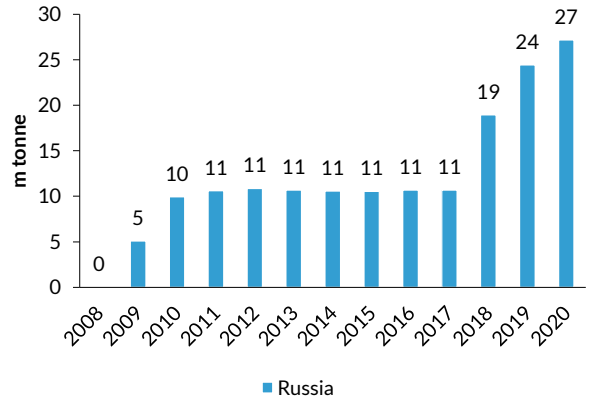
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 421: US LNG exports



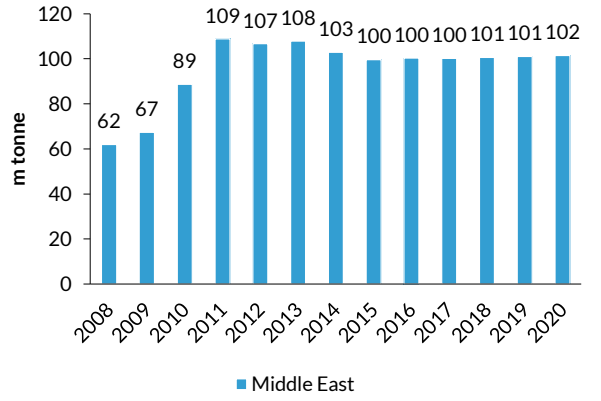
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 422: Russian LNG exports



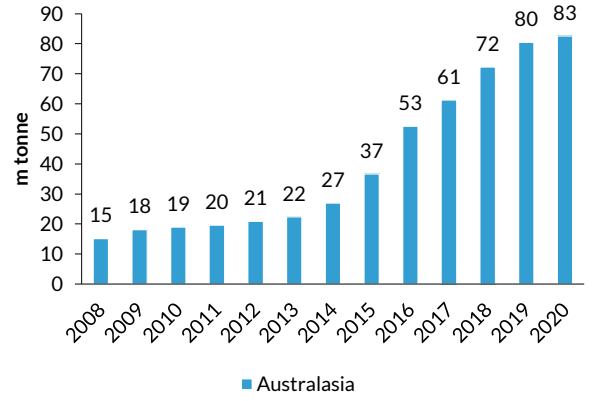
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 423: Middle East LNG exports



Source: GIIGNL, Poten, Kepler Cheuvreux

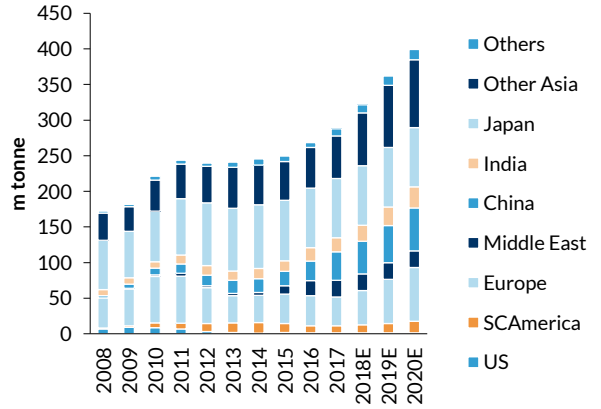
Chart 424: Australian LNG exports



Source: GIIGNL, Poten, Kepler Cheuvreux

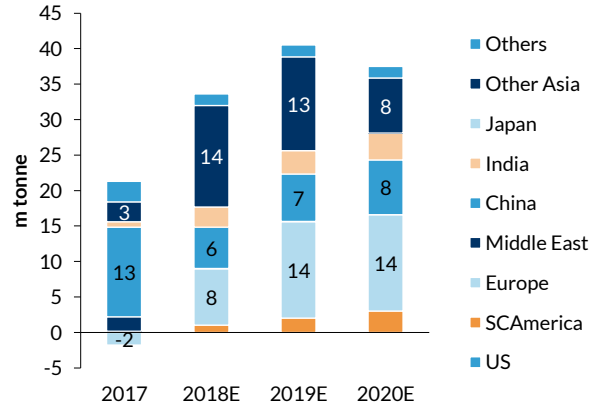
On the import side, we assume about a third of the growth in Europe and another third in "Other Asia" (effectively all Asian countries apart from China, India and Japan). We keep Japan as it is, while we expect both India and China to continue to grow its LNG imports, though not at the same pace as in 2017: we expect average annual growth of 15% for India (compared 10% average growth in 2008-17).

Chart 425: LNG import by country



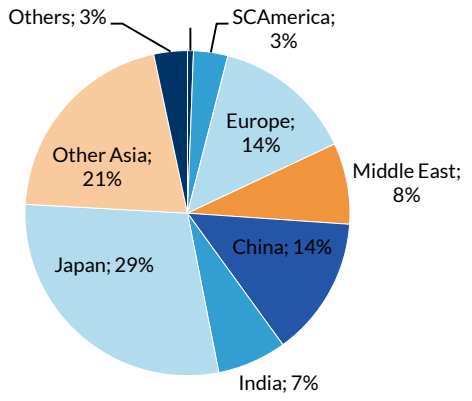
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 426: Annual change by importers



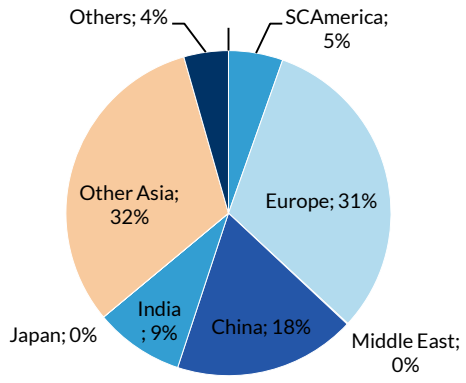
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 427: Share of imports 2017



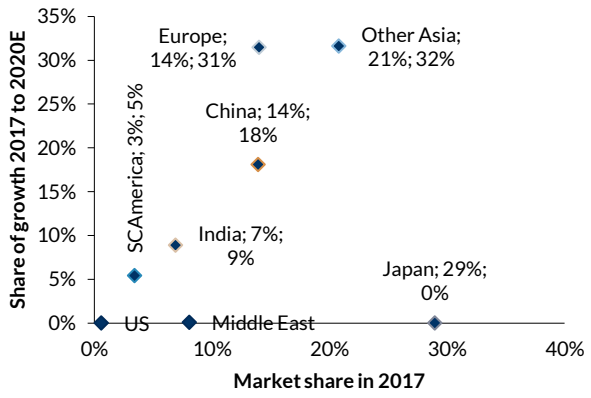
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 428: Share of global import growth 2017-20E



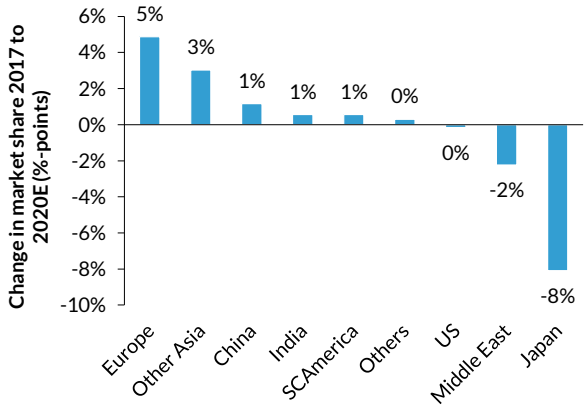
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 429: 2017 market share versus share of growth to 2020E



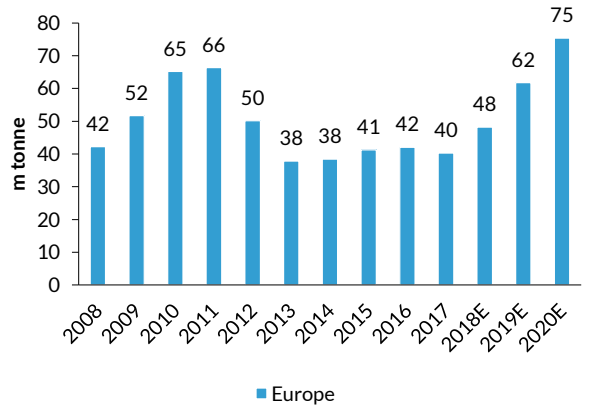
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 430: Change in market share from 2017-20E



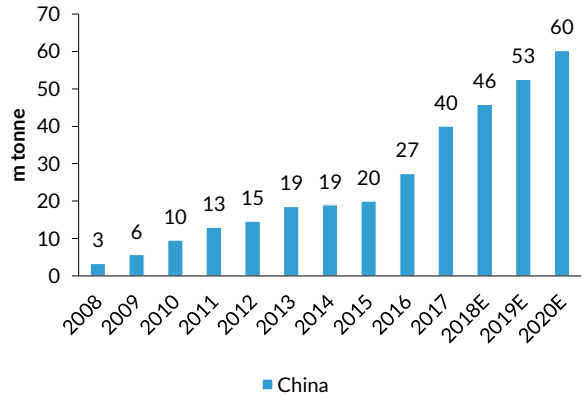
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 431: European LNG imports



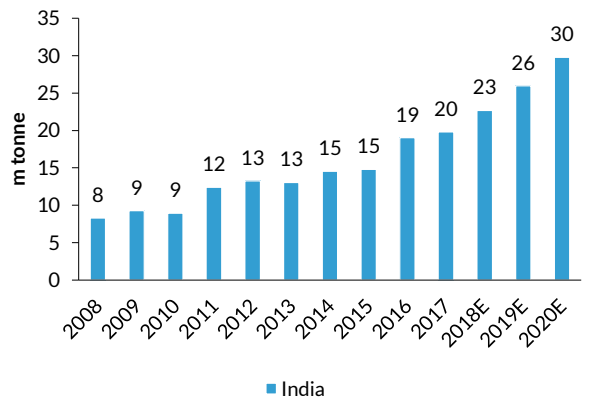
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 432: China LNG imports



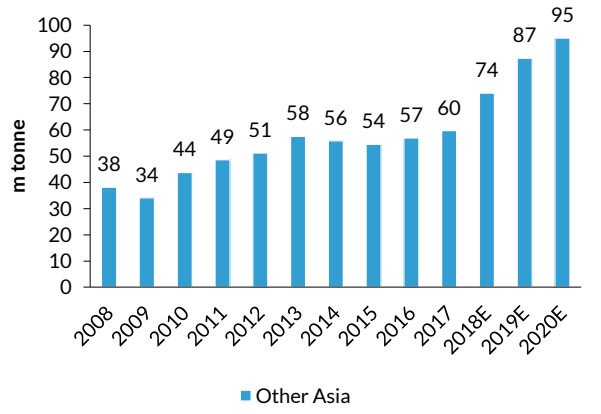
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 433: India LNG imports



Source: GIIGNL, Poten, Kepler Cheuvreux

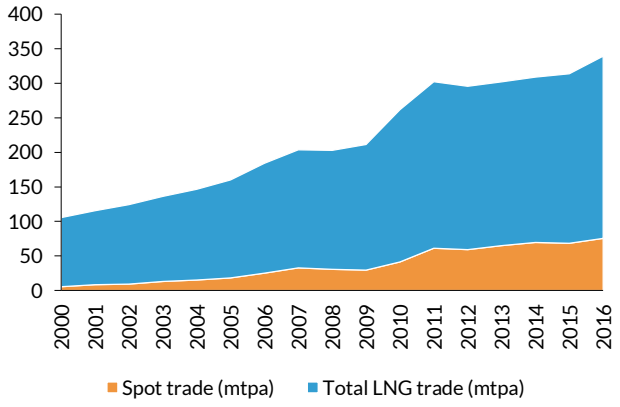
Chart 434: Other Asia LNG imports



Source: GIIGNL, Poten, Kepler Cheuvreux

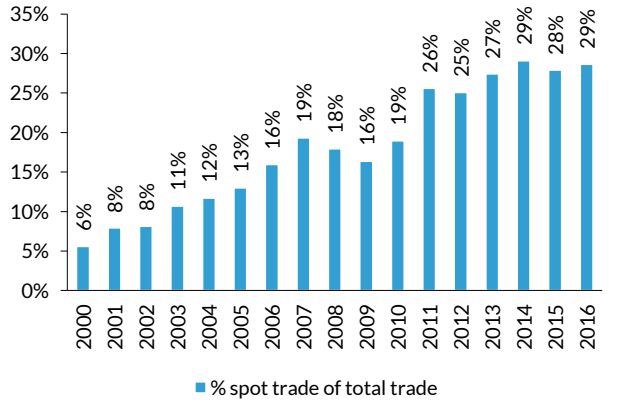
Over the past decades, the share of the spot trade compared with total LNG trade has grown considerably. In 2000, the spot trade was about 6%, while in 2016 (data on the split between spot and contract trade in 2017 is not yet available) that had grown to 29%.

Chart 435: Spot versus total LNG trade



Source: GIIGNL, Kepler Cheuvreux

Chart 436: Share of spot trade

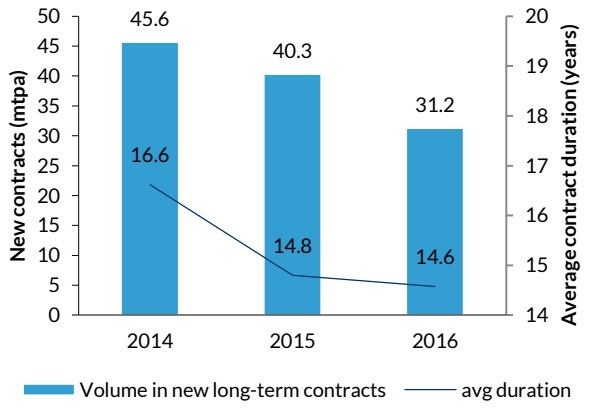


Source: GIIGNL, Kepler Cheuvreux

We believe this development favours the overall gas market in general, and the shipping market in particular. It will benefit the full supply chain simply because the presence of a spot market will improve flexibility and hence allow for more efficient overall resource allocation. Moreover, it will be a large positive for the shipping part in the sense that the LNG shipping market will become more like its commodity shipping siblings, oil tankers and dry bulk shipping, with more liquidity in both spot rates and asset markets, which again will improve market transparency and could lead to opportunities for more innovative solutions.

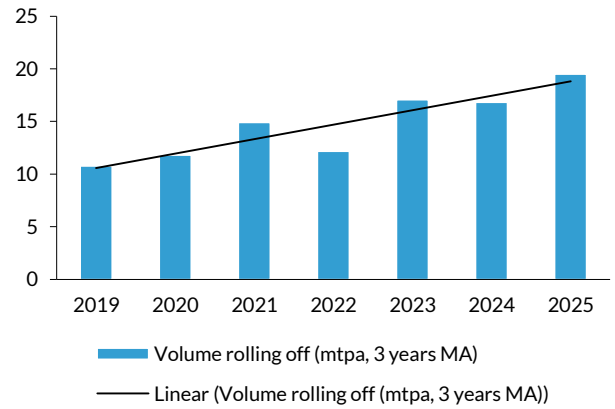
Over time, we expect the spot share to continue to increase with: 1) the amount of new long-term contracts decreasing; and 2) long-term rolling off at a higher run-rate over the next few years.

Chart 437: New long-term LNG purchase contracts



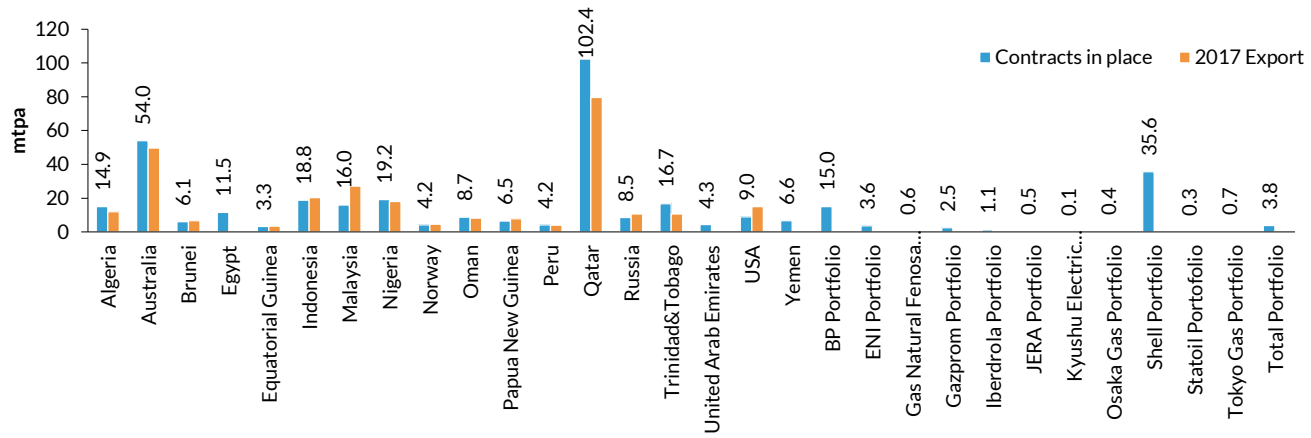
Source: GIIGNL, Kepler Cheuvreux

Chart 438: Amount of old long-term contracts rolling off



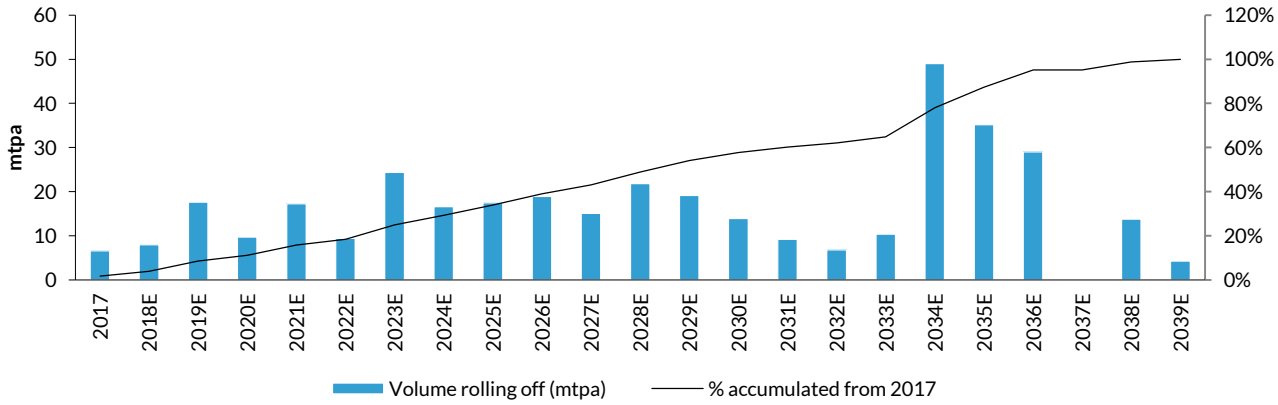
Source: GIIGNL, Kepler Cheuvreux

Chart 439: Current long-term-contracts versus 2017 actual exports per country



Source: GIIGNL, Kepler Cheuvreux

Chart 440: Roll-off schedule for current long-term-contracts (in total 379mtpa as per 2016)



Source: GIIGNL, Kepler Cheuvreux

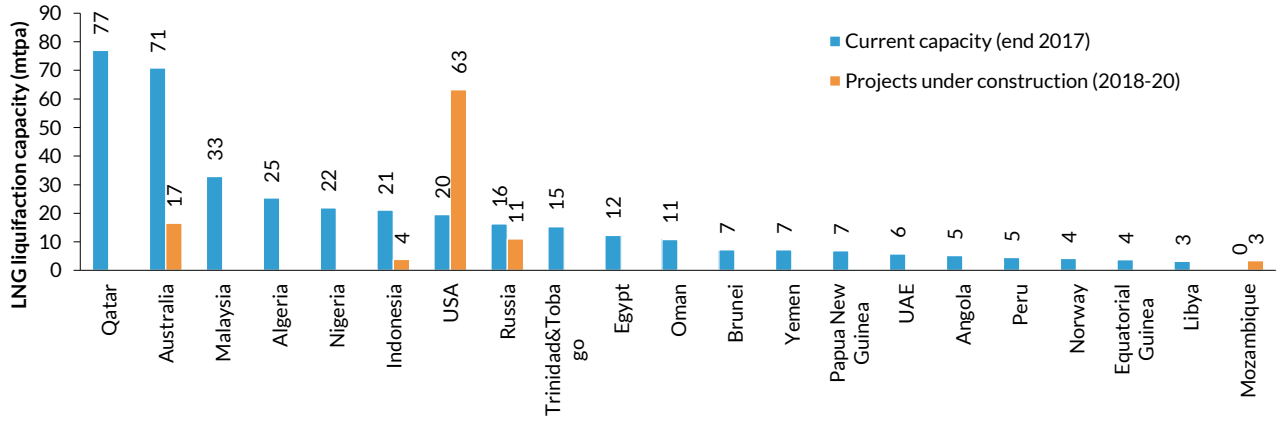
Liquefaction capacity

The growth in our trade forecast is predominantly based on new liquefaction capacity coming on stream during the next three years. As shown in the following, the US stands out, planning to add 63mtpa of capacity from end-2017 to end-2020E.

It is also worth noting that the nameplate capacity seems too low in many cases, as the actual usage implies utilisation above 100%. To us, this indicates that if the gas market becomes tight, there is capacity to produce more than the nameplate capacity suggests.

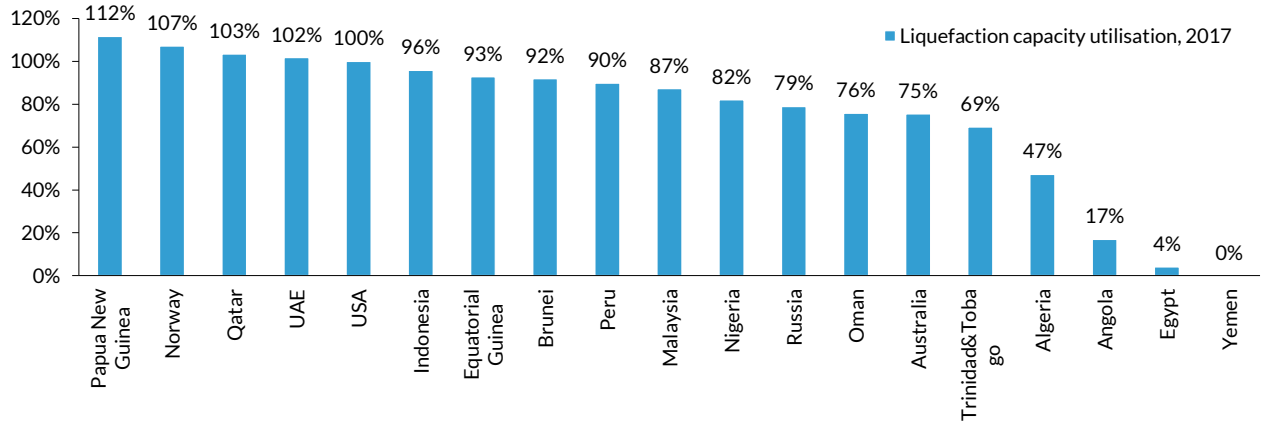
On top of the projects mentioned below, in July last year, Qatar said it planned to increase its exports to 100mtpa by 2024[13]. If assuming a linear upscaling from end-2017 to end-2024, this adds another 3.3mtpa a year in liquefaction capacity.

Chart 441: Current liquefaction capacity versus new capacity under construction



Source: GIIGNL, Kepler Cheuvreux

Chart 442: Liquefaction capacity utilisation in 2017 (2017 capacity defined as average of end-2016 and end-2017)



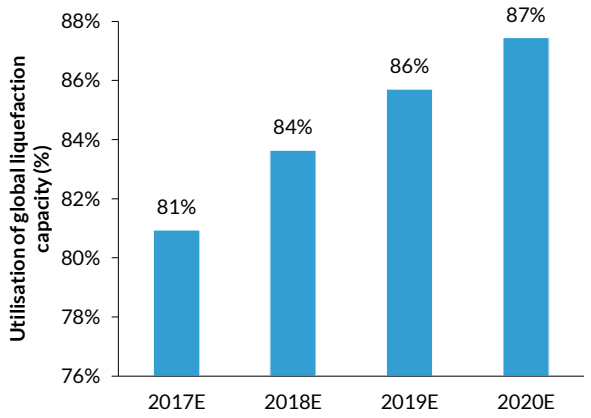
Source: GIIGNL, Poten, Kepler Cheuvreux

[13] https://thepeninsulaqatar.com/article/04/07/2017/Qatar-to-boost-gas-production-by-30-to-100-million-tonnes-a-year

In 2017, we estimate liquefaction capacity utilisation at 81%. We expect this to gradually increase to 87% in 2020E, mostly because we believe the new capacity coming on line will be fully utilised.

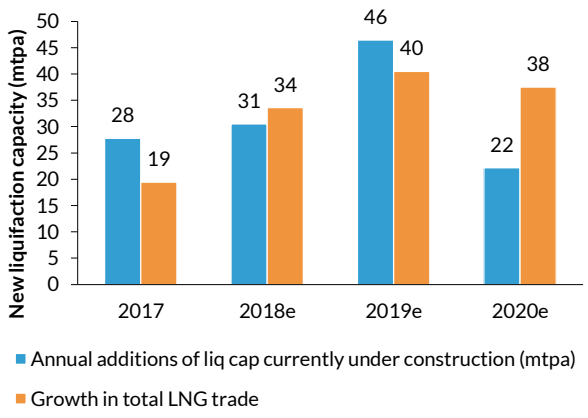
Also, the number of projects in the US is still growing, and there is a considerable amount of suggested investments in new capacity not yet decided upon. According to Energy Ventures Analysis, there is about 235mtpa of additional liquefaction capacity in the planning phase in the US. Hence, there is still upside potential to our estimate of a total 63mtpa of new capacity installed during 2018-20.

Chart 443: Utilisation of global liquefaction capacity



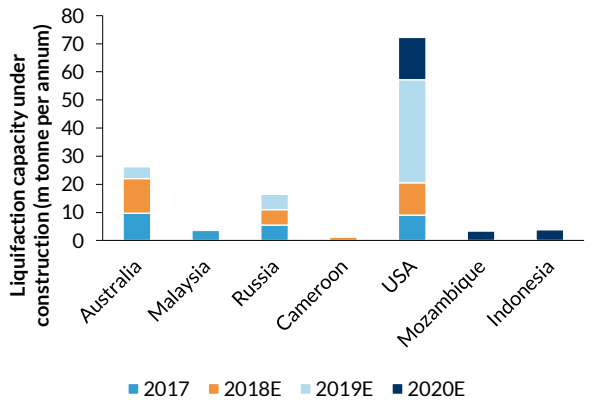
Source: GIIGNL, Poten, Kepler Cheuvreux

Chart 444: Additions to liquefaction capacity versus trade



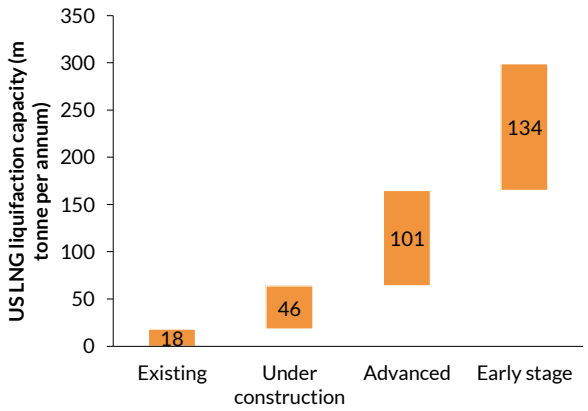
Source: Poten, Kepler Cheuvreux

Chart 445: Additions of liquefaction by country



Source: Various, Kepler Cheuvreux

Chart 446: US liquefaction capacity including that not currently being built



Source: Energy Ventures Analysis, Kepler Cheuvreux

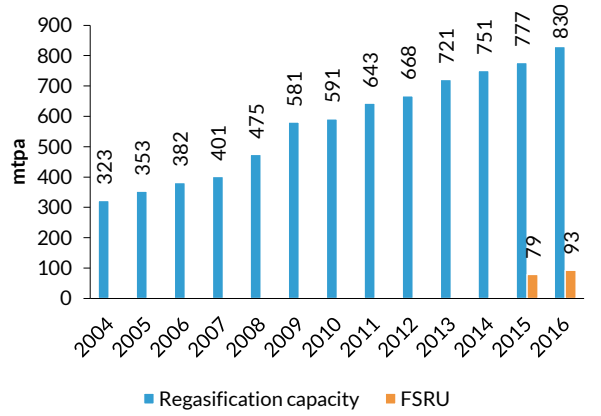
Regasification capacity

At the end of 2016, global regasification capacity stood at 830mtpa, of which 93mtpa was in the form of FSRUs (floating storage and regasification units).

Compared with annual trade of 264m tonnes in 2016, this yields a utilisation rate of 32%. However, this low utilisation should be interpreted as an indication that future

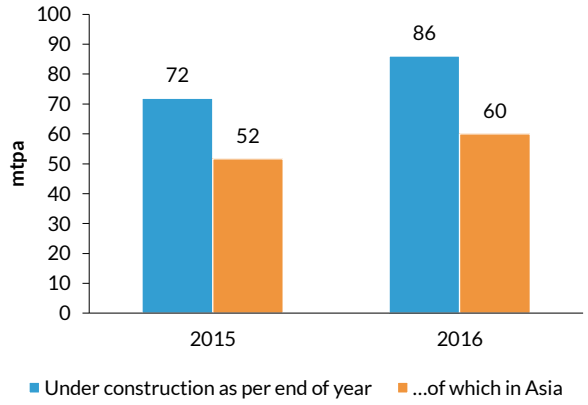
investments will be limited; a lot of this surplus regas capacity is placed in the wrong locations, such as Japan, US and South Korea. Actually, investments in new regas capacity are growing: at the end of 2015, 72mtpa of new capacity was under construction, and at the end of 2016 this had grown to 86mtpa, 60mtpa of which is in Asia.

Chart 447: Global regasification capacity



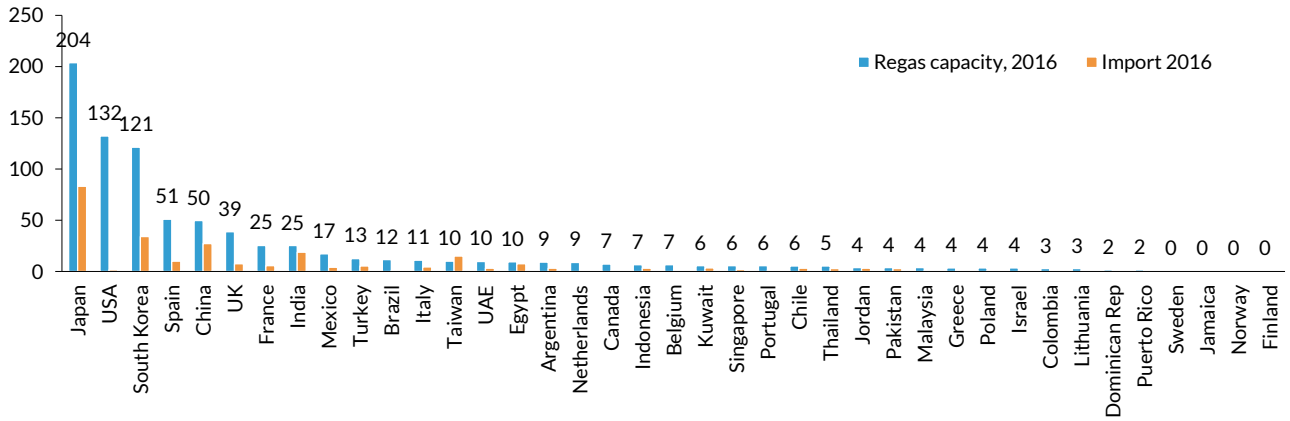
Source: GIIGNL, Kepler Cheuvreux

Chart 448: New regasification capacity under construction



Source: GIIGNL, Kepler Cheuvreux

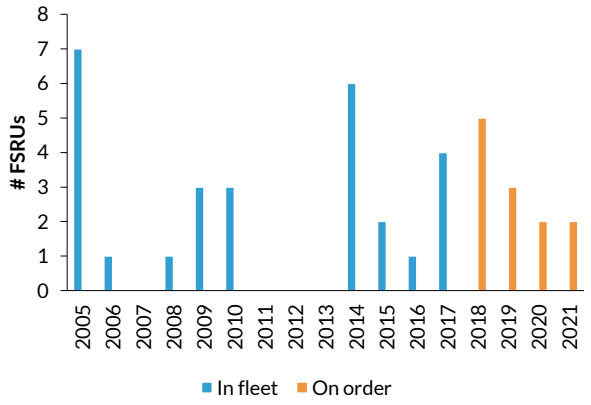
Chart 449: Regasification capacity by country



Source: GIIGNL, Poten, Kepler Cheuvreux

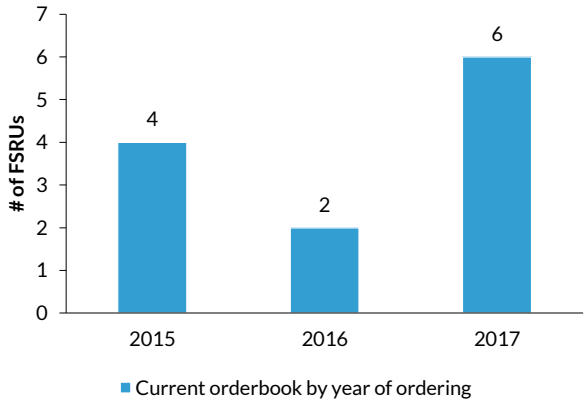
Currently, there are 28 FSRUs in the market, of which three are idle, implying utilisation of about 90%. There are another 12 in the order book, half of which has contracts assigned. The order book implies five deliveries in 2018, three in 2019, and two each in 2020 and 2021.

Chart 450: FSRU fleet and order book by year of delivery



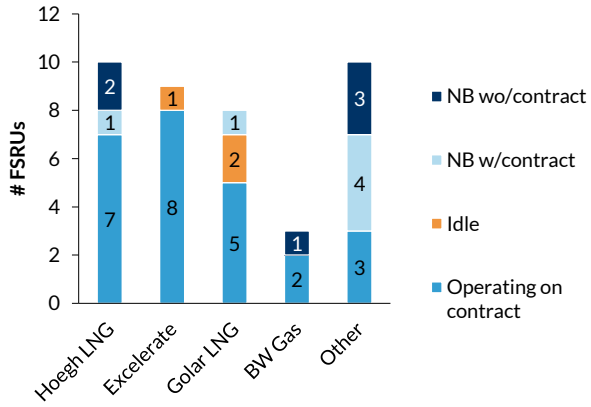
Source: Clarkson, Kepler Cheuvreux

Chart 451: Order book by year of ordering



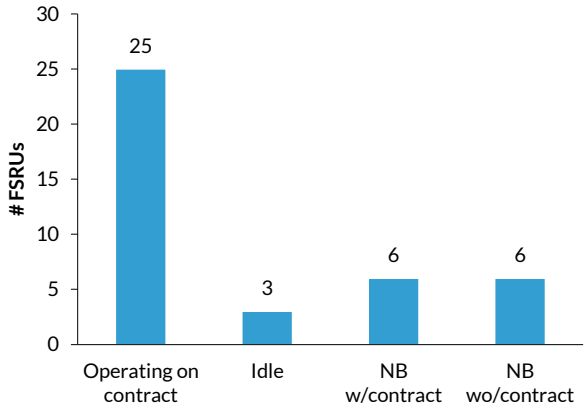
Source: Clarkson, Kepler Cheuvreux

Chart 452: Fleet and order book by company



Source: Various, Kepler Cheuvreux

Chart 453: Fleet and order book by employment

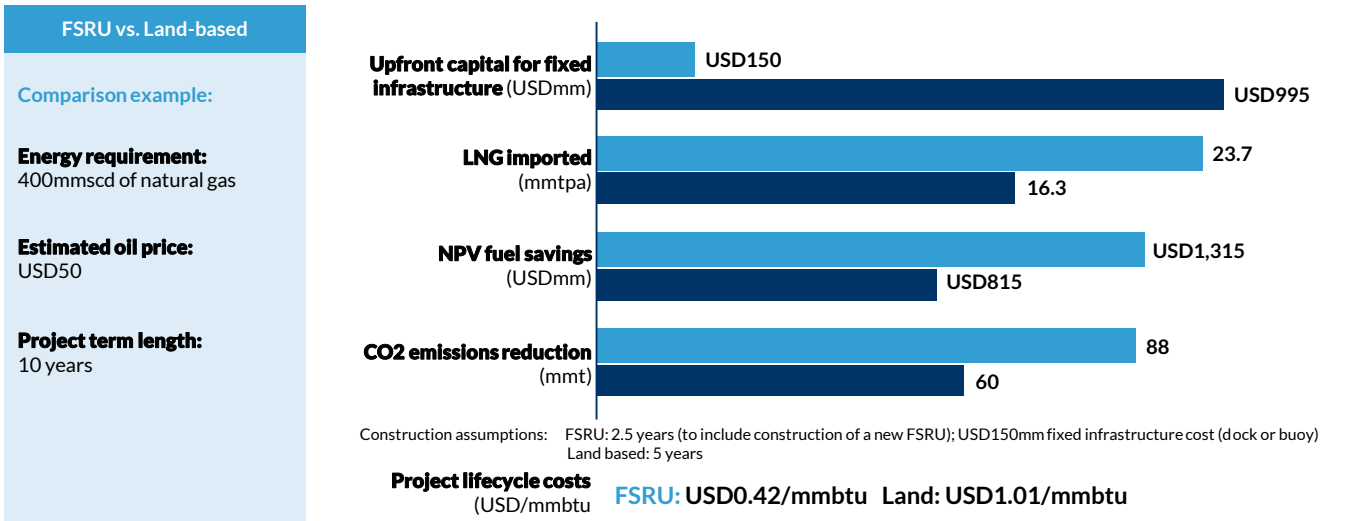


Source: Various, Kepler Cheuvreux

Talking to market participants, we see at least 16 publicly known projects that will need a FSRU. Out of these, we expect at least two to conclude in H1 2018. In addition to the public tender processes, there is, to our understanding, at least the same level of activity in the non-public market. That said, we think the latter has eased somewhat in recent months.

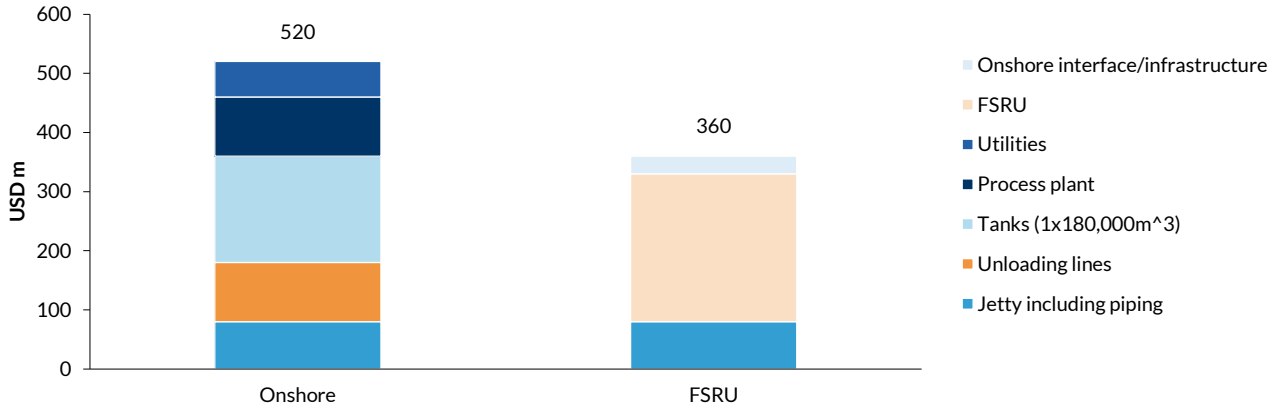
Overall, we are confident that the FSRU market is set to grow, due to: 1) overall growth in liquefaction capacity; 2) gas's attractiveness as a clean energy carrier, compared with other fossil fuels; and last but not least 3) the fact that FSRUs are considerably cheaper than the land-based solutions as well as more flexible, and are more flexible as it can be used both as LNG transportation vessels and moved to new locations.

Chart 454: FSRU versus land-based regasification



Source: Excelerate Energy November 2017

Chart 455: FSRU versus land-based regasification, Capex (3mtpa, 180,000m3 storage)

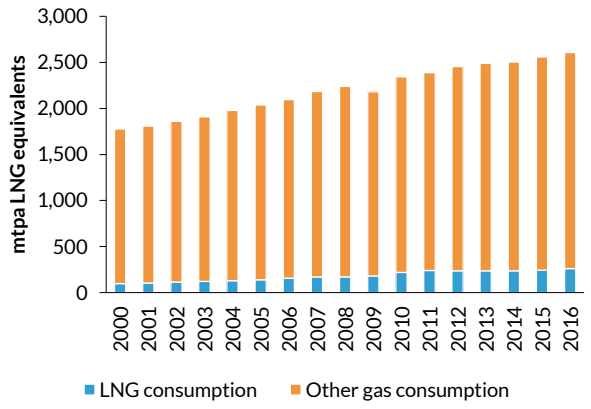


Source: Oxford Institute for Energy Studies

Global gas demand

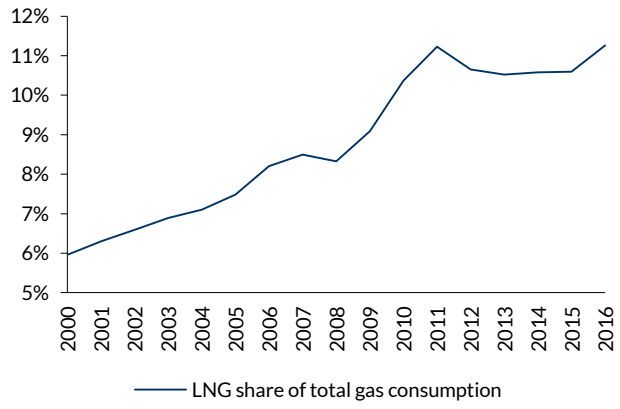
Over the past couple of years, there has been general scepticism about where the "new" LNG will be consumed. This is a relevant question; however, the most important point to note is that the LNG market currently represents just a small share of the world's total consumption (2.6% in 2016), as the full 111mtpa increase in the LNG trade we expect from 2017 to 2020 represents only 1.1% of the global energy consumption in 2016.

Chart 456: LNG versus other gas consumption



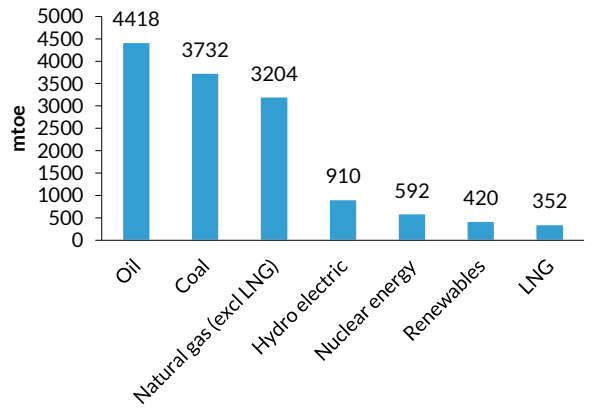
Source: BP, GIINGL, Kepler Cheuvreux

Chart 457: LNG as share of global gas consumption



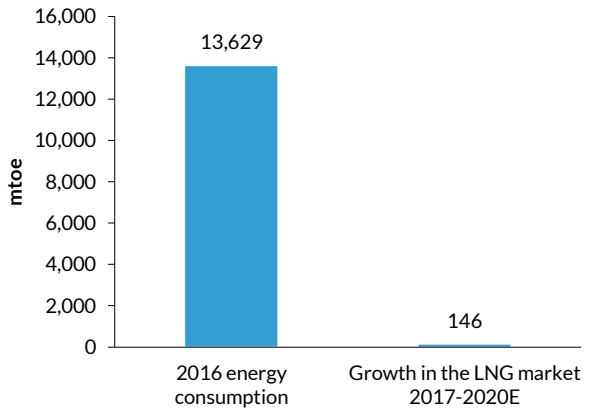
Source: BP, GIINGL, Kepler Cheuvreux

Chart 458: 2016 world primary energy consumption (mtoe)



Source: BP, GIINGL, Kepler Cheuvreux

Chart 459: Global energy consumption versus expected growth in LNG consumption 2017-20

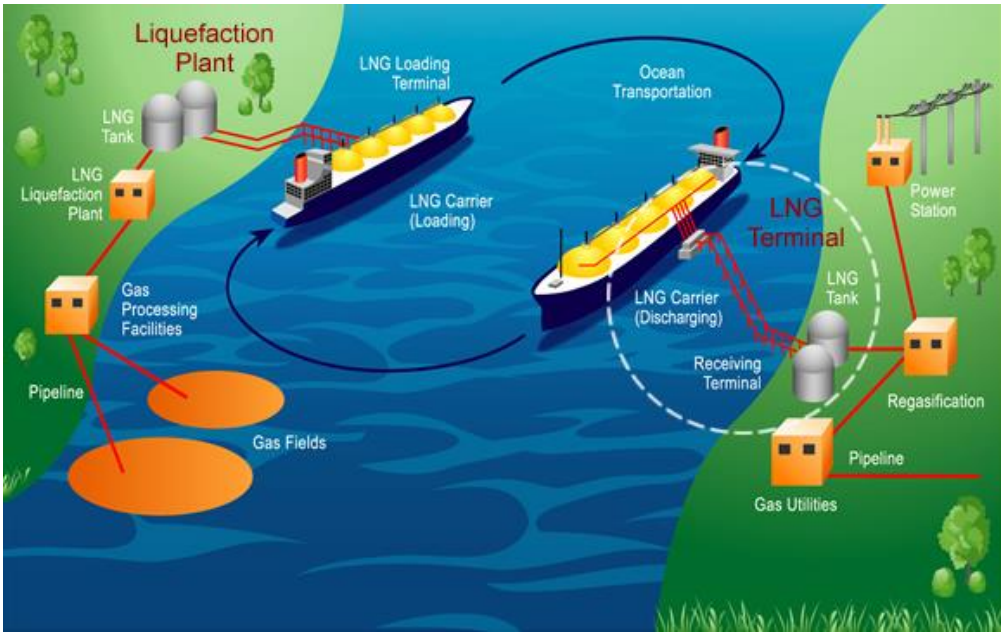


Source: BP, Kepler Cheuvreux

A very short introduction to the LNG business

The liquefied natural gas (LNG) supply chain starts with extraction from gas fields. The gas is then processed and "cleaned" to leave pure methane (CH4) before it is cooled to about -163 Celsius, which makes it a liquid. This is done at a liquefaction plant and reduces the volume of the gas by about 600-fold, making it economically possible to transport in vessels. At the receiving end, the LNG is heated back up into its gaseous phase in regasification terminals before it is sent for consumption, typically either by a gas-fired power-plant for electricity production or by the grid for household (direct) consumption. Typically, both the liquefaction plant and the regasification terminal are land-based (as shown in the following chart), but over the past few years, floating solutions have come to the market, in particular on the regasification side.

Chart 460: A simplified overview of the LNG supply chain



Source: http://energyeducation.ca

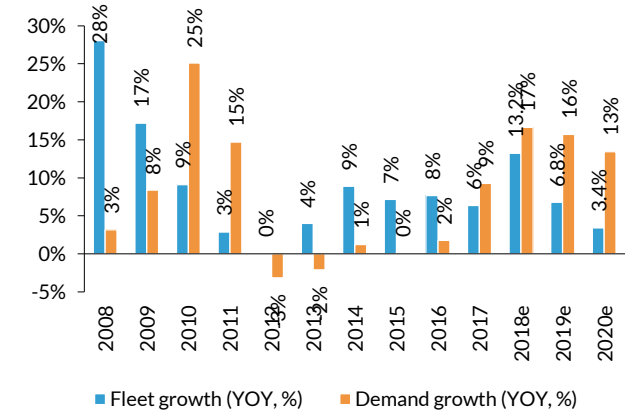
LNG shipping market balance, rate and value forecast

Market balance and fleet utilisation:

With growth in LNG shipping transportation demand outpacing growth in supply, we expect the market to tighten over the coming years. Comparing 2018 with 2017, we do not expect any large change in the market balance, despite the high fleet growth, simply because we believe demand will grow in line with supply. In 2019 and 2020, we expect the balance to tighten considerably.

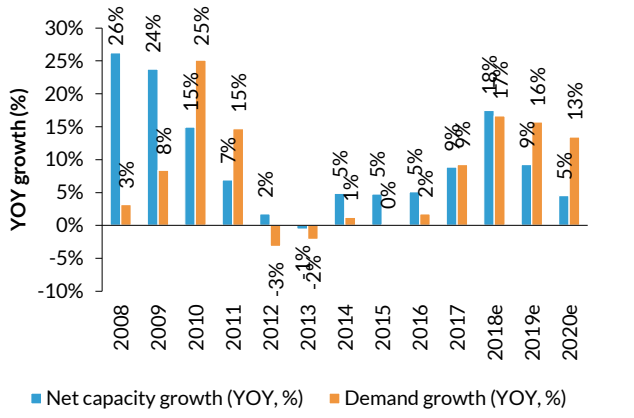
Also, in previous years, much of the added liquefaction capacity has come with a delay. With Russia's Yamal now surprising the market by actually coming online ahead of schedule and US assets also delivering on time, we believe the risk of delays is less now than in previous years.

Chart 461: Fleet growth versus demand growth



Source: BP, GIINGL, Kepler Cheuvreux

Chart 462: Transportation capacity growth versus demand growth



Source: BP, Kepler Cheuvreux

Rate forecast

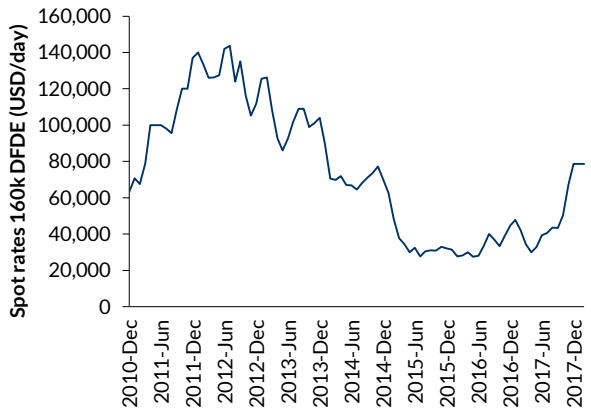
We estimate spot rates of USD46,000 per day in 2018, USD68,000 per day in 2019 and USD103,000 per day in 2020. Our 2019 estimate is increased by 20% compared with the simple regression model (as shown below) between rates and fleet utilisation because we believe the momentum – structurally better fleet utilisation combined with the seasonal upturn – in H2 2019 will lift rates to our estimated 2020 figure of c. USD100,000 per day going into the winter of 2019. Also, the current (surprisingly) high spot rate of c. USD80,000 per day leads to a higher starting point, which makes us lift our 2018E rate by about 20%.

All spot rate estimates are for 160,000 DFDE; we apply a USD8,000 per day premium for MEGI/XDF vessels, due to the better fuel consumption (but we do not add any premium for the larger cargo intake) and a USD7,000 per day discount for a 145,000 steam-turbine vessel due to its inferior fuel consumption.[14]

As an indication of what sort of ultimate upside there is in the LNG shipping segment, we have calculated the theoretical spot rate basis full extraction of the spread between US and Japanese LNG prices into a shipping rate. At peak. that rate could have appreciated towards USD500,000 per day. That spread became that wide because the US gas market was saturated by very low-cost domestic shale gas production, while LNG prices in Asia were set by an oil price at c. USD100/bbl. With US LNG export capacity growing rapidly, that is unlikely to happen again, but it does give an indication of what sort of spikes one can see in the ramp-up-phase of US liquefaction capacity in a high-energy-price regime.

[14] This is basis a gas price at USD7/mmBtu which is equivalent with a HFO price at USD283/tonne and port ratio of 20%.

Chart 463: Historical spot rates

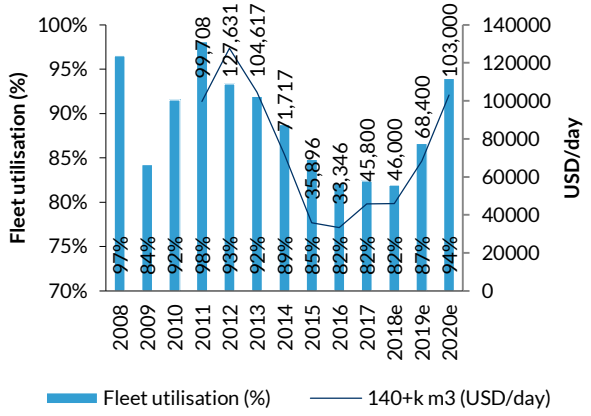


Source: Clarkson, Kepler Cheuvreux

Chart 464: Historical seasonality (2011-17)

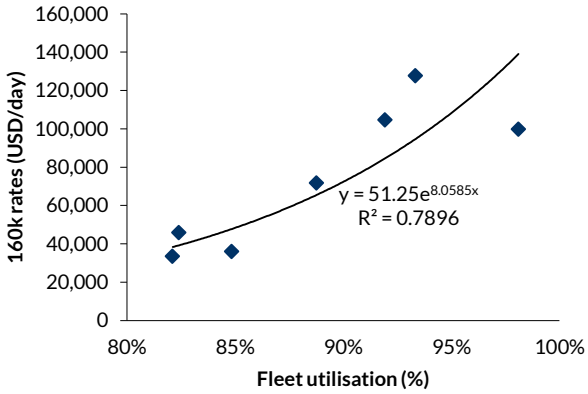
Source: Clarkson, Kepler Cheuvreux

Chart 465: Rate forecast and fleet utilisation



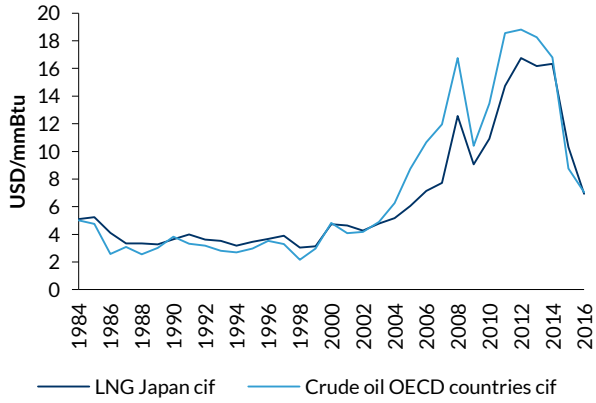
Source: BP, GIINGL, Kepler Cheuvreux

Chart 466: Regression model used for rate forecast



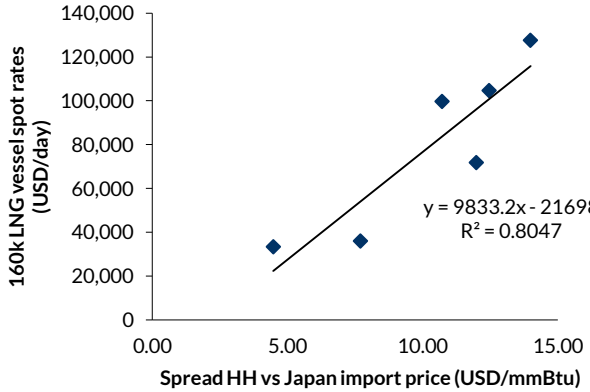
Source: BP, Kepler Cheuvreux

Chart 467: Japan LNG import price versus crude oil



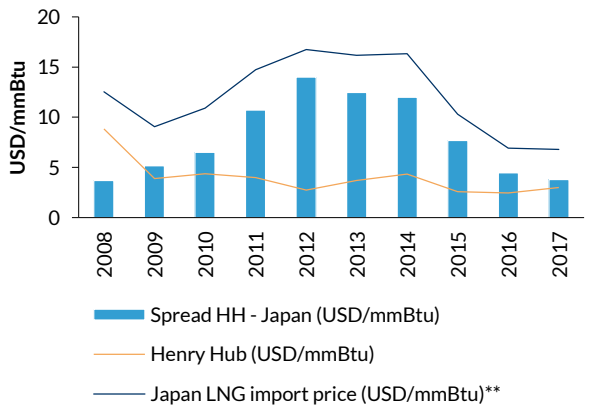
Source: BP, Kepler Cheuvreux

Chart 468: LNG shipping spot rates versus spread US-Japan



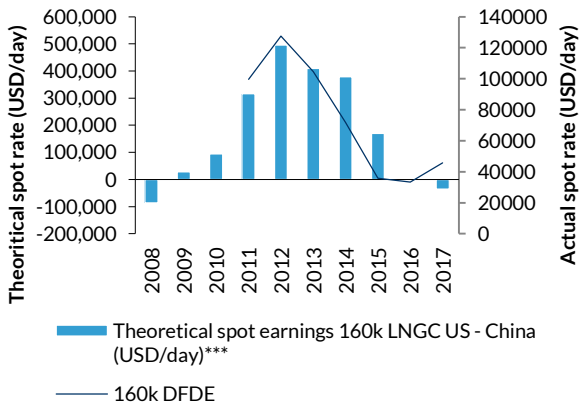
Source: BP, Kepler Cheuvreux

Chart 469: Historical gas prices and spread



Source: BP, Kepler Cheuvreux

Chart 470: Historical spread transformed into a theoretical TCE



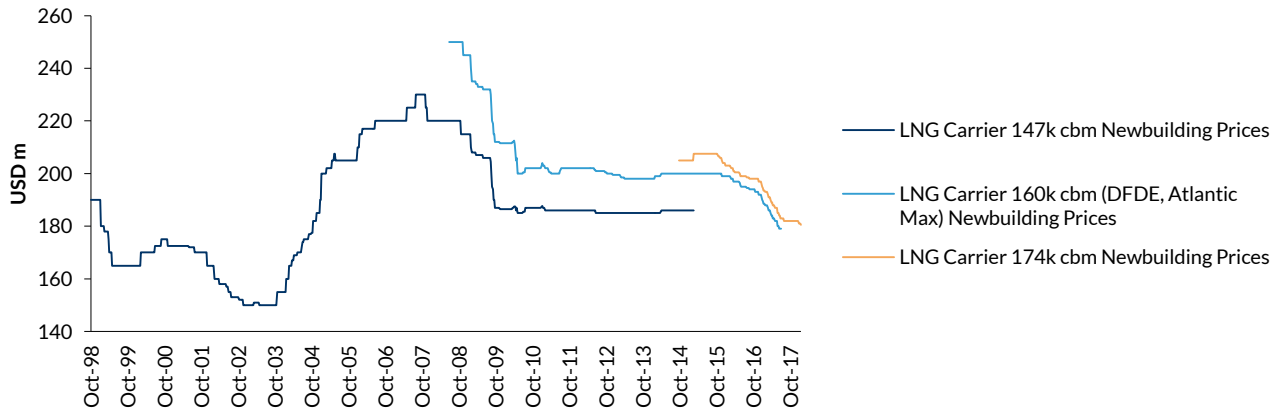
Source: BP, Kepler Cheuvreux

Vessel values

Clarkson quotes the price for a newbuild 174,000 MEGI at USD180.5m, down 7% YOY. We estimate an equivalent resale price of USD213m, based on USD3m in supervision cost and 4% all-in interest costs on the bank (building) financing. That adds to a total delivery cost of USD9m. In addition, we use the discounted cash flow from the current "forward market", the latter derived from a USD78,000 per day spot rate, USD56,000 per day for one-year TC and USD62,500 per day for five-year TC, making an average of USD63,000 per day for the three years. The estimate of USD213m is the resale price which makes the IRR on the equity needed the same for the resale as for the newbuilds (which is set at 10% by using a long-term rate of USD62,500 per day).

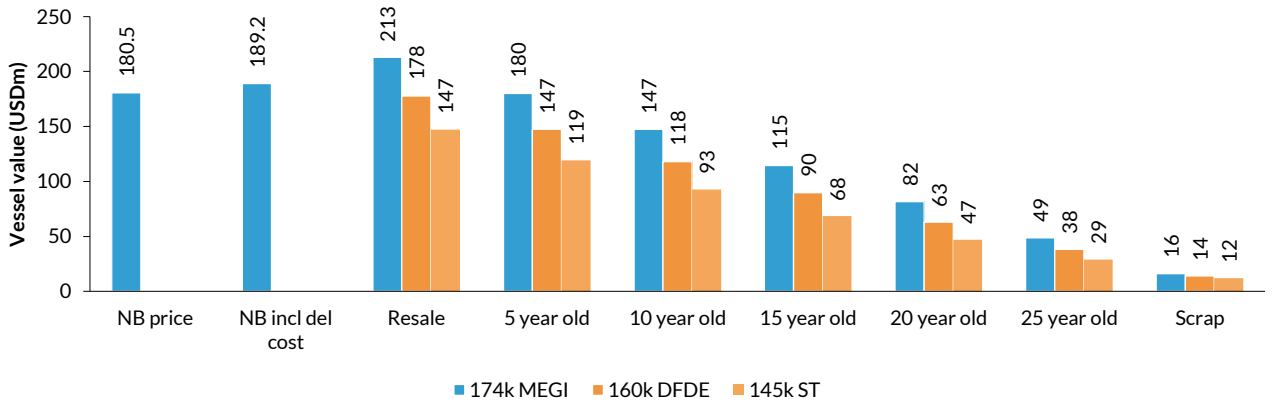
When we instead use our rate forecast (an average of USD74,000 per day) as cash flow for the first three years, we estimate a resale price of USD226m. From the difference in fuel consumption, we estimate a (nominal) USD2.4m inferior cash flow from a 160,000 m3 DFDE vessel and USD4.4m for a 145,000 m3 steam turbine vessel.

Chart 471: LNG newbuilding prices



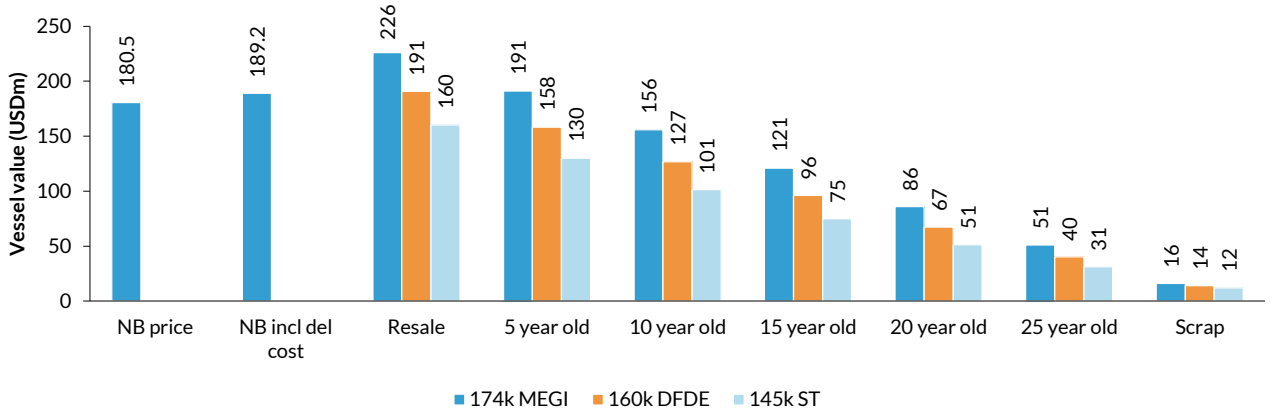
Source: Clarkson

Chart 472: Current prices



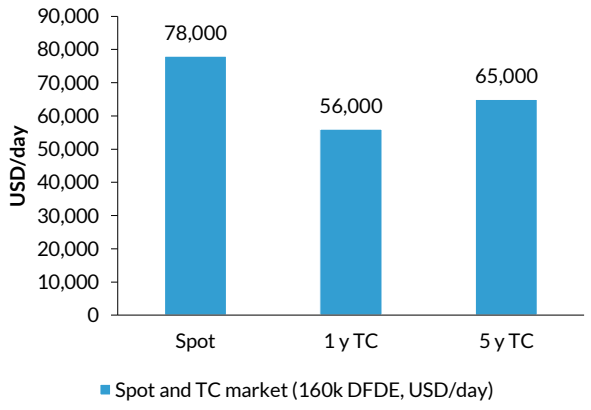
Source: Kepler Cheuvreux, Clarkson

Chart 473: KECH vessel value forecast, one-year ahead



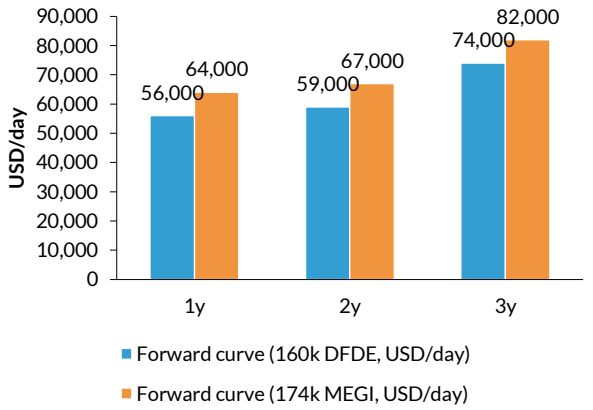
Source: Kepler Cheuvreux, Clarkson

Chart 474: The three constituents of our "forward curve"



Source: Clarkson, Kepler Cheuvreux

Chart 475: "Forward curve" (MEGI = DFDE + USD8,000/day)



Source: Clarkson, Kepler Cheuvreux

Complete LNG supply/demand model

Table 23: KECH LNG shipping model

FLEET OVERVIEW (k m3)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018E	2019E	2020E
Fleet start of year	31,566	40,416	47,365	51,670	53,151	53,223	55,351	60,270	64,577	69,528	73,938	83,719	89,406
Historical deliveries	9,134	7,213	4,434	1,833	323	2,539	5,314	4,714	5,208	4,794	1,238		
Gross order book for delivery by month											9,858	5,792	1,734
Forecasted cancellations											-755	-174	0
Postponements											-328	328	0
Deliveries from order book											8,775	5,946	1,734
Historical ordering	814	640	461	8,215	6,289	6,514	11,161	5,485	1,418	2,290	528		
Future ordering											3,127	4,114	7,685
Deliveries from future ordering												0	1,491
Historical scrapping	-145	0	-128	-225	-251	-412	-269	-281	-256	-260	0		
Scrap price (USD/LDT)	575	334	444	515	443	424	471	345	274	377	400	400	400
Future scrapping											-232	-260	-187
Scrapping as % of fleet	-0.5%	0.0%	-0.3%	-0.4%	-0.5%	-0.8%	-0.5%	-0.5%	-0.4%	-0.4%	-0.3%	-0.3%	-0.2%
Misc.	-139	-264	0	-126	0	0	-126	-126	0	-125	328	-328	0
Fleet end of year	40,416	47,365	51,670	53,151	53,223	55,351	60,270	64,577	69,528	73,938	83,719	89,406	92,443
Fleet growth (YOY, %)	28%	17%	9%	3%	0%	4%	9%	7%	8%	6%	13.2%	6.8%	3.4%
LNG TANKER SUPPLY (10^9 m3-miles)													
Vessel design speed (knot)	19.3	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4	19.4
Gross transportation capacity	6,043	7,491	8,424	8,846	9,063	9,144	9,756	10,613	11,391	12,197	13,631	14,860	15,519
Actual port ratio (% of total time)	26%	24%	24%	24%	24%	23%	22%	21%	20%	20%	21%	21%	21%
Normal port operations	-1,583	-1,818	-2,035	-2,156	-2,168	-2,127	-2,173	-2,204	-2,274	-2,456	-2,878	-3,110	-3,237
Bunker price (HFO, USD/tonne)	472	354	450	618	640	595	532	264	213	300	360	311	253
Bunker price (MGO, USD/tonne)	918	529	683	944	955	904	817	480	383	495	605	588	580
Optimal vessel speed (knot)	6.7	9.7	9.6	9.7	10.8	10.7	10.3	10.9	11.9	11.7	11.9	11.8	12.5
Historical and forecasted vessel speed (knot)	19.5	19.0	19.4	19.8	19.6	19.2	18.6	17.6	17.0	17.4	18.5	18.5	18.5
Slow steaming (% of total gross capacity)	1%	-1%	0%	2%	1%	-1%	-3%	-7%	-10%	-8%	-4%	-4%	-4%
Capacity taken out in slow steaming	44.7	-98.5	17.9	160.8	75.6	-87.3	-315.8	-794.8	-1110.5	-1023.8	-511.3	-558.6	-583.9
Net transportation capacity	4,505	5,575	6,407	6,851	6,970	6,930	7,267	7,614	8,006	8,717	10,242	11,191	11,698
Net capacity growth (YOY, %)	26%	24%	15%	7%	2%	-1%	5%	5%	5%	9%	18%	9%	5%
LNG EXPORT (k tonne)													
US	797	606	646	300	170	0	250	330	2,630	13,453	24,003	48,639	75,518
SC America	13,303	14,846	15,447	16,000	17,360	17,940	17,140	15,380	14,490	14,490	14,636	14,784	14,934
Europe	1,617	2,323	3,493	3,600	3,300	3,040	3,540	4,330	4,500	4,500	4,500	4,500	4,500
Russia	0	5,076	9,940	10,600	10,870	10,690	10,580	10,560	10,690	10,690	18,940	24,440	27,190
Middle East	61,981	67,432	88,674	108,900	106,690	107,930	102,910	99,680	100,410	100,221	100,633	101,063	101,512
Africa	36,383	31,124	36,030	35,800	34,420	31,400	35,590	35,290	33,375	33,375	34,276	35,217	37,902
Australasia	15,193	18,148	18,986	19,600	20,880	22,410	27,000	36,620	52,550	61,243	72,243	80,493	82,593
Other Asia	42,549	42,000	47,003	46,800	42,680	43,490	42,220	43,010	45,030	45,030	47,304	47,800	50,201
Others/Re-export	265	184	966	1,900	3,370	4,200	6,360	4,400	4,510	4,600	4,692	4,786	4,882
Total	172,088	181,740	221,185	243,500	239,740	241,100	245,590	249,600	268,185	287,602	321,228	361,723	399,231
Change (%)	1%	6%	22%	10%	-2%	1%	2%	2%	7%	7%	12%	13%	10%
LNG TANKER TRADE (10^9 m3-miles)													
Transportation demand*	4,317	4,679	5,854	6,714	6,501	6,362	6,440	6,452	6,566	7,174	8,369	9,683	10,984
Demand growth (YOY, %)	3%	8%	25%	15%	-3%	-2%	1%	0%	2%	9%	17%	16%	13%
LNG TANKER BALANCE AND RATES													
Fleet utilisation (%)	97%	84%	92%	98%	93%	92%	89%	85%	82%	82%	82%	87%	94%
Gas prices													
Henry Hub (USD/MMBtu)	8.8	3.9	4.4	4.0	2.8	3.7	4.3	2.6	2.5	3.0			
NBP (USD/MMBtu)	10.8	4.9	6.6	9.0	9.5	10.6	8.3	6.5	4.7				
Japan LNG import price (USD/MMBtu)**	12.5	9.1	10.9	14.7	16.7	16.2	16.3	10.3	6.9	6.8			
Spread HH - Japan (USD/MMBtu)	3.7	5.2	6.5	10.7	14.0	12.5	12.0	7.7	4.5	3.8			
Theoretical spot earnings 160k LNGC US - China (USD/day)***	-86,841	28,083	94,746	316,192	496,222	409,162	379,165	170,123	3,370	-35,349			
Spot rates (USD/day)													
160k DFDE				99,708	127,631	104,617	71,717	35,896	33,346	45,800	51,000	68,400	103,000
174k MEGI/XDF											59,000	76,400	111,000

Source: Clarkson, EIA, Bloomberg, Kepler Cheuvreux

Valuation, target price and risk

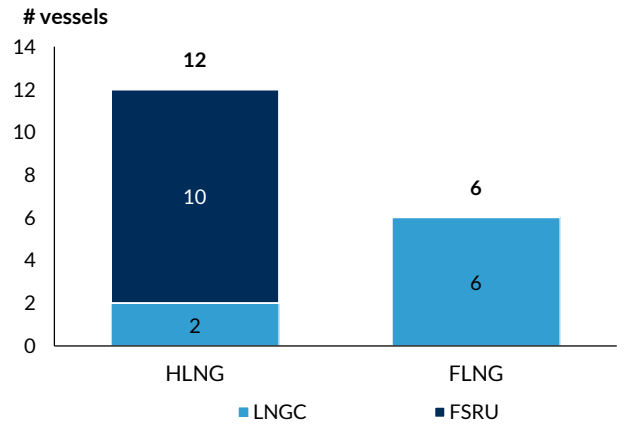
The LNG universe

We initiate coverage on Flex LNG and Höegh LNG

In this report we initiate coverage on the LNG companies, Flex LNG and Höegh LNG, both of which are listed on the Oslo Stock Exchange. In addition, Höegh LNG has a listed Master Limited Partnership (MLP) called Höegh LNG Partners (HLMP), listed at New York Stock Exchange.

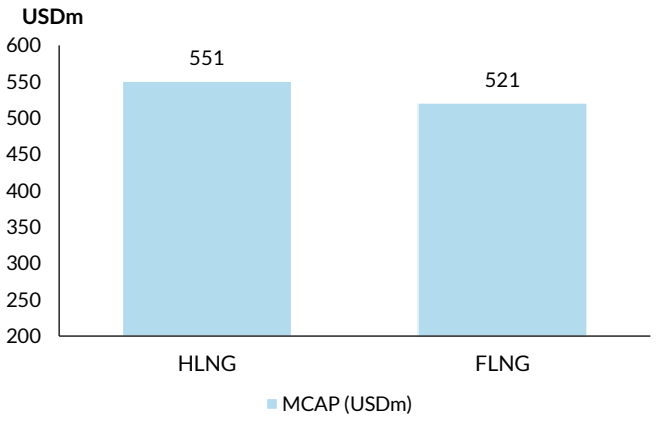
- **Flex LNG (FLNG)**: Flex LNG is a pure-play owner of LNG carriers listed on the Oslo Stock Exchange. The fleet consists of six fully-owned LNG carriers, with expected delivery between Q1 2018 and Q3 2019, in addition to two vessels on short-term time-charter contracts from Woodside and Gazprom. All newbuilding LNG carriers have the modern MEGI propulsion system, which we model will yield c. USD8,000 per day higher achieved earnings, relative to traditional DFDE vessels.
- **Höegh LNG (HLNG):** Höegh LNG is listed on the Oslo Stock Exchange (ticker HLNG) with a focus on the floating storage and regasification (FSRU) segment of the LNG market. The company owns and operates a fleet of ten FSRU vessels (including three newbuilds) and two steam-turbine LNG carriers. The group pursues a strategy of employing its vessels on long-term fixed-income contracts (10-20 years).

Chart 476: Vessels owned by LNG peers



Source: Kepler Cheuvreux

Chart 477: Market cap for LNG peers (USDm)



Source: Kepler Cheuvreux

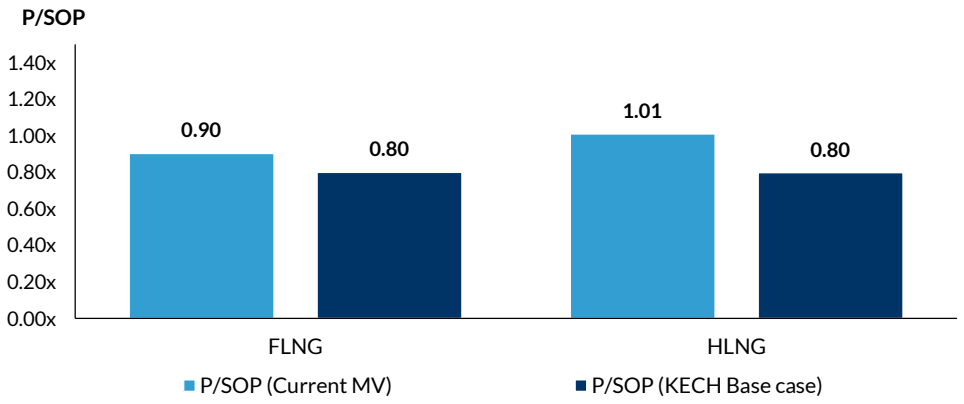
LNG stock recommendations

We initiate coverage with a Buy on LNG stocks

Our expectation of a gradually tightening LNG market over the coming years suits very well the schedule of FLNGs newbuilding programme. With delivery dates in 2018 and 2019, all of FLNGs vessels should be on the water in time to capture, what we believe to be six-digit spot rates in 2020E. The recent drop in the share price presents a good entry point for investors, as we expect our SOP value to increase by 14% over the coming year. We initiate coverage with a Buy rating and TP of NOK14.

Höegh LNG is a global leader in the floating storage and regasification unit (FSRU) market, which has considerable barriers to entry due to its critical function in the gas supply chain. We believe in the long-term growth outlook for the FSRU market due to: 1) gas's environmental supremacy among fossil fuels; 2) FSRUs' superior flexibility; and 3) their cost advantages over land-based regasification terminals. After the recent sell-off in HLNG's shares due to, in our view, temporary setbacks in the group's contract portfolio, we find the shares at a significant discount to our underlying SOP values (even assuming margin compression on new projects). We initiate coverage with a Buy rating and target price NOK70.

Chart 478: P/SOP given current MV and KECH base case



Source: Kepler Cheuvreux

Table 24: Trading multiples

Estimates:	Price (local)	EV (USDm)	EV/EBITDA 2018	EV/EBITDA 2019	EV/EBITDA 2020	P/E 2018	P/E 2019	P/E 2020	Div. yield 2018	Div. yield 2019	Div. yield 2020
Kepler Cheuvreux											
FLNG	11.1	1,190	26.0x	12.1x	6.2x	32.2x	10.5x	3.8x	0.0%	0.0%	20.9%
HLNG	55.9	2,415	13.6x	11.0x	8.5x	13.9x	9.6x	4.5x	1.4%	1.4%	7.0%
Consensus:											
FLNG	11.1	1,190	24.6x	10.9x	8.4x	26.7x	9.8x	5.9x	0.0%	0.0%	0.0%
HLNG	55.9	2,415	13.8x	10.4x	9.1x	17.1x	8.5x	5.8x	7.2%	7.3%	9.4%

Source: Kepler Cheuvreux

Table 25: SOP valuation breakdown

	Flex LNG Buy, TP 14 Currency: NOK		Höegh LNG Holding Buy, TP 70 Currency: NOK	
SOP (USDm)	# vessels	SOP Current	# vessels	SOP Current
Fleet:				
LNGC	6	1,248	2	79
FSRU	0	0	5	1,523
Total fleet value (USDm)	6	1,248	7	1,601
MTM contract portfolio		-2		0
GAV (USDm)		1,246		1,601
NIBD		-147		-314
Future capex		-522		-630
G&A adj.				-112
SOP (USDm)		577		546
# shares (fully delivered)		367.9		77.2
SOP/share (local)		12.3		55.4
Share price (local)		11.1		55.9
P/SOP		0.90x		1.01x
EV (USDm)		1,190		1,606
EV/GAV		0.96x		1.00x

Source: Kepler Cheuvreux

Stock-picking recommendations

Segment recommendations:

Table 26: Top picks in this report

Segment	KECH view	Comment	Top pick	Comment
Dry bulk	Positive	**The best is yet to come:** We expect to again see fleet utilisation above 90% in 2020 and expect Capesize rates at USD35k/day due to 1) fleet growth in 2018 and 2019 remains subdued due to low ordering 2) war on pollution waged by China	Golden Ocean (GOGL)	c. 35% upside to our base case NAV. P/NAV 1.15x on low asset values in historic context. Deserving of premium valuation due to strong acquisition track record, and solid financial profile
Oil tankers	Neutral	**We expect more of the same in 2018:** Fleet growth simply remains too strong and H1 2019 can also be a disappointing six months with spot rates at, or below, cash break-even levels. That said: we see light at the end of the tunnel with fleet utilisation in the high 90's% in 2020	Euronav (EURN)	Until 2020 we will prefer companies that preserve cash. In our view, Euronav financial profile looks solid, with ample available liquidity combined with low debt amortization and no major debt instalments before 2020.
LPG	Positive	**Our favourite shipping segment:** About now LPG shipping demand growth is again aligned with fleet growth at about 10%, but the least uncertain element is that VLGC fleet growth will continue to decline from here and bottom out at 0% YOY in 2019. with demand growth at 6-7% p.a. for 2018-2020 we believe VLGC rates have the potential to again reach towards USD50k/day.	Avance Gas (AVANCE)	Clean spot VLGC exposure at strong discount: Avance trades at a 30% discount to NAV, even when including a 10% discount on Chinese built vessels. We believe Avance's NAV could increase above NOK 50 with higher rates
LNG	Positive	**LNG market set for unprecedented growth:** and with higher fleet utilisation, we expect to see higher rates (at six digits again in 2020E). The main risk to the investment case are potential delays to new liquefaction capacity, although with Russia's Yamal-project now exporting its first gas ahead of schedule, and the ramp-up of US liquefaction capacity progressing on time, this risk is now lower than before	Flex LNG (FLNG)	Our expectation of a gradually tightening LNG market over the coming years suits very well the schedule of FLNGs newbuilding programme. With delivery dates in 2018 and 2019, all of FLNGs vessels should be on the water in time to capture, what we believe to be six-digit spot rates in 2020E.

Source: Kepler Cheuvreux

Company recommendations

In this report we initiate coverage on nine shipping companies. Please refer to individual company analysis for more details on each company.

Note: Kepler Cheuvreux also covers two containership companies which are not included in this report: A.P. Møller Maersk and Hapag Lloyd. In addition, Kepler covers the oil tanker D'Amico Shipping.

Table 27: KECH recommendations

			KECH recommendations				NAV/SOP valuation				Revisions		
Ticker	Curr. (price)	MCAP USDm	Rating	Target (local)	Last close	Potential	Current NAV	Base NAV	Change (%)	Old	rating	Old target	Revision
Dry bulk:													
DNORD	DKK	818.7	Buy	143.0	118.5	21%	117.2	143.3	22%		n/a	n/a	
GOGL	NOK	1,305.4	Buy	100.0	71.6	40%	64.0	87.3	36%		n/a	n/a	
Oil tankers:*													
CCOR	SEK	65.9	Hold	12.5	11.45	9%	18.6	18.1	-3%		n/a	n/a	
DHT	USD	521.2	Hold	3.8	3.66	4%	5.1	4.8	-6%		n/a	n/a	
EURN	EUR	1,263.5	Hold	6.9	6.51	6%	7.0	7.0	0%		n/a	n/a	
FRO	NOK	662.6	Hold	32.0	30.8	4%	35.6	35.8	1%		n/a	n/a	
LPG:													
AVANCE	NOK	177.7	Buy	40.0	21.8	84%	32.3	51.5	59%		n/a	n/a	
BWLPG	NOK	612.4	Buy	58.0	34.1	70%	39.9	65.9	65%		n/a	n/a	
LNG:													
FLNG	NOK	516.8	Buy	14.0	11.1	26%	12.4	14.0	13%		n/a	n/a	
HLNG	NOK	546.3	Buy	70.0	55.9	25%	55.9	70.6	26%		n/a	n/a	

Source: Kepler Cheuvreux. *KECH also cover the Italian shipping company D'Amico International Shipping (Reduce, TP EUR0.2)

Table 28: Valuation summary

			NAV/SOP valuation				EV/EBITDA			Dividend yield		
Ticker	Last close	EV USDm	Current P/NAV	Base P/NAV	Current EV/GAV	Base EV/GAV	2018E	2019E	2020E	2018E	2019E	2020E
Dry bulk:												
DNORD	118.5	850	1.01x	0.83x	1.01x	0.83x	6.9x	6.4x	3.1x	0.0%	0.0%	24.3%
GOGL	71.6	2,345	1.12x	0.82x	1.06x	0.89x	8.9x	7.5x	4.0x	4.1%	6.2%	26.5%
Oil tankers:												
CCOR	11.5	196	0.62x	0.63x	0.83x	0.84x	23.0x	12.3x	3.6x	4.4%	4.4%	35.4%
DHT	3.66	1,409	0.72x	0.77x	0.87x	0.90x	12.4x	10.3x	2.7x	2.2%	2.2%	55.0%
EURN	6.51	2,129	0.93x	0.93x	0.96x	0.96x	15.8x	10.2x	2.5x	0.0%	0.0%	36.6%
FRO	30.8	2,270	0.87x	0.86x	0.96x	0.95x	13.8x	9.5x	3.0x	0.0%	0.0%	63.1%
LPG:												
AVANCE	21.8	591	0.67x	0.42x	0.87x	0.71x	11.7x	3.6x	2.9x	0.0%	0.0%	65.0%
BWLPG	34.1	1,787	0.85x	0.52x	0.95x	0.76x	10.6x	3.8x	3.0x	0.0%	0.0%	57.4%
LNG:												
FLNG	11.1	1,186	0.90x	0.79x	0.95x	0.90x	25.9x	12.1x	6.2x	0.0%	0.0%	21.0%
HLNG	55.9	2,415	1.00x	0.79x	1.00x	0.92x	13.6x	11.0x	8.5x	1.4%	1.4%	7.1%

Source: Kepler Cheuvreux

Company parts

Avance Gas (Buy, TP NOK40): Clean spot exposure at 30% discount

BW LPG (Buy, TP NOK58): Market leader at 3x EV/EBITDA

Concordia Maritime (Hold, TP SEK12.5): Undemanding valuation in a demanding market

DHT Holdings (Hold, USD3.8): Attractive valuation is not enough

D/S Norden (Buy, TP DKK143): Lots of good, some bad, and not ugly

Euronav (Hold, TP EUR6.9): Bigger and better than most, but exposed to the same weak market

Frontline (Hold, TP NOK32): Awaiting 2020

Flex LNG (Buy, TP NOK14): Perfectly positioned

Golden Ocean group (Buy, TP NOK100): The best is yet to come

Höegh LNG (Buy, TP NOK70): Global leader in protected and growing market at share discount

Avance Gas

Norway | Transport | Mcap NOK 1.4bn

02 March 2018

Buy (Not Rated)

Target Price	**NOK 40.00**
Current Price	NOK 21.78
Up/downside	83.7%
Change in TP	none
Change in EPS	none 16E / none 17E

Clean spot exposure at 30% discount

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Once again, LPG shipping demand growth is aligned with fleet growth, both of which are growing at c. 10% a year (as of November/December 2017). The least uncertain element in the LPG puzzle is that VLGC fleet growth continues to decline from here. We expect it to bottom out at 0% YOY in February 2019E, down from 35% in June 2016. With demand growing by 6-7% a year over 2018-20E, we believe VLGC rates have the potential to reach USD50,000 per day again. This market outlook, combined with Avance Gas's clean spot exposure and the current c. 30% NAV discount, makes it one of the two names we like most in the shipping space. We initiate coverage with a Buy rating and a target price of NOK40.

Pure-play VLGC company with 14 fully-owned vessels

Avance Gas is a pure-play owner of VLGCs listed on the Oslo Stock Exchange (ticker: AVANCE). As of February 2018, the fleet consists of 14 fully-owned VLGCs, and Avance Gas is 100% spot market exposed.

LPG shipping is our favourite segment

In our view, LPG shipping continues to be a clean play on the US shale story, and in November US propane gas plant production growth reached 10% YOY again. In November/December 2017, demand growth was again on the same level as fleet growth, both at about 10% YOY. The only thing that seems certain in the LPG puzzle now is that fleet growth will continue to decline. We expect about 2% fleet growth in 2018E and 4% in 2019E. Coupled with the momentum in the US shale industry, it is hard not to be enthusiastic on the LPG shipping industry. We estimate VLGC spot rates of USD21,000 per day in 2018E, USD44,000 per day in 2019E and USD49,000 per day in 2020E which lifts Avance's EBITDA from c. USD50m in 2018 to c. USD200m in 2020E, the latter USD120m above consensus.

Buy warranted on solid upside potential and discount to NAV

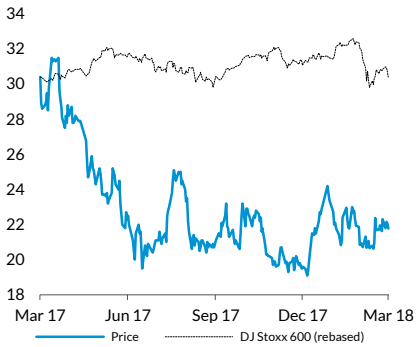
Currently, the value of a five-year-old VLGC (USD54m) is down 38% since the peak in mid-2014, and has not been lower on Clarkson's value quotes since the series began in 2008. We estimate that Avance trades at a c. 30% discount to its current NAV even when including a 10% discount on Chinese-built vessels. Given our rate forecasts, we believe Avance's NAV could increase by NOK19 from current levels (60%), and with low valuation levels, Avance Gas presents a very attractive investment opportunity in a potential LPG turnaround. We initiate coverage with a Buy rating and a target price of NOK40.

Market data

Bloomberg: AVANCE NO	Reuters: AVANCE.OL
Market cap (NOKm)	1,405
Free float	70%
No. of shares outstanding (m)	65
Avg. daily volume (NOKm)	16.6
YTD abs performance	-6.9%
52-week high/low (NOK)	31.50/19.10

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	94.7	210.3	245.5
EBITDA adj (m)	50.7	166.4	201.5
EBIT adj (m)	10.7	126.4	161.5
Net profit adj (m)	-12.0	104.6	144.5
Net fin. debt (m)	403.3	260.7	121.0
FCF (m)	22.0	142.6	176.5
EPS adj. and fully dil.	-0.19	1.62	2.24
Net dividend	0.00	0.00	1.79

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	na	1.7	1.2
EV/EBITDA	11.5	2.6	1.5
EV/EBIT	54.1	3.5	1.8
FCF yield	12.4%	80.3%	99.3%
Dividend yield	0.0%	0.0%	65.1%
Net fin.debt/EBITDA	7.9	1.6	0.6
Gearing	104.5%	53.4%	20.6%
ROIC	1.3%	16.3%	22.0%
EV/IC	0.7	0.6	0.4



Investment summary

Avance Gas is a pure-play owner of VLGCs listed on the Oslo Stock Exchange (ticker: AVANCE). The company was created in 2007 from Stolt-Nielsen Gas, and completed its IPO in 2014. As of February 2018, the fleet consists of 14 fully-owned VLGCs, and Avance Gas pursues a vessel employment strategy that is based 100% on spot market exposure.

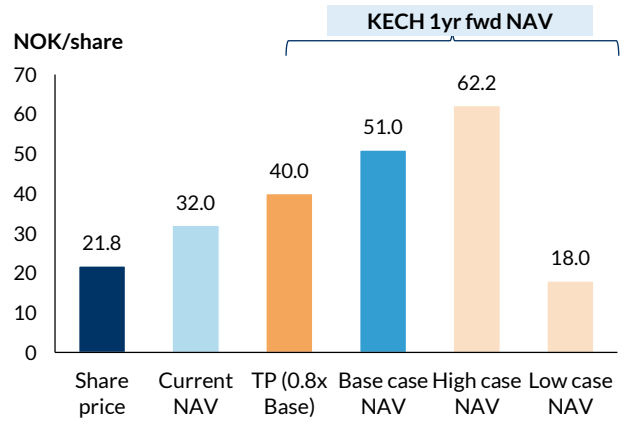
In our view, LPG shipping continues to be a play on the US shale story, and in November, US propane gas plant production growth reached 10% YOY again. In November/December 2017, demand was growing at the same level as fleet growth again, both at about 10% YOY. The only thing that seems certain in the LPG puzzle is that fleet growth will continue to decline. We expect about 2% fleet growth in 2018 and 4% in 2019. Coupled with the momentum in the US shale industry, it is hard not to be enthusiastic on the LPG shipping industry.

We estimate VLGC spot rates of USD21,000/day in 2018, USD44,000/day in 2019 and USD49,000/day in 2020. With rates above USD40,000/day from 2019 we expect a significant improvement in Avance Gas's profitability. Overall, our base case forecasts imply upside in consensus of +USD75m in 2019 and +USD120m in 2020.

Currently, the value of a five-year-old VLGC (USD54m) is down 38% since the peak in mid-2014, and has not been lower on Clarkson's value quotes since the series began in 2008. We estimate that Avance trades at a 30% discount to its current NAV (share price NOK22), even when including a 10% discount on Chinese-built vessels. Given our rate forecasts, we believe Avance's NAV could increase by NOK19 from current levels. With low valuation levels, we believe Avance Gas presents a very attractive investment opportunity in a potential LPG turnaround.

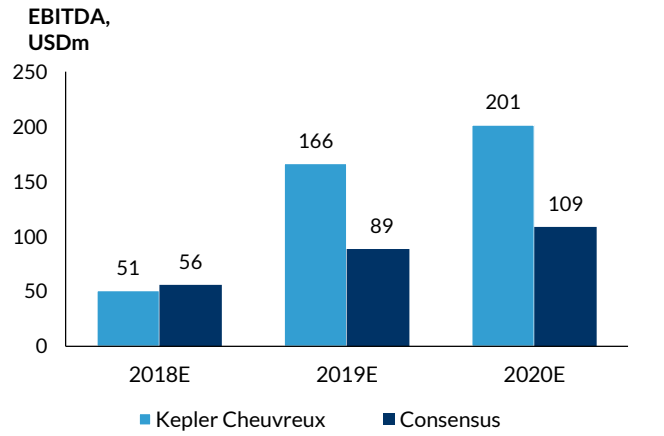
Against this backdrop, we initiate coverage on Avance Gas with a Buy rating, and a target price of NOK40 (PNAV 0.8x base case NAV).

Chart 479: AVANCE target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 480: AVANCE EBITDA, KECH versus consensus



Source: Bloomberg, Kepler Cheuvreux

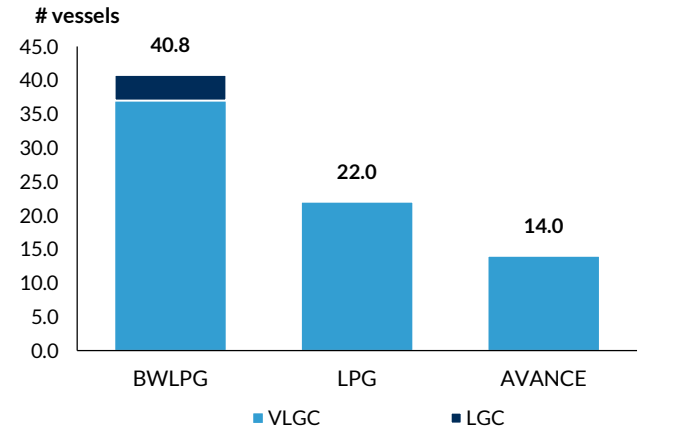
Avance Gas in brief

A pure-play VLGC company with 14 fully-owned vessels

Avance Gas is a pure-play owner of VLGCs listed on Oslo Stock Exchange (ticker AVANCE). The company was created in 2007 from Stolt-Nielsen Gas, and completed its IPO in 2014. In 2013, Avance acquired eight newbuilding VLGCs from Frontline 2012, and in October 2015 Avance took delivery of the last of its newbuilding vessels. As of February 2018, the fleet consists of 14 fully-owned VLGCs, of which eight vessels were built at Jiangnan Changxing shipyard in China, five at Daewoo DSME in South Korea and one at Kawasaki HI Sakaide in Japan.

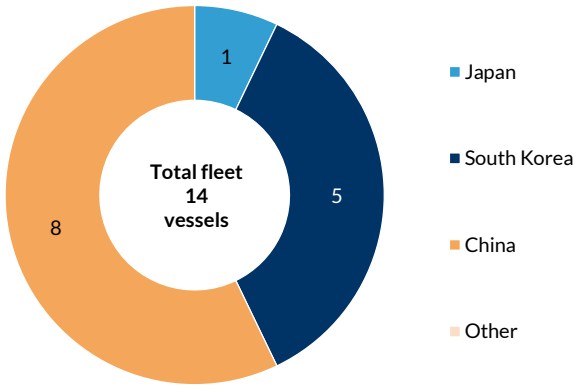
The company has a modern VLGC fleet with an average age of 4.1 years (value weighted), slightly below the average for our peer group of listed LPG companies (including BW LPG and Dorian LPG). Eight of Avance's vessels were built in 2015, while the remaining six vessels were built before 2009.

Chart 481: Vessels, LPG peers (owned fleet only, proportionate)



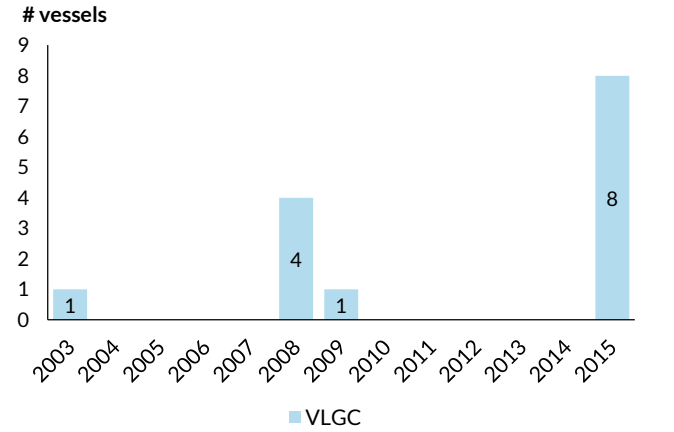
Source: Companies, Kepler Cheuvreux

Chart 482: Avance Gas's fully-owned fleet by yard country



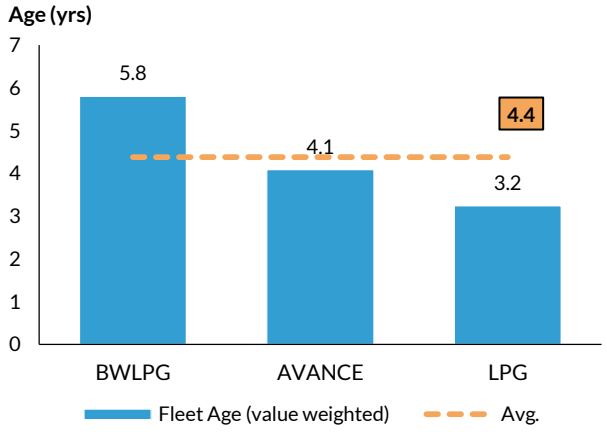
Source: Company, Kepler Cheuvreux

Chart 483: Avance Gas's fleet by building year



Source: Company, Kepler Cheuvreux

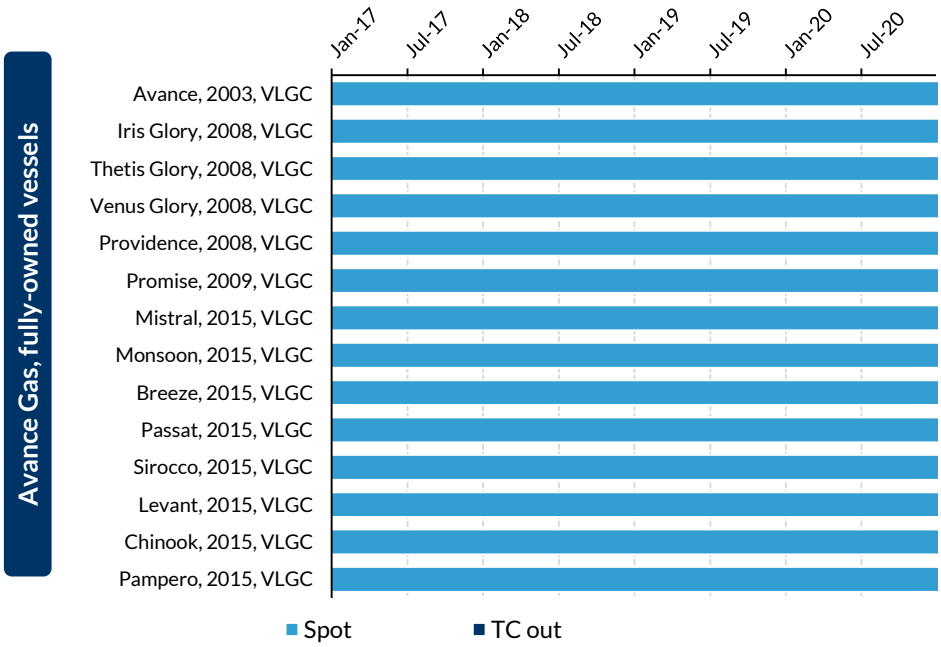
Chart 484: Fleet age, LPG peers (value weighted, owned fleet)



Source: Kepler Cheuvreux

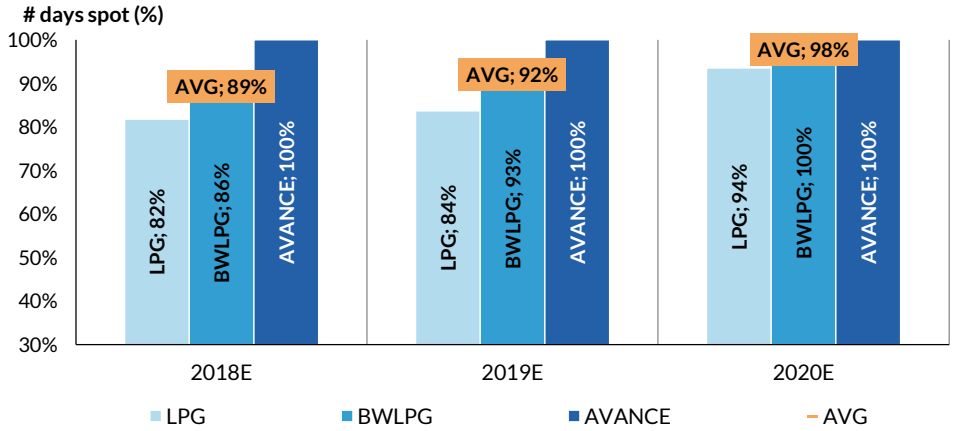
Avance pursues a vessel employment strategy that is based 100% on spot market exposure. This strategy has historically differentiated the company from its peers, who have had a significant portion of available fleet days on fixed income contracts. However, as both BW and Dorian have started to wind down several of their time-charter/COA positions, the whole LPG segment is turning towards spot exposure. For 2018 and 2019 our LPG peers have 89% and 92% of available days in the spot market on average.

Chart 485: Avance Gas employment table



Source: Kepler Cheuvreux

Chart 486: Spot exposure (% of total fleet days) for LPG peers, 2018-20E



Source: Kepler Cheuvreux

2016 debt refinancing lowered the cash breakeven to USD17,500/day

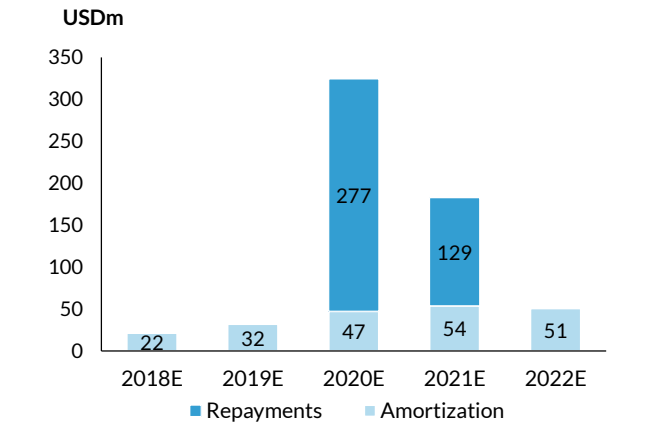
After weak freight rate development, Avance Gas completed a refinancing of its debt in October 2016 and raised a total of USD98m in equity proceeds. Under the new agreement, amortisation payments on the bank loan facilities were reduced by 50% from January 2017 to July 2019, lowering the cash breakeven rate to c. USD17,500/day. Interest margins on the bank loan facilities were increased by 25bps, and a cash sweep mechanism will be put in place from Q3 2019.

As of Q4 2017, Avance Gas had USD490m outstanding under its debt facility, with an average margin of approximately LIBOR + 2.6%. The company has total available liquidity of USD112m (including USD50m undrawn under its USD150m revolver). The majority of the debt falls due in 2020-21, and we estimates that the annual amortisation payments are USD22m in 2018, increasing to USD 45-55m by 2020 as normal amortisation schedule resumes from July 2019.

The company's covenants for book equity and liquidity are:

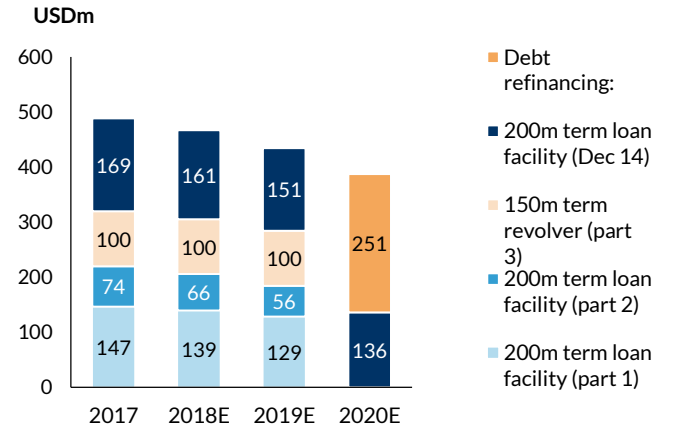
- **Book equity:** Minimum book equity of USD200m and a minimum equity ratio of 25%.
- **Liquidity:** Cash shall at all times be higher than USD35m or 5% of gross interest-bearing debt.

Chart 487: Estimated repayment schedule



Source: Kepler Cheuvreux

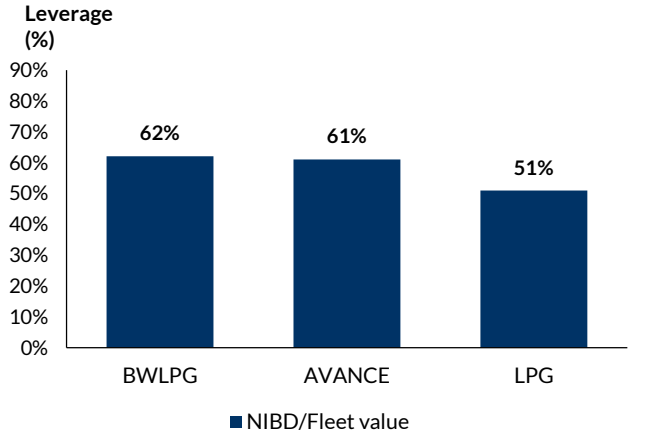
Chart 488: Debt tranches with assumed refinancing



Source: Kepler Cheuvreux

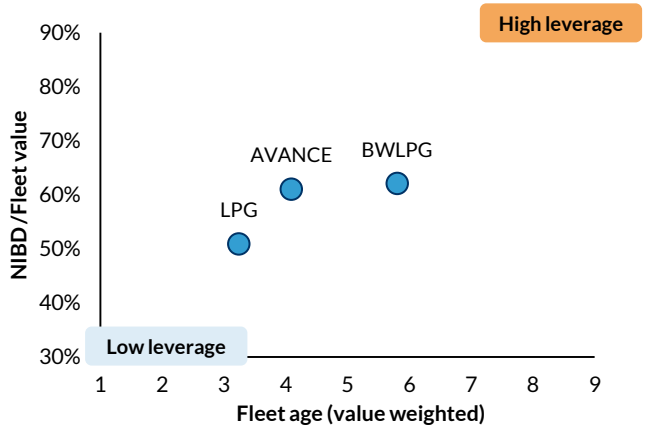
Financial leverage and age of the fleet are key metrics for determining the equity exposure towards changes in asset values. Based upon Clarkson's current market values for VLGC vessels, we estimate that Avance has a leverage ratio of 61% NIBD/fleet value (note: assuming a 10% discount on China-built vessels).

Chart 489: Net leverage ratio for LPG peers (relative fleet values, including working capital, see valuation part)



Source: Kepler Cheuvreux

Chart 490: Net leverage ratio versus average fleet age



Source: Kepler Cheuvreux

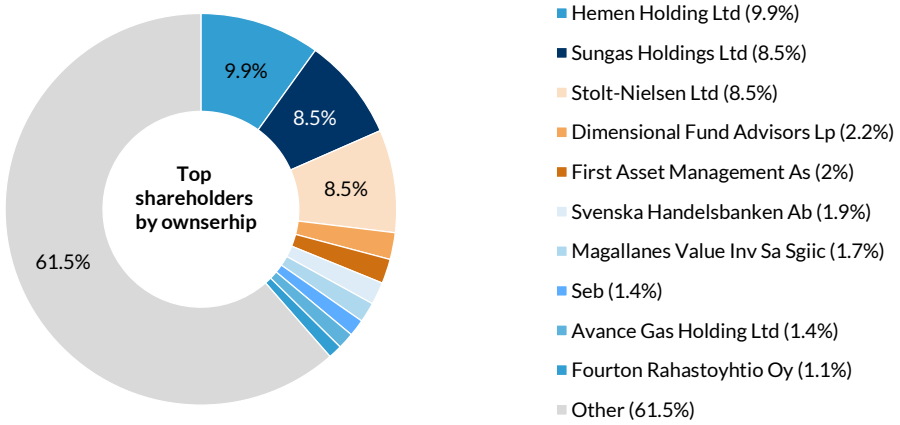
Management and shareholder structure:

Avance Gas's executive management consists of the following:

- **Christian Andersen (CEO):** founded Avance Gas in September 2007 together with Stolt-Nielsen, and was hired as President. He has 25 years of experience in the industry. He has previously worked as head of LNG in BW Gas and as founding partner of Amanda LPG Trading.
- **Peder C. G. Simonsen (CFO):** joined Avance Gas in January 2014 as Chief Financial Officer. He comes from the position as first vice president of Nordea Bank Norge ASA, where he worked as senior client executive for large shipping and offshore companies.

Currently, Stolt-Nielsen, Sungas Holding and Hemen Holding are the largest shareholders of Avance Gas with a combined ownership of 27%.

Chart 491: Shareholder structure



Source: Kepler Cheuvreux

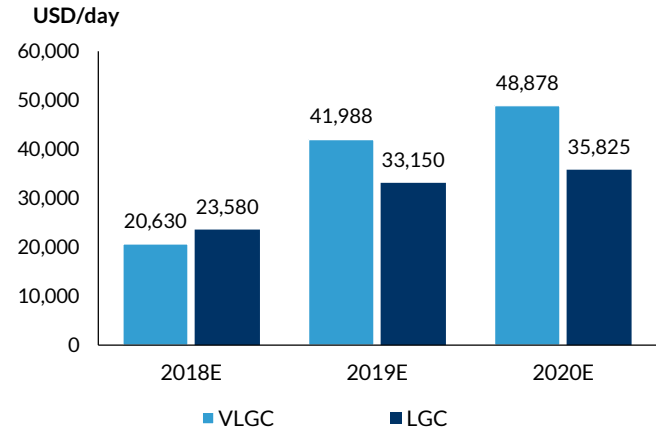
Deconstructing the forecast

LPG market – Our favourite segment

LPG shipping continues to be a clean play on the US shale story. In November, US propane gas plant production growth reached 10% YOY again. The last time propane production reached that number (on its way up) was in 2012-13, when VLGC rates started to appreciate to what turned out to be all-time highs. Now in November/December 2017, demand growth is again at the level of fleet growth, both growing about 10% YOY. The only thing that seems certain in the LPG puzzle now is that fleet growth will continue to decline. We expect about 2% fleet growth in 2018 and 4% in 2019, down from 9% in 2017. Coupled with the momentum in the US shale industry, it is hard not to be enthusiastic on LPG shipping equities **(see sector part for more about the LPG shipping market**).

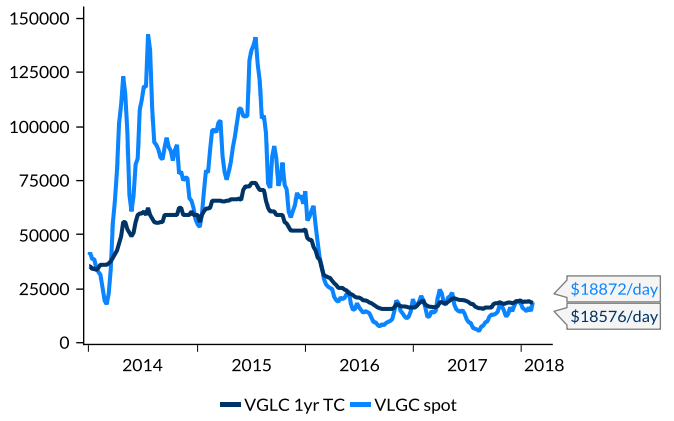
We estimate spot rates of USD21,000/day in 2018, USD44,000/day in 2019 and USD49,000/day in 2020. Fleet utilisation should be about 88% now and we expect a slight uptick this year before that utilisation moves well into the +90%-territory. Given ample availability of LPG in the US, we expect domestic pricing of LPG to be forced low enough to motivate continued export growth. A spot rate of USD40-50,000/day would need a spread (Asia-US) in the range of USD80-95/tonne which corresponds to a spread Asia-AG (basis for the Baltic spot rate assessment) of USD50-60/tonne.

Chart 492: Forecast for spot freight rates for LPG companies (company models include one-month lag)



Source: Kepler Cheuvreux

Chart 493: VLGC's freight rates (1Y TC and spot)



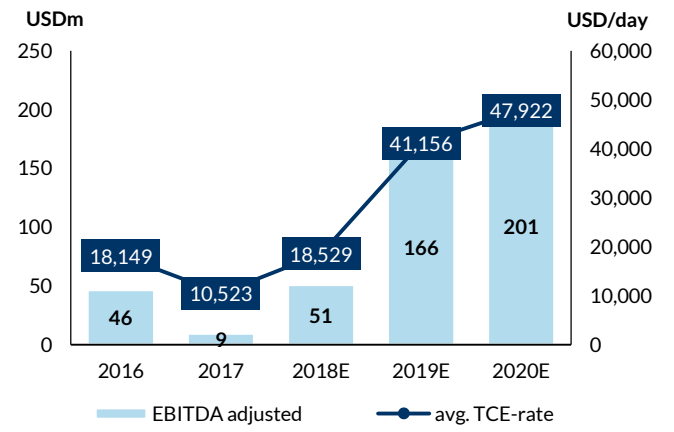
Source: Clarkson's, Kepler Cheuvreux

We expect Avance's EBITDA above USD160m in 2019-20

With VLGC rates above USD40,000/day from 2019, we expect a significant improvement in Avance's EBITDA. We pencil in an increase in EBITDA from USD8m in 2017, to USD51m in 2018 and USD166m in 2019. The increase is solely driven by expectations of higher spot VLGC rates, and for every USD 1,000/day increase in spot rates, Avance's EBITDA is set to increase by USD5.1m a year. Note that we assume 90% utilisation in 2018E, and 98% utilisation in 2019-20E.

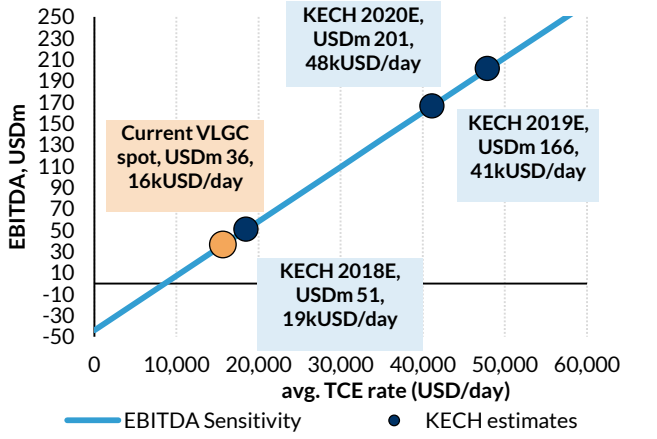
As of January 2018, Clarkson's spot rate for VLGCs is USD16,000/day, implying a running EBITDA for Avance of USD36m a year (not adjusted for utilisation).

Chart 494: Forecast for Avance's EBITDA versus achieved average TCE rate (includes utilisation)



Source: Company, Kepler Cheuvreux

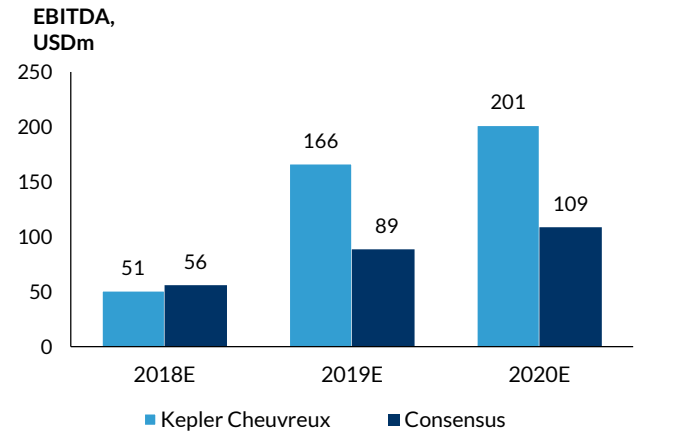
Chart 495: Sensitivity: Avance's EBITDA versus TCE rate



Source: Kepler Cheuvreux

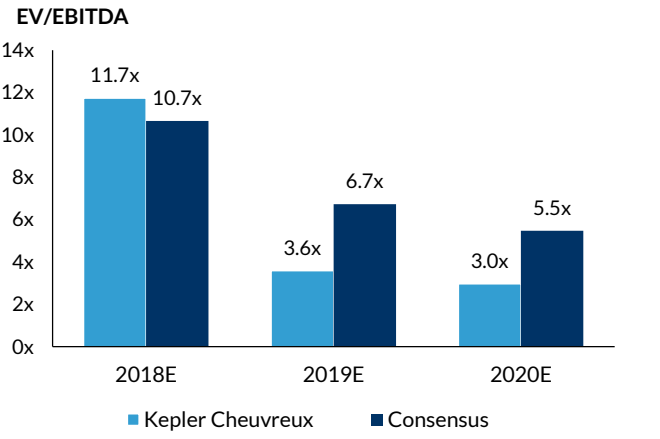
Overall, our base case forecasts are significantly more bullish than consensus for 2019-20. Our estimates imply an upside in consensus of +USD75m in 2019 and +USD120m in 2020. Given the current share price for Avance (NOK22), our estimates indicate EV/EBITDA 3.5x 2019E and 3.0x 2020E. In comparison, Avance trades on EV/EBITDA 5.5-6.7x on consensus 2019-20E.

Chart 496: EBITDA, KECH versus consensus



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 497: EV/EBITDA, KECH versus consensus



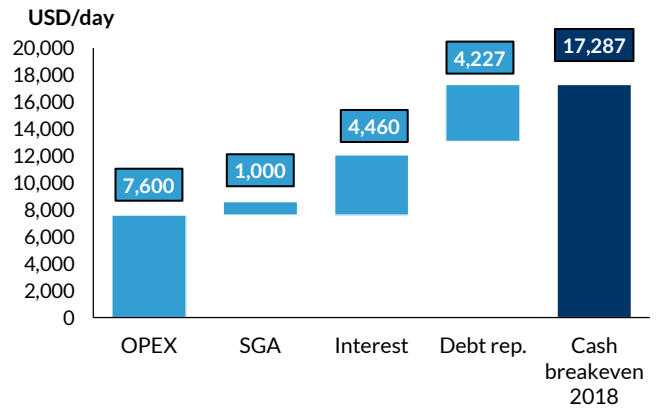
Source: Bloomberg consensus, Kepler Cheuvreux

Cash burn could turn to cash generation by late 2018, early 2019

For 2018, we estimate a cash breakeven level for Avance of USD17,300/day. Given a reversal of the 50% reduction in debt amortisation from July 2019, we expect the cash breakeven to increase to USD19,000-21,000 by 2019-20E.

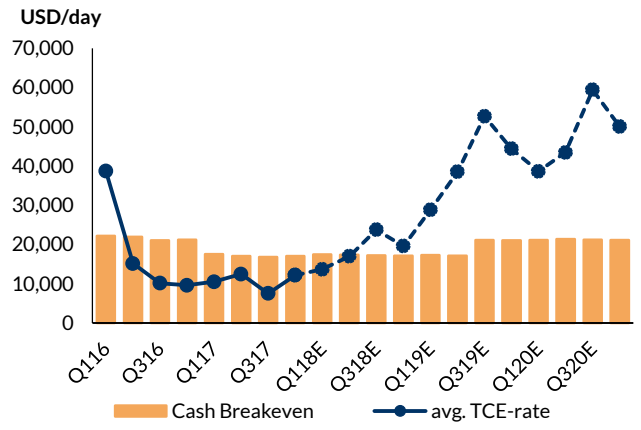
In Q3 2017, Avance achieved an average TCE rate of USD7,500/day, equal to a quarterly cash burn of c. USD13m from operations. In our base-case scenario, we expect Q3 to mark the bottom for Avance Gas, and pencil in a gradual improvement in rates during 2018, with a significant market tightening from 2019 onwards. Consequently, we expect operations to move from a current cash burn to cash generation from late 2018/early 2019.

Chart 498: KECH estimate for Avance's cash breakeven 2018



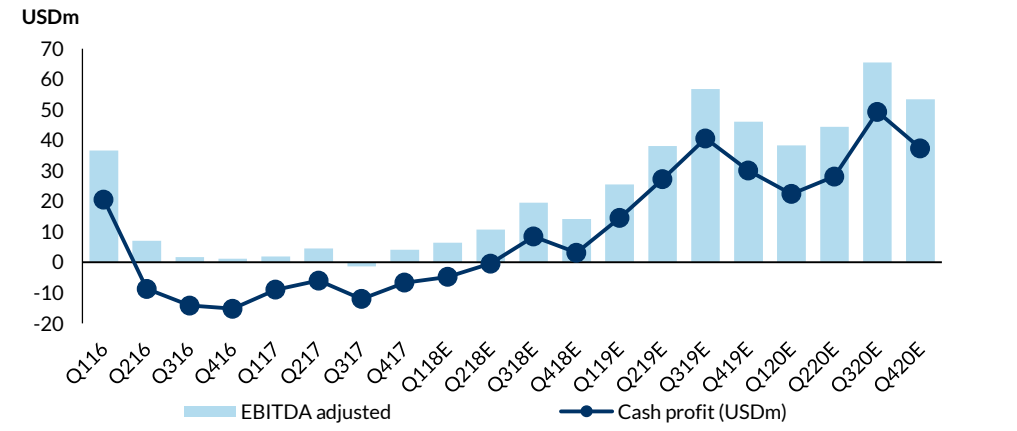
Source: Kepler Cheuvreux

Chart 499: Forecast Avance's TCE rate versus cash breakeven



Source: Kepler Cheuvreux

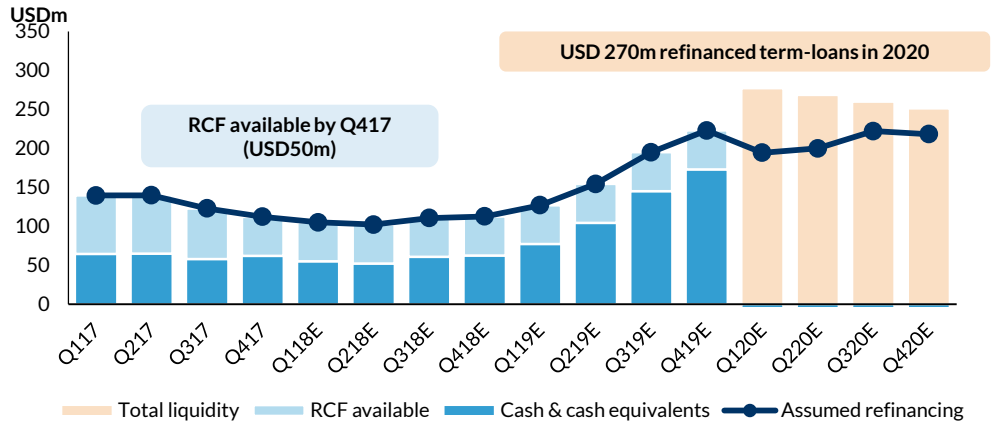
Chart 500: EBITDA and cash profit from vessels (adjusted interest and debt amortisation)



Source: Company, Kepler Cheuvreux

With our base case TCE rates, we expect the company's current available liquidity of USD112m (including USD50m undrawn under its USD150m revolver) to be sufficient to get the company through 2018. Moreover, with an expected market tightening from 2019 onwards, the major debt instalments in 2020-21 should be no problem for Avance, and we expect the company to be able to resume cash distribution to shareholders from late 2019-20 in such a scenario.

Chart 501: Avance Gas liquidity (cash + available RCF), given our base-case scenario



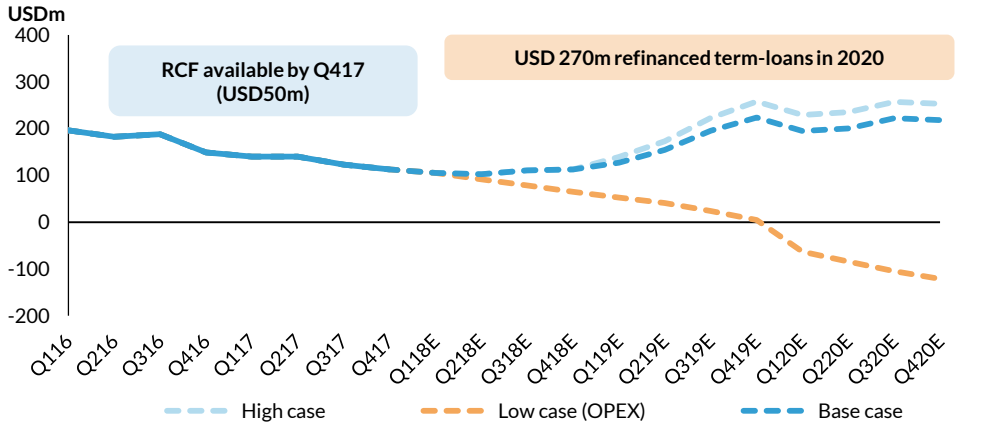
Source: Company, Kepler Cheuvreux

Risks: If rates stay at opex, Avance has liquidity until 2019

Due to current low freight rates in the LPG segment, investors should be aware of the liquidity risk should rates stay significantly below cash breakeven levels over a prolonged time period.

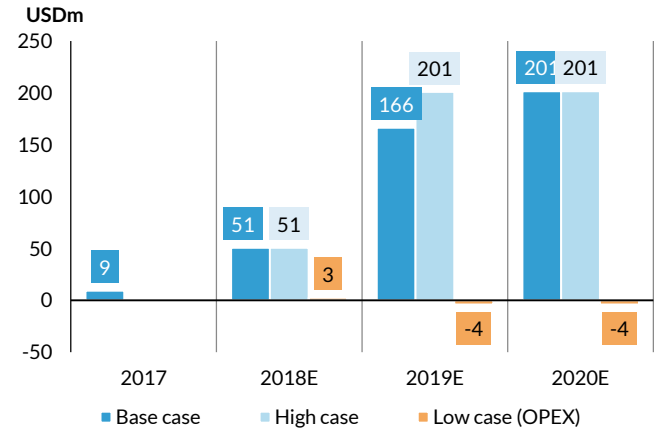
Although we find our worst-case scenario to be less likely at the current state, we illustrate the effect on Avance's liquidity in a scenario with VLGC rates staying at opex (USD8,000/day) from two months onward in the chart below. Relative to the 2018 breakeven rates, the opex scenario implies an annual cash burn of c. USD50m a year, which will increase from H2 2019, due to increased debt amortisation. With Avance's available liquidity of USD112m in Q4 2017, current liquidity should last until late 2019, but the minimum liquidity covenant of USD35m would be breached before this (around mid-2019 in our worst-case estimates). In addition, a scenario of prolonged weak freight rates would increase the refinancing risk associated with the USD270m debt instalments due in 2020.

Chart 502 : Scenario analysis for Avance Gas's liquidity (cash + available RCF)



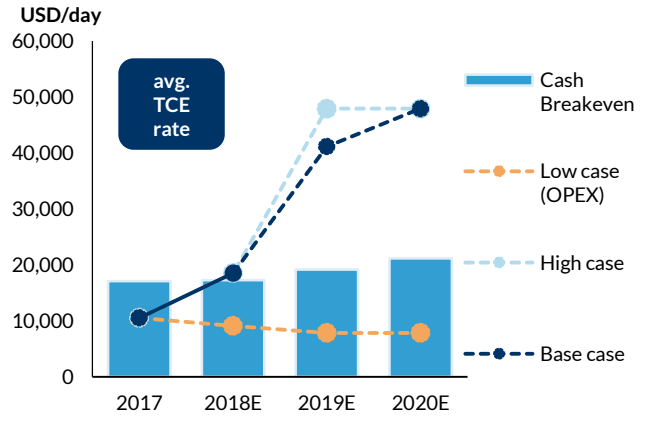
Source: Company, Kepler Cheuvreux

Chart 503: Scenario analysis for EBITDA



Source: Kepler Cheuvreux

Chart 504: Scenario analysis for TCE rate versus cash breakeven



Source: Kepler Cheuvreux

Deconstructing the forecasts:

In the table below, we outline our key estimates and assumptions for Avance Gas from 2017-20. Overall, we pencil in a strong improvement in Avance Gas's earnings from 2019 on the back of improving freight rates. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of the company segment.

Time charter equivalent (TCE) revenues: We model Avance Gas's revenues from available fleet days and assumed development in freight rates.

- **Available days** will stay stable over our model period. Avance took delivery of the last of its newbuilding vessels in October 2015.
- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for Avance to stay at USD18,500/day for 2018. The level is below the estimated VLGC spot rate for 2018 (USD20,600/day incl. 1 month lag) due to an assumed spot utilisation of 90% in 2018. For 2019 and 2020, we expect achieved TCE rates above USD40,000/day with an assumed utilisation of 98%.

Operating costs and SGA: Our operating costs assume opex of USD7,600/day for Avance Gas and a total annual SGA (general and administrative expense) of USD5.1m. The latter implies SGA costs of USD1,000/day for each VLGC (14 vessels). With no charter portfolio, Avance's charter hire expenses will be zero.

EBITDA: We expect adjusted EBITDA of USD50m in 2018E, USD165m in 2019E and USD200m in 2020E. This implies an increase in the EBITDA margin from USD10,000 per day in 2018E to USD32,000 per day in 2019E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume average floating interest rates of LIBOR + 2.6% on Avance's bank facilities.

Tax: We do not expect Avance Gas to pay tax over our forecast period.

Net profit: On the back of increasing EBITDA, we expect the net profit to increase from -USD12m in 2018E to USD105m in 2019E.

DPS: Although we pencil in a strong increase in cash generation for Avance in our estimates, we have not included any dividend payment in 2018-19. However, for 2020E we include payout ratio of 80% of EPS each quarter.

Table 29: Key financials

Key financials (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	53.8	94.7	210.3	245.5	9.7	15.3	17.2	21.6
Opex	-38.9	-38.8	-38.8	-38.9	-9.7	-9.8	-9.6	-9.7
Charter hire expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SGA	-5.5	-5.1	-5.1	-5.1	-1.3	-1.3	-1.3	-1.3
EBITDA reported	9.3	50.7	166.4	201.5	-1.3	4.1	6.4	10.7
EBITDA adjusted	9.3	50.7	166.4	201.5	-1.3	4.1	6.4	10.7
Depreciation & impairment	-40.0	-40.0	-40.0	-40.0	-10.0	-9.9	-10.0	-10.0
EBIT	-30.7	10.7	126.4	161.5	-11.3	-5.8	-3.6	0.7
Net financial items	-24.0	-22.8	-21.8	-17.0	-6.5	-6.5	-5.8	-5.7
Tax	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Net profit reported	-54.8	-12.0	104.6	144.5	-17.8	-12.4	-9.4	-5.0
Net profit adjusted	-54.8	-12.0	104.6	144.5	-17.8	-12.4	-9.4	-5.0
EPS adj (USD)	-0.85	-0.19	1.62	2.24	-0.28	-0.19	-0.15	-0.08
DPS	0.00	0.00	0.00	1.79	0.00	0.00	0.00	0.00
Operating assumptions:								
Avg. TCE rate ($/day)	10,523	18,529	41,156	47,922	7,524	12,163	13,667	16,992
Spot utilization (%)	n/a	89%	98%	98%	78%	80%	85%	90%
Avg. EBITDA margin ($/day)	1,818	9,929	32,556	39,322	-1,008	3,196	5,067	8,392
Total vessel days (available)	5,110	5,110	5,110	5,124	1,288	1,288	1,260	1,274
TC Coverage (% all available days)	0%	0%	0%	0%	0%	0%	0%	0%
Selected balance sheet items:								
Cash and cash equivalents	62.3	62.7	173.1	218.2	58.1	62.3	55.1	52.3
Total interest bearing debt	487.6	466.0	433.8	339.2	477.7	487.6	482.2	476.8
Net interest bearing debt	425.3	403.3	260.7	121.0	419.6	425.3	427.1	424.5
Leverage ratio (%)	51%	51%	35%	17%	50%	51%	52%	52%
Selected cash flow items:								
Operating cash flow	-11.8	28.0	144.6	184.5	-10.9	-3.2	0.6	5.0
Investing cash flow	-3.1	-6.0	-2.0	-8.0	-0.3	-2.3	-2.4	-2.4
Financing cash flow	-72.0	-21.6	-32.2	-131.3	4.5	9.5	-5.4	-5.4
Change in cash	-86.8	0.4	110.4	45.1	-6.8	4.2	-7.2	-2.8

Source: Company, Kepler Cheuvreux

Valuation

We see c. 25% upside in vessel values in our base case

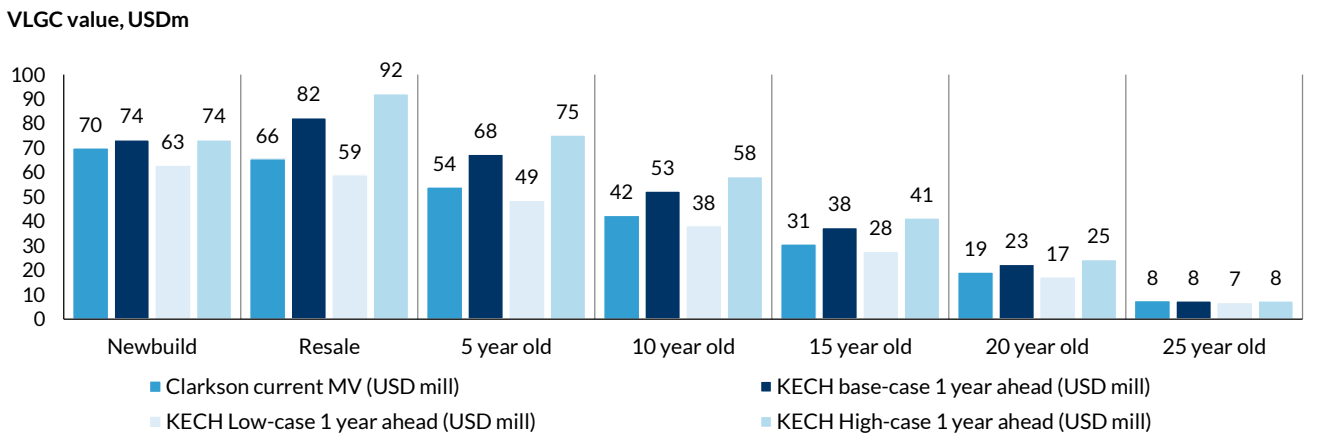
Our preferred valuation method for Avance Gas is an equity net asset value (NAV) valuation based on estimated fleet values for LPG carriers less net interest-bearing debt and other commitments for the company. Our vessels' values use Clarkson's quote for a five-year-old second-hand vessel and newbuilding cost in the current benchmark valuation. In our target valuation, we forecast changes in the vessel values based upon our freight rate estimates (see sector part for more details).

Currently, Clarkson quotes the price for a five-year-old VLGC at USD54m, down 38% since the peak in mid-2014 (USD86m). We estimate an equivalent resale price of USD66m, implying a discount of 6% relative the Clarkson's current newbuilding price of USD70m. The values for 10-25-year-old vessels are linear interpolations.

When we instead use our rate forecast for the VLGC segment, we estimate a five-year-old value of USD68m, up 25% from the current Clarkson estimate.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value-curve according to the age of the vessel.

Chart 505: Kepler Cheuvreux vessel values for a VLGC vessel



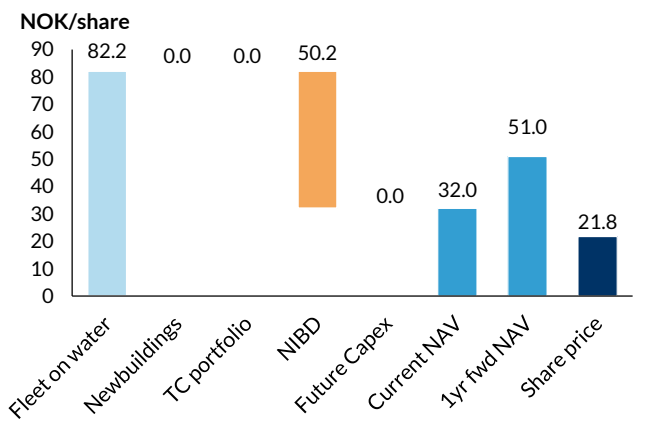
Source: Clarkson, Kepler Cheuvreux

... which equals a 60% increase in Avance's NAV (base NAV NOK51)

Given our view on vessel values, we see 60% upside in Avance's NAV from current levels (base NAV of NOK51 per share versus current NOK32 per share). The NOK19 increase from the current NAV is due to: 1) a 19% increase in underlying VLGC vessel values (taking into account vessels getting one year older) combined with 2) a NOK3.4 per share cash generation over the next 12 months.

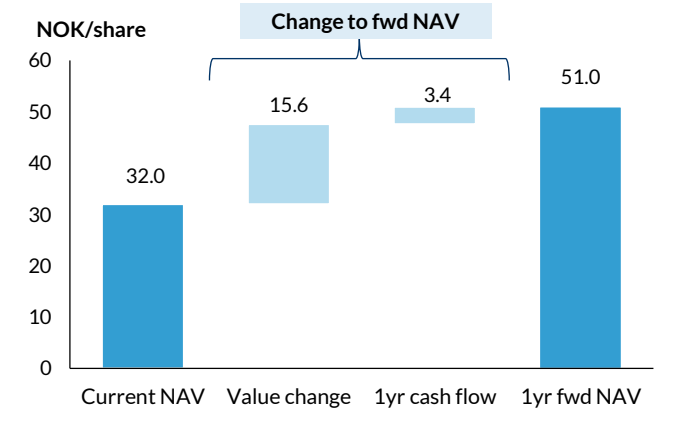
Relative to Clarkson's current market values, we estimate that Avance trades at a 30% discount to NAV (share price NOK22), even when including a 10% discount on Chinese-built vessels. In our view, the current share discount for Avance is too large, especially as the share is down c. 10% since the last peak in December. In our target price we include a P/NAV of 0.8x on our base case one-year forward NAV.

Chart 506: Net asset value (NAV) bridge for Avance



Source: Kepler Cheuvreux

Chart 507: Bridge from current NAV to base one-year fwd. NAV



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for LPG carriers less net interest-bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value Avance's fleet at USD677m on current Clarkson's values, including a 10% discount on China-built vessels. Due to its lack of charter portfolio, Avance has zero MTM value. In our one-year forward estimates we include cash flow generated from vessels over the coming months, and adjust fleet values for vessels that are one year older.
- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to Avance Gas's latest quarterly report, and so balance sheet items are from the Q4 2017 report. We make no other adjustments for Avance Gas, outside balance sheet items.

Table 30: Net asset value breakdown

NAV (USDm)	# vessels	Age (avg.)	NAV Current	1 year forward NAV Base	Low	High
Fleet:						
VLGC	14	5.4	677	806	582	898
Fleet on water	***14***	**4.1**	677	806	582	898
Newbuildings	**0**	**0.0**	0	0	0	0
Total fleet value (USDm)	**14**	**4.1**	677	806	582	898
MTM contract portfolio			0	0	0	0
Discounted cash-flow 1yr				28	-20	28
GAV (USDm)			677	834	562	926
NIBD & other commitments (rel. last quarterly report)						
Cash			62	62	62	62
Total interest bearing debt			-488	-488	-488	-488
Net working capital			12	12	12	12
Other adjustments			0	0	0	0
Future capex			0	0	0	0
NIBD & other commitments			-413	-413	-413	-413
NAV (USDm)			264	420	148	513
# shares (fully delivered)			64.5	64.5	64.5	64.5
NAV/share (NOK)			**32.0**	**51.0**	**18.0**	**62.2**
Share price (NOK)			22.1	22.1	22.1	22.1
P/NAV			0.69x	0.43x	1.23x	0.35x
EV (USDm)			595	595	595	595
EV/GAV			0.88x	0.71x	1.06x	0.64x

Source: Kepler Cheuvreux

Avance is our top pick in the LPG segment

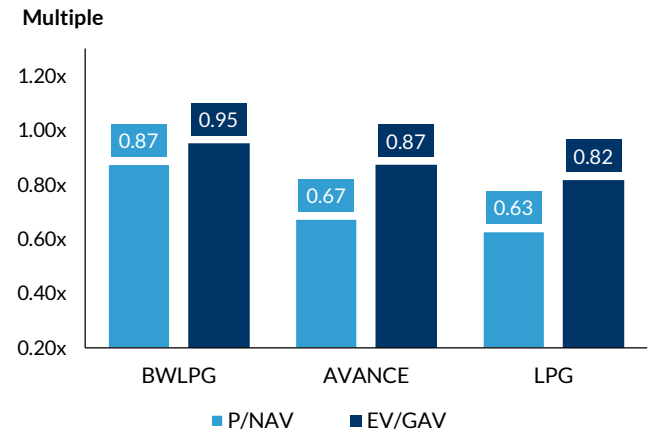
Although we maintain an overall positive stance on the total LPG segment, we highlight Avance Gas as our preferred pick among our covered companies:

1. More than 50% upside to our base case NAV: Given our rate forecasts, we believe Avance's NAV could increase 60%. The value of a five-year-old VLGC has fallen by 38% since the peak in mid-2014 (currently USD54m versus USD86m). With its low valuation, Avance Gas presents an attractive countercyclical bet on the LPG segment.
2. Trading a solid discount to underlying values: Despite lower upside to base-case NAV than BW LPG, we believe Avance's large share price discount presents a good entry point for investors. The share is down c. 10% since the last peak in December and trades at P/NAV 0.7x on our current market

value estimates. Moreover, our valuation assumes a 10% discount on China-built vessels, and so the share discount to the Clarkson's value quote is actually even larger if one assumes that is no difference between China-built and South Korea/Japan-built vessels. Given the current EV of USD590m, Avance trades at an implied VLGC value of USD42m per vessel, equal to EV/GAV c. 0.78x (versus China adjusted EV/GAV of 0.88x)

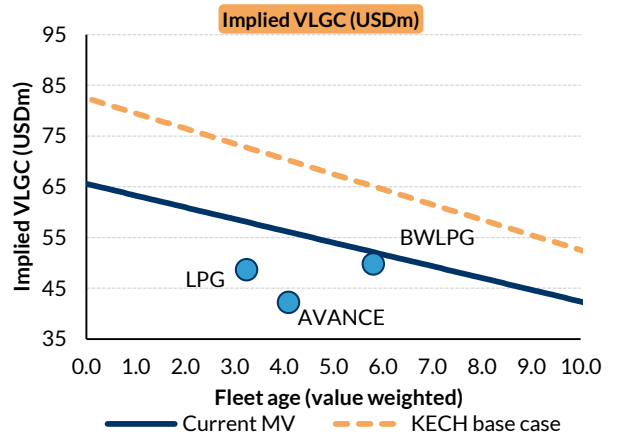
3. Refinancing should ensure liquidity until at least 2019: One of the key risks for Avance Gas is a scenario in which prolonged freight rates come in below breakeven levels. However, we believe this risk is somewhat exaggerated as our scenario analysis shows that Avance has liquidity until at least 2019E with rates down at opex levels (USD8,000/day). This should give Avance time to be well positioned for our anticipated market recovery in late 2018/19E.

Chart 508: P/NAV and EV/GAV for LPG peers (current MV)



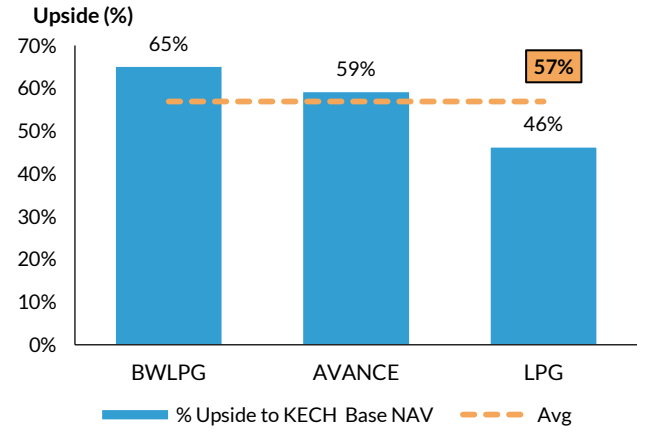
Source: Kepler Cheuvreux

Chart 509: Implied VLGC value for LPG peers



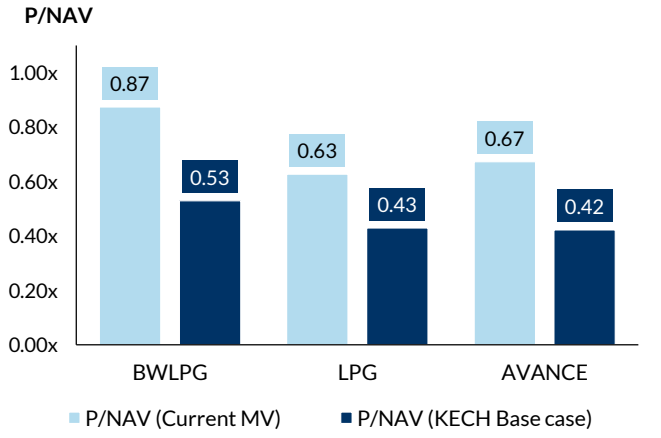
Source: Kepler Cheuvreux

Chart 510: Upside from current NAV to KECH base NAV



Source: Kepler Cheuvreux

Chart 511: Implied P/NAV in base case versus current MV



Source: Kepler Cheuvreux

We initiate coverage of Avance with a Buy, target price of NOK40

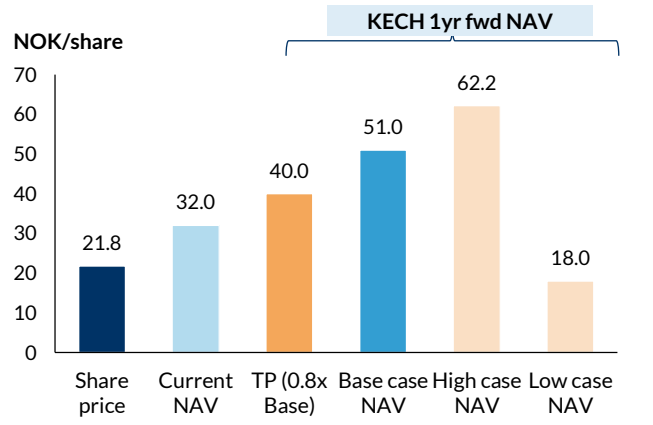
In conclusion, we find the strong upside in our NAV valuation combined with the current NAV discount on the share price enough to warrant a Buy rating for Avance

Gas. We set the target price at NOK40 implying c. 80% upside from its current share price.

We believe upcoming triggers will come from increasing spot VLGC rates, as anticipated in our market analysis. In addition, investors should pay attention to the spot utilisation on Avance Gas's fleet. If Avance's utilisation rate increases relative to its peers, we believe the market will pay less attention to the discount on China-built vessels, which could lead to a narrowing valuation discount.

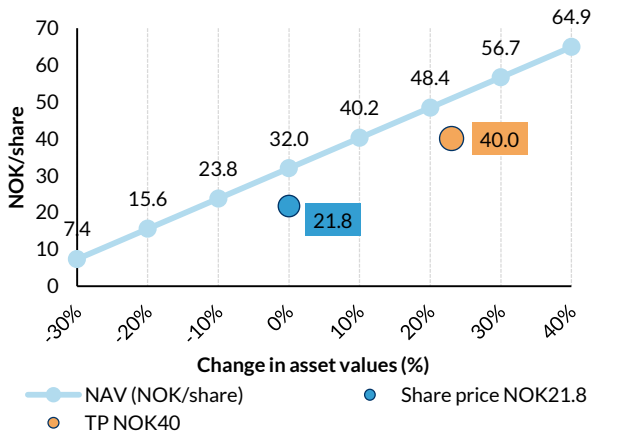
The charts below illustrate our scenario analysis for Avance Gas, combined with the sensitivity of the NAV versus changes in asset values. As a rule of thumb: a 10% increase in asset values equals NOK 8.2/share for the NAV.

Chart 512: Kepler Cheuvreux scenario valuation for Avance



Source: Kepler Cheuvreux

Chart 513: Sensitivity for NAV versus changes in asset values



Source: Kepler Cheuvreux

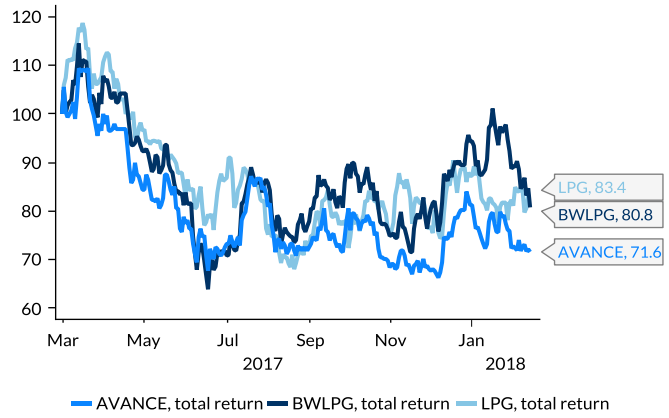
Table 31: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			50.7	166.4	201.5
EV/EBITDA		593	11.7x	3.6x	2.9x
EPS adj (USD)			-0.19	1.62	2.24
P/E	21.8		-14.7x	1.7x	1.2x
DPS			0.00	0.00	1.79
Yield (%)	21.8		0.0%	0.0%	65.5%
Net interest bearing debt			403.3	260.7	121.0
NIBD/EBITDA			7.9x	1.6x	0.6x

Source: Kepler Cheuvreux

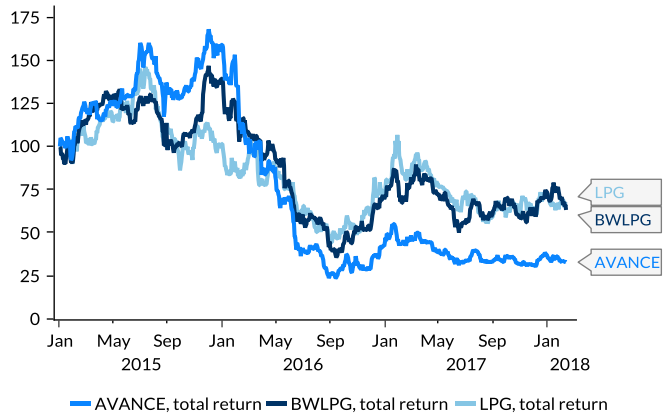
Supplementary figures

Chart 514: LTM share price development LPG peers



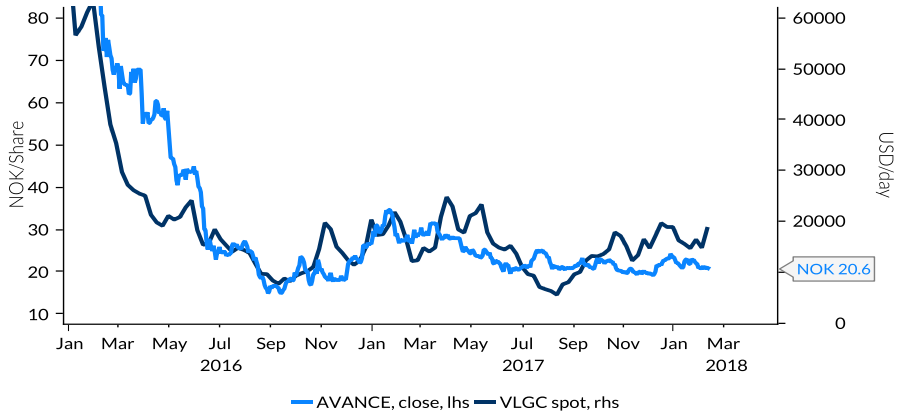
Source: Macrobond, Kepler Cheuvreux

Chart 515: LPG peers share price since January 2015



Source: Macrobond, Kepler Cheuvreux

Chart 516: Avance share price versus VLGC spot rate



Source: Clarkson, Macrobond, Kepler Cheuvreux

Income statement

Table 32: P&L figures

Income statement (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
TCE revenues	53.8	94.7	210.3	245.5	9.7	15.3	17.2	21.6
Opex	-38.9	-38.8	-38.8	-38.9	-9.7	-9.8	-9.6	-9.7
SGA	-5.5	-5.1	-5.1	-5.1	-1.3	-1.3	-1.3	-1.3
Charter hire expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation	-40.0	-40.0	-40.0	-40.0	-10.0	-9.9	-10.0	-10.0
Impairment and value adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating profit	-30.7	10.7	126.4	161.5	-11.3	-5.8	-3.6	0.7
Net financial interest	-24.0	-22.8	-21.8	-17.0	-6.5	-6.5	-5.8	-5.7
Other financial items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	-54.7	-12.0	104.6	144.5	-17.8	-12.3	-9.4	-5.0
Taxes	-0.1	0.0	0.0	0.0	0.0	-0.1	0.0	0.0
Net profit reported	-54.8	-12.0	104.6	144.5	-17.8	-12.4	-9.4	-5.0
Net profit adjusted	**-54.8**	**-12.0**	**104.6**	**144.5**	**-17.8**	**-12.4**	**-9.4**	**-5.0**
EBITDA	9.3	50.7	166.4	201.5	-1.3	4.1	6.4	10.7
adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA adjusted	9.3	50.7	166.4	201.5	-1.3	4.1	6.4	10.7
EPS	-0.85	-0.19	1.62	2.24	-0.28	-0.19	-0.15	-0.08
EPS adj (USD)	-0.85	-0.19	1.62	2.24	-0.28	-0.19	-0.15	-0.08
DPS	0.00	0.00	0.00	1.79	0.00	0.00	0.00	0.00
# Shares adj. (end)	64.5	64.5	64.5	64.5	64.5	64.5	64.5	64.5

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 33: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	62.3	62.7	173.1	218.2	58.1	62.3	55.1	52.3
Other current assets	24.5	24.5	24.5	24.5	20.9	24.5	24.5	24.5
Vessels and newbuildings	823.5	783.5	743.5	703.5	831.4	823.5	813.5	803.5
Other long-term assets	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Total assets	910.4	870.8	941.2	946.3	910.6	910.4	893.2	880.4
Interest bearing debt	487.6	466.0	433.8	135.3	477.7	487.6	482.2	476.8
Refinanced IB debt	0.0	0.0	0.0	203.9	0.0	0.0	0.0	0.0
Other current liabilities	13.9	13.9	13.9	13.9	12.8	13.9	13.9	13.9
Other long term liabilities	5.0	5.0	5.0	5.0	7.4	5.0	5.0	5.0
Shareholder's equity	403.9	385.9	488.5	588.2	412.7	403.9	392.1	384.7
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total equity and liabilities	910.4	870.8	941.2	946.3	910.6	910.4	893.2	880.4
Net interest bearing debt	425.3	403.3	260.7	121.0	419.6	425.3	427.1	424.5
Equity ratio (%)	49%	49%	65%	83%	50%	49%	48%	48%

Cash flow (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Net profit	-54.8	-12.0	104.6	144.5	-17.8	-12.4	-9.4	-5.0
Depreciation, amort. & impairments	40.0	40.0	40.0	40.0	10.0	9.9	10.0	10.0
Change working capital	0.5	0.0	0.0	0.0	-3.2	-1.3	0.0	0.0
Other non-cash items	2.4	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Cash flow from operations	-11.8	28.0	144.6	184.5	-10.9	-3.2	0.6	5.0
Investment in newbuilding and vessels	-3.1	-6.0	-2.0	-8.0	-0.3	-2.3	-2.4	-2.4
Proceeds from sale of vessels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investing	-3.1	-6.0	-2.0	-8.0	-0.3	-2.3	-2.4	-2.4
Repayment of debt	-97.0	-21.6	-32.2	-324.4	-5.5	-5.5	-5.4	-5.4
Proceeds from new debt	25.0	0.0	0.0	0.0	10.0	15.0	0.0	0.0
Proceeds from refinanced debt	0.0	0.0	0.0	277.0	0.0	0.0	0.0	0.0
Share issue (repurchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	-83.9	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	-72.0	-21.6	-32.2	-131.3	4.5	9.5	-5.4	-5.4
Other adjustments	0.2	0.0	0.0	0.0	0.0	0.3	0.0	0.0
Change in cash and cash equivalents	-86.8	0.4	110.4	45.1	-6.8	4.2	-7.2	-2.8
Cash balance period-in	149.1	62.3	62.7	173.1	64.9	58.1	62.3	55.1
Cash balance period-out	62.3	62.7	173.1	218.2	58.1	62.3	55.1	52.3

Source: Company, Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	73.8	138.6	264.7	92.7	53.8	94.7	210.3	245.5
% Change	20.3%	87.8%	91.0%	-65.0%	-42.0%	76.1%	122.1%	16.8%
EBITDA adjusted	46.8	109.1	227.7	46.5	9.3	50.7	166.4	201.5
EBITDA margin (%)	63.5%	78.8%	86.0%	50.1%	17.3%	53.6%	79.1%	82.1%
EBIT adjusted	22.2	90.0	196.4	4.9	-30.8	10.7	126.4	161.5
EBIT margin (%)	30.2%	65.0%	74.2%	5.3%	-57.2%	11.3%	60.1%	65.8%
Net financial items & associates	-12.6	-4.4	-12.8	-19.6	-24.0	-22.8	-21.8	-17.0
Others	0.9	-1.8	-0.2	-0.1	0.0	0.0	0.0	0.0
Tax	0.0	-0.2	0.0	-0.1	-0.1	0.0	0.0	0.0
Net profit from continuing operations	11.5	81.8	183.2	-68.2	-54.8	-12.0	104.6	144.5
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	11.5	81.8	183.2	-68.2	-54.8	-12.0	104.6	144.5
Net profit reported	11.5	81.8	183.2	-68.2	-54.8	-12.0	104.6	144.5
Net profit adjusted	10.6	83.6	183.4	-14.8	-54.8	-12.0	104.6	144.5
Cash Flow Statement (USDm)								
Cash flow from operating activities	35.7	86.7	167.2	84.9	-11.8	28.0	144.6	184.5
Capex	-6.1	-144.0	-491.5	-1.2	-3.1	-6.0	-2.0	-8.0
Free cash flow	29.6	-57.3	-324.4	83.7	-14.9	22.0	142.6	176.5
Acquisitions & Divestments	132.9	0.0	0.0	13.3	0.0	0.0	0.0	0.0
Dividend paid	0.0	-60.7	-172.3	-32.7	0.0	0.0	0.0	-83.9
Others	115.6	94.8	-12.3	58.7	0.0	0.0	0.0	0.0
Change in net financial debt	278.0	-23.1	-508.9	123.1	-14.9	22.0	142.6	92.5
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	378.7	504.9	965.7	860.8	823.5	783.5	743.5	703.5
Financial & other non-current assets	1.9	2.4	2.3	0.3	0.2	0.2	0.2	0.2
Total shareholders' equity	392.4	508.5	499.9	457.0	403.9	385.9	488.5	588.2
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	212.4	188.8	618.8	575.7	506.5	484.9	452.7	358.2
Net financial debt	-7.7	21.2	531.3	408.7	425.3	403.3	260.7	121.0
Working capital requirement	4.0	22.4	70.8	11.3	10.5	10.5	10.5	10.5
Invested Capital	382.8	527.3	1,036.6	872.1	834.0	794.0	754.0	714.0
Per share data								
EPS adjusted	0.36	2.62	5.33	-0.30	-0.85	-0.19	1.62	2.24
EPS adj and fully diluted	0.36	2.62	5.33	-0.30	-0.85	-0.19	1.62	2.24
% Change	high	629.9%	103.8%	-chg	-chg	+chg	+chg	38.1%
EPS reported	0.39	2.56	5.32	-1.38	-0.85	-0.19	1.62	2.24
Cash flow per share	1.21	2.71	4.86	1.72	-0.18	0.43	2.24	2.86
Book value per share	13.30	15.91	14.53	9.24	6.26	5.98	7.57	9.12
Dividend per share	0.00	2.72	4.66	0.30	0.00	0.00	0.00	1.79
Number of shares, YE (m)	29.51	34.40	34.40	64.50	64.50	64.50	64.50	64.50
Ratios								
ROE (%)	4.2%	18.6%	36.4%	-3.1%	-12.7%	-3.0%	23.9%	26.8%
ROIC (%)	5.2%	19.8%	25.1%	0.5%	-3.6%	1.3%	16.3%	22.0%
Net fin. debt / EBITDA (x)	-0.2	0.2	2.3	8.8	45.8	7.9	1.6	0.6
Gearing (%)	-2.0%	4.2%	106.3%	89.4%	105.3%	104.5%	53.4%	20.6%
Valuation								
P/E adjusted	49.6	7.8	2.7	na	na	na	1.7	1.2
P/E adjusted and fully diluted	49.6	7.8	2.7	na	na	na	1.7	1.2
P/BV	1.3	1.3	1.0	0.3	0.4	0.5	0.4	0.3
P/CF	14.7	7.5	3.0	1.6	na	6.3	1.2	1.0
Dividend yield (%)	0.0%	13.4%	32.2%	10.9%	0.0%	0.0%	0.0%	65.1%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	5.6%	-8.2%	-65.2%	47.1%	-8.4%	12.4%	80.3%	99.3%
EV/Sales	7.0	5.2	3.9	6.3	11.2	6.1	2.1	1.2
EV/EBITDA	11.0	6.6	4.5	12.6	64.9	11.5	2.6	1.5
EV/EBIT	23.2	8.0	5.2	na	na	54.1	3.5	1.8

BW LPG

Norway | Transport | Mcap NOK 4.8bn

02 March 2018

Buy (Not Rated)

Target Price	**NOK 58.00**
Current Price	NOK 34.10
Up/downside	70.1%
Change in TP	none
Change in EPS	none 16E / none 17E

Market leader at 3x EV/EBITDA

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LPG shipping demand growth is again (as of November/December 2017) aligned with fleet growth, at about 10% a year. The least uncertain element in the LPG puzzle is that VLGC fleet growth is likely to continue to decline; we expect it to bottom out at 0% YOY in February 2019, down from 35% in June 2016. With demand growing by 6-7% a year for 2018-20E, we believe VLGC rates have the potential to return to USD50,000 per day. For the market leader, BW LPG, with its 37 VLGCs, this market outlook implies 3x EV/EBITDA for 2020E and makes it one of our two Sector Most Preferred Stocks. We initiate coverage with a Buy rating and TP of NOK58.

The world's largest owner of VLGCs

BW LPG is the world's largest owner of Very Large Gas Carriers (VLGCs). It is listed on the Oslo Stock Exchange (BWLPG), and as of Q4 2017, it owns a total of 41 vessels, plus ten leased-in vessels that are on time-charter contracts.

LPG shipping is our favourite segment

LPG shipping remains a clean play on the US shale story, and in November 2017, US propane gas plant production growth reached 10% YOY again. In November/December 2017, demand growth returned to the same level as fleet growth (c. 10% YOY). That said, the only thing that seems certain in the LPG puzzle is that fleet growth is set to keep declining. We see c. 2% fleet growth in 2018E and 4% in 2019E, and, coupled with the momentum in the US shale industry, it is hard not to be enthusiastic about the LPG shipping industry. Concretely, we see VLGC spot rates of USD21,000 per day in 2018E, USD44,000 per day in 2019E and USD49,000 per day in 2020E. With rates above USD40,000 per day as of 2019E, we expect a significant improvement in BW LPG's profitability.

Buy with strong upside potential (TP NOK58)

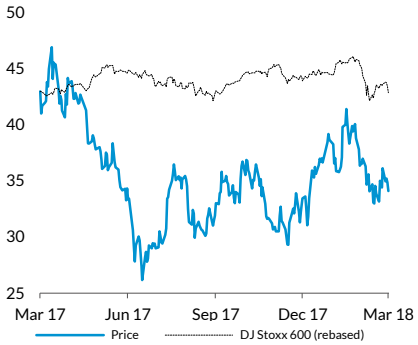
The value of a five-year old VLGC is down 38% since the mid-2014 peak and has not been lower on Clarkson's value quotes since the series began in 2008. Moreover, after a c. 20% drop in the share price since the peak in December 2017, we see BW LPG at a 20% discount to Clarkson's current market values. Given our forecast, we see 25% upside to Clarkson's values, equal to 59% upside for BW LPG's NAV (base NAV NOK65 per share versus NOK40 currently). In conclusion, we think the upside potential is strong enough to warrant a Buy rating and set our TP at NOK58.

Market data

Bloomberg: BWLPG NO	Reuters: BWLPG.OL
Market cap (NOKm)	4,840
Free float	60%
No. of shares outstanding (m)	142
Avg. daily volume (NOKm)	50.4
YTD abs performance	-11.7%
52-week high/low (NOK)	46.88/26.17

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	371.2	648.6	789.8
EBITDA adj (m)	169.1	467.0	595.0
EBIT adj (m)	49.7	350.2	478.2
Net profit adj (m)	4.2	298.7	428.8
Net fin. debt (m)	1,175.8	758.5	469.4
FCF (m)	156.3	460.6	584.5
EPS adj. and fully dil.	0.03	2.10	3.02
Net dividend	0.00	0.00	2.48

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	146.6	2.0	1.4
EV/EBITDA	10.6	2.9	1.8
EV/EBIT	36.0	3.9	2.3
FCF yield	na	na	na
Dividend yield	0.0%	0.0%	57.4%
Net fin.debt/EBITDA	7.0	1.6	0.8
Gearing	110.6%	55.6%	30.6%
ROIC	2.3%	16.8%	24.2%
EV/IC	0.8	0.7	0.6



Investment summary

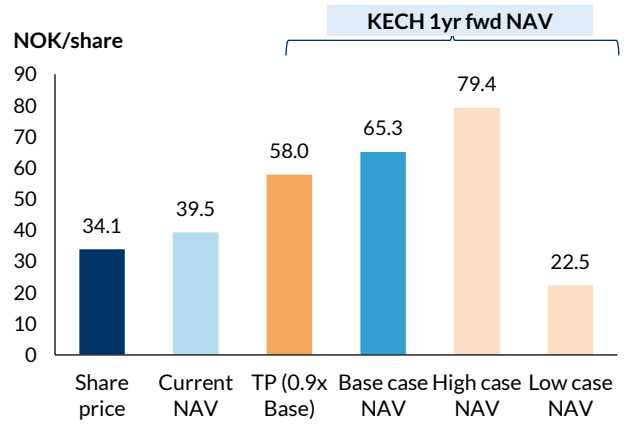
BW LPG is the world's largest owner of VLGCs. It is listed on the Oslo Stock Exchange (ticker: BWLPG), and as of Q4 2017, it owns a total of 41 vessels, plus ten leased-in vessels that are on time-charter contracts.

LPG shipping remains a clean play on the US shale story, and in November 2017, US propane gas plant production growth reached 10% YOY again. In November/December 2017, demand growth returned to the same level as fleet growth (c. 10% YOY). That said, the only thing that seems certain in the LPG puzzle is that fleet growth is set to keep declining. We see a c. 2% fleet growth in 2018E and 4% in 2019E, and, coupled with the momentum in the US shale industry, it is hard not to be enthusiastic about the LPG shipping industry.

We see VLGC spot rates of USD21,000 per day in 2018E, USD44,000 per day in 2019E and USD49,000 per day in 2020E. With rates above USD40,000 per day as of 2019E, we expect a significant improvement in BW LPG's profitability and pencil in an increase in EBITDA from USD170m in 2018E to USD450-600m in 2019-20E. Overall, our base-case forecasts are much more bullish than consensus and indicate EV/EBITDA 3.9x 2019E and 3.0x 2020E, versus EV/EBITDA 6.3x and 6.5x on 2019E and 2020E consensus, respectively.

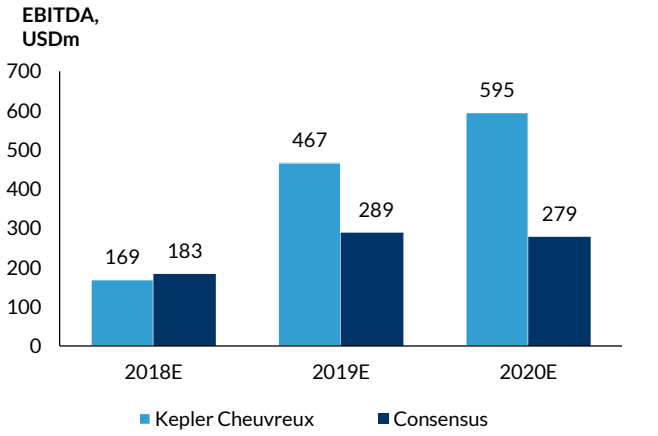
The value of a five-year old VLGC is down 38% since the mid-2014 peak and has not been lower on Clarkson's value quotes since the series began in 2008. Moreover, after a c. 15% drop in the share price since the peak in December 2017, we see BW LPG at a 10% discount to Clarkson's current market values. Given our forecast, we see 25% upside to Clarkson's values, equal to 65% upside for BW LPG's NAV (base NAV NOK65 per share versus NOK40 currently). In conclusion, we think the upside potential is strong enough to warrant a Buy rating and set our TP at NOK58.

Chart 517: BWLPG target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 518: BWLPG EBITDA, KECH versus consensus



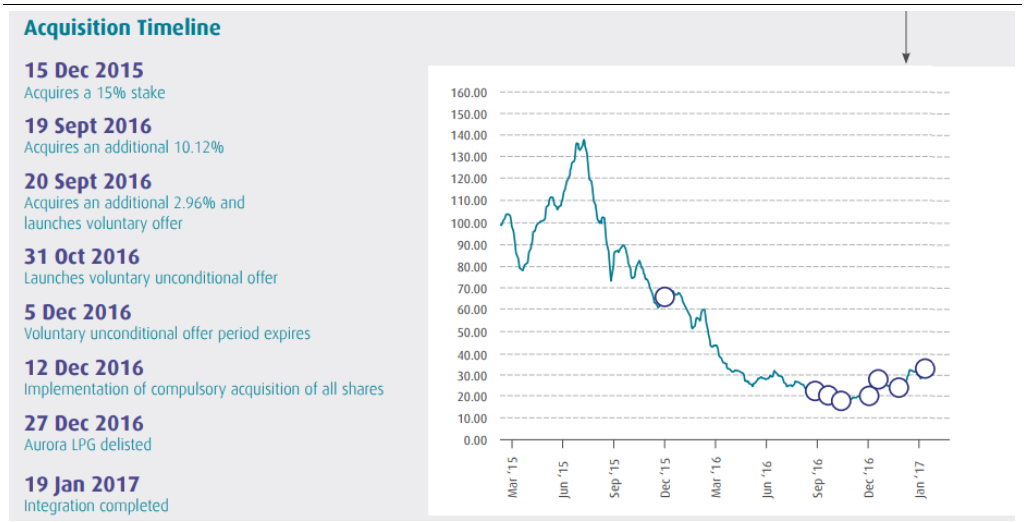
Source: Bloomberg consensus, Kepler Cheuvreux

BW LPG in brief

World's largest owner of Very Large Gas Carriers

BW LPG is a leading operator of LPG carriers. It currently owns and operates a fleet of c. 51 vessels, proportionally. The company is listed on the Oslo Stock Exchange, and it completed its IPO in 2013. The group is part of the BW system, and was spun-off from BW Gas to create a pure-play LPG company. BW Group Holding currently owns 44% of BW LPG's outstanding shares. In 2016, BW LPG expanded its fleet by acquiring Aurora LPG and its fleet of nine VLGCs.

Chart 519: BW LPG's acquisition timeline for Aurora LPG

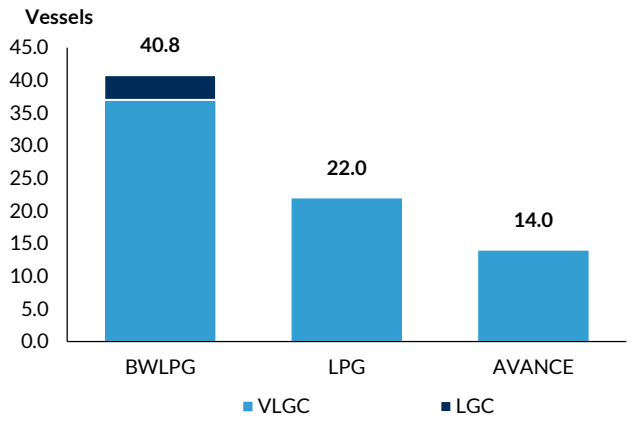


Source: BW PLG

As of Q4 2017, BW LPG owned a total of 41 vessels. Three are partially owned, and on a proportionate basis, BW LPG owns 40.8 vessels, of which 37 are VLGCs and 3.8 LGCs. The partial ownership stakes are: 78% in the BW Havis. In addition, BW LPG sold two VLGCs to a 50% joint venture in China in Q4 2017 (BW Boss and BW Energy).

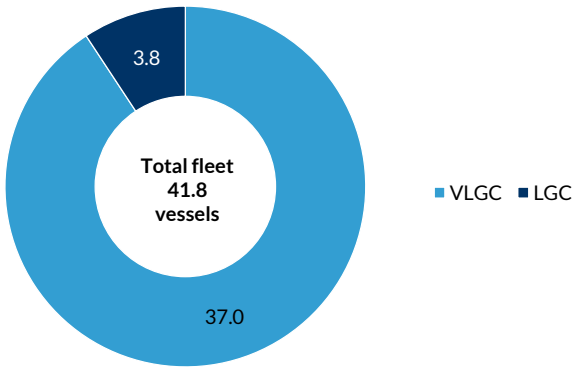
With an average fleet age of 5.8 years (value weighted), BW LPG has the oldest fleet of our listed LPG peers. Most of the vessels were built before 2007, but three are more than 20 years old. This includes the BW Havis (24 years), the BW Helios (25 years) and the BW Denise (27 years). The majority of BW's vessels were built in South Korea or Japan (39 out of 42 owned vessels).

Chart 520: Vessels, LPG peers (owned fleet only, proportionate



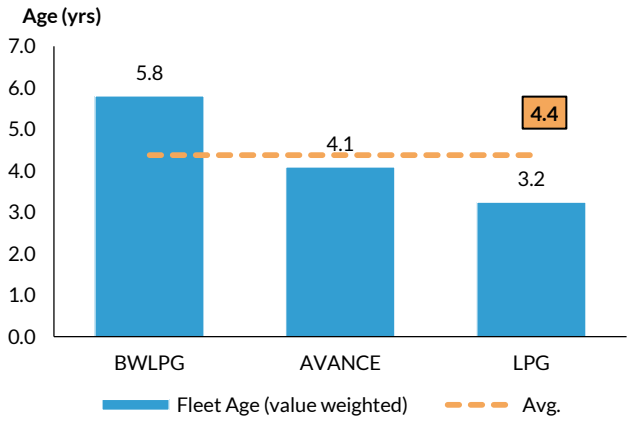
Source: Company information, Kepler Cheuvreux

Chart 521: BW LPG fully-owned fleet by vessel type



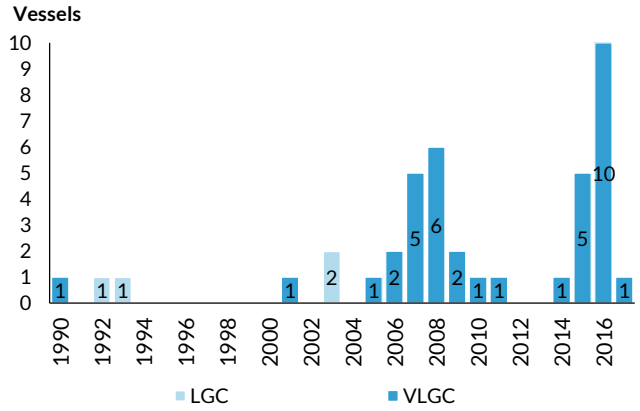
Source: Company information, Kepler Cheuvreux

Chart 522: Fleet age, LPG peers (value weighted, owned fleet)



Source: Company information, Kepler Cheuvreux

Chart 523: Avance Gas's fleet by building year

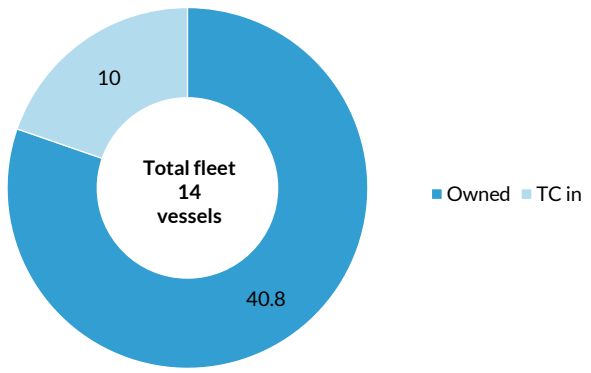


Source: Company information, Kepler Cheuvreux

In addition to its owned fleet, BW LPG leases-in ten vessels on time-charter contracts. Two vessels are newbuilds, the H2335 and H2336, which are expected to commence time charter contracts in 2020 upon delivery from Mitsubishi Heavy Industries. The remaining eight vessels are currently in operations for BW LPG, and we estimate an average time charter-in rate for these vessels of c. USD25,000/day. Three of these vessels will be returned to their owners in 2018, while one vessel will be returned in 2019.

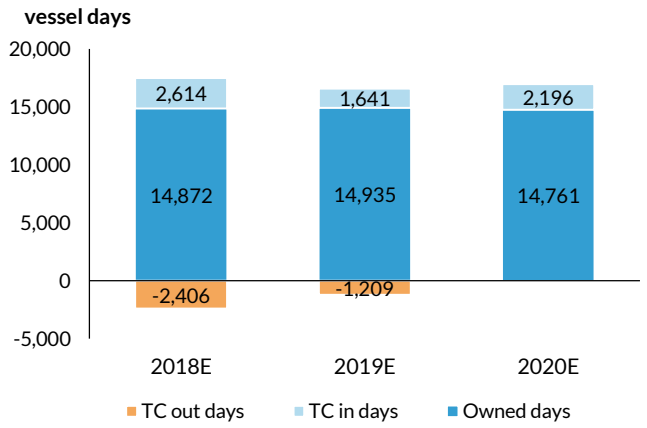
Overall, we estimate the time charter portfolio to account for 7-14% of the available fleet for BW LPG in 2018-19E.

Chart 524: BW LPG, owned and TC in fleet (proportionate)



Source: Company information, Kepler Cheuvreux

Chart 525: Estimated fleet days for BW LPG



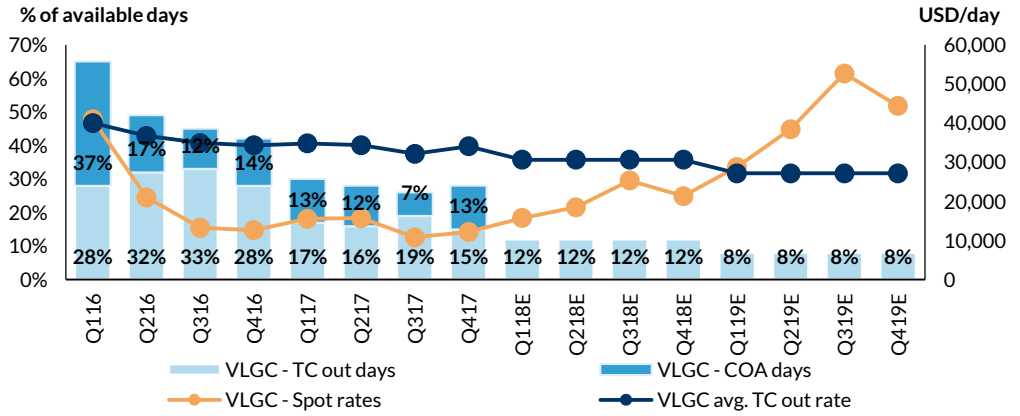
Source: Kepler Cheuvreux

Gradually turning towards spot market exposure

BW LPG has historically had a significant part of its fleet employment fixed on time charter contracts or COAs (contracts of affreightment). The average freight rates on these contracts has been USD30,000-40,000 per day, and has provided BW LPG with some protection from weak VLGC spot rates over the last two years. However, as these contract positions are gradually fading away, BW LPG is turning towards increasing spot market exposure as of 2018E.

For 2018E, BW LPG has guided for 12% of its VLGC days on time charter contracts at an average rate of USD31,000 per day.

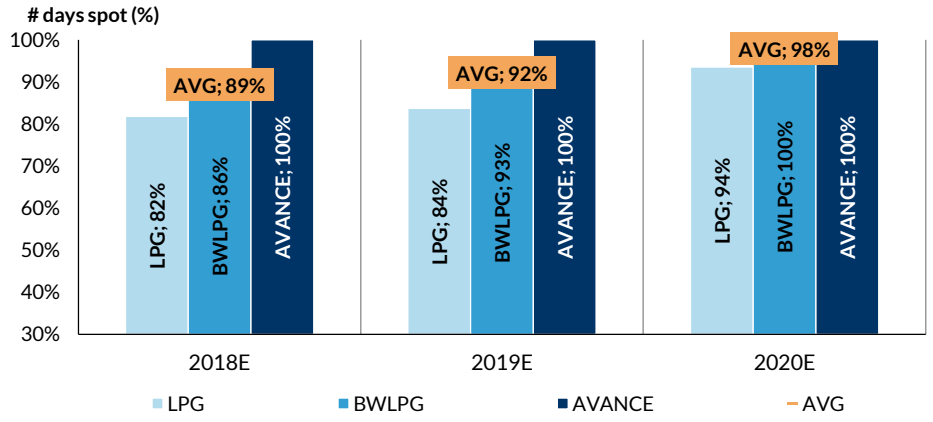
Chart 526: BW LPG: Fleet employment in % to time charter and COA (incl. avg. freight rates)



Source: Company information, Kepler Cheuvreux

As both BW LPG and Dorian have started to wind down several time charter/COA positions, the whole LPG segment is turning towards spot exposure. For 2018-19E, our LPG peers have averages of 89% and 92% of their available days on the spot market.

Chart 527: Spot exposure (% of total fleet days) for LPG peers, 2018-20E

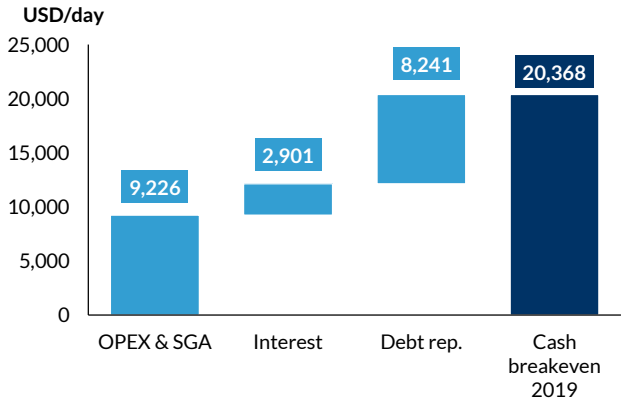


Source: Kepler Cheuvreux

Financing: We estimate cash breakeven of c. USD20,000 per day

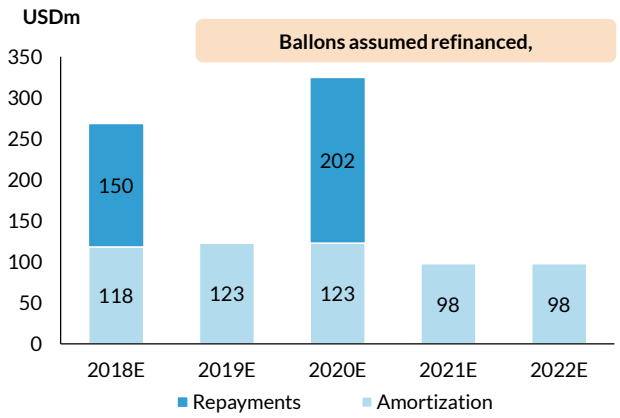
In our model, we assume that BW LPG has a combined cost level (opex and SGA) of USD9,300 per day for VLGCs and USD8,500 per day for LGCs. Taking into account annual debt amortisation of USD110-120m and average interest of Libor + c. 2.0%, we estimate a cash breakeven for BW LPG's owned fleet of about USD20,000 per day for 2018-20E (VLGCs and LGCs). The level is slightly higher than our estimates for Avance Gas, who has only 50% debt amortisation until Q2 2019.

Chart 528: Estimated cash breakeven for BWLPG 2019



Source: Kepler Cheuvreux

Chart 529: Est. repayment schedule for BW LPG's IB debt



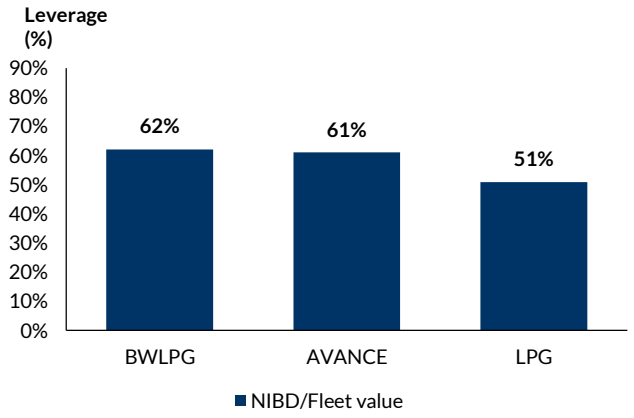
Source: Kepler Cheuvreux

As of Q4 2017, BW LPG has USD1.3bn in outstanding under its debt facility with an average margin of approximately Libor + 2.0%. The company has total available liquidity of USD265m (including USD210m in undrawn under its revolving credit facilities). There are two large instalments in 2018 and 2020.

1. USD150m revolving credit facility due March 2018 (refinanced): As of Q4 2017, BW LPG had USD150m drawn under this revolving credit facility. However, in February 2018, BW LPG announced the final agreement on a USD150m senior secured term loan to refinance the balloon payment in March 2018.
2. USD172m falls due in 2020 from the USD500m term loan facility and the USD300m revolving loan facility.

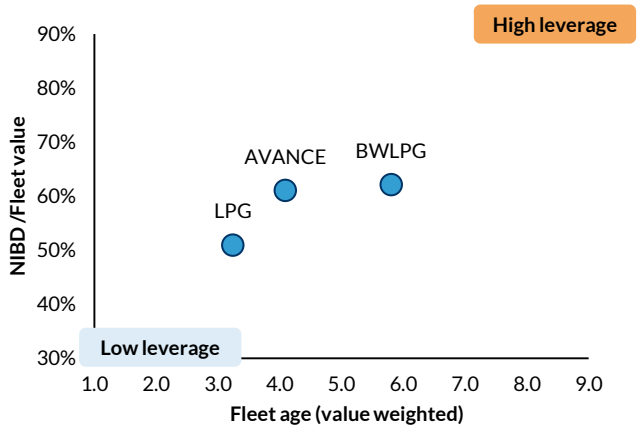
We estimate a leverage ratio for BW LPG of 62% NIBD/fleet value (based on Clarkson's current market values for VLGC vessels). Combined with an older fleet, BW LPG is the most financially and operationally leveraged company among our LPG peers. This makes BW LPG's equity NAV more sensitive to changes in asset values than the other LPG peers.

Chart 530: Net leverage ratio for LPG peers (relative fleet values, including working capital, see valuation part)



Source: Kepler Cheuvreux

Chart 531: Net leverage ratio versus average fleet age



Source: Kepler Cheuvreux

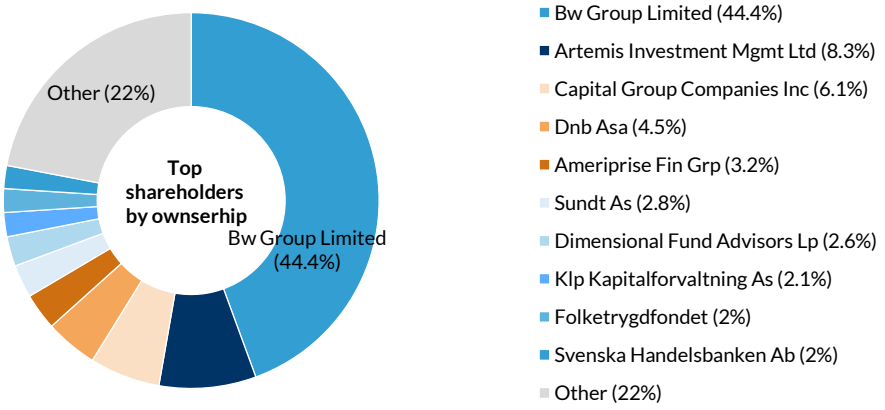
Management and shareholder structure:

BW LPG's executive management consists of the following:

- **Martin Ackermann (CEO), who** has over a decade of international management experience in the maritime industry. Before joining BW LPG, Martin Ackermann was CEO of Evergas A/S and managing director of Eitzen Gas and B-Gas, where he led the rejuvenation of the former Eitzen Gas fleet. He holds 200,806 shares in BW LPG.
- **Elaine Ong (CFO), who** has over 20 years of experience in all aspects of Finance. She is responsible for the Corporate Finance, Financial Reporting, Investor Relations and Information Technology departments at BW LPG. Prior to this, she was senior vice president, finance and head of the finance organisation at BW Group. She joined BW Group as vice president, finance in 2011. She holds 9,985 shares in BW LPG.

BW LPG is part of the BW system, and BW Group Holding currently owns 44.4% of BW LPG's outstanding shares.

Chart 532: Shareholder structure



Source: Bloomberg, Kepler Cheuvreux

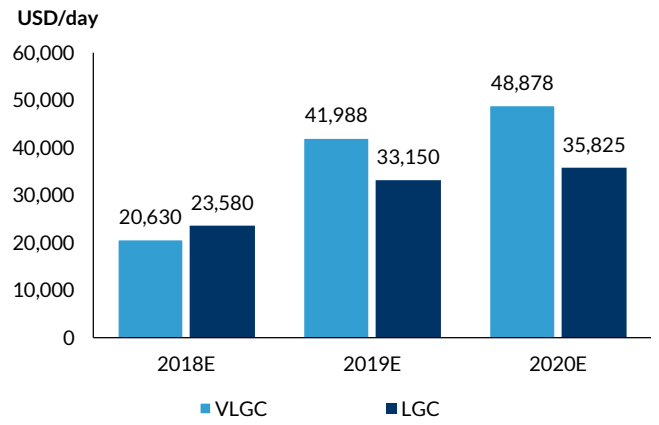
Deconstructing the forecast

LPG market

LPG shipping continues to be a clean play on the US shale story. In November 2017, US propane gas plant production growth reached 10% YOY. The last time propane production reached that number (on its way up) was in 2012-13, which was when VLGC rates started to rise towards what turned out to be all-time-highs. In November and December 2017, demand growth returned to the same level as fleet growth (10% YOY). That said, the only thing that seems certain in the LPG puzzle is that fleet growth is set to keep declining. We see c. 2% fleet growth in 2018E and 4% in 2019E, and, coupled with the momentum in the US shale industry, it is hard not to be enthusiastic about the LPG shipping equities **(see sector part for more about the LPG shipping market**).

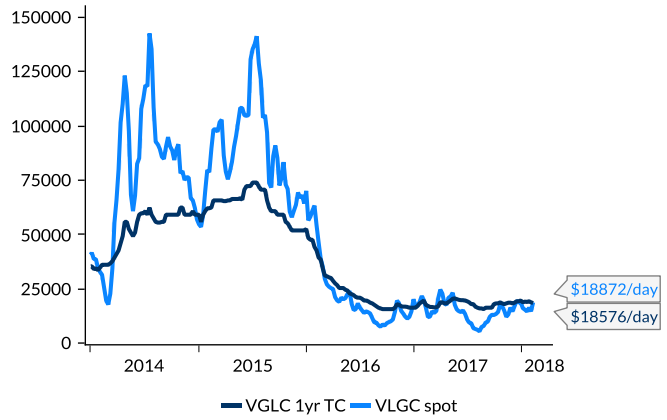
Concretely, we see VLGC spot rates of USD21,000 per day in 2018E, USD44,000 per day in 2019E and USD49,000 per day in 2020E. Fleet utilisation should be about 88% now, and we expect a slight uptick this year before it rises above 90%. Given ample availability of LPG in the US, we expect the domestic LPG pricing to be forced low enough to motivate continued export growth. A spot rate of USD40-50,000 per day would need a spread (Asia-US) of USD80-95 per tonne, which corresponds to a spread Asia-AG (basis for the Baltic spot rate assessment) of USD50-60 per tonne.

Chart 533: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

Chart 534: Clarkson's VLGC rate (spot and 1Y time charter)



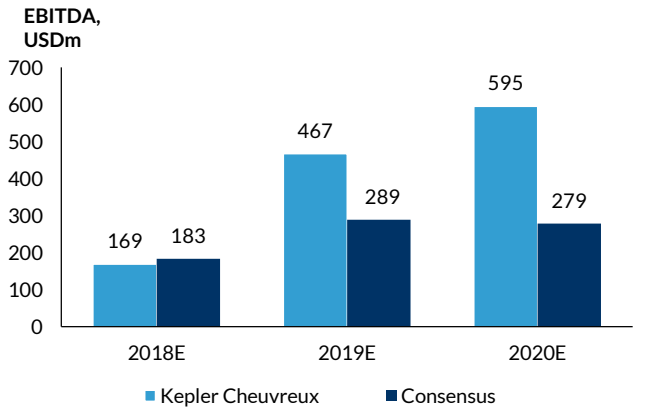
Source: Clarkson's, Kepler Cheuvreux

Much more bullish than consensus for 2019-20E

With VLGC rates above USD40,000 per day as of 2019E, we expect a significant improvement in BW LPG's EBITDA. We estimate an increase in EBITDA from to USD170m in 2018E and USD470-600m in 2019-20E.

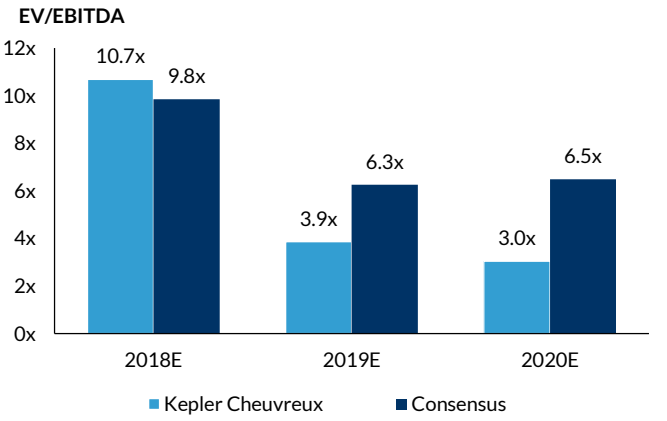
Overall, our base-case forecasts are much more bullish than consensus for 2019-20E. Our estimates imply an upside to consensus of USD180m in 2019E and USD315m in 2020E. Given the current share price for BW LPG our estimates indicate EV/EBITDA of 3.9x 2019E and 3.0x 2020E. In comparison, BW LPG trades on consensus EV/EBITDA of 6.3x 2019E and 6.5x 2020E.

Chart 535: Kepler Cheuvreux versus consensus EBITDA estimates



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 536: EBITDA each quarter (KECH estimate)

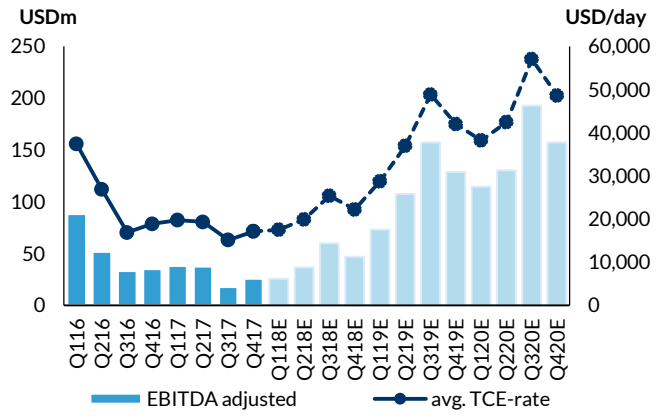


Source: Bloomberg consensus, Kepler Cheuvreux

The increase in BW LPG's EBITDA is almost entirely driven by our forecasts of higher spot VLGC rates. We estimate for every USD1,000 per day increase in spot rates, BW LPG's 2018 EBITDA will increase by USD15.1m per year. As of January 2018, Clarkson's spot rate for VLGCs is USD16,000 per day, implying a running

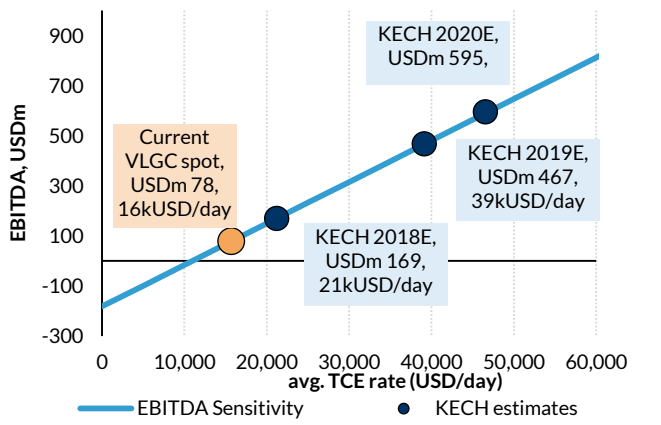
EBITDA for BW LPG of USD78m per year (we assume 98% spot utilisation for BW LPG, current spot rate estimate is not adjusted for utilisation).

Chart 537: BW LPG quarterly EBITDA 2016-20E



Source: Kepler Cheuvreux

Chart 538: BW LPG's EBITDA sensitivity versus TCE rate



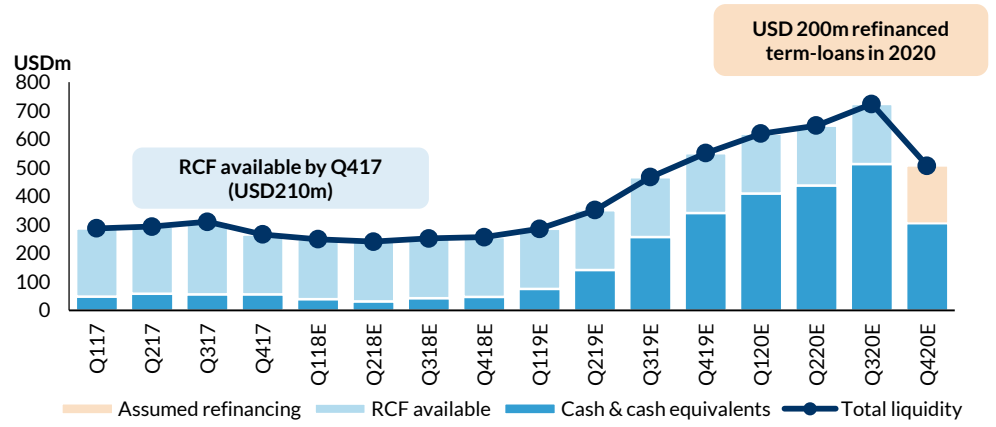
Source: Kepler Cheuvreux

Our base case implies cash generation as of 2019E

Despite weak spot VLGC rates since 2016, BW LPG has not yet experienced any significant cash-burn due to its solid time charter protection (contracts fixed at USD30,000-40,000 per day). However, with a gradual reduction in the contract portfolio, BW is turning towards spot market exposure. For 2018E, BW LPG has guided for 12% of its VLGC days fixed on time charter contracts at an average rate of c. USD30,000 per day, and our base case scenario for the VLGCs spot rate is USD20,600 per day. Hence, we expect 2018E to be a cash neutral year for BW LPG, with achieved TCE rates close to the breakeven levels (achieved TCE USD21,200 per day 2018E versus USD20,500 per day breakeven). However, for 2019-20E, we expect spot VLGC rates to rise beyond the breakeven levels, resulting in significant cash generation for BW LPG.

With current liquidity of USD267m (Q4 2017) and no major debt instalments before 2020, BW LPG should be well positioned, based on our base-case estimates. With an expected market tightening as of 2019E, we expect the group to restart cash distribution to shareholders as of late 2019-20E if our forecast market turnaround materialises.

Chart 539: BW LPG liquidity (cash + available RCF), given our base case scenario



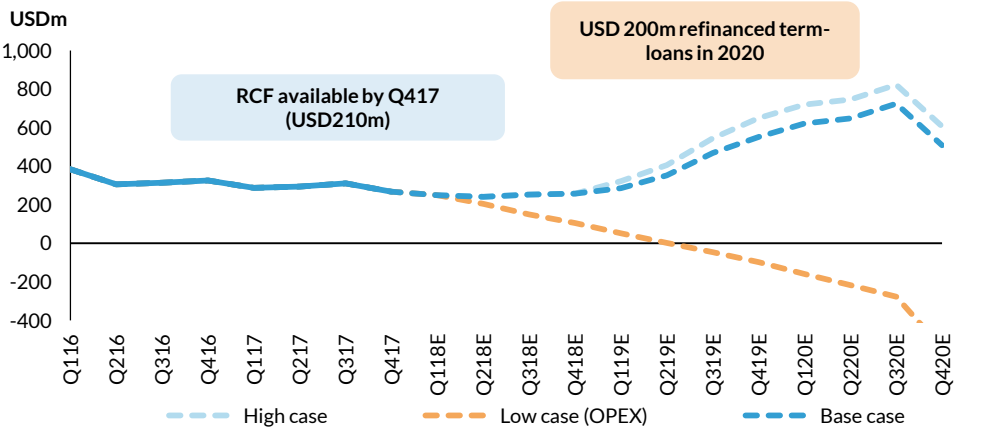
Source: Kepler Cheuvreux

Risks: if rates stay at opex, BW LPG has liquidity until 2019E

Due to current low freight rates in the LPG segment, investors should be aware of the liquidity risk if the rates stay well below cash breakeven levels over a prolonged time period.

While we find our low-case scenario less likely currently, we illustrate the effect on BW LPG's liquidity if VLGC rates stayed at opex levels (USD8,000 per day) from two months onward in the chart below. Relative to the 2018 breakeven rates, the opex scenario implies an annual cash burn of c. USD180m per year. With available liquidity of USD270m at Q4 2017, BW LPG's current liquidity should last until mid 2019E. In addition, a scenario of prolonged weak freight rates would increase the refinancing risk associated with the debt instalments due in 2020.

Chart 540: Scenario analysis for BW LPG's liquidity (cash + available RCF)



Source: Kepler Cheuvreux

Deconstructing the forecasts:

In the table below, we outline our key estimates and assumptions for BW LPG in 2017-20E. Overall, we see a strong improvement in BW LPG's earnings as of 2019E, on the back of improving freight rates.

Time charter equivalent (TCE) revenues: We model BW LPG's revenues from available fleet days and assumed development in freight rates:

- **Available days:** We expect BW's owned fleet days to stay stable at 43 vessels (including 2 50% JVs). Changes in available days are thus due to changes in the charter-in portfolio. Of BW's current eight chartered-in vessels, three will be returned to their owners in 2018E, while one vessel will be returned in 2019E. In 2020E, two newbuild VLGCs will begin charter-in contracts for BW LPG. Overall, we estimate the time charter portfolio to account for 7-14% of the group's available fleet in 2018-19E.
- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for BW LPG to stay at USD21,200 per day for 2018E. Although we assume 98% utilisation for BW LPG, this level is slightly higher than the VLGC spot rate for 2018 (USD20,600 per day). The reason is that 10% of BW's fleet days are time chartered out at USD32,000 per day for 2018E. For 2019-20E, we expect achieved TCE rates above USD40,000 per day.

Operating costs and SGA: In our model, we assume that BW LPG has a combined cost level (opex and SGA) of USD9,300 per day for VLGCs and USD8,500 per day for LGCs. The eight time chartered-in vessels currently in operations for BW LPG are estimated at an average rate of c. USD25,000 per day.

EBITDA: We expect adjusted EBITDA of USD170m in 2018E, USD470m in 2019E and USD600m in 2020E. This implies an increase in the EBITDA margin from USD9,500 per day in 2018E to USD28,000 per day in 2019E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume an average interest margin of approximately Libor + 2.0% for BW LPG's bank facilities.

Tax: We do not expect BW LPG to pay taxes over our forecast period.

Net profit: On the back of increasing EBITDA, we expect the net profit to increase from USD5m in 2018E to USD300m in 2019E.

DPS: Although our estimates foresee a strong increase in cash generation for BW LPG, we have not included any dividend payment in our forecasts for 2019. However, for 2020 we include a dividend payout ratio of 80%.

Table 34: Key financials

Key financials (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	335.4	371.2	648.6	789.8	70.1	79.3	77.2	88.8
Other income	5.6	0.0	0.0	0.0	0.2	0.0	0.0	0.0
OPEX incl. SGA	-146.8	-137.6	-137.3	-135.7	-36.8	-38.0	-34.1	-34.2
Charter hire expenses	-68.7	-64.5	-44.3	-59.1	-15.4	-15.4	-17.5	-17.7
EBITDA reported	**125.5**	**169.1**	**467.0**	**595.0**	**18.1**	**25.9**	**25.5**	**36.8**
EBITDA adjusted	125.5	169.1	467.0	595.0	18.1	25.9	25.5	36.8
Depreciation & impairment	-121.5	-119.4	-116.8	-116.8	-32.9	-32.3	-30.4	-30.4
Profit from JV	**-0.5**	**0.7**	**8.2**	**10.6**	**0.0**	**-0.5**	**-0.2**	**0.0**
EBIT	**3.5**	**50.4**	**358.4**	**488.9**	**-14.8**	**-6.9**	**-5.2**	**6.4**
Net financial items	-47.7	-47.5	-43.3	-38.8	-11.9	-11.7	-12.0	-12.1
Tax	-0.5	0.0	0.0	0.0	-0.1	-0.4	0.0	0.0
Net profit reported	**-44.8**	**2.9**	**315.1**	**450.1**	**-26.7**	**-19.0**	**-17.2**	**-5.7**
Net profit adjusted	-49.2	4.9	306.9	439.4	-25.3	-15.4	-15.7	-4.5
EPS adj (USD)	-0.35	0.03	2.16	3.10	-0.18	-0.11	-0.11	-0.03
DPS	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00
Operating assumptions:								
Avg. TCE rate ($/day)	17,847	21,231	39,131	46,578	15,132	17,125	17,499	19,920
Spot utilization (%)	98%	98%	98%	98%	98%	98%	98%	98%
Avg. EBITDA margin ($/day)	6,678	9,672	28,174	35,090	3,909	5,599	5,776	8,263
Total vessel days (available)	18,795	17,486	16,576	16,957	4,631	4,631	4,410	4,459
TC Coverage (% all available days)	30%	14%	7%	0%	28%	31%	14%	14%
Selected balance sheet items:								
Cash and cash equivalents	56.5	47.0	341.2	507.3	55.7	56.5	39.7	31.3
Total interest bearing debt	1,341.1	1,222.7	1,099.7	976.6	1,324.6	1,341.1	1,315.1	1,284.3
Minority interest	3.3	3.3	3.3	3.3	3.1	3.3	3.3	3.3
Net interest bearing debt	**1,287.9**	**1,179.1**	**761.8**	**472.6**	**1,271.9**	**1,287.9**	**1,278.6**	**1,256.3**
Leverage ratio (%)	55%	53%	36%	24%	54%	55%	55%	55%
Selected cash flow items:								
Operating cash flow	72.3	169.1	467.0	595.0	28.5	6.8	25.5	36.8
Investing cash flow	25.1	-12.9	-6.4	-10.5	28.0	-9.7	-4.2	-2.4
Financing cash flow	-121.4	-165.9	-166.4	-418.4	-59.7	3.7	-38.1	-42.9
Change in cash	**-24.0**	**-9.6**	**294.2**	**166.1**	**-3.1**	**0.8**	**-16.8**	**-8.4**

Source: Kepler Cheuvreux

Valuation

We see c. 25% upside in vessel values in our base-case scenario

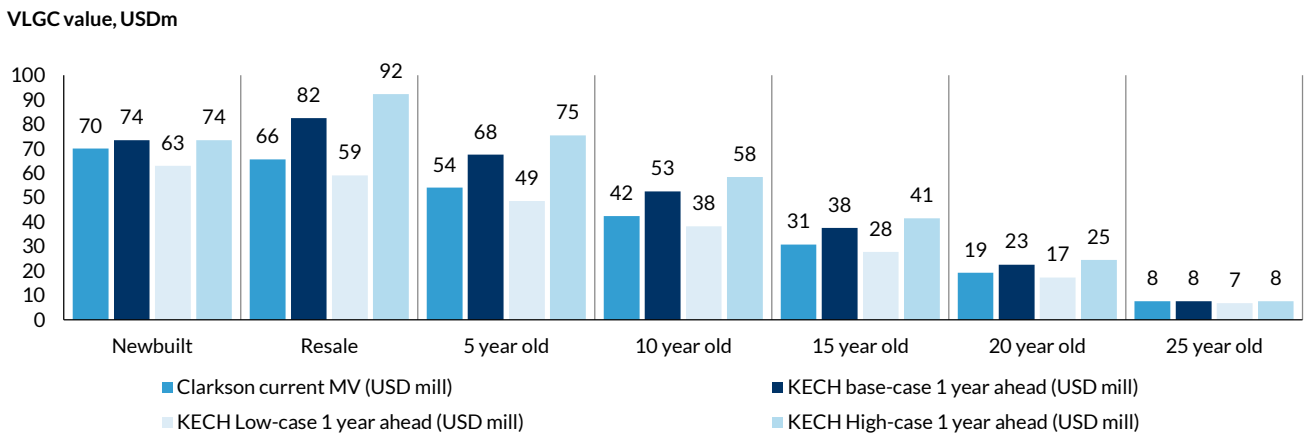
Our preferred valuation method for BW LPG is an equity net asset value (NAV) valuation based on estimated fleet values for LPG carriers less net interest-bearing debt and other commitments for the company. Our vessel values use Clarkson's quote for a five-year-old second-hand vessel and newbuild costs in the current benchmark valuation. In our target valuation, we forecast changes in vessel values based on our freight rate estimates (see sector part for more details).

Currently, Clarkson quotes the price for a five-year-old VLGC at USD54m, down 38% since the peak in mid-2014 (USD86m). We estimate an equivalent resale price of USD66m, implying a discount of 6% relative to the Clarkson's current newbuild price of USD70m; 10-25 year old vessel values are linear interpolations.

When we instead use our rate forecast for the VLGC segment, we estimate a five-year-old value of USD68m, up 25% from the current Clarkson estimate.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated onto this value-curve based on its age.

Chart 541: Kepler Cheuvreux vessel values for a VLGC vessel



Source: Kepler Cheuvreux

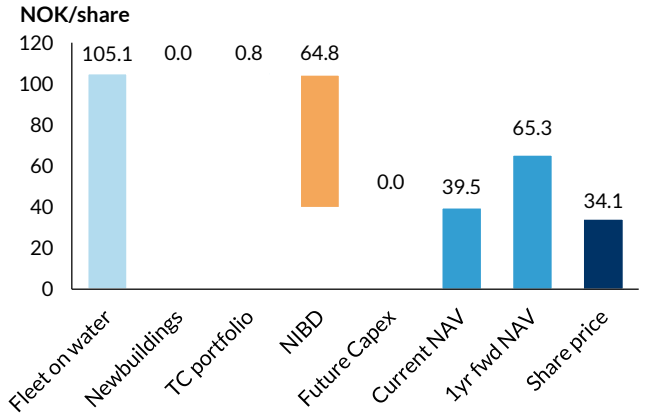
Leaving BW LPG at a strong discount to our base case NAV (NOK65)

Relative to Clarkson's current market values, we estimate that BW LPG trades at a P/NAV of 0.9x after a c. 15% drop in the share price since the peak in December 2017. We believe the recent share price drop could represent an attractive entry point for investors, as we think VLGC rates are set to rebound in late 2018E or early 2019E.

Given our base-case view on vessel values, we see 60% upside in BW LPG's NAV from current levels (base NAV: NOK65 per share versus current NOK40 per share). The NOK25 increase from the current NAV is due to: 1) an 18% increase in underlying vessel values; combined with 2) NOK6.6 per share in cash generation over the next 12 months.

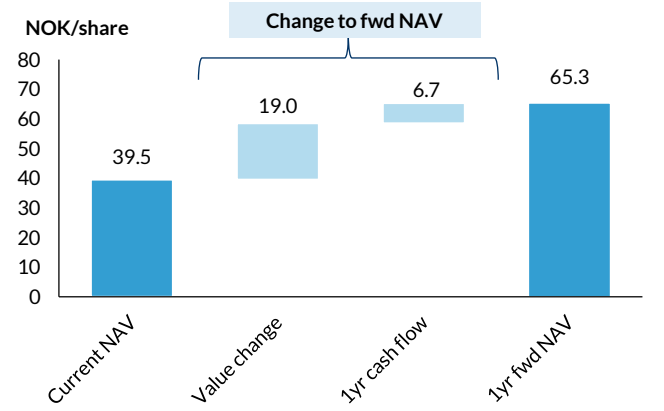
The expected development in vessel values leaves BW LPG at a strong discount to our base-case NAV. At current share price (NOK34.8), the implied P/NAV in our base-case scenario is 0.5x, or EV/GAV 0.75x.

Chart 542: NAV bridge for BW LPG



Source: Kepler Cheuvreux

Chart 543: Bridge from current NAV to Base 1Y fwd. NAV



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for LPG carriers less net interest-bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value BW LPG's fleet at USD1.9bn Clarkson's current values. The mark-to-market (MTM) value includes the value of BW LPG's charter portfolio versus our estimated VLGC forward curve. In our one-year forward estimates, we include the cash flow generated from vessels over the coming months, and adjust fleet values for vessels that are a year older.
- **Net interest-bearing debt (NIBD) and other commitments:** All NIBD estimates are calculated relative to BW LPG's latest quarterly report, and so balance sheet items are from the Q4 2017 report. We make no other adjustments for BW LPG, outside balance sheet items.

Table 35: Net asset value breakdown

NAV (USDm)	# vessels	Age (avg.)	NAV Current	One year forward NAV Base	Low	High
Fleet:						
VLGC	37.0	5.5	1,834	2,178	1,574	2,427
LGC	3.8	15.7	70	75	57	82
Fleet on water	**40.8**	**5.8**	**1,904**	**2,253**	**1,631**	**2,509**
Newbuildings	**0.0**	**0.0**	**0**	**0**	**0**	**0**
Total fleet value (USDm)	**40.8**	**5.8**	**1,904**	**2,253**	**1,631**	**2,509**
MTM contract portfolio			-14	-17	-17	-17
Discounted cash-flow 1yr				122	-31	122
GAV (USDm)			**1,890**	**2,357**	**1,583**	**2,614**
NIBD & other commitments (rel. last quarterly report)						
Cash			57	57	57	57
Total interest bearing debt			-1,341	-1,341	-1,341	-1,341
Net working capital			74	74	74	74
Other adjustments			36	36	36	36
Future capex			0	0	0	0
NIBD & other commitments			**-1,174**	**-1,174**	**-1,174**	**-1,174**
NAV (USDm)			**716**	**1,183**	**408**	**1,439**
# shares (fully delivered)			141.9	141.9	141.9	141.9
NAV/share (NOK)			39.5	65.3	22.5	79.4
Share price (NOK)			34.1	34.1	34.1	34.1
P/NAV			**0.86x**	**0.52x**	**1.51x**	**0.43x**
EV (USDm)			1,792	1,792	1,792	1,792
EV/GAV			**0.95x**	**0.76x**	**1.13x**	**0.69x**

Source: Kepler Cheuvreux

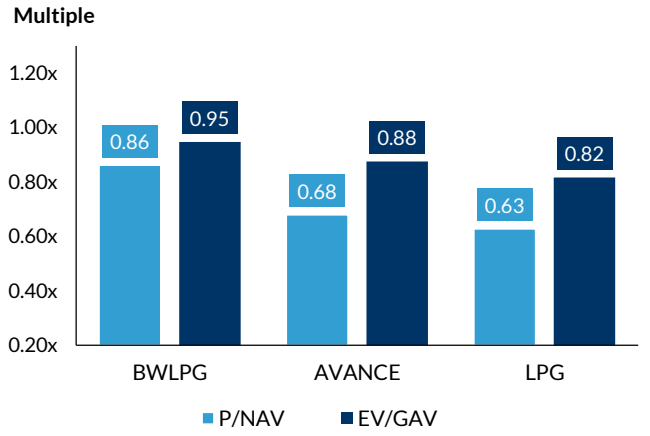
We have a positive stance on the LPG segment

We maintain an overall positive stance towards the total LPG segment, and find BW LPG to be an attractive investment in a potential VLGC turnaround scenario.

1. More than 50% upside to our base-case NAV: The value of five-year-old VLGCs has fallen by 38% since the mid-2014 peak (USD54m versus USD86m). With the current share price, BW LPG is priced at an implied VLGC value of USD50m per vessel (EV/GAV 0.95x). As we forecast a turnaround in LPG freight rates as of 2019E, we think BW LPG is a cheap bet on improving VLGC values.

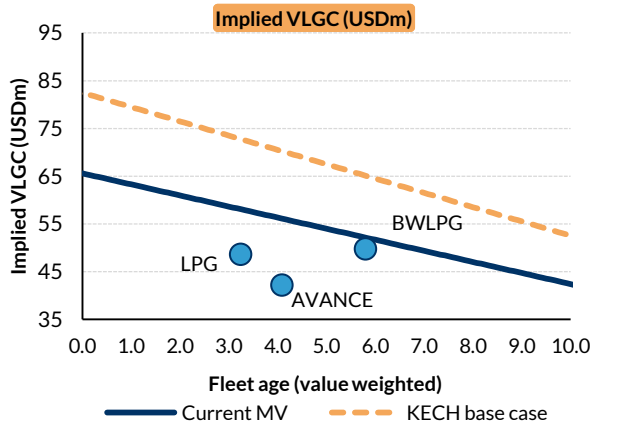
2. Weak share price development could be a good entry point: After a c. 15% drop in the share price since the peak in December 2017, we think that BW LPG trades at a P/NAV 0.9x relative to Clarkson's current market values. In our view, this is too large a discount for BW LPG, and thus we have included P/NAV 0.9x in our target price.
3. Liquidity secured until 2019E even in an opex-level scenario: One of the key risks for BW LPG is prolonged freight rates below breakeven levels. However, we believe this risk is somewhat exaggerated, as our scenario analysis shows that even with VLGC rates at opex levels of USD8,000 per day, the group has liquidity until at least 2019E and no major debt instalments before 2020E.

Chart 544: P/NAV and EV/GAV for LPG peers (current MV)



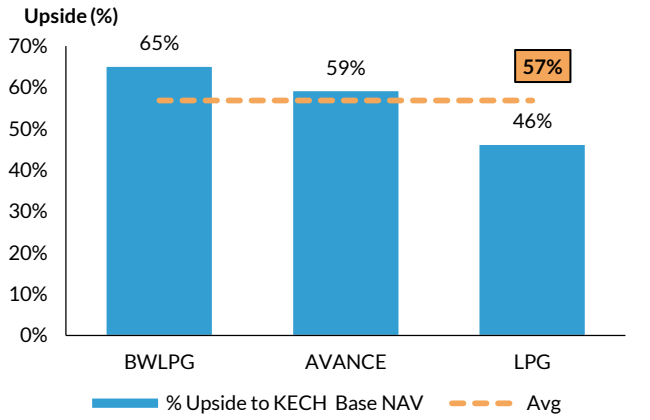
Source: Kepler Cheuvreux

Chart 545: Implied VLGC value for LPG peers



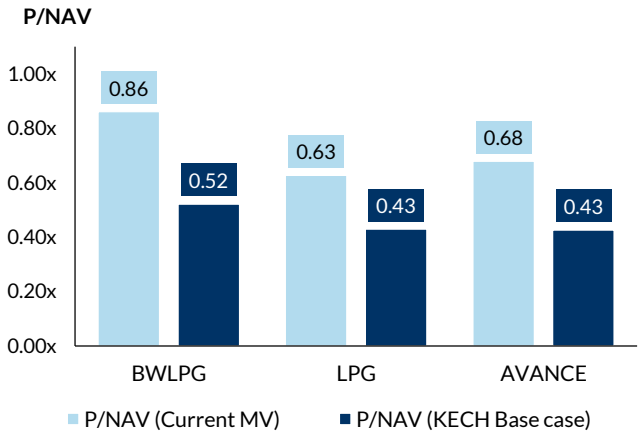
Source: Kepler Cheuvreux

Chart 546: Upside from current NAV to KECH base NAV



Source: Kepler Cheuvreux

Chart 547: Implied P/NAV in base case versus current MV



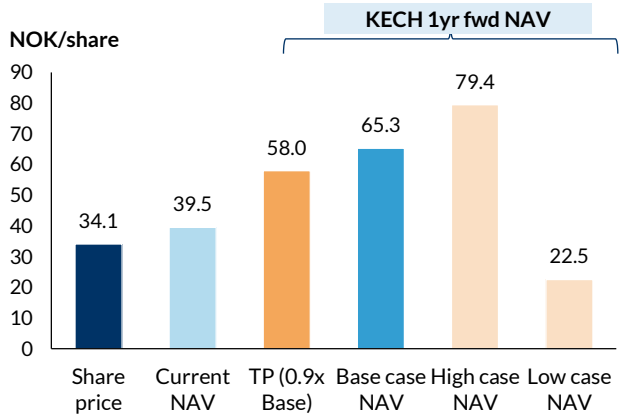
Source: Kepler Cheuvreux

We initiate coverage with a Buy rating and a target price of NOK58

We see the strong upside in our NAV valuation as enough to warrant a Buy on BW LPG, and we expect upcoming triggers to come from increasing spot VLGC rates. We set our target price at NOK58 (0.9x our base case NAV of NOK65), implying upside of more than c. 60% from current share prices.

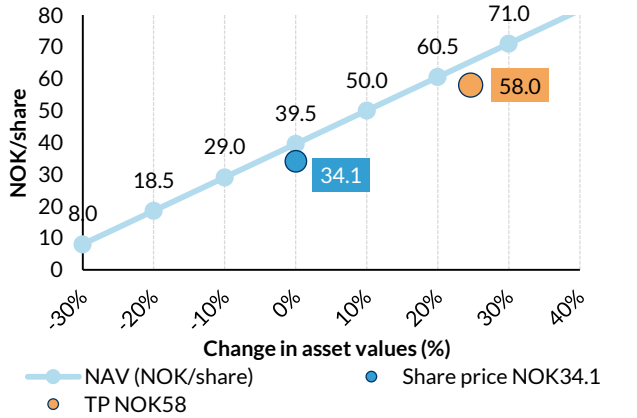
The charts below illustrate our scenario analysis for BW LPG, combined with NAV sensitivity to changes in asset values. Generally, a 10% increase in asset values equals NOK11 per share for the NAV.

Chart 548: Kepler Cheuvreux scenario valuation for AVANCE



Source: Kepler Cheuvreux

Chart 549: Sensitivity for NAV versus changes in asset values



Source: Kepler Cheuvreux

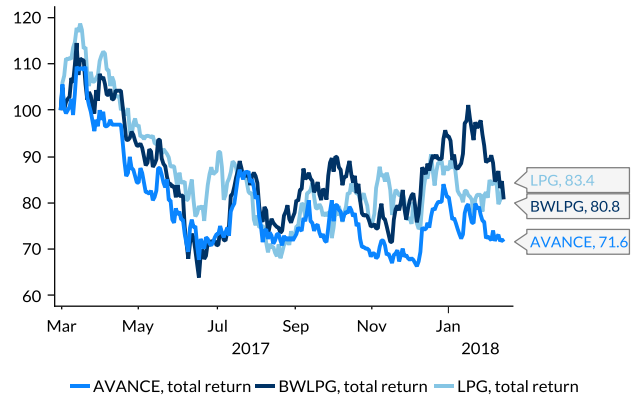
Table 36: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			169.1	467.0	595.0
EV/EBITDA		1,806	10.7x	3.9x	3.0x
EPS adj (USD)			0.03	2.16	3.10
P/E	34.1		127.5x	2.0x	1.4x
DPS			0.00	0.00	2.48
Yield (%)	34.1		0.0%	0.0%	56.6%
Net interest bearing debt			1,179.1	761.8	472.6
NIBD/EBITDA			7.0x	1.6x	0.8x

Source: Kepler Cheuvreux

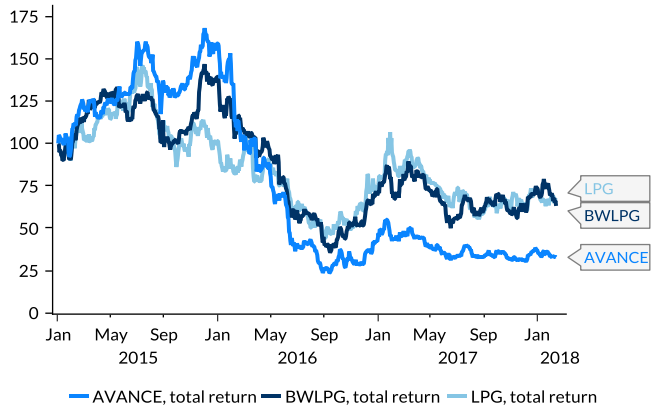
Supplementary figures

Chart 550: LTM share price development LPG peers



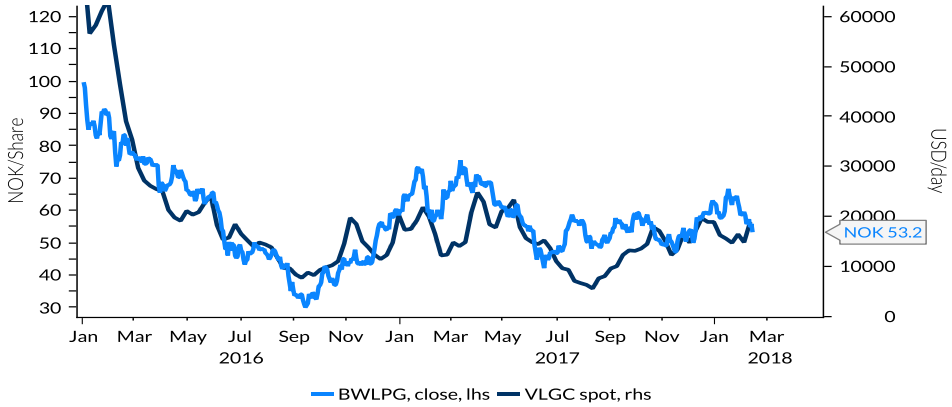
Source: Kepler Cheuvreux

Chart 551: LPG peers share price since Jan 2015



Source: Kepler Cheuvreux

Chart 552: BW LPG share price versus VLGC spot rate



Source: Kepler Cheuvreux

Income statement

Table 37: P&L figures

Income statement (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
TCE revenues	335.4	371.2	648.6	789.8	70.1	79.3	77.2	88.8	109.8
Other income	5.6	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
OPEX incl. SGA	-146.8	-137.6	-137.3	-135.7	-36.8	-38.0	-34.1	-34.2	-34.6
Charter hire expenses	-68.7	-64.5	-44.3	-59.1	-15.4	-15.4	-17.5	-17.7	-15.3
EBITDA	125.5	169.1	467.0	595.0	18.1	25.9	25.5	36.8	59.9
Depreciation	-127.3	-119.4	-116.8	-116.8	-32.7	-30.9	-30.4	-30.4	-29.4
Impairment and value adjustments	5.9	0.0	0.0	0.0	-0.1	-1.4	0.0	0.0	0.0
EBIT	-0.5	0.7	8.2	10.6	0.0	-0.5	-0.2	0.0	0.6
Net financial interest	3.5	50.4	358.4	488.9	-14.8	-6.9	-5.2	6.4	31.1
Other financial items	-46.1	-47.5	-43.3	-38.8	-11.7	-11.2	-12.0	-12.1	-11.8
Profit before tax	-1.6	0.0	0.0	0.0	-0.2	-0.5	0.0	0.0	0.0
Taxes	-44.3	2.9	315.1	450.1	-26.7	-18.6	-17.2	-5.7	19.3
Net profit reported	-0.5	0.0	0.0	0.0	-0.1	-0.4	0.0	0.0	0.0
Net profit adjusted	-44.8	2.9	315.1	450.1	-26.7	-19.0	-17.2	-5.7	19.3
	-49.2	4.9	306.9	439.4	-25.3	-15.4	-15.7	-4.5	18.9
EPS									
EPS adj (USD)	-0.32	0.02	2.22	3.17	-0.19	-0.13	-0.12	-0.04	0.14
DPS	-0.35	0.03	2.16	3.10	-0.18	-0.11	-0.11	-0.03	0.13
# Shares adj. (end)	0.00	0.00	0.00	2.48	0.00	0.00	0.00	0.00	0.00

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 38: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
Cash & cash equivalents	56.5	47.0	341.2	507.3	55.7	56.5	39.7	31.3	42.4
Other current assets	116.4	116.4	116.4	116.4	89.6	116.4	116.4	116.4	116.4
Vessels and newbuildings	2,188.5	2,071.7	1,955.0	1,838.2	2,246.3	2,188.5	2,159.3	2,130.1	2,100.9
Other long-term assets	93.9	91.2	91.2	91.2	58.6	93.9	92.6	91.4	91.2
Total assets	**2,455.3**	**2,326.3**	**2,503.7**	**2,553.0**	**2,450.3**	**2,455.3**	**2,408.1**	**2,369.2**	**2,350.9**
Interest bearing debt	1,341.1	1,222.7	1,099.7	775.1	1,324.6	1,341.1	1,315.1	1,284.3	1,253.5
Refinanced IB debt	0.0	0.0	0.0	201.5	0.0	0.0	0.0	0.0	0.0
Other current liabilities	40.5	40.5	40.5	40.5	35.2	40.5	40.5	40.5	40.5
Other long term liabilities	0.1	0.1	0.1	0.1	2.1	0.1	0.1	0.1	0.1
Shareholder's equity	1,070.3	1,059.6	1,360.1	1,532.5	1,085.4	1,070.3	1,049.1	1,041.0	1,053.4
Minority interest	3.3	3.3	3.3	3.3	3.1	3.3	3.3	3.3	3.3
Total equity and liabilities	**2,455.3**	**2,326.3**	**2,503.7**	**2,553.0**	**2,450.3**	**2,455.3**	**2,408.1**	**2,369.2**	**2,350.9**
Net interest bearing debt	**1,287.9**	**1,179.1**	**761.8**	**472.6**	**1,271.9**	**1,287.9**	**1,278.6**	**1,256.3**	**1,214.5**
Equity ratio (%)	45%	47%	64%	76%	46%	45%	45%	45%	46%

Cash flow (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
Net profit	-44.5	2.9	315.1	450.1	-26.7	-18.7	-17.2	-5.7	19.3
Depreciation, amort. & impairments	127.1	119.4	116.8	116.8	32.7	30.9	30.4	30.4	29.4
Change working capital	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other non-cash items	-10.3	46.8	35.1	28.1	22.5	-5.4	12.2	12.1	11.2
Cash flow from operations	**72.3**	**169.1**	**467.0**	**595.0**	**28.5**	**6.8**	**25.5**	**36.8**	**59.9**
Investment in newbuilding and vessels	-89.2	-12.9	-6.4	-10.5	-5.3	-8.2	-4.2	-2.4	-6.3
Proceeds from sale of vessels	151.6	0.0	0.0	0.0	33.1	36.2	0.0	0.0	0.0
Other investing activities	-37.3	0.0	0.0	0.0	0.2	-37.7	0.0	0.0	0.0
Cash flow from investing	**25.1**	**-12.9**	**-6.4**	**-10.5**	**28.0**	**-9.7**	**-4.2**	**-2.4**	**-6.3**
Repayment of debt	-589.4	-268.4	-123.1	-324.6	-68.9	-38.0	-176.1	-30.8	-30.8
Proceeds from refinanced debt	0.0	0.0	0.0	201.5	0.0	0.0	0.0	0.0	0.0
Proceeds from new debt	519.7	150.0	0.0	0.0	20.0	55.0	150.0	0.0	0.0
Share issue (repurchase)	-1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	-256.6	0.0	0.0	0.0	0.0	0.0
Other	-50.5	-47.5	-43.3	-38.8	-10.7	-13.2	-12.0	-12.1	-11.8
Cash flow from financing	**-121.4**	**-165.9**	**-166.4**	**-418.4**	**-59.7**	**3.7**	**-38.1**	**-42.9**	**-42.6**
Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in cash and cash equivalents	**-24.0**	**-9.6**	**294.2**	**166.1**	**-3.1**	**0.8**	**-16.8**	**-8.4**	**11.0**

Source: Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	288.7	539.2	626.5	406.7	335.4	371.2	648.6	789.8
% Change	na	86.7%	16.2%	-35.1%	-17.5%	10.7%	74.7%	21.8%
EBITDA adjusted	136.2	340.0	430.3	210.1	125.5	169.1	467.0	595.0
EBITDA margin (%)	47.2%	63.1%	68.7%	51.7%	37.4%	45.6%	72.0%	75.3%
EBIT adjusted	131.2	269.0	345.5	53.4	4.0	49.7	350.2	478.2
EBIT margin (%)	45.4%	49.9%	55.2%	13.1%	1.2%	13.4%	54.0%	60.5%
Net financial items & associates	-5.4	-10.2	-16.7	-27.4	-46.1	-47.5	-43.3	-38.8
Others	0.0	-2.4	-2.0	-2.1	-1.6	0.0	0.0	0.0
Tax	0.0	-0.7	-0.7	-0.2	-0.5	0.0	0.0	0.0
Net profit from continuing operations	125.7	255.7	326.1	23.6	-44.2	2.2	306.9	439.4
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	125.7	255.7	326.1	23.6	-44.2	2.2	306.9	439.4
Net profit reported	125.7	255.7	326.1	23.6	-44.2	2.2	306.9	439.4
Net profit adjusted	76.8	261.1	331.0	86.2	-48.6	4.2	298.7	428.8
Cash Flow Statement (USDm)								
Cash flow from operating activities	122.1	381.4	420.5	241.6	72.3	169.1	467.0	595.0
Capex	-429.7	-181.0	-467.3	-229.9	-89.2	-12.9	-6.4	-10.5
Free cash flow	-307.6	200.4	-46.8	11.8	-16.9	156.3	460.6	584.5
Acquisitions & Divestments	6.0	0.0	0.0	43.2	151.6	0.0	0.0	0.0
Dividend paid	0.0	-124.0	-256.5	-104.9	0.0	0.0	0.0	-256.6
Others	-152.4	-36.8	-31.9	-81.6	-89.0	-47.5	-43.3	-38.8
Change in net financial debt	-454.0	39.5	-335.2	-131.6	45.7	108.8	417.3	289.2
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	1,326.5	1,436.3	1,855.5	2,356.6	2,188.5	2,071.7	1,955.0	1,838.2
Financial & other non-current assets	51.0	54.7	53.1	75.9	93.9	91.2	91.2	91.2
Total shareholders' equity	974.7	1,081.0	1,170.7	1,117.4	1,073.5	1,062.9	1,363.4	1,535.8
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	656.7	583.1	939.0	1,476.5	1,381.8	1,263.4	1,140.3	1,017.2
Net financial debt	497.7	459.2	793.2	1,330.3	1,284.6	1,175.8	758.5	469.4
Working capital requirement	96.1	50.7	56.8	15.5	75.9	75.9	75.9	75.9
Invested Capital	1,422.6	1,487.0	1,912.3	2,372.2	2,264.4	2,147.6	2,030.8	1,914.0
Per share data								
EPS adjusted	0.58	1.97	2.46	0.62	-0.34	0.03	2.10	3.02
EPS adj and fully diluted	0.58	1.97	2.46	0.62	-0.34	0.03	2.10	3.02
% Change	na	240.2%	25.2%	-74.8%	-chg	+chg	7052.8%	43.6%
EPS reported	0.95	1.92	2.42	0.17	-0.31	0.02	2.16	3.10
Cash flow per share	0.92	2.87	3.13	1.74	0.51	1.19	3.29	4.19
Book value per share	7.26	8.06	8.63	7.98	7.54	7.47	9.58	10.80
Dividend per share	0.15	1.91	1.46	0.09	0.00	0.00	0.00	2.48
Number of shares, YE (m)	132.88	132.88	136.22	141.94	141.94	141.94	141.94	141.94
Ratios								
ROE (%)	na	25.6%	29.7%	7.6%	-4.5%	0.4%	24.7%	29.6%
ROIC (%)	na	18.5%	20.3%	2.5%	0.2%	2.3%	16.8%	24.2%
Net fin. debt / EBITDA (x)	3.7	1.4	1.8	6.3	10.2	7.0	1.6	0.8
Gearing (%)	51.1%	42.5%	67.8%	119.1%	119.7%	110.6%	55.6%	30.6%
Valuation								
P/E adjusted	15.1	5.9	3.1	7.0	na	146.6	2.0	1.4
P/E adjusted and fully diluted	15.1	5.9	3.1	7.0	na	146.6	2.0	1.4
P/BV	1.2	1.4	0.9	0.5	0.6	0.6	0.5	0.4
P/CF	9.5	4.1	2.4	2.5	8.5	3.6	1.3	1.0
Dividend yield (%)	1.7%	16.4%	19.2%	2.1%	0.0%	0.0%	0.0%	57.4%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	na	na	na	na	na	na	na	na
EV/Sales	5.7	3.7	2.9	4.8	5.7	4.8	2.1	1.4
EV/EBITDA	12.2	5.9	4.3	9.2	15.1	10.6	2.9	1.8
EV/EBIT	12.6	7.5	5.3	36.4	na	36.0	3.9	2.3

Concordia Maritime

Sweden | Transport | Mcap SEK 546.5m

02 March 2018

Hold (Not Rated)

Target Price	**SEK 12.50**
Current Price	SEK 11.45
Up/downside	9.2%
Change in TP	none
Change in EPS	none 16E / none 17E

Undemanding valuation in a demanding market

2018 is likely to be another difficult year for crude tankers. Fleet growth remains too strong, and we expect little improvement in 2019. However, we do see strong light at the end of the tunnel with medium range (MR) tanker spot rates at USD21,000 per day, and fleet utilisation in the high 90% range in 2020E, in large part due to the impact of the reduced cap on sulphur emissions from fuel oil burnt at sea, which will reduce vessel speed and induce more trade for tankers. That said, the equity market will likely be sceptical of high profits in 2020E if it sees spot rates just above opex in 2018-19, which makes us pessimistic on tanker stocks over the next year. We thus initiate coverage on Concordia with a Hold rating, despite its current discount to NAV.

Niche player in the product tanker segment

Concordia Maritime is a product tanker company listed on the Stockholm Stock Exchange (exchange ticker: CCOR). It currently owns and operates a fleet of 19 vessels (13 owned or leased vessels and six vessels on medium- or short-term time charter). Of these, it owns ten PMAX vessels, which have 30% greater carrying capacity than traditional MRs (65,000 DWT versus typically 50,000 DWT).

We expect continued weak rates due to high fleet growth

In our view, 2017 was a difficult year in the crude tanker market, and we expect more of the same in 2018, despite our belief in continued growth in US crude exports and an end to the reduction of floating storage. Fleet growth remains too strong, and H1 2019E could also be a disappointing six months with spot rates at, or below, cash breakeven levels.

Short-term worries offset by attractive long-term valuation

Despite short-term worries, we see light at the end of the tunnel, with fleet utilisation in the high 90% range in 2020E. Valuation in the tanker segment is attractive against a backdrop of very low asset values. Concordia currently trades at a P/NAV of 0.64x, against historically low MR values.

Hold rating, as the recovery is not yet here

We estimate a current NAV for Concordia of SEK18.6, and given our vessel forecasts, we expect only a minor decrease to SEK18.1 in our base-case scenario. Overall, we see little upside in Concordia's valuation on a short-term basis, with short-term risks offsetting the long-term gains. In addition, we expect tankers to remain at a discounted valuation, as we fear liquidity risk could become a topic if rates remain at opex levels for a long time.

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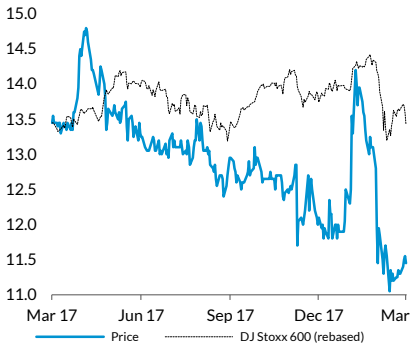
Market data

Bloomberg: CCORB SS	Reuters: CCORb.ST
Market cap (SEKm)	547
Free float	50%
No. of shares outstanding (m)	48
Avg. daily volume (SEKm)	0.4
YTD abs performance	-8.4%
52-week high/low (SEK)	14.80/11.05

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (bn)	0.9	0.8	1.1
EBITDA adj (m)	70.7	131.8	450.9
EBIT adj (m)	-94.6	-33.4	285.6
Net profit adj (m)	-152.7	-84.4	241.8
Net fin. debt (m)	1,180.4	1,123.4	893.6
FCF (m)	12.6	80.9	407.0
EPS adj. and fully dil.	-3.20	-1.77	5.07
Net dividend	0.50	0.50	4.05

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	na	na	0.3
EV/EBITDA	17.6	9.0	2.1
EV/EBIT	na	na	3.4
FCF yield	19.1%	122.6%	617.2%
Dividend yield	36.2%	36.2%	293.3%
Net fin.debt/EBITDA	16.7	8.5	2.0
Gearing	148.9%	209.3%	142.6%
ROIC	-4.1%	-1.7%	16.8%
EV/IC	0.6	0.7	0.6



Investment summary

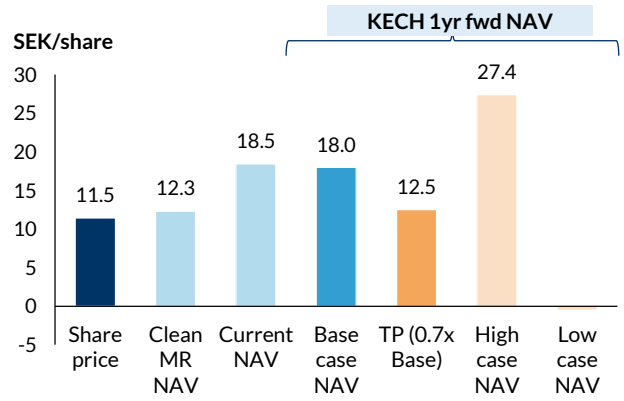
Concordia Maritime is a product tanker company listed on the Stockholm Stock Exchange (official ticker: CCOR). The company currently owns and operates a fleet of 19 vessels (13 owned/leased vessels and 6 vessels on medium/short-term time charters). Of these ten vessels are PMAXs, which have 30% higher carrying capacity than a traditional MR (65,000 DWT versus typically 50,000 DWT).

In our view, 2017 was a difficult year in the tanker market, and we expect more of the same in 2018, despite our belief in continued growth in US crude exports and an end to the reduction of floating storage. Fleet growth simply remains too strong, and H1 2019 could also be a disappointing six months with spot rates at, or below, cash breakeven levels. That said, we see (some) light at the end of the tunnel, with fleet utilisation in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive on a long-term basis, against very low asset values in both the crude and product tanker segments.

Concretely, we expect standard MR rates of USD12,100 per day for 2018, USD13,500 per day for 2019, and USD20,400 per day for 2020. Until 2020E, we prefer companies that preserve cash in what we expect to be a choppy tanker market. With Concordia's relatively high debt amortisation level, we feel that the short-term risks offset the attractive long-term potential.

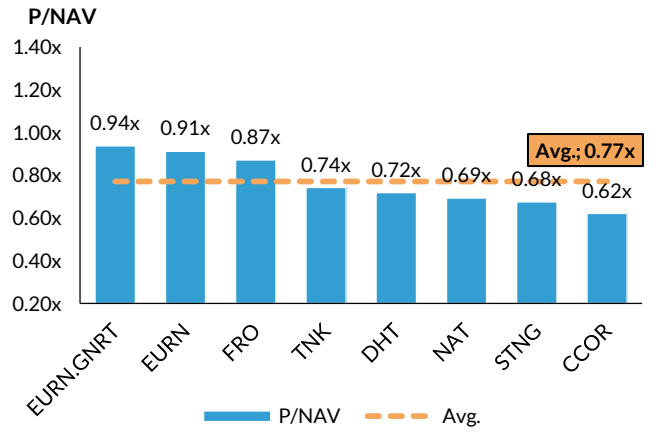
We estimate a current NAV for Concordia of SEK18.6, and given our vessel forecasts, we expect only a minor decrease to SEK18.1 in our base-case scenario. Currently, the company trades at a 30-35% discount to our NAV valuation, and the current share price level is equal to valuation when treating the PMAXs as standard MR vessels. Overall, we see little upside in Concordia's valuation on a short-term basis, with short-term risks offsetting long-term gains. In addition, we expect tankers to remain at a discounted valuation, as we fear liquidity risk could become an issue if rates remain at opex for a prolonged period of time.

Chart 553: Concordia's target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 554: Tanker peer group P/NAV



Source: Kepler Cheuvreux

Concordia in brief

A niche player in the product tanker segment

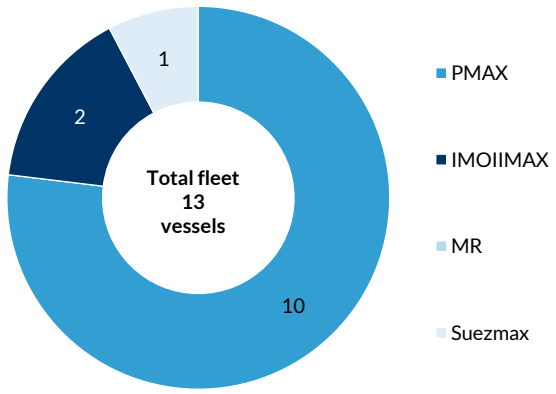
Concordia Maritime is a product tanker company with a long history in the shipping industry. Its B-shares were listed on the Stockholm Stock Exchange in 1984 (ticker: CCOR). Concordia has close links to the Stena Sphere, and 48% of outstanding shares are owned by Stena Sessan Rederi.

Concordia currently owns and operates a fleet of 19 vessels (13 owned/leased vessels and six vessels on medium/short-term time charters). The fully-owned fleet consists of ten non-standard PMAX vessels, which have 30% higher carrying capacity than a traditional MR (65,000 DWT versus typically 50,000 DWT). All PMAXs are built at the Brodosplit shipyard in Croatia. In addition to the vessels it owns, Concordia has two leased-in IMOIIMAX vessels from 2024-26, one of which is accounted for as an operating lease (Stena Image) and the other as a financial lease (Stena Important). The Suezmax Stena Supreme is also on an operational lease until 2028. The PMAX vessels were all built before 2010, and the average fleet age for Concordia's owned vessels is seven years (value weighted).

On top of its longer-term leases and owned vessels, Concordia has six standard MR vessels on medium/short-term time charter contracts that range from one to three years in length. Several of the charter agreements have extension options, and Concordia will receive 50% of the revenues/costs.

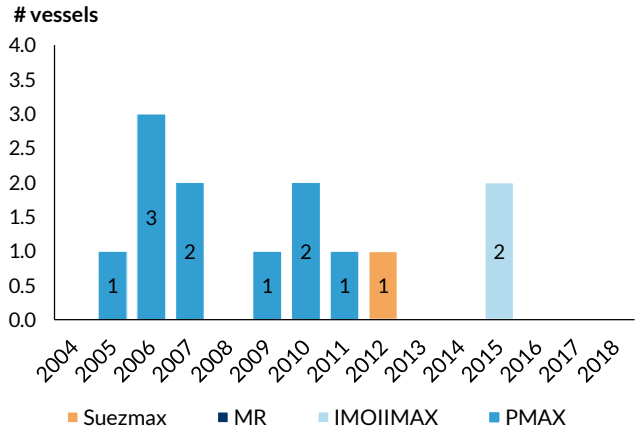
Concordia's three leased-in vessels (Image, Important, Supreme) were sold and leased back in October 2016 and March 2017. The IMOIIMAXs were sold for USD36-37m each, while the Suezmax was sold for USD22m. The Stena Important IMOIIMAX has a purchase obligation attached to the lease, and we treat this vessel as owned in our NAV valuation.

Chart 555: Core fleet overview (owned & leased vessels only)



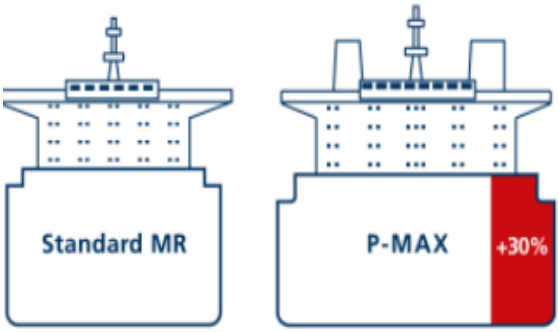
Source: Company data and Kepler Cheuvreux

Chart 556: Fleet by build year



Source: Company data and Kepler Cheuvreux

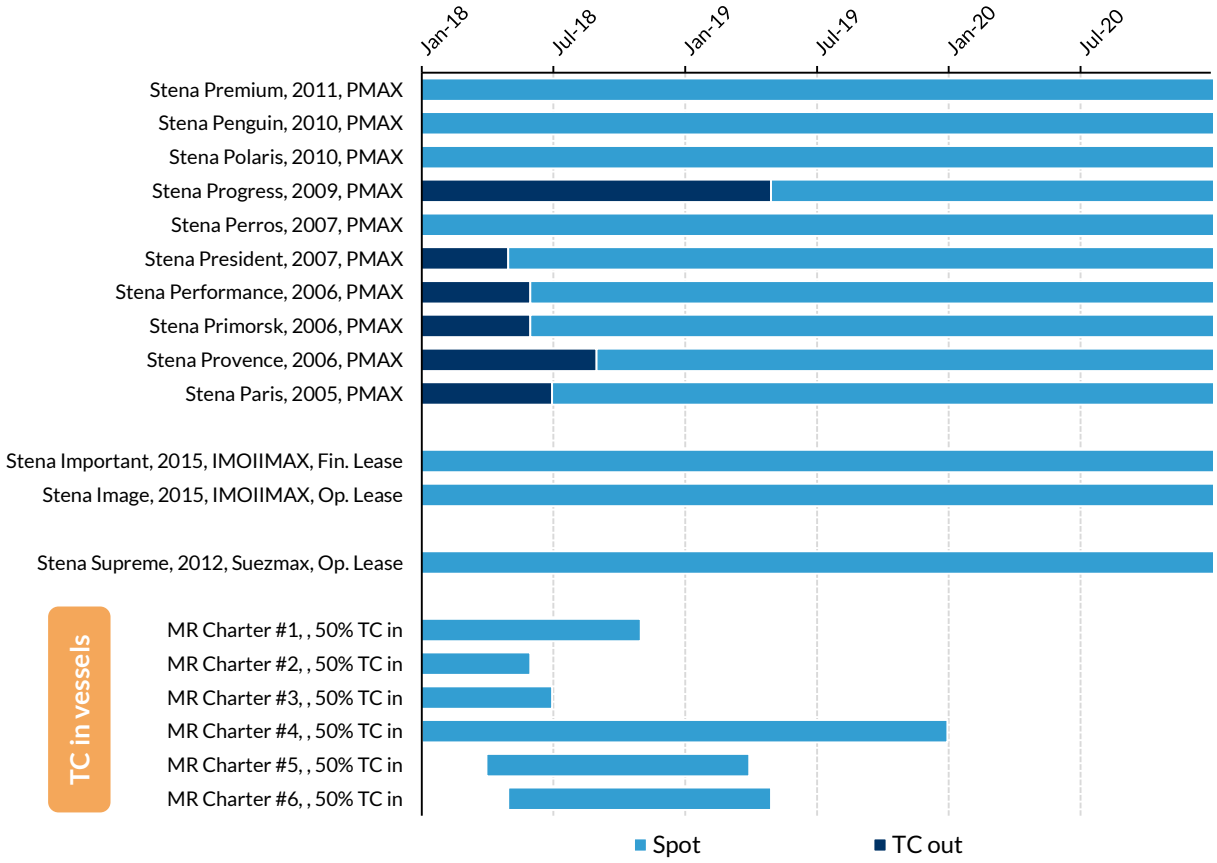
Chart 557: The PMAX vessels have 30% more carrying capacity than traditional MRs



Source: Concordia Maritime, Kepler Cheuvreux

Concordia pursues a strategy of securing niche contracts for its PMAX vessels and guides for an earnings premium of USD2,000 per day relative to standard MR rates. As of Q4 2017, six of the PMAX vessels are secured on fixed income time charter contracts, while the remain5der trade in spot pools. Overall, we estimate that c. 20% of Concordia's available days are on fixed income contracts for 2018.

Chart 558: Employment schedule for Concordia Maritime



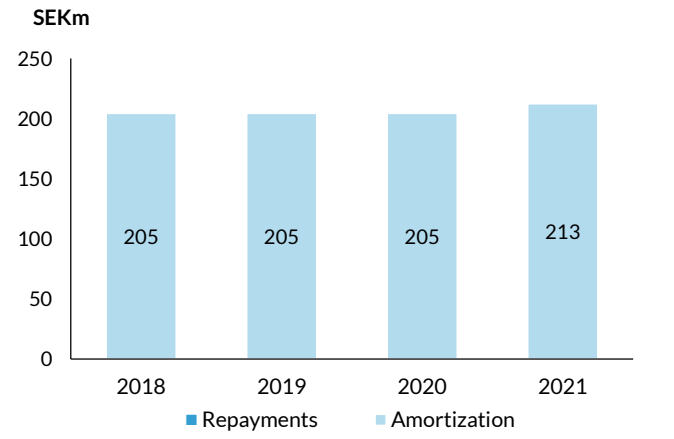
5ource: Company data and Kepler Cheuvreux

Fully refinanced fleet in 2016/17

Concordia's entire core fleet is fully-refinanced as of 2017. In November 2016, the company signed a USD189m refinancing agreement (originally due in June 2017) for its existing PMAX facility. The current outstanding amount under this facility is SEK1.3bn, and annual repayments amount to c. SEK200m. In addition, Concordia refinanced all of its IMOIIMAX and Suezmax vessels through sale & leaseback arrangements in October 2016 and March 2017. To our knowledge, both IMOIIMAX vessels were leased-back at rates above the current time charter rates for standard MR vessels. The IMOIIMAX Stena Important is accounted as a financial lease with c. SEK280m outstanding as of Q4 2017. For short-term liquidity purposes, Concordia also has a SEK90m revolving credit facility, which remains undrawn as of Q4 2017.

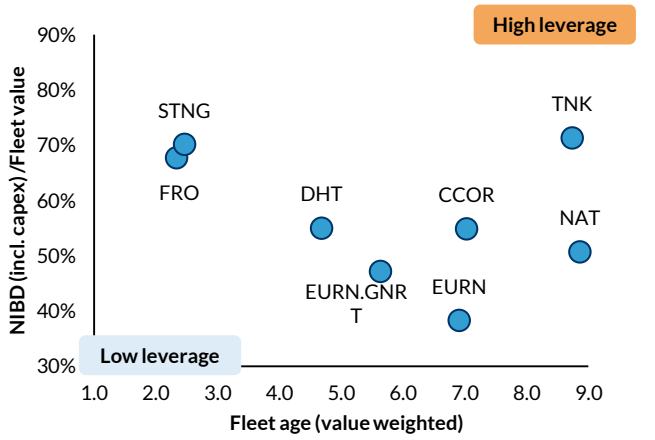
We estimate a net leverage ratio of 55% for Concordia, relative to current fleet values. This is moderate compared to its tanker peers, but is offset by higher operational leverage through an older fleet.

Chart 559: Concordia's debt repayment schedule



Source: Kepler Cheuvreux

Chart 560: Leverage ratio versus fleet age for tanker peers



Source: Kepler Cheuvreux

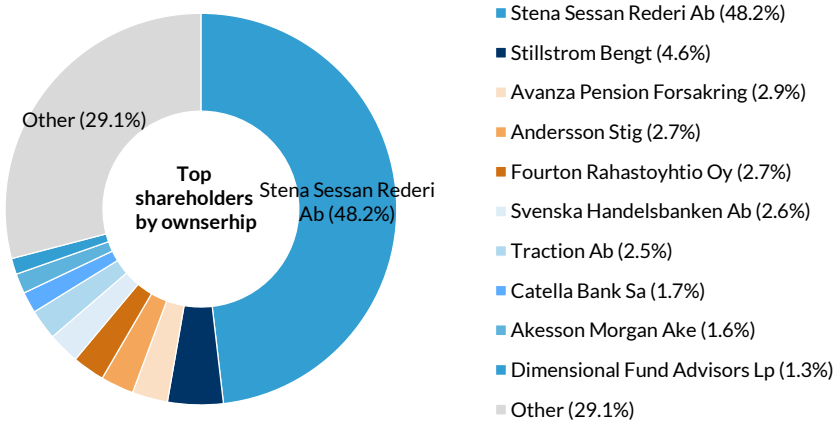
Management and shareholder structure:

Concordia's executive management consists of the following people:

- **Kim Ullman (CEO):** has been CEO of Concordia since 2014 and has previous experience from the Stena Sphere, where he worked since 1983. He is also Director of Stena Weco and Stena Sonangol Suezmax Pool and is a member of the Swedish Shipowner's Association, Bulk and Tanker section.
- **Ola Helgesson (CFO):** has been CFO of Concordia since 2014. He has previous experience at the Stena Sphere, where he has worked since 2011.

Concordia has close relationships with the Stena Sphere, which currently owns 48% of the outstanding shares.

Chart 561: Shareholder structure



Source: Company data and Kepler Cheuvreux

Deconstructing the forecast

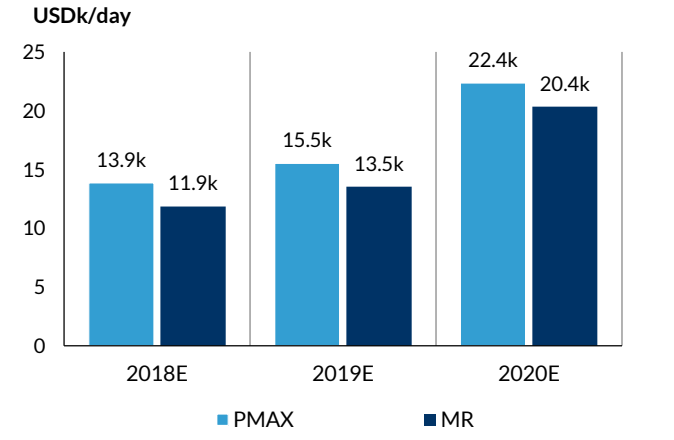
Tanker market: high supply growth could extend rate weakness...

2017 was a difficult year in the crude tanker market, and we expect more of the same in 2018, despite our belief in continued growth in US crude exports and an end to the reduction of floating storage. Fleet growth remains too strong, and H1 2019 could also be a disappointing six months with spot rates at, or below, cash breakeven levels.

That said, we do see some light at the end of the tunnel with VLCC spot rates at USD66,500 per day and fleet utilisation in the high 90% range in 2020E. The main reason for this optimism, apart from much lower fleet growth, is the reduced cap on sulphur emissions from the use of fuel oil at sea which we think will: 1) lower the speed of the fleet; 2) cause a lot more trade, in both different crude qualities and dirty oil products; and 3) increase the use of floating storage for fuel oil, which we believe will be problematic to reduce (see sector part for more about the LPG shipping market).

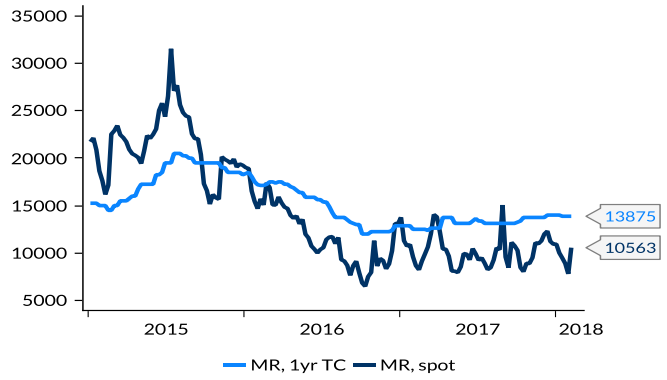
For product tankers, we model standard MR rates of USD12,000 per day for 2018E, USD13,500 per day for 2019E, and USD20,400 per day for 2020E. For Concordia's PMAX vessels, we assume a rate premium of USD2,000 per day.

Chart 562: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

Chart 563: Clarkson's MR rate (spot and one-year time charter)



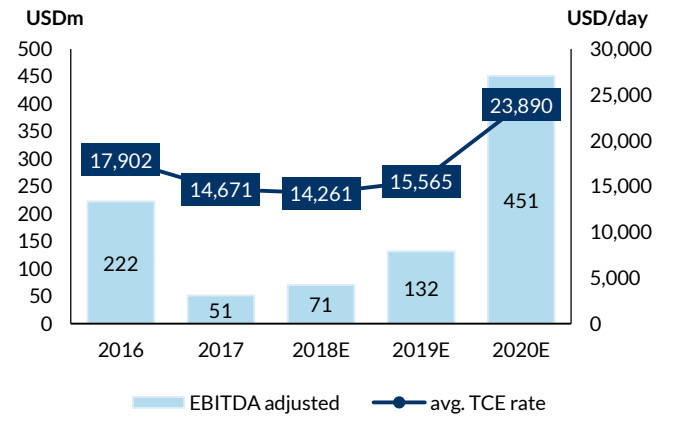
Source: Clarksons, Kepler Cheuvreux

...which means we expect 2018-19 to be tough for Concordia

With product tanker rates set to be depressed for another two years, we see little upside in Concordia's EBITDA on a short-term basis. Specifically, we forecast EBITDA of SEK71m in 2018 and SEK132m in 2019, versus SEK51m in 2017. The increase in 2018E is due to more chartered-in vessel days, and not necessarily better margins. However, for 2019E we pencil in a moderate improvement in EBITDA margins thanks to improved spot rates and the positive effect from chartered vessels that are returned from contracts. Note that on our estimates, the impacts from the MR charters are slightly negative for 2018-19E, as we forecast low product tanker spot rates.

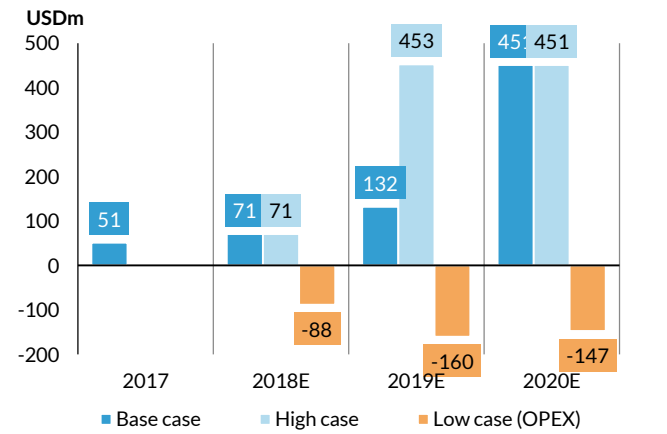
On an overall basis, our rate forecasts for 2018-19 imply continued low earnings for Concordia. However, on a longer-term basis we do see the light at the end of the tunnel in the product tankers market, with 2020E EBITDA at SEK450m.

Chart 564: Kepler Cheuvreux versus consensus EBITDA forecasts



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 565: Scenario EBITDA (KECH estimate)



Source: Bloomberg consensus, Kepler Cheuvreux

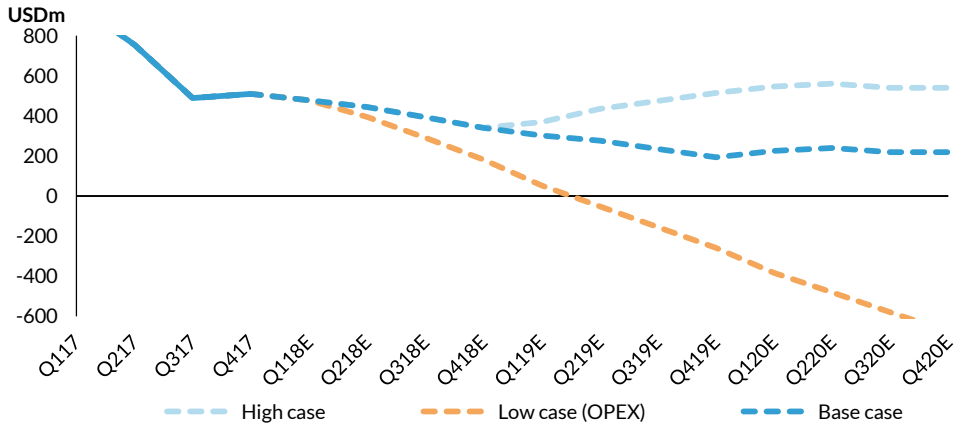
Of course, Concordia looks very attractive in a long-term recovery scenario. In our high-case scenario, we pencil in a rate improvement in 2019E. On a valuation basis, this indicates EV/EBITDA of c. 4x 2019E in our high case, versus 17x on base-case estimates.

In our view, the high supply growth in the tanker market could extend the current rate weakness longer than consensus currently implies. Although we expect the tanker market to eventually turn around in 2020 (and more dramatically than consensus believes), we believe the short-term outlook will remain negative.

With annual debt repayments of c. SEK200m, it is clear that our base-case forecasts imply a significant cash burn for Concordia in 2018-19E. However, with estimated available liquidity of SEK510m as of Q4 2017, Concordia should be able to stand through moderate rate weakness in 2018-19E.

As for other oil tankers, we are worried that a scenario with freight rates down at opex levels will turn the focus for 2018 towards liquidity risk in oil tanker balance sheets. Our stress-test analysis for Concordia illustrates that the company has available liquidity until 2019 in an opex scenario (assuming USD6,500 per day MR rates).

Chart 566: Scenario analysis for Concordia's available liquidity (incl. RCF)



Source: Company data and Kepler Cheuvreux

Deconstructing the forecasts

In the table below, we outline our key estimates and assumptions for Concordia for 2017-20. Overall, we expect two tough years on the back of continued weak freight rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of this company segment.

Operating revenues: Note that Concordia reports gross operating revenues for spot vessels. However, we model the development in revenues based on a traditional TCE methodology, using available days and freight rate development.

- **Available days** for Concordia will increase in 2018E with six chartered MR vessels. However, as several of these vessels will be returned in 2019-20E,

the day count will come down again to the core-fleet (owned and leased vessels), which accounts for about 4,750 days per year.

- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for Concordia to drop to USD14,200 per day in 2018. The decline is not really a reflection of lower market freight rates, but instead a mix-effect, as the MR tanker has lower achieved rates than the Suezmax. In fact, the underlying development of Concordia's TCE rates for product tankers is flat in 2018E due to contract coverage offsetting weak spot rates. For 2020E, we pencil in an increase in overall TCE rates on the back of higher underlying spot rates in the product and crude tanker market.

Operating costs and SGA: As with Concordia's revenues, operating costs are reported on a gross basis and also include charter hire expenses. We assume an opex-level equivalent to USD6,500 per day for standard MR vessels and USD1,300 per day in SGA. The leased-in IMOIIMAXs are assumed to be bareboat charters, above the current time charter contracts for standard MR vessels. The six MR time-charters are more or less neutral to the current time charter market, by our estimates.

EBITDA: We expect adjusted EBITDA of SEK70m in 2018, SEK130m in 2019, and SEK450m in 2020.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume average interest rates of about 3.5% on Concordia's secured bank facilities.

Tax: We do not expect Concordia to pay tax over our forecast period.

DPS: Currently, Concordia does not pay annual dividends of SEK0.5 per share. We have included the same dividend payment for 2018-19E, but in 2020E we include an 80% payout ratio.

Table 39: Key financials

Key financials (SEKm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:									
Operating revenues	**827.5**	**856.2**	**834.0**	**1,103.1**	**211.1**	**197.7**	**193.8**	**201.7**	**237.8**
Operating costs incl. charter hire	-718.2	-725.5	-647.4	-600.7	-187.6	-181.4	-168.9	-175.9	-190.0
SGA	-58.1	-60.0	-54.7	-51.6	-13.5	-14.5	-14.9	-14.6	-15.6
EBITDA adjusted	51.2	70.7	131.8	450.9	10.0	1.8	10.0	11.2	32.2
Depreciation	-675.8	-165.3	-165.3	-165.3	-55.4	-523.7	-43.0	-41.3	-41.3
Net financial items	-35.6	-58.1	-51.0	-43.8	1.5	-11.2	-9.1	-15.2	-14.8
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	**-660.3**	**-152.7**	**-84.4**	**241.8**	**-43.9**	**-533.1**	**-42.1**	**-45.3**	**-23.9**
Net profit adjusted	-186.6	-152.7	-84.4	241.8	-43.9	-59.4	-42.1	-45.3	-23.9
EPS adj (SEK)	**-3.91**	**-3.20**	**-1.77**	**5.07**	**-0.92**	**-1.24**	**-0.88**	**-0.95**	**-0.50**
DPS	**0.50**	**0.50**	**0.50**	**4.05**	**0.00**	**0.00**	**0.50**	**0.00**	**0.00**
Operating assumptions:									
Avg. TCE rate ($/day)	14,671	14,261	15,565	23,890	14,151	14,364	14,313	13,672	15,627
Avg. EBITDA margin ($/day)	1,214	1,575	3,233	11,811	949	172	922	1,035	2,795
Total vessel days (available)	4,960	5,551	5,063	4,774	1,198	1,288	1,304	1,350	1,441
TC Coverage (% all available days)	23%	22%	2%	0%	15%	24%	35%	40%	29%
Selected balance sheet items:									
Cash and cash equivalents	243.7	27.9	-119.6	-94.3	186.7	350.7	243.7	164.7	131.0
Deposits	222.8	222.8	222.8	222.8	402.4	196.3	222.8	222.8	222.8
Total interest bearing debt	1,635.6	1,431.1	1,226.6	1,022.1	1,808.6	1,702.3	1,635.6	1,584.5	1,533.4
Net interest bearing debt	**1,169.1**	**1,180.4**	**1,123.4**	**893.6**	**1,219.5**	**1,155.2**	**1,169.1**	**1,197.0**	**1,179.5**
Leverage ratio (%)	49%	60%	68%	59%	40%	48%	49%	54%	55%
Selected cash flow items:									
Operating cash flow	45.9	12.6	80.9	407.0	26.5	24.2	-3.2	-4.0	17.5
Investing cash flow	268.6	0.0	0.0	0.0	-134.3	195.2	-41.6	0.0	0.0
Financing cash flow	-442.0	-228.4	-228.4	-381.8	192.3	-36.0	-68.7	-75.0	-51.1
Change in cash	**-162.6**	**-215.8**	**-147.5**	**25.3**	**68.7**	**164.0**	**-107.0**	**-79.0**	**-33.7**

Source: Company data and Kepler Cheuvreux

Valuation

Continued rates weakness should keep asset values depressed...

Our preferred valuation method for Concordia is an equity net-asset-value (NAV) valuation based on estimated fleet values for product tankers less net interest bearing debt and other commitments for the company. Our vessel valuations use Clarkson's quote for second-hand vessels as the current benchmark valuation. In our target valuation, we forecast changes in vessel values based on our freight rate estimates (see sector part for more details).

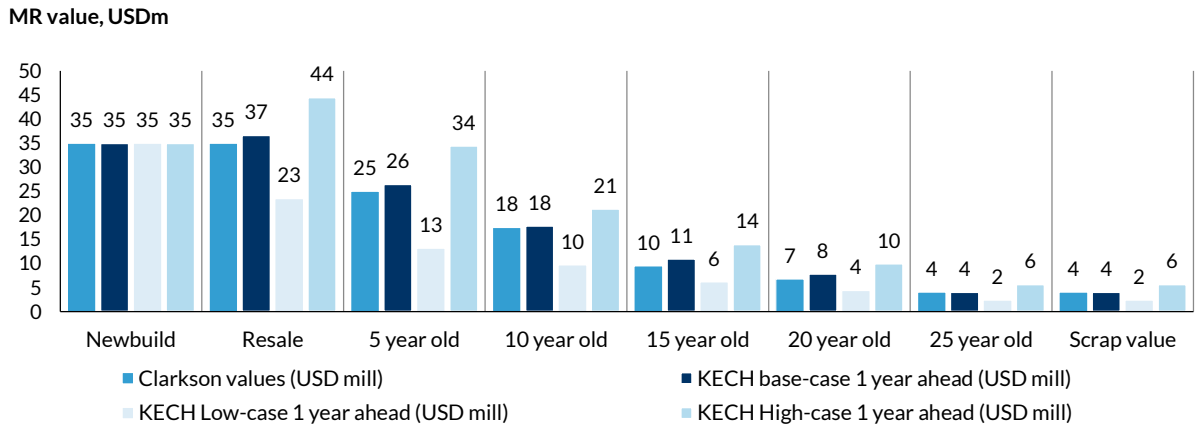
As Concordia's PMAXs are significantly larger (+30% DWT) than a standard MR vessel, we argue that a premium relative to Clarkson's values should be included in Concordia's valuation. Based on additional earnings of USD2,000 per day for PMAXs, we estimate an additional USD5m for a ten-year-old vessel (DCF: 10%). Relative to current quotes of USD16.5m for an equivalent ten-year-old MR, we see a maximum premium of 30-35% for the PMAXs (equal to the size difference). Generally, there is a quantum discount on larger vessels, given the greater flexibility of smaller cargo sizes; hence, we believe that the premium should be somewhat

lower than the full 30%. In our model, we give PMAXs a 20% premium to standard MR vessels. IMOIIMAXs are treated like a standard MR.

When we use our rate forecast for product tankers, we estimate flat development in MR values over the coming year. In our view, continued low freight rates will put pressure on valuations.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value-curve, according to the age of the vessel.

Chart 567: Kepler Cheuvreux vessel valuations for product tank (MR) vessels in different scenarios (Newbuild)



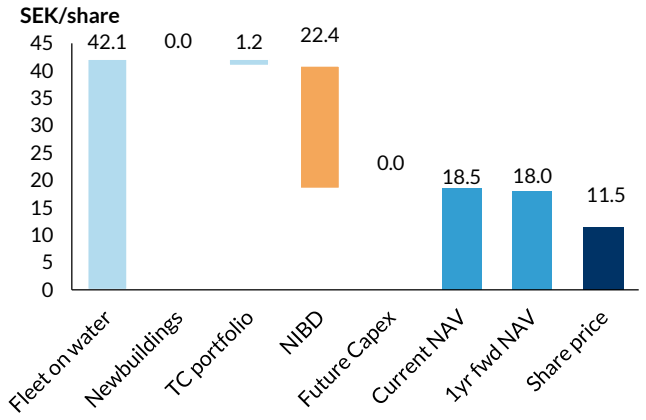
Source: Kepler Cheuvreux

...so we see little upside to Concordia's NAV for 2018E (SEK17.5)

We estimate a current NAV for Concordia of SEK18.6, and given our vessel forecasts, we expect only a minor increase to SEK18.1 in our base-case scenario. Currently, the company trades at a 30-35% discount to our NAV valuation, and the current share price is equal to valuation when treating the PMAXs as standard MR vessels.

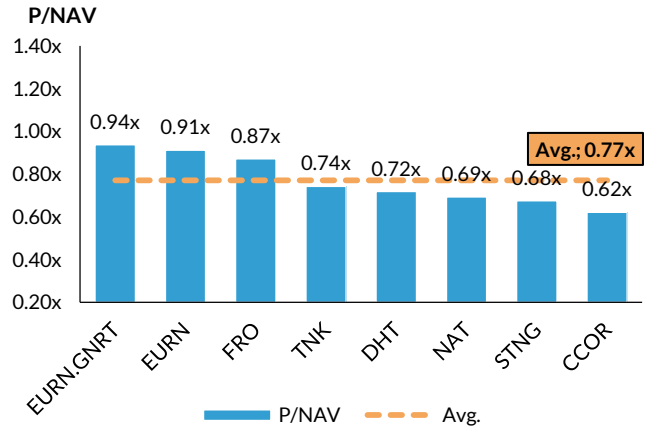
Overall, we see little upside in Concordia's valuation on a short-term basis, as we forecast continued weak momentum in values on the back of low rates. In addition, we expect tankers to remain at a discounted valuation for the beginning of 2018, as we fear liquidity risk could become a concern if rates remain at opex for a prolonged period of time.

Chart 568: Valuation bridge for Concordia's NAV



Source: Kepler Cheuvreux

Chart 569: Current P/NAV for tanker peers



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for crude tankers less net interest bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value Concordias's fleet at USD244m on current Clarkson's values, including a 20% premium on PMAX vessels. The mark-to-market (MTM) value of –USD7m includes the operating leases for one IMOIIMAX vessel and one Suezmax, in addition to the six short-term MR charters. In our one-year forward estimates, we include the cash flow generated from vessels over the coming months and adjust fleet values for vessels that are one or more years old.
- **Net interest bearing debt and other commitments:** All NIBD estimates and balance sheet items are calculated relative to Concordia's latest quarterly report, the Q4 2017 report. We make no other adjustments outside balance sheet items in Concordia.

Table 40: Net asset value breakdown

NAV (USDm)	# vessels	Age (avg.)	Current NAV MR	Current NAV Premium	One-year forward NAV Base	One-year forward NAV Low	One-year forward NAV High
Fleet:							
PMAX	10	9.4	178	213	204	110	251
IMOIIMAX	1	2.3	31	31	30	17	38
Fleet on water	*11*	*7.0*	*208*	*244*	*234*	*127*	*289*
Newbuildings	*0*	*0.0*	*0*	*0*	*0*	*0*	*0*
Total fleet value (USDm)	**11**	**7.0**	**208**	**244**	**234**	**127**	**289**
MTM contract portfolio			-7	-7	0	0	0
Discounted cash-flow 1yr					0	-2	0
GAV (USDm)			**201**	**237**	**234**	**127**	**288**
NIBD & other commitments (rel. last quarterly report)							
Cash and cash equivalents			56	56	56	56	56
Bank debt			-197	-197	-197	-197	-197
Net working capital			11	11	11	11	11
Other adjustments			0	0	0	0	0
Future capex			0	0	0	0	0
NIBD & other commitments			**-130**	**-130**	**-130**	**-130**	**-130**
NAV (USDm)			**71**	**107**	**104**	**-3**	**159**
# shares (fully delivered)			47.7	47.7	47.7	47.7	47.7
NAV/share (SEK)			**12.4**	**18.6**	**18.1**	**-0.5**	**27.6**
Share price (SEK)			11.5	11.5	11.5	11.5	11.5
P/NAV			**0.93x**	**0.62x**	**0.64x**	**-21.41x**	**0.42x**
EV (USDm)			196	196	196	196	196
EV/GAV			**0.98x**	**0.83x**	**0.84x**	**1.55x**	**0.68x**

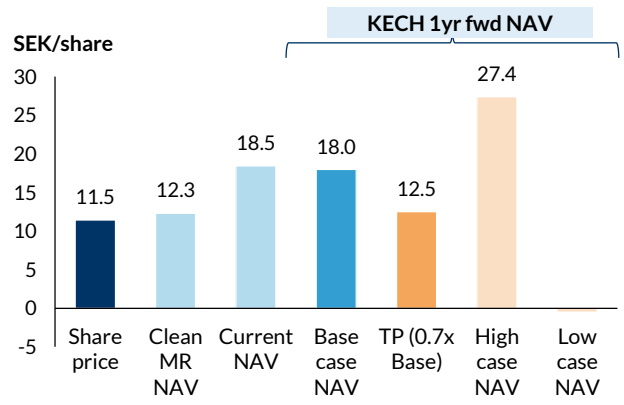
Source: Kepler Cheuvreux

We initiate coverage of Concordia with a Hold rating, TP SEK12.5

In conclusion, we fear that continued weakness in the tanker market will keep Concordia's valuation at low levels in 2018E. Although we think that Concordia's long-term valuation is highly attractive in a recovery scenario, we believe that short-term risks offset the long-term potential. We therefore initiate coverage with a Hold rating and a target price of SEK12.5 (0.7x base NAV). We believe investors should remain cautious on the tanker market until we see more signs of a market recovery.

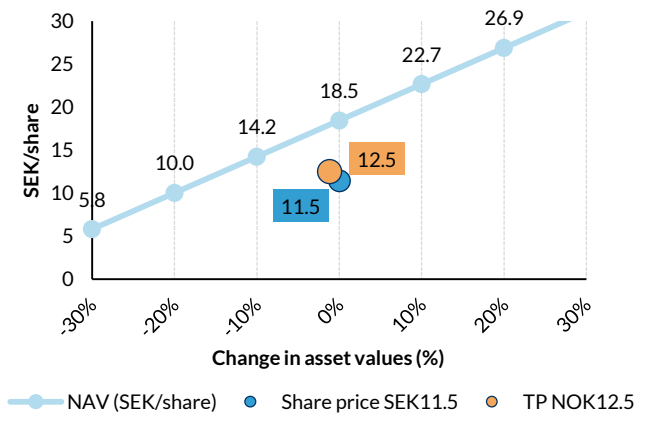
The chart on the next page illustrates our scenario valuation for Concordia, including the sensitivity of NAV to changes in asset values. As a rule of thumb, a 10% increase in asset values equals a SEK4.0 per share increase.

Chart 570: Kepler Cheuvreux's scenario valuation for Concordia



Source: Kepler Cheuvreux

Chart 571: Change in NAV versus change in asset values



Source: Kepler Cheuvreux

Table 41: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			70.7	131.8	450.9
EV/EBITDA		**1,617**	**23.0x**	**12.3x**	**3.6x**
EPS adj (SEK)			-3.20	-1.77	5.07
P/E	**11.5**		**-3.6x**	**-6.5x**	**2.3x**
DPS			0.50	0.50	4.05
Yield (%)	**11.5**		**4.4%**	**4.4%**	**35.4%**
Net interest bearing debt			1,180.4	1,123.4	893.6
NIBD/EBITDA			**16.7x**	**8.5x**	**2.0x**

Source: Kepler Cheuvreux

Supplementary figures

Income statement

Table 42: P&L figures

Income statement (SEKm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Operating revenues	**827.5**	**856.2**	**834.0**	**1,103.1**	**211.1**	**197.7**	**193.8**	**201.7**	**237.8**
Operating costs incl. charter hire	-718.2	-725.5	-647.4	-600.7	-187.6	-181.4	-168.9	-175.9	-190.0
5	-58.1	-60.0	-54.7	-51.6	-13.5	-14.5	-14.9	-14.6	-15.6
Depreciation	-675.8	-165.3	-165.3	-165.3	-55.4	-523.7	-43.0	-41.3	-41.3
Operating profit	**-624.7**	**-94.6**	**-33.4**	**285.6**	**-45.4**	**-521.9**	**-33.0**	**-30.1**	**-9.1**
Net financial interest	-35.6	-58.1	-51.0	-43.8	1.5	-11.2	-9.1	-15.2	-14.8
Other financial items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	**-660.3**	**-152.7**	**-84.4**	**241.8**	**-43.9**	**-533.1**	**-42.1**	**-45.3**	**-23.9**
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	**-660.3**	**-152.7**	**-84.4**	**241.8**	**-43.9**	**-533.1**	**-42.1**	**-45.3**	**-23.9**
Net profit adjusted	**-186.6**	**-152.7**	**-84.4**	**241.8**	**-43.9**	**-59.4**	**-42.1**	**-45.3**	**-23.9**
EBITDA	**51.2**	**70.7**	**131.8**	**450.9**	**10.0**	**1.8**	**10.0**	**11.2**	**32.2**
adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA adjusted	51.2	70.7	131.8	450.9	10.0	1.8	10.0	11.2	32.2
EPS	**-13.83**	**-3.20**	**-1.77**	**5.07**	**-0.92**	**-11.17**	**-0.88**	**-0.95**	**-0.50**
EPS adj (SEK)	**-3.91**	**-3.20**	**-1.77**	**5.07**	**-0.92**	**-1.24**	**-0.88**	**-0.95**	**-0.50**
DPS	**0.50**	**0.50**	**0.50**	**4.05**	**0.00**	**0.00**	**0.50**	**0.00**	**0.00**
# Shares adj. (end)	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7	47.7

Source: Company data and Kepler Cheuvreux

Balance sheet and cash flow

Table 43: Balance sheet and cash flow

Balance sheet (SEKm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	243.7	27.9	-119.6	-94.3	186.7	350.7	243.7	164.7	131.0
Deposits	222.8	222.8	222.8	222.8	402.4	196.3	222.8	222.8	222.8
Other current assets	196.2	27.9	-119.6	-94.3	261.4	201.4	196.2	164.7	131.0
Vessels and newbuildings	2,305.7	2,051.7	1,886.5	1,721.2	2,892.1	2,319.5	2,305.7	2,175.7	2,134.4
Other long-term assets	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Total assets	**2,968.5**	**2,330.5**	**1,870.2**	**1,755.5**	**3,742.7**	**3,068.1**	**2,968.5**	**2,728.0**	**2,619.4**
Interest bearing debt	1,635.6	1,431.1	1,226.6	1,022.1	1,808.6	1,702.3	1,635.6	1,584.5	1,533.4
Refinanced IB debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other liabilities	111.0	106.8	106.8	106.8	106.7	106.8	106.8	106.8	106.8
Shareholder's equity	1,221.9	792.6	536.8	626.6	1,827.4	1,259.0	1,221.9	1,036.7	979.2
Total equity and liabilities	**2,968.5**	**2,330.5**	**1,870.2**	**1,755.5**	**3,742.7**	**3,068.1**	**2,964.3**	**2,728.0**	**2,619.4**
Net interest bearing debt	**1,169.1**	**1,180.4**	**1,123.4**	**893.6**	**1,219.5**	**1,155.2**	**1,169.1**	**1,197.0**	**1,179.5**
Equity ratio (%)	51%	40%	32%	41%	60%	52%	51%	46%	45%
Cash flow (SEKm)	**2017E**	**2018E**	**2019E**	**2020E**	**Q2 2017**	**Q3 2017**	**Q4 2017**	**Q1 2018E**	**Q2 2018E**
Net profit	-660.3	-152.7	-84.4	241.8	-43.9	-533.1	-42.1	-45.3	-23.9
Depreciation, amort. & impairments	675.8	165.3	165.3	165.3	55.4	523.7	43.0	41.3	41.3
Change working capital	61.1	0.0	0.0	0.0	19.9	54.7	0.8	0.0	0.0
Other non-cash items	-30.7	0.0	0.0	0.0	-4.9	-21.1	-4.9	0.0	0.0
Cash flow from operations	**45.9**	**12.6**	**80.9**	**407.0**	**26.5**	**24.2**	**-3.2**	**-4.0**	**17.5**
Investment in newbuilding and vessels	-78.0	0.0	0.0	0.0	-45.2	-8.8	-19.4	0.0	0.0
Proceeds from sale of vessels	307.4	0.0	0.0	0.0	0.0	-9.1	-2.7	0.0	0.0
Other investing activities	39.3	0.0	0.0	0.0	-89.1	213.1	-19.4	0.0	0.0
Cash flow from investing	**268.6**	**0.0**	**0.0**	**0.0**	**-134.3**	**195.2**	**-41.6**	**0.0**	**0.0**
Repayment of debt	-408.8	-204.5	-204.5	-204.5	-43.5	-34.4	-68.9	-51.1	-51.1
Proceeds from new debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proceeds from refinanced debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share issue (repurchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	-23.9	-23.9	-23.9	-177.3	-23.9	0.0	0.0	-23.9	0.0
Other	-9.4	0.0	0.0	0.0	259.6	-1.6	0.2	0.0	0.0
Cash flow from financing	**-442.0**	**-228.4**	**-228.4**	**-381.8**	**192.3**	**-36.0**	**-68.7**	**-75.0**	**-51.1**
Other adjustments	-35.1	0.0	0.0	0.0	-15.9	-19.5	6.5	0.0	0.0
Change in cash and cash equivalents	**-162.6**	**-215.8**	**-147.5**	**25.3**	**68.7**	**164.0**	**-107.0**	**-79.0**	**-33.7**
Cash balance period-in	406.3	243.7	27.9	-119.6	118.0	186.7	350.7	243.7	164.7
Cash balance period-out	**243.7**	**27.9**	**-119.6**	**-94.3**	**186.7**	**350.7**	**243.7**	**164.7**	**131.0**

Source: Company data and Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	467.6	531.2	810.0	1,038.2	827.5	856.2	834.0	1,103.1
% Change	-13.9%	13.6%	52.5%	28.2%	-20.3%	3.5%	-2.6%	32.3%
EBITDA adjusted	144.7	201.1	423.9	319.9	51.2	70.7	131.8	450.9
EBITDA margin (%)	30.9%	37.9%	52.3%	30.8%	6.2%	8.3%	15.8%	40.9%
EBIT adjusted	0.4	56.4	209.7	82.8	-624.7	-94.6	-33.4	285.6
EBIT margin (%)	0.1%	10.6%	25.9%	8.0%	-75.5%	-11.0%	-4.0%	25.9%
Net financial items & associates	-39.4	-39.9	-35.4	-25.9	-35.6	-58.1	-51.0	-43.8
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax	10.2	-7.8	-0.5	12.7	0.0	0.0	0.0	0.0
Net profit from continuing operations	-28.8	8.7	173.8	69.5	-660.3	-152.7	-84.4	241.8
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-28.8	8.7	173.8	69.5	-660.3	-152.7	-84.4	241.8
Net profit reported	-28.8	8.7	173.8	69.5	-660.3	-152.7	-84.4	241.8
Net profit adjusted	-29.0	-51.9	173.7	-27.8	-186.6	-152.7	-84.4	241.8
Cash Flow Statement (USDm)								
Cash flow from operating activities	36.4	85.6	377.5	244.7	45.9	12.6	80.9	407.0
Capex	-64.7	-87.9	-459.3	-89.5	-78.0	0.0	0.0	0.0
Free cash flow	-28.3	-2.3	-81.8	155.2	-32.1	12.6	80.9	407.0
Acquisitions & Divestments	0.0	237.6	0.0	826.2	307.4	0.0	0.0	0.0
Dividend paid	-23.9	0.0	0.0	-23.9	-23.9	-23.9	-23.9	-177.3
Others	12.1	90.2	0.0	-256.8	29.9	0.0	0.0	0.0
Change in net financial debt	-40.1	325.5	-81.8	700.7	281.3	-11.3	57.0	229.8
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	3,016.1	3,335.5	3,809.0	3,165.5	2,305.7	2,051.7	1,886.5	1,721.2
Financial & other non-current assets	9.4	0.8	0.5	20.5	0.1	0.1	0.1	0.1
Total shareholders' equity	1,292.3	1,574.7	1,868.7	2,089.8	1,221.9	792.6	536.8	626.6
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	2,114.2	2,141.1	2,485.8	2,052.4	1,746.6	1,537.9	1,333.4	1,128.9
Net financial debt	1,806.3	1,817.7	2,008.1	1,267.0	1,169.1	1,180.4	1,123.4	893.6
Working capital requirement	193.3	158.4	165.9	276.7	196.2	27.9	-119.6	-94.3
Invested Capital	3,209.4	3,493.9	3,974.9	3,442.2	2,501.9	2,079.7	1,766.9	1,626.9
Per share data								
EPS adjusted	-0.61	-1.09	3.64	-0.58	-3.91	-3.20	-1.77	5.07
EPS adj and fully diluted	-0.61	-1.09	3.64	-0.58	-3.91	-3.20	-1.77	5.07
% Change	-chg	-chg	+chg	-chg	-chg	+chg	+chg	+chg
EPS reported	-0.60	0.18	3.64	1.46	-13.83	-3.20	-1.77	5.07
Cash flow per share	0.76	1.79	7.91	5.13	0.96	0.26	1.69	8.53
Book value per share	27.08	32.99	39.15	43.78	25.60	16.61	11.25	13.13
Dividend per share	0.00	0.00	0.50	0.50	0.50	0.50	0.50	4.05
Number of shares, YE (m)	47.73	47.73	47.73	47.73	47.73	47.73	47.73	47.73
Ratios								
ROE (%)	-2.2%	-3.6%	10.1%	-1.4%	-11.3%	-15.2%	-12.7%	41.6%
ROIC (%)	0.0%	1.7%	5.6%	2.2%	-21.0%	-4.1%	-1.7%	16.8%
Net fin. debt / EBITDA (x)	12.5	9.0	4.7	4.0	22.9	16.7	8.5	2.0
Gearing (%)	139.8%	115.4%	107.5%	60.6%	95.7%	148.9%	209.3%	142.6%
Valuation								
P/E adjusted	na	na	0.6	na	na	na	na	0.3
P/E adjusted and fully diluted	na	na	0.6	na	na	na	na	0.3
P/BV	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.1
P/CF	2.2	1.1	0.3	0.3	1.4	5.2	0.8	0.2
Dividend yield (%)	0.0%	0.0%	24.7%	36.2%	36.2%	36.2%	36.2%	293.3%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-35.1%	-2.5%	-84.5%	235.4%	-48.6%	19.1%	122.6%	617.2%
EV/Sales	4.0	3.6	2.6	1.3	1.5	1.5	1.4	0.9
EV/EBITDA	13.0	9.5	5.0	4.2	24.1	17.6	9.0	2.1
EV/EBIT	na	33.8	10.0	16.1	na	na	na	3.4

DHT Holdings

United States | Transport | Mcap USD 342.0m

02 March 2018

Hold (Not Rated)

Target Price	**USD 3.80**
Current Price	USD 3.66
Up/downside	3.8%
Change in TP	none
Change in EPS	none 16E / none 17E

Attractive valuation is not enough

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2018E is likely to be another difficult year for crude tankers. Fleet growth simply remains too strong and we expect little improvement in 2019E. However, not everything is bleak, with VLCC spot rates at USD66,500/day and fleet utilisation in the high 90% range in 2020E, mostly as a result of the impact from the lower cap on sulphur in marine usage of fuel oil, which will both reduce vessel speed and induce higher levels of trading for tankers. That said, the equity market will likely find it difficult to believe in super-profits in 2020 and beyond if it sees spot rates just above opex in 2018-19, making us sceptical about tanker stocks now in a one-year perspective. We therefore initiate coverage on DHT with a Hold rating, despite its current discount to NAV.

Pure-play VLCC exposure

DHT Holdings is a pure-play crude oil tanker focusing on the VLCC segment. The company has been listed on New York Stock Exchange since 2010 (ticker DHT). As of February 2018, DHT's fleet consists of 29 fully-owned crude tankers, including four newbuilds. The fleet is almost purely exposed to the VLCC segment with 27 vessels, but also includes two Aframax vessels.

We expect continued weak rates on high fleet growth

In our view, 2017E was a difficult year in the crude tanker market and we expect more of the same in 2018E, despite our belief that US crude exports will continue to grow and that the reduction of floating storage now has come to an end. Fleet growth simply remains too strong and H1 2019 could also prove to be a disappointing six months, with spot rates at (or below) cash break-even levels. For DHT, this translates into downside risk of 20-30% for consensus 2018-19 estimates.

Short-term worries offset by attractive long-term valuation

Despite short-term worries, not everything is bleak, with VLCC spot rates at USD66,500/day and fleet utilisation in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive against very low asset values (DHT EV/GAV at a 5% discount, or an implied five-year old VLCC value of USD60m).

We await market improvement – Hold, TP USD3.8

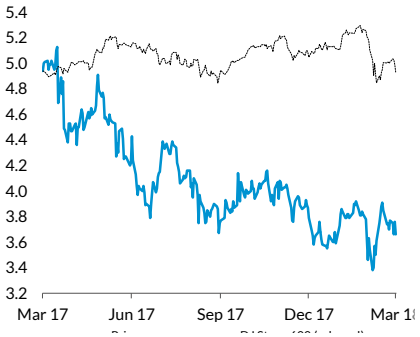
With depressed rate forecasts for 2018E, we see little upside potential in DHT's NAV on a one-year horizon. Although the company currently trades at P/NAV 0.8x, we fear that depressed rates and liquidity concerns will keep tanker shares at a discount in 2018E. In conclusion, we rate the stock a Hold with a TP of USD3.8.

Market data

Bloomberg: DHT US	Reuters: DHT
Market cap (USDm)	342
Free float	75%
No. of shares outstanding (m)	93
Avg. daily volume (USDm)	3.1
YTD abs performance	1.9%
52-week high/low (USD)	5.13/3.38

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	210.4	239.3	618.2
EBITDA adj (m)	113.2	136.3	514.8
EBIT adj (m)	8.1	21.4	400.0
Net profit adj (m)	-35.9	-24.0	358.5
Net fin. debt (m)	851.2	773.0	529.6
FCF (m)	-148.7	90.9	473.3
EPS adj. and fully dil.	na	na	na
Net dividend	0.08	0.08	2.01

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	na	na	na
EV/EBITDA	na	na	na
EV/EBIT	na	na	na
FCF yield	na	na	na
Dividend yield	2.2%	2.2%	55.0%
Net fin.debt/EBITDA	7.5	5.7	1.0
Gearing	100.1%	95.0%	56.2%
ROIC	na	na	na
EV/IC	na	na	na



Investment summary

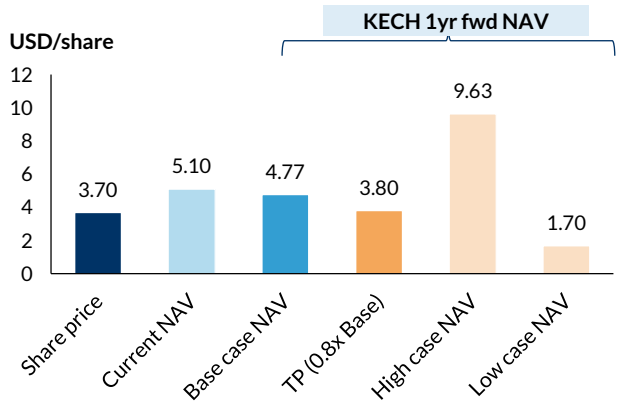
DHT Holdings is a pure-play crude oil tanker focusing on the VLCC segment. The company has been listed on New York Stock Exchange since 2010 (ticker DHT) as the holding company of DHT Maritime, and is run by co-CEOs Svein Moxnes and Trygve Munthe. At February 2018, DHT's fleet consists of 29 fully-owned crude tankers, including four new builds. The fleet is almost purely exposed to the VLCC segment with 27 vessels, but also includes two Aframax vessels.

In our view, 2017E was a difficult year in the crude tanker market, and we expect more of the same in 2018E, despite our belief that US crude exports will continue to grow and that the reduction of floating storage must now come to an end. Fleet growth simply remains too strong and H1 2019 could also prove to be a disappointing six months, with spot rates at (or below) cash break-even levels. That said, not everything is bleak, with VLCC spot rates at USD66,500/day and fleet utilisation in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive on a longer-term basis against very low asset values.

Currently, Clarkson quotes the price of a five-year old VLCC at USD63m, down 23% since the peak in mid-2014 (USD84m). When using our rate forecast, we expect vessel values to stay depressed at current low levels for 2018E, leaving little upside potential in DHT's NAV. Although the company currently trades at P/NAV 0.8x, we fear that depressed rates and liquidity concerns will keep tanker shares at a discount for the first part of 2018E. Until 2020E, we will therefore prefer companies that preserve cash in what we expect to be a choppy tanker market. DHT has low financial leverage, but with a skewed maturity profile towards 2019E, we do not find the liquidity position as strong as in other peers (Euronav).

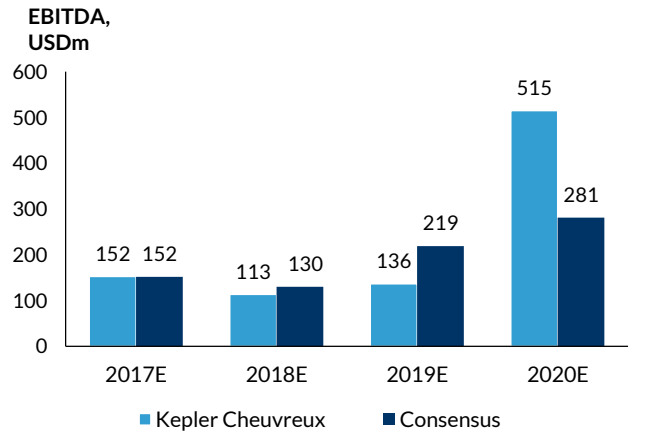
We initiate coverage with a Hold rating and a target price of USD3.8. Despite the very attractive long-term valuation, we are worried about short-term negatives from continued low rates and liquidity risk.

Chart 572: DHT target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 573: DHT EBITDA, KECH versus consensus



Source: Kepler Cheuvreux

DHT Holdings in brief

Background and recent events

DHT Holdings is a pure-play crude oil tanker focusing on the VLCC segment. The company has been listed on the New York Stock Exchange since 2005 (ticker DHT) as the holding company of DHT Maritime, and is run by co-CEOs Svein Moxnes Harfjeld and Trygve Munthe, who both joined in September 2010.

DHT expanded its fleet in 2013-14, when the company acquired 16 VLCCs through a series of newbuilding contracts and the acquisition of Samco Shipholding. The expansion was partly financed by several equity issues through which DHT raised a total of USD487m in proceeds (USD110m November 2013, USD227m January 2014, USD150m September 2014).

In March 2017, DHT announced the acquisition of BW Group's fleet of 11 VLCCs (including two newbuilds) at an estimated market value of USD538m (broker est.)

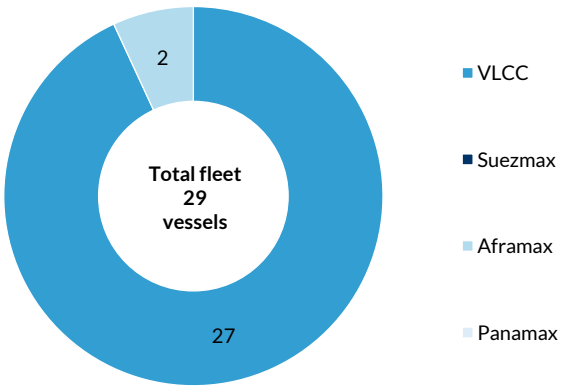
Pure-play VLCC exposure

At February 2018, DHT's fleet consists of 29 fully-owned crude tankers, including four newbuilds. The fleet is almost purely exposed to the VLCC segment with 27 vessels, but also includes two Aframaxes. The newbuilds are scheduled between Q2 and Q3 2018. The majority of DHT's vessels are built at Korean yards (25), contrasting peers like Frontline, whose vessels are mostly built at Chinese yards.

With an average age of 4.7 years (value weighted), DHT's fleet is relatively modern compared to its peer group. Five of DHT's older vessels have been divested in 2017, and currently, only four vessels are more than 14 years old.

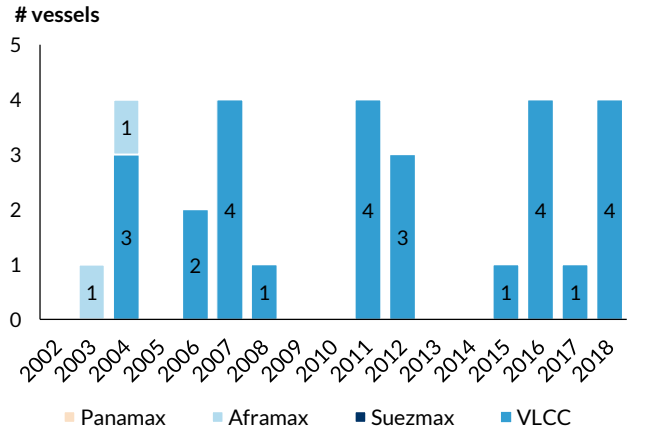
Since 2016, DHT has moved from c. 40% time charter (TC) coverage of its portfolio to a fleet that is almost purely exposed to the spot market in 2018-20. We estimate that c. 22% of available days for 2018E now has time charter agreements compared to 3% in 2019E and 2020E. Most of DHT's charters include a profit split element.

Chart 574: DHT's fleet by vessel type (total fleet)



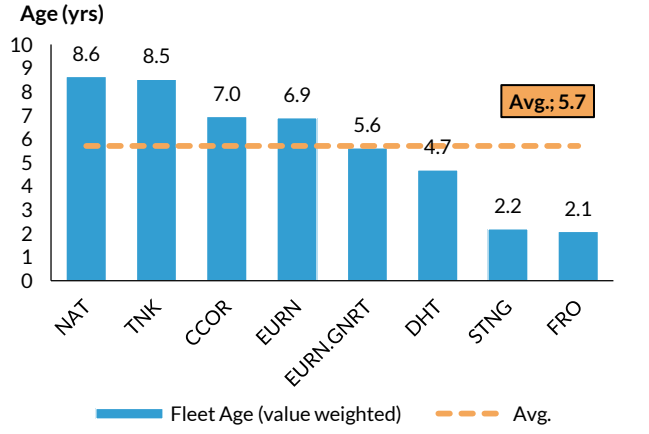
Source: Kepler Cheuvreux

Chart 575: DHT's fleet by building year (total fleet)



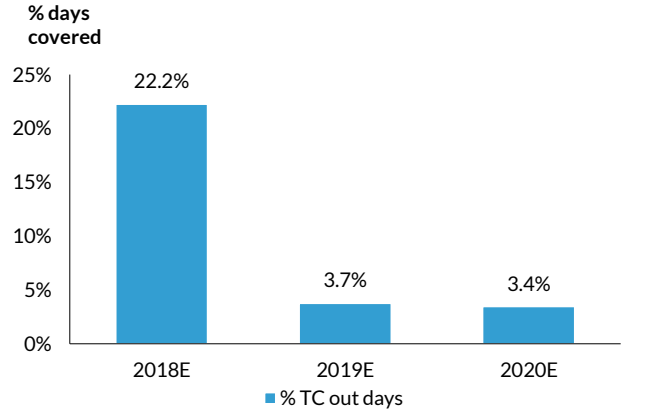
Source: Kepler Cheuvreux

Chart 576: Fleet age for tanker peers (owned, value weighted)



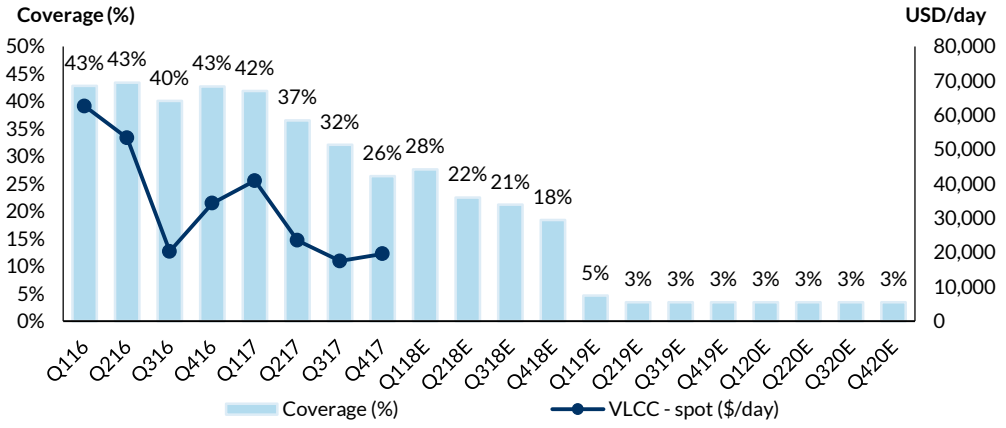
Source: Kepler Cheuvreux

Chart 577: DHT, % of available days in the time charter portfolio



Source: Kepler Cheuvreux

Chart 578: DHT TC coverage in % of available days versus spot VLCC rate

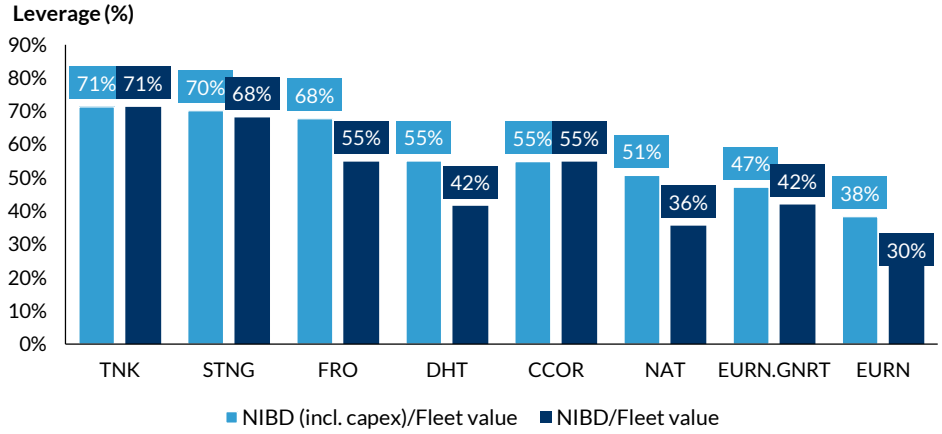


Source: Kepler Cheuvreux

Moderate financial leverage versus peers

Using Clarkson's fleet values, we estimate that DHT has a leverage ratio of c. 55% including capex and working capital adjustments. This makes DHT moderately levered versus other oil tankers. Of DHT's closest peers, Frontline and Euronav has 68% and 38% leverage ratio respectively (Euronav has 47% after Gener8 merger).

Chart 579: Oil tankers' leverage ratio versus fleet values (NIBD adjusted for WC, includes capex)



Source: Kepler Cheuvreux

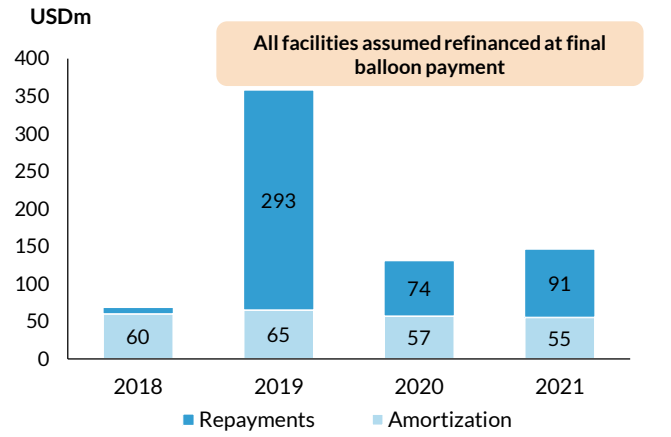
Newbuild capex: As of Q4 2017, DHT has remaining newbuild capex of USD218m related to four VLCCs. Two of these vessels are set for delivery in Q2 2018 and another two in Q3 2018. The equity contribution of the capex is USD40m.

Interest bearing debt: DHT's vessels are primarily financed with secured term-loans with interest margins equal to LIBOR +2.20-2.75%, and 16-20 year repayment profiles. In addition, DHT has a USD150m convertible bond maturing 2019 with a current outstanding amount of USD105m. The convertible bears an interest of LIBOR + 4.5%, and has a conversion price of USD6.33 per share.

For short-term liquidity purposes, DHT has a USD44m secured revolving facility (RCF) at LIBOR +2.50%. At Q4 2017, the facility remained undrawn and is due in 2021. The outstanding value of DHT's interest bearing debt at Q4 2017 was USD800m.

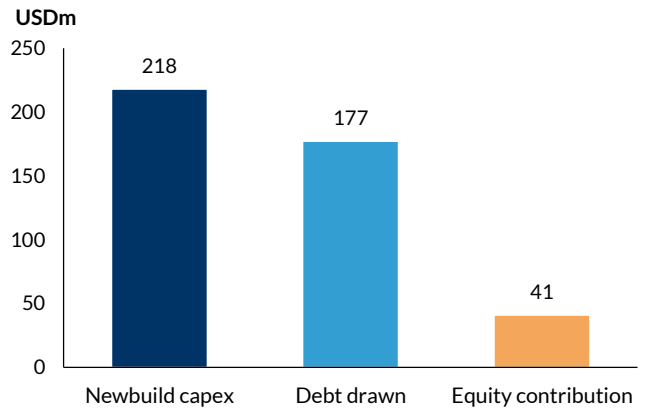
Overall, we estimate that debt amortisation will stay at USD60-65m from 2018-20E (including refinancing at 18-year profile), equal to c. USD 6,000/day for the owned fleet. In 2019, USD290m falls due on the convertible bond and secured facilities, and in our estimates, we assume refinancing of all facilities at the final balloon payment.

Chart 580: DHT debt repayment schedule (incl. refinance)



Source: Kepler Cheuvreux

Chart 581: DHT remaining newbuild capex



Source: Kepler Cheuvreux

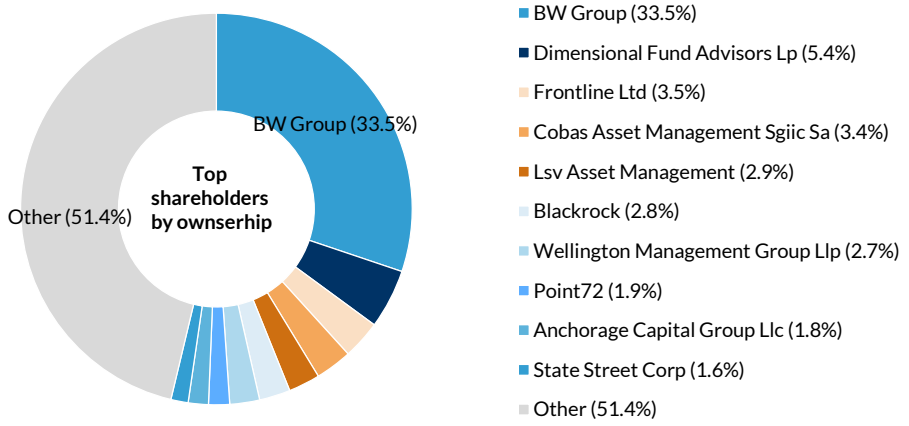
Management and shareholder structure:

DHT's executive managers are:

- **Svein Moxnes Harfjeld (co-CEO):** joined DHT on 1 September, 2010, and has over 25 years of experience in the shipping industry. His previous experience was at the BW Group, where he held senior management positions including Group Executive Director, CEO of BW Offshore, Director of Bergesen dy and Director of World-Wide Shipping. Before that, he held senior management positions at Andhika Maritime, Coeclerici and Mitsui O.S.K.
- **Trygve P. Munthe (co-CEO):** Together with Moxnes Harfjeld he joined DHT on 1 September, 2010. He has over 25 years of experience in the shipping industry, and was previously CEO of Western Bulk, President of Skaugen Petrotrans, Director of Arne Blystad AS and CFO of I.M Skaugen. He currently serves as chairman of the board of Ness, Risan & Partners AS.
- **Eirik Ubøe (CFO):** Joined DHT in 2005, with more than 20 years of experience within international accounting and finance, which includes the role of CFO for Nutri Pharma ASA and the Schibsted Group, the largest Norwegian media group, both listed on the Oslo Stock Exchange. He also served as vice President in corporate finance and ship finance departments of various predecessors to JPMorgan Chase.

Following the BW VLCC acquisition in 2017, BW Group remains the largest shareholder of DHT, with 47.7m common shares (c. 33.5%).

Chart 582: DHT, shareholder structure



Source: Kepler Cheuvreux

Deconstructing the forecasts

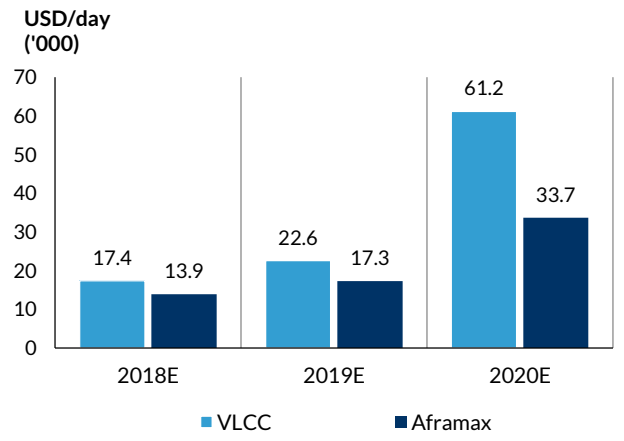
Tanker market: high supply growth could extend the rate weakness

In our view, 2017E was a difficult year in the crude tanker market and we expect more of the same in 2018E, despite our belief that US crude exports will continue to grow and that the reduction of floating storage must now come to an end. Fleet growth simply remains too strong and H1 2019 could also prove to be a disappointing six months, with spot rates at (or below) cash break-even levels.

That said, not everything is bleak, with VLCC spot rates at USD66,500/day and fleet utilisation in the high 90% range in 2020E. The main reason for this optimism, apart from much lower fleet growth, is the impact from the reduced cap on sulphur in marine usage of fuel oil, which we think will both: 1) lower the speed of fleets; 2) induce a lot more trading, both in different crude qualities and in dirty oil products; and 3) again increase floating storage of fuel oil, which we believe will be hard to get rid of (see sector part for more about the LPG shipping market).

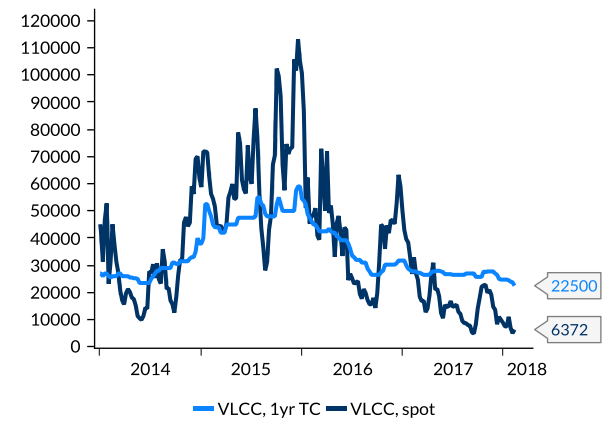
Concretely, we model for VLCC rates of USD20,300/day for 2018E, USD22,900/day for 2019E and USD66,500/day for 2020E. In 2018-19E, we expect fleet utilisation to stay at 86-87%, while coming into Q4 2019E, we expect to see the first effects of the new sulphur cap and fleet utilisation, moving well into the 90% range in 2020E (we model 97%). The latter also accounts for what we expect will be an increase in floating storage of "unwanted" heavy fuel oil (HFO) and a slowdown in vessel speeds (although by only 0.25 knots).

Chart 583: KECH freight rate forecast for DHT (2018-20E)



Source: Kepler Cheuvreux

Chart 584: Clarkson's VLCC rate (spot and one-year time charter)

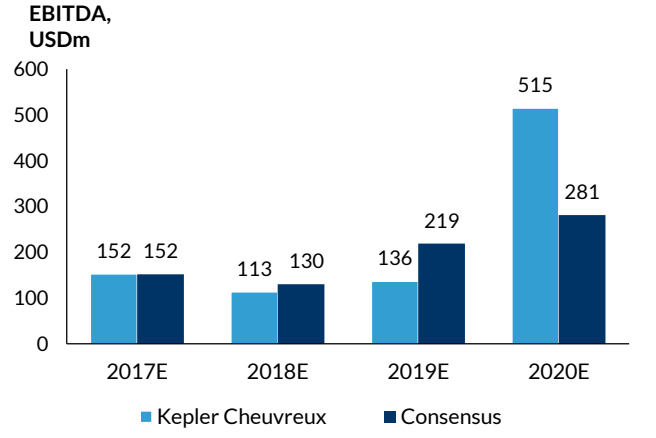


Source: Clarksons, Kepler Cheuvreux

We are sceptical of freight rates in 2018-19E, but as long as weak rates remain at moderate levels, DHT has sufficient liquidity

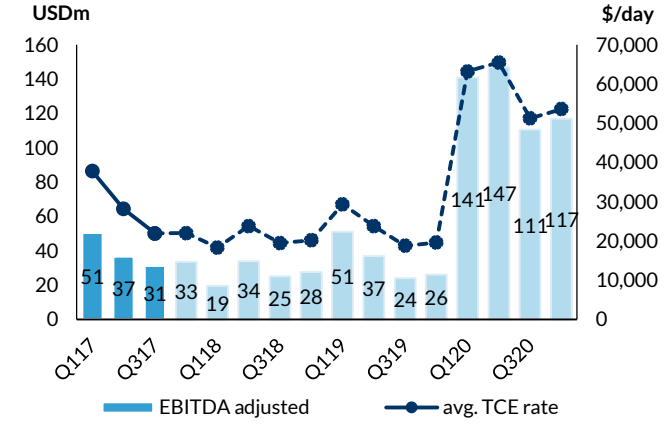
With VLCC rates of USD18,000/day in 2018E and USD 22,000/day in 2019E, we expect to see two tough years ahead for DHT with just shorter time periods of rates above cash breakeven levels (c. USD 20,000/day for VLCCs). Hence, we see downside risk on consensus EBITDA of USD50m in 2018E (-30%) and USD90m in 2019E (-38%). In our view, the high supply growth in the tanker market could extend the current rate weakness longer than consensus currently implies. Although we expect the tanker market to eventually turn around in 2020E (and more dramatically than consensus indicates), we believe the major focus in the short-term will remain more on the negative side.

Chart 585: Kepler Cheuvreux versus consensus EBITDA estimates



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 586: DHT quarterly EBITDA (KECH estimate)

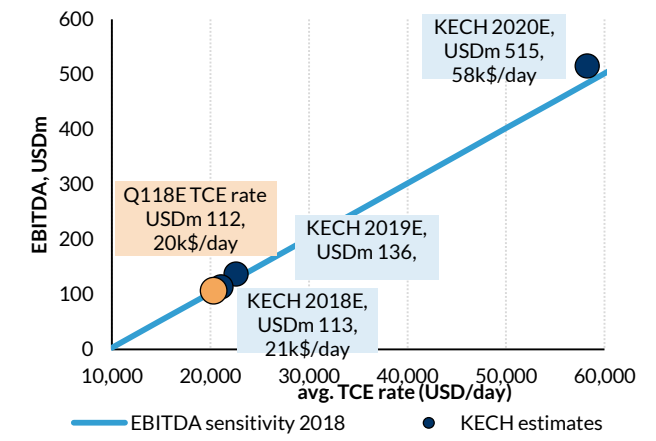


Source: Bloomberg consensus, Kepler Cheuvreux

Specifically, we forecast a decline in DHT's EBITDA from USD152m in 2017E to USD113m in 2018E. We expect a moderate increase to USD136m in 2019E, before we pencil in a strong tightening in freight rates in 2020E, lifting the EBITDA above USD500m. Given the weak development in spot TCE rates so far in Q1, we already find rates on the weak side versus our overall 2018 estimates (USD18,000/day translates into a running EBITDA USD90m a year). As Q1 and Q2 are typically characterised by stronger rates, we see downside to consensus and our estimates for 2018 if rates do not recover within the next few months.

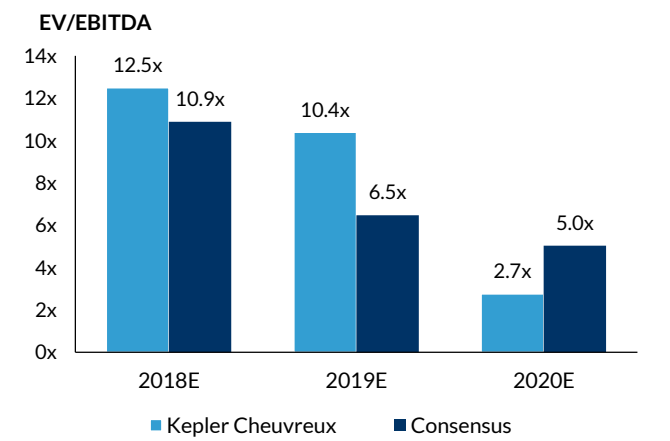
On a valuation basis, our estimates indicate EV/EBITDA 10.4x 2019E versus EV/EBITDA 6.5x for consensus (share price for DHT USD3.85). For the current EV/EBITDA to fall below 6x, DHT's average TCE rate has to increase to USD35,000/day for 2019E.

Chart 587: DHT's EBITDA sensitivity versus TCE rate



Source: Kepler Cheuvreux

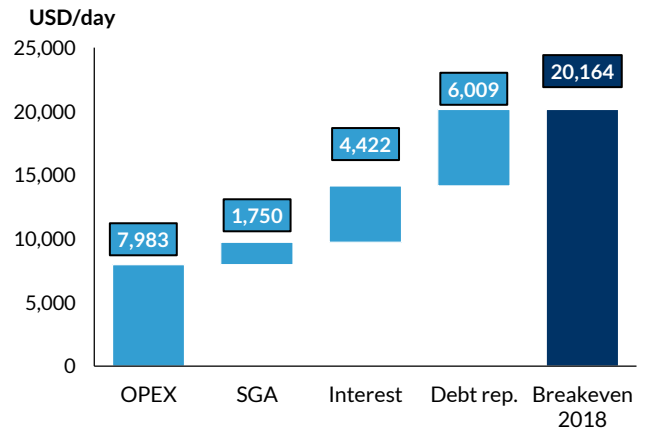
Chart 588: Kepler Cheuvreux versus consensus EV/EBITDA est.



Source: Kepler Cheuvreux

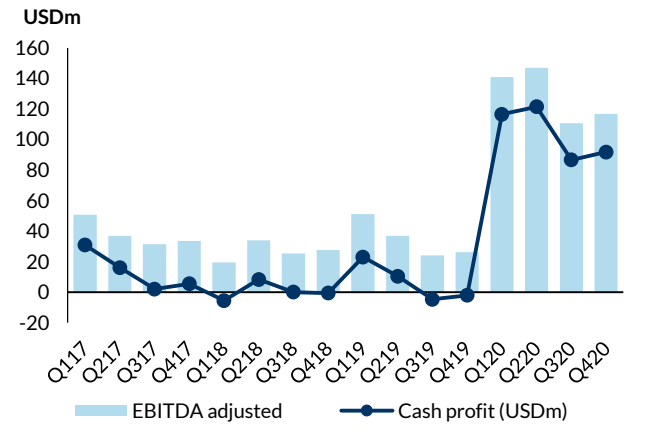
For 2018E, we estimate a cash breakeven level for DHT's total fleet of USD20,200/day, of which USD17,100/day when taking the TC portfolio into account. Given our freight rate forecasts, we expect to see two tough years ahead for DHT with only shorter time periods of rates above cash breakeven levels. We estimate that for every USD1,000/day below the cash breakeven, the cash burn is c. USD8.5m a year. However, with total available liquidity of USD122m as of Q4 2017 (USD77m in cash and USD45m in undrawn facilities), we see little risk to DHT's overall liquidity in our base case scenario, even though DHT plans to take out parts of the newbuild capex with cash at hand.

Chart 589: KECH 2018E DHT cash breakeven (owned fleet)



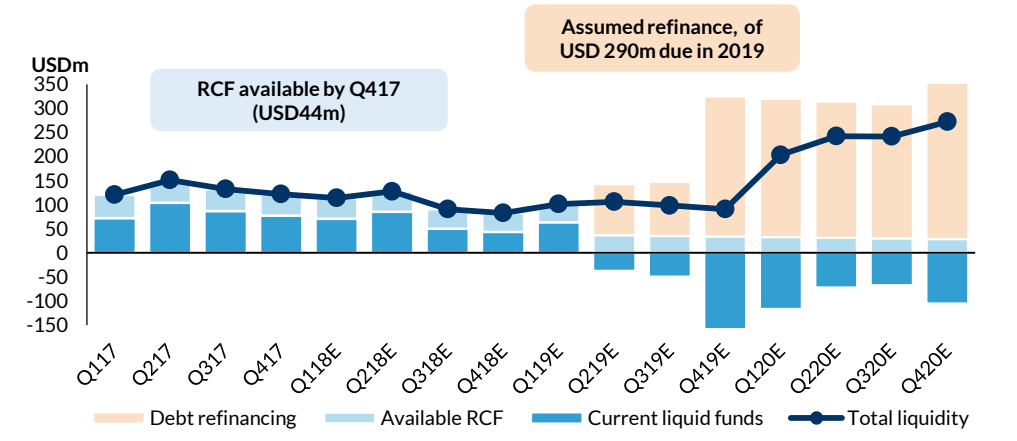
Source: Kepler Cheuvreux

Chart 590: DHT's adj. EBITDA versus cash profit from vessels (incl. interest, debt amortisation and SFL leases)



Source: Kepler Cheuvreux

Chart 591: DHT liquidity (cash + available RCF), given our base case scenario



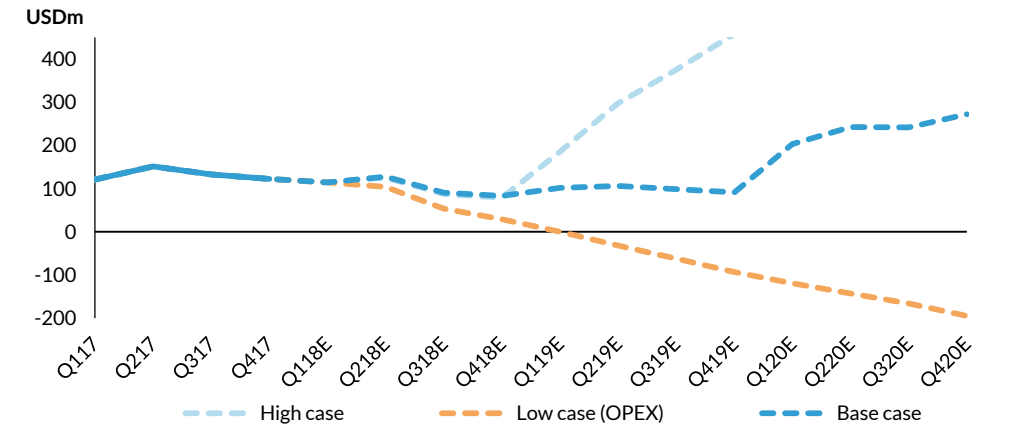
Source: Kepler Cheuvreux

However, if rates remain at opex for long, liquidity will become a topic

In general, we believe it is less likely for freight rates to remain at opex for the whole of 2018, but with Clarkson's VLCC rates averaging USD8,282/day in January, liquidity could soon become a key topic in the crude tanker segment.

In the chart below, we illustrate a stress-test scenario for DHT's liquidity, with rates at opex until 2021E (we assume USD 10,000/day for VLCC). In this scenario, DHT's liquidity will last until the beginning of 2019 in our estimates. In addition, DHT has a minimum liquidity covenant of USD30m or 6% of gross interest bearing debt, which would already be breached in late 2018E in this low case scenario.

Chart 592: Scenario analysis for DHT's liquidity (cash + available RCF)



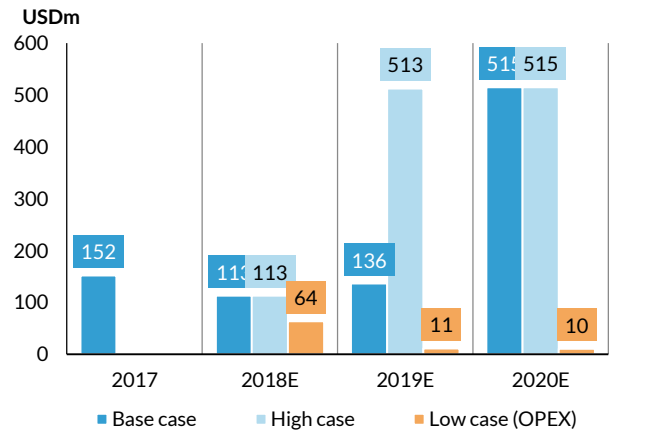
Source: Kepler Cheuvreux

Long-term outlook is highly positive if DHT can weather the storm

Despite our short-term scepticism towards the tanker market, we remain positive towards the segment on a longer-term basis as fleet growth will eventually come down. In our base case scenario, we include a recovery in VLCC rates to USD61,000/day in 2020E, which should lift DHT's EBITDA above EUR500m.

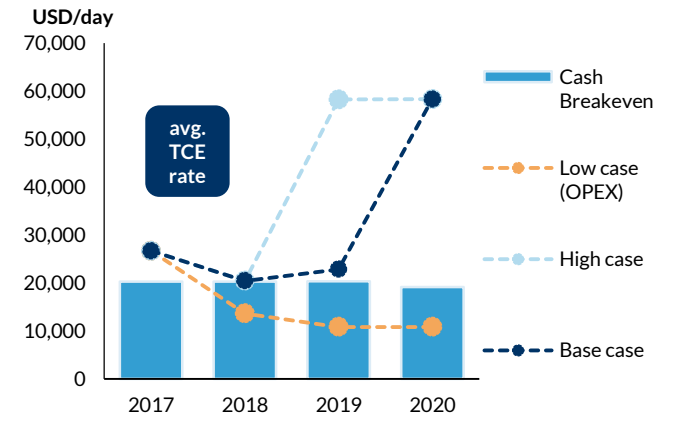
Overall, we consider DHT an attractive bet if the tanker market turns around sooner than our estimates imply. In our high case, we have included a recovery to VLCC rates above USD 60,000/day already in 2019E. This implies 2019E EV/EBITDA of only 2.8x.

Chart 593: DHT's EBITDA scenarios



Source: Kepler Cheuvreux

Chart 594: Scenarios: TCE rates versus cash breakeven



Source: Kepler Cheuvreux

Deconstructing the forecasts

In the table below, we outline our key estimates and assumptions for DHT from 2017-20E. Overall, we pencil in two tough years ahead for DHT on the back of continued weak freight rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of the company segment.

TCE revenues: We model DHT's revenues based on available fleet days and assumed development in freight rates:

- **Available days** will increase as DHT's four newbuilds enter the fleet. The vessels are set for delivery in Q2 and Q3 2018.
- **TCE rate:** We expect the average achieved TCE rate for DHT to remain at USD 20,400/day for 2018E, higher than the VLCC spot rate due to the company's time charter coverage. We expect the rate weakness to last until 2019E with an avg. TCE rate at USD22,000/day. However, for 2020E, we forecast a strong tightening in TCE rates, to above USD60,000/day.

Operating costs and SGA: Our operating costs assume opex levels for DHT's fleet of USD8,000/day for VLCCs and USD6,500/day for Aframax. We also assume a general and administrative expense (SGA) of USD1,900/day for each vessel. With only fully-owned vessels, DHT does not have charter hire expenses.

EBITDA: We expect adjusted EBITDA of USD113m in 2018E, USD136m in 2019E and USD515m in 2020E. This implies a relatively stable EBITDA margin of USD10-13,000/day for 2018-19E, before an increase to USD48,000/day in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume average floating interest rates of LIBOR + 2.25-2.50% on DHT's secured bank facilities.

Tax: We do not expect DHT to pay tax over our forecast period.

Net profit: We expect the net profit to fall from USD15m in 2017E to negative USD36m in 2018E and negative USD24m in 2019E.

DPS: Currently, DHT pays quarterly dividends to shareholders of USD0.02 per share. On the back of weaker rates, we do not see dividend payments increasing in 2018-19E, and have modelled DPS stable at USD0.02 per quarter.

Table 44: Key financials

Key financials (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
P&L figures:									
TCE revenues	**241.8**	**210.4**	**239.3**	**618.2**	**54.8**	**56.6**	**46.4**	**57.9**	**52.2**
OPEX	-72.4	-79.7	-84.6	-84.8	-19.5	-21.5	-18.2	-19.4	-20.8
SGA	-17.2	-17.5	-18.5	-18.6	-3.9	-1.7	-4.0	-4.2	-4.6
Charter hire expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA adjusted	**152.1**	**113.2**	**136.3**	**514.8**	**31.4**	**33.5**	**24.2**	**34.2**	**26.8**
Depreciation, impairments (value adj.)	-108.8	-105.1	-114.9	-114.9	-26.5	-30.7	-25.3	-24.7	-26.4
Net financial items	-36.6	-44.0	-45.4	-41.5	-9.9	-10.3	-10.2	-10.5	-11.3
Tax	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Net profit reported	**6.6**	**-35.9**	**-24.0**	**358.5**	**-5.1**	**-7.5**	**-11.2**	**-0.9**	**-10.9**
Net profit adjusted	15.3	-35.9	-24.0	358.5	-5.7	-3.6	-11.2	-0.9	-10.9
EPS adj (USD)	**0.11**	**-0.25**	**-0.17**	**2.52**	**-0.04**	**-0.02**	**-0.08**	**-0.01**	**-0.08**
DPS	**0.14**	**0.08**	**0.08**	**2.01**	**0.02**	**0.02**	**0.02**	**0.02**	**0.02**
Operating assumptions:									
Avg. TCE rate ($/day)	26,498	21,075	22,612	58,245	21,923	21,982	20,351	23,842	20,013
Avg. EBITDA margin ($/day)	16,328	11,342	12,872	48,505	12,183	12,997	10,627	14,111	10,276
Total vessel days (available)	9,318	9,982	10,585	10,614	2,576	2,576	2,281	2,427	2,606
TC Coverage (% all available days)	28%	22%	4%	3%	25%	24%	28%	22%	21%
Selected balance sheet items:									
Cash and cash equivalents	77.3	43.3	56.5	242.9	86.5	77.3	70.6	85.4	49.9
Interest bearing debt	786.2	894.5	829.5	772.5	826.0	786.2	762.8	842.7	910.9
Net interest bearing debt	**708.9**	**851.2**	**773.0**	**529.6**	**739.4**	**708.9**	**692.2**	**757.3**	**861.0**
Leverage ratio (%)	43%	50%	49%	36%	44%	43%	44%	46%	50%
Selected cash flow items:									
Operating cash flow	101.8	69.2	90.9	473.3	17.5	7.4	14.0	23.8	15.5
Investing cash flow	-441.4	-200.2	-1.3	-2.6	-15.3	28.1	5.5	-86.0	-116.3
Financing cash flow	307.6	96.9	-76.4	-284.4	-19.7	-44.8	-26.3	77.0	65.3
Change in cash	**-32.0**	**-34.0**	**13.2**	**186.4**	**-17.5**	**-9.3**	**-6.7**	**14.8**	**-35.5**

Source: Kepler Cheuvreux

Valuation

Continued rate weakness should keep asset values depressed...

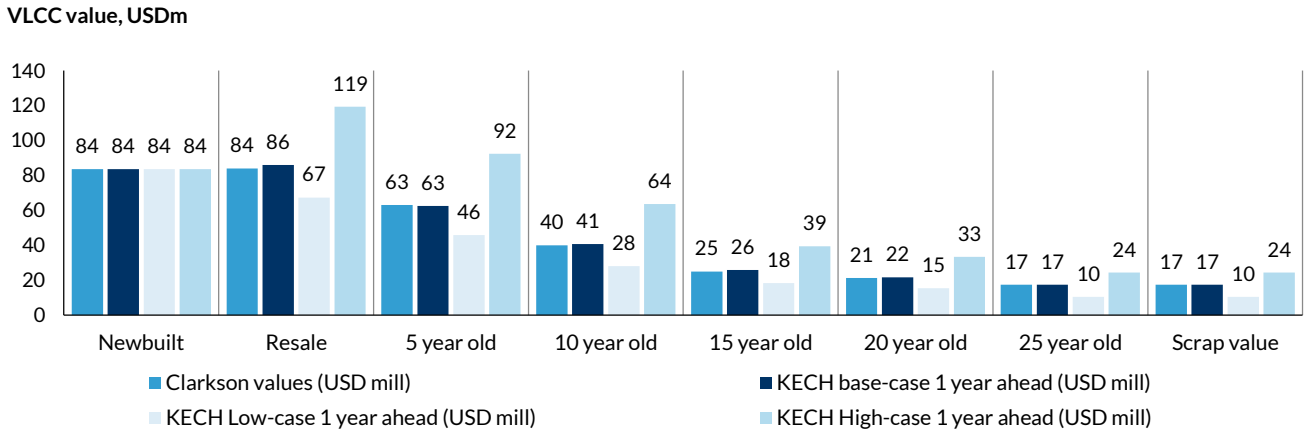
Our preferred valuation method for DHT is an equity Net Asset Value (NAV) based on estimated fleet values for oil tankers less net interest bearing debt and other commitments for the company. We use Clarkson's quote for second-hand vessels. In our target valuation, we forecast changes in the vessel values based upon our freight rate estimates (see sector part for more details).

Currently, Clarkson quotes the price for a five-year old VLCC at USD63m, down 23% since the peak in mid-2014 (USD84m). The resale price is USD84m, at par with Clarkson's current newbuilding price of USD83.5m.

Instead, when we use our rate forecast for the VLGC segment, we estimate the price for a five-year old vessel at USD63m, flat versus the current Clarkson estimate. Hence, our estimates imply that tanker vessel values should remain depressed over the next year.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value-curve according to the age of the vessel.

Chart 595: Kepler Cheuvreux vessel values for crude tank vessels in different scenarios



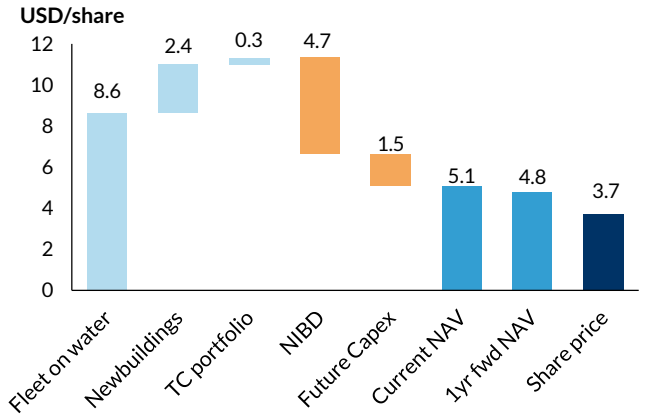
Source: Kepler Cheuvreux

... leaving little upside for DHT's valuation for 2018E (NAV USD4.7)

Given our view on vessel values, we expect to see continued weakness in DHT's NAV from current levels (base NAV USD4.8 per share versus current USD5.1 per share).

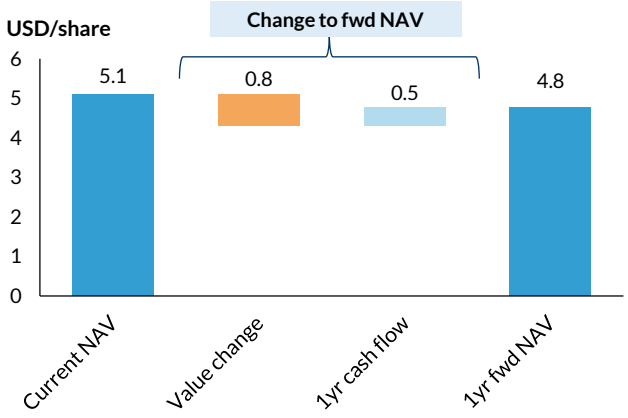
Although we estimate that DHT trades at a 20% discount to current NAV (share price USD3.85), we expect the share to stay at a discounted valuation due to the continued struggling market outlook. In our target price, we therefore include a P/NAV of 0.8x on our base case 1Y-fwd NAV.

Chart 596: Net asset value (NAV) bridge for DHT



Source: Kepler Cheuvreux

Chart 597: Bridge from current NAV to base 1Y-fwd NAV



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for crude tankers less net interest bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value DHT's fleet at USD1,568m on current Clarkson values including a 5% discount on vessels built in China after 2010 and a 10% discount for those built before 2010. The mark-to-market (MTM) value of USD28m includes the time charter portfolio. In our 1Y-forward

estimates, we include the cash flow generated from vessels over the coming months, and adjust fleet values for vessels that are a year older.

- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to DHT's latest quarterly report, thus balance sheet items are from the Q4 2017 report. As we value the fleet on a fully-delivered basis, we include the remaining newbuild capex of USD218m. In addition, we also include USD4m in investment in associated companies in the "other adjustments" row.

Table 45: Net asset value breakdown

NAV (USDm)	# vessels	Age (avg.)	NAV Current	1 year forward NAV Base	Low	High
Fleet:						
VLCC	23	5.9	1,205	1,131	824	1,680
Aframax	2	14.1	25	24	16	36
Fleet on water	***25***	***6.1***	***1,230***	***1,155***	***840***	***1,715***
Newbuildings	***4***	***-0.5***	***336***	***333***	***259***	***465***
Total fleet value (USDm)	**29**	**4.7**	**1,566**	**1,488**	**1,099**	**2,180**
MTM contract portfolio			47	10	10	10
Discounted cash-flow 1yr				69	20	69
GAV (USDm)			**1,613**	**1,567**	**1,129**	**2,259**
NIBD & other commitments (rel. last quarterly report)						
Cash			100	100	100	100
Total interest bearing debt			-801	-801	-801	-801
Net working capital			28	28	28	28
Other adjustments			4	4	4	4
Future capex			-218	-218	-218	-218
NIBD & other commitments			**-887**	**-887**	**-887**	**-887**
NAV (USDm)			**726**	**680**	**242**	**1,372**
# shares (fully delivered)			142.4	142.4	142.4	142.4
NAV/share (USD)			5.10	4.77	1.70	9.63
Share price (USD)			3.7	3.7	3.7	3.7
P/NAV			**0.74x**	**0.79x**	**2.21x**	**0.39x**
EV (USDm)			1,421	1,421	1,421	1,421
EV/GAV			**0.88x**	**0.91x**	**1.26x**	**0.63x**

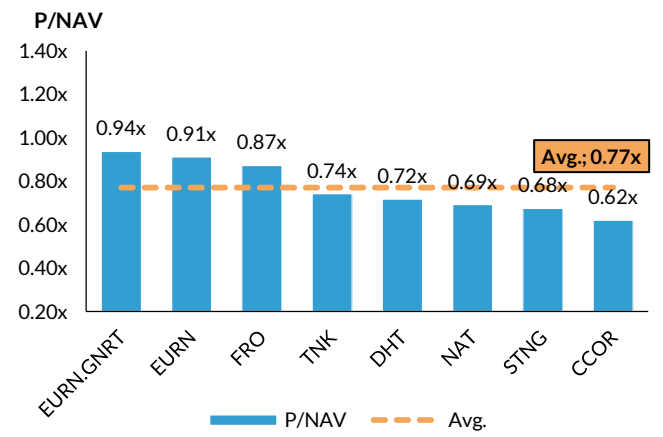
Source: Kepler Cheuvreux

Fear of short-term weakness offsets bullish long-term outlooks

On a longer horizon, we find the tanker market compelling due to attractive valuations against low-cycle values. Currently, we find the majority of the tanker segment trading at a strong discount or close to NAV values, but remember that this is against depressed asset values. Our peer analysis indicates that the implied pricing of our peers relative to a five-year old VLCC is USD63m, which is down more than 20% from the last peak in 2015, with values above USD80m.

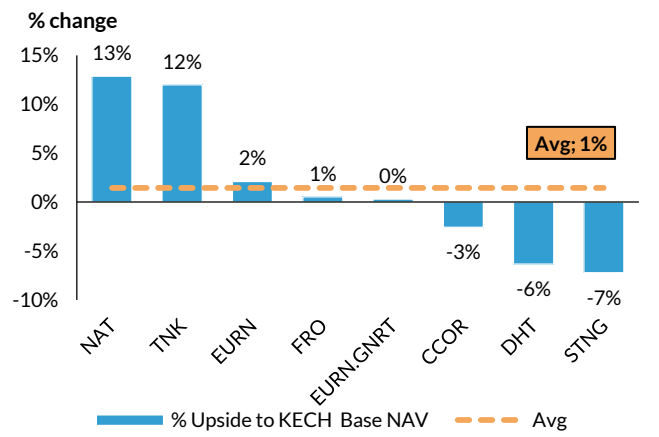
Despite strong long-term fundamentals, we are sceptical about the tanker market in the short term, and fear that continued weak freight rates will put pressure on NAVersus Given our view of freight rates below or at cash breakeven levels for 2018-19E, we expect DHT's NAV to stay depressed at current low levels of USD4.7 per share. In addition, we see downside risk to consensus 2018-19 estimates, especially as current freight rates are down at opex. If the rates stay long for a lengthy period of time, we think liquidity risk could become the focus for 2018E.

Chart 598: Current P/NAV



Source: Kepler Cheuvreux

Chart 599: Upside in NAV to base-case scenario



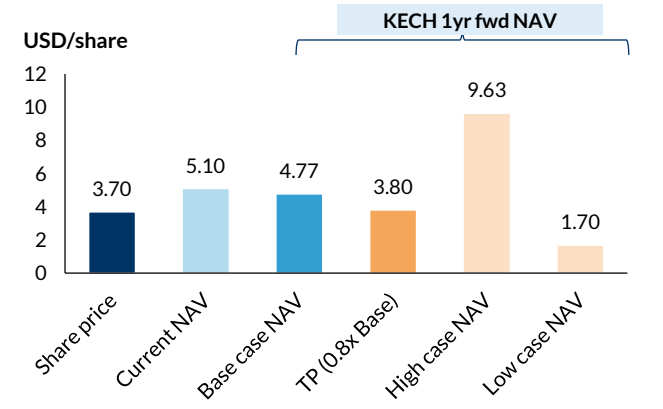
Source: Kepler Cheuvreux

We initiate coverage of DHT with a Hold rating and TP of USD3.80

In conclusion, despite a compelling long-term investment case with low valuation, we fear the short-term risks of rates close to opex in the tanker market. We conclude with a Hold rating and set the target price at USD3.8 (0.8x our base case NAV of USD4.8).

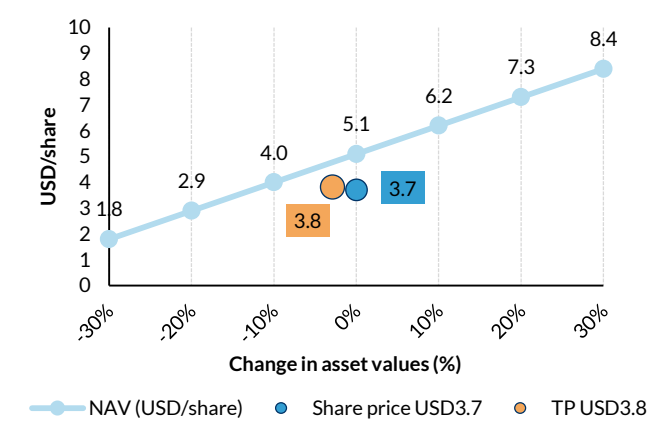
The charts below illustrate our scenario analysis for DHT, combined with the sensitivity of the NAV versus changes in asset values. A rule of thumb: a 10% increase in asset values equals USD1.1 per share for the NAV.

Chart 600: Kepler Cheuvreux scenario valuation for DHT



Source: Kepler Cheuvreux

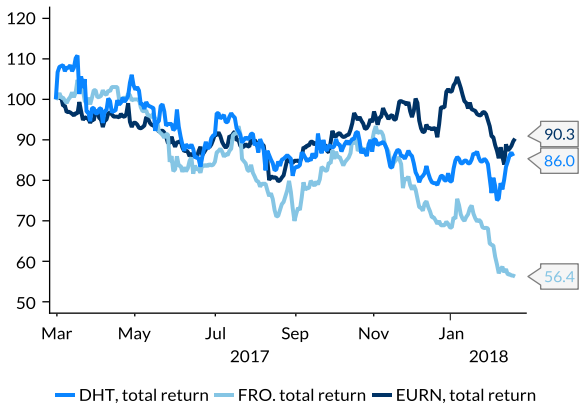
Chart 601: Sensitivity for NAV versus changes in asset values



Source: Kepler Cheuvreux

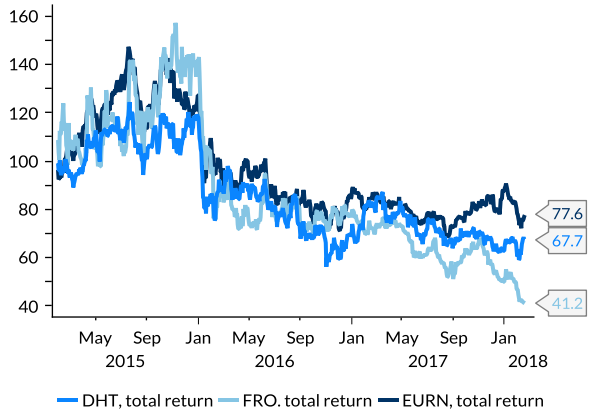
Supplementary figures

Chart 602: LTM share price development of tank peers



Source: Kepler Cheuvreux

Chart 603: Tank peers share price since January 2015



Source: Kepler Cheuvreux

Chart 604: DHT share price versus VLCC 1Y TC rate

Source: Kepler Cheuvreux

Valuation metrics

Table 46: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			113.2	136.3	514.8
EV/EBITDA		1,421	**12.6x**	**10.4x**	**2.8x**
EPS adj (USD)			-0.25	-0.17	2.52
P/E	3.7		**-14.9x**	**-22.2x**	**1.5x**
DPS			0.08	0.08	2.01
Yield (%)	3.7		**2%**	**2%**	**54%**
Net interest bearing debt			851.2	773.0	529.6
NIBD/EBITDA			**7.5x**	**5.7x**	**1.0x**

Source: Kepler Cheuvreux

Income statement

Table 47: P&L figures

Income statement (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
TCE revenues	241.8	210.4	239.3	618.2	54.8	56.6	46.4	57.9	52.2
OPEX	-72.4	-79.7	-84.6	-84.8	-19.5	-21.5	-18.2	-19.4	-20.8
SGA	-17.2	-17.5	-18.5	-18.6	-3.9	-1.7	-4.0	-4.2	-4.6
Charter hire expenses	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Depreciation	-96.8	-105.1	-114.9	-114.9	-26.5	-26.4	-25.3	-24.7	-26.4
Impairment and value adjustments	-12.1	0.0	0.0	0.0	0.0	-4.3	0.0	0.0	0.0
Operating profit	43.3	8.1	21.4	400.0	4.9	2.8	-1.0	9.6	0.4
Net financial interest	-40.0	-44.0	-45.4	-41.5	-10.6	-10.6	-10.2	-10.5	-11.3
Other financial items	3.4	0.0	0.0	0.0	0.6	0.4	0.0	0.0	0.0
Profit before tax	6.7	-35.9	-24.0	358.5	-5.0	-7.5	-11.2	-0.9	-10.9
Taxes	-0.1	0.0	0.0	0.0	-0.1	0.0	0.0	0.0	0.0
Net profit reported	6.6	-35.9	-24.0	358.5	-5.1	-7.5	-11.2	-0.9	-10.9
Net profit adjusted	15.3	-35.9	-24.0	358.5	-5.7	-3.6	-11.2	-0.9	-10.9
EBITDA adjusted	152.1	113.2	136.3	514.8	31.4	33.5	24.2	34.2	26.8
EPS	0.05	-0.25	-0.17	2.52	-0.04	-0.05	-0.08	-0.01	-0.08
EPS adj (USD)	0.11	-0.25	-0.17	2.52	-0.04	-0.02	-0.08	-0.01	-0.08
DPS	0.14	0.08	0.08	2.01	0.02	0.02	0.02	0.02	0.02
# Shares adj. (end)	142.4	142.4	142.4	142.4	142.3	142.4	142.4	142.4	142.4

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 48: Balance sheet and cash flow

Balance sheet (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
Cash & cash equivalents	77.3	43.3	56.5	242.9	86.5	77.3	70.6	85.4	49.9
Investments	4.0	4.0	4.0	4.0	4.2	4.0	4.0	4.0	4.0
Other current assets	69.1	69.1	69.1	69.1	53.8	69.1	69.1	69.1	69.1
Vessels and newbuildings	1,579.7	1,646.7	1,531.8	1,417.0	1,637.9	1,579.7	1,525.0	1,586.3	1,675.4
Other long-term assets	0.5	0.5	0.5	0.5	0.7	0.5	0.5	0.5	0.5
Total assets	**1,730.5**	**1,763.5**	**1,661.9**	**1,733.4**	**1,783.1**	**1,730.5**	**1,669.1**	**1,745.3**	**1,798.8**
Interest bearing debt	786.2	894.5	539.5	424.8	826.0	786.2	762.8	842.7	910.9
Refinanced IB debt	0.0	0.0	290.0	347.6	0.0	0.0	0.0	0.0	0.0
Other current liabilities	18.0	18.0	18.0	18.0	21.2	18.0	18.0	18.0	18.0
Other long term liabilities	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4
Shareholder's equity	925.9	850.6	814.0	942.5	935.6	925.9	887.9	884.2	869.6
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total equity and liabilities	**1,730.5**	**1,763.5**	**1,661.9**	**1,733.4**	**1,783.1**	**1,730.5**	**1,669.1**	**1,745.3**	**1,798.8**
Net interest bearing debt	**708.9**	**851.2**	**773.0**	**529.6**	**739.4**	**708.9**	**692.2**	**757.3**	**861.0**
Equity ratio (%)	57%	50%	51%	64%	56%	57%	56%	54%	50%

Cash flow (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E	Q3 2018E
Net profit	6.6	-35.9	-24.0	358.5	-5.1	-7.5	-11.2	-0.9	-10.9
Depreciation, amort. & impairments	105.3	105.1	114.9	114.9	26.5	27.5	25.3	24.7	26.4
Change working capital	-22.0	0.0	0.0	0.0	-5.8	-18.1	0.0	0.0	0.0
Other non-cash items	11.9	0.0	0.0	0.0	2.0	5.5	0.0	0.0	0.0
Cash flow from operations	**101.8**	**69.2**	**90.9**	**473.3**	**17.5**	**7.4**	**14.0**	**23.8**	**15.5**
Investment in newbuilding and vessels	-553.0	-217.9	0.0	0.0	-15.2	-17.0	-16.4	-86.0	-115.5
Proceeds from sale of vessels	111.4	21.9	0.0	0.0	0.0	44.7	21.9	0.0	0.0
Other investing activities	0.2	-4.2	-1.3	-2.6	0.0	0.4	0.0	0.0	-0.8
Cash flow from investing	**-441.4**	**-200.2**	**-1.3**	**-2.6**	**-15.3**	**28.1**	**5.5**	**-86.0**	**-116.3**
Repayment of debt	-107.3	-68.7	-358.1	-130.9	-16.8	-41.7	-23.4	-15.1	-13.8
Proceeds from new debt	200.5	177.0	0.0	0.0	-0.1	0.0	0.0	95.0	82.0
Proceeds from refinanced debt	0.0	0.0	293.1	73.9	0.0	0.0	0.0	0.0	0.0
Share issue (repurchase)	254.8	0.0	0.0	0.0	0.0	-0.2	0.0	0.0	0.0
Dividends paid	-23.3	-11.4	-11.4	-227.3	-2.8	-2.8	-2.8	-2.8	-2.8
Other	-17.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	**307.6**	**96.9**	**-76.4**	**-284.4**	**-19.7**	**-44.8**	**-26.3**	**77.0**	**65.3**
Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in cash and cash equivalents	**-32.0**	**-34.0**	**13.2**	**186.4**	**-17.5**	**-9.3**	**-6.7**	**14.8**	**-35.5**
Cash balance period-in	109.3	77.3	43.3	56.5	104.0	86.5	77.3	70.6	85.4
Cash balance period-out	**77.3**	**43.3**	**56.5**	**242.8**	**86.5**	**77.3**	**70.6**	**85.4**	**49.9**

Source: Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	61.6	101.5	296.3	290.7	241.8	210.4	239.3	618.2
% Change	-28.7%	64.7%	192.0%	-1.9%	-16.8%	-13.0%	13.8%	158.3%
EBITDA adjusted	27.9	40.6	214.8	209.4	152.1	113.2	136.3	514.8
EBITDA margin (%)	45.3%	40.0%	72.5%	72.0%	62.9%	53.8%	56.9%	83.3%
EBIT adjusted	1.0	27.4	135.3	40.5	43.3	8.1	21.4	400.0
EBIT margin (%)	1.6%	27.0%	45.7%	13.9%	17.9%	3.9%	8.9%	64.7%
Net financial items & associates	-4.6	-13.9	-33.5	-35.0	-40.0	-44.0	-45.4	-41.5
Others	-0.3	-0.6	3.6	3.8	3.4	0.0	0.0	0.0
Tax	-0.2	-0.1	-0.1	-0.1	-0.1	0.0	0.0	0.0
Net profit from continuing operations	-4.1	12.9	105.3	9.3	6.6	-35.9	-24.0	358.5
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-4.1	12.9	105.3	9.3	6.6	-35.9	-24.0	358.5
Net profit reported	-4.1	12.9	105.3	9.3	6.6	-35.9	-24.0	358.5
Net profit adjusted	-3.1	-18.5	102.5	90.0	15.3	-35.9	-24.0	358.5
Cash Flow Statement (USDm)								
Cash flow from operating activities	23.9	30.6	181.5	194.0	101.8	69.2	90.9	473.3
Capex	-39.2	-294.8	-144.5	-235.4	-553.0	-217.9	0.0	0.0
Free cash flow	-15.3	-264.2	37.0	-41.4	-451.2	-148.7	90.9	473.3
Acquisitions & Divestments	22.2	0.0	26.5	22.2	111.4	21.9	0.0	0.0
Dividend paid	-1.2	-6.0	-49.2	-66.4	-23.3	-11.4	-11.4	-227.3
Others	105.3	249.6	-7.9	-27.3	238.0	-4.2	-1.3	-2.6
Change in net financial debt	111.1	-20.5	6.4	-112.8	-125.2	-142.3	78.2	243.4
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	300.2	1,162.7	1,202.0	1,244.4	1,579.7	1,646.7	1,531.8	1,417.0
Financial & other non-current assets	0.3	0.5	0.6	0.7	0.5	0.5	0.5	0.5
Total shareholders' equity	284.8	674.9	737.9	685.0	925.9	850.6	814.0	942.5
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	161.8	703.2	685.9	718.7	804.6	912.9	847.9	790.9
Net financial debt	30.0	494.6	495.7	592.2	708.9	851.2	773.0	529.6
Working capital requirement	14.2	12.3	33.9	32.6	55.1	55.1	55.1	55.1
Invested Capital	na	na	na	na	na	na	na	na
Per share data								
EPS adjusted	-0.16	-0.30	1.11	0.96	0.11	-0.25	-0.17	2.52
EPS adj and fully diluted	na	na	na	na	na	na	na	na
% Change	na	na	na	na	na	na	na	na
EPS reported	-0.22	0.21	1.14	0.10	0.05	-0.25	-0.17	2.52
Cash flow per share	1.25	0.50	1.96	2.08	0.72	0.49	0.64	3.33
Book value per share	14.92	11.10	7.96	7.33	6.50	5.98	5.72	6.62
Dividend per share	0.08	0.11	0.69	0.58	0.14	0.08	0.08	2.01
Number of shares, YE (m)	29.04	92.51	92.91	93.43	142.36	142.36	142.36	142.36
Ratios								
ROE (%)	-1.3%	-3.8%	14.5%	12.6%	1.9%	-4.0%	-2.9%	40.8%
ROIC (%)	na	na	na	na	na	na	na	na
Net fin. debt / EBITDA (x)	1.1	12.2	2.3	2.8	4.7	7.5	5.7	1.0
Gearing (%)	10.5%	73.3%	67.2%	86.5%	76.6%	100.1%	95.0%	56.2%
Valuation								
P/E adjusted	na	na	7.0	3.8	34.1	na	na	1.5
P/E adjusted and fully diluted	na	na	na	na	na	na	na	na
P/BV	0.3	0.6	1.0	0.5	0.6	0.6	0.6	0.6
P/CF	3.7	14.1	3.9	1.8	5.1	7.5	5.7	1.1
Dividend yield (%)	1.7%	1.6%	9.0%	15.8%	3.8%	2.2%	2.2%	55.0%
FCF yield (%)	na	na	na	na	na	na	na	na
EV/Sales	na	na	na	na	na	na	na	na
EV/EBITDA	na	na	na	na	na	na	na	na
EV/EBIT	na	na	na	na	na	na	na	na

D/S Norden

Denmark | Transport | Mcap DKK 5.0bn

02 March 2018

Buy (Not Rated)

Target Price	**DKK 143.00**
Current Price	DKK 118.50
Up/downside	20.7%
Change in TP	none
Change in EPS	none 16E / none 17E

Lots of good, some bad, and not ugly

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Although the dry bulk market has been improving for more than a year now, we believe the best is yet to come. Low fleet growth, combined with a war on pollution in China, could lift fleet utilisation and rates back to historical highs. On the back of solid market fundamentals and low asset values in a historical context, we remain positive on the dry bulk sector. We are not as positive on its oil tanker exposure, but there is more good in dry bulk than bad in tankers. In addition, with valuations close to NAVs, the upside is not yet reflected in prices. We initiate coverage on the stock with a Buy rating and target price of DKK143, implying a P/NAV 1.0x on our base-case NAV.

Combining long-term exposure with trading activities

D/S Norden, which is listed on the NASDAQ Copenhagen with the ticker DNORD, has a long history in the shipping industry (it was founded 1871). The company combines long-term ownership and charter positions in dry bulk and product tanker vessels with short-term trading operations. The significance of trading in D/S Norden's strategy differentiates the company from other dry bulk peers which normally have only long-term positions in either ownership or charters.

The best is yet to come in the dry bulk market

Although the dry bulk market has been improving for more than a year now, we believe the best is yet to come. All-time-low ordering of new vessels in 2016 should ensure that fleet growth in 2018 and 2019 remains subdued, and this, in combination with China's war on pollution, leads us to expect healthy growth in imports. Overall, we again see fleet utilisation above 90% in 2020E, which would lift dry bulk rates significantly from current levels.

We initiate coverage of D/S Norden with Buy (TP DKK143)

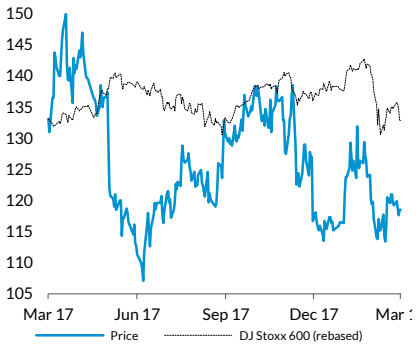
Although we see D/S Norden being somewhat negatively impacted by expected weakness in the tanker market, we project solid upside of 20% in the underlying NAV valuation. We therefore initiate coverage on the stock with a Buy rating and target price of DKK143, implying a P/NAV of 1.0x on our base-case NAV. In our view, Norden's exposure to smaller vessels and its low financial leverage make the company well suited for investors that want dry bulk exposure, but not the high leverage of other peers.

Market data

Bloomberg: DNORD DC	Reuters: DNORD.CO
Market cap (DKKm)	5,001
Free float	70%
No. of shares outstanding (m)	42
Avg. daily volume (DKKm)	29.8
YTD abs performance	3.1%
52-week high/low (DKK)	150.00/107.10

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	1,039.5	1,141.3	1,568.0
EBITDA adj (m)	123.5	133.4	273.7
EBIT adj (m)	77.5	82.7	220.2
Net profit adj (m)	64.4	68.9	207.4
Net fin. debt (m)	82.4	37.8	-77.2
FCF (m)	30.8	164.1	490.5
EPS adj. and fully dil.	1.53	1.63	4.92
Net dividend	0.00	0.00	3.64

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	12.7	11.9	3.9
EV/EBITDA	7.3	6.4	2.7
EV/EBIT	11.6	10.3	3.4
FCF yield	3.8%	20.1%	60.0%
Dividend yield	0.0%	0.0%	18.8%
Net fin.debt/EBITDA	0.7	0.3	-0.3
Gearing	9.3%	3.9%	-7.3%
ROIC	8.5%	8.6%	23.6%
EV/IC	0.9	0.9	0.8



Investment summary

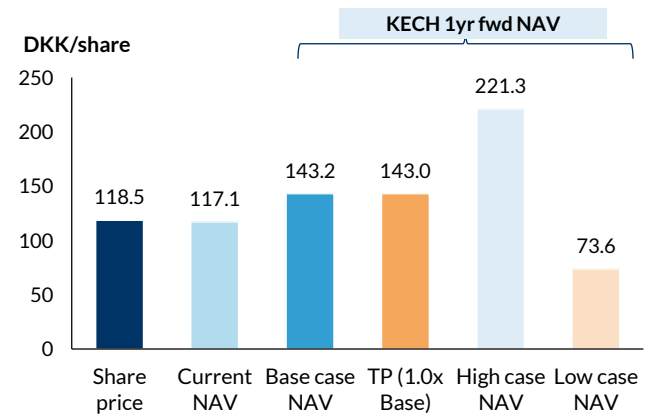
D/S Norden, which is listed on the NASDAQ Copenhagen with the ticker DNORD, has a long history in the shipping industry (it was founded 1871). The company combines long-term ownership and charter positions in dry bulk and product tanker vessels with short-term trading operations. The significance of trading in D/S Norden's strategy differentiates the company from other dry bulk peers which normally just take long-term positions in either ownership or charters.

Although the dry bulk market has been improving for more than a year now, we believe the best is yet to come. All-time-low ordering of new vessels in 2016 should ensure that fleet growth in 2018 and 2019 remains subdued, and this, in combination with China's war on pollution, leads us to expect healthy growth in imports, given that Chinese domestic production of coal and iron ore is the least competitive in the global market, and hence likely to be partly substituted by imports. The Chinese authorities' ambition to curb domestic output is also likely to support commodity prices, which again makes the willingness to pay for dry bulk transportation services higher. Overall, we again see fleet utilisation above 90% in 2020E, which would lift dry bulk rates significantly from current levels.

On the back of solid market fundamentals and low asset values in an historical context, we remain positive on the dry bulk sector. In addition, with valuations close to NAVs, the upside is not already reflected in prices. Our dry bulk peers trade at an average EV/GAV close to 1x against asset values that are still below the last peak in 2014, or significantly lower than the 2007 highs.

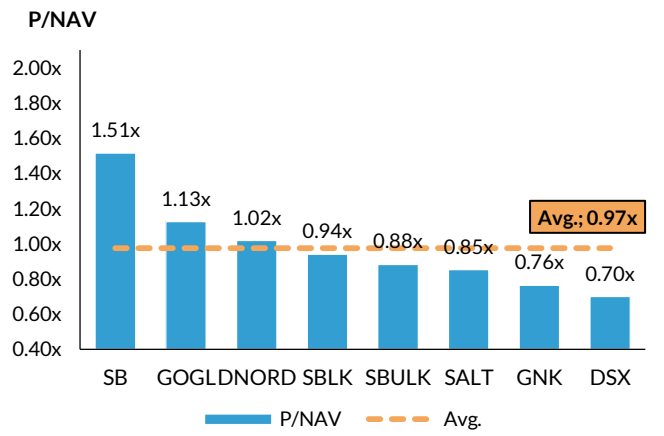
Although we see the company being somewhat negatively impacted by expected weakness in the tanker market, we project solid upside of 20% in the underlying NAV valuation. We initiate coverage on the stock with a Buy rating and DKK143 target price, implying a P/NAV of 1.0x on our base-case NAV. In our view, Norden's exposure to smaller vessels and low financial leverage make the company well suited for investors that want dry bulk exposure, but not the high leverage of other peers.

Chart 605: D/S Norden, target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 606: P/NAV valuation for dry bulk peers



Source: Kepler Cheuvreux

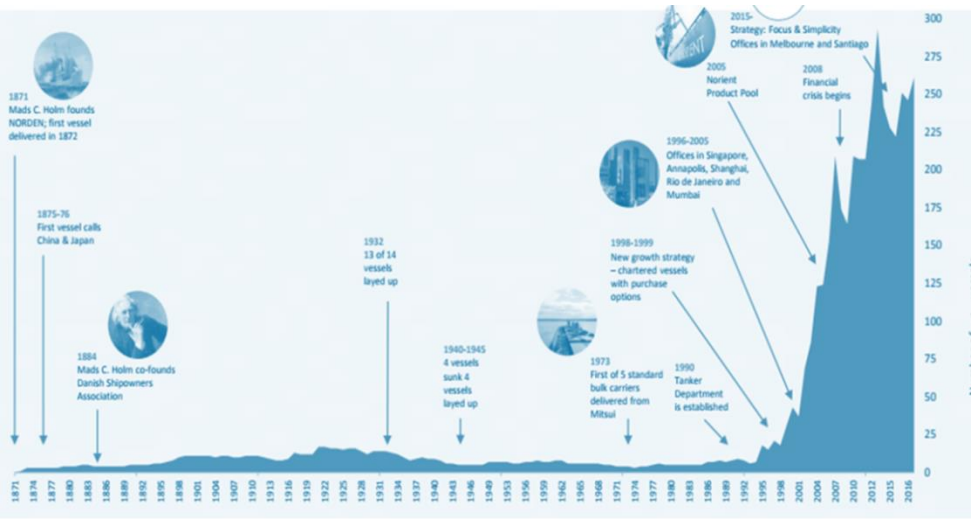
D/S Norden in brief

Norden combines long-term exposure with a large operating platform

D/S Norden, which is listed on the NASDAQ Copenhagen with the ticker DNORD, has a long history in the shipping industry (it was founded 1871). The company combines long-term ownership and charter positions in dry bulk and product tanker vessels with short-term trading operations. The significance of trading in D/S Norden's strategy differentiates the company from other dry bulk peers which normally just take long-term positions in either ownership or charters.

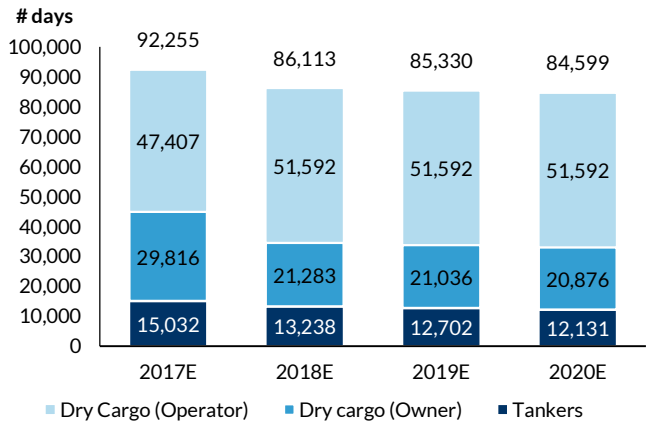
As the business characteristics of trading are more similar to hedge-fund activities, D/S Norden will separate the business models as of 2018. From Q1 2018 accounts, the dry bulk segment will be split into "dry cargo owner" with long-term positions and "dry cargo operator" with short-term trading activities.

Chart 607: DNORD operating fleet increased significantly in the 2000s with trading operations



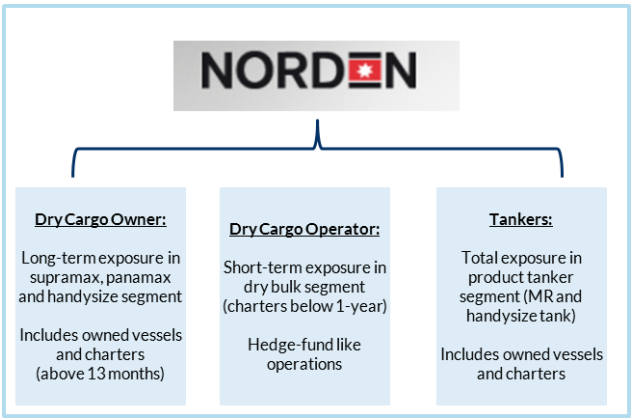
Source: Company data, Kepler Cheuvreux

Chart 608: D/S Norden's fleet days by segment 2018-20E



Source: Company data, Kepler Cheuvreux

Chart 609: The three parts of D/S Norden

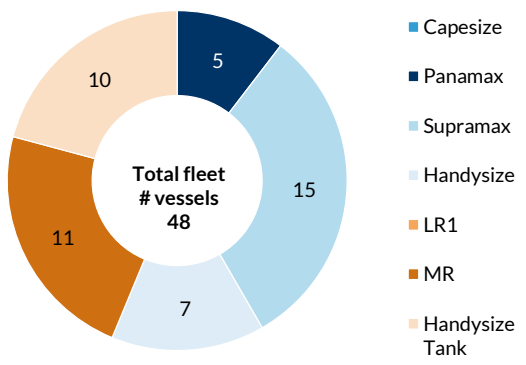


Source: Company data, Kepler Cheuvreux

Core fleet with long-term exposure in dry bulk and product tankers

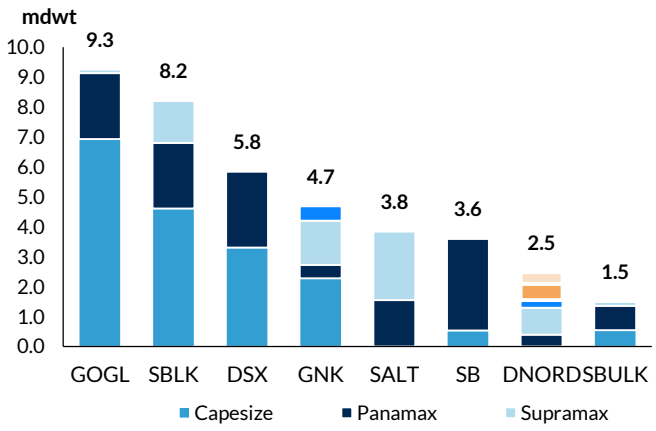
D/S Norden's long-term exposure includes ownership in 48 owned vessels and several long-term charter positions (above 13 months). The owned fleet is relatively evenly split between dry bulk carriers (27) and product tankers (22), of which eight vessels are part of the company's newbuild programme, with expected delivery from 2018-20 (all Supramax vessels). However, not all vessels are fully owned, and on a proportional basis, D/S Norden owns 45.5 vessels. The owned fleet is not very large compared to peers, with a total capacity of 2.5m dwt but, with a total market cap of USD0.8bn, Norden is still the second-largest stock in our dry bulk peer universe. The company focuses its ownership on the smaller vessel segments, i.e. Supramax, Panamax and product tankers. The average fleet age of D/S Norden's owned fleet is 4.6 years (value weighted). Hence, the fleet is quite modern relative to other peers', especially as the company has several vessels in its newbuild programme.

Chart 610: DS Norden fleet by vessel type (total fleet)



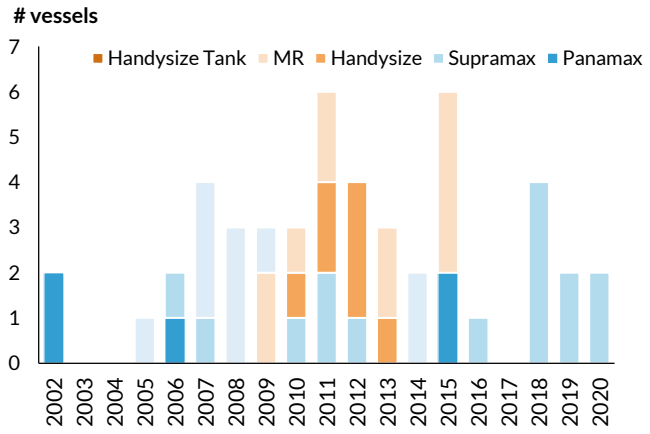
Source: Company data, Kepler Cheuvreux

Chart 611: Rel. size of dry bulk peers (owned fleet, DWT mill.)



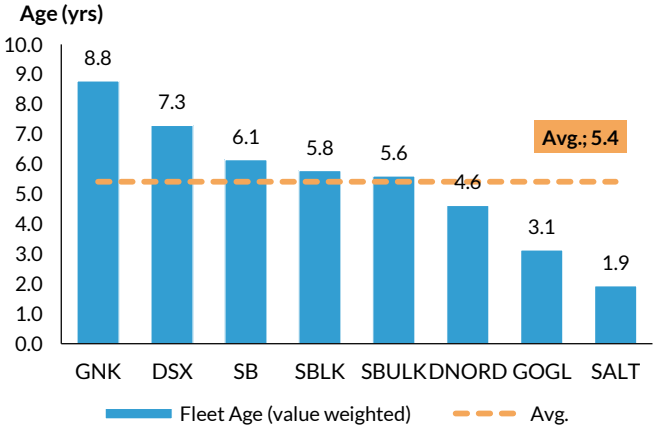
Source: Company data, Kepler Cheuvreux

Chart 612: DS Norden's owned fleet by build year



Source: Company data, Kepler Cheuvreux

Chart 613: Average fleet age for peers (owned, value weighted)



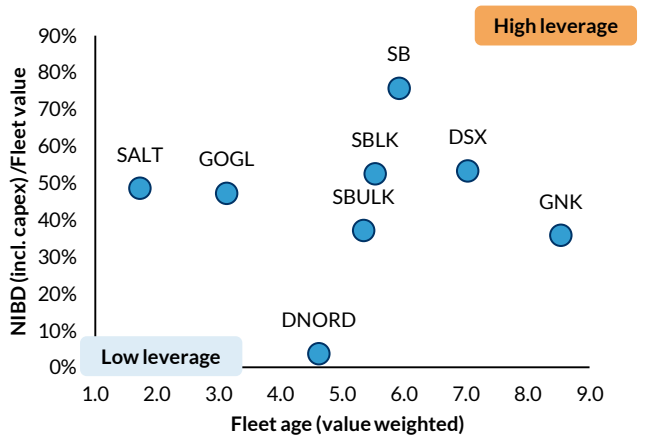
Source: Company data, Kepler Cheuvreux

Low financial leverage even when including capex...

We estimate that D/S Norden has a net leverage ratio of just 4% (including capex and working capital, see valuation part) versus its current fleet values. This is significantly lower than other peers, whose net leverage ratios range from 40% to 80%. The reason for the low leverage is Norden's large charter portfolio, which adds off-balance-sheet operational leverage.

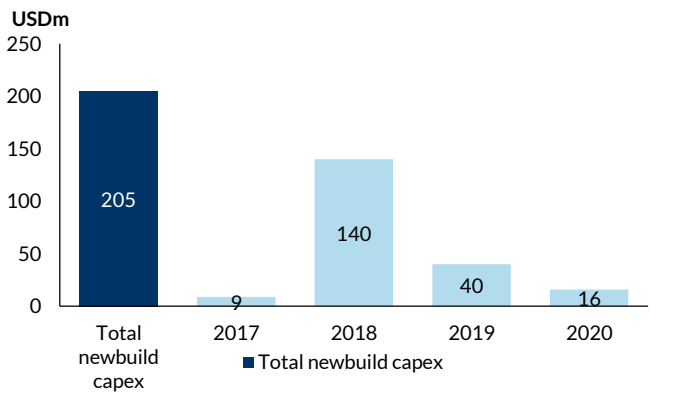
At Q3 2017, D/S Norden had USD225m in outstanding debt, and we assume quarterly debt repayments of c. USD6m. Total liquid funds was USD190m in the same quarter, and combined with undrawn revolving facilities of USD250m, Norden's available liquidity of USD440m far exceeds its debt obligations. However, Norden has off-balance-sheet capex commitments of USD205m relating to its newbuild programme, USD140m of which is due in 2018. The newbuild programme consists of nine Supramax vessels with delivery in 2018-20E, plus a Panamax that was sold on delivery in Q4 2017.

Chart 614: Fleet age versus financial leverage (KECH est.)



Source: Kepler Cheuvreux

Chart 615: Newbuild capex



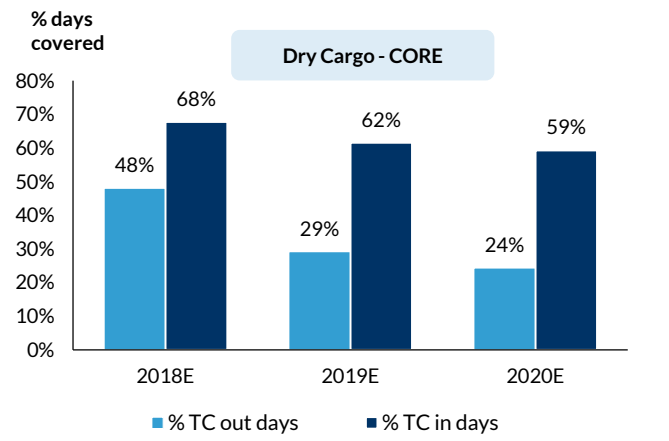
Source: Kepler Cheuvreux

...but significant operational leverage through charter portfolio

Despite having low financial leverage in terms of outstanding net interest bearing debt, D/S Norden still has significant operational leverage, particularly through the company's large charter portfolio. If we estimate the company's additional leverage as chartered days in percentage of the total core fleet (ex. the dry bulk operator), we find that the charter portfolio represents 59-67% of dry bulk days and 37-42% of tanker days. However, not all of these days are exposed to spot market fluctuations, and 24-48% of core dry cargo days are covered by fixed income contracts. For the product tankers, spot exposure is much bigger, with only 7% covered in 2018E, and 0% in 2019-20E.

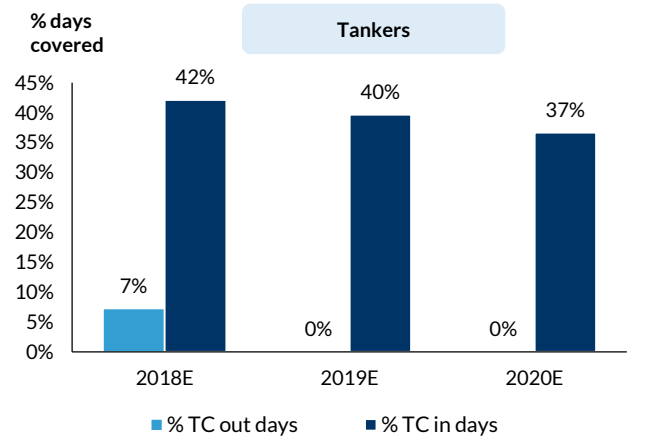
Each quarter, D/S Norden publishes the overall vessel days and charter rates in its charter portfolio in an additional pdf attached to the quarterly report. The charts on the next page illustrate the overall position as of Q3 2017.

Chart 616: Dry cargo charter portfolio as % CORE fleet days



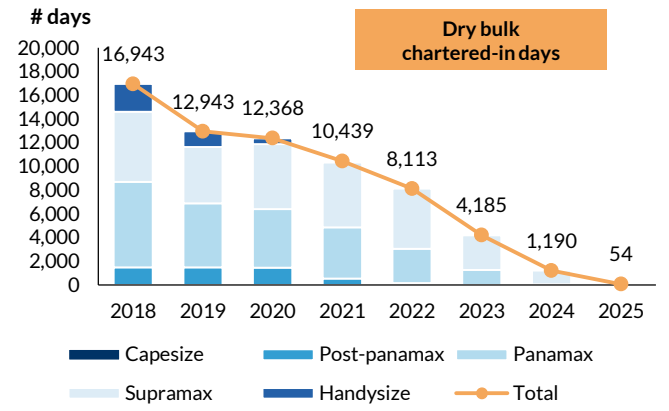
Source: Kepler Cheuvreux

Chart 617: Tankers charter portfolio as % CORE fleet days



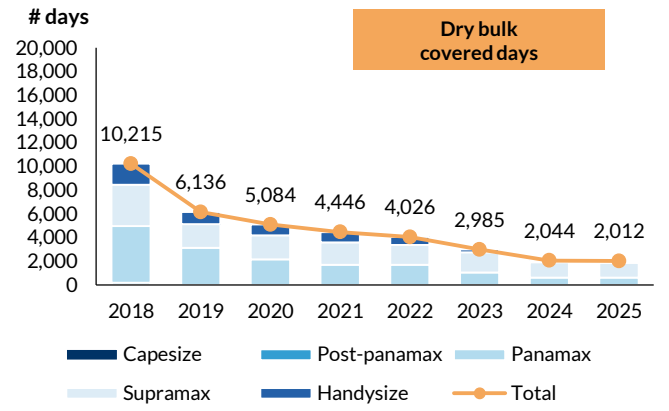
Source: Kepler Cheuvreux

Chart 618: Dry cargo charter-in days



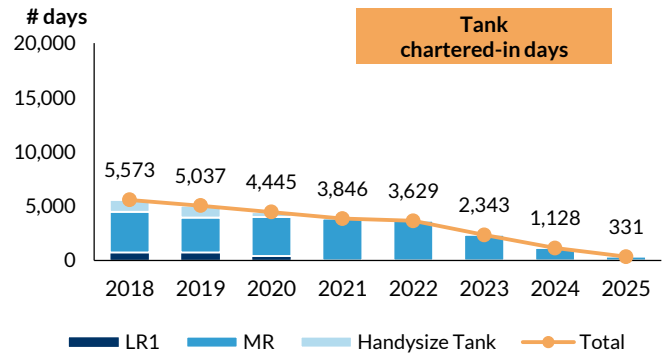
Source: Kepler Cheuvreux

Chart 619: Dry cargo covered days



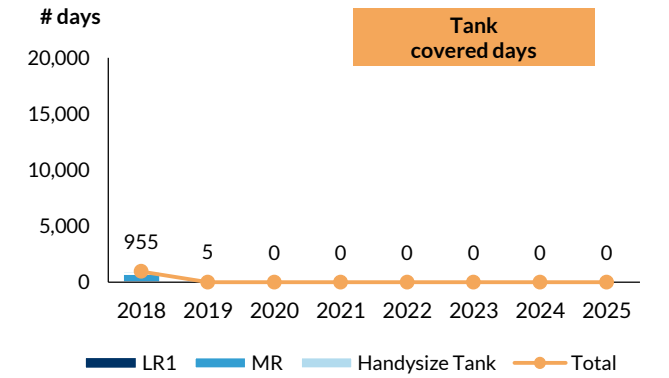
Source: Kepler Cheuvreux

Chart 620: Tankers charter-in days



Source: Kepler Cheuvreux

Chart 621: Tankers covered days



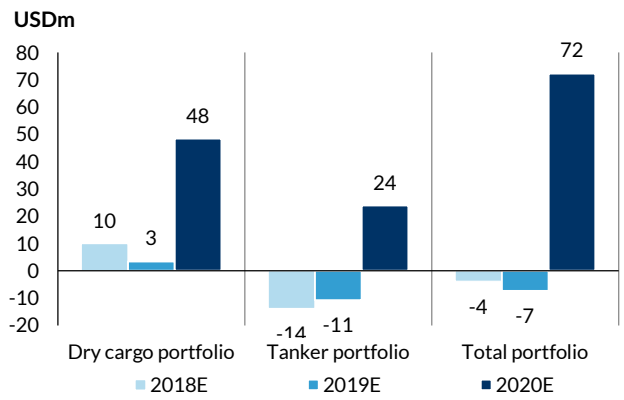
Source: Kepler Cheuvreux

The charter portfolio adds operational leverage for D/S Norden, and we can estimate the earnings contribution from the portfolio relative to our freight rate forecasts (note that we assume TC coverage has a net contribution versus being a spot position).

In our base-case scenario, we find that Norden's total charter portfolio will have a negative impact on the company's earnings of USD4m in 2018E and USD7m in 2019E, but a positive impact of USD72m in 2020E. The reason for the negative impact in 2018-19E is that we expect weak freight rates for product tankers, which would give a net loss versus the chartered-in rate. For dry bulk, we expect the company's coverage portfolio to have a positive impact in 2018-19. In 2020, however, our expectation is that both markets will improve significantly, which means that charter portfolio will provide additional earnings for both dry cargo and tankers.

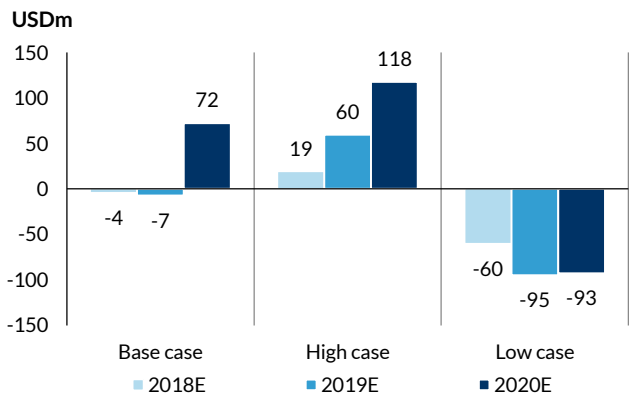
Overall, the charter portfolio will have a relatively low impact on Norden's earnings unless freight rates move significantly from today's levels. In the chart below, we present a scenario analysis of the portfolio, and in our base-case scenario for 2018-19 the earnings contribution is below USD10m, as we do not forecast major deviations from current rates. However, in the event of a strong tightening of the market (high case) or an opex scenario (low case), the charter portfolio could alter the company's earnings by USD50-100m each year, given the direction of the freight rates.

Chart 622: Contribution to earnings, TC portfolio (base case)



Source: Kepler Cheuvreux

Chart 623: Contribution from portfolio in different scenarios



Source: Kepler Cheuvreux

Management and shareholder structure:

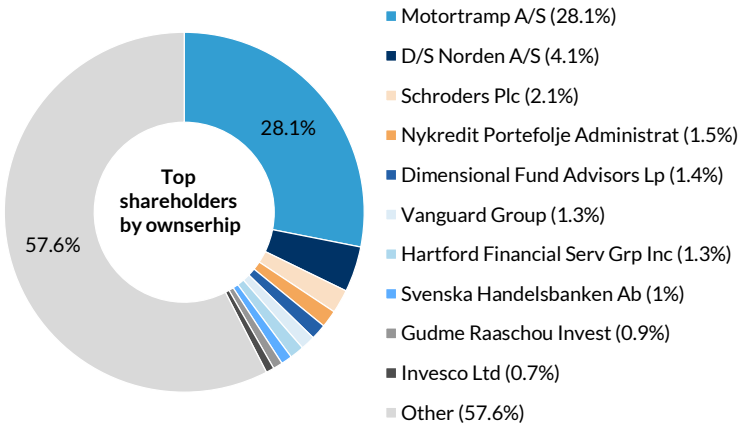
D/S Norden's executive management consists of the following:

- **Jan Rindbo (CEO):** Jan Rindbo joined D/S Norden in 2015 as CEO. He has international shipping experience from Denmark, North America and Asia. He was previously employed with the Hong Kong listed dry cargo shipping company Pacific Basin for more than 13 years, most recently as chief operating officer and member of the executive committee and the board of directors. He is trained in shipping and has completed various executive training programmes at INSEAD and Copenhagen Business School.

- **Martin Badsted (CFO):** Martin Badsted holds an M.Sc. in International Business and joined D/S Norden in 2005. He was appointed senior vice president in 2008. In June 2012, he was appointed executive vice president and became a member of executive management. In August 2015, he was appointed chief financial officer (CFO). He was previously employed at Carnegie Bank, Investment Banking.

The major shareholder in D/S Norden is Motortramp AS, with 28% of outstanding shares. In December 2017, one of the company's previous large shareholders, Rasmussengruppen AS, sold all of its shares in the company.

Chart 624: Shareholder structure



Source: Company data, Kepler Cheuvreux

Deconstructing the forecast

D/S Norden is primarily exposed to the dry bulk segment, due to its large operating section with the short-term trading in dry bulk vessels. However, a large part of the company's underlying values exposure is also related to the development of the product tanker market.

The section below outlines our stance on both segments:

Dry bulk market: the best is yet to come

Although the dry bulk market has been improving for more than year now, we believe the best is yet to come. All-time-low ordering of new vessels in 2016 should ensure that fleet growth in 2018 and 2019 remains subdued, and this, in combination with China's war on pollution, leads us to expect healthy growth in imports, given that the Chinese domestic production of coal and iron ore is the least competitive in the global market, and hence likely to be partly substituted by imports. The Chinese authorities' ambition to curb domestic output is also likely to support commodity prices, which again makes the willingness to pay for dry bulk transportation services higher; we estimate that a 10% increase in the price of coal could increase Capesize spot rates by c. 370%, from the current USD14,000 per day to USD64,000 per day. However, that would assume that the full price increase went to the ship owners' pockets, which is probably too optimistic, given that fleet utilisation is still below 90%. However, come 2020, we again see fleet utilisation

above 90% and rates at much higher levels than today, partly owing to lower vessel speeds due to the higher bunker price induced by the new sulphur cap.

Tanker market: high supply growth could extend the rate weakness

2017 was a difficult year in the crude tanker market, and we expect more of the same in 2018, despite believing in continued growth in US crude exports and that the reduction of floating storage has now come to an end. Fleet growth remains too strong, and H1 2019 could also be a disappointing six months, with spot rates at, or below, cash breakeven levels.

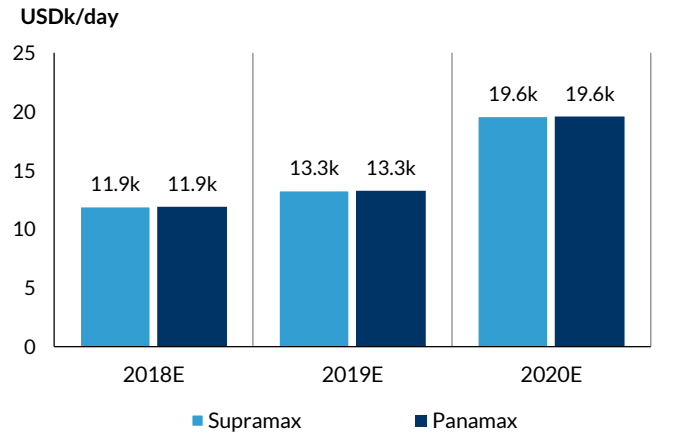
That said, we see light at the end of the tunnel with fleet utilisation in the high 90% range in 2020E. The main reason for this optimism - apart from much lower fleet growth - is the impact from the reduced cap on sulphur emissions in the at-sea use of fuel oil, which we think will: 1) lower the speed of vessels; 2) result in a lot more trading, both in different crude qualities and dirty oil products; and 3) increase again rates of floating storage of fuel oil, which we believe will be difficult to get rid of (see sector part for more about the LPG shipping market).

Rate forecasts

For dry bulk carriers, we expect 2018-19 to continue the strong trend from 2017, with rates above cash breakeven levels, and model Panamax/Supramax rates at USD12,000-13,000 per day for the next two years. In 2020, we expect strong market tightening with spot rates at almost USD20,000 per day.

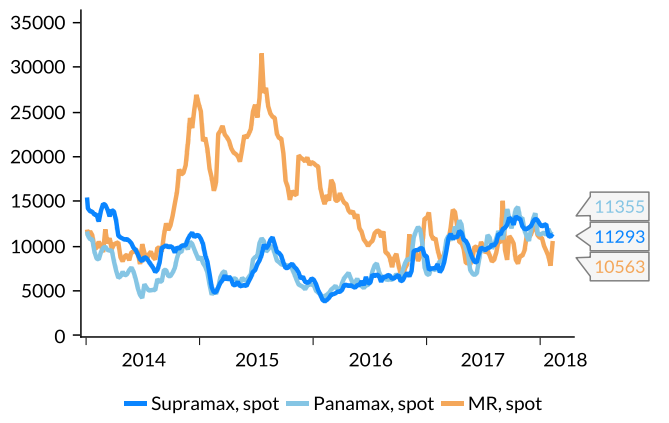
For product tankers, we model standard MR rates of USD12,100 per day for 2018E and USD13,500 per day for 2019E, which means that vessels are trading close to breakeven levels. However, we also expect an increase to USD20,400 per day for 2020.

Chart 625: KECH freight rate forecast for dry bulk (2018-20E)



Source: Kepler Cheuvreux

Chart 626: Supramax rates and MR spot rates from Clarkson



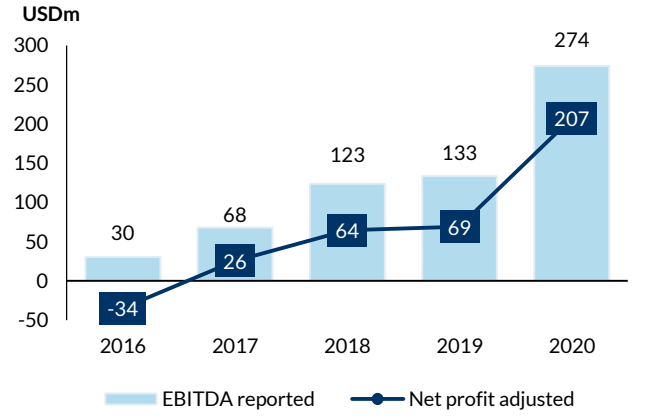
Source: Clarkson, Kepler Cheuvreux

Improved dry bulk market to lift D/S Norden's earnings in 2018-20E

After a strong increase in dry bulk rates in Q4 2017, Norden upped its adjusted net profit guidance for Q4 to USD20m-30m from –USD10m to -USD30m previously. However, with expected Panamax/Supramax rates at almost USD12,000 per day for 2018-19, we expect a still strong EBITDA of USD120-130m in 2018-19. Although we forecast the contribution from product tankers to be marginal, we expect D/S Norden to return to profitability after several years with weak dry bulk earnings. Overall, we see the adjusted net profit increasing from USD26m in 2017 to USD64m-69m in 2018-19E.

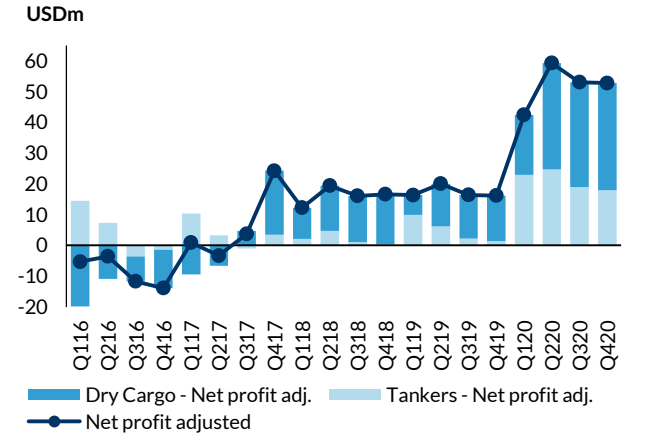
We are also very bullish on the long-term outlook for both dry bulk and product tankers, as we also expect to see a recovery in the tanker market by 2020. This would lift Norden's adjusted profit above USD200m. Our estimates imply an EV/EBITDA of 6-7x in 2018-19E and 3.0x in 2020E.

Chart 627: Estimated EBITDA and net profit for D/S Norden



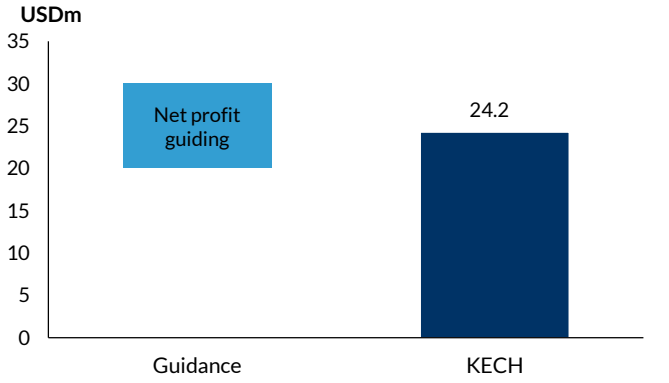
Source: Bloomberg consensus, Kepler Cheuvreux

Chart 628: Adjusted net profit split by company sub-segment



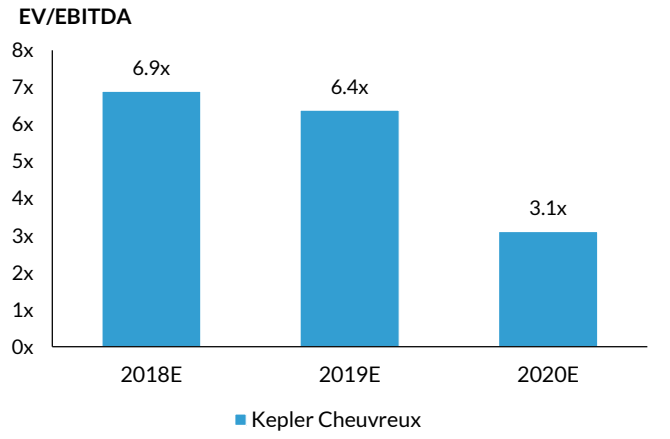
Source: Bloomberg consensus, Kepler Cheuvreux

Chart 629: Q4 2017 net profit guidance versus KECH estimate



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 630: EV/EBITDA on KECH EBITDA estimates (2018-20E)



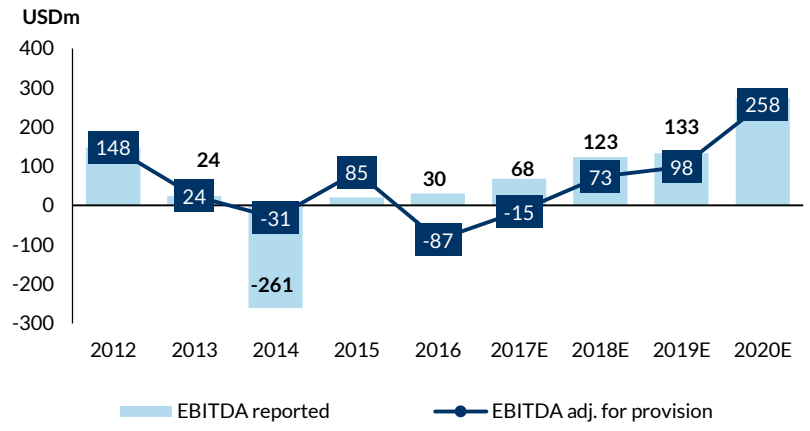
Source: Bloomberg consensus, Kepler Cheuvreux

We expect Norden to return to cash generation in 2018

In 2014-15, D/S Norden made provisions for around USD300m in expected losses on its charter portfolio for the coming years. Adjusting for these provisions, the company actually reported negative EBITDA in 2016 and 2017. However, from 2018, most of the negative impact from charters (and also the accounting adjustments from provisions) will begin to wear off from Norden's earnings. In our base-case scenario, we expect 2018 and 2019 to have underlying EBITDA of USD70m and USD100m, respectively, equal to cash generation of USD35m in 2018E and USD60m in 2019E (including interest and amortisation).

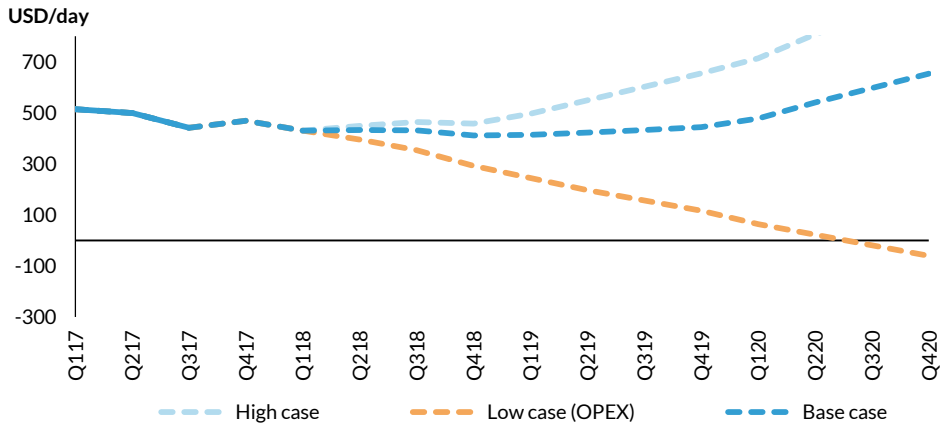
Given Norden's strong liquidity position, we also see room for the company to resume dividend payouts should our base-case materialise.

Chart 631: D/S Norden's EBITDA adjusted for provisions



Source: Kepler Cheuvreux

Chart 632: DS Norden's total available liquidity (+ available RCF) in KECH scenarios



Source: Kepler Cheuvreux

Deconstructing the forecasts

In the table below, we outline our key estimates and assumptions for D/S Norden from 2017 to 2020. Overall, we pencil in a strong increase in earnings on the back of a strong rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of the company segment.

Segment development: Our modelling of D/S Norden is best explained through the development of the underlying segments:

- **Dry cargo:** The dry cargo segment consists of long-term ownership and charters in dry bulk vessels in addition to the short-term positions from the dry cargo operator. Separate accounts for the two parts will begin in Q1 2018.
    - **Dry cargo owner:** We model the revenues based on our estimated rate forecasts, where we see Panamax/Supramax rates at USD12,000 per day in 2018-19, increasing to almost USD20,000 per day by 2020. We assume stable opex levels for owned vessels of around USD5,500 per day, and total SGA for the dry cargo segment of USD9.5m per quarter. The TC portfolio is included according to guidance from D/S Norden, as explained above.
    - **Dry cargo operator:** Several of the operator days are included in the TC portfolio, but as Norden has guided for stable/slightly increasing operator positions, we also include additional operator days in our estimates. Overall, we assume that total operator days remain stable at the Q3 2017 level. Since the operator functions like a hedge fund activity, we include a 2% contribution margin for this segment.
    - **Tanker:** For tankers, we include our rate forecasts for product tankers. We model standard MR rates of USD12,100 per day for 2018E and USD13,500 per day for 2019E. However, we also expect an increase to USD20,400 per day for 2020E. We assume average opex of USD6,500 per day for owned vessels, and the charter portfolio according to Norden's guidance.

EBITDA: We expect reported EBITDA of USD123m in 2018, USD133m in 2019 and USD273m in 2020.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume average floating interest rates of LIBOR + 2.0-2.5% on Golden's secured bank facilities.

Tax: We expect D/S Norden to pay about USD4m in tax each year.

Net profit: We expect net profit to increase to USD64m in 2018 and USD68m in 2019.

DPS: We have not included any dividends for 2018-20.

Table 49: Key financials

Key financials (USDm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
P&L figures:									
TCE revenues	**975.3**	**1,039.5**	**1,141.3**	**1,568.0**	**237.2**	**251.8**	**275.2**	**240.5**	**267.2**
Other operating income	10.8	8.0	8.0	8.0	3.1	2.8	2.0	2.0	2.0
Operating cost incl. charter hire	-872.8	-878.0	-970.0	-1,256.3	-221.2	-230.9	-227.4	-204.7	-223.2
SGA	-45.3	-46.0	-46.0	-46.0	-11.7	-11.7	-11.5	-11.5	-11.5
EBITDA	**68.0**	**123.5**	**133.4**	**273.7**	**7.4**	**12.0**	**38.3**	**26.3**	**34.5**
Depreciation, impairments etc.	-41.6	-46.0	-50.6	-53.4	-10.2	-9.6	-11.0	-11.0	-11.6
Net financial items	-5.9	-9.1	-9.8	-8.8	0.4	-6.5	-2.0	-2.0	-2.4
Tax	1.3	-4.0	-4.0	-4.0	-0.9	4.2	-1.0	-1.0	-1.0
Net profit reported	**21.7**	**64.4**	**68.9**	**207.4**	**-3.3**	**0.1**	**24.2**	**12.2**	**19.4**
Net profit adjusted	25.5	64.4	68.9	207.4	-3.3	3.7	24.2	12.2	19.4
EPS adj (USD)	-1.43	0.36	0.84	4.75	-0.61	-0.43	0.12	-0.01	0.17
DPS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Provision adj. results:									
Provision adjustments	-83.5	-50.0	-35.0	-15.2	-21.5	-21.0	-19.4	-12.5	-12.5
EBITDA adj. for provision	**-15.5**	**73.5**	**98.4**	**258.5**	**-14.1**	**-9.0**	**19.0**	**13.8**	**22.0**
Net profit adj. for provision	**-58.0**	**14.4**	**33.9**	**192.2**	**-24.8**	**-17.3**	**4.9**	**-0.3**	**6.9**
Segment data:									
Dry Cargo - EBITDA	23.9	84.7	83.3	158.7	-2.6	5.5	27.3	16.5	22.1
Dry Cargo - Net profit adj.	**9.5**	**56.0**	**49.2**	**122.9**	**-6.6**	**4.7**	**20.8**	**10.1**	**14.7**
Tankers - EBITDA	44.2	38.8	50.1	114.9	10.0	6.5	11.1	9.7	12.4
Tankers - Net profit adj.	**16.1**	**8.4**	**19.7**	**84.5**	**3.3**	**-1.0**	**3.5**	**2.1**	**4.8**
Operating assumptions:									
Avg. EBITDA margin ($/day)	737	1,434	1,563	3,235	336	484	1,651	1,225	1,604
TC Coverage (% all CORE days)	108%	32%	18%	15%	107%	100%	101%	33%	33%
TC Leverage (% all CORE days)	70%	58%	53%	51%	70%	71%	67%	58%	58%
Total vessel days (available)	92,255	86,113	85,330	84,599	22,015	24,777	23,200	21,448	21,488
Dry Cargo days (Owner/Core)	29,816	21,283	21,036	20,876	7,983	7,755	6,137	5,267	5,286
Dry Cargo days (Operator)	47,407	51,592	51,592	51,592	10,633	12,898	12,898	12,898	12,898
Tankers days	15,032	13,238	12,702	12,131	3,399	4,124	4,165	3,283	3,304
Selected balance sheet items:									
Cash and cash equivalents	206.4	148.5	181.4	391.4	237.0	178.8	206.4	167.6	170.0
Securities	12.0	12.0	12.0	12.0	11.6	12.0	12.0	12.0	12.0
Total interest bearing debt	221.2	242.8	231.2	211.5	203.3	224.4	221.2	236.6	235.3
Net interest bearing debt	**2.8**	**82.4**	**37.8**	**-191.8**	**-45.3**	**33.6**	**2.8**	**57.0**	**53.4**
Leverage ratio (%)	35%	32%	28%	23%	37%	37%	35%	35%	34%
Selected cash flow items:									
Operating cash flow	-19.2	60.4	84.6	245.6	-9.7	-16.0	15.9	10.8	18.6
Investing cash flow	34.9	-140.0	-40.0	-16.0	12.7	-25.8	15.0	-65.0	-15.0
Financing cash flow	2.8	21.7	-11.7	-19.7	-8.4	19.5	-3.3	15.4	-1.3
Change in free cash	**23.9**	**-58.0**	**32.9**	**210.0**	**-5.3**	**-19.8**	**27.7**	**-38.8**	**2.3**

Source: Company data, Kepler Cheuvreux

Valuation

Further upside in asset values: still not high from a historical perspective

Our preferred valuation method for D/S Norden is an equity net-asset-value (NAV) valuation based on estimated fleet values for vessels less net interest bearing debt and other commitments for the company. Our vessel values use the quote published by Clarkson (a London-based provider of integrated shipping services and search) for second-hand vessels as the current benchmark valuation. In our target valuation, we forecast changes in the vessel values based on our freight rate estimates (see sector part for more details).

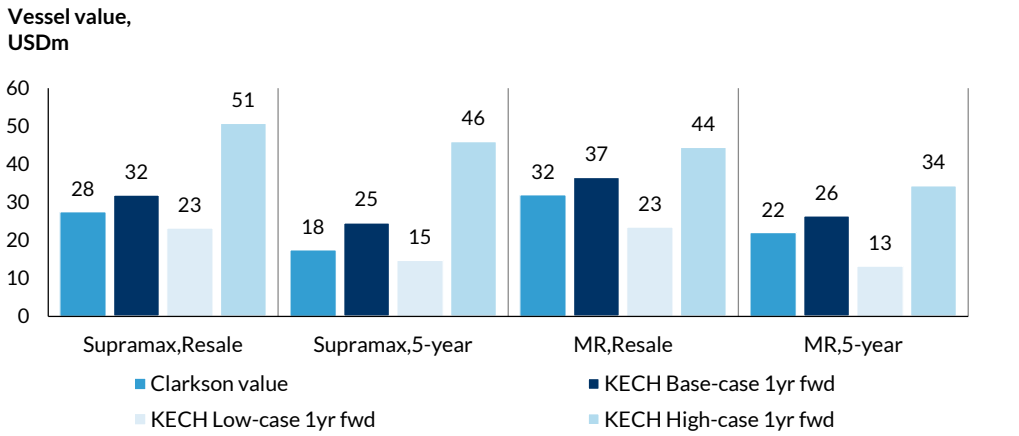
Currently, Clarkson quotes the price for a five-year-old Supramax at USD18m, up 16% YOY. The resale price is USD27.5m, implying a 13% premium to the current newbuild price of USD24.3m.

In our view, there will likely be further upside in dry bulk values from current levels, and using our base-case estimates, we forecast a five-year-old Supramax at USD25m (up 40%).

For product tankers, we have a more moderate view. However, we expect MR vessels to increase from current very low levels.

The following charts illustrate our forecasts in all scenarios for Supramax and MR vessels.

Chart 633: KECH forecast for Supramax and MR vessels



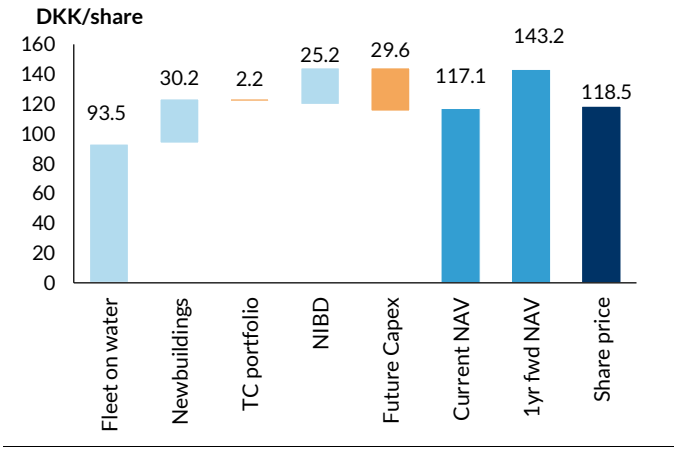
Source: Kepler Cheuvreux

We see 20% upside in D/S Norden's NAV valuation (DKK149 per share)

Given our view on vessel values, we see 20% upside on an equity net asset value (NAV) basis. This brings our base-case NAV to DKK149 per share, versus DKK120 given Clarkson's current asset values. The increase to our one-year forward NAV is driven by a DKK27 increase in fleet values (10% pure value increase taking into account vessels getting one year older), plus DKK9 per share cash generation over the coming 12 months.

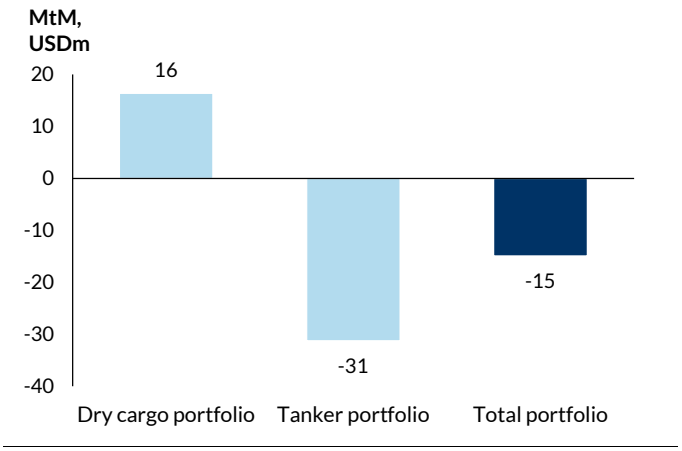
We estimate a negative mark-to-market (MTM) value of Norden's portfolio of USD15m relative our forward curve estimates. The net market value of the portfolio is affected by high charter-in rates for tankers, while the dry bulk portfolio benefits from a solid gain in the short-term from net charter positions (mostly operator).

Chart 634: Net asset value (NAV) bridge for DNORD



Source: Kepler Cheuvreux

Chart 635: MTM value of DNORD portfolio versus fwd. curve



Source: Kepler Cheuvreux

Our NAV includes the following assumptions:

- **Gross asset values (GAV):** We value Norden's fleet at USD856m on current Clarkson values. In our one-year forward estimates we include the cash flow generated from vessels over the coming months and adjust fleet values for one-year older vessels.
- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to Norden's latest quarterly report, and so balance sheet items are from the Q3 2017 report. As we value the fleet on a fully delivered basis, we include the remaining newbuild capex of USD205m.

Table 50: Net asset value breakdown

NAV (USDm)	# vessels	Age (avg.)	NAV Current	1-year forward NAV Base	Low	High
Fleet:						
Panamax	4.0	8.4	61	69	36	138
Supramax	5.5	6.5	88	111	63	215
Handysize	7.0	5.6	96	127	75	237
MR	11.0	4.6	243	273	145	345
Handysize Tank	10.0	7.7	159	162	84	191
Fleet on water	37.5	6.1	647	742	405	1,126
Newbuildings	8.0	-1.3	209	250	184	374
Total fleet value (USDm)	**45.5**	**4.6**	**856**	**992**	**589**	**1,500**
MTM Dry Bulk contract portfolio			16	-9	-9	-9
MTM Tanker contract portfolio			-31	-22	-22	-22
Discounted cash-flow 1yr				61	-18	93
GAV (USDm)			**841**	**1,021**	**540**	**1,562**
NIBD & other commitments (rel. last quarterly report)						
Cash			203	203	203	203
Total interest bearing debt			-224	-224	-224	-224
Other assets/liabilities			196	196	196	196
Other adjustments			0	0	0	0
Future capex			-205	-205	-205	-205
NIBD & other commitments			**-31**	**-31**	**-31**	**-31**
NAV (USDm)			**810**	**990**	**509**	**1,531**
# shares (fully delivered)			42.2	42.2	42.2	42.2
NAV/share (DKK)			117.1	143.2	73.6	221.3
Share price (DKK)			118.5	118.5	118.5	118.5
P/NAV			**1.01x**	**0.83x**	**1.61x**	**0.54x**
EV (USDm)			851	851	851	851
EV/GAV			**1.01x**	**0.83x**	**1.58x**	**0.54x**

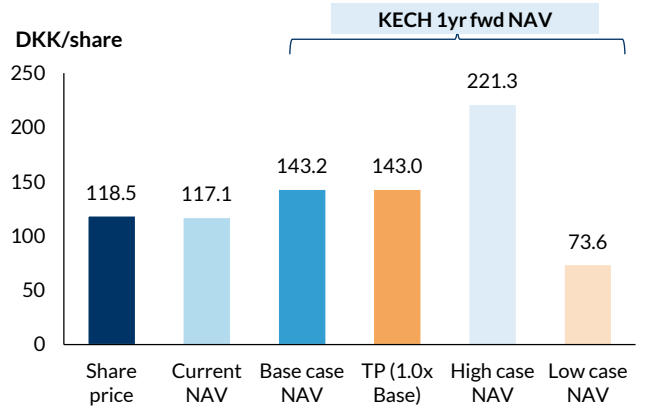
Source: Company data, Kepler Cheuvreux

We initiate coverage with a Buy rating and target price of DKK143

We believe solid market fundamentals and historically low asset values are an attractive combination for dry bulk stocks. In addition, valuations are currently close to NAVs, which means that the upside is not yet reflected in prices. Our dry bulk peers trade at an average EV/GAV of 1.0x.

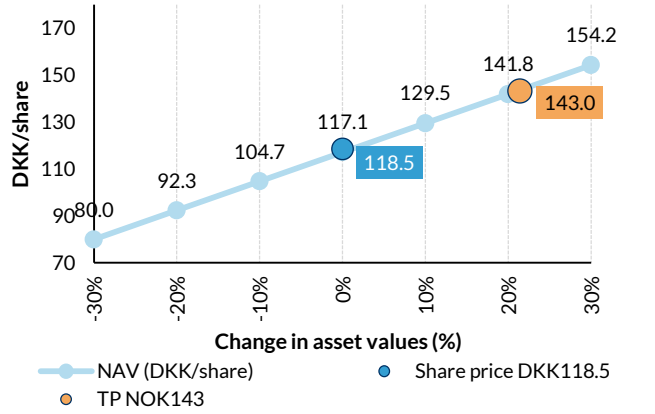
Although D/S Norden will likely be somewhat negatively impacted by expected weakness in the tanker market, we still see solid upside in the underlying NAV valuation. In conclusion, we initiate coverage of the stock with a Buy rating and target price of DKK143, implying a P/NAV of 1.0x on our base-case NAV. Of course, for investors who seek more, other dry bulk companies could offer higher upside, but the trade-off is a more aggressive financial leverage profile, which increases the overall risk.

Chart 636: Kepler Cheuvreux scenario valuation



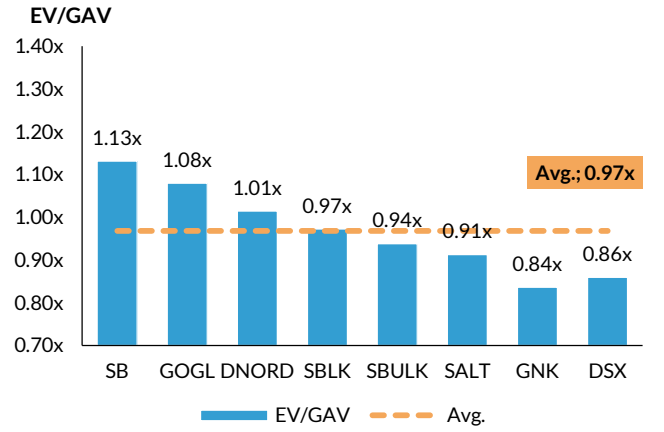
Source: Kepler Cheuvreux

Chart 637: Sensitivity of NAV to changes in asset values



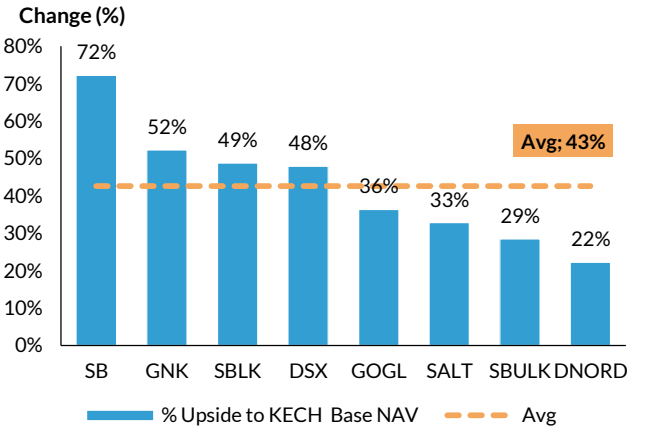
Source: Kepler Cheuvreux

Chart 638: Current EV/GAV



Source: Kepler Cheuvreux

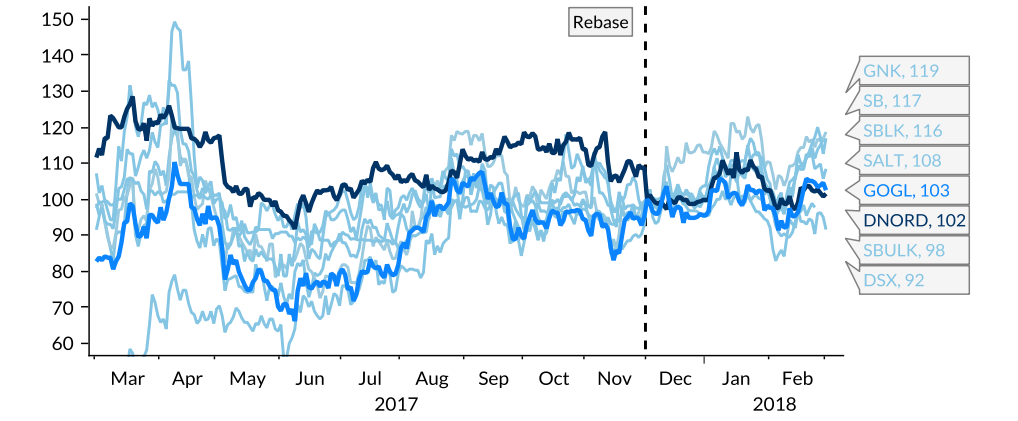
Chart 639: Upside in NAV to base-case scenario



Source: Kepler Cheuvreux

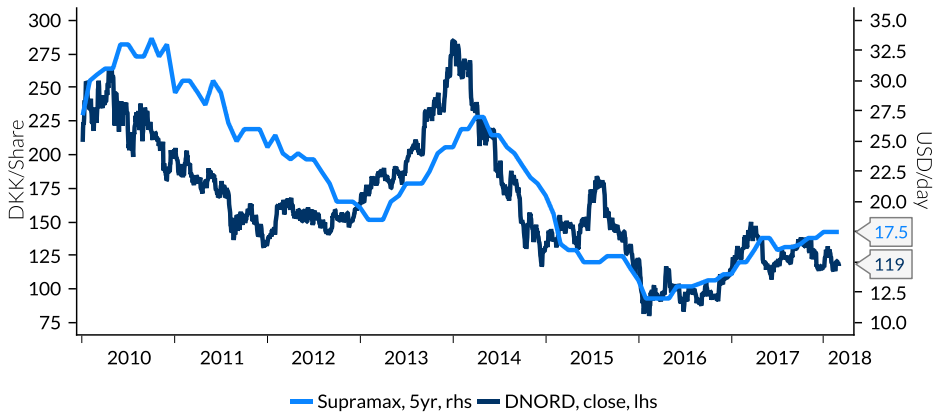
Supplementary figures

Chart 640: LTM share price development for dry bulk peers



Source: Macrobond

Chart 641: D/S Norden, share price versus VLCC one-year TC rate



Source: Clarkson, Macrobond

Valuation metrics

Table 51: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA			123.5	133.4	273.7
EV/EBITDA		**851**	**6.9x**	**6.4x**	**3.1x**
EPS adj. (USD)			0.34	0.80	4.55
P/E	**118.5**		**55.1x**	**23.4x**	**4.1x**
DPS			0.00	0.00	3.64
Yield (%)	**118.5**		**0.0%**	**0.0%**	**19.4%**
Net interest-bearing debt			82.4	37.8	-77.2
NIBD/EBITDA			**0.7x**	**0.3x**	**-0.3x**

Source: Kepler Cheuvreux

Income statement

Table 52: P&L figures

Income statement (USDm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
TCE revenues	**975.3**	**1,039.5**	**1,141.3**	**1,568.0**	**237.2**	**251.8**	**275.2**	**240.5**	**267.2**
Other operating income	10.8	8.0	8.0	8.0	3.1	2.8	2.0	2.0	2.0
Operating cost incl. charter hire	-872.8	-878.0	-970.0	-1,256.3	-221.2	-230.9	-227.4	-204.7	-223.2
Contribution margin	**113.3**	**169.5**	**179.4**	**319.7**	**19.1**	**23.7**	**49.8**	**37.8**	**46.0**
SGA	-45.3	-46.0	-46.0	-46.0	-11.7	-11.7	-11.5	-11.5	-11.5
EBITDA	68.0	123.5	133.4	273.7	7.4	12.0	38.3	26.3	34.5
Gain/loss from sale of vessels	0.9	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Depreciation and write-downs	-42.5	-46.0	-50.6	-53.4	-10.2	-10.7	-11.0	-11.0	-11.6
Profit from associates	-4.0	0.0	0.0	0.0	0.0	-4.6	0.0	0.0	0.0
EBIT	**22.4**	**77.5**	**82.7**	**220.2**	**-2.8**	**-2.2**	**27.3**	**15.2**	**22.8**
Net financial interest	-1.9	-9.1	-9.8	-8.8	0.4	-1.9	-2.0	-2.0	-2.4
Other financial items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	**20.4**	**68.4**	**72.9**	**211.4**	**-2.4**	**-4.1**	**25.2**	**13.2**	**20.4**
Taxes	1.3	-4.0	-4.0	-4.0	-0.9	4.2	-1.0	-1.0	-1.0
Net profit reported	**21.7**	**64.4**	**68.9**	**207.4**	**-3.3**	**0.1**	**24.2**	**12.2**	**19.4**
Net profit adjusted	25.5	64.4	68.9	207.4	-3.3	3.7	24.2	12.2	19.4
EBITDA reported	**68.0**	**123.5**	**133.4**	**273.7**	**7.4**	**12.0**	**38.3**	**26.3**	**34.5**
Provision adjustments	-83.5	-50.0	-35.0	-15.2	-21.5	-21.0	-19.4	-12.5	-12.5
EBITDA adj. for provision	**-15.5**	**73.5**	**98.4**	**258.5**	**-14.1**	**-9.0**	**19.0**	**13.8**	**22.0**
Net profit adj. for provision	**-58.0**	**14.4**	**33.9**	**192.2**	**-24.8**	**-17.3**	**4.9**	**-0.3**	**6.9**
EPS	0.52	1.53	1.63	4.92	-0.08	0.00	0.57	0.29	0.46
EPS adj. (USD)	**-1.37**	**0.34**	**0.80**	**4.55**	**-0.59**	**-0.41**	**0.12**	**-0.01**	**0.16**
DPS	0.00	0.00	0.00	3.64	0.00	0.00	0.00	0.00	0.00
# Shares adj. (end)	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2

Source: Company data, Kepler Cheuvreux

Balance sheet and cash flow

Table 53: Balance sheet and cash flow

Balance sheet (USDm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
Cash & cash equivalents	206.4	148.5	181.4	276.7	237.0	178.8	206.4	167.6	170.0
Securities	12.0	12.0	12.0	12.0	11.6	12.0	12.0	12.0	12.0
Other current assets	287.7	287.7	287.7	287.7	257.8	287.7	287.7	287.7	287.7
Vessels and newbuildings	711.1	805.2	794.5	757.1	690.3	737.1	711.1	765.1	768.5
Other long-term assets	60.4	60.4	60.4	60.4	66.1	60.4	60.4	60.4	60.4
Total assets	**1,277.7**	**1,313.7**	**1,336.0**	**1,393.9**	**1,262.8**	**1,276.0**	**1,277.7**	**1,292.8**	**1,298.5**
Interest bearing debt	221.2	242.8	231.2	211.5	203.3	224.4	221.2	236.6	235.3
Refinanced IB debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other current liabilities	130.8	130.8	130.8	130.8	125.0	130.8	130.8	130.8	130.8
Other long term liabilities	100.2	50.2	15.2	0.0	141.2	119.5	100.2	87.7	75.2
Shareholder's equity	825.5	889.9	958.8	1,051.6	793.4	801.3	825.5	837.8	857.2
Total equity and liabilities	**1,277.7**	**1,313.7**	**1,336.0**	**1,393.9**	**1,262.8**	**1,276.0**	**1,277.7**	**1,292.8**	**1,298.5**
Net interest bearing debt	**2.8**	**82.4**	**37.8**	**-77.2**	**-45.3**	**33.6**	**2.8**	**57.0**	**53.4**
Equity ratio (%)	65%	68%	72%	75%	63%	63%	65%	65%	66%

Cash flow (USDm)	2017E	2018E	2019E	2020E	Q2 2017	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
Net profit	21.7	64.4	68.9	207.4	-3.3	0.1	24.2	12.2	19.4
Depreciation, amort. & impairments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change working capital	3.3	0.0	0.0	0.0	4.7	-6.2	0.0	0.0	0.0
Other non-cash items	-44.3	-4.0	15.6	38.2	-11.1	-9.9	-8.3	-1.5	-0.9
Cash flow from operations	**-19.2**	**60.4**	**84.6**	**245.6**	**-9.7**	**-16.0**	**15.9**	**10.8**	**18.6**
Investment in newbuilding and vessels	-105.1	-140.0	-40.0	-16.0	-8.6	-83.4	-9.0	-65.0	-15.0
Proceeds from sale of vessels	70.0	0.0	0.0	0.0	11.5	21.2	24.0	0.0	0.0
Other investing activities	70.1	0.0	0.0	0.0	9.8	36.4	0.0	0.0	0.0
Cash flow from investing	**34.9**	**-140.0**	**-40.0**	**-16.0**	**12.7**	**-25.8**	**15.0**	**-65.0**	**-15.0**
Repayment of debt	-25.2	-25.0	-25.0	-25.0	-8.4	-5.5	-6.3	-6.3	-6.3
Proceeds from new debt	28.0	46.7	13.3	5.3	0.0	25.0	3.0	21.7	5.0
Proceeds from refinanced debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share issue (repurchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	-114.6	0.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	**2.8**	**21.7**	**-11.7**	**-134.3**	**-8.4**	**19.5**	**-3.3**	**15.4**	**-1.3**
Other cash adjustments	5.4	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0
Change in cash and cash equivalents	**23.9**	**-58.0**	**32.9**	**95.4**	**-5.3**	**-19.8**	**27.7**	**-38.8**	**2.3**
Cash balance period-in	100.6	124.5	66.6	99.5	122.0	116.7	96.9	124.5	85.7
Cash with rate agreements	81.9	81.9	81.9	81.9	120.3	81.9	81.9	81.9	81.9
Cash balance period-out	**206.4**	**148.5**	**181.4**	**276.7**	**237.0**	**178.8**	**206.4**	**167.6**	**170.0**

Source: Company data, Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	1,087.8	1,048.0	948.7	685.2	975.3	1,039.5	1,141.3	1,568.0
% Change	-4.1%	-3.7%	-9.5%	-27.8%	42.3%	6.6%	9.8%	37.4%
EBITDA adjusted	24.3	-261.5	20.5	30.5	68.0	123.5	133.4	273.7
EBITDA margin (%)	2.2%	-24.9%	2.2%	4.4%	7.0%	11.9%	11.7%	17.5%
EBIT adjusted	-52.3	-329.6	-259.1	-64.6	26.4	77.5	82.7	220.2
EBIT margin (%)	-4.8%	-31.5%	-27.3%	-9.4%	2.7%	7.5%	7.2%	14.0%
Net financial items & associates	9.2	-82.9	-23.2	22.4	-5.9	-9.1	-9.8	-8.8
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax	-4.6	-3.1	-2.6	-3.3	1.3	-4.0	-4.0	-4.0
Net profit from continuing operations	-47.7	-415.6	-284.9	-45.5	21.7	64.4	68.9	207.4
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-47.7	-415.6	-284.9	-45.5	21.7	64.4	68.9	207.4
Net profit reported	-47.7	-415.6	-284.9	-45.5	21.7	64.4	68.9	207.4
Net profit adjusted	-60.8	-353.8	-83.0	-34.5	25.5	64.4	68.9	207.4
Cash Flow Statement (USDm)								
Cash flow from operating activities	-6.8	-392.6	81.5	-12.8	47.5	170.8	204.1	506.5
Capex	-139.6	-110.4	-159.5	-76.2	-105.1	-140.0	-40.0	-16.0
Free cash flow	-146.4	-503.1	-78.0	-88.9	-57.6	30.8	164.1	490.5
Acquisitions & Divestments	49.4	19.9	136.5	172.6	70.0	0.0	0.0	0.0
Dividend paid	-21.9	-37.7	0.0	0.0	0.0	0.0	0.0	-114.6
Others	-32.2	143.8	-89.9	5.7	70.1	0.0	0.0	0.0
Change in net financial debt	-151.1	-377.1	-31.4	89.3	82.4	30.8	164.1	375.9
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	1,142.5	1,164.9	910.0	722.3	711.1	805.2	794.5	757.1
Financial & other non-current assets	72.7	73.1	69.4	66.9	60.4	60.4	60.4	60.4
Total shareholders' equity	1,604.8	1,139.3	856.1	801.4	825.5	889.9	958.8	1,051.6
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	456.4	638.7	748.6	499.6	452.1	423.8	377.1	342.3
Net financial debt	-227.8	-7.7	-67.3	-47.6	2.8	82.4	37.8	-77.2
Working capital requirement	161.8	124.1	123.1	151.8	156.9	156.9	156.9	156.9
Invested Capital	1,304.3	1,289.0	1,033.1	874.1	868.0	962.0	951.4	914.0
Per share data								
EPS adjusted	-1.44	-8.38	-1.97	-0.82	0.61	1.53	1.63	4.92
EPS adj and fully diluted	-1.44	-8.38	-1.97	-0.82	0.61	1.53	1.63	4.92
% Change	-chg	-chg	+chg	+chg	+chg	152.1%	7.0%	200.9%
EPS reported	-1.13	-9.85	-6.75	-1.08	0.52	1.53	1.63	4.92
Cash flow per share	-0.16	-9.30	1.93	-0.30	1.13	4.05	4.84	12.00
Book value per share	38.03	27.00	20.29	18.99	19.56	21.09	22.72	24.92
Dividend per share	5.00	0.00	0.00	0.00	0.00	0.00	0.00	3.64
Number of shares, YE (m)	42.20	42.20	42.20	42.20	42.20	42.20	42.20	42.20
Ratios								
ROE (%)	-3.7%	-25.8%	-8.3%	-4.2%	3.1%	7.5%	7.5%	20.6%
ROIC (%)	-4.1%	-25.4%	-22.3%	-6.8%	3.0%	8.5%	8.6%	23.6%
Net fin. debt / EBITDA (x)	-9.4	0.0	-3.3	-1.6	0.0	0.7	0.3	-0.3
Gearing (%)	-14.2%	-0.7%	-7.9%	-5.9%	0.3%	9.3%	3.9%	-7.3%
Valuation								
P/E adjusted	na	na	na	na	32.0	12.7	11.9	3.9
P/E adjusted and fully diluted	na	na	na	na	32.0	12.7	11.9	3.9
P/BV	1.0	1.3	1.1	1.0	1.0	0.9	0.9	0.8
P/CF	na	na	11.3	na	17.2	4.8	4.0	1.6
Dividend yield (%)	13.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.8%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-9.5%	-33.8%	-8.5%	-10.9%	-7.0%	3.8%	20.1%	60.0%
EV/Sales	1.2	1.4	0.9	1.1	0.8	0.9	0.7	0.5
EV/EBITDA	53.9	na	41.7	25.3	12.1	7.3	6.4	2.7
EV/EBIT	na	na	na	na	31.1	11.6	10.3	3.4

Euronav

Belgium | Transport | Mcap EUR 1.0bn

02 March 2018

Hold (Not Rated)

Target Price	**EUR 6.90**
Current Price	EUR 6.51
Up/downside	6.0%
Change in TP	none
Change in EPS	none 16E / none 17E

Bigger and better than most, but exposed to the same weak market

2018 is likely to be another difficult year for crude tankers. Fleet growth remains too strong and we expect little improvement in 2019. However, we do see a strong light at the end of the tunnel, with VLCC spot rates at USD66,500 per day and fleet utilisation in the high 90% range in 2020E. This latter factor is in large part due to the impact of the reduced cap on sulphur emissions from fuel oil burnt at sea which will both reduce vessel speed and induce more trade for tankers. That said, the equity market will likely be sceptical of high profits in 2020E and beyond if it sees spot rates just above opex in 2018-19, which makes us pessimistic on tanker stocks over the next year. Despite our positive view of the likely merger with Gener8, which currently comes with an undemanding valuation, we initiate coverage on Euronav with a Hold rating and EUR6.9 target price.

Merger with Gener8 to create largest listed tanker company

Euronav is a crude tanker company listed on Euronext Brussels and the New York Stock Exchange (exchange ticker: EURN). In December 2017, Euronav announced a merger agreement with the US-listed tanker operator Gener8, effectively creating the world's largest listed crude tanker company with a combined carrying capacity of about 17.4m DWT, almost twice as much as the closest peer.

We expect weak rates for 2018-19, with a recovery in 2020E

Following a difficult market in 2017, fleet growth is set to continue in 2018E. Although we are positive on several fundamental factors, such as continued growth in US crude exports and a levelling off in the reduction of floating storage, we do not expect demand to grow significantly more than supply for the crude tanker balance to tighten meaningfully in 2018-19E. However, in 2020, we expect the new sulphur cap to spur both lower vessel speeds and more trading in both crude qualities and dirty products, all of which we expect to yield rates of USD66,000 per day.

We prefer Euronav in sector, but Hold on near-term worries

Until 2020E, we will, therefore, prefer companies that preserve cash in what we expect to be a choppy tanker market. In our view, Euronav's financial profile looks solid, with ample available liquidity, low debt amortisation and no major debt instalments before 2020. But we fear that prolonged weak tanker rates will induce negative momentum for all tanker stocks at the beginning of 2018E, Euronav included. In addition, at P/NAV 0.9x, we find the company fairly valued on a short-term basis. We therefore initiate coverage with a Hold rating and target price of EUR6.9.

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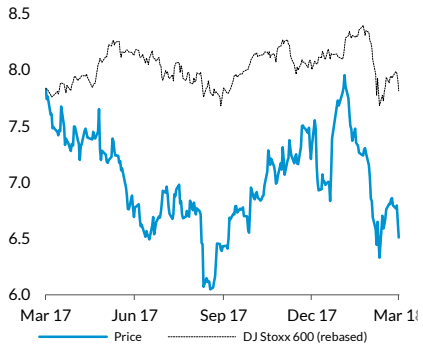
Market data

Bloomberg: EURN BB	Reuters: EUAV.BR
Market cap (EURm)	1,036
Free float	70%
No. of shares outstanding (m)	159
Avg. daily volume (EURm)	11.1
YTD abs performance	-15.3%
52-week high/low (EUR)	7.96/6.05

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	356.0	434.4	1,079.0
EBITDA adj (m)	135.2	208.3	852.3
EBIT adj (m)	-97.8	-27.7	616.3
Net profit adj (m)	-135.0	-68.2	577.3
Net fin. debt (m)	828.8	642.8	174.4
FCF (m)	-69.8	186.0	831.5
EPS adj. and fully dil.	-0.85	-0.43	3.63
Net dividend	0.00	0.00	2.90

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	na	na	2.2
EV/EBITDA	15.5	9.1	1.7
EV/EBIT	na	na	2.3
FCF yield	na	na	na
Dividend yield	0.0%	0.0%	36.6%
Net fin.debt/EBITDA	6.1	3.1	0.2
Gearing	47.9%	38.3%	9.1%
ROIC	-4.0%	-1.2%	30.2%
EV/IC	0.9	0.9	0.7



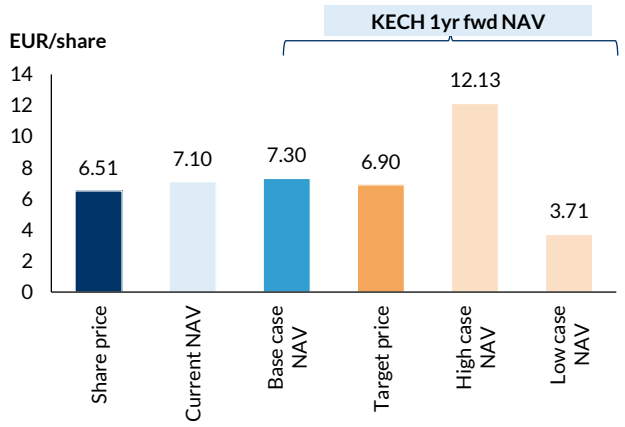
Investment summary

Euronav is a crude tanker company that is listed on Euronext Brussels and the New York Stock Exchange (exchange ticker: EURN), and has a long history within the shipping industry. Historically, the company has maintained a conservative financial profile and its current net leverage ratio of 38% is significantly lower than tanker peers'. In December 2017, Euronav announced a merger agreement with the US-listed tanker Gener8, effectively creating the world's largest listed crude tanker company with control of 77 vessels - including two floating, storage and offloading (FSO) units and four leased-in vessels — and a combined carrying capacity of about 17.4m DWT, almost twice as much as the closest peer.

In our view, 2017 was a difficult year in the crude tanker market and we expect more of the same in 2018, despite our belief that US crude exports will continue to grow, and that there will be no further reduction of floating storage. Fleet growth remains too strong and H1 2019E may also prove to be a disappointing six months, with spot rates at, or below, cash breakeven levels. That said, we do see some light at the end of the tunnel with VLCC spot rates at USD66,500 per day and fleet utilisation in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive on a longer-term basis due to very low asset values. Until 2020E, we therefore, prefer companies that preserve cash in what we expect to be a choppy tanker market. In our view, Euronav's financial profile looks solid, with ample available liquidity, low debt amortisation, and no major debt instalments before 2020.

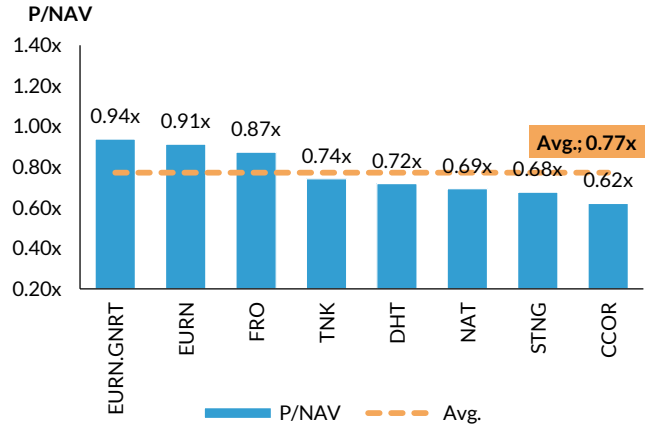
Overall, Euronav is our preferred pick in the tanker segment, but we fear that prolonged weak tanker rates will induce negative momentum for all tanker stocks at the beginning of 2018E, Euronav included. In addition, at P/NAV 0.9x we find Euronav fairly valued on a short-term basis. We therefore initiate coverage with a Hold rating and target price of EUR6.9.

Chart 642: Euronav's TP and NAV scenarios (incl. Gener8)



Source: Kepler Cheuvreux

Chart 643: Current P/NAV



Source: Kepler Cheuvreux

Euronav in brief

Background

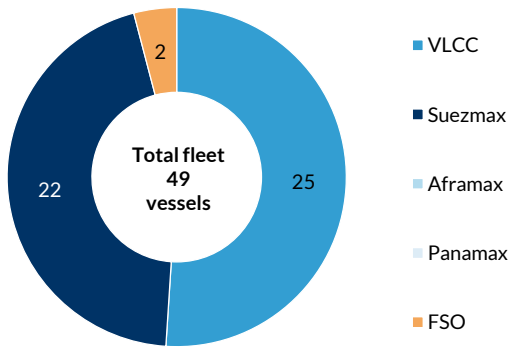
Euronav was created in 1989 as a subsidiary of Compaignie Nationale de Navigation (CNN), and in 1995 became the tanker division in a merger between CNN and Compagnie Maritime Belge (CMB). Nine years later, in 2004, Euronav was demerged from CMB and listed as a separate entity on Euronext Brussels.

After a challenging crude market in 2012-13, Euronav purchased 15 VLCCs from Maersk in January 2014, for a total of USD980m. A further 12 vessels were added to the fleet in 2014-16, as tanker markets improved. Since mid-2016, tanker freight rates have been under pressure, and Euronav has switched some focus towards fleet renewal. As a result, 14 VLCCs and Suezmax vessels have been sold over the past year, primarily older vessels.

In December 2017, Euronav and Gener8 announced a stock-for-stock merger, whereby shareholders of Gener8 will be subject to an exchange ratio of 0.7272 Euronav shares per Gener8 share. The merger is dependent on the approval of Gener8's shareholders, but Euronav has announced that the transaction filings will take place in March/April 2018 if all goes according to plan (more info on the merger in the sections below).

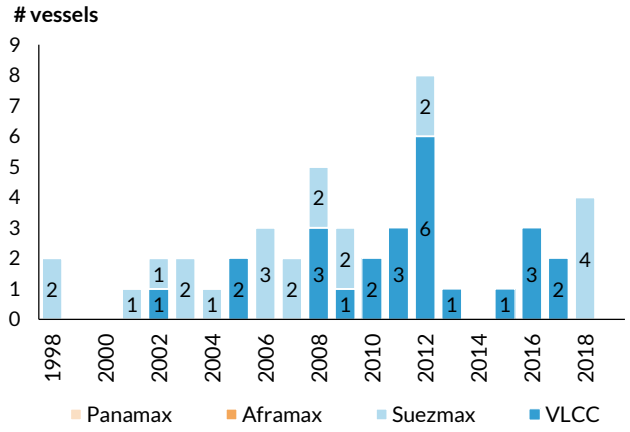
Pre-merger, Euronav owns and operates a total fleet of 53 vessels, of which 47 are fully-owned tankers, two are FSOs and four are VLCCs on five-year bareboat charters following a sale & leaseback in December 2016. The company's tanker portfolio is evenly divided between the VLCC and Suezmax segments, and the average age of the owned fleet is 6.9 years (value weighted). Since December 2016, Euronav has divested eight of the company's older vessels as part of an ongoing fleet renewal (four sale and leasebacks). Eight of the tanker vessels are currently more than 14 years old.

Chart 644: Euronav's current fleet (pre-merger)



Source: Company, Kepler Cheuvreux

Chart 645: Euronav's fleet by build year (pre-merger)



Source: Company, Kepler Cheuvreux

Moderate financial leverage, even at the bottom of the cycle

Historically, Euronav has maintained a conservative financial profile and currently has a net leverage ratio of 38% relative to Clarkson's current fleet value (including remaining newbuild capex). This is significantly lower than other tanker peers; closest peers Frontline and DHT have net leverage ratios of 66% and 57% respectively.

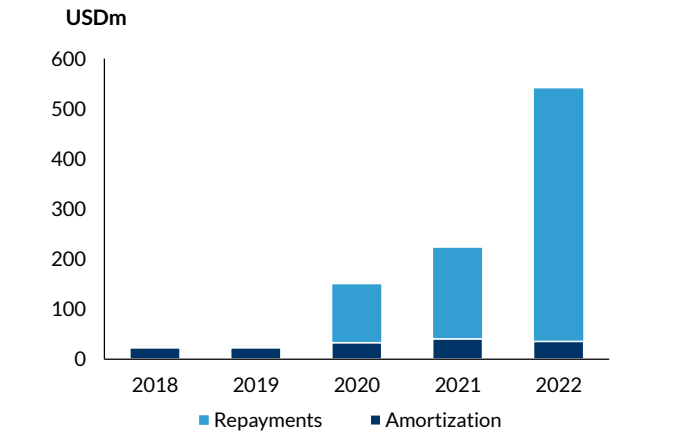
Newbuild capex: As of Q4 2017, Euronav had remaining newbuild capex of USD186m, related to four Suezmax vessels that are due to be delivered in 2018. Two of these vessels are set for delivery in Q1 2018 and two in Q3 2018. Based on the available amount in Euronav's secured revolving credit facilities (RCFs), we estimate that the company will be able to take out the remaining capex using current debt facilities.

Interest bearing debt: Euronav's vessels are primarily financed through a combination of secured term loans and revolving credit facilities, with interest margins of LIBOR + 1.50%-2.75%. As the revolving facilities have no/low amortisation requirements, Euronav has a very low cash breakeven rate relative to other tanker peers. Based upon Euronav's guidance of cash amortisation payments of USD55m per year (December presentation), we estimate a total cash breakeven rate of c. USD17-18,000 per day for Euronav.

Under the secured RCFs, Euronav has USD547m in available liquidity. In addition, the company has a USD60m unsecured revolving facility, undrawn as of Q4 2017. Overall, the available amounts under the facilities leave Euronav with a very solid liquidity position. The amount available under the RCFs decreases by, on average, USD50m each year, but we also expect USD160m to be used on the purchase of the four newbuild Suezmax vessels.

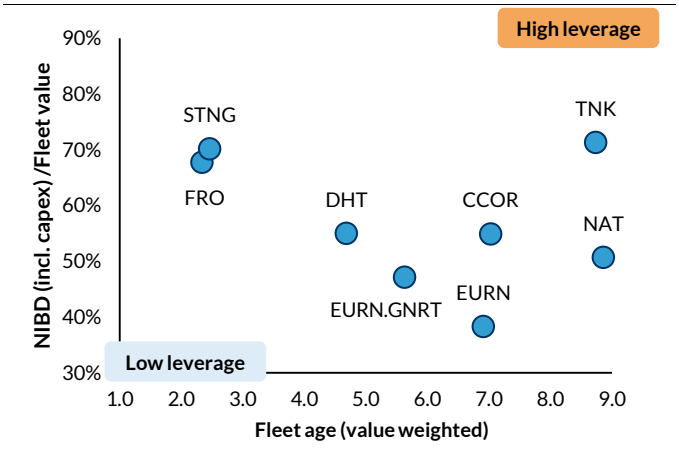
Euronav has no major debt instalments on secured term loans before 2020.

Chart 646: Euronav's debt repayment schedule



Source: Company, Kepler Cheuvreux

Chart 647: Leverage ratio and age versus tanker name peers



Source: Kepler Cheuvreux

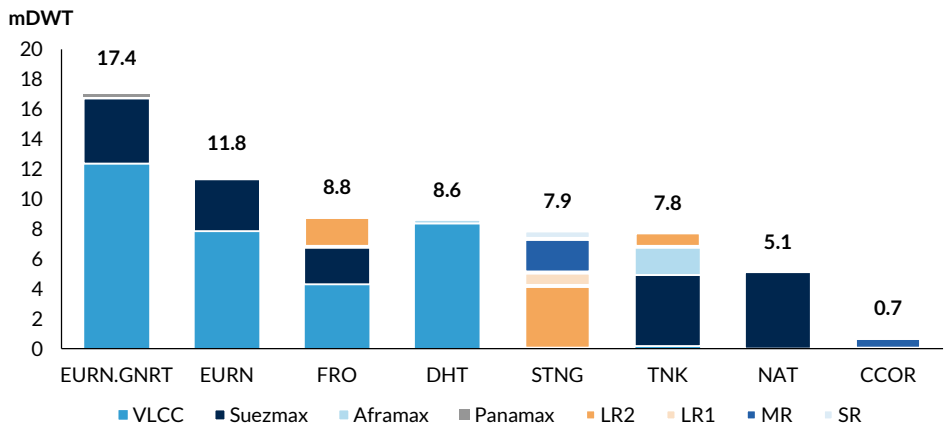
Merger with Gener8 will create world's largest crude tanker company

In December 2017, Euronav announced a merger agreement with the US-listed tanker name Gener8, a company that has a fully-owned fleet of 30 tankers. As part of the transaction, Euronav would take on 24 of Gener8's vessels, of which 15 are VLCCs, six Suezmax, one Aframax and two Panamax vessels. Six of Gener8's modern China-built VLCCs were sold as part of the merger agreement for a total of USD434m.

The merger will take place as a stock-for-stock transaction, whereby each Gener8 shareholder will receive 0.7272 shares in Euronav per Gener8 share they possess (generating USD60.9m of new shares in Euronav). In addition, Euronav will take on USD1.4bn in interest bearing debt and USD0.6bn in cash from Gener8. The merger is subject to the approval of Gener8's shareholders, but Euronav has announced that the transaction filings will take place around March/April 2018, if all goes according to plan.

The merger between Euronav and Gener8 will effectively create the world's largest listed crude tanker company with control of 77 vessels (including two FSOs and four leased-in vessels). The combined fully-owned fleet will have a total carrying capacity of about 17.4m DWT, almost twice as large as the closest peer in our tanker universe, Frontline. The combined entity will also have a market cap of USD1.8bn, based on Euronav's current share price.

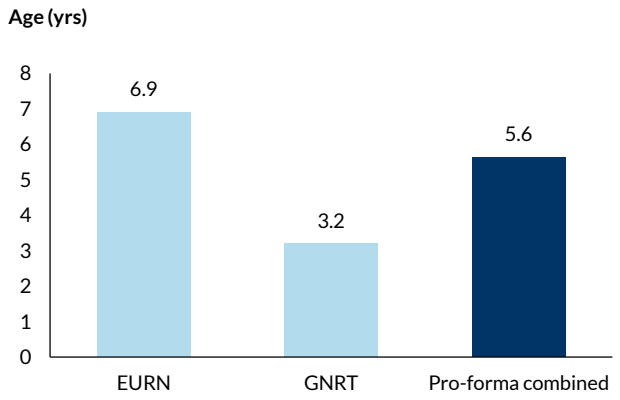
Chart 648: Tanker peers fleet size (DWT mill, owned fleet only)



Source: Company data, Kepler Cheuvreux

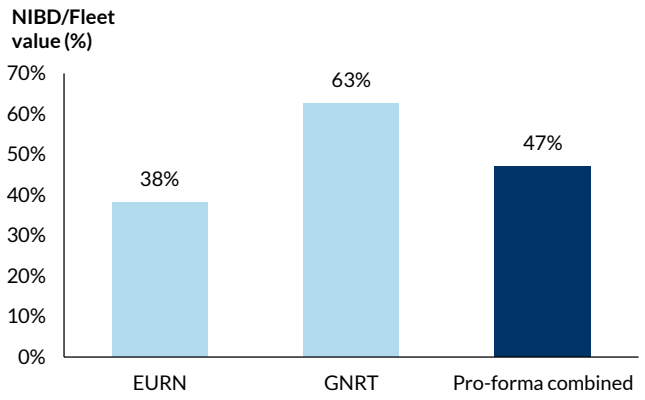
Relative to Euronav, Gener8's fleet is considerably more modern, with an average age of 3.2 years (value weighted). The merger will, therefore, lower Euronav's average fleet age from the current 6.9 to 5.6 years. However, with considerably higher leverage, the lower fleet age will be offset by higher financial gearing. Relative to Clarkson's fleet values, we estimate that Gener8 has a net leverage ratio of c. 63% including capex (versus Euronav's 38%), which will raise the combined entity's leverage to c. 47%. Despite the increase in leverage from the transaction, Euronav will still remain moderately leveraged, compared to its peers in the tanker market.

Chart 649: Pro forma fleet age after merger



Source: Company data, Kepler Cheuvreux

Chart 650: Pro forma leverage ratio (incl. capex) post-merger

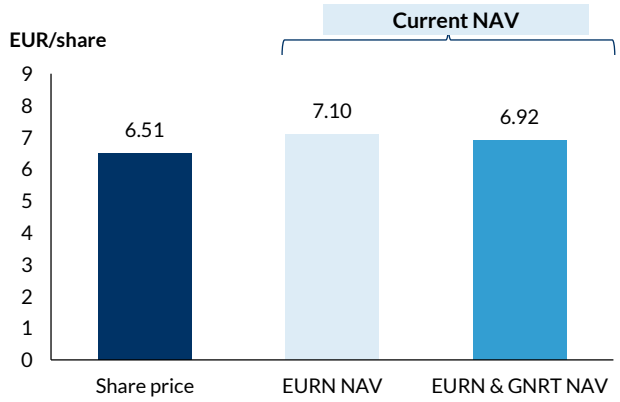


Source: Company data, Kepler Cheuvreux

On the following page, we outline a pro forma NAV valuation for the combined entity, following the merger. Overall, the transaction increases Euronav's net asset value to USD480m, leading to a NAV per share of EUR6.9, taking into account the shares issued to shareholders of Gener8, and Clarkson's current vessel values. Based on Euronav's announcement on 20 December, the exchange ratio implies a premium of 35%, relative to the Gener8 valuation. According to our estimates, this means that Gener8 was purchased at slightly above its current NAV. Due to relatively low current asset values, the transaction is marginally dilutive to Euronav's NAV. However, if we use a historical average for vessel values, the NAV contribution would be positive.

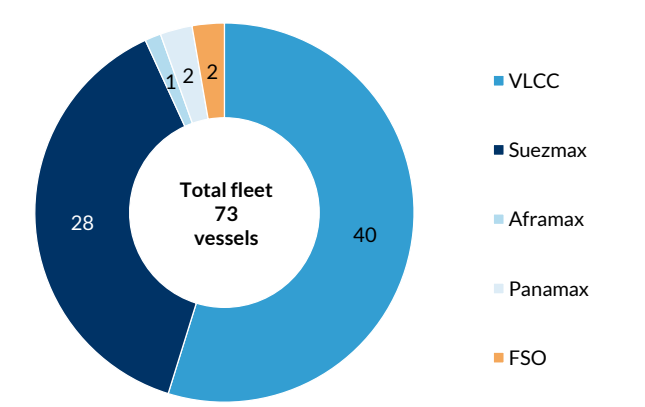
Overall, the exchange ratio implies that Gener8's shareholders will receive 28% of the outstanding shares in the combined entity.

Chart 651: Euronav's share price versus current NAV



Source: Company data, Kepler Cheuvreux

Chart 652: Combined fleet after merger (owned)



Source: Company data, Kepler Cheuvreux

Table 54: Pro forma NAV for the combined EURN & GNRT

Values (USDm)	EURN current			GNRT current			Pro-forma Combined		
	# vessels	Age (avg.)	NAV curr.	# vessels	Age (avg.)	NAV curr.	# vessels	Age (avg.)	NAV curr.
Fleet:									
VLCC	25	5.5	1,383	14	2.1	1,001	39	4.1	2,384
Suezmax	18	10.9	436	6	9.0	174	24	10.4	610
Aframax				1	15.0	12	1	15.3	12
Panamax				2	13.6	20	2	13.9	20
FSO	2	15.7	218				2	15.7	218
Fleet on water	**45**	**7.7**	**2,038**	**23**	**3.4**	**1,206**	**68**	**6.2**	**3,244**
Newbuildings	**4**	**-0.4**	**228**	**1**	**0.0**	**83**	**5**	**-0.2**	**310**
Total fleet value (USDm)	**49**	**6.9**	**2,266**	**24**	**3.2**	**1,289**	**73**	**5.6**	**3,555**
% of combined entity (%)			64%			36%			100%
MTM contract portfolio			-5			0			-5
GAV (USDm)			**2,261**			**1,289**			**3,550**
NIBD & other commitments (rel. last quarterly report)									
Cash			144			653			797
Total interest bearing debt			-899			-1,413			-2,312
Net working capital			75			0			76
Other adjustments			0			0			0
Future capex			-186			-48			-234
NIBD & other commitments			**-866**			**-807**			**-1,673**
NIBD/fleet value (%)			38%			63%			47%
NAV (USDm)			**1,395**			**482**			**1,877**
% of combined entity (%)			74%			26%			100%
Post-merger calculation:									
# shares (pre- Merger)			159.2			83.0			
Exchange ratio						0.73			
# shares (post- merger)			**159.2**			**60.9**			**220.1**
% of combined entity (%)			72%			28%			100%
NAV/Share (EUR)									6.9
EURN Price									6.5
P/NAV									**0.94x**
EV									3,441
EV/GAV									**0.97x**

Source: Kepler Cheuvreux

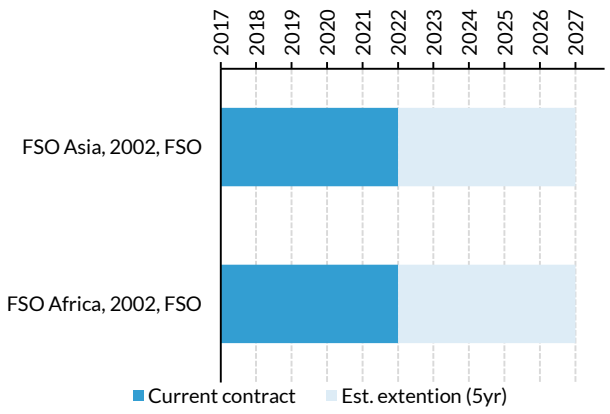
Fixed income stream of USD36m per year from two joint venture FSOs

In 2008, Maersk Oil Qatar awarded two FSO contracts for the Al Shaheen oil field in Qatar to a 50% joint venture between Euronav and Overseas Shipholding Group. Following these contracts, the V-plus vessels TI Asia and TI Africa were converted to FSO units, and later commenced operations in Qatar in 2009. Both FSOs are still operating in Qatar, and the contracts were extended for another five years in May 2017.

The current contract with North Oil Company has a total value of USD360m, equalling an annual EBITDA generation of USD36m for Euronav. Both vessels are debt free as of Q3 2017, and the contracts will last until 2022. In our model, we assume the FSOs will extend the contract for another five years upon its expiry. However, as the vessels will be older at the time of renewal, we factor in a decline in annual EBITDA to USD24m on the next contract.

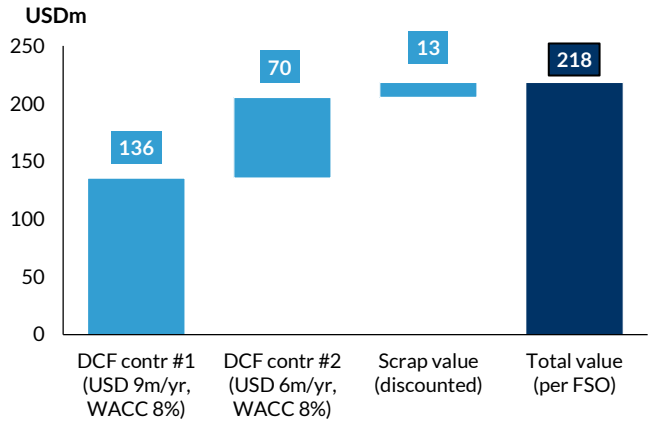
For the valuation of the FSOs, we use a DCF over the contract term, using a WACC of 8%. In addition, we assume a residual value of USD27.2m, equal to the scrap value of the vessels. Overall, our estimates imply a value per FSO of USD220m. Note that the proportionate ownership for Euronav is 50% per vessel.

Chart 653: Assumed employment schedule for JV FSOs



Source: Company data, Kepler Cheuvreux

Chart 654: Valuation bridge for FSOs (USDm per vessel)



Source: Kepler Cheuvreux

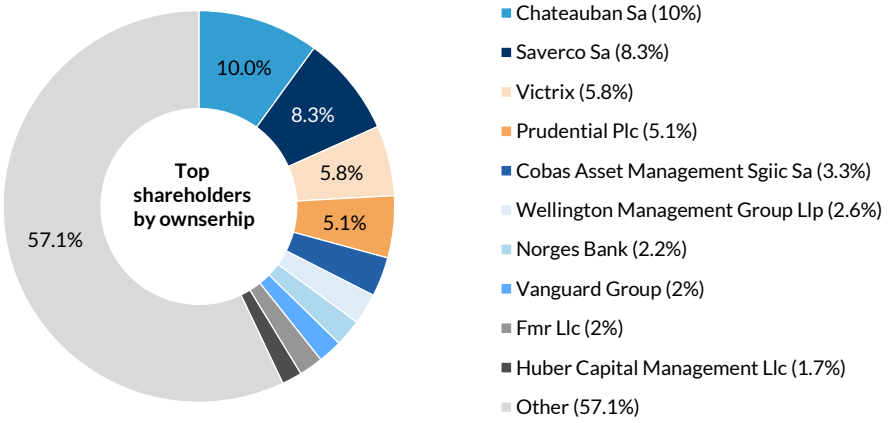
Management and shareholder structure:

Euronav's executive management consists of the following:

- **Patrick Rodgers (CEO):** Patrick Rodgers has served on the Board of Directors since June 2003 and has been a member of the Executive Committee since 2004. He was appointed Chief Financial Officer of the company's predecessor in 1998, and has been Chief Executive Officer since 2000. Since 2005 Rodgers has held various directorships in companies belonging to the CMB and Euronav group. Rodgers currently serves as Director and Chairman of the International Tanker Owners Pollution Federation Fund since 2011.
- **Hugo De Stoop (CFO):** Hugo De Stoop joined Euronav in September 2004 when he was appointed Deputy CFO and Head of Investor Relations. He has held the position of CFO since 1 January 2008.

The chart below illustrates the current shareholder structure. The largest shareholder is Chateauban Sa with 10%.

Chart 655: Shareholder structure



Source: Bloomberg, Kepler Cheuvreux

Deconstructing the forecasts

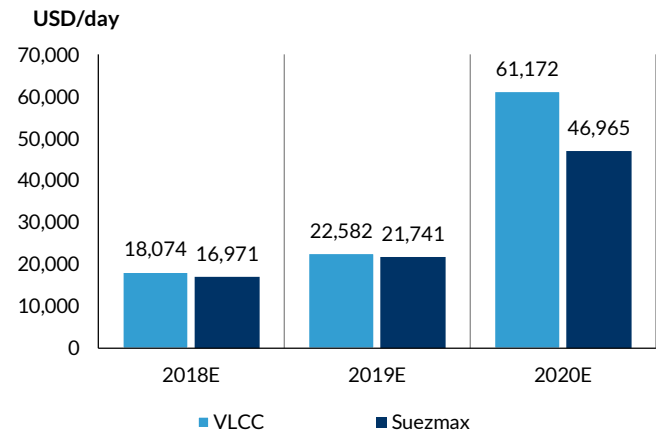
Tanker market: High supply growth could extend rate weakness

2017 was a difficult year in the crude tanker market and we expect more of the same in 2018, despite our belief in continued growth in US crude exports, and that the reduction of floating storage has now come to an end. Fleet growth remains too strong and H1 2019 could also be a disappointing six months with spot rates at, or below, cash break-even levels.

That said, we do see some light in the end of the tunnel with VLCC spot rates at USD66,500 per day and fleet utilisation in the high 90% range in 2020E. The main reason for this optimism, apart from much lower fleet growth, is the reduced cap on sulphur emissions from the use of fuel oil at sea which we think will: 1) lower the speed of the fleet; 2) cause a lot more trade, in both different crude qualities and dirty oil products; and 3) increase the use of floating storage for fuel oil which we believe will be problematic to reduce (see sector part for more about the LPG shipping market).

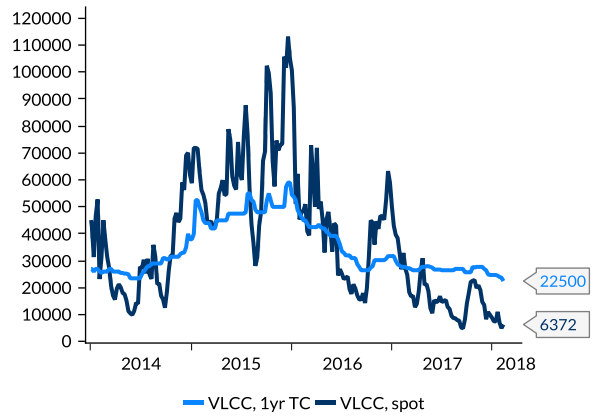
We model for VLCC rates below USD20,300 per day for 2018E, USD22,900 per day for 2019E and USD66,500 per day for 2020E. In 2018-19, we expect fleet utilisation to stay at 86-87%, while we expect to see the first effects of the new sulphur emissions cap in Q4 2019. In 2020, fleet utilisation is expected to move well into the 90% range - we model 97%. This also accounts for what we expect will be an increase in floating storage of "unwanted" heavy fuel oil (HFO) and a slow-down in vessel speeds (though only by 0.25 knots).

Chart 656: KECH freight rate forecast (2018-20E), Euronav spot (one month lag)



Source: Kepler Cheuvreux

Chart 657: Clarkson's VLCC rate (spot and one-year time charter)



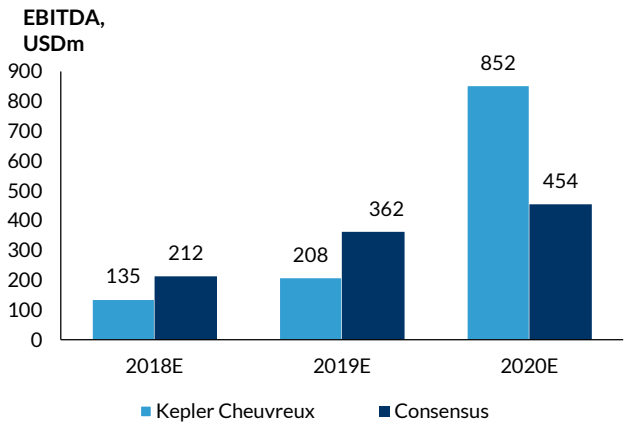
Source: Clarksons, Kepler Cheuvreux

Low rates will put pressure on Euronav's EBITDA

With VLCC rates of USD18,000 per day in 2018E, and USD 22,000 per day in 2019E, we expect the next two years to be tough for Euronav. Hence, we see downside risk on consensus EBITDA of c. 40%, in both 2018E and 2019E. In our view, the high supply growth in the tanker market could extend the current rate weakness longer than consensus currently implies. Although we expect the tanker

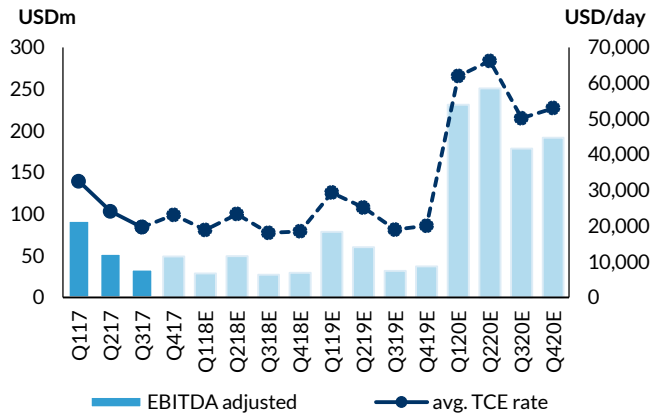
market to eventually turn around in 2020 (and more dramatically than consensus believes), we believe the short-term outlook will be negative.

Chart 658: KECH versus Consensus EBITDA est. (not incl. GNRT)



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 659: Euronav's EBITDA sensitivity versus avg. TCE rate



Source: Bloomberg consensus, Kepler Cheuvreux

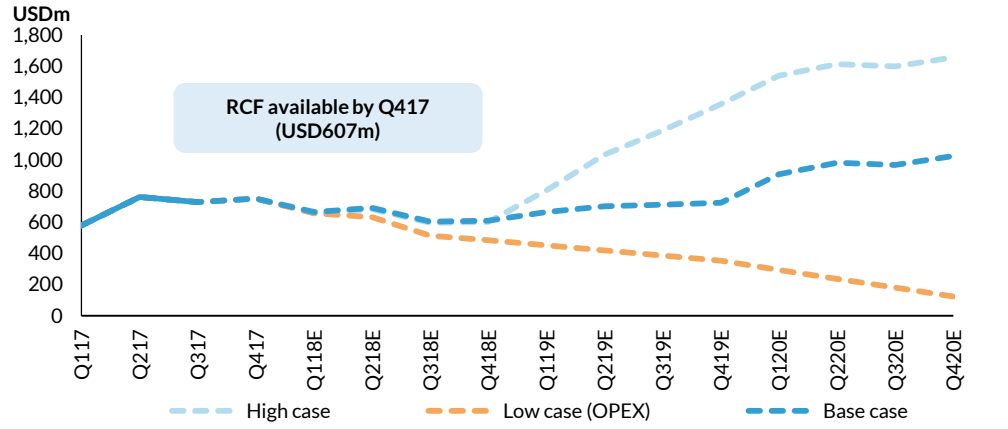
Specifically, we forecast a decline in Euronav's EBITDA from USD228m in 2017 to USD135m in 2018E, due to a drop in the average time charter equivalent (TCE) rate to USD 19,100 per day. We expect a moderate increase to USD189m in 2019, before we pencil in a strong tightening in freight rates in 2020E, lifting the EBITDA above USD750m.

Given the weak development of spot TCE rates so far in Q1 2018, we already find rates on the weak side relative to our overall 2018 estimates (USD18/,000/day in estimated Q1 TCE for EURN translates to a running EBITDA of USD120m per year). As Q1 and Q2 are typically characterised by stronger rates, we see downside to consensus and our estimates for 2018 if rates do not recover within the next few months.

But with ample liquidity, Euronav should weather the storm

With total available liquidity of USD750m as of Q4 2017 (USD140m in cash and USD610m in undrawn facilities) and no major debt instalments before 2020, we see little risk to Euronav's overall liquidity before 2020E. Given our base-case scenario, the company will have solid cash generation, even at VLCC rates of USD20,000 per day, due to next to no amortisation on its debt facilities. In addition, our scenario analysis shows that the current liquidity will last well past 2020E, even if rates fall to opex-levels.

Chart 660: Scenario analysis for Euronav's liquidity (cash + available RCF)



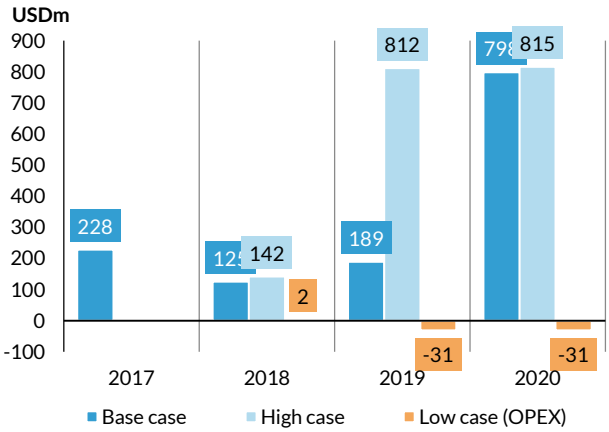
Source: Kepler Cheuvreux

Long-term outlook is positive as the market will turn eventually

Despite our short-term scepticism towards the tanker market, we remain positive about the segment on a longer-term basis as fleet growth will, eventually, come down. In our base-case scenario, we include a recovery in VLCC rates to USD61,000 per day in 2020E, which should lift Euronav's EBITDA above USD750m.

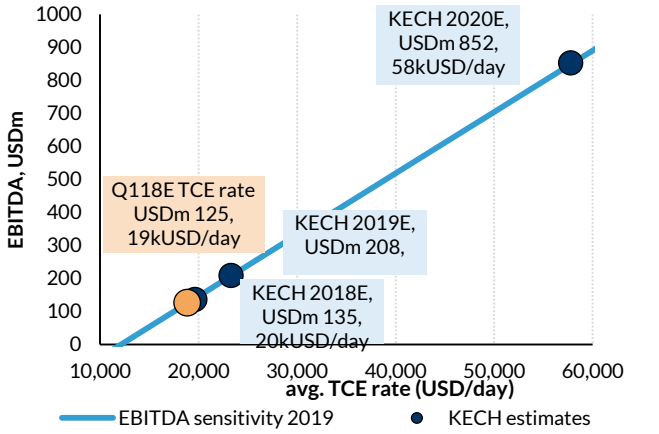
Despite the short-term negative outlook, investors should remember that Euronav looks very solid in a recovery scenario. In our high case, we have included a recovery of VLCC rates to above USD60,000 per day in 2019E. The implied 2019E EV/EBITDA for Euronav in such a scenario is only c. 3x.

Chart 661: Euronav's EBITDA sensitivity versus TCE rate 2017-20E



Source: Kepler Cheuvreux

Chart 662: EURN, sensitivity in EBITDA versus TCE rate



Source: Kepler Cheuvreux

Deconstructing the forecasts

In the table below, we outline our key estimates and assumptions for Euronav from 2017-20. Note that we will not include the Gener8 merger in our estimates until the final merger agreement is signed.

Overall, we expect two tough years for Euronav on the back of continued weak freight rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of the company segment.

Time charter equivalent (TCE) revenues:

- **Available days** will increase as Euronav's four newbuilds will enter the fleet from 2018.
- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for Euronav to average USD19,100 per day for 2018 and USD22,300 per day for 2019. However, for 2020 we forecast a strong tightening of TCE rates to above USD50,000 per day.

Operating costs and SGA: Our operating costs assume an opex level for Euronav's fleet of USD8,300 per day for VLCCs, and USD8,000 per day Suezmax. We also assume an SGA (general and administrative expense) of USD2,250 per day for each vessel. The charter hire costs include the sale & leaseback of four VLCCs at an average bareboat rate of USD22,000 per day.

Results from joint ventures: Includes two 50% joint ventures in two FSOs. We model a quarterly EBITDA contribution of USD9m, with 4.6m in depreciation. The vessels are debt free as of Q3 2017.

EBITDA: We expect adjusted EBITDA of USD135m in 2018, USD208m in 2019 and USD850m in 2020. This implies an EBITDA margin of USD7-10,000 per day for 2018-19E, before an increase to USD45,000 per day in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of the new vessels. We assume an average floating rate, with interest margins of LIBOR + 1.50%-2.75%, on Euronav's secured bank facilities.

Tax: We do not expect Euronav to pay tax over our forecast period.

DPS: Currently, Euronav pays dividends to shareholders of USD 0.06 per share, with the last payment coming in Q4 2017. On the back of weaker rates, we do not include any dividend payment in our forecasts for 2018-19. However, we include a 80% payout ratio in 2020.

Table 55: Key financials

Key financials (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	456.2	356.0	434.4	1,079.0	90.4	104.7	82.2	104.0
OPEX	-150.4	-148.0	-152.1	-152.5	-38.0	-34.0	-35.6	-36.5
SGA	-46.9	-40.7	-41.9	-42.0	-10.8	-13.7	-9.8	-10.0
Charter hire expenses	-31.2	-32.1	-32.1	-32.2	-7.8	-7.8	-7.9	-8.0
EBITDA adjusted	227.8	135.2	208.3	852.3	33.8	49.2	28.9	49.5
Results from JVs	29.9	17.8	17.8	17.8	7.0	1.9	4.4	4.4
Depreciation, impairments (value adj.)	-214.4	-233.0	-236.0	-236.0	-57.9	-19.9	-57.0	-58.0
Net financial items	-43.4	-54.9	-58.3	-56.8	-11.8	-12.0	-12.6	-13.9
Tax	1.3	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Net profit reported	1.2	-135.0	-68.2	577.3	-28.1	19.2	-36.2	-18.0
Net profit adjusted	-14.3	-135.0	-68.2	577.3	-28.1	-17.3	-36.2	-18.0
EPS adj (USD)	-0.09	-0.85	-0.43	3.63	-0.18	-0.11	-0.23	-0.11
DPS	0.28	0.00	0.00	2.90	0.06	0.00	0.00	0.00
Segments:								
Tankers - Net profit	-28.6	-152.8	-86.0	559.5	-35.1	17.4	-40.7	-22.4
FSOs - Net profit	29.9	17.8	17.8	17.8	7.0	1.9	4.4	4.4
Net profit reported	1.2	-135.0	-68.2	577.3	-28.1	19.2	-36.2	-18.0
EBITDA proportionate	278.1	171.2	244.3	888.3	46.2	59.0	37.9	58.5
Operating assumptions:								
Avg. TCE rate ($/day)	24,837	19,667	23,335	57,807	19,655	23,081	18,885	23,315
Avg. EBITDA margin ($/day)	12,400	7,467	11,189	45,661	7,348	10,844	6,635	11,091
Total vessel days (available)	18,369	18,101	18,615	18,666	4,600	4,538	4,351	4,459
TC Coverage (% all available days)	24%	12%	0%	0%	24%	23%	20%	16%
Selected balance sheet items:								
Cash and cash equivalents	143.6	227.0	390.2	737.5	97.2	143.6	158.2	197.1
Total interest-bearing debt	902.6	1,055.8	1,033.0	912.0	954.6	902.6	984.9	979.2
Net interest-bearing debt	759.0	828.8	642.8	174.4	857.4	759.0	826.7	782.1
Leverage ratio (%)	29%	32%	28%	7%	32%	29%	31%	30%
Selected cash flow items:								
Operating cash flow	211.3	116.2	186.0	831.5	41.4	36.6	25.3	44.6
Investing cash flow	-40.2	-186.0	0.0	0.0	-10.7	72.9	-93.0	0.0
Financing cash flow	-235.0	153.2	-22.8	-484.2	-169.5	-63.1	82.3	-5.7
Change in cash	-63.1	83.4	163.2	347.3	-138.5	46.4	14.6	38.9

Source: Company data, Kepler Cheuvreux

Valuation

Continued rates weakness likely to keep asset values depressed...

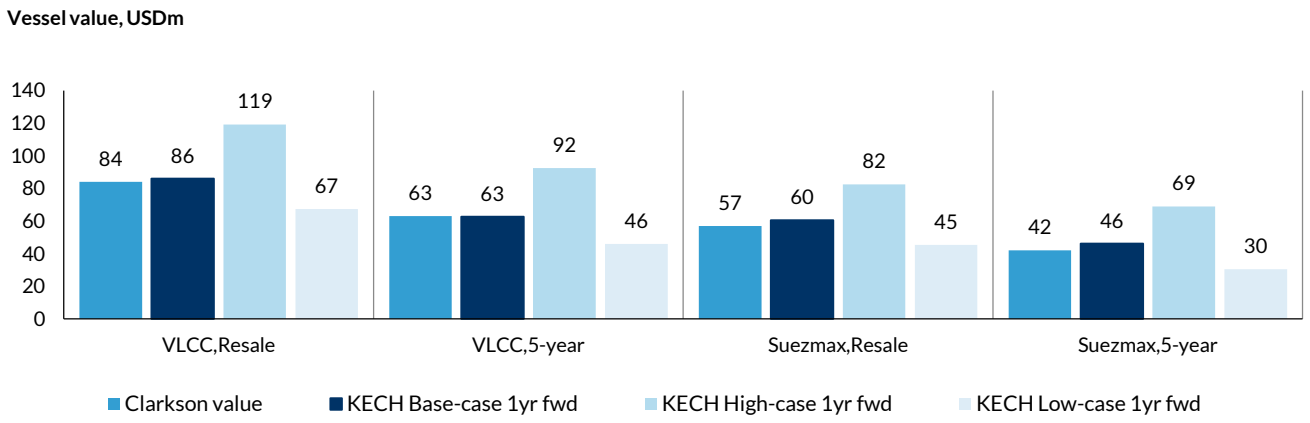
Our preferred valuation method for Euronav is an equity Net-Asset-Value (NAV) valuation, based on estimated fleet values for oil tankers less net interest bearing debt and other commitments for the company. Our vessel valuations use Clarkson's quote for second-hand vessels as the current benchmark valuation. In our target valuation, we forecast changes in the vessel values based upon our freight rate estimates (see sector part for more details).

Currently, Clarkson quotes the price for a five-year-old VLCC at USD63m, down 23% since the peak in mid-2014 (USD84m). The resale price is USD84m, on a par with Clarkson's current newbuilding price of USD 84.5m.

When we instead use our rate forecast for the VLGC segment, we estimate a five-year-old tanker's value at USD63m, the same as the current Clarkson estimate. Hence, our estimates imply that tanker vessel values will likely stay depressed over the next year.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value-curve, according to the age of the vessel.

Chart 663: Kepler Cheuvreux vessel values for crude tank vessels in different scenarios



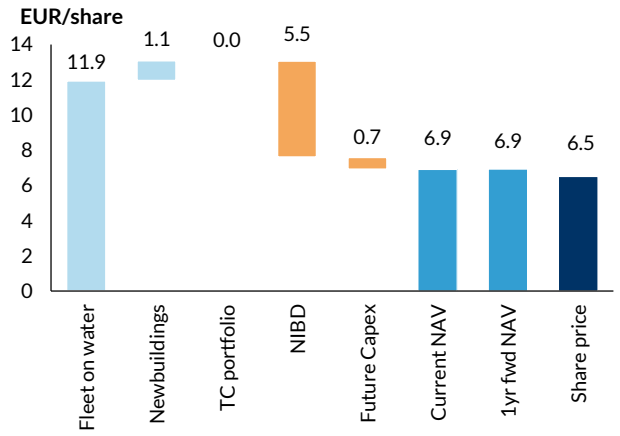
Source: Company data, Kepler Cheuvreux

... leaving little upside for Euronav's valuation for 2018 (NAV EUR7.0)

Given our view on vessel values, we expect to see continued weakness in Euronav's NAV from current levels (Base NAV EUR6.9 per share versus current EUR6.9 per share). We expect Euronav to trade at close to the current NAV, and our target price therefore includes P/NAV of 1.0x on our base case one year forward NAV.

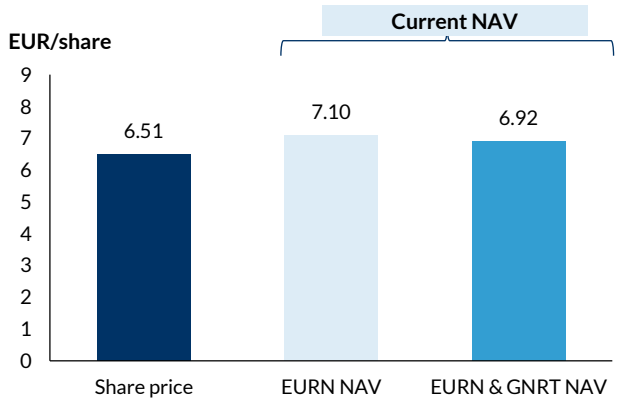
Our base case NAV is based on the post-merger fleet, including Gener8 vessels. If we only include Euronav's current fleet, we estimate a current NAV of EUR7.1, versus EUR6.9 after the merger.

Chart 664: Euronav's NAV bridge (incl. Gener8)



Source: Kepler Cheuvreux

Chart 665: Euronav share price versus NAV, with and w/o Gener8



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for crude tankers less net interest bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value Euronav and Gener8's combined fleet at USD3,555m on current Clarkson's values, including a 5% discount on vessels built in China after 2010, and 10% for vessels built before 2010. The mark-to-market (MTM) value includes the time charter portfolio and the four VLCCs on five-year lease contracts. In our one year forward estimates we include the cash flow generated from vessels over the coming months, and adjust fleet values for vessels that are more than one year old.
- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to Euronav's latest quarterly report, and so balance sheet items are from the Q4 2017 report. As we value the fleet on a fully delivered basis, we include the remaining newbuild capex of USD186m. In addition, we also include Gener8's net interest bearing debt of USD808m.

Table 56: Net asset value breakdown

	# vessels	Age (avg.)	NAV	1 year forward NAV		
NAV (USDm)			**Current**	**Base**	**Low**	**High**
Fleet:						
VLCC	39	4.1	2,384	2,248	1,663	3,293
Suezmax	24	10.4	610	627	393	968
Aframax	1	15.3	11	11	8	17
Panamax	2	13.9	20	18	16	26
FSO	2	15.7	218	218	218	218
Fleet on water	68	6.2	3,244	3,123	2,297	4,522
Newbuildings	5	-0.2	309	314	235	435
Total fleet value (USDm)	**73**	**5.6**	**3,553**	**3,438**	**2,533**	**4,957**
MTM contract portfolio			-4	-11	-11	-11
Discounted cash-flow 1yr				127	-37	127
GAV (USDm)			**3,548**	**3,554**	**2,485**	**5,074**
NIBD & other commitments (rel. last quarterly report)						
Cash			144	144	144	144
Total interest bearing debt			-899	-899	-899	-899
Net working capital			75	75	75	75
Other adjustments (GNRT NIBD)			-808	-808	-808	-808
Future capex			-186	-186	-186	-186
NIBD & other commitments			-1,674	-1,674	-1,674	-1,674
NAV (USDm)			1,875	1,881	812	3,400
# shares (fully delivered)			219.9	219.9	219.9	219.9
NAV/share (EUR)			6.91	6.93	2.99	12.52
Share price (EUR)			6.5	6.5	6.5	6.5
P/NAV			0.94x	0.94x	2.17x	0.52x
EV (USDm)			3,438	3,438	3,438	3,438
EV/GAV			0.97x	0.97x	1.38x	0.68x

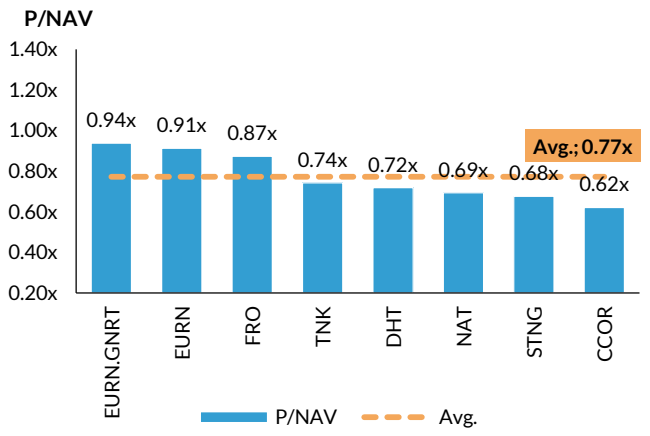
Source: Company data, Kepler Cheuvreux

Fear of short-term weakness offsets a bullish long-term outlook

On a longer-term outlook, we find the tanker market compelling due to attractive valuations against low-cycle values. Currently, we find the majority of the tanker segment trading at a strong discount, or close to NAV values, but remember that this is against depressed asset values. Our peer analysis indicates that the implied pricing of our peers, relative to a five-year old VLCC is USD63m, is down more than 20% from the peak in 2015, with values of above USD80m.

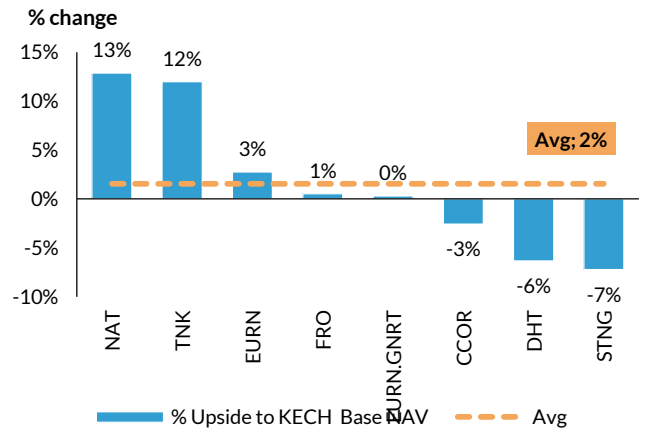
Despite strong long-term fundamentals, we are sceptical about the tanker market in the short-term, and fear that continued weak freight rates will put pressure on NAVersus Given our view of freight rates below/at cash breakeven levels for 2018-19E, we expect Euronav's net asset value to stay depressed at its current low levels of UER 6.9 per share. In addition, we see downside risk to consensus 2018-19 estimates, especially as current freight rates are down at opex levels. If the rates stay long for a prolonged period of time, we expect liquidity risk to become the focus for 2018. Although Euronav has one of the most solid balance sheets in the tanker segments in terms of liquidity, we still fear that the stock could be negatively affected.

Chart 666: Current P/NAV



Source: Kepler Cheuvreux

Chart 667: Upside in NAV to base-case scenario

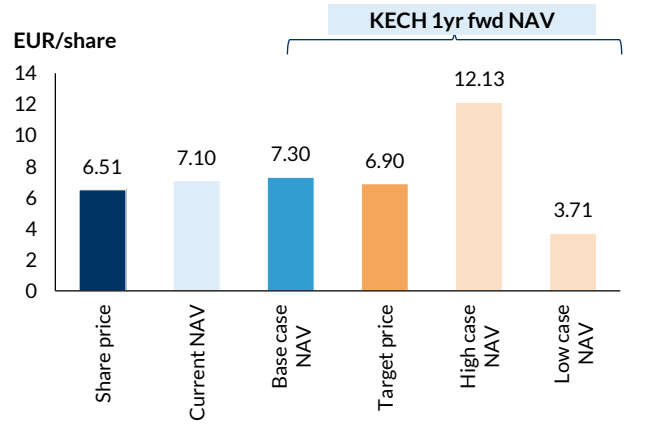


Source: Kepler Cheuvreux

We initiate coverage of Euronav with a Hold rating and TP of EUR6.9

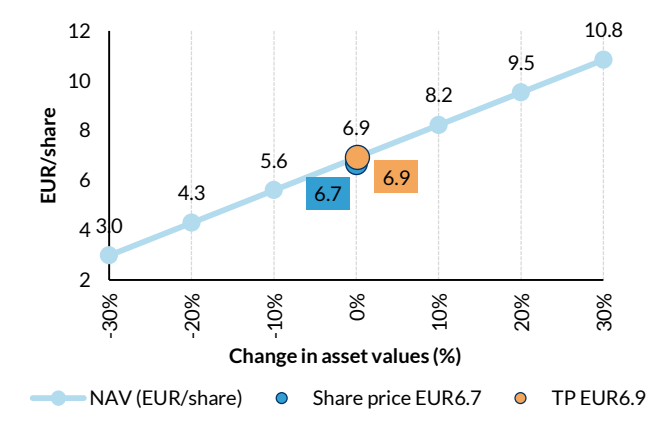
In conclusion, despite a compelling long-term investment case and low valuation, we fear the short-term risks of rates close to opex in the tanker market. We initiate coverage with a Hold rating, and set the target price at EUR6.9 (1.0x our base case NAV). The charts below illustrate our scenario analysis for Euronav, combined with the sensitivity of the NAV versus changes in asset values.

Chart 668: Kepler Cheuvreux scenario valuation for Euronav



Source: Kepler Cheuvreux

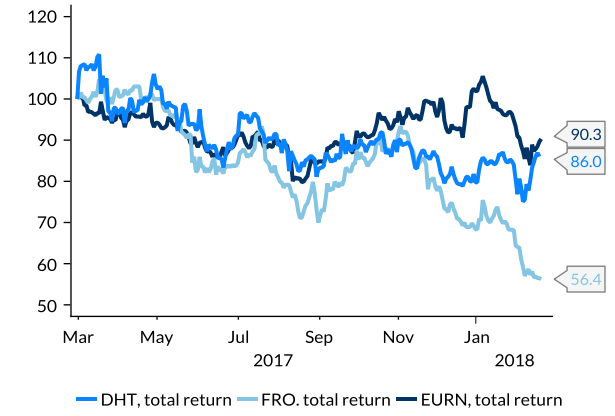
Chart 669: Sensitivity of NAV to changes in asset values



Source: Kepler Cheuvreux

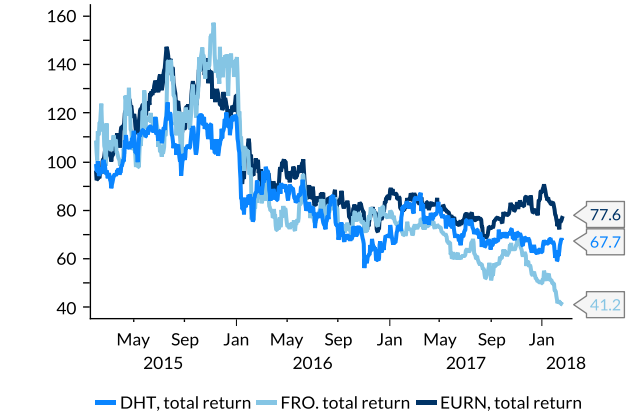
Supplementary figures

Chart 670: LTM share price development - tank peers



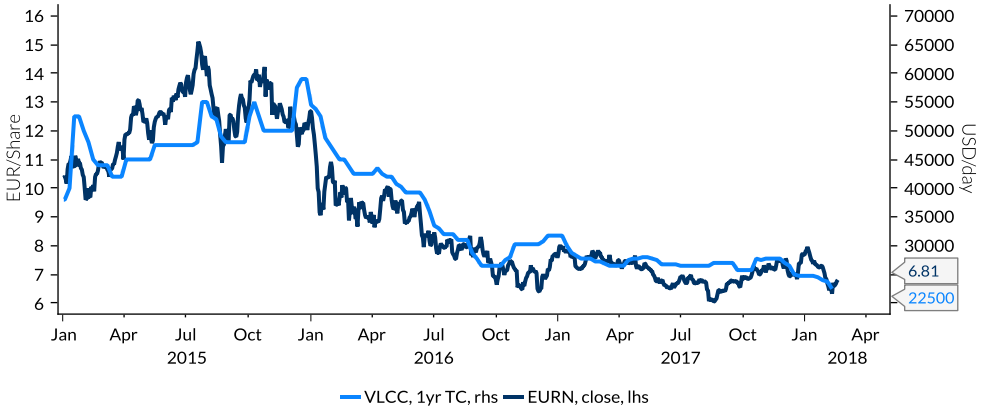
Source: Kepler Cheuvreux

Chart 671: Tank peers' share prices since January 2015



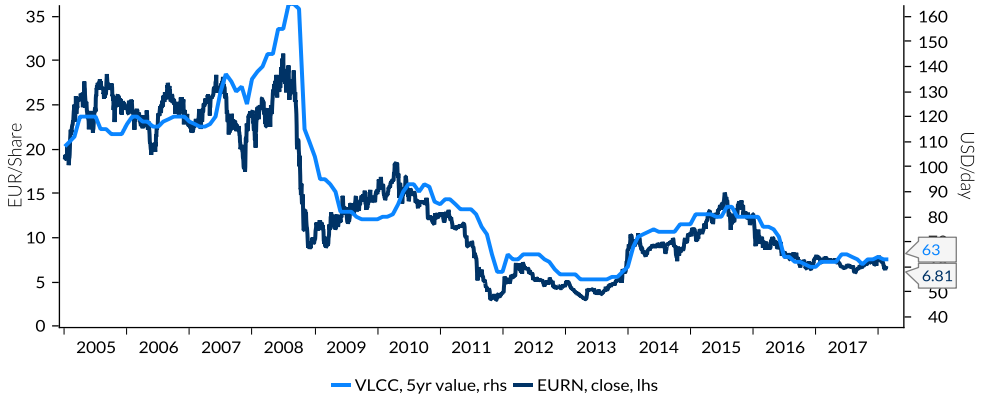
Source: Company data, Kepler Cheuvreux

Chart 672: Euronav share price versus VLCC 1-year TC rate



Source: Kepler Cheuvreux

Chart 673: Euronav share price versus VLCC 1-year TC rate



Source: Company data, Kepler Cheuvreux

Income statement

Table 57: P&L figures

Income statement (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
TCE revenues	456.2	356.0	434.4	1,079.0	90.4	104.7	82.2	104.0
OPEX	-150.4	-148.0	-152.1	-152.5	-38.0	-34.0	-35.6	-36.5
SGA	-46.9	-40.7	-41.9	-42.0	-10.8	-13.7	-9.8	-10.0
Charter hire expenses	-31.2	-32.1	-32.1	-32.2	-7.8	-7.8	-7.9	-8.0
Depreciation	-229.9	-233.0	-236.0	-236.0	-57.9	-56.4	-57.0	-58.0
Impairment and value adjustments	15.5	0.0	0.0	0.0	0.0	36.5	0.0	0.0
Operating profit/loss	13.4	-97.8	-27.7	616.3	-24.1	29.3	-28.1	-8.5
Net financial interest	-43.4	-54.9	-58.3	-56.8	-11.8	-12.0	-12.6	-13.9
Result from JVs	29.9	17.8	17.8	17.8	7.0	1.9	4.4	4.4
Profit before tax	0.0	-135.0	-68.2	577.3	-28.8	19.2	-36.2	-18.0
Taxes	1.3	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Net profit reported	1.2	-135.0	-68.2	577.3	-28.1	19.2	-36.2	-18.0
Net profit adjusted	-14.3	-135.0	-68.2	577.3	-28.1	-17.3	-36.2	-18.0
EBITDA adjusted	227.8	135.2	208.3	852.3	33.8	49.2	28.9	49.5
EBITDA proportionate	278.1	171.2	244.3	888.3	46.2	59.0	37.9	58.5
EPS	0.01	-0.85	-0.43	3.63	-0.18	0.12	-0.23	-0.11
EPS adj (USD)	-0.09	-0.85	-0.43	3.63	-0.18	-0.11	-0.23	-0.11
DPS	0.28	0.00	0.00	2.90	0.06	0.00	0.00	0.00
# Shares adj. (end)	159.2	159.2	159.2	159.2	159.2	159.2	159.2	159.2

Source: Company data, Kepler Cheuvreux

Balance sheet and cash flow

Table 58: Balance sheet and cash flow

Balance sheet (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	143.6	227.0	390.2	737.5	97.2	143.6	158.2	197.1
Investments	30.4	30.4	30.4	30.4	29.2	30.4	30.4	30.4
Other current assets	137.0	137.0	137.0	137.0	142.6	137.0	137.0	137.0
Vessels and newbuildings	2,335.2	2,288.2	2,052.2	1,816.2	2,414.6	2,335.2	2,371.2	2,313.2
Other long-term assets	164.5	164.5	164.5	164.5	177.1	164.5	164.5	164.5
Total assets	**2,810.7**	**2,847.1**	**2,774.3**	**2,885.6**	**2,860.8**	**2,810.7**	**2,861.3**	**2,842.2**
Interest bearing debt	902.6	1,055.8	1,033.0	882.7	954.6	902.6	984.9	979.2
Refinanced IB debt	0.0	0.0	0.0	29.3	0.0	0.0	0.0	0.0
Other current liabilities	61.4	61.4	61.4	61.4	78.9	61.4	61.4	61.4
Other long term liabilities	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.5
Shareholder's equity	1,846.2	1,729.4	1,679.4	1,911.7	1,826.8	1,846.2	1,814.5	1,801.0
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total equity and liabilities	**2,810.7**	**2,847.1**	**2,774.3**	**2,885.6**	**2,860.8**	**2,810.7**	**2,861.3**	**2,842.2**
Net interest bearing debt	**755.1**	**824.9**	**638.9**	**141.3**	**854.0**	**755.1**	**822.8**	**778.2**
Equity ratio (%)	71%	68%	72%	93%	68%	71%	69%	70%
Cash flow (USDm)	**2017**	**2018E**	**2019E**	**2020E**	**Q3 2017**	**Q4 2017**	**Q1 2018E**	**Q2 2018E**
Net profit	1.2	-135.0	-68.2	577.3	-28.1	19.2	-36.2	-18.0
Depreciation, amort. & impairments	229.9	233.0	236.0	236.0	57.9	56.4	57.0	58.0
Change working capital	22.1	0.0	0.0	0.0	15.9	1.4	0.0	0.0
Other non-cash items	-41.9	18.2	18.2	18.2	-4.3	-40.5	4.6	4.6
Cash flow from operations	**211.3**	**116.2**	**186.0**	**831.5**	**41.4**	**36.6**	**25.3**	**44.6**
Investment in newbuilding and vessels	-176.7	-186.0	0.0	0.0	-18.6	-16.4	-93.0	0.0
Proceeds from sale of vessels	96.9	0.0	0.0	0.0	0.0	76.1	0.0	0.0
Other investing activities	39.6	0.0	0.0	0.0	8.0	13.2	0.0	0.0
Cash flow from investing	**-40.2**	**-186.0**	**0.0**	**0.0**	**-10.7**	**72.9**	**-93.0**	**0.0**
Repayment of debt	-711.0	-22.8	-22.8	-151.1	-186.4	-29.6	-5.7	-5.7
Proceeds from refinanced debt	0.0	0.0	0.0	30.0	0.0	0.0	0.0	0.0
Proceeds from new debt	526.0	176.0	0.0	0.0	17.0	-24.0	88.0	0.0
Share issue (repurchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	-44.1	0.0	0.0	-363.2	0.0	-9.5	0.0	0.0
Other	-5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	**-235.0**	**153.2**	**-22.8**	**-484.2**	**-169.5**	**-63.1**	**82.3**	**-5.7**
Other adjustments	**0.8**	**0.0**	**0.0**	**0.0**	**0.2**	**0.0**	**0.0**	**0.0**
Change in cash and cash equivalents	**-63.1**	**83.4**	**163.2**	**347.3**	**-138.5**	**46.4**	**14.6**	**38.9**
Cash balance period-in	206.7	143.6	217.0	361.0	235.7	97.2	143.6	148.3
Cash balance period-out	143.6	217.0	361.0	1,017.3	97.2	143.6	148.3	186.9

Source: Company data, Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	321.9	367.1	782.7	631.7	456.2	356.0	434.4	1,079.0
% Change	-2.0%	14.0%	113.2%	-19.3%	-27.8%	-22.0%	22.0%	148.4%
EBITDA adjusted	138.7	174.2	556.9	409.7	227.8	135.2	208.3	852.3
EBITDA margin (%)	43.1%	47.5%	71.1%	64.9%	49.9%	38.0%	47.9%	79.0%
EBIT adjusted	-28.9	18.9	352.0	208.3	13.4	-97.8	-27.7	616.3
EBIT margin (%)	-9.0%	5.2%	45.0%	33.0%	2.9%	-27.5%	-6.4%	57.1%
Net financial items & associates	-60.6	-63.1	4.0	-4.7	-13.4	-37.2	-40.5	-39.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tax	-0.2	5.7	-5.6	0.2	1.3	0.0	0.0	0.0
Net profit from continuing operations	-89.7	-38.4	350.3	203.8	1.2	-135.0	-68.2	577.3
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-89.7	-38.4	350.3	203.8	1.2	-135.0	-68.2	577.3
Net profit reported	-89.7	-38.4	350.3	203.8	1.2	-135.0	-68.2	577.3
Net profit adjusted	-89.5	-44.1	345.0	177.5	-14.3	-135.0	-68.2	577.3
Cash Flow Statement (USDm)								
Cash flow from operating activities	26.3	14.8	450.5	438.2	211.3	116.2	186.0	831.5
Capex	-10.0	-1,053.9	-351.6	-342.5	-176.7	-186.0	0.0	0.0
Free cash flow	16.3	-1,039.2	98.9	95.7	34.6	-69.8	186.0	831.5
Acquisitions & Divestments	52.9	123.6	112.9	223.0	96.9	0.0	0.0	0.0
Dividend paid	0.0	0.0	-138.0	-216.8	-44.1	0.0	0.0	-363.2
Others	-0.3	500.8	242.1	8.3	33.7	0.0	0.0	0.0
Change in net financial debt	68.8	-414.7	315.9	110.2	121.1	-69.8	186.0	468.4
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	1,894.5	2,347.3	2,406.1	2,469.4	2,335.2	2,288.2	2,052.2	1,816.2
Financial & other non-current assets	15.3	282.8	262.1	185.8	164.5	164.5	164.5	164.5
Total shareholders' equity	801.0	1,472.7	1,905.7	1,887.7	1,846.2	1,729.4	1,679.4	1,911.7
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	1,348.0	1,623.7	1,135.0	1,159.0	964.5	1,117.7	1,094.9	973.9
Net financial debt	1,060.7	1,236.8	922.8	881.7	759.0	828.8	642.8	174.4
Working capital requirement	4.3	86.1	161.3	114.8	106.1	106.1	106.1	106.1
Invested Capital	1,898.7	2,433.5	2,567.5	2,584.2	2,441.2	2,394.2	2,158.2	1,922.2
Per share data								
EPS adjusted	-1.71	-0.53	2.53	1.12	-0.09	-0.85	-0.43	3.63
EPS adj and fully diluted	-1.71	-0.53	2.53	1.12	-0.09	-0.85	-0.43	3.63
% Change	+chg	+chg	+chg	-56.0%	-chg	-chg	+chg	+chg
EPS reported	-1.72	-0.46	2.57	1.28	0.01	-0.85	-0.43	3.63
Cash flow per share	0.50	0.18	3.31	2.75	1.33	0.73	1.17	5.22
Book value per share	15.34	17.66	13.99	11.86	11.60	10.86	10.55	12.01
Dividend per share	0.00	0.00	0.87	1.37	0.28	0.00	0.00	2.90
Number of shares, YE (m)	50.23	116.54	155.87	159.21	159.21	159.21	159.21	159.21
Ratios								
ROE (%)	-10.7%	-3.9%	20.4%	9.4%	-0.8%	-7.6%	-4.0%	32.2%
ROIC (%)	-1.5%	0.9%	14.1%	8.1%	0.5%	-4.0%	-1.2%	30.2%
Net fin. debt / EBITDA (x)	7.7	7.1	1.7	2.2	3.3	6.1	3.1	0.2
Gearing (%)	132.4%	84.0%	48.4%	46.7%	41.1%	47.9%	38.3%	9.1%
Valuation								
P/E adjusted	na	na	5.4	7.1	na	na	na	2.2
P/E adjusted and fully diluted	na	na	5.4	7.1	na	na	na	2.2
P/BV	0.4	0.7	1.0	0.7	0.7	0.7	0.8	0.7
P/CF	11.7	68.4	4.1	2.9	6.0	10.9	6.8	1.5
Dividend yield (%)	0.0%	0.0%	6.4%	17.3%	3.5%	0.0%	0.0%	36.6%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	na	na	na	na	na	na	na	na
EV/Sales	4.2	7.2	3.9	3.4	4.4	5.9	4.4	1.3
EV/EBITDA	9.8	15.2	5.5	5.2	8.9	15.5	9.1	1.7
EV/EBIT	na	na	8.7	10.3	na	na	na	2.3

Frontline

Norway | Transport | Mcap NOK 5.2bn

02 March 2018

Hold (Not Rated)

Target Price	**NOK 32.00**
Current Price	NOK 30.84
Up/downside	3.8%
Change in TP	none
Change in EPS	none 16E / none 17E

Awaiting 2020

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2018 is likely to be another difficult year for crude tankers as fleet growth is simply too strong with little improvement expected in 2019. However, we see a light at the end of the tunnel with estimated VLCC spot rates of USD66,500/day and the fleet utilisation rate expected to be in the high 90% range in 2020E, largely due to the impact of the reduced cap on sulphur for marine fuel oil usage which will limit the vessels' speed and boost trade for tankers. That said, the equity market is unlikely to assume high profits for 2020E and beyond if spot rates are just above opex levels over 2018-19E. As a result, we are more sceptical on the prospects for Nordic tanker stocks this year. Hence, we initiate coverage on Frontline with a Hold rating and a TP of NOK32.

Crude tanker heavyweight with modern tonnage

Frontline, one of the world's largest crude oil tanker companies, is listed on both the Oslo Stock Exchange and the New York Stock Exchange (ticker FRO). The core fleet consists of 56 crude tankers, of which 48 are fully owned (including five newbuilds) with an average fleet age of 2.3 years.

We expect continued weak rates on high fleet growth

2017 was a difficult year in the crude tanker market and we expect more of the same in 2018 although we expect US crude exports to continue to grow with no further reduction in floating storage. Fleet growth simply remains too strong and H1 2019 could be disappointing with spot rates at, or below, cash breakeven levels. For Frontline, this translates into downside risk of 15-25% on consensus 2018-19 estimates.

Short-term concerns offset by attractive long-term valuation

Despite our short-term concerns, we see a light at the end of the tunnel with VLCC (Very Large Crude Carrier) spot rates expected at USD66,500/day and the fleet utilisation rate estimated to be in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive against very low asset values (Frontline's EV/GAV at a 5% discount, or an implied five-year old VLCC value of USD60m).

Initiating with a Hold rating pending recovery

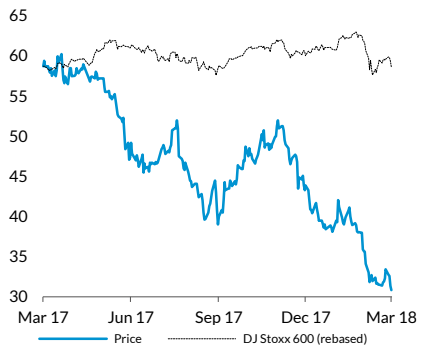
With depressed rate forecasts for 2018E, we see little upside potential on NAV on a one-year horizon. Although the company currently trades at a P/NAV of 0.9x, we fear that depressed rates and liquidity concerns will keep tanker shares trading at a discount at the beginning of 2018. Hence, we initiate coverage on Frontline with a Hold rating and a TP of NOK32.

Market data

Bloomberg: FRO NO	Reuters: FRO.OL
Market cap (NOKm)	5,237
Free float	50%
No. of shares outstanding (m)	170
Avg. daily volume (NOKm)	54.4
YTD abs performance	-19.1%
52-week high/low (NOK)	60.25/30.84

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	327.6	417.7	987.1
EBITDA adj (m)	164.6	237.8	751.9
EBIT adj (m)	7.4	82.8	595.9
Net profit adj (m)	-72.6	-7.5	516.1
Net fin. debt (m)	1,974.2	1,903.6	1,593.6
FCF (m)	-194.3	83.4	716.8
EPS adj. and fully dil.	-0.43	-0.04	3.04
Net dividend	0.00	0.00	2.46

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	na	na	1.3
EV/EBITDA	16.0	10.8	3.0
EV/EBIT	na	31.0	3.8
FCF yield	-29.3%	12.6%	108.2%
Dividend yield	0.0%	0.0%	63.2%
Net fin.debt/EBITDA	12.0	8.0	2.1
Gearing	183.0%	183.1%	133.7%
ROIC	0.3%	2.9%	21.7%
EV/IC	0.9	0.9	0.8



Investment summary

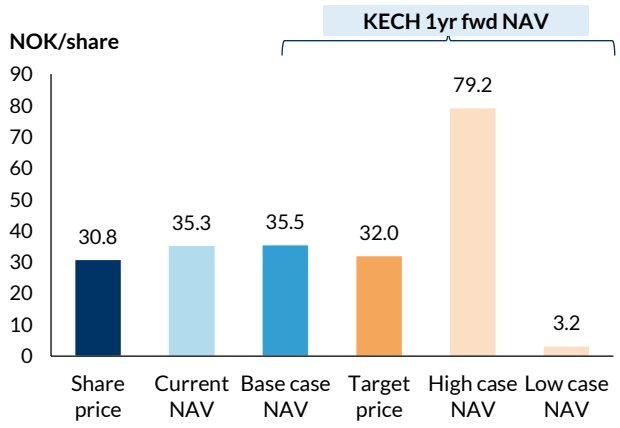
Frontline, which is one of the world's largest crude oil tanker companies, is listed on both the Oslo Stock Exchange and the New York Stock Exchange (ticker FRO). As of Q3 2017, its core fleet consisted of 56 crude tankers, of which 48 are fully owned (including five newbuilds), eight are leased on long-term capital leases. With an average fleet age of 2.2 years (value-weighted), Frontline has the most modern fleet in our peer group.

In our view, 2017 was a very difficult year in the crude tanker market and this is likely to continue in 2018, although we expect US crude exports to continue to grow with no further reduction in floating storage. Fleet growth simply remains too strong and H1 2019 could be disappointing with spot rates at, or below, cash-breakeven levels. That said, we see a light at the end of the tunnel with estimated VLCC spot rates of USD66,500/day, and the fleet utilisation rate expected to be in the high 90% range in 2020E. In addition, valuation in the tanker segment is attractive on a longer-term basis against very low asset values.

Therefore, we prefer companies that preserve cash in what we expect to be a choppy tanker market until 2020E. Frontline is one of our top picks in this segment given its strong liquidity position and in the absence of any major debt instalments before 2020. However, given its high financial leverage, we stress that the risk is high, and Frontline is significantly more sensitive to changing asset values than less leveraged peers such as Euronav.

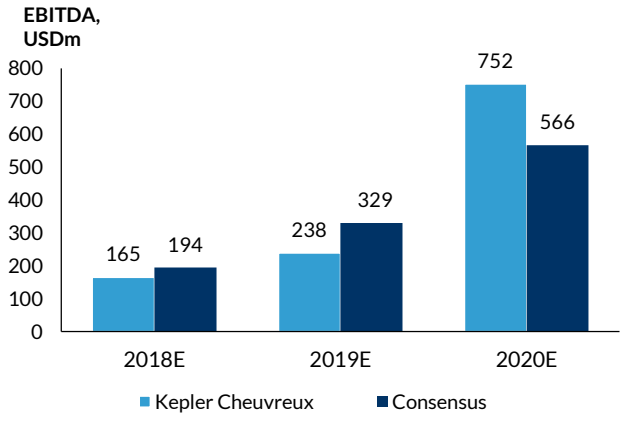
Currently, Clarkson quotes a price of USD63m for a five-year old VLCC, down 23% since the peak in mid-2014 (USD84m). Based on our rate forecast, we expect vessel values to remain depressed at the current low levels for 2018E, leaving little upside potential to Frontline's NAV. Although the company currently trades at a P/ NAV ratio of 0.9x, we fear that depressed rates and liquidity concerns will keep tanker shares trading at a discount at the beginning of 2018. We initiate coverage on FRO with a Hold, target price NOK32.

Chart 674: Frontline: Target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 675: Frontline: EBITDA, KECH versus consensus



Source: Kepler Cheuvreux

Frontline in brief

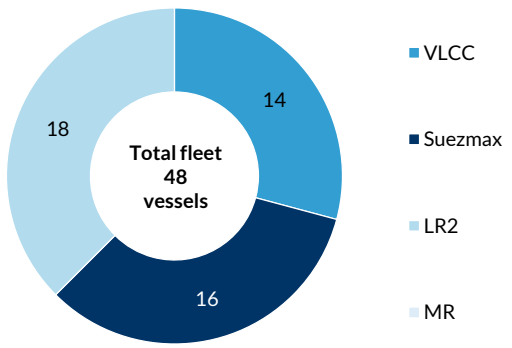
Crude tanker heavyweight with modern tonnage

Frontline is one of the world's largest listed crude oil tanker companies, with a fully-owned fleet of 57 vessels (including newbuilds and chartered/leased vessels). The company is listed on both the Oslo and New York Stock Exchange (ticker FRO). It traces its origins back to the Swedish company Frontline AB, which was founded in 1985. However, the current entity was founded in 2015 after the merger of Frontline and Frontline 2012, which was a separate business created during the restructuring of the company in 2012. Historically, Ship Finance and Golden Ocean Group were also affiliated companies. They were both spun off and listed as separate entities in 2004.

In Q4 2017, Frontline's core fleet consisted of 56 crude tankers, of which 48 were fully owned (including five newbuilds), eight were leased under long-term capital leases. In addition, the company has one VLCC recorded as an investment in a financial lease, two VLCCs with a 50% cost/revenue split, and five vessels under commercial management. However, for the sake of simplicity, we are focusing solely on the core fleet of 56 tankers (was 57 before the delivery of the lease Front Circassia back to Ship Finance in Q1 2018) in our analysis.

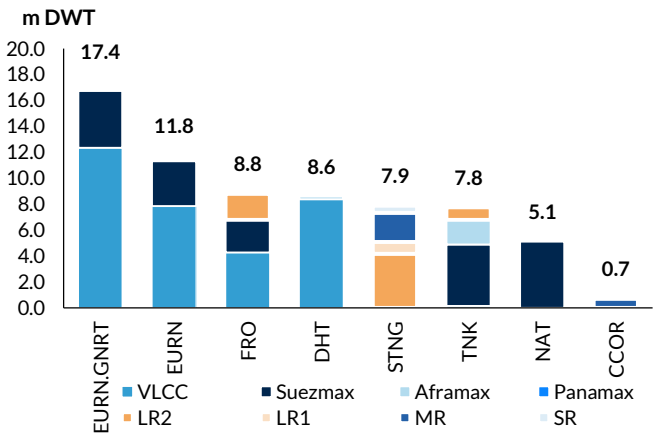
Frontline's 48 fully-owned vessel is a mix of Very Large Crude Carrier (14), Suezmax (16) and Large Range 2 (18) vessels. Five of these are newbuilds, with expected delivery from Q1 2018 to Q2 2019. The fully-owned fleet has a total carrying capacity of 8.8m DWT (dead weight tonnes), making Frontline's fleet the second largest in our tanker peer group, following Euronav. The majority of Frontline's vessels are built at Chinese shipyards (38), in contrast with peers such as DHT Holdings and Euronav which tend to prefer Korean- or Japanese-built vessels.

Chart 676: Frontline fleet by vessel type (owned fleet only)



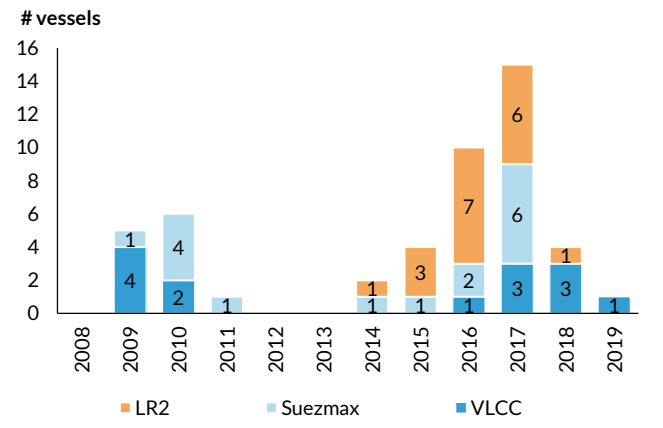
Source: Kepler Cheuvreux

Chart 677: Relative size of tanker peers (owned fleet, DWT mill.)



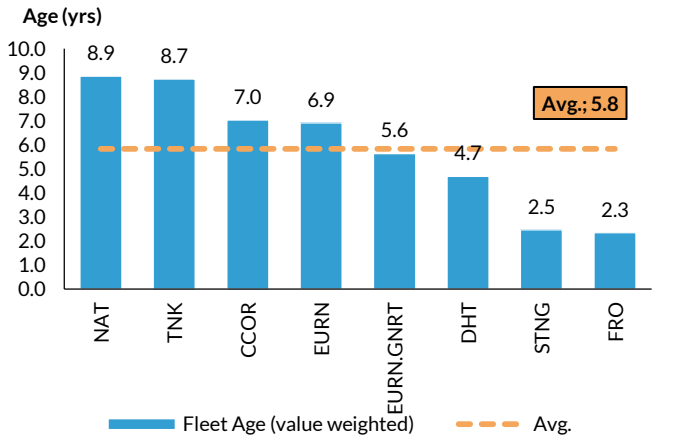
Source: Kepler Cheuvreux

Chart 678: Frontline's fleet by building year



Source: Kepler Cheuvreux

Chart 679: Fleet age for tanker peers (value weighted, owned)



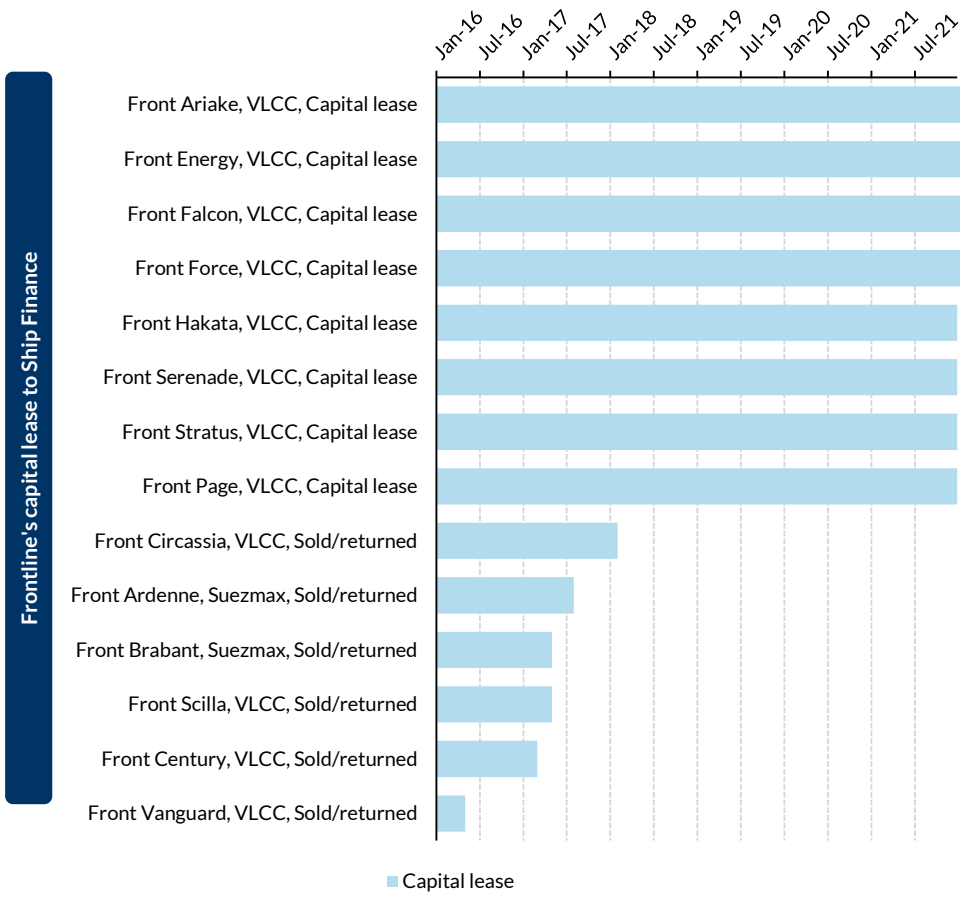
Source: Kepler Cheuvreux

With an average fleet age of 2.3 years (value weighted), Frontline has the most modern fleet in our peer group. The majority of Frontline's vessels were delivered 2016-17, and only 12 vessels are more than seven years old.

In addition to its fully-owned fleet, Frontline also has eight VLCCs on long-term capital leases from Ship Finance. The vessels were acquired as part of the 2015 merger (14 vessels originally of which 12 VLCCs and two Suezmax vessels), and are included in the balance sheet under capital lease accounting. The VLCCs are leased at a base-rate of USD20,000/day plus a 50% profit split above these levels. Since 2016, six of the leases have been terminated, and the duration of the remaining leases ranges from 2022 to 2026. For 2018-20, we estimate that around 15% of Frontline's available days will come from leased-in vessels.

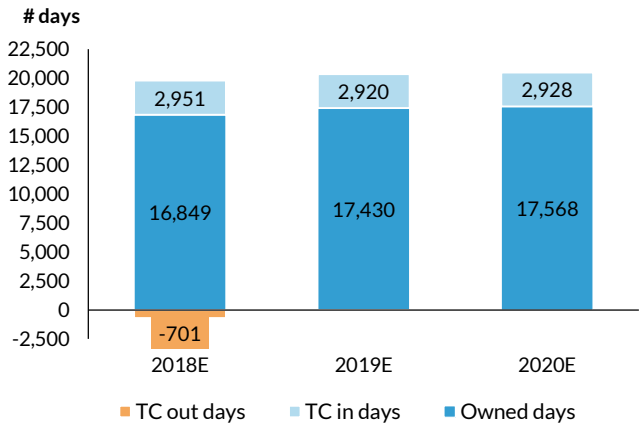
Frontline's fleet is almost entirely exposed to the spot market over 2018-20. Approximately 11% of the available days for 2018 are on fixed-rate time charter contracts, and almost no days are covered for 2019-20. These include five LR2s (Large Range 2) on an average rate of USD27,600/day in Q1 2018 and one Suezmax on USD27,000/day for Q1 2018. In Q4 2017, two LR2 time charters were extended until Q2 2018 and Q1 2019 at an average rate of USD 16,800 per day.

Chart 680: Frontline's leased-in vessels from Ship Finance



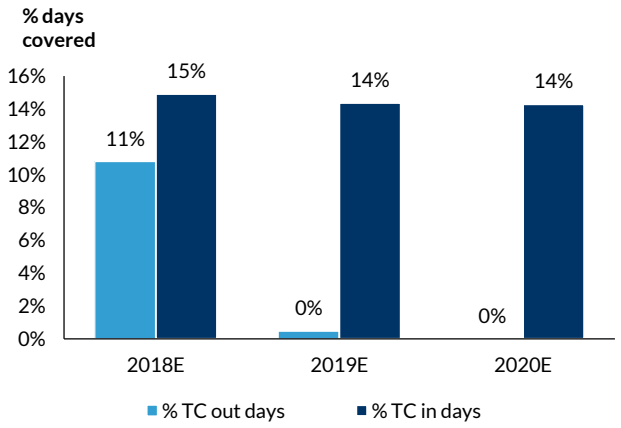
Source: Kepler Cheuvreux

Chart 681: Fleet days for Frontline's core fleet (KECH est.)



Source: Kepler Cheuvreux

Chart 682: Percentage of available days in the charter portfolio



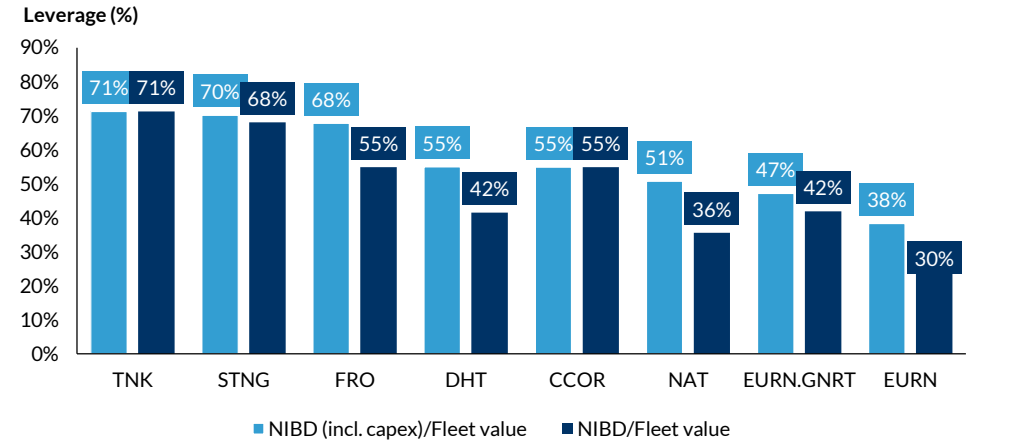
Source: Kepler Cheuvreux

High financial leverage including newbuild capex

Using Clarkson's current fleet values, we estimate that Frontline has a leverage ratio of 68% net debt-to-fleet values including newbuild capex. This makes Frontline one of the most highly leveraged companies in our peer group. In comparison, Frontline's

closest peers DHT and Euronav have a 55% and 38% leverage ratio respectively. The high financial leverage therefore offset Frontline's lower operational leverage due to the fact that it has a more modern fleet.

Chart 683: Crude tankers' leverage ratio relative to current fleet values



Source: Kepler Cheuvreux

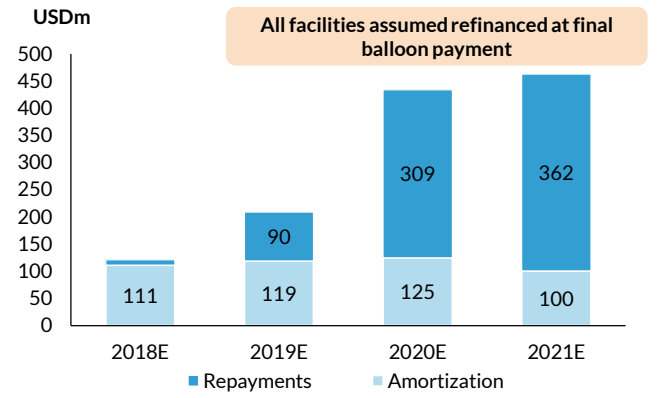
Newbuild capex: As of Q4 2017, Frontline had remaining newbuild capex of USD305m related to four VLCCs and one LR 2 vessel. Three of these vessels are set for delivery in Q1 2018, one in Q4 2018 and one in Q2 2019. USD252m of the capex is expected to fall due in 2018.

Based upon the available amount in Frontline's secured RCFs, we estimate that USD295m of the USD305m capex will be funded via debt.

Interest bearing debt: Frontline's vessels are primarily financed with secured term-loans with an average interest margin of LIBOR + 1.90%, and 15-20 year repayment profiles. In addition, Frontline has a USD275m unsecured revolving facility (RCF) at LIBOR + 6.25% for short-term liquidity purposes. As of Q4 2017, USD90m were drawn under the RCF, and the facility due for Q4 2019 after an extension in Q4 2017. The outstanding value of Frontline's interest-bearing debt was USD1.6bn as of Q4 2017.

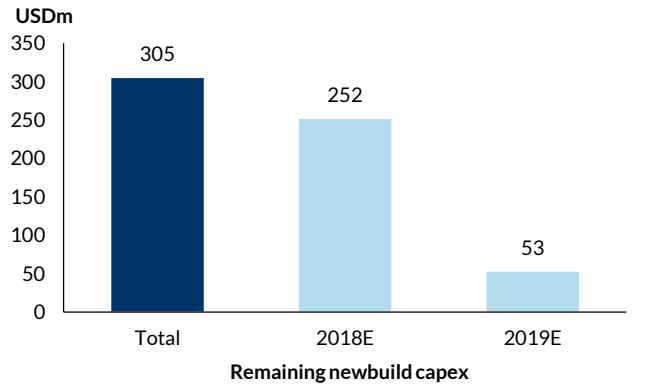
Overall, we estimate that debt amortisation will remain stable at USD110-125m over 2018-20, equal to USD6,500-7,000/day for the owned fleet. Frontline has no major debt instalments on the secured term loans before 2020. In our estimates, we assume the unsecured RCF (USD90m outstanding) will fall due in 2019, and our base-case estimates include the refinancing of all major balloon payments.

Chart 684: Frontline debt repayment schedule



Source: Kepler Cheuvreux

Chart 685: Frontline remaining newbuild capex



Source: Kepler Cheuvreux

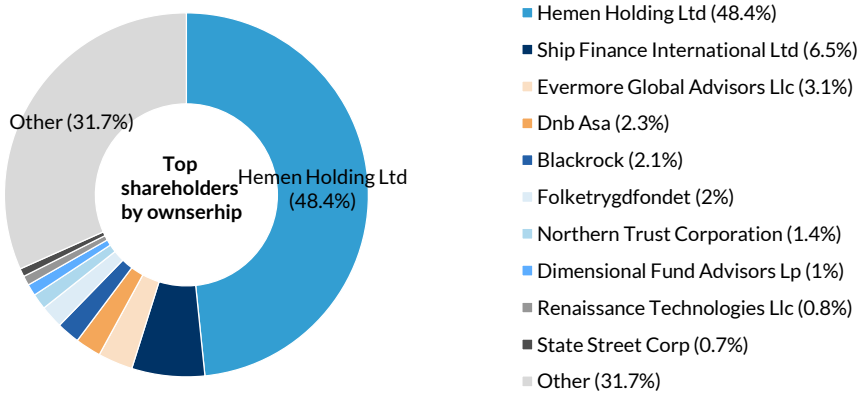
Management and shareholder structure:

Frontline's executive management team consists of:

- **Robert Hvide Macleod (CEO):** who has been a director of the company since May 2015 and has served as Chief Executive Officer of Frontline Management AS since 3 November 2014. Previously, Mr. Macleod was employed by the AP Moller Group from 2002 to 2004 and Glencore-ST Shipping from 2004 to 2011. He is also the founder of Highlander Tankers AS.
- **Inger M. Klemp (CFO):** who has served as Chief Financial Officer of Frontline Management AS since 1 June 2006. Mrs. Klemp has also served as a director of Independent Tankers Corporation Limited since February 2008. Prior to that, she was Chief Financial Officer of Knightsbridge Shipping Limited from September 2007 to March 2015. Mrs. Klemp served as Vice President Finance from August 2001 until she was promoted in May 2006. Mrs. Klemp obtained an MSc in Business and Economics from the Norwegian School of Management (BI) in 1986. Prior to joining the company, Mrs. Klemp served as Assistant Director Finance of Color Group ASA and Group Financial Manager of Color Line ASA.

John Fredriksen controls Hemen Holding and obtained a majority stake in Frontline in 1996. Historically, he has had significant influence over the company. Hemen currently holds 48% of the outstanding shares.

Chart 686: Shareholder structure



Source: Kepler Cheuvreux

Deconstructing the forecasts

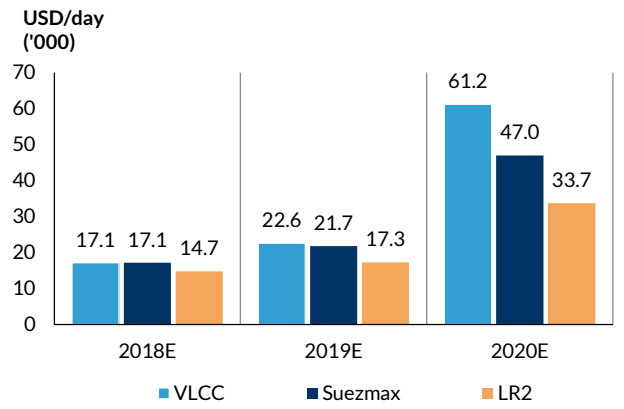
Tanker market: High supply growth could prolong rate weakness

In our view, 2017 was a difficult year in the crude tanker market and we expect more of the same in 2018 although we expect US crude exports to continue to grow and believe that there will be no further decline in floating storage. Fleet growth simply remains too strong and H1 2019 could be disappointing with spot rates at, or below, cash breakeven levels.

That said, we see a light at the end of the tunnel with estimated VLCC spot rates of USD66,500/day, and the fleet utilisation rate expected to be in the high 90% range in 2020E. The main reason for this optimism, apart from much lower fleet growth, is the impact from the reduced cap on sulphur for marine fuel oil usage which we think will both: 1) reduce the speed of the fleet; 2) boost trading, both in different crude qualities, but also in dirty-oil products; and 3) increase floating storage of fuel oil which we believe will be hard to get rid of **(see the main section of this report for a more detailed overview of the LPG shipping market**).

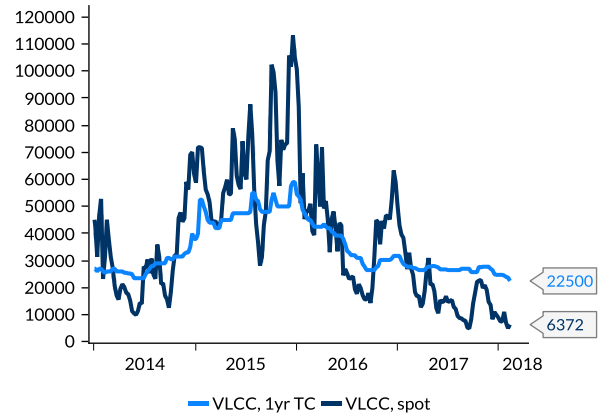
We factor in VLCC rates below USD20,000/day for 2018E, USD22,900/day for 2019E and USD66,500/day for 2020E. Over 2018-19E, we expect the fleet utilisation rate to remain at 86-87%, while in Q4 2019 we expect to see the first effects of the new sulphur cap. In 2020, we expect the fleet utilisation rate to move well into the 90% range (we model 97%). In turn, this should also lead to an increase in floating storage of "unwanted" heavy fuel oil (HFO) and a slowdown in vessel speeds (albeit by only 0.25 knots).

Chart 687: KECH freight rate forecast (with one-month lag for company models)



Source: Kepler Cheuvreux

Chart 688: Clarkson's VLCC rate (spot and one-year time charter)



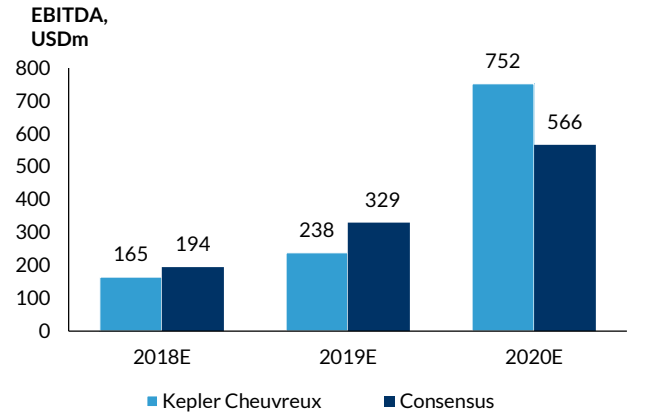
Source: Clarksons, Kepler Cheuvreux

We see downside risk to consensus EBITDA for 2018-19

With VLCC rates of USD17,000/day in 2018E and USD22,000/day in 2019E, we expect that Frontline will face two tough years with rates above cash-breakeven levels (~USD20,000/day for VLCCs) only for shorter time periods. Hence, we see downside risk on consensus EBITDA of USD30m in 2018E (-15%) and USD90m in

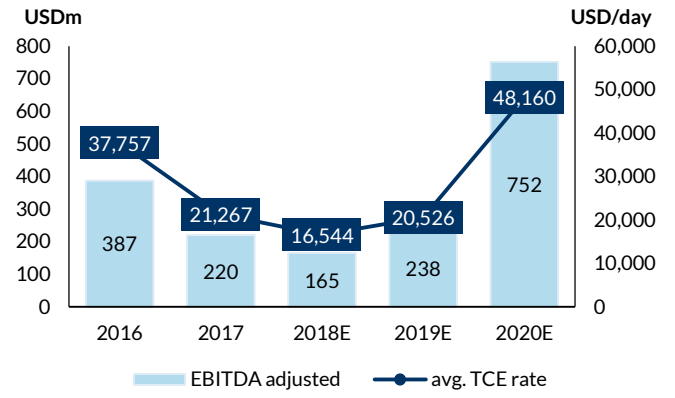
2019E (-28%). In our view, the high supply growth in the tanker market could prolong the current rate weakness longer than consensus estimates currently imply. Although we expect the tanker market to turn around in 2020E (and more dramatically than consensus), we believe that the market will likely focus on the negative issues in the short term.

Chart 689: KECH versus consensus EBITDA estimate



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 690: Frontline annual EBITDA (KECH estimate)

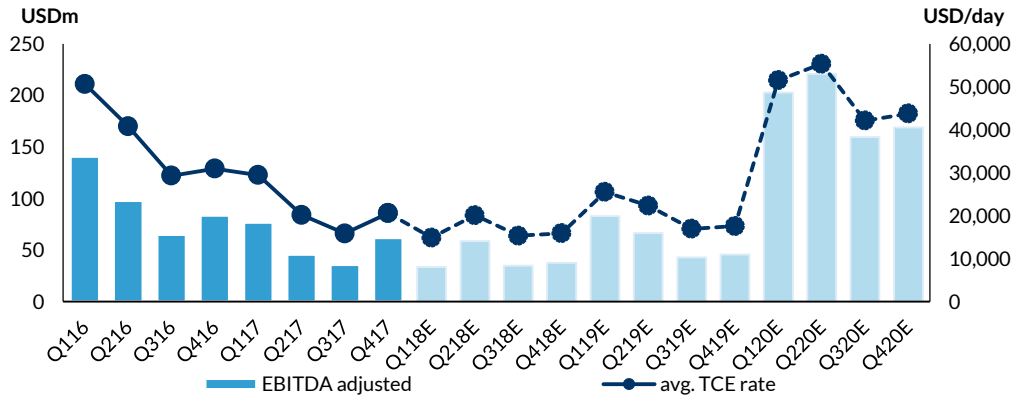


Source: Bloomberg consensus, Kepler Cheuvreux

Specifically, we forecast a decline in Frontline's EBITDA from USD220m in 2017 to USD165m in 2018E due to a decline in the average TCE (time charter equivalent) rate to USD16.500/day. We expect a moderate increase to USD240m in 2019E, then pencil in a strong tightening in freight rates in 2020E, lifting the EBITDA above USD750m. Given the weak development in spot TCE rates so far in Q1 2018 we already consider rates to be on the weak side relative to our overall 2018E estimates (USD15,000/day translates into a running EBITDA USD140m per year). As Q1 and Q2 are typically characterised by stronger rates, we see downside to consensus and our estimates for 2018E if rates do not recover over the next few months.

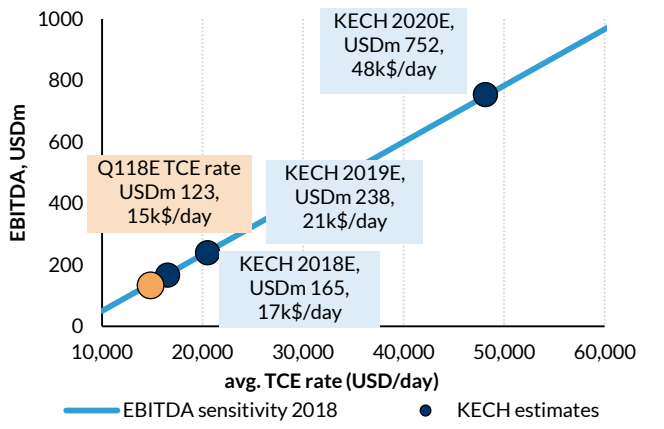
Turning to valuation, our estimates indicate an EV/EBITDA ratio of 9.6x 2019E versus the consensus estimate of EV/EBITDA of 6.9x 2019E (share price for Frontline NOK31). For the current EV/EBITDA to fall below 6x, Frontline's average TCE rate would have to increase to USD30,000/day for 2019E.

Chart 691: EBITDA per quarter versus average TCE rate



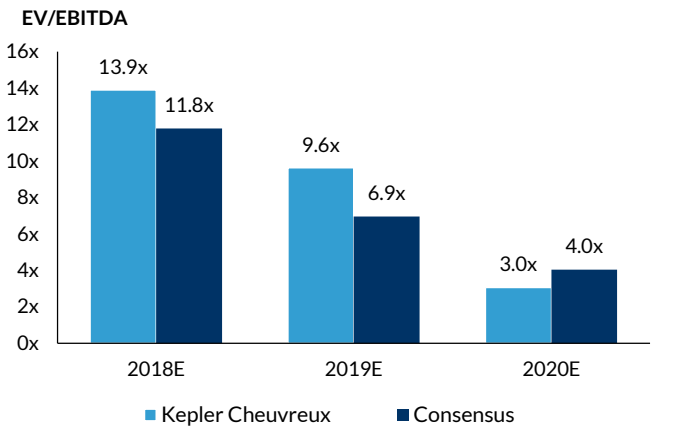
Source: Kepler Cheuvreux

Chart 692: Frontline's EBITDA sensitivity versus TCE rate



Source: Kepler Cheuvreux

Chart 693: KECH versus consensus EV/EBITDA estimate



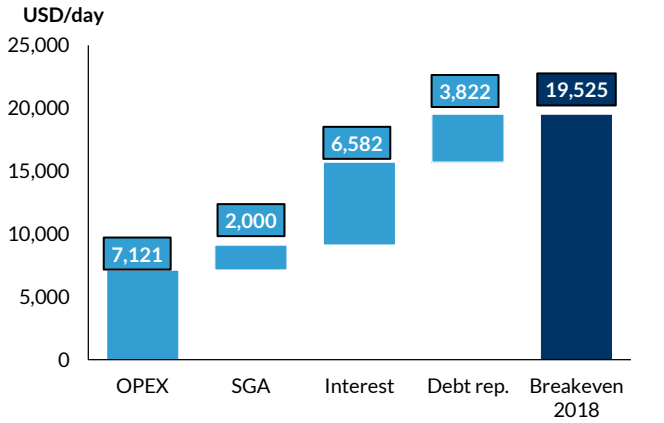
Source: Kepler Cheuvreux

Frontline has liquidity to defend against a moderate rate weakness

For 2018, we estimate a cash breakeven level for Frontline's total owned fleet of USD19,500/day, up from USD18,800/day in 2017 due to higher benchmark interest rates (LIBOR). Based on our freight-rate forecasts, we expect two tough years for Frontline with rates above cash breakeven levels for shorter time periods. We estimate that for every USD1,000/day below the cash breakeven point, Frontline's cash burn would amount to ~USD19m a year.

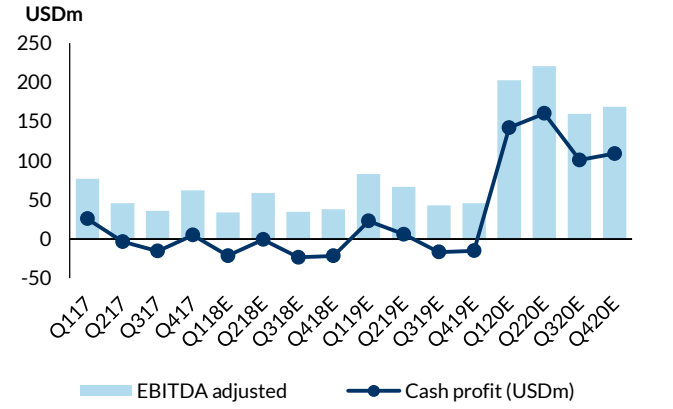
With total available liquidity of USD320m in Q3 2017 (USD104m in cash, USD30m in securities and USD185m in undrawn facilities), we see little risk to Frontline's overall liquidity in our base-case scenario. Moreover, with no major debt instalments due before 2020, the refinancing risk should be low if rates stay just below breakeven levels.

Chart 694: Frontline cash breakeven 2018E - KECH estimate (owned fleet)



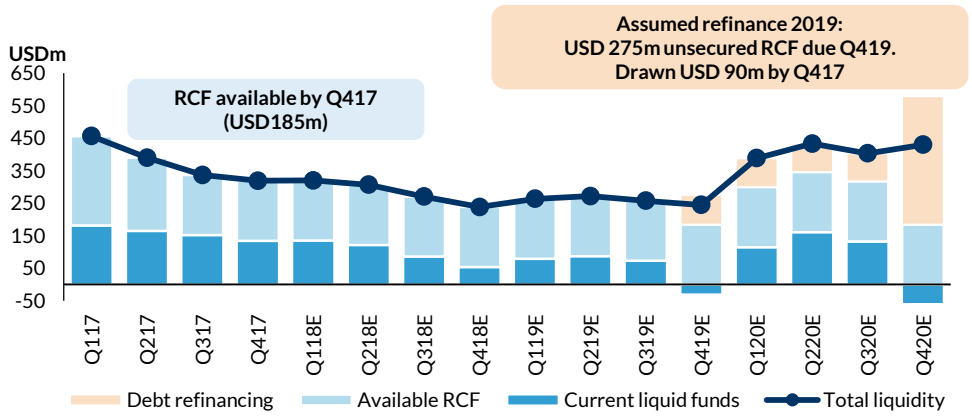
Source: Kepler Cheuvreux

Chart 695: Frontline EBITDA adj. versus cash profit from vessels (including interest, debt amortisation and SFL leases)



Source: Kepler Cheuvreux

Chart 696: Frontline liquidity (cash + available RCF) in our base-case scenario



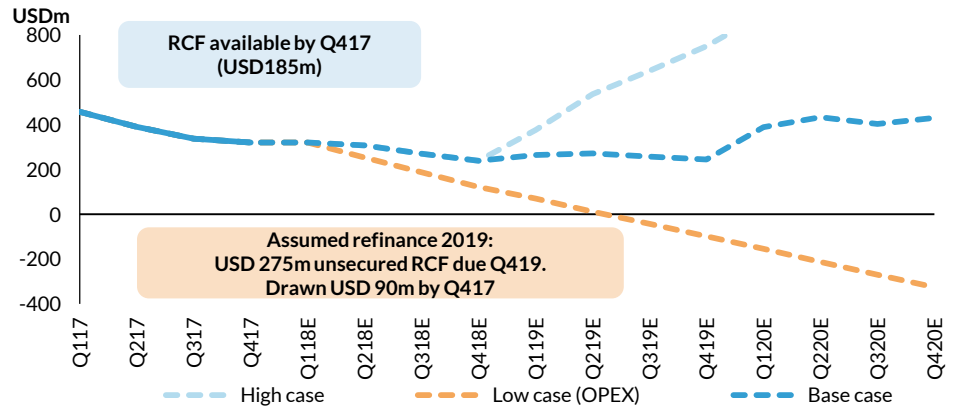
Source: Kepler Cheuvreux

... but if rates only cover opex, liquidity will become a key topic

In general, we believe that freight rates are unlikely to remain at the opex level for the entire year in 2018, but with Clarkson's VLCC rates averaging USD8,282/day in January, liquidity could soon become a hot topic in the crude tanker segment. In the chart below, we provide a stress-test scenario for Frontline's liquidity with rates simply covering opex until 2021E (we assume USD10,000/day for VLCC).

In such a scenario, Frontline's liquidity would last until mid-2019 according to our estimates. Although Frontline currently boasts a strong liquidity position, the scenario analysis highlights the risk if rates remain at the opex level for a prolonged period. We recall that with VLCC rates at USD10,000/day the annual cash burn would amount to ~USD200m a year.

Chart 697: Scenario analysis for Frontline's liquidity (cash + available RCF)

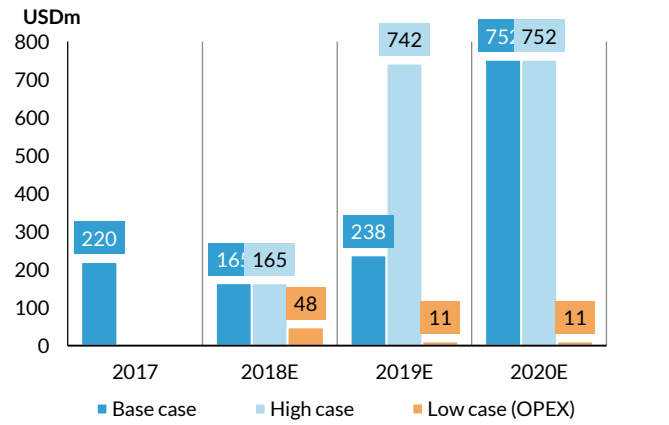


Source: Kepler Cheuvreux

Long-term outlook is positive if Frontline weathers the storm

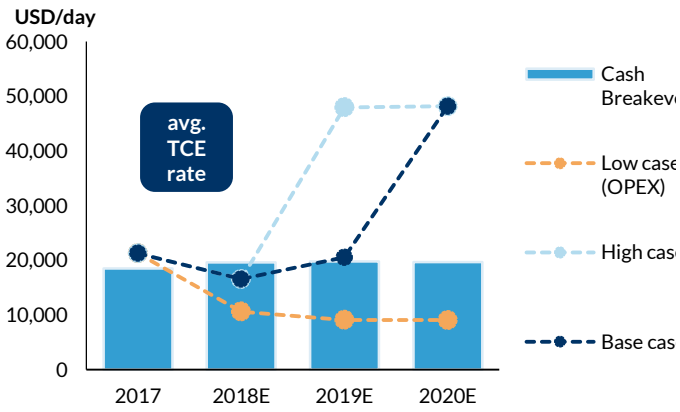
Although we are somewhat sceptical about the prospects for tanker market in the short term, we remain positive on the segment on a longer-term basis as we expect fleet growth to slow down eventually. In our base-case scenario, we factor in a recovery in VLCC rates above USD60,000/day in 2020E which should lift Frontline's EBITDA above NOK750m. Although we remain sceptical, investors should bear in mind that Frontline would be in a very solid position in an "early" recovery scenario. In our blue-sky case, we have included a recovery to VLCC rates of above USD60,000/day in 2019E. The implied 2019E EV/EBITDA for Frontline would be only 3.0x at these rate levels.

Chart 698: Frontline's EBITDA sensitivity to the TCE rate



Source: Kepler Cheuvreux

Chart 699: KECH versus consensus EV/EBITDA estimates



Source: Kepler Cheuvreux

Deconstructing the forecasts

In table below, we outline our key estimates and assumptions for Frontline for 2017-20E. Overall, we see two tough years for Frontline on the back of continued weak freight rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the end of the company segment.

Time charter equivalent (TCE) revenues: We model Frontline's revenues based on available fleet days and assumed development of freight rates:

- **Available days** will increase as Frontline's five newbuilds enter the fleet from 2018. Three of these vessels are set for delivery in Q1 2018, one in Q4 2018 and one in Q2 2019.
- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for Frontline to remain at USD16,500/day for 2018E and USD20,700/day for 2019E. However, for 2020E we forecast a strong tightening in TCE rates to USD50,000/day.

Operating costs and SGA: Our operating costs assume an opex level for Frontline's fleet of USD8,200/day for VLCCs, USD7,000/day for Suezmax and USD6,500/day for LR2 tankers. We also assume an SGA (general and administrative expense) of USD2,000/day for each vessel, and include dry docking cost in the OPEX according to the vessel's age. The contingent rental expense measures the difference between

the actual lease costs on the Ship Finance vessels versus the original accounting estimate from the merger in 2015. As we expect low rates in 2018-19E, the contribution from the contingent rental expense will be positive.

EBITDA: We expect adjusted EBITDA to amount to USD165m in 2018E, USD245m in 2019E and USD760m in 2020E. This implies a relatively stable EBITDA margin of USD8-12,000/day over 2017-19E, then an increase to USD37,000/day in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase as the new vessels are delivered. We assume an average floating interest rate of LIBOR + 1.9% on Frontline's secured bank facilities.

Tax: We do not expect Frontline to pay tax over our forecast period

DPS: Currently, Frontline does not pay dividends to shareholders, and on the back of weaker rates we do not include any dividend payment in our forecasts for 2018-19E. However, we include a payout ratio of 80% in 2020E.

Table 59: Key financials

Key financials (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	387.0	327.6	417.7	987.1	75.9	99.2	73.1	98.8
OPEX	-135.7	-144.2	-148.7	-149.8	-34.2	-33.4	-35.9	-35.8
Charter hire expenses	-19.7	0.0	0.0	0.0	-3.1	-2.0	0.0	0.0
SGA	-37.6	-39.6	-40.7	-41.0	-9.6	-8.9	-9.8	-9.8
Contingent rental expense	26.1	21.9	16.7	-37.5	6.7	7.0	6.2	5.6
EBITDA adjusted	220.1	165.6	245.0	758.7	35.8	61.9	33.6	58.8
Depreciation, impairments (value adj.)	-416.4	-157.2	-155.0	-156.0	-41.2	-292.1	-42.7	-38.2
Net financial items	-67.8	-84.0	-82.7	-72.6	-18.5	-17.8	-19.8	-21.8
Tax	-0.3	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
Other (discontinued, minority int.)	-0.5	-0.4	-0.4	-0.4	-0.2	-0.2	-0.1	-0.1
Net profit reported	-264.9	-76.1	6.9	529.7	-24.1	-248.4	-29.0	-1.3
Net profit adjusted	8.3	-71.6	-0.3	522.9	-18.3	5.3	-23.5	-1.3
EPS adj (USD)	0.05	-0.42	0.00	3.08	-0.11	0.03	-0.14	-0.01
DPS	0.15	0.00	0.00	2.46	0.00	0.00	0.00	0.00
Operating assumptions:								
Avg. TCE rate (USD/day)	21,267	16,544	20,526	48,160	15,860	20,601	14,862	20,096
Avg. EBITDA margin (USD/day)	12,096	8,366	12,040	37,018	7,481	12,853	6,825	11,964
Total vessel days (available)	18,197	19,800	20,350	20,496	4,783	4,815	4,919	4,914
TC Coverage (% all available days)	43%	11%	0%	0%	14%	12%	6%	4%
Selected balance sheet items:								
Cash including restricted cash	104.9	24.0	30.6	215.7	119.8	104.9	105.7	92.3
Investments	51.3	41.3	31.2	29.5	56.7	51.3	48.8	46.3
Total IB debt incl. capital lease	1,879.2	1,998.2	1,934.1	1,809.3	1,903.5	1,879.2	2,028.4	2,000.0
Net interest bearing debt	1,723.0	1,932.9	1,872.4	1,564.1	1,727.0	1,723.0	1,873.9	1,861.5
Leverage ratio (%)	59%	64%	64%	57%	55%	59%	62%	62%
Selected cash flow items:								
Operating cash flow	125.7	58.7	138.4	716.8	10.9	5.4	7.7	31.3
Investing cash flow	-722.6	-243.0	-45.0	1.7	-246.4	-2.2	-152.5	-12.5
Financing cash flow	498.6	103.4	-86.9	-533.4	226.2	-18.1	145.7	-32.3
Change in cash	-98.3	-80.9	6.5	185.2	-9.3	-14.9	0.8	-13.4

Source: Kepler Cheuvreux

Valuation

Continued rate weakness should keep asset values depressed

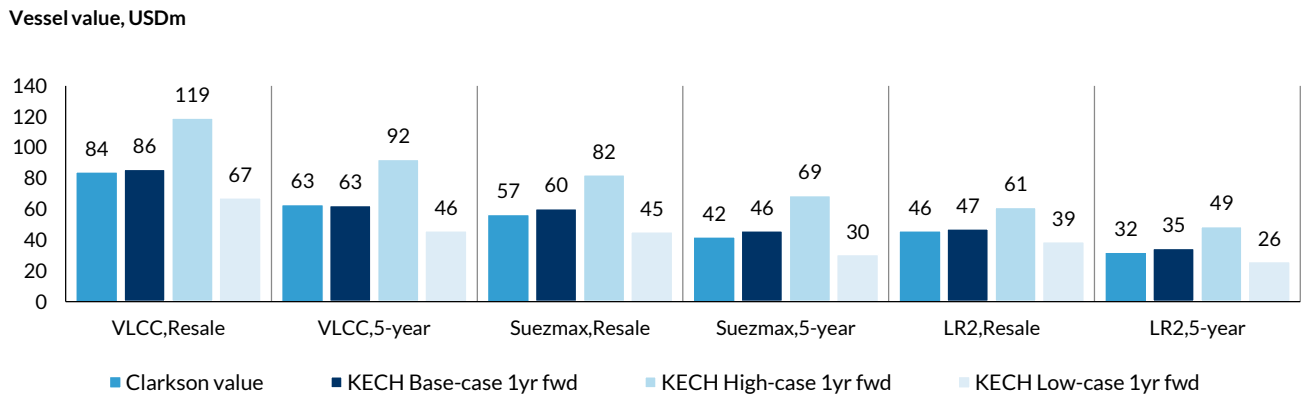
Our preferred valuation method for Frontline is an equity net asset value (NAV) valuation based on estimated fleet values for oil tankers less net interest-bearing debt and other commitments for the company. Our vessel values are based on Clarkson's quote for second-hand vessels as the current benchmark valuation. In our target valuation, we forecast changes in the vessel values based upon our freight rate estimates (for more details, see the sector section of this report).

Currently, Clarkson quotes a price of USD63m for a five-year old VLCC, down 23% since the peak in mid-2014 (USD84m). The resale price is USD84m, at par with the Clarkson's current newbuilding price of USD84.5m.

When use our rate forecast for the VLCC segment, we estimate a five-year old value of USD63m, equal to the current Clarkson estimate. Hence, our estimates imply that tanker vessel values should remain depressed for the next year.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value curve according to the age of the vessel.

Chart 700: Kepler Cheuvreux vessel values for crude tank vessels in different scenarios

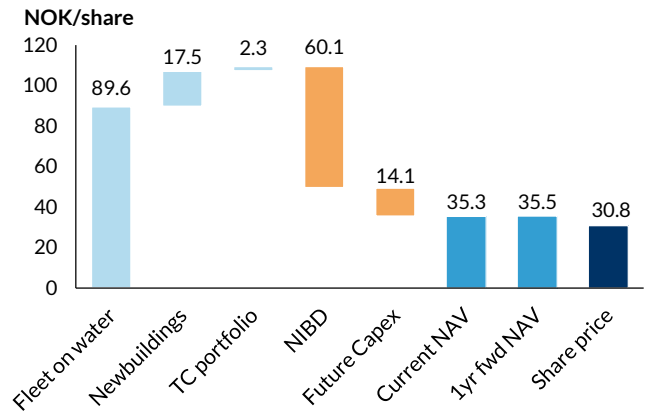


Source: Kepler Cheuvreux

... which will keep Frontline's valuation low for 2018E (NAV NOK35)

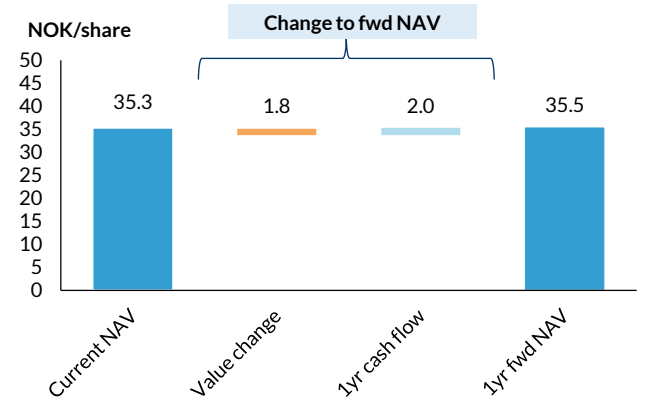
Given our view on vessel values, we expect to see continued weakness in Frontline's NAV (base NAV NOK35/share versus the current NOK35/share). Although we estimate that Frontline trades at a 10% discount to its current NAV (share price NOK31), we expect the share to continue to trade at a discounted valuation amid a still gloomy market outlook. In our target price, we therefore factor a P/NAV 0.9x into our base-case one-year forward NAV estimate.

Chart 701: Net asset value (NAV) bridge for Frontline



Source: Kepler Cheuvreux

Chart 702: Bridge from current NAV to base one-year forward NAV



Source: Kepler Cheuvreux

Our NAV is based on our estimated fleet values for crude tankers less net interest-bearing debt and other commitments for the company:

- **Gross asset values (GAV):** We value Frontline's fleet at USD2,322m on current Clarkson's values including a 5% discount on Chinese vessels built after 2010 and 10% for vessel built before 2010. The mark-to-market (MTM) value of USD50m includes the Ship Finance leases relative to a forwards curve based on 1-5 year time charter rates. In our one-year forward estimates, we include the cash flow generated from vessels in the coming months, and adjust fleet values for vessels that are one year older.
- **Net interest-bearing debt (NIBD) and other commitments:** All NIBD estimates are calculated based on Frontline's latest quarterly report, and so balance sheet items are taken from the Q4 2017 report. As we value the fleet on a fully-delivered basis, we include the remaining newbuild capex of USD305m. In addition, we also include USD22m of investments in financial leases and USD30m for marketable securities (book values) in the "other adjustments" line.

Table 60: Net asset value breakdown

NAV (USDm)	Number of vessels	Age (avg.)	NAV Current	One-year forward NAV Base	Low	High
Fleet:						
VLCC	10	4.2	591	556	410	817
Suezmax	16	3.0	684	700	482	1,017
LR2	17	1.6	668	656	517	883
Fleet on water	43	2.9	1,942	1,912	1,409	2,717
Newbuildings	5	-0.5	380	376	296	519
Total fleet value (USDm)	48	2.3	2,322	2,288	1,705	3,236
MTM contract portfolio			51	46	46	46
Discounted cash flow one year				43	-73	43
GAV (USDm)			2,373	2,377	1,678	3,325
NIBD & other commitments (rel. last quarterly report)						
Cash and cash equivalents			105	105	105	105
Total interest bearing debt			-1,580	-1,580	-1,580	-1,580
Net working capital			122	122	122	122
Other adjustments			51	51	51	51
Future capex			-305	-305	-305	-305
NIBD & other commitments			-1,608	-1,608	-1,608	-1,608
NAV (USDm)			765	770	70	1,718
# shares (fully delivered)			169.8	169.8	169.8	169.8
NAV/share (NOK)			35.3	35.5	3.2	79.2
Share price (NOK)			30.8	30.8	30.8	30.8
P/NAV			0.87x	0.87x	9.55x	0.39x
EV (USDm)			2,276	2,276	2,276	2,276
EV/GAV			0.96x	0.96x	1.36x	0.68x

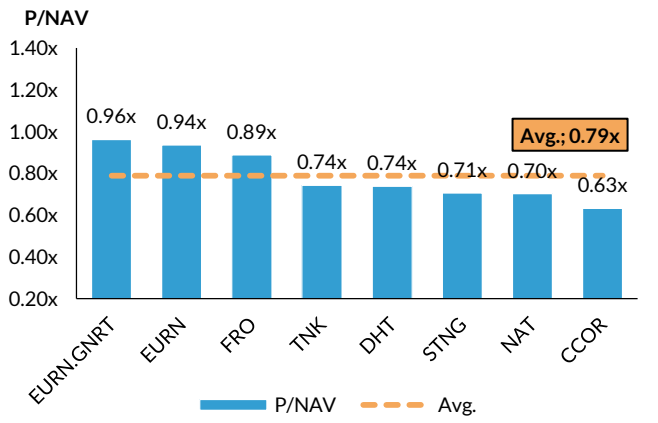
Source: Kepler Cheuvreux

Fear of short-term weakness offsets bullish long-term outlook

Over a longer horizon, we consider the tanker market to be appealing due to the attractive valuations against low-cycle values. Currently, most of the tanker segment appears to be trading at a significant discount or close to NAV, but we recall that that this is against depressed asset values, Our peer analysis indicates that the implied pricing of our peers relative to a five-year old VLCC is USD63m, which is down more than 20% from the last peak in 2015 with values above USD80m.

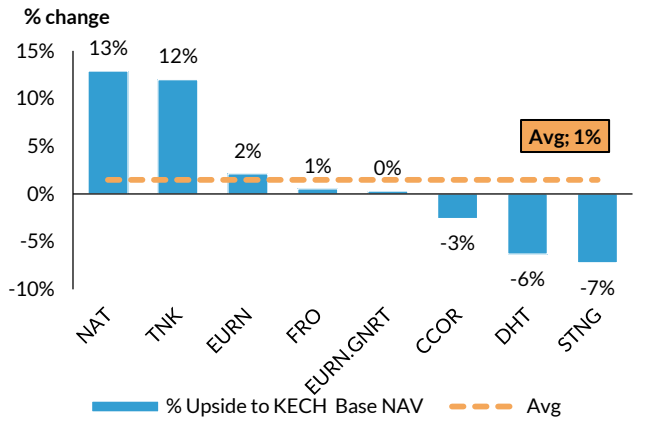
Despite strong long-term fundamentals, we are rather sceptical on the short-term prospects for the tanker market, and fear that sustained weak freight rates will put pressure on NAV. As we expect freight rates to remain below or at cash breakeven levels for 2018-19E, we expect Frontline's NAV to remain depressed at the current low levels of around ÑOK35 per share. In addition, we see downside risk to consensus 2018-19 estimates, especially considering that the current freight rates simply cover opex. If the rates remain low for a prolonged period, we expect liquidity risk to become the key focus for 2018. Although our scenario analysis indicates that Frontline has a solid liquidity position, low rates would likely hit the most leveraged stock the hardest, which could put Frontline at risk over the coming six months in our view.

Chart 703: Current P/NAV



Source: Kepler Cheuvreux

Chart 704: Upside in NAV to base-case scenario

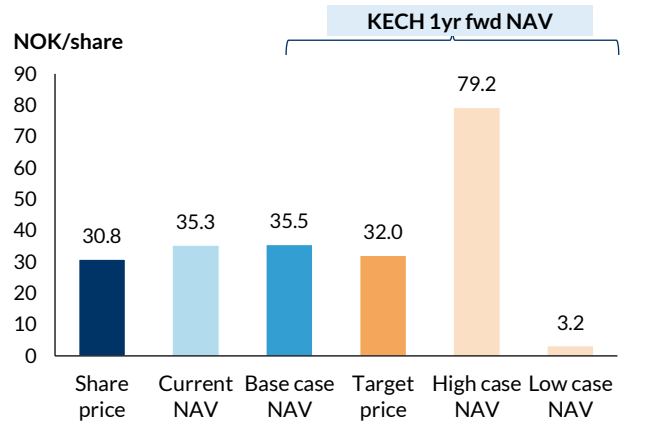


Source: Kepler Cheuvreux

We initiate coverage with a Hold rating and a NOK32 target price

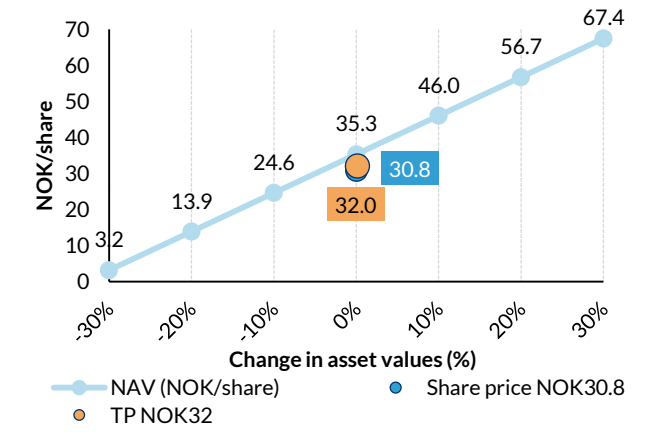
In conclusion, despite the compelling long-term investment case and low valuation, we fear the short-term risk posed by weak rates (close to opex) in the tanker market. As a result, we initiate coverage on Frontline with a Hold rating and a target price of NOK32 (0.9x our base-case NAV of NOK35). In the following charts, we illustrate our scenario analysis for Frontline, combined with our sensitivity analysis of the NAV to potential changes in asset values.

Chart 705: KECH scenario valuation for Frontline



Source: Kepler Cheuvreux

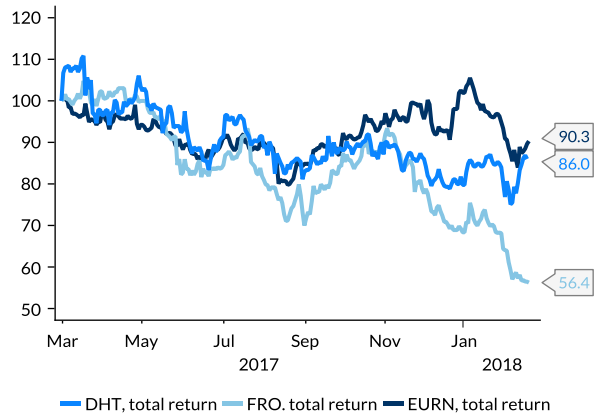
Chart 706: NAV sensitivity to changes in asset values



Source: Kepler Cheuvreux

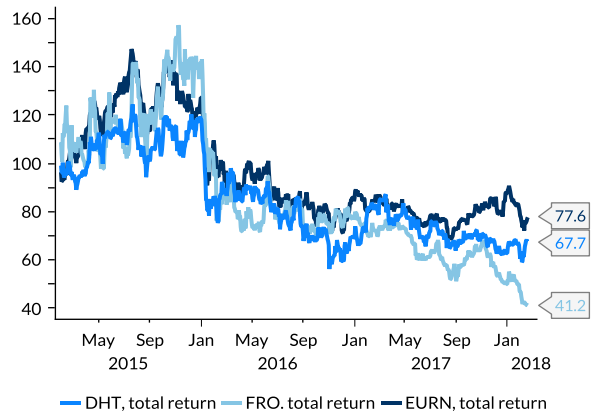
Supplementary figures

Chart 707: LTM share price development of tanker peers



Source: Kepler Cheuvreux

Chart 708: Tanker peers' share price performance since January 2015



Source: Kepler Cheuvreux

Chart 709: Frontline, share price versus VLCC one-year TC rate

Source: Kepler Cheuvreux

Valuation metrics

Table 61: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			164.6	237.8	751.9
EV/EBITDA		2,276	13.9x	9.6x	3.0x
EPS adj (USD)			-0.42	0.00	3.08
P/E	30.8		-9.3x	-2176.0x	1.3x
DPS			0.00	0.00	2.46
Yield (%)	30.8		0.0%	0.0%	62.6%
Net interest bearing debt			1,932.9	1,872.4	1,564.1
NIBD/EBITDA			11.7x	7.9x	2.1x

Source: Kepler Cheuvreux

Income statement

Table 62: P&L figures

Income statement (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
TCE revenues	387.0	327.6	417.7	987.1	75.9	99.2	73.1	98.8
OPEX	-135.7	-144.2	-148.7	-149.8	-34.2	-33.4	-35.9	-35.8
SGA	-37.6	-39.6	-40.7	-41.0	-9.6	-8.9	-9.8	-9.8
Contingent rental expense	26.1	21.9	16.7	-37.5	6.7	7.0	6.2	5.6
Charter hire expenses	-19.7	0.0	0.0	0.0	-3.1	-2.0	0.0	0.0
Depreciation	-141.7	-151.7	-155.0	-156.0	-35.2	-36.4	-37.2	-38.2
Impairment and value adjustments	-274.6	-5.5	0.0	0.0	-5.9	-255.8	-5.5	0.0
Operating profit	-196.3	8.4	90.0	602.7	-5.4	-230.3	-9.2	20.6
Net financial interest	-69.2	-84.0	-82.7	-72.6	-18.7	-19.8	-19.8	-21.8
Other financial items	1.5	0.0	0.0	0.0	0.2	2.0	0.0	0.0
Profit before tax	-264.0	-75.7	7.3	530.1	-23.9	-248.1	-28.9	-1.2
Taxes	-0.3	0.0	0.0	0.0	0.0	-0.2	0.0	0.0
Minority interest	-0.5	-0.4	-0.4	-0.4	-0.2	-0.2	-0.1	-0.1
Discontinued operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	-264.9	-76.1	6.9	529.7	-24.1	-248.4	-29.0	-1.2
Net profit adjusted	8.3	-71.6	-0.3	522.9	-18.3	5.3	-23.5	-1.3
EBITDA adjusted	220.1	164.6	237.8	751.9	35.8	61.9	33.6	58.8
EPS	-1.56	-0.45	0.00	3.08	-0.14	-1.46	-0.17	-0.01
EPS adj (USD)	0.05	-0.42	0.00	3.08	-0.11	0.03	-0.14	-0.01
DPS	0.15	0.00	0.00	2.46	0.00	0.00	0.00	0.00
# Shares adj. (end)	169.8	169.8	169.8	169.8	169.8	169.8	169.8	169.8

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 63: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	104.1	23.3	29.8	215.0	119.1	104.1	105.0	91.5
Restricted cash	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Investments	51.3	41.3	31.2	29.5	56.7	51.3	48.8	46.3
Other current assets	187.2	187.2	187.2	187.2	162.7	187.2	187.2	187.2
Vessels and newbuildings	2,673.4	2,774.7	2,674.7	2,518.7	2,844.8	2,673.4	2,791.2	2,768.0
Other long-term assets	116.9	116.9	116.9	116.9	227.3	116.9	116.9	116.9
Total assets	3,133.7	3,144.1	3,040.6	3,068.0	3,411.3	3,133.7	3,249.8	3,210.7
Interest bearing debt	1,580.2	1,699.1	1,545.1	1,116.1	1,594.5	1,580.2	1,729.4	1,701.0
Refinanced IB debt	0.0	0.0	90.0	394.3	0.0	0.0	0.0	0.0
Capital lease	299.0	299.0	299.0	299.0	309.0	299.0	299.0	299.0
Other current liabilities	65.6	65.6	65.6	65.6	69.6	65.6	65.6	65.6
Other long term liabilities	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Shareholder's equity	1,187.6	1,079.0	1,039.5	1,191.8	1,436.8	1,187.6	1,154.4	1,143.7
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity and liabilities	3,133.7	3,144.1	3,040.6	3,068.0	3,411.3	3,133.7	3,249.8	3,210.7
Net interest bearing debt	1,723.0	1,932.9	1,872.4	1,564.1	1,727.0	1,723.0	1,873.9	1,861.5
Equity ratio (%)	41%	36%	36%	43%	45%	41%	38%	38%

Cash flow (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Net profit	-264.3	-76.7	0.1	523.3	-23.9	-248.3	-28.9	-1.2
Depreciation, amort. & impairments	420.7	151.7	155.0	156.0	35.7	292.7	37.2	38.2
Change working capital	-2.9	0.0	0.0	0.0	-0.2	-29.8	0.0	0.0
Other non-cash items	-27.7	-16.4	-16.7	37.5	-0.7	-9.3	-0.7	-5.6
Cash flow from operations	125.7	58.7	138.4	716.8	10.9	5.4	7.7	31.3
Investment in newbuilding and vessels	-713.6	-253.0	-55.0	0.0	-253.5	-6.1	-155.0	-15.0
Proceeds from sale of vessels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investing activities	-9.0	10.0	10.0	1.7	7.0	3.9	2.5	2.5
Cash flow from investing	-722.6	-243.0	-45.0	1.7	-246.4	-2.2	-152.5	-12.5
Repayment of IB debt	-84.0	-121.0	-209.0	-434.1	-22.4	-25.2	-35.7	-28.4
Capital lease payment	-46.1	-35.7	-40.2	-94.6	-3.0	-3.1	-8.9	-8.9
Proceeds from new debt	683.5	240.0	55.0	0.0	253.3	10.1	185.0	0.0
Proceeds from refinanced debt	0.0	0.0	90.0	309.3	0.0	0.0	0.0	0.0
Share issue (repurchase)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	-51.4	0.0	0.0	-328.5	0.0	0.0	0.0	0.0
Other	-3.5	20.1	17.4	14.5	-1.7	0.0	5.3	5.1
Cash flow from financing	498.6	103.4	-86.9	-533.4	226.2	-18.1	145.7	-32.3
Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in cash and cash equivalents	-98.3	-80.9	6.5	185.2	-9.3	-14.9	0.8	-13.4
Cash balance period-in	202.4	104.1	23.3	29.8	128.4	119.1	104.1	105.0
Cash balance period-out	104.1	23.3	29.8	215.0	119.1	104.1	105.0	91.5

Source: Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	217.4	273.3	349.2	592.7	387.0	327.6	417.7	987.1
% Change	-44.8%	25.7%	27.8%	69.7%	-34.7%	-15.4%	27.5%	136.3%
EBITDA adjusted	79.5	106.0	230.9	386.9	220.1	164.6	237.8	751.9
EBITDA margin (%)	36.6%	38.8%	66.1%	65.3%	56.9%	50.3%	56.9%	76.2%
EBIT adjusted	-100.4	-48.6	287.2	177.5	-196.3	7.4	82.8	595.9
EBIT margin (%)	-46.2%	-17.8%	82.2%	29.9%	-50.7%	2.3%	19.8%	60.4%
Net financial items & associates	-90.6	-75.8	-17.6	-56.3	-69.2	-84.0	-82.7	-72.6
Others	1.5	-46.8	-14.1	-3.3	1.5	0.0	0.0	0.0
Tax	-0.3	-0.5	-0.2	-0.3	-0.3	0.0	0.0	0.0
Net profit from continuing operations	-189.9	-171.7	255.4	117.5	-264.3	-76.7	0.1	523.3
Net profit from discontinuing activities	-1.2	0.0	-131.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-191.1	-171.7	124.4	117.5	-264.3	-76.7	0.1	523.3
Net profit reported	-188.5	-162.9	154.6	117.0	-264.9	-77.1	-0.3	522.9
Net profit adjusted	-109.8	-43.0	59.8	188.7	8.3	-72.6	-7.5	516.1
Cash Flow Statement (USDm)								
Cash flow from operating activities	-42.7	55.4	207.3	286.0	125.7	58.7	138.4	716.8
Capex	-2.5	-45.0	-786.8	-622.5	-713.6	-253.0	-55.0	0.0
Free cash flow	-45.2	10.4	-579.4	-336.4	-587.9	-194.3	83.4	716.8
Acquisitions & Divestments	0.0	53.1	456.4	173.2	0.0	0.0	0.0	0.0
Dividend paid	0.0	0.0	-39.2	-164.6	-51.4	0.0	0.0	-328.5
Others	20.6	63.9	12.4	141.2	-12.5	30.1	27.4	16.2
Change in net financial debt	-24.6	127.5	-149.9	-186.6	-651.8	-164.2	110.8	404.6
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	999.3	622.4	2,149.7	2,322.2	2,673.4	2,774.7	2,674.7	2,518.7
Financial & other non-current assets	59.4	60.7	228.9	229.6	116.9	116.9	116.9	116.9
Total shareholders' equity	-18.1	-70.6	1,446.3	1,499.8	1,187.6	1,079.0	1,039.5	1,191.8
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	1,385.7	1,032.8	1,440.3	1,466.5	1,946.1	2,065.1	2,001.1	1,876.3
Net financial debt	1,210.3	896.0	1,106.6	1,201.5	1,774.3	1,974.2	1,903.6	1,593.6
Working capital requirement	137.1	144.3	177.3	152.6	172.9	162.9	152.8	151.1
Invested Capital	1,136.4	766.8	2,326.9	2,474.7	2,846.3	2,937.6	2,827.5	2,669.8
Per share data								
EPS adjusted	-1.34	-0.43	0.13	1.16	0.05	-0.43	-0.04	3.04
EPS adj and fully diluted	-1.34	-0.43	0.13	1.16	0.05	-0.43	-0.04	3.04
% Change	-chg	+chg	+chg	764.9%	-95.8%	-chg	+chg	+chg
EPS reported	-2.29	-1.64	0.35	0.72	-1.56	-0.45	0.00	3.08
Cash flow per share	-0.52	0.56	0.46	1.75	0.74	0.35	0.82	4.22
Book value per share	-0.33	-0.71	3.23	9.19	6.99	6.35	6.12	7.02
Dividend per share	0.00	0.00	0.40	0.85	0.15	0.00	0.00	2.46
Number of shares, YE (m)	86.51	112.34	156.39	169.81	169.81	169.81	169.81	169.81
Ratios								
ROE (%)	-236.9%	na	8.7%	12.8%	0.6%	-6.4%	-0.7%	46.3%
ROIC (%)	-8.0%	-5.1%	18.6%	7.4%	-7.4%	0.3%	2.9%	21.7%
Net fin. debt / EBITDA (x)	15.2	8.5	4.8	3.1	8.1	12.0	8.0	2.1
Gearing (%)	na	na	76.5%	80.1%	149.4%	183.0%	183.1%	133.7%
Valuation								
P/E adjusted	na	na	104.7	3.4	79.8	na	na	1.3
P/E adjusted and fully diluted	na	na	104.7	3.4	79.8	na	na	1.3
P/BV	na	na	4.3	0.4	0.6	0.6	0.6	0.6
P/CF	na	24.7	30.2	2.2	5.3	11.3	4.8	0.9
Dividend yield (%)	0.0%	0.0%	2.9%	21.8%	3.8%	0.0%	0.0%	63.2%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-4.1%	0.7%	-26.5%	-50.8%	-88.8%	-29.3%	12.6%	108.2%
EV/Sales	10.6	8.9	9.4	3.1	6.3	8.0	6.1	2.3
EV/EBITDA	29.0	23.0	14.3	4.8	11.1	16.0	10.8	3.0
EV/EBIT	na	na	11.5	10.5	na	na	31.0	3.8

Flex LNG

Norway | Transport | Mcap NOK 1.4bn

02 March 2018

Buy (Not Rated)

Target Price	**NOK 14.00**
Current Price	NOK 11.10
Up/downside	26.1%
Change in TP	none
Change in EPS	none 16E / none 17E

Perfectly positioned

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Our expectation of a gradually tightening LNG market in the coming years suits very well the schedule of FLNG's newbuild programme. With delivery dates in 2018 and 2019, all of FLNG's vessels should be on the water in time to capture, what we believe to be six-digit spot rates in 2020E. The recent drop in the share price presents a good entry point for investors, as we expect our SOP value to increase by 13% over the coming year. We initiate coverage with a Buy rating and TP of NOK14.

Six modern LNGCs ready for delivery in 2018-19E

Flex LNG is a pure-play owner of LNG carriers (LNGC) listed on the Oslo Stock Exchange. The fleet consists of six fully-owned LNG carriers, with delivery between Q1 2018 and Q3 2019. All newbuild LNG carriers have the modern MEGI propulsion system, which should translate into c. USD 8,000 per day higher achieved earnings versus traditional dual-fuel (DFDE) vessels.

We expect strong LNG rates due to increasing utilisation

The LNG market is now poised to see unprecedented growth, and with higher fleet utilisation, we expect to see higher rates (at six digits again in 2020E). As in previous years, the main risk to the investment case are potential delays to new liquefaction capacity, although with Russia's Yamal-project now exporting its first gas ahead of schedule, and the ramp-up of US liquefaction capacity progressing on time, this risk is now lower than before.

Higher rates to lift EBITDA to USD190m by 2020E

On the back of strong freight rates, we expect Flex LNG's EBITDA to reach USD190m by 2020. This development is driven by MEGI freight rates increasing to USD107,000 per day, combined with the delivery of newbuild LNGCs. Overall, our view for Flex LNG is more bullish than consensus long run view (USD192m in 2020E versus consensus' USD142m), while we have a positive but closer-to-consensus view for 2018-19E.

We initiate coverage with a Buy rating and TP of NOK14

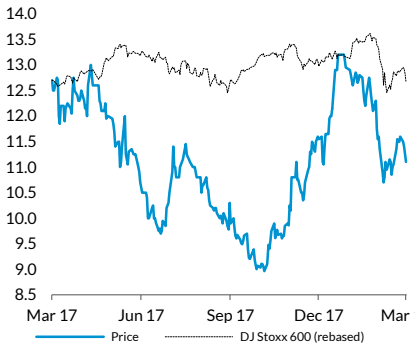
Currently, a newbuilt 174,000 m3 MEGI carrier is quoted at USD180m, and we estimate an equivalent resale price of USD213m. Given our rate forecast as cash flow for the first three years, we estimate a resale price of USD226m. For FLNG, this equals an SOP valuation of NOK13.9 per share, up 13% from the current level. Combined with a current unwarranted discount on the share price to SOP (current P/SOP 0.9x), we initiate coverage on Flex LNG with a Buy rating and a target price of NOK14.

Market data

Bloomberg: FLNG NO	Reuters: FLNG.OL
Market cap (NOKm)	1,420
Free float	50%
No. of shares outstanding (m)	128
Avg. daily volume (NOKm)	11.8
YTD abs performance	-14.3%
52-week high/low (NOK)	13.20/8.96

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	74.1	132.0	231.5
EBITDA adj (m)	45.8	98.4	191.7
EBIT adj (m)	23.7	63.5	152.4
Net profit adj (m)	16.1	49.7	135.7
Net fin. debt (m)	346.0	549.4	452.4
FCF (m)	-196.0	-203.4	175.1
EPS adj. and fully dil.	0.04	0.14	0.37
Net dividend	0.00	0.00	0.30

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	32.0	10.4	3.8
EV/EBITDA	18.8	10.8	5.1
EV/EBIT	36.3	16.8	6.4
FCF yield	-37.9%	-39.4%	33.9%
Dividend yield	0.0%	0.0%	21.0%
Net fin.debt/EBITDA	7.5	5.6	2.4
Gearing	64.5%	93.8%	70.3%
ROIC	3.1%	6.3%	13.7%
EV/IC	1.0	0.9	0.9



Investment summary

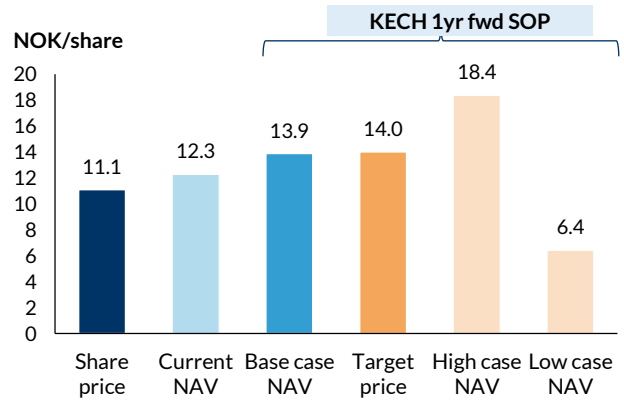
Flex LNG is a pure-play owner of LNG carriers listed on the Oslo Stock Exchange. The fleet consists of six fully-owned LNG carriers, with expected delivery between Q1 2018 and Q3 2019, in addition to two vessels on short-term time-charter contracts from Woodside and Gazprom. All newbuilding LNG carriers have the modern MEGI propulsion system, which we estimate will yield c. USD8,000 per day higher achieved earnings, relative to traditional DFDE vessels.

The LNG market is now poised for unprecedented growth, and with higher fleet utilisation we expect to see higher rates. Specifically, we estimate spot rates of USD55,000 per day in 2018, USD68,000 per day in 2019 and USD103,000 per day in 2020 for a DFDE LNG carrier (+USD8,000 per day for MEGI). For Flex LNG, this translates into an EBITDA of USD98m in 2019E, and USD190m in 2020E. The increase is driven by the strong freight rate development, combined with the delivery of newbuilding vessels.

We are roughly in line with consensus for 2018-19E, while our 2020E EBITDA estimate is USD50m (35%) above consensus (KECH USD192m versus consensus USD142m).

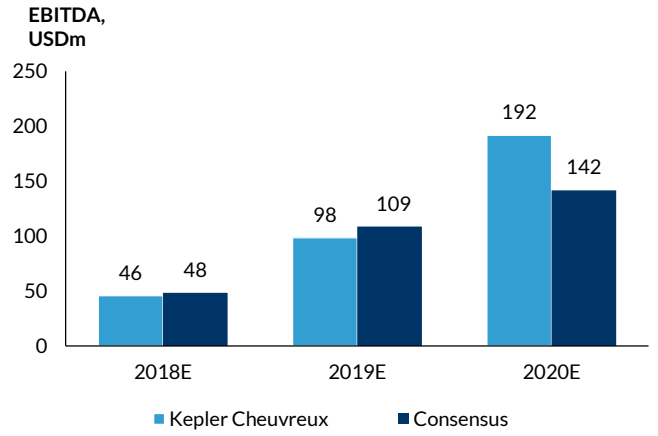
Currently, a newbuild 174,000 m3 MEGI is quoted at USD180m, and we estimate an equivalent resale price of USD213m, which includes USD9m in delivery costs and is adjusted for cash flow (based on the current time-charter (TC) market) in the period until delivery of a newbuild. Given our rate forecast, we estimate a resale price of USD226m, equal to a SOP valuation of NOK13.9 per share for Flex LNG, up 14% from current levels. Combined with a current unwarranted discount on the share price relative SOP (current P/SOP 0.9x), we initiate coverage on Flex LNG with a Buy rating and target price of NOK14.

Chart 710: Flex LNG target price and SOP valuations



Source: Kepler Cheuvreux

Chart 711: Flex LNG EBITDA, KECH versus consensus



Source: Bloomberg consensus, Kepler Cheuvreux

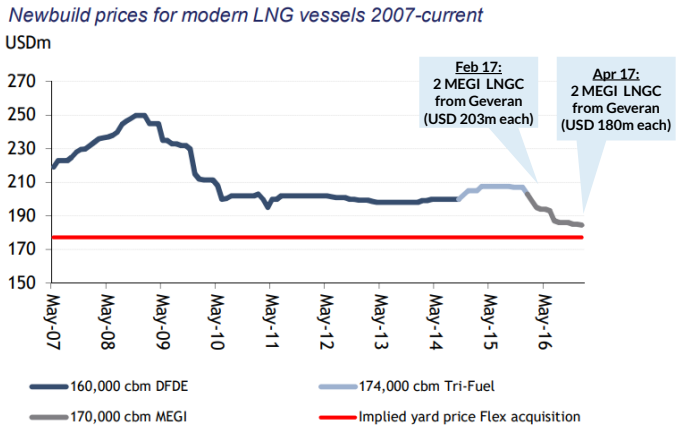
Flex LNG in brief

Six newbuilding LNG-carriers ready for delivery in 2018-19

Flex LNG is a pure-play owner of LNG carriers listed on the Oslo Stock Exchange (ticker: FLNG). The company was founded in 2006 with the purpose of entering the Floating Liquefied Natural Gas segment of the market, and had originally placed an order for four Liquefied Natural Gas Producers (LNGP) (FLNG vessels), and one Engineering Procurement Construction Installation and Commissioning (EPCIC) contract from Samsung Heavy Industries. However, without fixed employment contracts for all new vessels, Flex LNG withdrew its original order in 2012 and in the final settlement of the contract refund, Flex and Samsung agreed to convert parts of the original order into two DFDE LNG carriers. In 2015, this order was again amended to the more modern MEGI LNG vessel type.

In 2017, another four newbuild MEGI LNG carriers were purchased from affiliates of Flex LNG's largest shareholder, Geveran Trading Ltd. The shipbuilding contracts for the Flex Endeavour and the Flex Enterprise were acquired in February 2017, partly financed by USD110m in equity proceeds from a private placement and subsequent equity offering. Two months later, in April 2017, the Flex Constellation and the Flex Courageous were acquired for a total consideration of USD360m, which was followed by a USD125m private placement. Financing for three of the newbuild vessels was closed in December 2017, with the option to add a fourth vessel to the same facility. Until final agreement is reached for the financing of the remaining vessels, a USD270m back-stop facility (the Sterna revolving credit facility) will be available until 12 months after delivery of the final vessel.

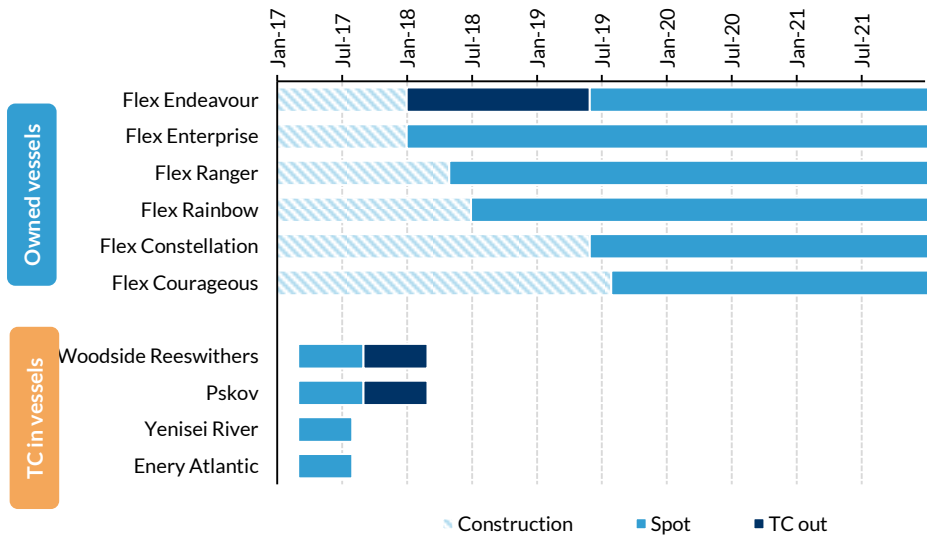
Chart 712: Flex LNG acquired four MEGI LNGCs from Geveran Trading Ltd in 2017



Source: Flex LNG, Kepler Cheuvreux

Flex LNG's current fleet consists of six fully-owned LNG carriers, of which four are yet to be delivered. There are also two vessels on short-term time-charter contracts from Woodside and Gazprom. All fully-owned LNG carriers have the modern MEGI propulsion system.

Chart 713: Flex LNG employment table



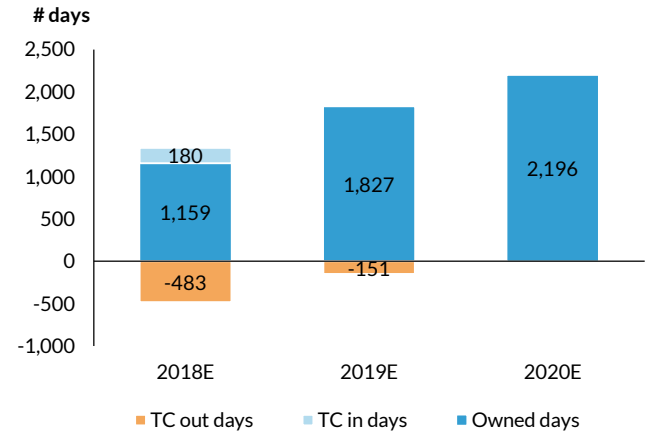
Source: Flex LNG, Kepler Cheuvreux

- **The Flex Endeavour (MEGI, 174,000 m3):** The vessel was delivered on 9 January, and is currently on a 15-18-month TC out contract to Uniper Global Commodities for an assumed rate of c. USD60,000 per day. The Endeavour was acquired from Geveran in February 2017, with a total newbuilding capex of USD203m (according to the February presentation).
- **The Flex Enterprise (MEGI, 174,000 m3):** The Enterprise was acquired, together with the Endeavour, in February 2017, and was delivered in January 2018 by Daewoo Shipbuilding and Marine Engineering (DSME). The vessel is expected to trade in the spot market.
- **The Flex Ranger (MEGI, 174,000 m3):** Part of the original amended order in 2012, with a total newbuild capex of USD212m (according to the February presentation). The Ranger is expected to arrive in May 2018 from Samsung Heavy Industries, and to trade in the spot market.
- **The Flex Rainbow (MEGI, 174,000 m3):** Identical to the Ranger, but expected to arrive in July 2018.
- **The Flex Constellation (MEGI, 174,000 m3):** The Constellation and the Courageous were acquired from affiliates of Geveran in April 2017 for USD180m each, with 20% of the payment upfront and 80% upon delivery. Seatankers (an affiliate of Geveran) is responsible for supervision costs, yard instalments, and construction risk, until delivery to Flex LNG in June 2019. The vessel is expected to trade in the spot market.
- **Flex Courageous (MEGI, 174,000 m3):** Identical to the Constellation, but expected to be delivered in August 2019.

In order to build up its market presence and operational experience, Flex LNG also time-chartered four tri-fuel DFDE LNG carriers for six months from March 2017. Two of the vessels were delivered in September 2017, but the Woodside Rees Withers and the Pskov were extended for an additional six months until March 2018. These two vessels are currently employed on time-charter contracts to Uniper Global Commodities.

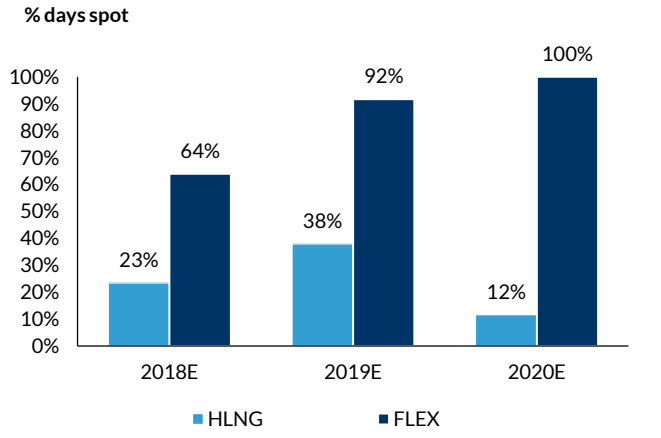
Looking at the employment schedule, Flex LNG will reach its full fleet size by the end of 2019E, and 2020E will be the first full year with a 100% fully-owned fleet. In our estimates, 36%, 8% and 0% of available days in 2018, 2019 and 2020, respectively, are on fixed time-charter out contracts, which gives Flex LNG high exposure to the underlying LNGC spot market. This high degree of spot exposure differentiates Flex LNG from its peer Höegh LNG, where 77%, 72% and 88% of available days in 2018, 2019 and 2020, respectively, are on fixed time-charter out contracts.

Chart 714: Flex LNG, available vessel days 2018-20E



Source: Kepler Cheuvreux

Chart 715: Spot exposure for LNG peers 2018-20E



Source: Kepler Cheuvreux

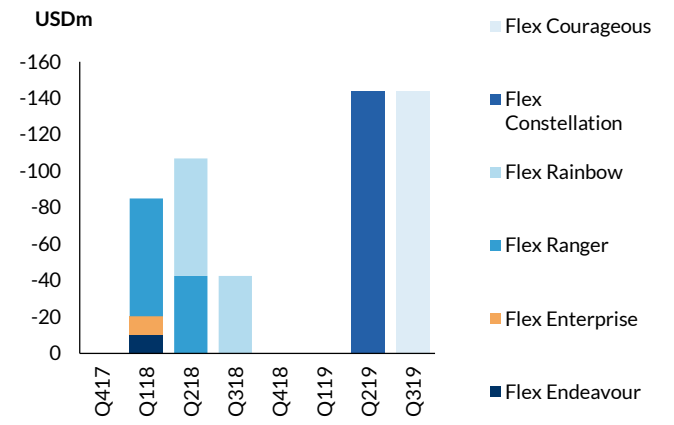
Newbuild financing and capex

As of Q4 2017, Flex LNG had remaining capex of USD522m on its shipbuilding contracts, of which USD234m is due in 2018 and USD288m in 2019. In December 2017, Flex announced that it had secured financing for three of the vessels to be delivered in 2018 (the Endeavour, the Enterprise and the Ranger), with the option to add a fourth tranche for the Rainbow. The facility is structured in three tranches of USD105m each (USD315m total) with the possibility of up to USD120m accordion. The facility has an interest rate of LIBOR plus a margin of 2.85%, and has an 18/20-year skewed amortisation profile. The conditions of the loan are flexible, and allow Flex to swap collateral for each tranche to another vessel, if desired.

Until further financing has been secured for the remaining three shipbuilding contracts, Flex has a USD270m back-stop facility (Sterna RCF) available until 12 months after the final newbuild is delivered (due Q3 2020). As of Q4 2017, USD160m was drawn under this facility. However, following the delivery of the two first LNGCs in Q12018 Flex repaid USD 100m on the RCF. The Sterna RCF bears an interest rate of LIBOR plus a margin of 3.00%.

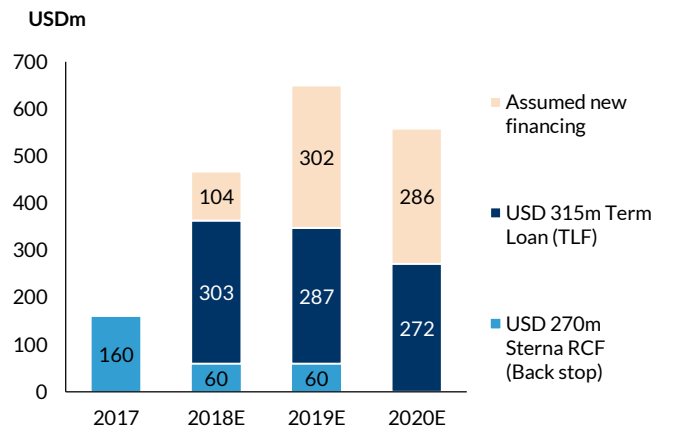
Although no further financing has been announced for the remaining three vessels, we believe Flex will have no problems securing debt financing for these vessels prior to delivery. In our model, we therefore assume that the Rainbow, the Constellation and the Courageous are all financed at similar terms to the three previous vessels, i.e. 60% debt financing, interest of LIBOR + 2.85%, and a 20-year profile.

Chart 716: Remaining capex, FLNG



Source: Flex LNG, Kepler Cheuvreux

Chart 717: Debt tranches for FLNG (KECH est.)

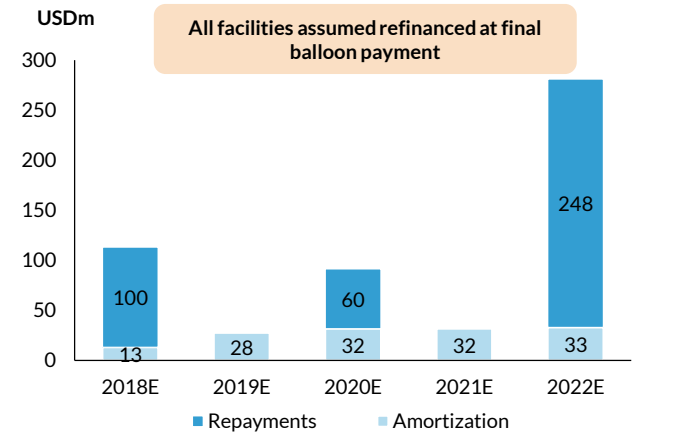


Source: Company information, Kepler Cheuvreux

Given our view on Flex LNG's debt financing, we expect amortisation payments to reach USD32m by 2020. No major debt instalments are expected before 2020, when the Sterna RCF is due. The USD315m term loan is repayable five years after the delivery of the Ranger, i.e. in May 2022.

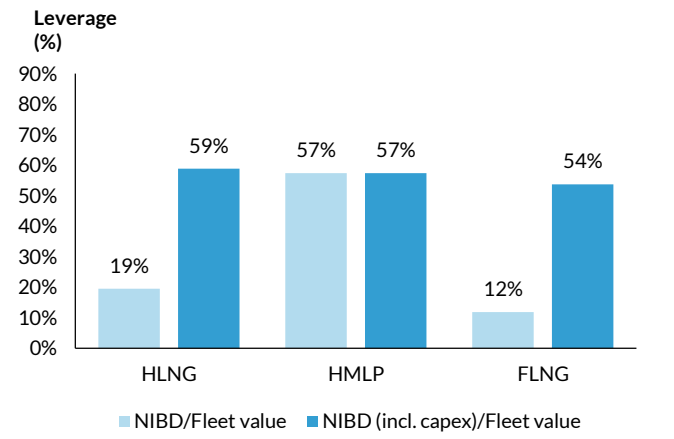
We estimate that Flex LNG has current leverage ratio of c. 55% (calculated as net interest bearing debt (NIBD) including capex, relative fleet value). Most of this leverage comes from remaining capex at this point. So far, the announced financing of the Endeavour, the Enterprise and the Ranger implies a gross IB debt/asset value ratio of c. 50%, with the possibility of increasing this leverage to 60%, with the full accordion. Taking into account cash, we expect the NIBD-leverage ratio to be about 50%, fully delivered.

Chart 718: Repayment structure 2018-22E



Source: Company information, Kepler Cheuvreux

Chart 719: Leverage ratio for LNG peers



Source: Kepler Cheuvreux

Management and shareholder structure:

Flex LNG's executive management is made up of the following people:

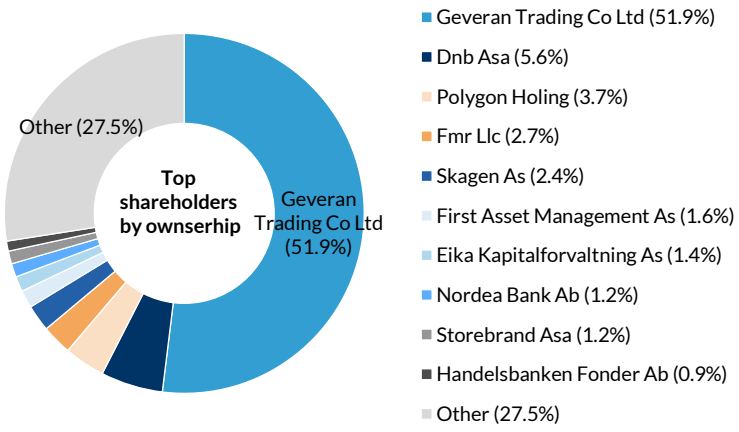
- **Jonathan Cook (CEO):** Jonathan Cook was founding partner of Excelerate Energy from 2003 onwards, and previously Chief Marketing Officer for

Cardiff LNG, where he managed LNG commercial activities. He has 30 years' experience in the maritime and energy sectors, the last 16 of which have been in the LNG sector.

- **Øystein Kalleklev (CFO):** Øystein Kalleklev joined Flex LNG in October 2017, after serving as CFO of Knutsen NYK Offshore Tankers since 2013, and Chairman of the General Partner of the MLP KNOT Offshore Partners from 2015-17. His previous roles include CFO of industrial investment company Umoe Group, managing director of Umoe Invest, partner at investment bank Clarksons Platou and business consultant at Accenture.
- **Thomas Thorkildsen (SVP Business Development):** Previously, Thomas Thorkildsen was head of business development at Höegh LNG. Furthermore, he was responsible for various roles such as commercial management, chartering etc. Thorkildsen has 20 years' experience in the maritime industry, with the last 14 years coming at LNG in business development.

Since 2014, John Fredriksen controlled Geveran Trading Ltd has been the major shareholder of Flex LNG, with a significant influence over the company. Four out of the six fully-owned vessels have been acquired from affiliates of Geveran, in addition to financing from the Sterna RCF backstop facility. Currently, Geveran holds c. 52% of all outstanding shares in Flex LNG.

Chart 720: Shareholder structure



Source: Bloomberg, Kepler Cheuvreux

Deconstructing the forecast

LNG market: We expect high rates on the back of strong utilisation

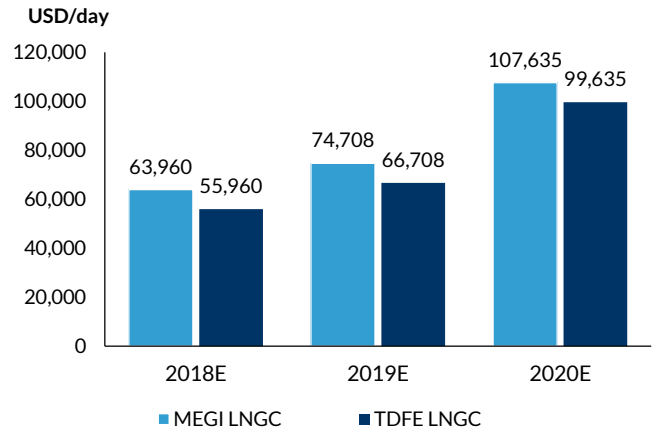
The LNG market is on the verge of a period of unprecedented growth. We expect the LNG trade to grow by, on average, 12% per year over the next three years, while the fleet is expected to grow by just shy of 8% per year. With higher fleet utilisation, we expect to see higher rates and in 2020, we expect rates above USD100,000 per day again (the last time this occurred was in 2012). As in previous years, potential delays to new liquefaction capacity are the main risk to the investment case. But, with Russia's Yamal-project now exporting its first gas ahead of schedule, and the ramp-up of US liquefaction capacity progressing on time, this risk is now less than in previous years when new capacity was in more remote and less developed places.

Although we expect the LNG fleet to grow considerably, we feel confident that demand growth will outpace supply growth and with higher fleet utilisation, we expect higher shipping rates which should support Flex LNG (see the sector section for more info on the LNG shipping market).

We estimate spot rates of USD55,000 per day in 2018, USD68,000 per day in 2019 and USD103,000 per day in 2020. We increase our 2019 estimate by 20% versus our simple regression model between rates and fleet utilisation, because we believe momentum – structurally better fleet utilisation combined with the seasonal upturn – in H2 2019 will lift rates to our 2020 estimate of c. USD100,000 per day going into the winter of 2019. Also, the current (surprisingly) high spot rates of c. USD80,000 per day also force the starting point higher, making us lift our 2018 rate forecast by about 20%.

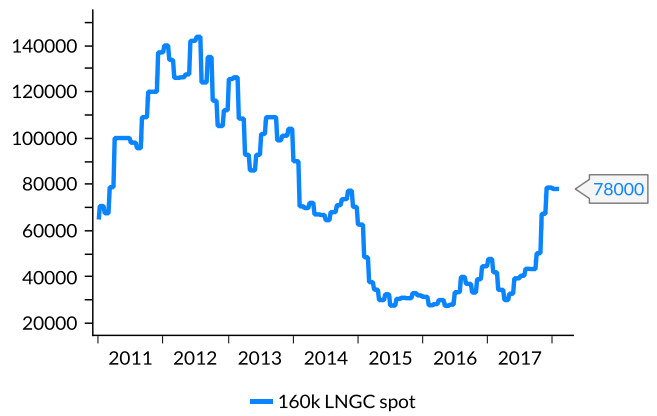
All spot rate estimates are for 160,000 m3 DFDE vessels, and we apply an USD8,000 per day premium for MEGI vessels due to their better fuel consumption (though we do not add any premium for the larger cargo intake).

Chart 721: KECH freight rate forecast (2018-20E)



Source: Kepler Cheuvreux

Chart 722: DFDE LNGC, historical spot rates

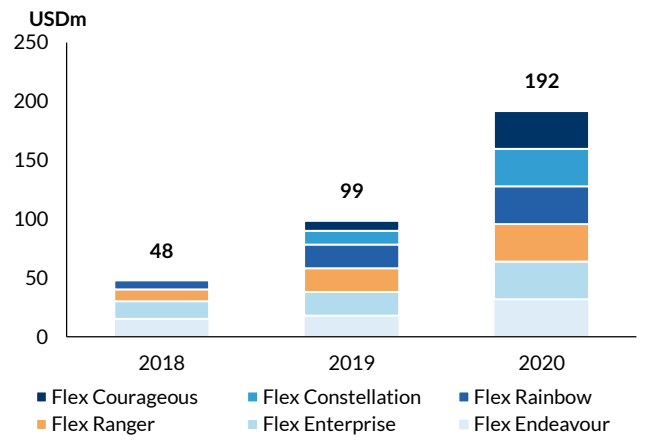


Source: Clarkson's, Kepler Cheuvreux

Strong rates could lift Flex's EBITDA to USD190m by 2020E

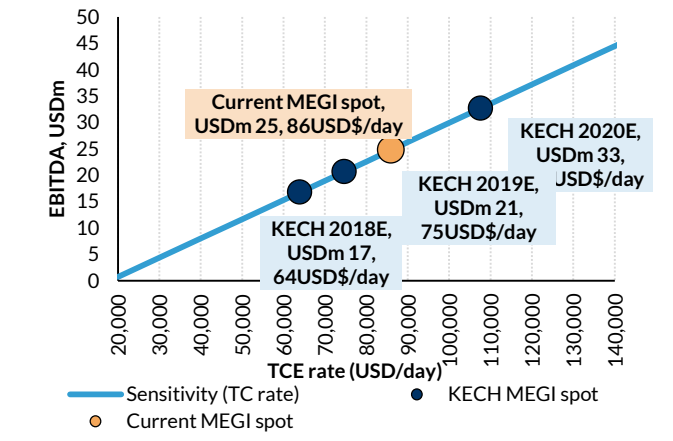
On the back of strong freight rates, we forecast that Flex LNG's EBITDA will reach USD190m by 2020. This is driven by MEGI freight rates increasing to USD107,000 per day, combined with the delivery of six new LNGCs between Q1 2018 and Q3 2019. Given our 2020 rate forecast, the implied EBITDA per vessel is USD32m (assuming opex of USD16,600 per day and SG&A of USD1,580 per day), which is equal to an increase in EBITDA per vessel of USD7m from the current implied spot rate EBITDA of USD25m per vessel (using February 2018 MEGI spot rates of USD86,000 per day).

Chart 723: FLNG EBITDA 2018-20E



Source: Kepler Cheuvreux

Chart 724: EBITDA per vessel versus TCE rate

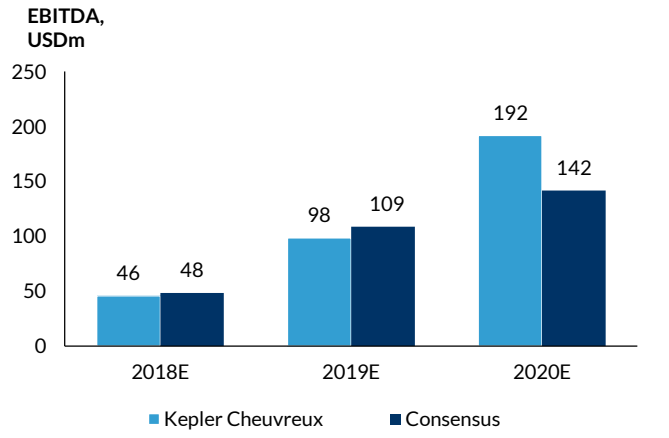


Source: Kepler Cheuvreux

Although our estimate for 2018-19 still implies solid profit for Flex LNG, we do see a risk of MEGI rates becoming slightly lower than the current spot levels for the rest of 2018. For 2018, we estimate an EBITDA per vessel of USD17m (USD64,000 per day), increasing to USD21m (USD75,000 per day) by 2019E. Taking into account the gradual addition of new vessels to the fleet, we pencil in an increase in Flex LNG's total EBITDA from USD48m in 2018E, to USD99m by 2019E.

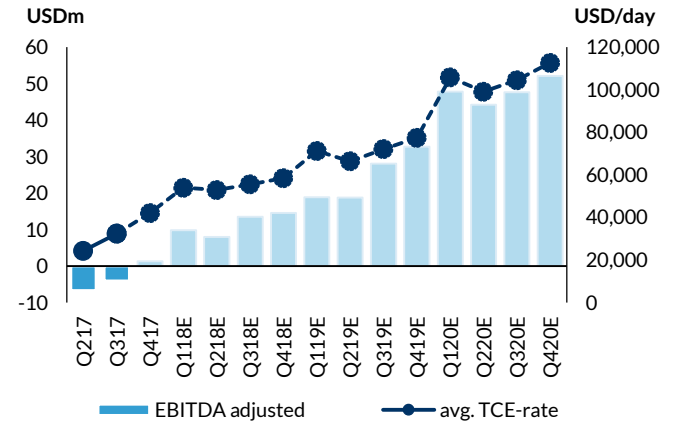
Overall, our long-term view for Flex LNG is significantly more bullish than consensus'. Our 2020E EBITDA estimate is USD50m above consensus (KECH USD192m versus consensus' USD142m), and highlights our bullish stance towards the LNG market in the long term. Our estimates imply an EV/EBITDA in 2020E of 3.8x versus consensus' 5.9x (FLNG share price NOK 11.1).

Chart 725: Kepler Cheuvreux versus consensus EBITDA est.



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 726: EBITDA each quarter (KECH estimate)

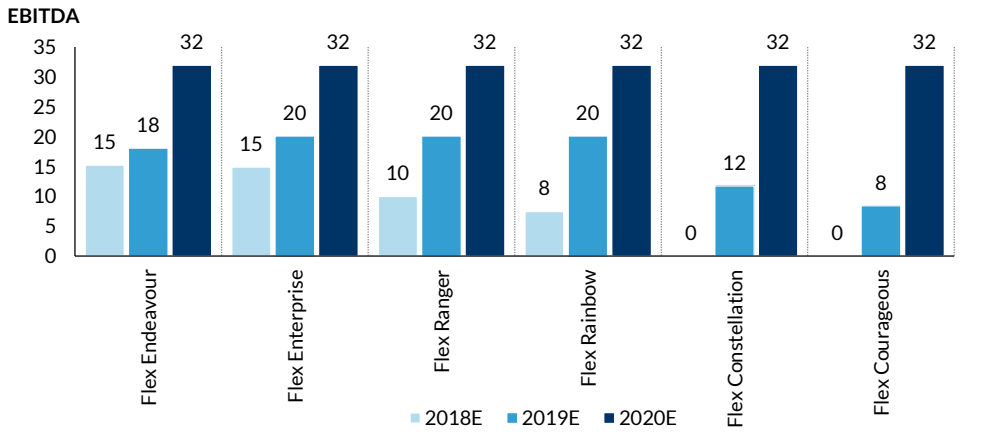


Source: Kepler Cheuvreux

In our view, the forecasts for 2018-19 still imply solid earnings for Flex LNG, but relative to consensus we are neutral/marginally lower in the short term. Our EBITDA estimates imply a downside to consensus estimates in the short term of USD2m in 2018 and USD 10m in 2019. This highlights consensus' general bullish stance towards the LNG market in 2018-19E.

The chart below highlights the EBITDA contributions in 2018-20E of Flex LNG's vessels. By 2019E, the Enterprise, the Ranger and the Rainbow should contribute USD20m in EBITDA due to their pure spot exposure (98% utilisation). The Endeavour, on the other hand, should contribute USD18m in light of the fixed time-charter to Uniper Global Commodities for an assumed rate of c. USD60,000 per day. By 2020, we expect all vessels to have been delivered to Flex LNG, and to be trading in the spot market. Flex LNG's high degree of spot market exposure highlights the company's vulnerability to a potential market tightening, and also leaves the EBITDA open to risk should freight rates fall back (see our scenario analysis below).

Chart 727: EBITDA contribution per vessel 2018-20E

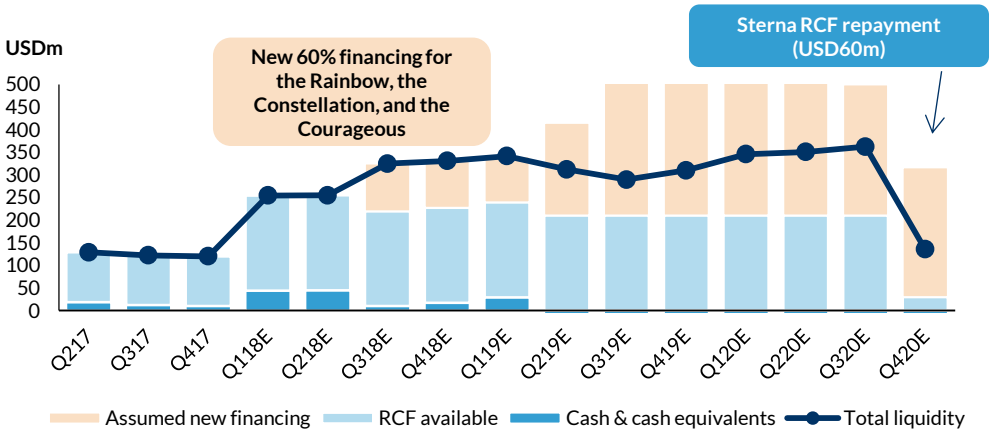


Source: Kepler Cheuvreux

Flex should have no problem securing financing for newbuilds

So far, Flex LNG has secured financing for three of its six newbuilds, with an option to add a fourth tranche for the Rainbow on the current facility (a USD315m term loan). In our model, we expect Flex to achieve the same financing terms for the remaining three newbuilds (the Rainbow, the Constellation and the Courageous) as it did for the first three vessels; i.e. 60% debt financing, interest of LIBOR + 2.85%, and a 20-year profile.

Chart 728: Flex LNG's liquidity (cash + available RCF), given our base-case scenario



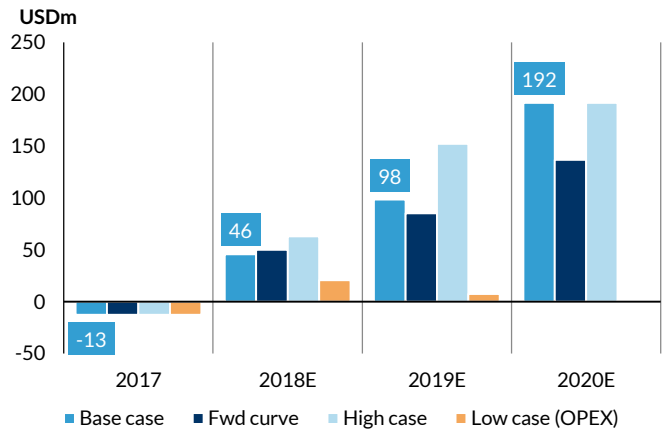
Source: Kepler Cheuvreux

Given the USD270m available from the Sterna back-stop facility, Flex should have no problem securing sufficient liquidity in our base-case scenario until 2020E. The back-stop facility also provides Flex with enough time to ensure new financing for the remaining vessels.

Risks: lower freight rates obviously negative to the equity story, but not necessarily dangerous for Flex LNG's liquidity

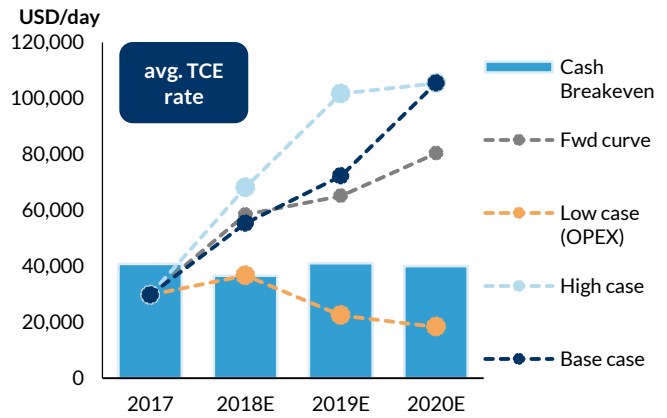
Given Flex LNG's strong exposure to the spot market, the key risk for the investment case is obviously lower freight rates. Our scenario analysis presented in the charts below highlights that our KECH base case scenario implies an EBITDA for Flex LNG that is close to the estimated forward curve of the market (time-charter contracts) in 2018E, but also that our estimates are significantly more bullish towards EBITDA in 2019-20E. Our estimated forward curve implies MEGI rates of USD65,000 per day in 2019E and USD80,000 per day in 2020E, which equals EBITDA USD85m in 2019E and USD136m in 2020E. Hence, our 2020 estimates for Flex LNG are c. 40% above the market's long term contracts at this level.

Chart 729: Kepler Cheuvreux scenarios for EBITDA 2017-20E



Source: Kepler Cheuvreux

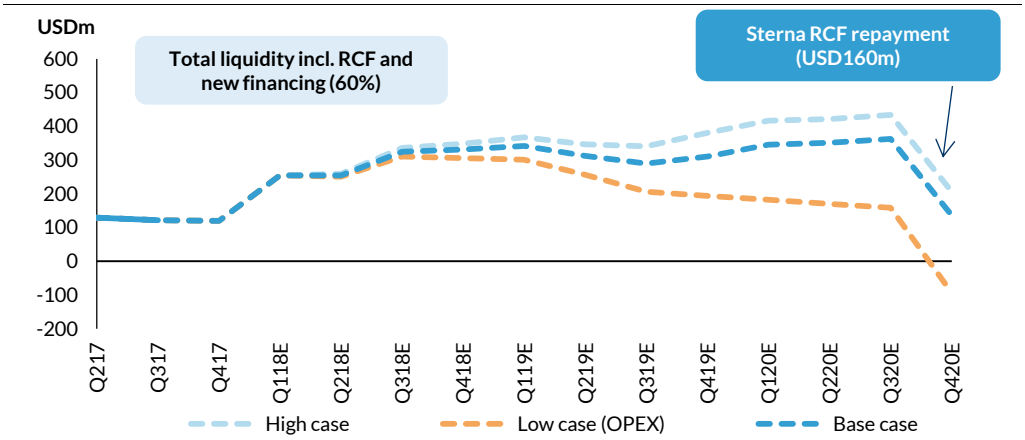
Chart 730: Average time charter equivalent (TCE) rate in scenarios versus FLNG's cash breakeven 2017-20E



Source: Kepler Cheuvreux

As with all volatile shipping segments, investors need to take into account the risk of falling freight rates. So, although we see this as unlikely at the moment, we illustrate the effect on the company's liquidity of a scenario where spot freight rates fall down to opex-levels in two months' time (USD18,700 in the LNG market, equal to DFDE opex levels). Given Flex LNG's estimated cash breakeven level of USD45,000 per day (including opex, SGA, debt amortisation and interest), such a low case scenario implies a cash burn rate of c. USD9.5m per spot vessel per year. However, with only four vessels delivered by the end of 2018E, and with the Endeavour fixed on time-charter contracts throughout Q2 2019, the cash burn will be limited even in a low case scenario over the next two years.

Chart 731: Scenario analysis for Flex LNG's liquidity (cash + available RCF)



Source: Kepler Cheuvreux

Deconstructing the forecasts:

In the table below, we outline our key estimates and assumptions for Flex LNG from 2017-20. Overall, we pencil in a strong improvement in Flex LNG's earnings towards 2020E, on the back of improving freight rates and the delivery of six newbuild vessels. For more details, see the attached P&L, balance sheet and cash flow statements at the bottom of the company part.

Time-charter equivalent (TCE) revenues: we model Flex LNG's revenues from available fleet days and assumed development in freight rates:

- **Available days** will gradually increase on the back of newbuild deliveries. In the upcoming six reported months (Q4 2017 and Q1 2018) the two time-chartered LNG carriers will contribute 180 days each, but they will both be re-delivered to their owners by March 2018. In January 2018, the first two newbuild MEGI LNG carriers were delivered to Flex LNG, while another two newbuilds are expected by Q2 and Q3 2018. The last newbuilds will likely be delivered by Q3 2019.
- **Time-charter equivalent (TCE) rate:** We expect the average TCE rate for Flex LNG to be USD56,000 per day for 2018. The level is slightly below the estimated MEGI spot rate for 2018 (USD63,000 per day) for three reasons: 1) we pencil in a spot utilisation level of 91% in 2018; 2) lower time-chartered out rates for the two DFDE vessels (the Woodside Reeswithers and the Pskov) in Q1 2018; and 3) a fixed time-charter on the Flex Endeavour at USD60,000 per day. For 2019E and 2020E, almost all available days will be spot days, and the achieved TCE rate should be close to our spot rate assumptions, adjusted for a utilisation level of 98%.

Operating costs and SGA: Our estimates for operating costs assume an opex level of USD16,600 per day for each MEGI LNG carrier, and a total annual SGA for Flex LNG of USD3.3m. The latter implies SGA costs of USD1,500 per day for each MEGI vessel (assuming that all six are delivered). For 2018E, operating costs are affected by the charter hire expenses related to the Woodside Reeswithers and the Pskov in Q1 2018.

EBITDA: We expect adjusted EBITDA of USD46m in 2018E, USD98m in 2019E and USD192m in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume floating interest rates of LIBOR + 2.85% for the secured financing, and LIBOR + 3.00% for the Sterna RCF.

Tax: We do not expect Flex LNG to pay tax over our forecast period.

Net profit: On the back of increasing EBITDA, we expect Flex LNG's net profit to increase from USD16m in 2018E to USD135m in 2020E.

DPS: Although our estimates embed a strong increase in cash generation for Flex LNG, we have not included any dividend payment in our forecasts for 2018-19. However, given the strong cash generation in our 2020 estimates, we have included a payout ratio of 80% 2020E.

Table 64: Key financials

Key financials (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	27.3	74.1	132.0	231.5	9.8	7.9	19.4	12.8
Operating costs incl. charter	-36.5	-25.0	-30.3	-36.5	-13.0	-5.8	-8.7	-4.0
SGA	-3.4	-3.3	-3.3	-3.3	-0.8	-0.8	-0.8	-0.8
EBITDA reported	-12.6	45.8	98.4	191.7	-4.1	1.2	9.8	8.0
EBITDA adjusted	-12.6	45.8	98.4	191.7	-4.1	1.2	9.8	8.0
Depreciation & impairment	0.0	-22.1	-34.8	-39.3	0.0	0.0	-3.3	-5.1
EBIT	-12.6	23.7	63.5	152.4	-4.1	1.2	6.5	2.9
Net financial items	2.2	-7.6	-13.8	-16.7	0.0	0.0	-0.8	-1.5
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	-10.4	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
Net profit adjusted	-12.7	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
EPS adj (USD)	-0.03	0.04	0.14	0.37	-0.01	0.00	0.02	0.00
DPS	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00
Operating assumptions:								
Avg. TCE rate (USD/day)	29,710	55,351	72,234	105,408	32,307	42,000	53,861	52,817
Spot utilisation (%)	74%	91%	98%	98%	75%	85%	85%	90%
Avg. EBITDA margin (USD/day)	-12,891	34,228	53,836	87,312	-13,208	6,783	27,311	32,847
Total vessel days (available)	980	1,339	1,827	2,196	308	184	360	243
TC Coverage (% all available days)	25%	36%	8%	0%	19%	100%	58%	37%
Selected balance sheet items:								
Cash and cash equivalents	10.0	120.9	99.9	105.4	11.9	10.0	44.1	44.7
Total interest-bearing debt	160.0	466.9	649.3	557.8	160.0	160.0	270.0	371.1
Net interest-bearing debt	150.0	346.0	549.4	452.4	148.1	150.0	225.9	326.4
Leverage ratio (%)	22%	39%	48%	41%	22%	22%	30%	38%
Selected cash flow items:								
Operating cash flow	-17.7	38.2	84.6	175.1	-5.2	-0.8	9.0	6.4
Investing cash flow	-77.7	-234.2	-288.0	0.0	-1.6	-1.1	-84.9	-106.9
Financing cash flow	104.0	306.9	182.4	-169.5	0.0	0.0	110.0	101.1
Change in cash	8.5	110.9	-21.0	5.5	-6.9	-1.9	34.1	0.6

Source: Kepler Cheuvreux

Valuation

We see 6% upside in vessel values given our rate forecasts

Our preferred valuation method for Flex LNG is an equity sum-of-the-parts valuation based on estimated fleet values for LNG carriers, minus net interest bearing debt and other liabilities the company has. This valuation approach is similar to the Net Asset Value (NAV) approach used for the dry bulk, tank and LPG segments, but differs in that we estimate the second-hand value from the quoted newbuild prices, instead of taking quoted second-hand values from an external source. The reason for this

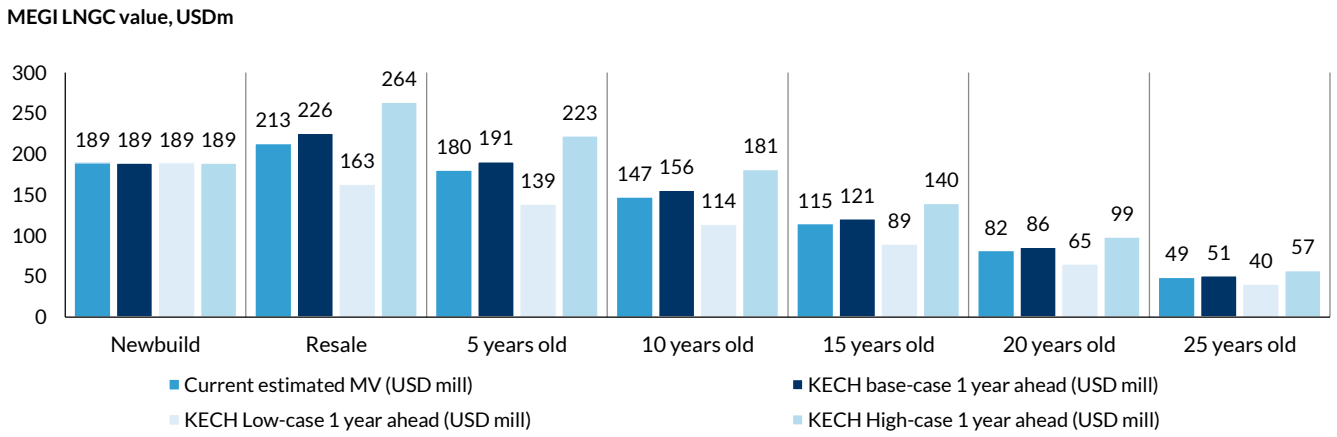
difference is that the transaction market for second-hand LNG vessels is quite illiquid, and no officially quoted vessel prices exist for older vessels. Hence, we have to estimate the vessel values ourselves, based on this methodology:

Currently, Clarkson quotes the price for a newbuild 174,000 m3 MEGI vessel at USD180.5m, down 7% YOY. We estimate an equivalent resale price of USD213m, based on USD3m in supervision costs, and 4% all-in interest costs from financing. This totals a delivery cost of USD9m (total newbuild cost USD 189m). In addition, we use the discounted cash flow from the current "forward market", which is derived from USD78,000 per day in spot rates, USD56,000 per day for a one year TC, and USD62,500 per day for a five year TC (an average of USD63,000 per day for the three years). The estimate of USD213m is the resale price which makes the internal rate of return (IRR) on the necessary equity the same for the resale as for the newbuild (which is set at 10% by using a long-term rate of USD62,500 per day).

When we use our rate forecast (an average of USD74,000 per day) as cash flow for the first three years, we estimate a resale price of USD226m for a MEGI LNGC, up 6% from the current forward curve estimate. This resale value forms the basis in our base case valuation.

The chart below lists all vessel values in our estimated scenarios. Each vessel is interpolated to this value-curve according to the age of the vessel.

Chart 732: Kepler Cheuvreux vessel values for a 174,000 m3 MEGI LNG carrier



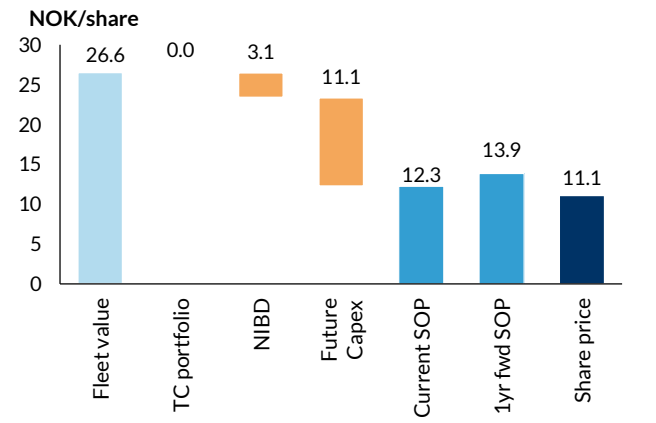
Source: Kepler Cheuvreux

Our base-case scenario for FLNG (NOK13.9) implies 16% upside in SOP

Given our view on vessel values, we see 16% upside in FLNG's SOP from current levels. The increase from the current SOP of NOK12.3 per share to NOK13.9 is due to: 1) a 6% increase in underlying MEGI vessel values and: 2) a NOK0.8 per share cash generation over the next 12 months.

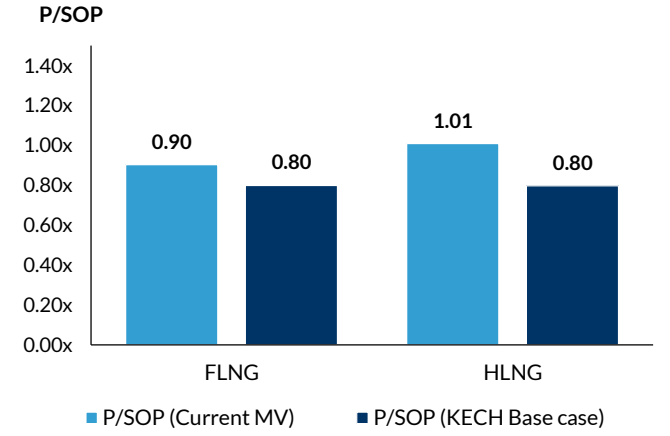
In addition, FLNG is currently valued at an 10% discount to our current SOP. We find this share price drop unwarranted given the strong development in freight rates recently. Taking into account our base-case scenario SOP, we see FLNG as cheap on P/SOP of 0.9x.

Chart 733: SOP bridge for FLNG



Source: Kepler Cheuvreux

Chart 734: P/SOP for LNG peers (current MV and KECH base)



Source: Kepler Cheuvreux

Our SOP is based on our estimated fleet values for LNG carriers, less net interest-bearing debt and other liabilities the company has:

- **Gross asset values (GAV):** We value FLNG on a fully delivered basis. Hence, we include all six newbuild LNGCs in our SOP. The mark-to-market (MTM) of our contract portfolio includes the net present value of: 1) the Flex Endeavour time-charter contract; and 2) the net time-charter value for Woodside Reeswithers and Pskov until Q1 2018. In our one year forward estimates, we include cash flow generated from vessels over the coming months, and adjust fleet values for vessels that are one or more years old.
- **Net interest-bearing debt and other commitments:** All NIBD estimates are calculated relative to Flex LNG's latest quarterly report, and are balance sheet items from the Q4 2017 report. Since we value the fleet on a fully delivered basis, we include FLNG's future capex in the commitments. We make no other adjustments for Flex LNG, outside balance sheet items and capex.

Table 65: Net asset value breakdown

SOP (USDm)	Type	Owned	Age	SOP Current	1 year forward SOP Base	Low	High
Fleet:							
Flex Endeavour	MEGI	100%	-0.3	213	219	158	256
Flex Enterprise	MEGI	100%	-0.3	213	219	158	256
Flex Ranger	MEGI	100%	-0.6	210	221	160	258
Flex Rainbow	MEGI	100%	-0.8	209	223	161	260
Flex Constellation	MEGI	100%	-1.7	202	221	167	254
Flex Courageous	MEGI	100%	-1.8	200	219	168	249
Total fleet value (USDm)		**6.0**	**-0.9**	1,248	1,322	971	1,533
MTM contract portfolio				-2	-1	-1	-1
Discounted cash-flow 1yr					38	13	55
GAV (USDm)				1,246	1,321	971	1,532
NIBD & other commitments (rel. last quarterly report)							
Cash				10	10	10	10
Total interest bearing debt				-160	-160	-160	-160
Net working capital				3	3	3	3
Other adjustments				0	0	0	0
Future capex				-522	-522	-522	-522
NIBD & other commitments				-669	-669	-669	-669
SOP (USDm)				577	652	302	863
# shares (fully delivered)				367.9	367.9	367.9	367.9
SOP/share (NOK)				12.3	13.9	6.4	18.4
Share price (NOK)				11.1	11.1	11.1	11.1
P/SOP				0.90x	0.80x	1.73x	0.60x
EV (USDm)				1,190	1,190	1,190	1,190
EV/GAV				0.96x	0.90x	1.23x	0.78x

Source: Kepler Cheuvreux

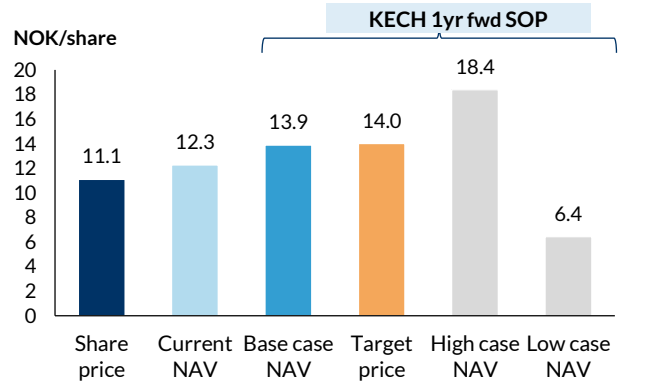
We initiate coverage of FLNG with a Buy rating (TP NOK14)

We find the 14% upside in our SOP valuation, combined with the current SOP discount on the share price, enough to warrant a Buy rating for Flex LNG. We set the target price at NOK14 implying upside of c. 25% from the current share price.

In addition, we highlight the upside possibilities deriving from a potential high-cycle in the LNG market in 2019-20E. Our best-case SOP of NOK18 reflects increasing spot MEGI rates up to c. USD100,000 per day, and implies upside in the current SOP valuation of 50%.

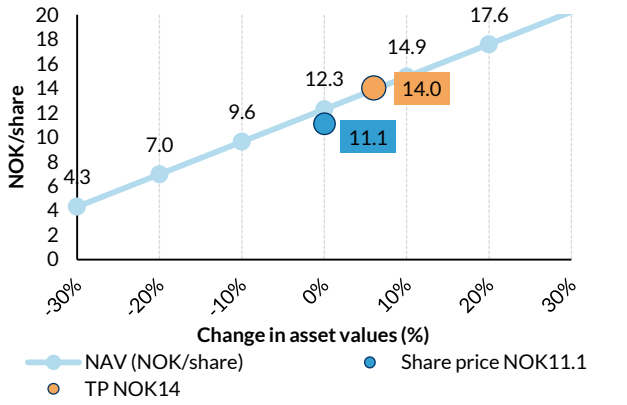
The charts below illustrate our scenario analysis for Flex LNG, combined with the sensitivity of the SOP versus changes in asset values. Our rule of thumb is that a 10% increase in asset values equals NOK2.7 per share for the Flex SOP.

Chart 735: Kepler Cheuvreux's scenario valuation for FLNG



Source: Kepler Cheuvreux

Chart 736: Sensitivity for SOP versus changes in asset values



Source: Kepler Cheuvreux

Valuation metrics

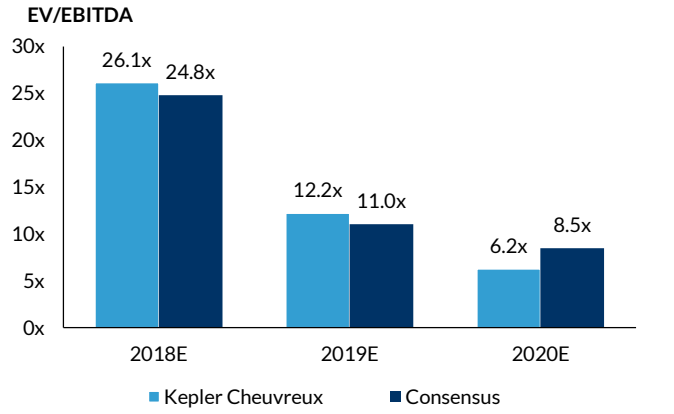
Table 66: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			45.8	98.4	191.7
EV/EBITDA		1,190	26.0x	12.1x	6.2x
EPS adj (USD)			0.04	0.14	0.37
P/E	11.1		31.8x	10.3x	3.8x
DPS			0.00	0.00	0.30
Yield (%)	11.1		0.0%	0.0%	20.9%
Net interest bearing debt			346.0	549.4	452.4
NIBD/EBITDA			7.5x	5.6x	2.4x

Source: Kepler Cheuvreux

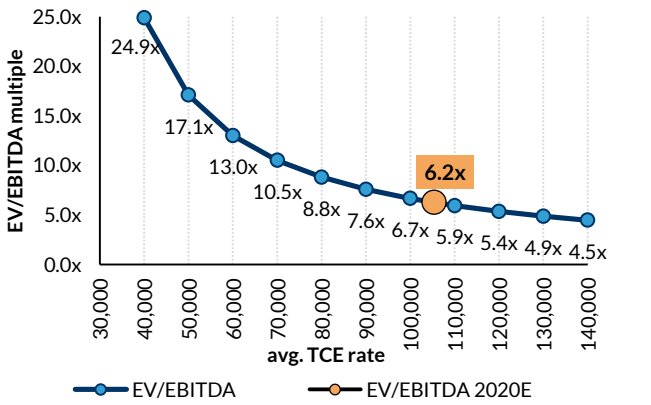
An alternative valuation approach for Flex LNG would be to run trading multiples for the estimated EBITDA. We deem the 2020E EBITDA the most relevant, as this is the first year with a fully delivered fleet. Overall, our 2020E estimates imply an EV/EBITDA for FLNG of 6.2x versus consensus' 8.5x. Assuming a "fair" EV/EBITDA multiple of 8.0x, this translates into a share price for FLNG of NOK18 per share. We present the sensitivity for FLNG's EV/EBITDA versus the underlying TCE rate below. Given the current MEGI spot rates of USD87,000 per day, a fully delivered FLNG fleet should be valued at EV/EBITDA 7.8x.

Chart 737: EV/EBITDA for FLNG, KECH versus Consensus



Source: Bloomberg consensus, Kepler Cheuvreux

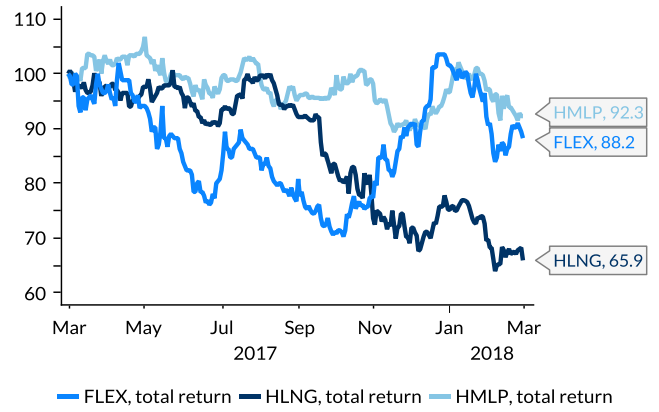
Chart 738: Sensitivity for TCE rates versus EV/EBITDA



Source: Kepler Cheuvreux

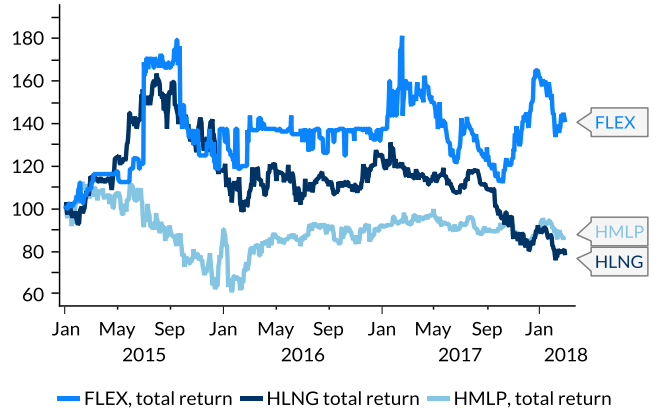
Supplementary figures

Chart 739: LTM share price development LNG peers



Source: Macrobond

Chart 740: LNG peers share price since Jan 2015



Source: Macrobond

Income statement

Table 67: P&L figures

Income statement (USDm)	2017E	2018E	2019E	2020E	Q3 2017	Q4 2017E	Q1 2018E	Q2 2018E
TCE revenues	27.3	74.1	132.0	231.5	9.8	7.9	19.4	12.8
Operating costs incl. charter	-36.5	-25.0	-30.3	-36.5	-13.0	-5.8	-8.7	-4.0
SGA	-3.4	-3.3	-3.3	-3.3	-0.8	-0.8	-0.8	-0.8
EBITDA	-12.6	45.8	98.4	191.7	-4.1	1.2	9.8	8.0
Depreciation	0.0	-22.1	-34.8	-39.3	0.0	0.0	-3.3	-5.1
Impairment and value adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBIT	-12.6	23.7	63.5	152.4	-4.1	1.2	6.5	2.9
Net financial interest	-0.1	-7.6	-13.8	-16.7	0.0	0.0	-0.8	-1.5
Other financial items	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gain/loss on financial items	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	-10.4	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	-10.4	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
Net profit adjusted	-12.7	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
EBITDA	-12.6	45.8	98.4	191.7	-4.1	1.2	9.8	8.0
adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EBITDA adjusted	-12.6	45.8	98.4	191.7	-4.1	1.2	9.8	8.0
EPS	-0.03	0.04	0.14	0.37	-0.01	0.00	0.02	0.00
EPS adj (USD)	-0.03	0.04	0.14	0.37	-0.01	0.00	0.02	0.00
DPS	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00
# Shares adj. (end)	368.0	368.0	368.0	368.0	368.0	368.0	368.0	368.0

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 68: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	10.0	120.9	99.9	105.4	11.9	10.0	44.1	44.7
Other current assets	7.6	7.6	7.6	7.6	6.8	7.6	7.6	7.6
Vessels and newbuildings	666.9	879.1	1,132.2	1,092.9	665.0	666.9	748.5	850.3
Other long-term assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total assets	**684.5**	**1,007.5**	**1,239.7**	**1,205.9**	**683.7**	**684.5**	**800.2**	**902.6**
Interest bearing debt	160.0	363.2	347.4	271.7	160.0	160.0	270.0	371.1
New financing IB debt	0.0	103.7	301.9	286.1	0.0	0.0	0.0	0.0
Other current liabilities	4.4	4.4	4.4	4.4	4.9	4.4	4.4	4.4
Other long term liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Shareholder's equity	520.1	536.3	586.0	643.7	518.8	520.1	525.8	527.2
Minority interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total equity and liabilities	**684.5**	**1,007.5**	**1,239.7**	**1,205.9**	**683.7**	**684.5**	**800.2**	**902.6**
Net interest bearing debt	**150.0**	**346.0**	**549.4**	**452.4**	**148.1**	**150.0**	**225.9**	**326.4**
Equity ratio (%)	78%	61%	52%	59%	78%	78%	70%	62%
Cash flow (USDm)	**2017**	**2018E**	**2019E**	**2020E**	**Q3 2017**	**Q4 2017**	**Q1 2018E**	**Q2 2018E**
Net profit	-10.4	16.1	49.7	135.7	-4.0	1.3	5.7	1.4
Depreciation, amort. & impairments	0.0	22.1	34.8	39.3	0.0	0.0	3.3	5.1
Change working capital	-5.2	0.0	0.0	0.0	-1.2	-2.2	0.0	0.0
Other non-cash items	-2.2	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Cash flow from operations	**-17.7**	**38.2**	**84.6**	**175.1**	**-5.2**	**-0.8**	**9.0**	**6.4**
Investment in newbuilding and vessels	-77.7	-234.2	-288.0	0.0	-1.6	-1.1	-84.9	-106.9
Proceeds from sale of vessels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from investing	**-77.7**	**-234.2**	**-288.0**	**0.0**	**-1.6**	**-1.1**	**-84.9**	**-106.9**
Repayment of debt	-117.0	-113.1	-27.6	-91.5	0.0	0.0	-100.0	-3.9
Proceeds from new debt	0.0	315.0	0.0	0.0	0.0	0.0	210.0	105.0
New proceeds IB debt	0.0	105.0	210.0	0.0	0.0	0.0	0.0	0.0
Share issue (repurchase)	221.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividends paid	0.0	0.0	0.0	-78.0	0.0	0.0	0.0	0.0
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	**104.0**	**306.9**	**182.4**	**-169.5**	**0.0**	**0.0**	**110.0**	**101.1**
Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in cash and cash equivalents	**8.5**	**110.9**	**-21.0**	**5.5**	**-6.9**	**-1.9**	**34.1**	**0.6**
Cash balance period-in	1.4	10.0	120.9	99.9	18.8	11.9	10.0	44.1
Cash balance period-out	**10.0**	**120.9**	**99.9**	**105.4**	**11.9**	**10.0**	**44.1**	**44.7**

Source: Kepler Cheuvreux

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	0.0	0.0	0.0	0.0	27.3	74.1	132.0	231.5
% Change	na	na	na	na	+chg	171.2%	78.1%	75.4%
EBITDA adjusted	-4.5	-3.0	-2.2	-1.5	-12.6	45.8	98.4	191.7
EBITDA margin (%)	na	na	na	na	-46.2%	61.8%	74.5%	82.8%
EBIT adjusted	-4.5	-3.0	-2.2	-1.5	-15.0	23.7	63.5	152.4
EBIT margin (%)	na	na	na	na	-54.9%	32.0%	48.1%	65.8%
Net financial items & associates	0.0	0.0	-0.2	-0.3	-0.1	-7.6	-13.8	-16.7
Others	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit from continuing operations	205.5	-2.6	-2.5	-1.8	-10.4	16.1	49.7	135.7
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	205.5	-2.6	-2.5	-1.8	-10.4	16.1	49.7	135.7
Net profit reported	205.5	-2.6	-2.5	-1.8	-10.4	16.1	49.7	135.7
Net profit adjusted	-4.5	-3.1	-2.5	-1.8	-12.7	16.1	49.7	135.7
Cash Flow Statement (USDm)								
Cash flow from operating activities	-4.2	-1.3	-2.8	-1.1	-17.7	38.2	84.6	175.1
Capex	-0.5	-0.5	-0.2	-1.2	-77.7	-234.2	-288.0	0.0
Free cash flow	-4.7	-1.8	-3.0	-2.3	-95.4	-196.0	-203.4	175.1
Acquisitions & Divestments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dividend paid	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-78.0
Others	0.0	0.0	0.0	0.0	221.0	0.0	0.0	0.0
Change in net financial debt	-4.7	-1.8	-3.0	-2.3	125.5	-196.0	-203.4	97.0
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	210.5	211.1	211.3	212.5	666.9	879.1	1,132.2	1,092.9
Financial & other non-current assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total shareholders' equity	211.8	210.0	207.6	205.9	520.1	536.3	586.0	643.7
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	0.4	7.8	7.6	8.2	164.4	471.3	653.7	562.2
Net financial debt	-1.5	0.3	3.3	5.6	150.0	346.0	549.4	452.4
Working capital requirement	-0.3	-0.8	-0.4	-1.0	3.2	3.2	3.2	3.2
Invested Capital	210.3	210.3	210.9	211.5	670.1	882.3	1,135.4	1,096.1
Per share data								
EPS adjusted	-0.04	-0.02	-0.02	-0.01	-0.03	0.04	0.14	0.37
EPS adj and fully diluted	-0.04	-0.02	-0.02	-0.01	-0.03	0.04	0.14	0.37
% Change	-chg	+chg	+chg	+chg	-chg	+chg	208.1%	172.9%
EPS reported	1.63	-0.02	-0.02	-0.01	-0.03	0.04	0.14	0.37
Cash flow per share	-0.03	-0.01	-0.02	-0.01	-0.05	0.10	0.23	0.48
Book value per share	1.68	1.66	1.63	1.61	1.41	1.46	1.59	1.75
Dividend per share	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.30
Number of shares, YE (m)	126.37	126.92	127.87	127.95	367.97	367.97	367.97	367.97
Ratios								
ROE (%)	-4.2%	-1.5%	-1.2%	-0.9%	-3.5%	3.1%	8.9%	22.1%
ROIC (%)	-4.3%	-1.4%	-1.1%	-0.7%	-3.4%	3.1%	6.3%	13.7%
Net fin. debt / EBITDA (x)	0.3	-0.1	-1.5	-3.7	-11.9	7.5	5.6	2.4
Gearing (%)	-0.7%	0.1%	1.6%	2.7%	28.8%	64.5%	93.8%	70.3%
Valuation								
P/E adjusted	na	na	na	na	na	32.0	10.4	3.8
P/E adjusted and fully diluted	na	na	na	na	na	32.0	10.4	3.8
P/BV	0.4	0.6	0.7	0.9	1.0	1.0	0.9	0.8
P/CF	na	na	na	na	na	13.5	6.1	3.0
Dividend yield (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	21.0%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-6.1%	-1.5%	-2.0%	-1.3%	-18.5%	-37.9%	-39.4%	33.9%
EV/Sales	na	na	na	na	24.4	11.6	8.1	4.2
EV/EBITDA	na	na	na	na	na	18.8	10.8	5.1
EV/EBIT	na	na	na	na	na	36.3	16.8	6.4

Golden Ocean Group

Norway | Transport | Mcap NOK 7.6bn

02 March 2018

Buy (Not Rated)

Target Price	**NOK 100.00**
Current Price	NOK 71.55
Up/downside	39.8%
Change in TP	none
Change in EPS	none 16E / none 17E

The best is yet to come

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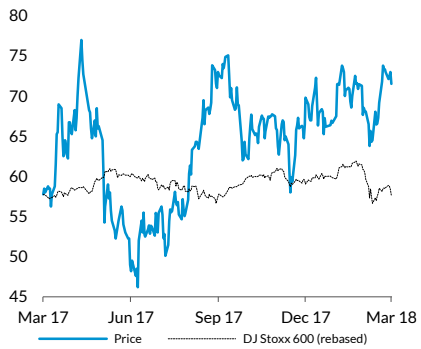
Market data

Bloomberg: GOGL NO	Reuters: GOGL.OL
Market cap (NOKm)	7,582
Free float	70%
No. of shares outstanding (m)	106
Avg. daily volume (NOKm)	129.6
YTD abs performance	7.4%
52-week high/low (NOK)	77.00/46.20

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	479.2	542.7	816.4
EBITDA adj (m)	263.8	313.0	579.7
EBIT adj (m)	177.7	225.0	491.7
Net profit adj (m)	107.7	161.5	432.0
Net fin. debt (m)	953.3	780.6	519.9
FCF (m)	40.8	241.5	512.0
EPS adj. and fully dil.	0.75	1.12	3.00
Consensus EPS	0.63	0.84	1.30
Net dividend	0.37	0.56	2.40

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	12.1	8.1	3.0
EV/EBITDA	8.6	6.7	3.1
EV/EBIT	12.7	9.3	3.7
FCF yield	3.1%	18.5%	39.2%
Dividend yield	4.1%	6.2%	26.5%
Net fin.debt/EBITDA	3.6	2.5	0.9
Gearing	61.4%	48.2%	29.2%
ROIC	7.3%	9.2%	20.9%
EV/IC	0.9	0.9	0.8



Although the dry bulk market has been improving for more than a year now, we believe the best is still to come. The all-time-low orders of new vessels in 2016 will impact fleet growth in 2018E and 2019E, keeping it subdued, while - in combination with the ongoing war on pollution waged by China - we expect to see fleet utilisation rising above 90% again in 2020E and Capesize rates at USD35,000 per day. This should be positive for Golden Ocean Group (GOGL), which is valued at an attractive level versus low asset values in a historical context, despite current P/NAV 1.15x. In conclusion, we initiate coverage on Golden Ocean Group with a Buy rating and a NOK100 target price.

Modern dry bulk fleet with high spot exposure

Golden Ocean Group is one of the world's largest dry bulk companies, dual listed on the Oslo Stock Exchange and NASDAQ (ticker: GOGL). As of February 2018, its fleet consists of 78 vessels, of which 68 fully-owned vessels, nine time-charted (TC) vessels and one bareboat lease. With an average fleet age of 3.1 years, Golden Ocean Group has one of the most modern fleets in our dry bulk peer group.

More bullish than consensus on GOGL's long-term outlook

With Capesize rates at almost 20,000 per day in 2018-19E, we expect EBITDA of USD260m in 2018E and USD310m in 2019E, implying 10-15% upside on consensus estimates. However, we are significantly more bullish on the long-term outlooks for Golden Ocean Group, and with Capesize rates at USD30,000 per day in 2020E, we see 2020E EBITDA above USD500m. Strong cash generation should bode for dividend increases, with potential yields in the double digits if the market tightens.

We initiate coverage with a Buy rating and NOK100 TP

On the back of solid market fundamentals and low asset values in a historical context, we remain positive on the dry bulk sector. In addition, with valuations close to NAVs, the upside is not yet reflected in prices. Our dry bulk peers trade at an average EV/GAV of 1.0x or implied five-year Capesize value of USD34m, which is still significantly lower than the 2014 peak of USD53m, or the 2007 highs at USD150m. Although Golden Ocean Group has a premium valuation relative to other peers (EV/GAV 1.07x or P/NAV 1.15x), in our view this is justified, due to GOGL's proven acquisition track record and more moderate financial risk profile than peers. In conclusion, we initiate coverage on Golden Ocean Group with a Buy rating and NOK100 target price, which is P/NAV 1.15x on our base case one-year forward NAV.

Investment summary

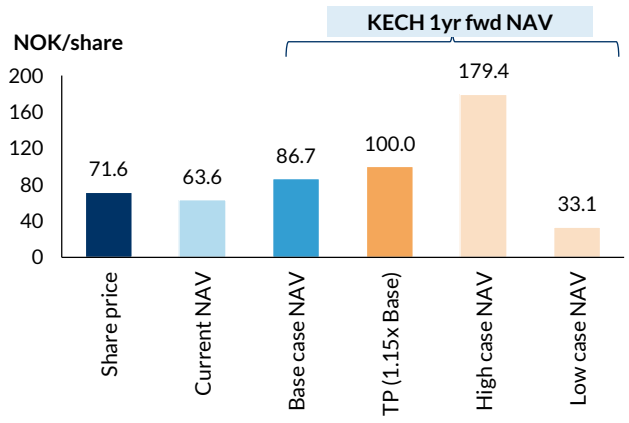
Golden Ocean Group is one of the world's largest dry bulk companies. It has a dual listing on the Oslo Stock Exchange and NASDAQ. As of February 2018, its fleet consisted of 78 vessels, of which 68 fully-owned vessels, nine time-charted vessels and one bareboat lease. The fleet is primarily exposed to the Capesize and Panamax vessel types, and with an average fleet age of 3.1 years (value weighted), Golden Ocean Group has one of the most modern fleets in our dry bulk peer group.

Although the dry bulk market has been improving for more than a year now, we believe the best is still to come. All-time-low ordering of new vessels in 2016 is likely to lead to 2018-19E fleet growth remaining subdued. Meanwhile, due to the ongoing war on pollution in China, we expect to see healthy growth in imports, given that Chinese domestic production of coal and iron ore is the least competitive in the world and thus likely to be partly substituted by imports. Chinese authorities' ambitions to curb domestic output will likely also support a commodity price which again leads to greater willingness to pay for dry bulk transportation services. Overall, we see fleet utilisation above 90% in 2020E and expect Capesize rates at USD35,000 per day, which will then be the highest annual average in 11 years.

On the back of solid market fundamentals and low asset values in a historical context, we remain positive on the dry bulk sector. In addition, with valuations close to NAVs, the upside is not yet reflected in prices. Our dry bulk peers trade at an average EV/GAV of 1.0x or implied five-year Capesize value of USD34m, which is still significantly lower than the 2014 peak of USD53m or the 2007 highs of USD150m. Although Golden Ocean Group has a premium valuation versus its peers (EV/GAV 1.07x or P/NAV 1.15x), in our view this is justified, due to the company's proven acquisition track record and more moderate financial risk profile than peers.

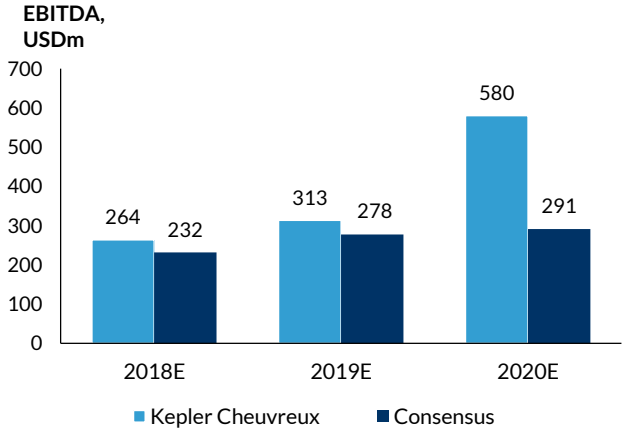
In conclusion, we initiate coverage on Golden Ocean Group with a Buy rating and target price of NOK100, which is P/NAV 1.15x on our base case one-year forward NAV.

Chart 741: GOGL, target price and NAV scenarios



Source: Kepler Cheuvreux

Chart 742: GOGL, EBITDA, KECH versus consensus



Source: Kepler Cheuvreux

Golden Ocean Group in brief

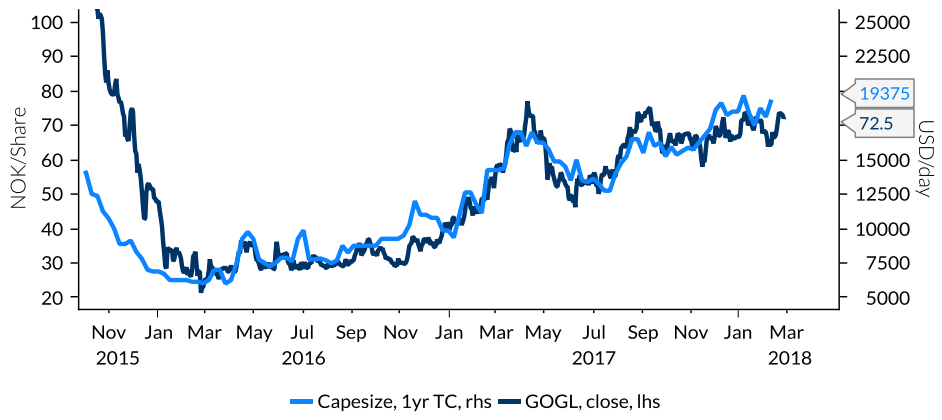
Background and recent events

Golden Ocean Group is one of the world's largest dry bulk companies with a dual listing on the Oslo Stock Exchange and NASDAQ. The current Golden Ocean Group was created from a merger between Knightsbridge Tankers Ltd. and the former Golden Ocean Group in March 2015, where Knightsbridge remained the surviving entity. This transaction created one of the world's largest listed dry bulk companies, and after the merger, the company owned and chartered-in a fleet of 76 vessels (including newbuilds).

Following a downturn in freight rates and asset values from 2015-16, Golden Ocean Group raised USD220m in equity in February 2016 and deferred USD165m in amortisation commitments. The company also amended several terms to its existing loan agreement, which put restrictions on further vessel investment and dividend pay-out until rates recovered. In late 2016, as dry bulk freight rates improved, Golden Ocean Group took the opportunity to acquire 16 vessels from Quintana and affiliates of Hemen in March 2017. The acquisition was partly financed by the issuance of 17.8m new shares combined with the assumption of Quintana's outstanding debt obligations.

Over the past year, further adjustments have been made to the fleet portfolio, including the purchase of two additional Capesize vessels from Hemen, the sale of one JV vessel to Songa Bulk and the sale of six Ultramaxes to third parties. In addition, the improvement in freight rates has allowed Golden Ocean Group to terminate the covenant waivers and cash sweep mechanism on its recourse debt, thereby removing the restrictions on new acquisitions, new debt and dividend payments that were effective after February 2016.

Chart 743: Golden Ocean Group, share price versus Capesize 1Y TC rate

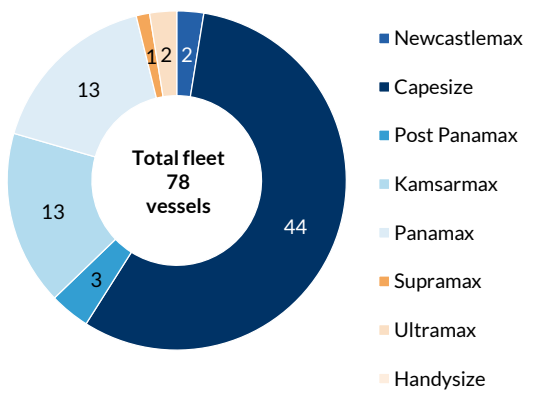


Source: Clarkson, Macrobond, Kepler Cheuvreux

Modern dry bulk fleet with high spot exposure

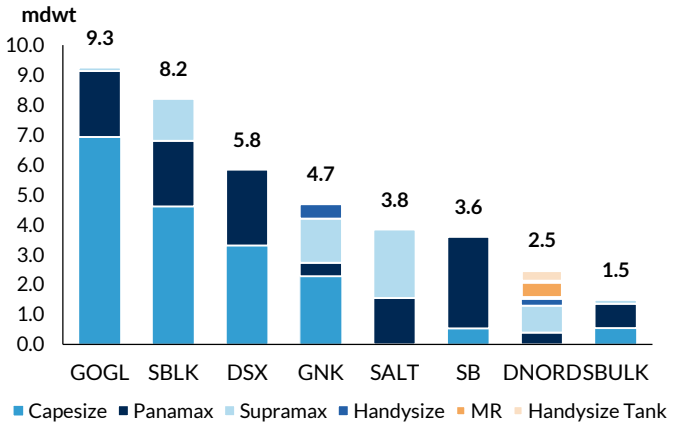
As of February 2018, Golden Ocean Group's fleet consisted of 78 vessels, of which 68 fully-owned vessels, nine time-charted vessels and one bareboat lease. The fully-owned fleet is predominantly a mix of Capesize (38, including two Newcastlemax) and Panamax vessels (28, including Kamsarmax and post-Panamax). However, Golden Ocean Group also owns two Supramax vessels (Ultramax). In Q4 2017, the company sold six Ultramax vessels to a third party.

Chart 744: Fleet by vessel type (total fleet), Golden Ocean



Source: Kepler Cheuvreux

Chart 745: Fleet size versus dry bulk peers (owned fleet, DWT m)



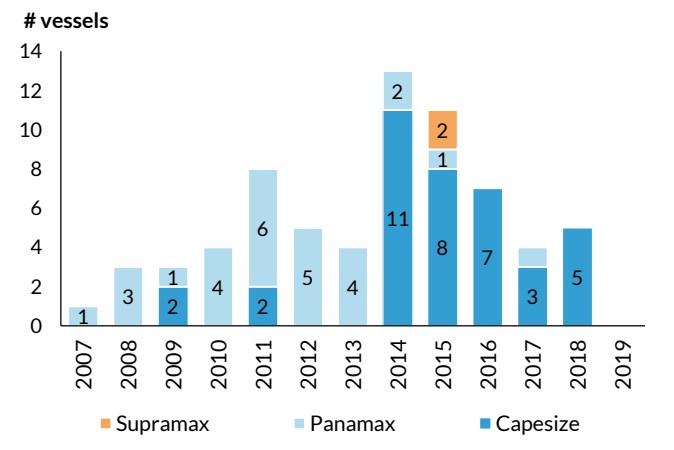
Source: Kepler Cheuvreux

With a total carrying capacity of 9.3m DWT (owned), Golden Ocean Group's fleet is the largest in our tanker peer group. Most of the vessels were built at Chinese shipyards (35), while the rest were built in Japan (15) and South Korea (11).

The average fleet age is 3.1 years (value weighted), which is modern compared with our other dry bulk peers. The majority of the vessels were delivered in 2014-16, which means that Golden Ocean Group has several vessels scheduled for dry dock in 2019-20. As of Q4 2017, the company still had five capsize vessels in its newbuild programme, all of which were delivered in Q1 2018. At delivery, Golden Ocean Group paid the remaining capex of USD144.6m and drew USD150m in debt.

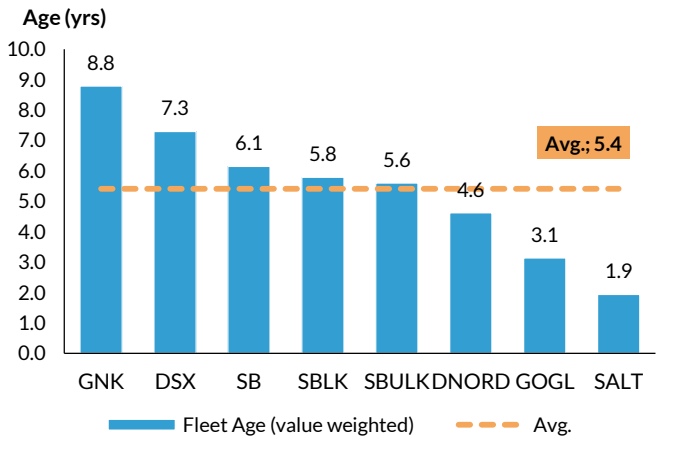
Of the total fleet of 78 vessels, 42 are equipped with Ballast Water Treatment Systems (BWTS). At its Q4 presentation, Golden Ocean Group presented a capex schedule for the installation of BWTS on the remaining vessels. This amounts to USD4-9m each year until 2023, and we have included Golden Ocean Group's guiding in our capex estimates.

Chart 746: Golden Ocean Group's owned fleet by build year



Source: Kepler Cheuvreux

Chart 747: Average fleet age for dry bulk peers (value weighted)

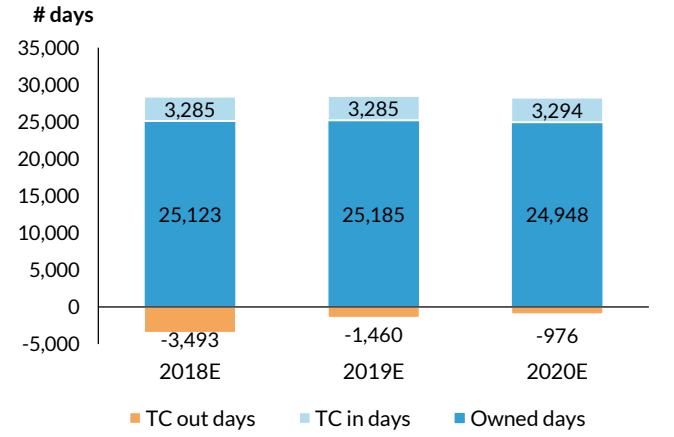


Source: Kepler Cheuvreux

In addition to its fully-owned fleet, Golden Ocean Group also has ten vessels on long-term charter/bareboat contracts. Eight of these are chartered-in from Ship Finance for a ten-year period (maturity in 2025). The base charter rate for these Capesize vessels is USD17,600 per day for the first seven years, decreasing to USD14,900 per day for the remaining three years. On top of the base charter, Golden Ocean pays 33% profit split for rates above the base payment. The two other vessels include the time charter (TC) contract for the Supramax Golden Hawk with maturity 2022 and the bareboat lease for the Kamsarmax Golden Eclipse maturity 2020.

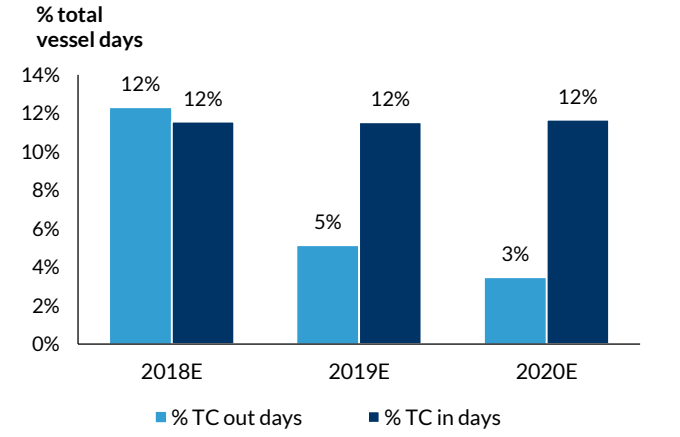
Employment: Although Golden Ocean Group has fixed several vessels on fixed-income time-charter contracts for 2018, the majority of the fleet still remains exposed to the spot market. We estimate that for 2018E c. 12% of available vessel days are on fixed-time charters versus only 5% and 3% in 2019-20E.

Chart 748: Vessel days for GOGL's core fleet (KECH estimate)



Source: Kepler Cheuvreux

Chart 749: Percentage of total days in the charter portfolio



Source: Kepler Cheuvreux

Debt financing: Covenants waived in December 2017

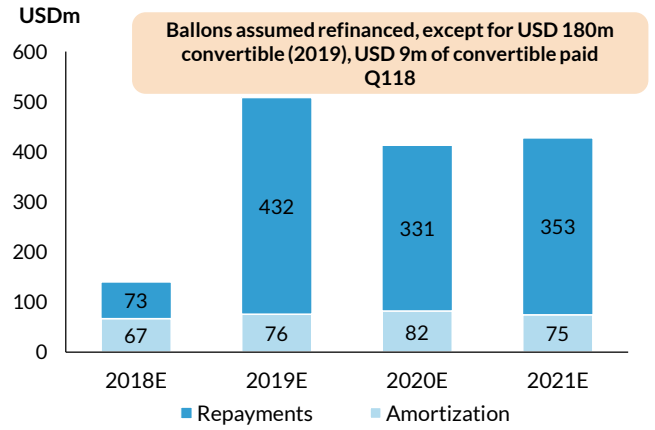
The improvement in freight rates has allowed Golden Ocean Group to terminate the covenant waivers and the cash sweep mechanism on its recourse debt, thereby removing the restrictions on new acquisition, new debt and dividend payments that were imposed on the company during the restructuring in February 2016.

The table below lists the new covenant structure for Golden Ocean Group's debt, and the company is expected to resume ordinary debt amortisation of USD16.5m per quarter in 2018. For the non-recourse debt (Quintana debt), the company still has a cash sweep mechanism until July 2019, with the first possible repayment in Q2 2018. In our model, we have assumed that normal amortisation on the Quintana debt will resume in Q3 2019E, lifting the amortisation to USD76m for 2019E (note that this includes USD5.8m per quarter on the Quintana debt from Q2 2019E).

Golden Ocean Group has no major debt instalments until Q3 2018. However, two facilities with c. USD60m are due in Q4 2018. The company's convertible bond matures in January 2019, of which USD180m are currently outstanding (USD 9m was paid in March 2018). Moreover, we estimate that another USD250m in debt instalments will be repaid in 2019E. This includes USD190m in secured facilities, USD22m in seller's credit from Hemen and USD40m in cash sweep from Quintana.

We assume that most of the company's secured debt will be refinanced at maturity. However, we have the impression that Golden Ocean Group plans to repay the USD190m convertible bond with cash on hand. We have therefore not included any refinancing of this facility.

Chart 750: Golden Ocean est. debt repayment schedule



Source: Kepler Cheuvreux

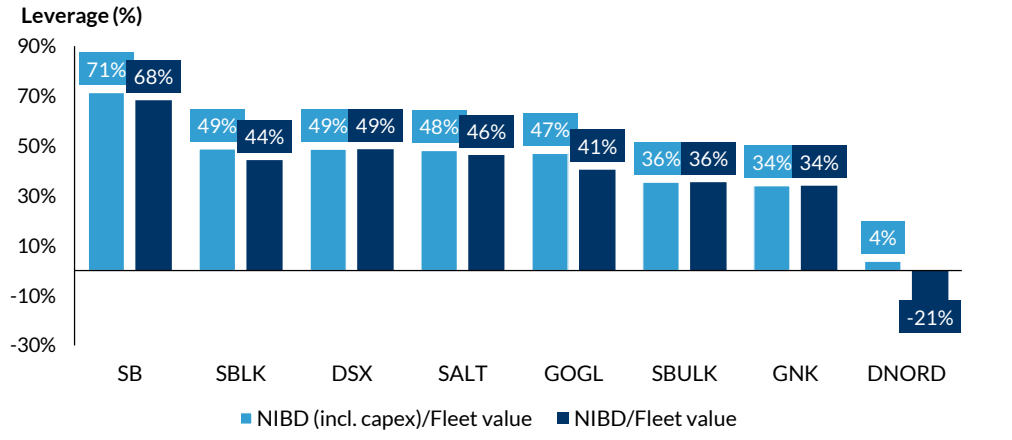
Chart 751: Golden Ocean debt covenants

Covenants (normal debt - recourse)
Amortization payments resume from 4Q17
MVC 125-135%
Elimination of cash sweep
Covenants (Quintana - non recourse)
No amortization payments until July 2019
Cash sweep mechanism until at least 2Q18
MVC 105%

Source: Kepler Cheuvreux

With a net leverage ratio of 47% (including newbuild capex), Golden Ocean Group has moderate financial gearing versus other dry bulk peers. This ratio is estimated as net debt, including capex relative to the current fleet values from Clarkson's. Combined with Golden Ocean Group's modern fleet, the total operational and financial leverage is significantly lower than several other listed dry bulk peers.

Chart 752: Dry bulk peers: Net leverage ratio relative current fleet values (fully delivered basis and includes capex and working capital, see valuation section)



Source: Kepler Cheuvreux

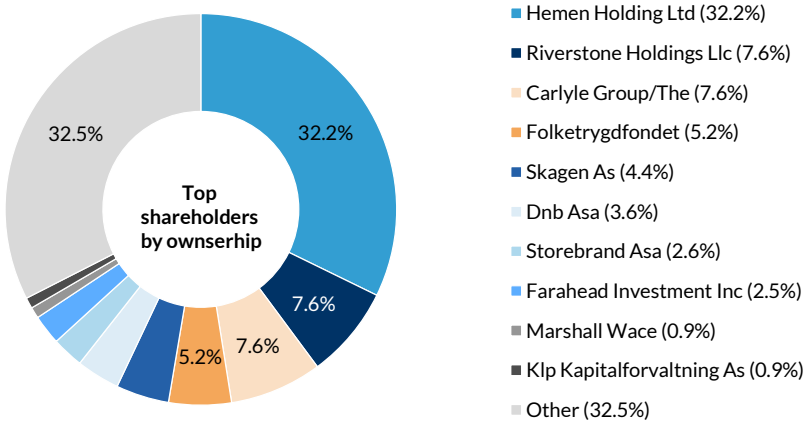
Management and shareholder structure:

The members of Golden Ocean Group's executive management are:

- **Birgitte R. Vartdal (CEO)**, who has been CEO of Golden Ocean Management AS since April 2016. Previously, she served as CFO of Golden Ocean Management AS, starting in June 2010. She held several positions within the Torvald Klaveness Group, as VP Head of Commercial Controlling, Risk Manager and Financial Analyst. Before that, she was Structuring Analyst in Hydro Energy.
- **Per Heiberg (CFO),** who has been the Chief Financial Officer of Golden Ocean Management AS since April 2016. He has been with the company since July 2005, previously serving as Vice President of Finance. Prior to joining Golden Ocean he was Back Office Officer for Electrabel Nordic and prior to that he held several positions as Controller and Market Analyst in Statkraft.

John Fredriksen controlled Hemen Holding has historically had a significant influence over Golden Ocean Group. Currently, Hemen holds 32% of the outstanding shares.

Chart 753: Shareholder structure



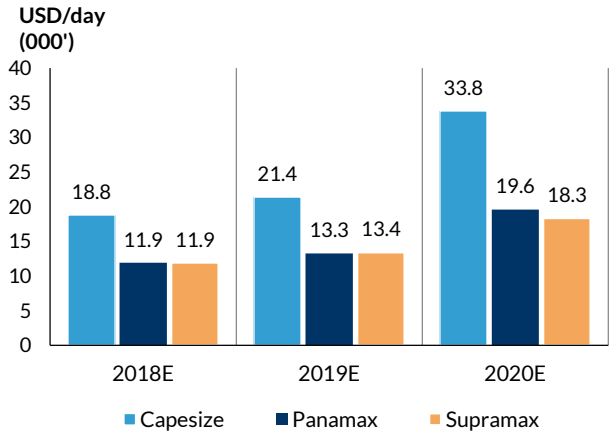
Source: Bloomberg, Kepler Cheuvreux

Deconstructing the forecasts

Dry bulk market – the best is yet to come

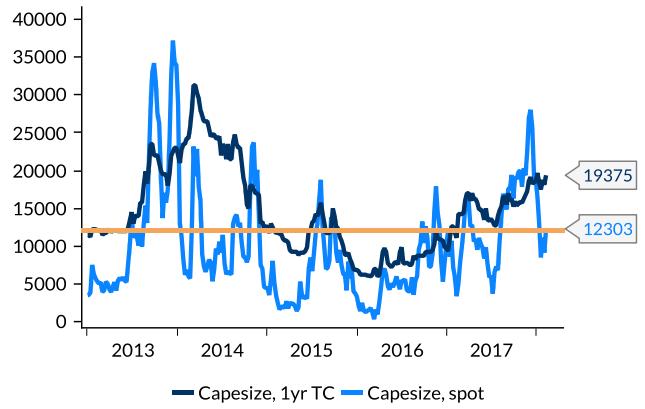
Although the dry bulk market has been improving for more than a year now, we believe the best is yet to come. All-time-low ordering of new vessels in 2016 is likely to lead to 2018-19E fleet growth remaining subdued. Meanwhile, due to the ongoing war on pollution in China, we expect to see healthy growth in imports, given that Chinese domestic production of coal and iron ore is the least competitive in the world and thus likely to be partly substituted by imports. Chinese authorities' ambitions to curb domestic output will likely also support commodity prices, which again leads to greater willingness to pay for dry bulk transportation services. We estimate that a 10% increase in the price of coal could raise Capesize spot rates by c. 370%, from the current USD14,000 per day to USD64,000 per day. However, this is assuming that the full price increase will be pocketed by the ship owners. This is probably too optimistic given that the fleet utilisation rate is still below 90%. However, by 2020, partly due to lower vessel speeds owing to the higher bunker price triggered by the new sulphur cap, we expect the fleet utilisation rate to top 90% again and see Capesize rates reaching USD35,000 per day — the highest annual average in 11 years.

Chart 754: Spot freight rate forecast for GOGL (one month lag)



Source: Kepler Cheuvreux

Chart 755: Clarkson's Capesize rate (spot and one-year time charter)



Source: Clarksons, Kepler Cheuvreux

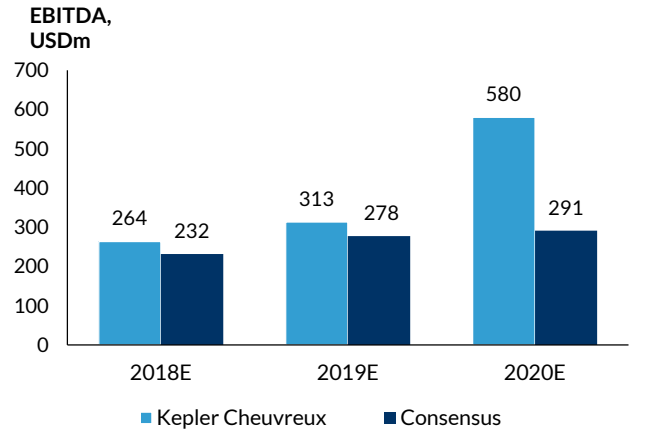
We are more bullish than consensus on GOGL's long-term outlook

With Capesize rates at almost USD20,000 per day, we expect EBITDA of USD260m in 2018E and USD310m in 2019E. Our forecast implies solid profitability for Golden Ocean after several years of weak dry bulk earnings. Our 2018-19E EBITDA estimates are 12% above current consensus estimates.

However, we are significantly more bullish on the long-term outlooks for Golden Ocean with 2020E EBITDA above USD500m (+100% from consensus). In our view, the low supply growth combined with regulatory changes in 2020 could bring the dry bulk segment into another high cycle. From a historical perspective, our 2020E forecasts of USD 35,000 per day for Capesize is close to the peak levels recorded in

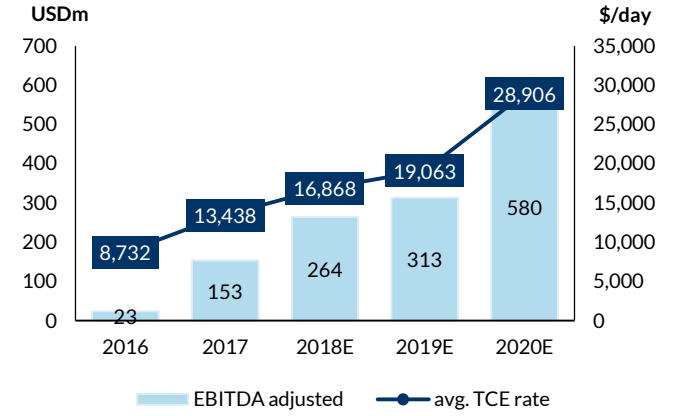
2014, but still well below the 2007-08 period when rates exceeded USD100,000 per day.

Chart 756: Kepler Cheuvreux versus consensus EBITDA estimates



Source: Bloomberg consensus, Kepler Cheuvreux

Chart 757: Golden Ocean annual EBITDA (KECH estimate)



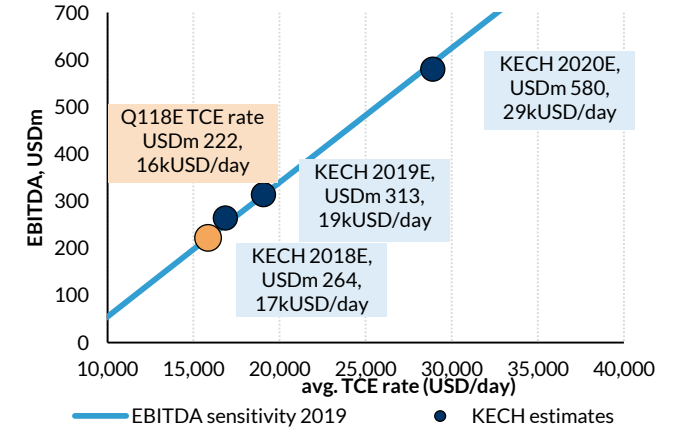
Source: Kepler Cheuvreux

After a strong Q4 2017, with Baltic Capesize rates at USD22,900 per day (CS5TC index), spot rates have fallen to c. USD 12,000 per day in January and February 2018. Assuming a one-month lag on achieved spot rates for Golden Ocean, we estimate an average TCE rate in Q1 2018 of USD 16,000 per day for the total fleet. On an annual basis, the Q1 rate levels imply an annual EBITDA of USD220m, 15% lower than our 2018 estimates. However, the Capesize one-year time charter contract remains strong at USD19,000 per day, and our 2018 estimates for Golden Ocean Group are more in-line with the longer dry bulk contracts.

Golden Ocean Group has strong operational leverage, and given our estimates for open spot days, we calculate that a USD1,000 per day increase in spot rates will increase Golden Ocean Group Ocean's EBITDA with USD25m in 2018E and USD27m in 2019E.

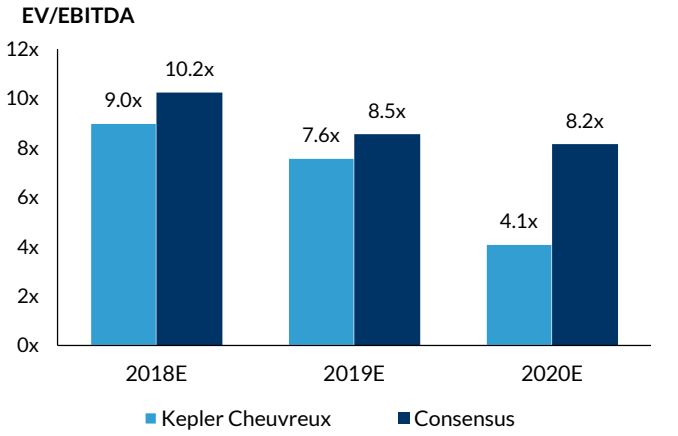
On a valuation basis, our estimates indicate EV/EBITDA 7.6x 2019E versus EV/EBITDA 8.5x for consensus (share price for Golden Ocean Group NOK73). For the current EV/EBITDA to fall below 5x, Golden Ocean's average TCE rate has to increase to USD25,000 per day. In comparison, our 2020E estimates imply an EV/EBITDA of 4.1x.

Chart 758: Golden Ocean's EBITDA sensitivity versus TCE rate



Source: Kepler Cheuvreux

Chart 759: Kepler Cheuvreux versus consensus EV/EBITDA est.

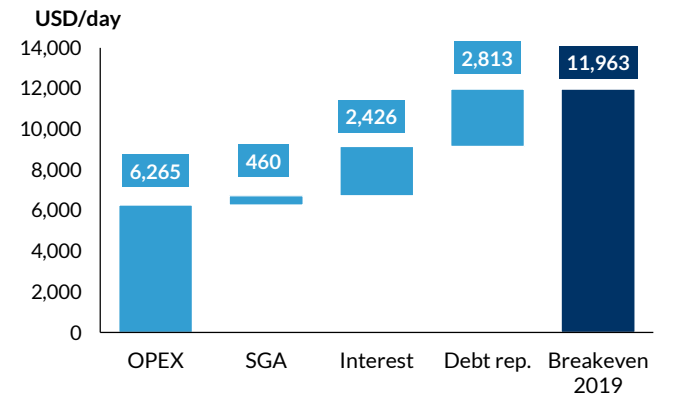


Source: Kepler Cheuvreux

Significant cash generation with rates above cash breakeven...

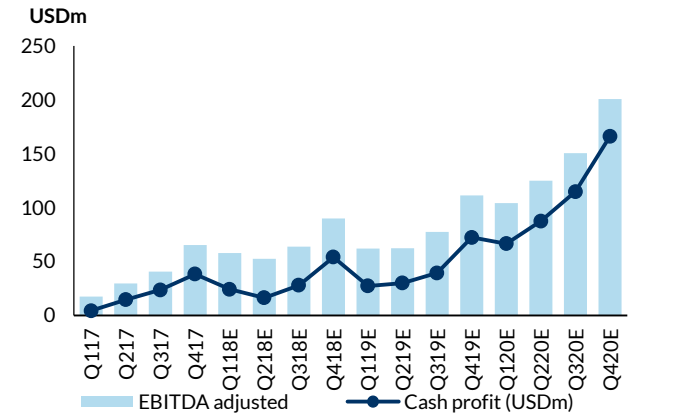
For 2018E and 2019E, we estimate a cash breakeven level for GOGL's total-owned fleet of c. USD12,000 per day (if we take the TC portfolio into account USD11,800 per day). Given our freight rates forecasts, we expect to see strong cash generation for Golden Ocean Group with TCE rates USD4,000-7,000 per day above the breakeven levels in 2018-19E.

Chart 760: KECH estimate cash breakeven 2019E (owned fleet)



Source: Kepler Cheuvreux

Chart 761: GOGL's EBITDA adj. versus cash profit from vessels

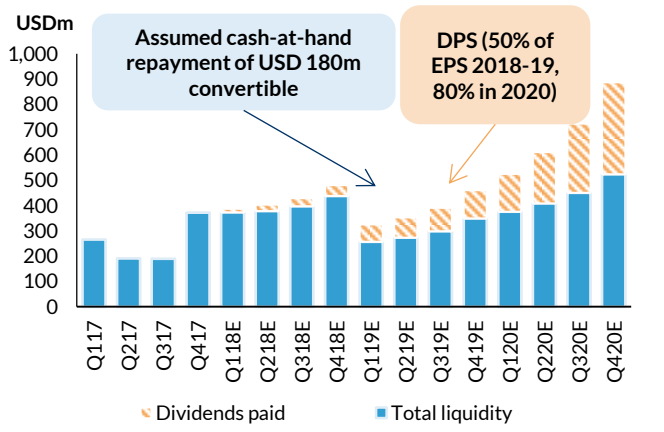


Source: Kepler Cheuvreux

... should pave the way for increased dividend payments

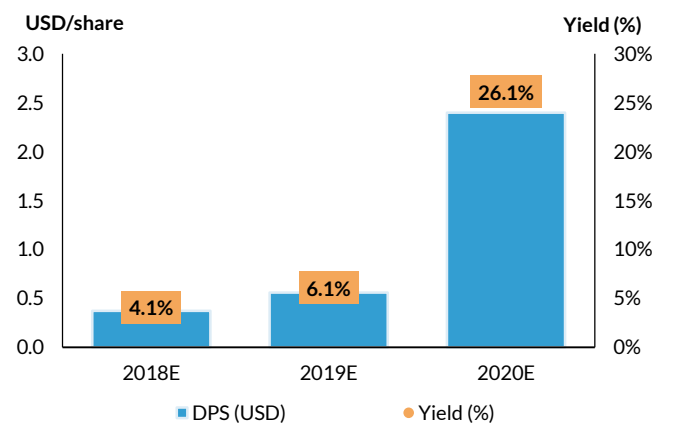
With total liquidity of USD372m as of Q4 2017 (USD309m in cash and USD63m in undrawn facilities) and solid cash generation, we expect Golden Ocean Group to be able to increase its dividends in the coming years. In Q4 2017, the company announced a dividend per share of USD0.1, c. 50% of that quarter's EPS. In our estimates, we include a pay-out ratio of 50% for 2018-19E, increasing to 80% in 2020E. This implies a dividend yield of 6% in 2019E and 26% in 2020E.

Chart 762: GOGL liquidity after dividend payments



Source: Kepler Cheuvreux

Chart 763: KECH dividend estimate and yield

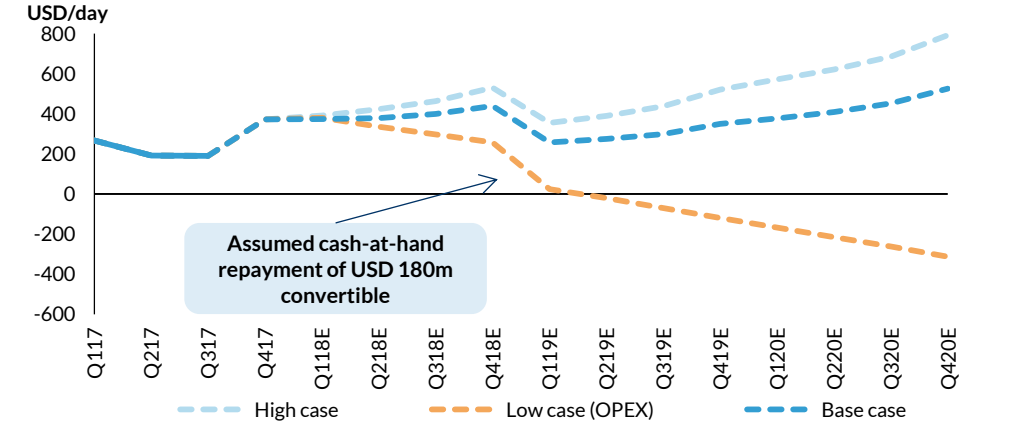


Source: Kepler Cheuvreux

We believe that Golden Ocean Group will refinance its balloon payments for the secured debt, but have the impression that the USD180m convertible bond due in 2019 will be paid with cash on hand (USD 9m paid in Q1 2018). Given our base-case estimates for earnings, the company will have no problem maintaining a 50% pay-out ratio and repaying the convertible bond in 2019.

In the following chart, we provide a scenario analysis for Golden Ocean Group's liquidity based on different freight rate assumptions. We run a stress-test scenario with rates down at opex-levels, although we find this unlikely in the current state. In such a low-case scenario, Golden Ocean Group would have liquidity until 2019E with the repayment of the USD180m convertible bond, or until 2020E if the convertible is refinanced.

Chart 764: Scenario analysis for GOGL's available liquidity



Source: Kepler Cheuvreux

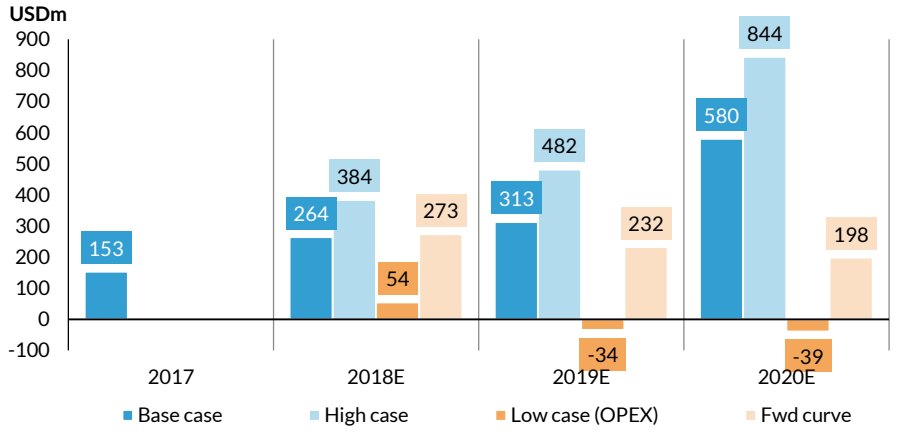
Highly levered towards spot rates - We find risk/reward attractive

As Golden Ocean Group has high spot exposure, the investment case is closely linked to development in the underlying freight rates. The chart below illustrates the

EBITDA estimates given the same freight rate assumptions as for the liquidity analysis.

Overall, we find Golden Ocean Group's risk/reward profile compelling as we expect the dry bulk market to stand ahead of several years with low-fleet growth. Although there is potential downside risk in a low- freight rate scenario, we also see further upside in a high case scenario from our base case. Remember that spot rates for Capesize vessels in 2007-08 were above USD100,000 per day versus USD30,000 per day in our 2020 estimates.

Chart 765: Golden Ocean's EBITDA in different scenarios



Source: Kepler Cheuvreux

Deconstructing the forecasts

In the table below, we outline our key estimates and assumptions for Golden Ocean Group from 2017-20E. Overall, we pencil in a strong increase in earnings on the back of strong rate development. For more details, see the attached P&L, balance sheet and cash flow statements at the end of the company segment.

Time charter equivalent (TCE) revenues: We model Golden Ocean Group's revenues based on the available fleet days and assumed development of freight rates:

- **Available days** will increase as Golden Ocean Group delivered the remaining five newbuild vessels in Q1 2018, in addition to one Capesize vessel acquired from Hemen in H2 2017 with delivery in January 2018.
- **Time charter equivalent (TCE) rate:** We expect the average achieved TCE rate for Golden Ocean Group to increase to USD16,800 per day for 2018E and USD19,000 per day for 2019E. For 2020E, we forecast a strong tightening of TCE rates to above USD28,900 per day.

Operating costs and SGA: Our operating costs assume an opex level for Golden Ocean Group's Capesize vessels of c. USD5,500 per day. In addition, we include dry docking costs for vessels reaching 5, 10, 15, 20 and 25 years in each specific quarter. We assume SGA (general and administrative expenses) of USD460 per day for each vessel. The charter hire expense includes the long-term chartered-in vessels. Golden Ocean Group also has short-term charter hires on a monthly basis, but these are not included in our estimates as we focus on the core fleet.

EBITDA: We expect adjusted EBITDA of USD260m in 2018E, USD310m in 2019E and USD580m in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume average floating interest rates of LIBOR + 2.0-2.5% on Golden's secured bank facilities.

Tax: We do not expect Golden Ocean to pay tax over our forecast period.

Net profit: We expect the net profit to increase to USD105m in 2018E and USD160m in 2019E.

DPS: We include a pay-out ratio of 50% in 2018-19E and 80% in 2020E.

Table 69: Key financials

Key financials (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	363.1	479.2	542.7	816.4	97.3	125.0	110.4	105.0
OPEX	-132.2	-145.2	-157.8	-153.2	-37.2	-36.4	-35.2	-35.8
SGA	-12.6	-13.1	-13.1	-13.0	-3.2	-3.3	-3.2	-3.3
Charter hire expenses	-70.7	-58.6	-60.4	-72.0	-20.8	-20.4	-14.5	-14.0
Other items	5.3	1.5	1.5	1.5	4.4	0.4	0.4	0.4
EBITDA adjusted	152.9	263.8	313.0	579.7	40.5	65.3	57.9	52.4
Depreciation	-78.1	-86.1	-88.0	-88.0	-21.2	-20.9	-19.9	-22.2
Net financial interest	-57.3	-70.1	-63.5	-59.8	-15.7	-15.6	-15.9	-18.2
Tax	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other items	0.6	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Net profit adjusted	18.1	107.7	161.5	432.0	3.5	29.0	22.0	12.0
Impairments & other adjustments	-20.4	-18.0	-18.0	-11.6	-3.2	-1.9	-4.5	-4.5
Net profit reported	-2.3	89.7	143.5	420.4	0.4	27.1	17.5	7.5
EPS adj (USD)	0.13	0.75	1.12	3.00	0.03	0.21	0.15	0.08
DPS	0.10	0.37	0.56	2.40	0.00	0.10	0.08	0.04
Operating assumptions:								
Avg. TCE rate (USD/day)	13,438	16,868	19,063	28,906	12,825	16,444	15,861	14,798
Avg. EBITDA margin (USD/day)	5,600	9,287	10,994	20,527	5,340	8,594	8,316	7,381
Total vessel days (available)	27,303	28,408	28,470	28,242	7,590	7,600	6,958	7,098
TC Coverage (% all available days)	11%	12%	5%	3%	10%	11%	14%	13%
Selected balance sheet items:								
Cash and cash equivalents	309.0	375.5	286.2	461.7	123.9	309.0	310.3	315.5
Restricted cash	63.0	63.0	63.0	63.0	66.3	63.0	63.0	63.0
Total IB debt incl. capital lease	1,301.1	1,391.8	1,129.8	1,044.5	1,344.8	1,301.1	1,445.4	1,427.5
Net interest bearing debt	929.1	953.3	780.6	519.9	1,154.6	929.1	1,072.2	1,049.1
Leverage ratio (%)	38%	38%	33%	23%	45%	38%	41%	41%
Selected cash flow items:								
Operating cash flow	93.4	193.8	249.5	520.0	26.2	56.9	42.0	34.2
Investing cash flow	-26.2	-153.0	-8.0	-8.0	-20.8	132.4	-149.0	0.0
Financing cash flow	28.9	25.7	-330.8	-336.5	-4.2	-4.2	108.3	-29.0
Change in free cash	96.1	66.4	-89.3	175.5	1.2	185.1	1.3	5.2

Source: Kepler Cheuvreux

Valuation

Further upside in asset values, still not high from a historical standpoint

Our preferred valuation method for GOGL is an equity Net Asset Value (NAV) valuation based on estimated fleet values for dry bulk carriers less net interest bearing debt and other commitments for the company. Our vessel values use Clarkson's quote for second-hand vessels as the current benchmark valuation. In our

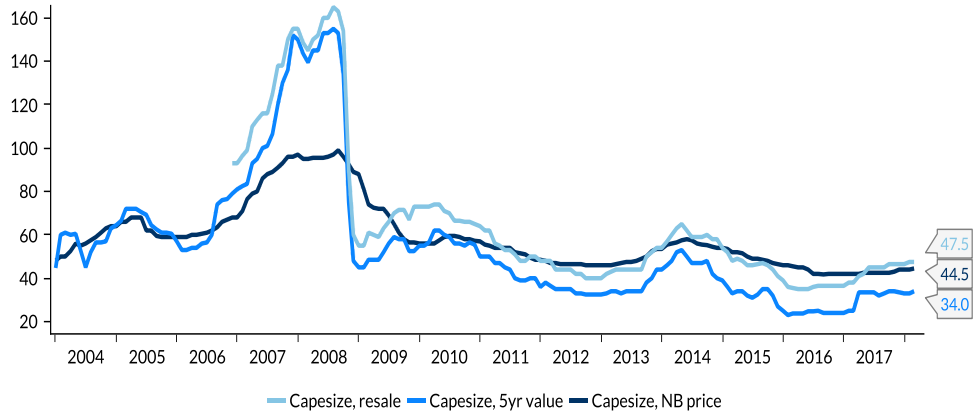
target valuation, we forecast changes in the vessel values based upon our freight rate estimates (see sector part for more details).

Currently, Clarkson quotes the price for a five-year old Capesize at USD34m, up 35% YOY. The resale price is USD48m, implying a 5% premium to the current newbuild price of USD44m.

In our view, there should be further upside in vessel values from current levels, and using our base-case estimates, we forecast a five-year old Capesize at USD42m (up 23%). Although this is significantly higher than today's levels, our base-case estimates are still low in a historical context, e.g. in the 2014 peak a five-year old Capesize was valued at USD53m and at USD 150m back in 2007.

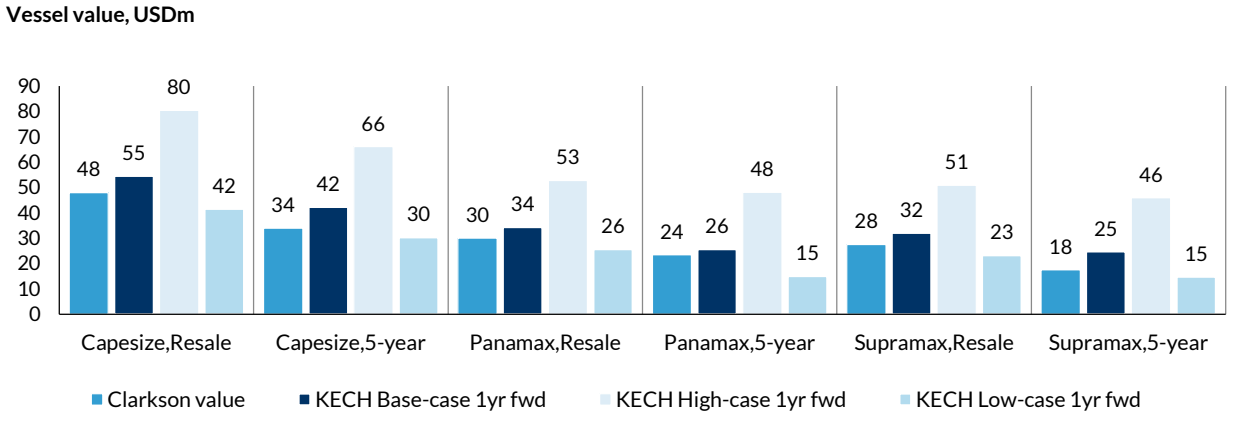
The following two charts illustrate the historical development in Capesize values, and our forecasts in all scenarios for Capesize, Panamax and Supramax vessels.

Chart 766: Vessel values: newbuild, resale and five-year old value for Capesize vessels (Clarkson)



Source: Clarkson, Kepler Cheuvreux

Chart 767: Kepler Cheuvreux vessel values in different scenarios

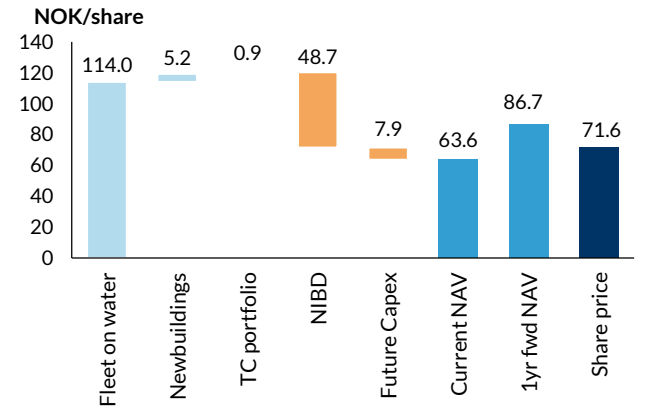


Source: Kepler Cheuvreux

We see 35% upside in GOGL's NAV valuation (NOK87 per share)

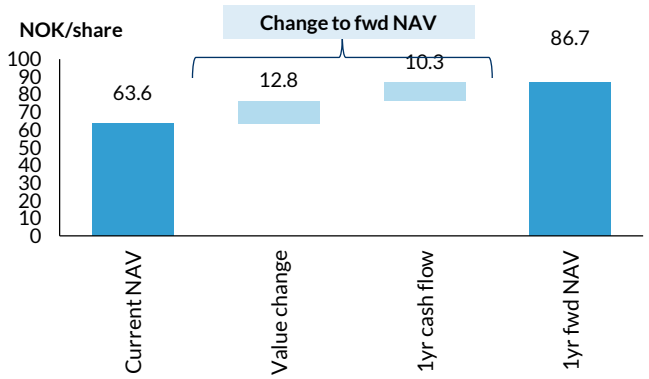
Given our view on vessel values, we see 20% upside in Golden Ocean Group's gross asset values, which translates into 35% upside on an equity net asset value basis. This brings our base case NAV to NOK87 per share versus NOK64, based on Clarkson's current asset values. The increase in our one-year forward NAV is driven by a NOK13 increase in fleet values (11% value increase taking into account vessels ageing one year), plus a NOK10 cash generation over the coming 12 months.

Chart 768: Net Asset Value (NAV) bridge for GOGL



Source: Kepler Cheuvreux

Chart 769: Bridge from current NAV to Base 1Y fwd. NAV



Source: Kepler Cheuvreux

Our NAV includes the following assumptions:

- **Gross asset values (GAV):** We value Golden Ocean Group's fleet at USD2,2bn based on current Clarkson values (including a 15% premium on post-Panamax vessels versus Kamsarmax vessels). The mark-to-market (MTM) value of USD17m includes the value of the time charter portfolio versus forwards freight rates. In our one-year forward estimates, we include the cash flow generated from vessels over the coming months, and adjust fleet values for vessels getting one year older.
- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to Golden Ocean Group's latest quarterly report, and thus balance sheet items are from Q4 2017 reporting. As we value the fleet on a fully-delivered basis, we include the remaining newbuild capex of USD144m to be paid in Q1 2018.

Table 70: Net asset value breakdown

NAV (USDm)	No. vessels	Age (avg.)	NAV Current	1 year forward NAV Base	Low	High
Fleet:						
Capesize	36	2.7	1,443	1,622	1,182	2,493
Panamax	28	5.8	608	658	369	1,278
Supramax	2	2.9	43	52	33	94
Fleet on water	**66**	**3.3**	2,095	2,333	1,584	3,865
Newbuildings	**2**	**0.0**	96	104	79	155
Total fleet value (USDm)	68	3.1	2,191	2,437	1,663	4,020
MTM contract portfolio			17	7	7	7
Discounted cash-flow 1yr				189	-21	309
GAV (USDm)			2,208	2,633	1,648	4,335
NIBD & other commitments (rel. last quarterly report)						
Cash			372	372	372	372
Total interest bearing debt			-1,267	-1,267	-1,267	-1,267
Other assets/liabilities			0	0	0	0
Other adjustments			0	0	0	0
Future capex			-145	-145	-145	-145
NIBD & other commitments			-1,040	-1,040	-1,040	-1,040
NAV (USDm)			1,168	1,593	608	3,296
# shares (fully delivered)			144.2	144.2	144.2	144.2
NAV/share (NOK)			64.0	87.3	33.3	180.6
Share price (NOK)			71.5	71.5	71.5	71.5
P/NAV			1.13x	0.83x	2.16x	0.40x
EV			2,354	2,354	2,354	2,354
EV/GAV			1.07x	0.89x	1.43x	0.54x

Note: Net Asset Value calculated on fully delivered fleet incl. newbuilds and announced vessel transactions. 1yr fwd. NAV includes operating cash generation.

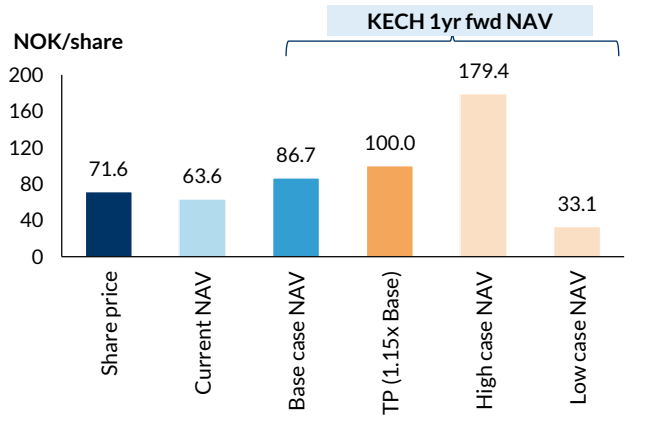
Source: Kepler Cheuvreux

We initiate coverage of GOGL with a Buy rating and TP of NOK100

We believe solid market fundamentals and historical low asset values are an attractive combination for dry bulk stocks. In addition, valuations are currently close to NAVs, which means that the upside is not already reflected in prices. Our peers trade at an average EV/GAV of 0.97x or implied five-year Capesize value of USD34m.

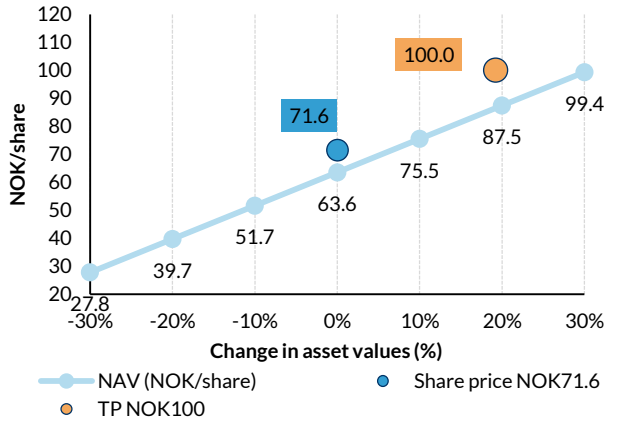
Although Golden Ocean Group has a premium valuation versus other peers (EV/GAV 1.08x or P/NAV 1.15x), we find the company to be one of the best investments in the dry bulk segment, and feel that the company deserves its premium valuation, due to its proven acquisition track record. In conclusion, we initiate coverage of Golden Ocean Group with a Buy rating and target price of NOK100. Of course, for the more risk-seeking investors, other dry bulk companies could offer higher upside potential, but with a more aggressive operational and financial leverage profile, which increases the overall risk.

Chart 770: Scenario valuation for GOGL



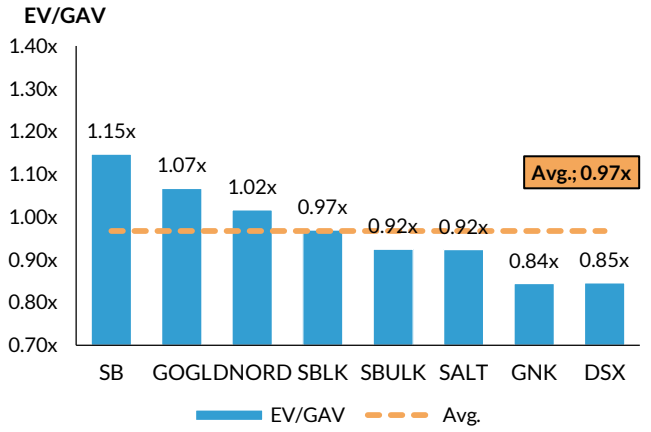
Source: Kepler Cheuvreux

Chart 771: Sensitivity for NAV versus changes in asset values



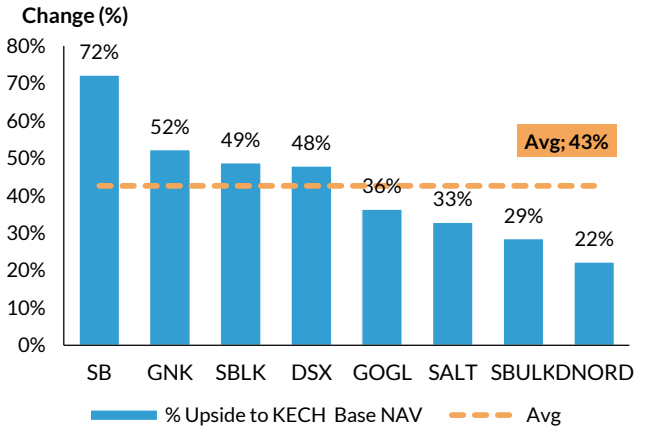
Source: Kepler Cheuvreux

Chart 772: Current EV/GAV for dry bulk peers



Source: Kepler Cheuvreux

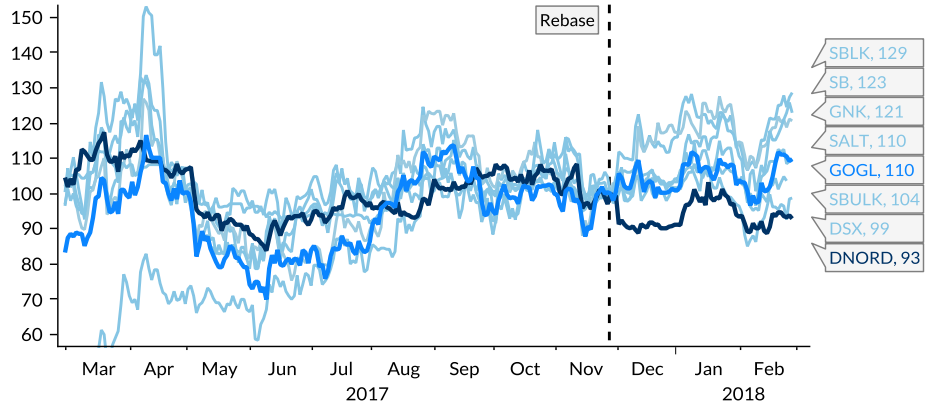
Chart 773: Upside in NAV to base-case scenario



Source: Kepler Cheuvreux

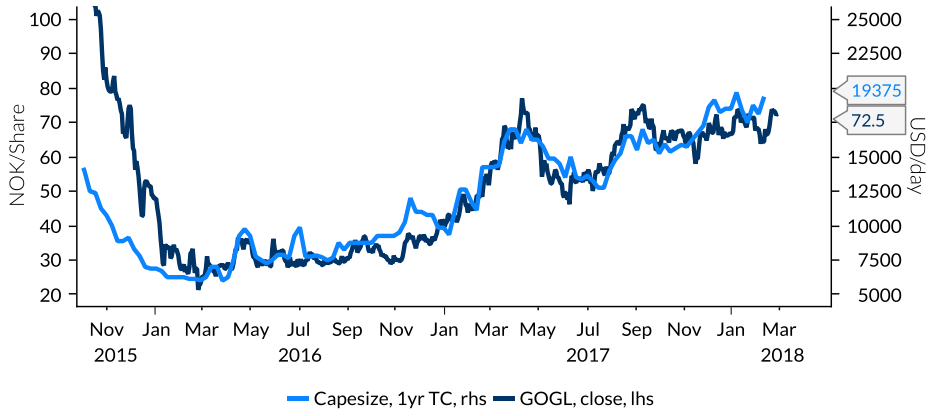
Supplementary figures

Chart 774: Share price development for dry bulk peers (rebased last three months)



Source: Macrobond, Kepler Cheuvreux

Chart 775: Golden Ocean share price versus Capesize 1Y TC rate



Source: Macrobond, Kepler Cheuvreux

Valuation metrics

Table 71: Valuation metrics

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			263.8	313.0	579.7
EV/EBITDA		2,354	8.9x	7.5x	4.1x
EPS adj. (USD)			0.75	1.12	3.00
P/E	71.6		12.0x	8.0x	3.0x
DPS			0.37	0.56	2.40
Yield (%)	71.6		4.2%	6.2%	26.7%
Net interest bearing debt			953.3	780.6	519.9
NIBD/EBITDA			3.6x	2.5x	0.9x

Source: Kepler Cheuvreux

Income statement

Table 72: P&L figures

Income statement (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
TCE revenues	363.1	479.2	542.7	816.4	97.3	125.0	110.4	105.0
Adjustments	-20.1	-18.0	-18.0	-11.6	-5.4	-2.5	-4.5	-4.5
TCE revenues reported	342.9	461.2	524.7	804.8	92.0	122.5	105.9	100.5
Gain/loss on sale of assets	-0.3	0.0	0.0	0.0	0.1	-0.5	0.0	0.0
OPEX	-132.2	-145.2	-157.8	-153.2	-37.2	-36.4	-35.2	-35.8
SGA	-12.6	-13.1	-13.1	-13.0	-3.2	-3.3	-3.2	-3.3
Charter hire expenses	-70.7	-58.6	-60.4	-72.0	-20.8	-20.4	-14.5	-14.0
Other operating items	2.0	1.5	1.5	1.5	1.6	-0.7	0.4	0.4
Depreciation	-78.1	-86.1	-88.0	-88.0	-21.2	-20.9	-19.9	-22.2
Impairment and value adjustments	-1.1	0.0	0.0	0.0	-1.1	0.0	0.0	0.0
Operating income/loss	50.1	159.7	207.0	480.1	10.1	40.3	33.4	25.7
Net financial interest	-57.3	-70.1	-63.5	-59.8	-15.7	-15.6	-15.9	-18.2
Other financial items	4.9	0.0	0.0	0.0	6.0	2.4	0.0	0.0
Profit before tax	-2.3	89.7	143.5	420.4	0.4	27.1	17.5	7.5
Taxes	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit reported	-2.3	89.7	143.5	420.4	0.4	27.1	17.5	7.5
Net profit adjusted	18.1	107.7	161.5	432.0	3.5	29.0	22.0	12.0
EBITDA reported	152.4	263.8	313.0	579.7	41.4	67.1	57.9	52.4
Adjustments	1.1	0.0	0.0	0.0	-0.9	-1.6	0.0	0.0
EBITDA adjusted	152.9	263.8	313.0	579.7	40.5	65.3	57.9	52.4
EPS	-0.02	0.62	1.00	2.92	0.00	0.20	0.12	0.05
EPS adj (USD)	0.13	0.75	1.12	3.00	0.03	0.21	0.15	0.08
DPS	0.10	0.37	0.56	2.40	0.00	0.10	0.08	0.04
No. of shares adj. (end)	142.2	144.2	144.2	144.2	132.4	142.2	144.2	144.2

Source: Kepler Cheuvreux

Balance sheet and cash flow

Table 73: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Cash & cash equivalents	309.0	375.5	286.2	461.7	123.9	309.0	310.3	315.5
Restricted cash	63.0	63.0	63.0	63.0	66.3	63.0	63.0	63.0
Other current assets	127.4	127.4	127.4	127.4	109.6	127.4	127.4	127.4
Vessels and newbuilds	2,322.8	2,423.7	2,335.7	2,247.7	2,443.4	2,322.8	2,489.9	2,467.7
Other long-term assets	47.9	29.9	11.9	0.3	51.7	47.9	43.4	38.9
Total assets	2,870.1	3,019.4	2,824.1	2,900.0	2,794.9	2,870.1	3,033.9	3,012.4
Interest bearing debt incl. capital lease	1,301.1	1,328.0	819.1	426.7	1,344.8	1,301.1	1,445.4	1,427.5
Refinanced IB debt	0.0	63.8	310.7	617.8	0.0	0.0	0.0	0.0
Other current liabilities	66.8	66.8	66.8	66.8	54.6	66.8	66.8	66.8
Other long term liabilities	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
Shareholder's equity	1,494.0	1,552.8	1,619.5	1,780.6	1,387.3	1,494.0	1,513.6	1,510.0
Total equity and liabilities	2,870.1	3,019.4	2,824.1	2,900.0	2,794.9	2,870.1	3,033.9	3,012.4
Net interest bearing debt	929.1	953.3	780.6	519.9	1,154.6	929.1	1,072.2	1,049.1
Equity ratio (%)	62%	62%	67%	77%	55%	62%	59%	59%

Cash flow (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Net profit	-2.3	89.7	143.5	420.4	0.4	27.1	17.5	7.5
Depreciation, amort. & impairments	108.2	104.1	106.0	99.6	28.8	26.9	24.4	26.7
Change working capital	-8.3	0.0	0.0	0.0	1.6	6.0	0.0	0.0
Other non-cash items	-4.1	0.0	0.0	0.0	-4.6	-3.1	0.0	0.0
Cash flow from operations	93.4	193.8	249.5	520.0	26.2	56.9	42.0	34.2
Investment in newbuilding and vessels	-157.8	-153.0	-8.0	-8.0	-30.0	-5.1	-149.0	0.0
Proceeds from sale of vessels	134.2	0.0	0.0	0.0	0.0	134.2	0.0	0.0
Other investing activities	-2.6	0.0	0.0	0.0	9.2	3.4	0.0	0.0
Cash flow from investing	-26.2	-153.0	-8.0	-8.0	-20.8	132.4	-149.0	0.0
Repayment of debt	-168.6	-144.8	-513.1	-416.5	-4.2	-93.6	-27.3	-17.9
Proceeds from new debt	75.0	150.0	0.0	0.0	0.0	25.0	150.0	0.0
Proceeds from refinanced debt	0.0	63.8	251.1	331.2	0.0	0.0	0.0	0.0
Share issue (repurchase)	122.5	0.0	0.0	0.0	0.0	64.3	0.0	0.0
Dividends paid	0.0	-43.4	-68.8	-251.2	0.0	0.0	-14.4	-11.1
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cash flow from financing	28.9	25.7	-330.8	-336.5	-4.2	-4.2	108.3	-29.0
Change in cash and cash equivalents	96.1	66.4	-89.3	175.5	1.2	185.1	1.3	5.2
Cash balance period-in	212.9	309.0	375.5	286.2	122.7	124.0	309.1	310.3
Cash balance period-out	309.0	375.4	286.2	461.7	124.0	309.1	310.3	315.5

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	30.7	62.8	107.9	195.2	363.1	479.2	542.7	816.4
% Change	-12.9%	104.2%	71.9%	80.9%	86.0%	32.0%	13.3%	50.4%
EBITDA adjusted	17.9	39.0	-18.3	23.3	152.9	263.8	313.0	579.7
EBITDA margin (%)	58.2%	62.2%	-17.0%	11.9%	42.1%	55.1%	57.7%	71.0%
EBIT adjusted	6.8	19.5	-71.0	-40.2	74.8	177.7	225.0	491.7
EBIT margin (%)	22.2%	31.0%	-65.8%	-20.6%	20.6%	37.1%	41.5%	60.2%
Net financial items & associates	-2.8	-2.5	-27.4	-42.5	-57.3	-70.1	-63.5	-59.8
Others	-0.5	-0.7	-122.2	-45.2	-19.8	-18.0	-18.0	-11.6
Tax	0.0	0.0	-0.2	0.2	0.0	0.0	0.0	0.0
Net profit from continuing operations	3.5	16.3	-220.8	-127.7	-2.3	89.7	143.5	420.4
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	3.5	16.3	-220.8	-127.7	-2.3	89.7	143.5	420.4
Net profit reported	3.5	16.3	-220.8	-127.7	-2.3	89.7	143.5	420.4
Net profit adjusted	3.5	16.3	-98.6	-82.3	18.1	107.7	161.5	432.0
Cash Flow Statement (USDm)								
Cash flow from operating activities	12.3	24.9	-14.8	-23.4	93.4	193.8	249.5	520.0
Capex	-26.7	-381.5	-517.9	-267.5	-157.8	-153.0	-8.0	-8.0
Free cash flow	-14.4	-356.6	-532.7	-291.0	-64.4	40.8	241.5	512.0
Acquisitions & Divestments	17.1	0.0	381.7	97.8	134.2	0.0	0.0	0.0
Dividend paid	-18.2	-29.0	0.0	0.0	0.0	-43.4	-68.8	-251.2
Others	51.2	61.1	244.9	198.9	119.9	0.0	0.0	0.0
Change in net financial debt	35.7	-324.5	93.9	5.7	189.7	-2.6	172.7	260.8
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	289.5	1,176.0	1,835.2	1,942.5	2,322.8	2,423.7	2,335.7	2,247.7
Financial & other non-current assets	0.7	3.5	91.3	65.4	47.9	29.9	11.9	0.3
Total shareholders' equity	307.4	884.3	1,158.6	1,238.7	1,494.0	1,552.8	1,619.5	1,780.6
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	102.4	378.5	1,020.0	1,122.9	1,376.0	1,466.6	1,204.7	1,119.4
Net financial debt	-18.3	302.4	816.1	808.9	929.1	953.3	780.6	519.9
Working capital requirement	-0.9	7.1	56.8	47.9	60.5	60.5	60.5	60.5
Invested Capital	288.5	1,183.1	1,892.0	1,990.4	2,383.3	2,484.2	2,396.2	2,308.2
Per share data								
EPS adjusted	0.13	0.29	-2.86	-0.78	0.13	0.75	1.12	3.00
EPS adj and fully diluted	0.13	0.29	-2.86	-0.78	0.13	0.75	1.12	3.00
% Change	-46.6%	128.6%	-chg	+chg	+chg	466.6%	50.0%	167.5%
EPS reported	0.13	0.29	-6.39	-1.21	-0.02	0.62	1.00	2.92
Cash flow per share	0.45	0.45	-0.43	-0.22	0.68	1.34	1.73	3.61
Book value per share	11.20	15.99	33.55	11.69	10.88	10.77	11.23	12.35
Dividend per share	0.70	0.45	0.00	0.00	0.10	0.37	0.56	2.40
Number of shares, YE (m)	6.09	16.02	34.54	105.97	142.20	144.20	144.20	144.20
Ratios								
ROE (%)	1.2%	2.7%	-9.7%	-6.9%	1.3%	7.1%	10.2%	25.4%
ROIC (%)	2.3%	2.6%	-4.6%	-2.1%	3.4%	7.3%	9.2%	20.9%
Net fin. debt / EBITDA (x)	-1.0	7.7	-44.6	34.7	6.1	3.6	2.5	0.9
Gearing (%)	-5.9%	34.2%	70.4%	65.3%	62.2%	61.4%	48.2%	29.2%
Valuation								
P/E adjusted	47.9	27.6	na	na	68.7	12.1	8.1	3.0
P/E adjusted and fully diluted	47.9	27.6	na	na	68.7	12.1	8.1	3.0
P/BV	0.5	0.5	0.4	0.8	0.8	0.8	0.8	0.7
P/CF	13.7	18.0	na	na	13.3	6.7	5.2	2.5
Dividend yield (%)	11.4%	5.6%	0.0%	0.0%	1.1%	4.1%	6.2%	26.5%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-38.4%	-274.8%	-118.1%	-30.3%	-5.0%	3.1%	18.5%	39.2%
EV/Sales	0.6	6.9	11.7	9.1	6.1	4.7	3.8	2.2
EV/EBITDA	1.1	11.1	na	75.9	14.5	8.6	6.7	3.1
EV/EBIT	2.8	22.2	na	na	29.6	12.7	9.3	3.7

Hoegh LNG

Norway | Transport | Mcap NOK 4.3bn

02 March 2018

Buy (Not Rated)

Target Price	**70.00**
Current Price	55.90
Up/downside	25.2%
Change in TP	none
Change in EPS	none 16E / none 17E

Global leader in protected and growing market at share discount

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Höegh LNG is a global leader in the floating storage and regasification unit (FSRU) market, which has considerable barriers to entry due to its critical function in the gas supply chain. We believe in the long-term growth outlook for the FSRU market due to: 1) gas's environmental supremacy among fossil fuels; 2) FSRUs' superior flexibility; and 3) their cost advantages over land-based regasification terminals. After the recent sell-off in HLNG's shares due to, in our view, temporary setbacks in the group's contract portfolio, we find the shares at a significant discount to our underlying SOP values (even assuming margin compression on new projects). We initiate coverage with a Buy rating and target price NOK70.

World's leading FSRU provider

Höegh LNG (listed on Oslo Stock Exchange) is the World's leading operator of FSRUs with a current ownership of ten units. The company pursues a strategy of employing its assets on fixed-income contracts of 10-20 years with an unlevered IRR of c. 10-12%, and has so far secured contracts for seven of its FSRU vessels. In addition, the company owns two steam-engine LNG carriers, both fixed at 20-year long fixed income contracts.

Growth to the rescue

We estimate that the LNG market is set to experience unprecedented growth. Gas's attractiveness as a clean energy carrier, combined with strong liquefaction capacity growth and the advantage held by FSRUs over land-based solutions make us confident that HLNG is likely to secure profitable contracts for its three uncontracted units. We expect the group to reach a consolidated EBITDA of USD280m by 2020E on new vessel deliveries, up from USD178m in 2018E.

We initiate coverage with a Buy rating and a TP of NOK70

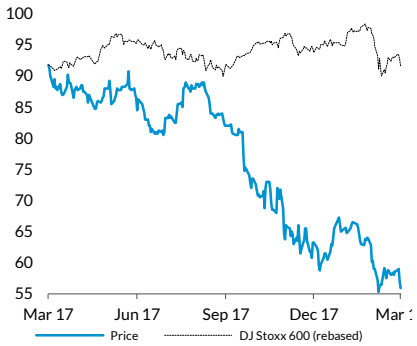
Our valuation is based on a sum-of-parts (SOP) DCF model for HLNG's vessels, taking into account the company's fixed income contracts. Although we have assumed spot trading for new FSRUs until project starts and an EBITDA compression to USD33m for new projects (from typical guidance of USD36m), we still find the economics of the HLNG investment case compelling. Combined with a current discount to our base-case SOP (NOK70 per share), we see enough upside in HLNG to warrant a Buy rating. We set our TP at NOK70 (which is 1.0x base-case SOP), implying c. 25% upside from current share prices.

Market data

Bloomberg: HLNG NO	Reuters: HLNGH.OL
Market cap (NOKm)	4,295
Free float	60%
No. of shares outstanding (m)	77
Avg. daily volume (NOKm)	7.0
YTD abs performance	-14.0%
52-week high/low (NOK)	91.25/55.30

FY to 31/12 (USD)	12/18E	12/19E	12/20E
Sales (m)	312.2	365.8	436.9
EBITDA adj (m)	177.8	219.5	284.1
EBIT adj (m)	124.4	151.3	211.6
Net profit adj (m)	39.1	56.5	119.2
Net fin. debt (m)	1,413.2	1,528.5	1,409.7
FCF (m)	-284.6	7.1	261.7
EPS adj. and fully dil.	0.51	0.74	1.57
Net dividend	0.10	0.10	0.50

FY to 31/12 (USD)	12/18E	12/19E	12/20E
P/E adj and ful. dil.	13.8	9.5	4.5
EV/EBITDA	11.0	9.4	6.9
EV/EBIT	15.7	13.7	9.2
FCF yield	-52.9%	1.3%	48.7%
Dividend yield	1.4%	1.4%	7.1%
Net fin.debt/EBITDA	7.9	7.0	5.0
Gearing	200.0%	190.3%	165.9%
ROIC	6.6%	6.8%	9.2%
EV/IC	0.9	0.9	0.9



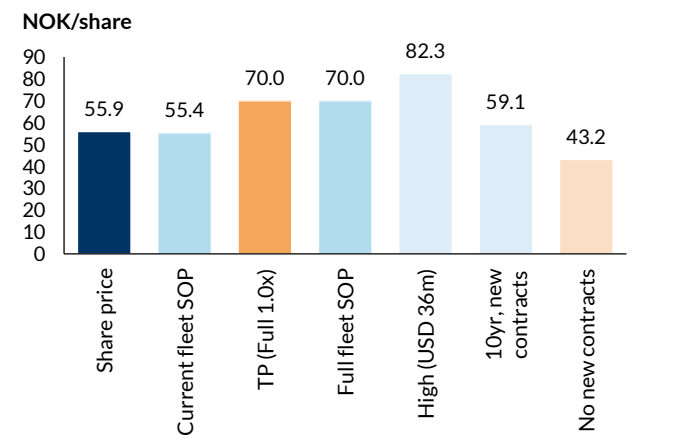
Investment summary

Höegh LNG is listed on the Oslo Stock Exchange (exchange ticker: HLNG) with a focus on the floating storage and regasification (FSRU) segment of the LNG market. The company owns and operates a fleet of ten FSRU vessels (including three newbuilds) and two steam-turbine LNG carriers. The group pursues a strategy of employing its vessels on long-term fixed-income contracts (10-20 years).

We think that the LNG market is set to experience unprecedented growth, and with higher fleet utilisation, we expect to see higher LNGC rates. This should also benefit the FSRU segment, and we maintain an overall positive stance on HLNG due to the strong growth in liquefaction capacity, combined with the attractiveness of gas as a clean energy carrier (versus other fossil fuels). In addition, FSRUs are considerably cheaper and flexible than land-based solutions. We expect Höegh LNG to reach a consolidated EBITDA of USD280m by 2020E, driven by a gradual increase in the project contributions, which are set to rise from USD230m in 2018E to USD330m by 2020 as new vessels enter the fleet. Our estimates are in line with consensus for 2018-19E, but slightly higher for 2020E. In our view, our positive stance on LNGC spot rates is likely to offset part of the negative impact from our anticipation that several new FSRUs are unlikely to enter new contracts before 2020.

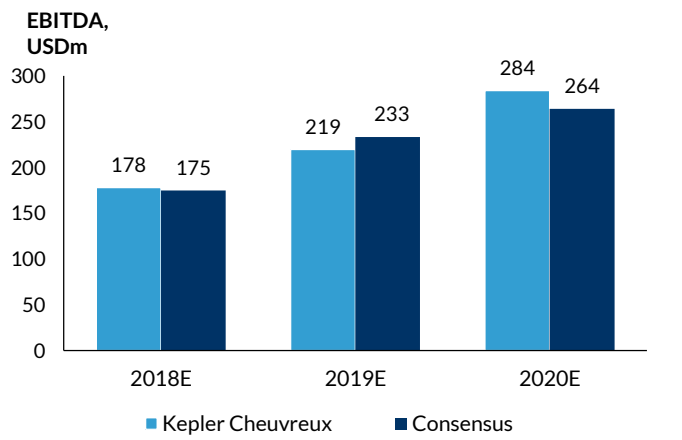
Our valuation is based on a sum-of-the-parts (SOP) and DCF model for HLNG's vessels, taking into account the company's fixed-income contracts. Overall, we find the current strong discount to our base-case SOP valuation (NOK70 per share) to be enough to warrant a Buy. Although we have assumed spot trading for new FSRUs until project start and an EBITDA compression to USD33m for new projects (from typical guidance USD36m), we still find the economics of the HLNG investment case compelling. We set our TP at NOK70 (1x base-case SOP) implying and upside c. 25% from current share price.

Chart 776: Sum-of-the-parts valuation (KECH scenarios)



Source: Kepler Cheuvreux

Chart 777: HLNG EBITDA, Kepler Cheuvreux versus consensus



Source: Bloomberg consensus, Kepler Cheuvreux

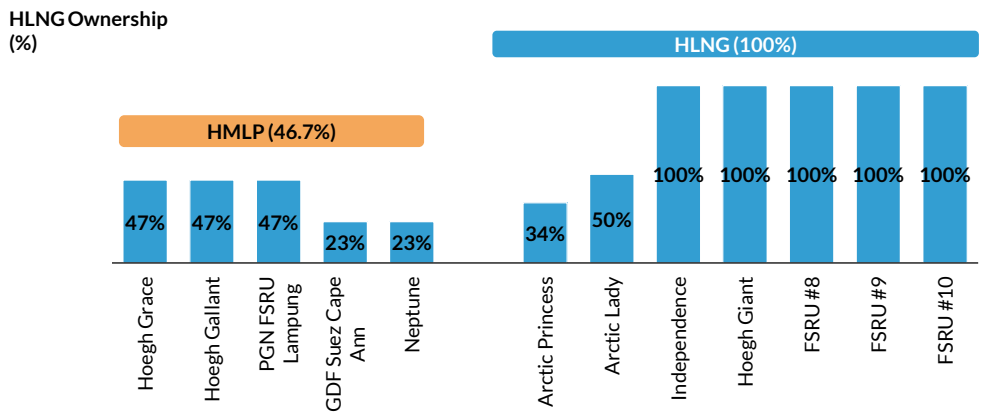
Höegh LNG in brief

Leading provider of floating storage and regasification units (FSRUs)

Höegh LNG is listed on the Oslo Stock Exchange (exchange ticker: HLNG) with a focus on the floating storage and regasification (FSRU) segment of the LNG market. The company owns and operates a total fleet of ten FSRU vessels (including three newbuilds) and two steam-turbine (ST) LNG carriers. Five of its vessels are owned through a master limited partnership or MLP[15] (Höegh LNG Partners), listed on the New York Stock Exchange (exchange ticker: HMLP). Höegh LNG Partners completed its IPO on the New York Stock Exchange in 2015, and has since purchased two FSRUs from HLNG (Höegh Gallant and Höegh Grace).

Currently, Höegh LNG (HLNG) owns 47% of the outstanding units (shares) in HMLP, in addition to 100% of the company's incentive distributional rights (IDRs). The IDRs represent HLNG's right to receive an increasing percentage of the cash distribution to unitholders, as HMLP increases its dividend payments.

Chart 778: Proportionate ownership for Höegh LNG (HLNG) in the underlying assets



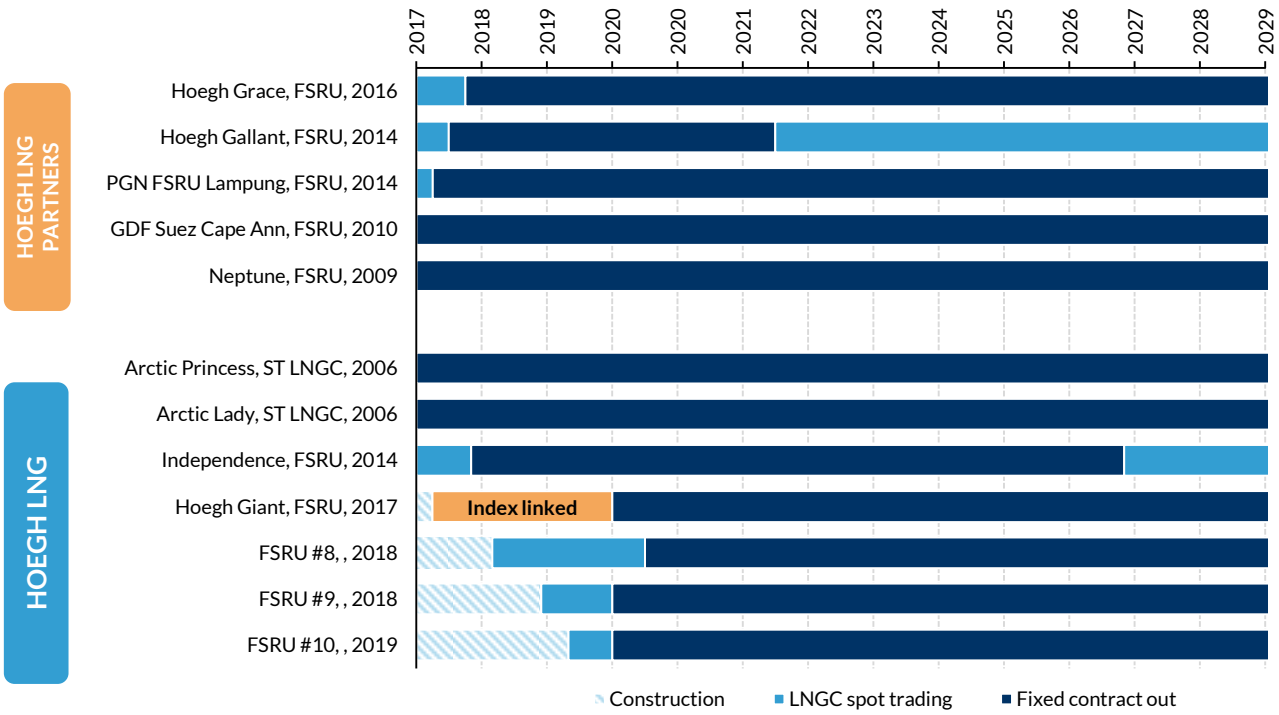
Source: Kepler Cheuvreux, company information

Currently, the total consolidated fleet of both HLNG and HMLP consists of ten FSRU vessels (including three newbuilds) and two ST LNG carriers. Höegh LNG's strategy is to employ its vessels on long-term fixed-income contracts, and of the nine vessels currently on the water, six have fixed 20-year contracts, one is on a ten-year contract, one is on a three-year contract and the last is on a five-year contract. That said, the three newbuilds set to be delivered in Q1 2018-Q2 2019, have not yet determined contract terms.

[15] Master limited partnership (MLP) is a publicly traded limited partnership created for the purpose of combining the tax legislation of a US limited partnership with the liquidity offered by a publicly traded company. Such a setup is common in the infrastructure and energy sectors, and typically requires underlying assets to have long fixed-income contracts.

Vessel employment

Chart 779: Estimated fleet employment table for Höegh LNG



Source: Höegh LNG, Kepler Cheuvreux

The vessels owned by Höegh LNG Partners (HMLP) are:

- **Höegh Grace (FSRU, 2016 built):** The vessel is contracted out to Sociedad Portuaria El Cayao (SPEC) for a 20-year period that began in December 2016. The FSRU is positioned in Cartagena, Colombia and is expected to contribute annual EBITDA of USD42m (note: USD40m adjusted for higher taxes). The Grace was originally delivered to Höegh LNG Holdings, but it was dropped down to Höegh LNG Partners via two transactions (51% in January 2017 and 49% in December 2017). Over the course of the two transactions, Höegh LNG Holdings received a total of USD178m in equity proceeds. The FSRU is fully owned by Höegh LNG Partners.
- **Höegh Gallant (FSRU, 2014 built):** The Gallant is currently on a five-year project (start May 2015) in Ain Sokhna, Egypt for the Egyptian Natural Gas Holding Company (EGAS). Annual EBITDA is expected to be USD38m. The Gallant was dropped down to Höegh LNG Partners in 2015, and the FSRU is fully owned by Höegh LNG Partners.
- **PGN FSRU Lampung (FSRU, 2014 built):** The vessel is employed on a 20-year project in the Lampung Province of Indonesia. The project began in July 2014 and is expected to contribute USD40m in EBITDA per year. The PGN project was sold to the MLP in August 2014, and the FSRU is fully owned by Höegh LNG Partners.
- **GDF Suez Cape Ann (FSRU, 2010 built):** The vessel is 50% owned by Höegh LNG Partners, 48.5% by Mitsui O.S.K Lines (MOL) and 1.5% by Tokyo LNG Tanker. It was employed on a 20-year contract in China for Engie, but in

November 2017, Total purchased Engie's LNG activities. The contract for the GDF Suez Cape Ann has thus been transferred to Total. The estimated annual EBITDA is USD33m.

- **Neptune (FSRU, 2009 built):** This vessel is the same as the GDF Suez Cape Ann, but chartered out to a project in Turkey. Its estimated annual EBITDA is USD33m.

The vessels owned by Höegh LNG Holdings (HLNG) are:

- **Arctic vessels (two steam turbine LNGCs, 2006 built):** The Arctic Princess and the Arctic Lady are owned by Höegh LNG through the JV Joint Gas Ltd and Joint Gas Two Ltd, in which HLNG has a 34% and 50% ownership stake, respectively. That said, the vessels are chartered in to Höegh LNG via a long-term bareboat charter for c. USD48,000 per day (excl. opex). Höegh LNG has chartered out these vessels to Statoil and Total on 20-year contracts for c. USD70,000 per day. The contracts began in January 2006 and April 2006.
- **Independence (FSRU, 2014 built):** The FSRU is on a ten-year contract in Klaipeda, Lithuania with annual EBITDA of USD47m. The contract started in 2015, and the vessel is fully owned by Höegh LNG Holdings.
- **Höegh Giant (FSRU, 2017 built):** The Giant was delivered to Höegh LNG in April 2017, and it is currently trading as an LNG carrier until early 2018. Originally, the Giant was assigned to Höegh LNG's long-term project in Ghana, but in the Q3 presentation, Höegh announced that the vessel would instead be assigned to a three-year time-charter contract with Gas Natural Fenosa. This contract has a rate structure that is dependent on the use of the Giant as either an LNGC or an FSRU. In our model, we expect Höegh Giant to be used as an LNGC at the beginning of the contract, with conversion to a longer 20-year FSRU contract as of January 2020.
- **FSRU #8 (delivery Q1 2018):** The vessel is intended for Höegh LNG's project in Chile with GNL Penco. In early 2017, the start-up of this project was delayed by 12-18 months, i.e., until end-2019 or Q2 2020. Thus, we expect the FSRU to trade as an LNG carrier until contract start-up in mid-2020, unless other contracts are announced.
- **FSRU #9 (delivery Q4 2018):** Originally, FSRU #9 was assigned to Höegh LNG's project in Pakistan with Global Energy Infrastructure, but in November 2017, the charter agreement was terminated, leaving FSRU #9 in an open position. However, we still think that this FSRU will be assigned to Höegh LNG's project in Ghana instead, a long-term charter with Quantum Power. The project remains subject to government approval, but in our model, we have estimated a project start-up in early 2020E.
- **FSRU #10 (delivery Q2 2019):** Höegh LNG's strategy is to always have an "open" FSRU newbuild ready for new contract assignments. FSRU #10 is currently not assigned to any project, but we expect the group to secure a contract for this vessel before delivery. In our model we include a contract start-up in early 2020E.
- **FSRU #11-12 (not yet ordered):** Given Höegh's strategy of "open" FSRUs, we expect other shipbuilding contracts for FSRUs once fixed contracts are determined for the current newbuilds. Previously, Höegh announced that a reasonable fleet size for the current organisation is 12 FSRUs.

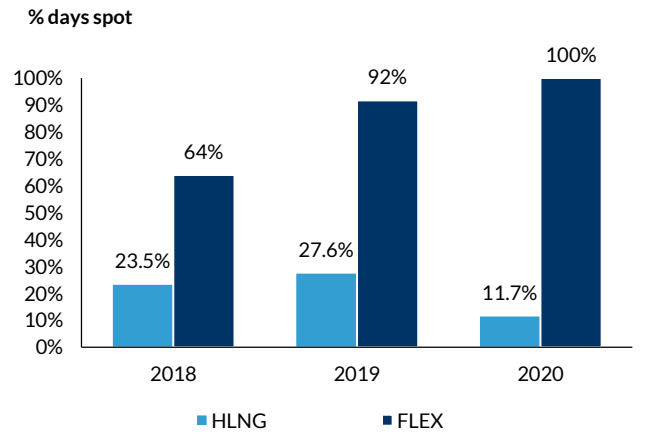
Overall, most of Höegh LNG's vessels are on fixed contracts, but some vessels still have to be determined. We have made the following assumptions for Höegh LNG's uncertain positions:

- **Höegh Giant** will trade as an LNG carrier (index-linked contract) for the initial part of the Gas Natural Fenosa contract. In 2020E, we assume a conversion to a long-term FSRU contract.
- **FSRU #8:** We assign this vessel to the Chilean project, but we assume a start-up in mid-2020 (June). Hence, the vessel will trade as an LNG carrier until delivery on our estimates.
- **FSRU #9:** We assign this vessel to the Ghana project and assume a start-up in January 2020E.
- **FSRU #10:** We assign this vessel to an unknown project at this time and assume a start-up in January 2020E. Hence, the vessel trades at spot as an LNG carrier until 2020E on our estimates.

Potential support from improving LNG rates, but still contract risk

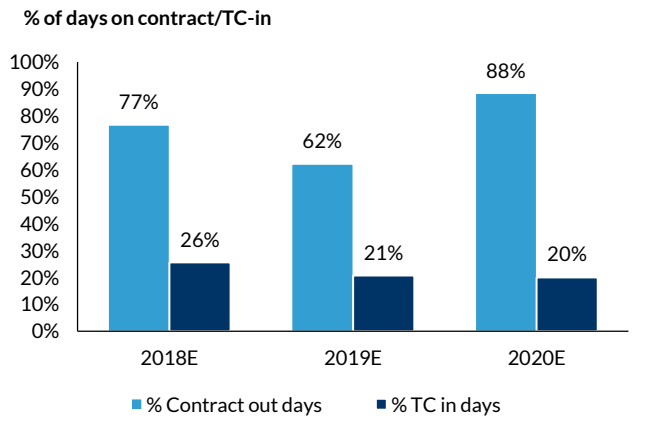
Given our estimated fleet employment schedule, Höegh will have a fully delivered fleet by late 2019E, with most vessels on long-term fixed-income contracts by 2020E. This strategy differentiates Höegh LNG from its peer Flex LNG (FLNG), whose fleet is almost fully exposed to the LNG spot market. While this means that Höegh is less exposed to rate fluctuations in the spot LNGC market, Höegh is still highly exposed to contract specific risks. That said, all of the group's FSRUs have the option to function as normal LNG C vessels if no regasification demand is found. Thus, our optimistic outlook for LNG carriers also supports the group's FSRU earnings.

Chart 780: Spot exposure versus FLNG (% available days)



Source: Kepler Cheuvreux

Chart 781: HLNG, contract portfolio (% of available days)



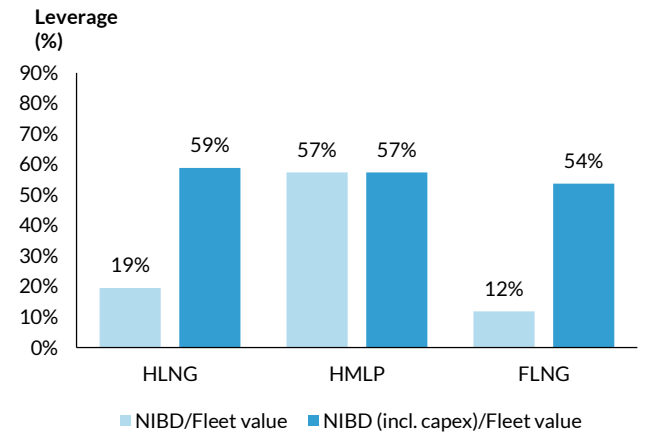
Source: Kepler Cheuvreux

Newbuild financing and capex

As of Q4 2017, Höegh LNG had a remaining capital expenditure of USD630m on its shipbuilding contracts, of which USD 400m is due in 2018. In July 2017, the company announced that it had secured financing for FSRU #8 through a USD230m facility with a 3.9% fixed interest rate and a ten-year blended tenor. Most of Höegh LNG's debt consists of fixed interest financing secured for each specific vessel. In

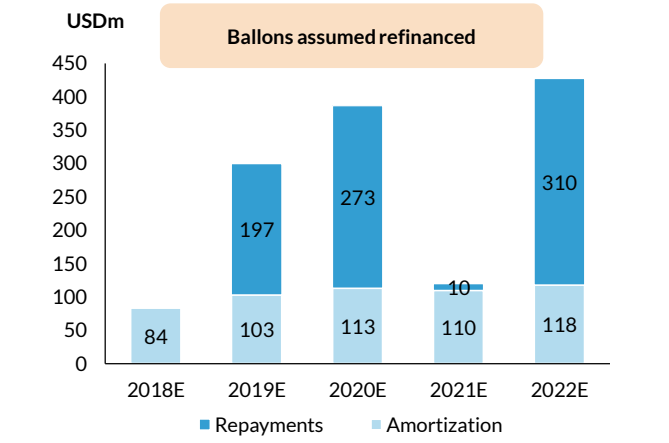
addition, Höegh currently has two unsecured bonds for a total outstanding amount of USD310m (HLNG02, 6.6% and HLNG03, 7.7%). The bond financing provides Höegh with liquidity until further secured facilities are finalised for the newbuilds. As a rule-of-thumb, Höegh LNG's financing solutions allow for 65% leverage on vessels without contracts, increasing to 75% once long-term employment is secured.

Chart 782: LNG peers, net leverage ratio versus fleet value



Source: Kepler Cheuvreux

Chart 783: HLNG, estimated debt repayment schedule



Source: Kepler Cheuvreux, company information

In our model, we assume Höegh can achieve USD195m in debt financing for FSRU #9 and FSRU #10, and we assume a 15-year amortisation profile and 4% fixed interest rate. Given our assumptions, debt amortisation for the total consolidated company will reach c. USD100-115m as of 2019E. Höegh has no major debt instalments before 2019, when the balloon payment for the Höegh Gallant facility and part of the facility for the Independence comes due.

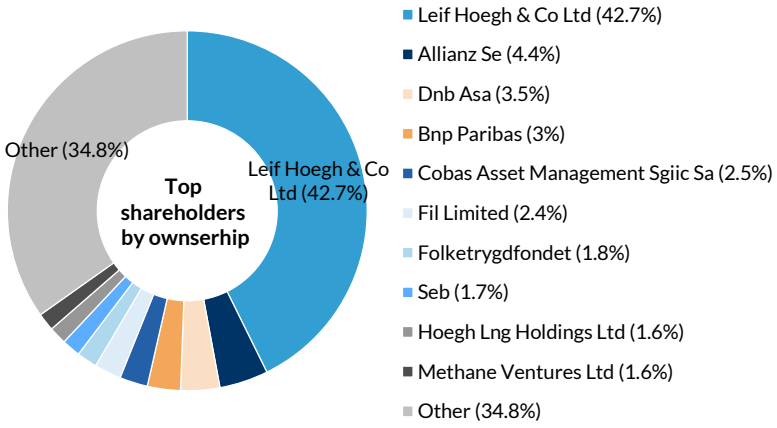
Management and shareholder structure:

In the following section, we provide an outline of Höegh LNG's executive management team:

- **Sveinung J. S. Støhle (CEO)** has been the President and Chief Executive Officer of Höegh LNG through his employment at Höegh LNG AS since 2005. He is also the Chairman of Höegh LNG Partners LP. He has more than 25 years of experience in the LNG industry with both shipping and oil & gas companies. Prior to working at Höegh LNG, he held positions as the President of Total LNG USA, Inc., Executive Vice President and Chief Operating Officer of Golar LNG Ltd., General Manager Commercial of Nigeria LNG Ltd., as well as various positions at Elf Aquitaine.
- **Steffen Føreid (CFO)** has served as the Chief Financial Officer of Höegh LNG AS since 2010. In 2008-10, he was the CFO of and advisor to Grenland Group ASA. In 2002-07, he held various positions while engaged in the restructuring of Kværner ASA, including Executive Vice President during a management buy-out of Kværner ASA and Vice President of Group Business Development at Aker Kværner ASA. During 1996 to 2001, he worked in Corporate and Investment Banking at JPMorgan Chase & Co.

Leif Höegh is the largest shareholder in Höegh LNG, with an ownership stake of c. 43%.

Chart 784: Shareholder structure



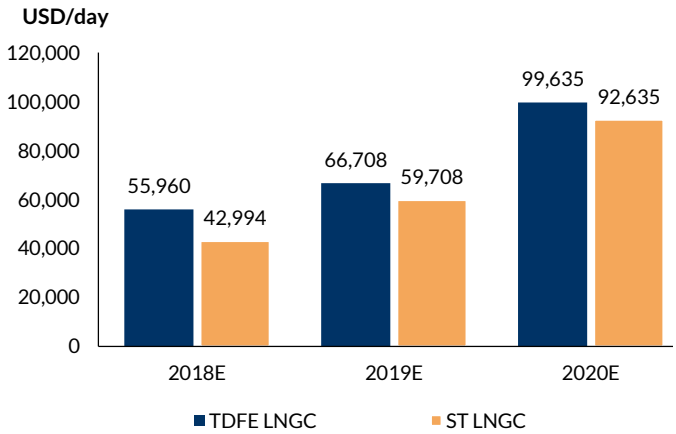
Source: Bloomberg, Kepler Cheuvreux

Deconstructing the forecast

LNG market: we expect high rates on the back of strong utilisation

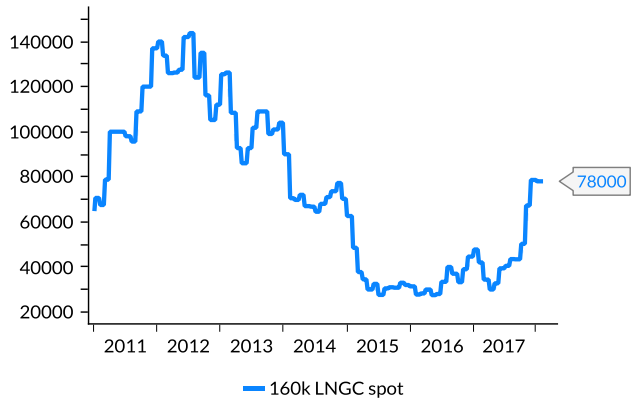
We think that the LNG market is set to grow strongly. We expect the LNG trade to grow on average 12% per year over the next three years, while the fleet is expected to grow just shy of 8% per year. With higher fleet utilisation, we expect to see higher rates, and in 2020E, we expect to see six-digit rates again (the last time was in 2012). As in previous years, the main risk to the investment case is the potential delays in new liquefaction capacity. That said, with Russia's Yamal project now exporting its first gas ahead of schedule and the ramp-up of US liquefaction capacity going to plan, there is now less risk than in previous years when new capacity was in more remote and less developed locations. While we expect the LNG fleet to grow considerably, we feel confident that demand growth is set to outpace supply growth (**see sector part LNG).**

Chart 785: KECH freight rate forecast for spot LNGC (includes one month lag for companies)



Source: Kepler Cheuvreux

Chart 786: TDFE LNGC, historical spot rates



Source: Clarkson, Kepler Cheuvreux

FSRU: we remain optimistic, despite some margin compression

Currently there are 28 FSRUs in the market, three of which are idle, implying a utilisation rate of c. 90%. There are another 12 in the order book, half of which has contracts assigned. The order book implies five deliveries in 2018, three in 2019 and two in both 2020 and 2021. Talking to market participants, we see at least 16 publicly known projects that will need an FSRU. Out of these, we expect at least two to conclude in H1 2018. In addition to the public tender processes, there is, to our understanding, at least the same level of activity in the non-public market. That said, we think the latter has eased somewhat in recent months.

Overall, we are confident that the FSRU market is set to grow, due to: 1) overall growth in liquefaction capacity; 2) gas's attractiveness as a clean energy carrier, compared with other fossil fuels; and last but not least 3) the fact that FSRUs are considerably cheaper than the land-based solutions as well as more flexible, since they can be used both as LNG transportation vessels and moved to new locations. In conclusion, given FRSUs' superior flexibility and cost advantages over land-based solutions, we are optimistic about HLNG's investment case.

That said, we expect the market to see some margin compression on tougher competition. In our model, we have included new projects with an annual EBITDA contribution of USD33m and 20-year contract length for Höegh LNG (versus USD36m EBITDA and 20-year contract length as typical guidance for current spot FSRU EBITDA). The following table illustrates the sensitivity on project profitability of different EBITDA and contract lengths for an FSRU project. We estimate this based on a DCF model for a newbuild FSRU, in which we assume total delivery cost of USD248m (given Clarkson's quote of USD235m in yard payment), combined with a 75% debt leverage at a 4% interest rate and 15-year amortization profile.

Table 74: Project IRR in new FSRU project given USD33m EBITDA (Normal guiding = USD36m)

Unlevered project IRR (%)		Contract duration (years)					
		5	10	15	20	25	30
EBITDA per year (USDm)	26	7.8%	8.0%	**8.2%**	8.5%	8.7%	9.0%
	28	8.4%	8.7%	**9.0%**	9.3%	9.5%	9.8%
	30	9.1%	9.4%	**9.7%**	10.0%	10.3%	10.5%
	31	9.4%	9.8%	**10.1%**	10.4%	10.7%	10.9%
	32	9.7%	10.1%	**10.5%**	10.8%	11.1%	11.3%
	33	**10.0%**	**10.5%**	**10.9%**	11.2%	**11.4%**	**11.6%**
	34	10.3%	10.8%	**11.2%**	11.5%	11.8%	12.0%
	35	10.6%	11.2%	**11.6%**	11.9%	12.2%	12.3%
	36	10.9%	11.5%	**11.9%**	12.3%	12.5%	12.7%
	38	11.5%	12.2%	**12.6%**	13.0%	13.2%	13.4%
	40	12.1%	12.9%	**13.3%**	13.7%	13.9%	14.1%
	42	12.7%	13.5%	**14.0%**	14.4%	14.6%	14.7%

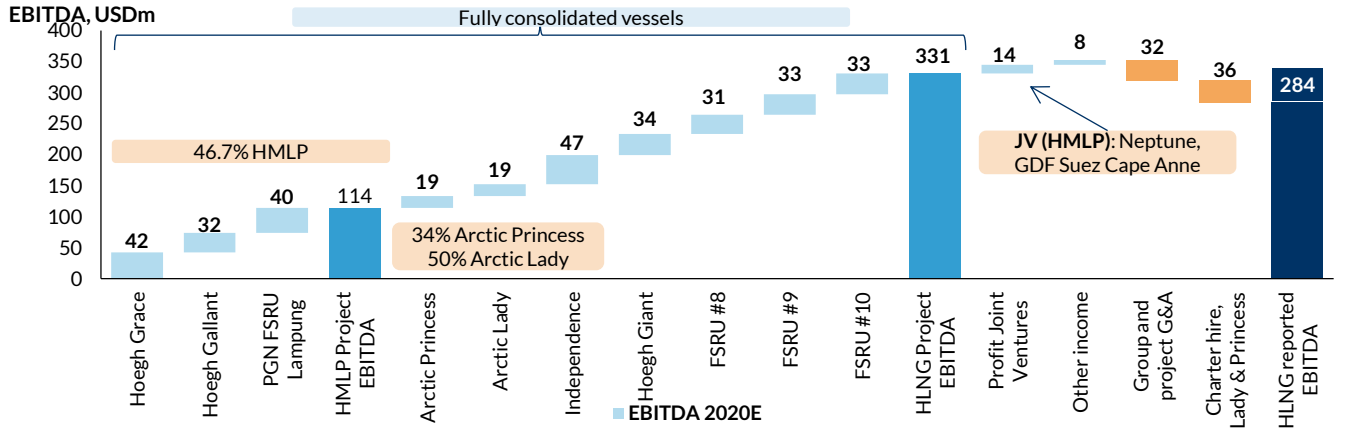
Source: Kepler Cheuvreux

We expect Höegh LNG to reach USD284m in EBITDA by 2020

Given our outlook for new FSRU projects, we expect Höegh LNG to reach a consolidated EBITDA of USD284m by 2020E. By that time, all newbuild vessels will have been delivered to the group, and two out of three new FSRUs assigned to a long-term contract in our base-case estimates. The underlying contribution from the HMLP project will be USD114m, while the contribution from HLNG projects will be

USD331m. In addition, HLNG's accounts are affected by vessels accounted for as joint ventures, group and project SGA that are not allocated to the specific vessel projects and charter-hire on the two Arctic LNGC vessels.

Chart 787: HLNG consolidated EBITDA, 2020E



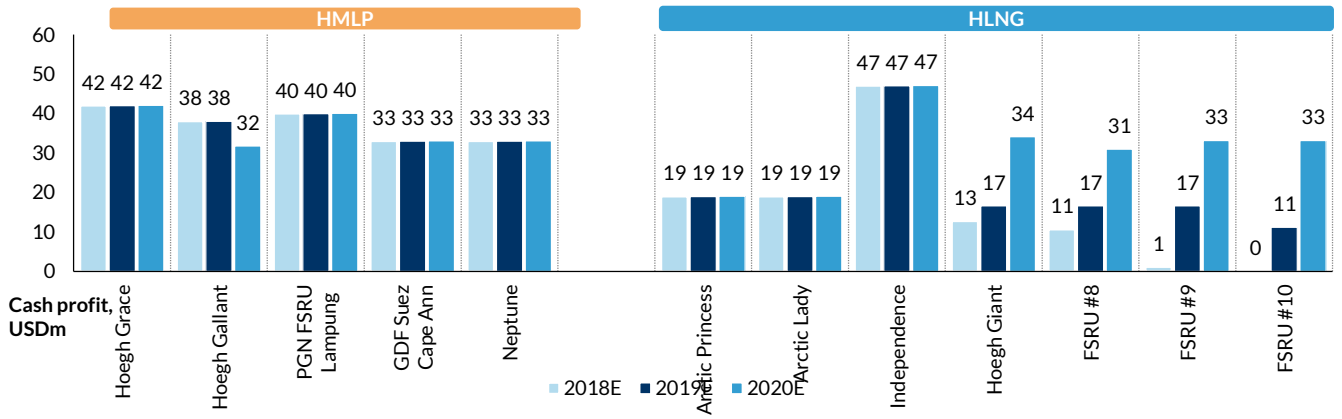
Source: Kepler Cheuvreux

Our EBITDA estimates assume opex of USD22,500 per day for FSRUs and USD15,500 per day for ST LNGCs. In addition, we include project-specific SGA of USD2,500 per day per vessel, which are the running costs of the project (on top of this, we have group and development SGA, see Chart above). For new FSRU contracts, we assume annual EBITDA of USD33m per vessel, due to margin pressure. Moreover, until a vessel starts a fixed FSRU contract, we assume that the vessel trades in the spot LNG market as an TDFE LNGC vessel, with opex of USD18,700 per day.

The following chart illustrates the EBITDA contribution for each vessel, given these assumptions. We have made the following assumptions for Höegh LNG's uncertain positions:

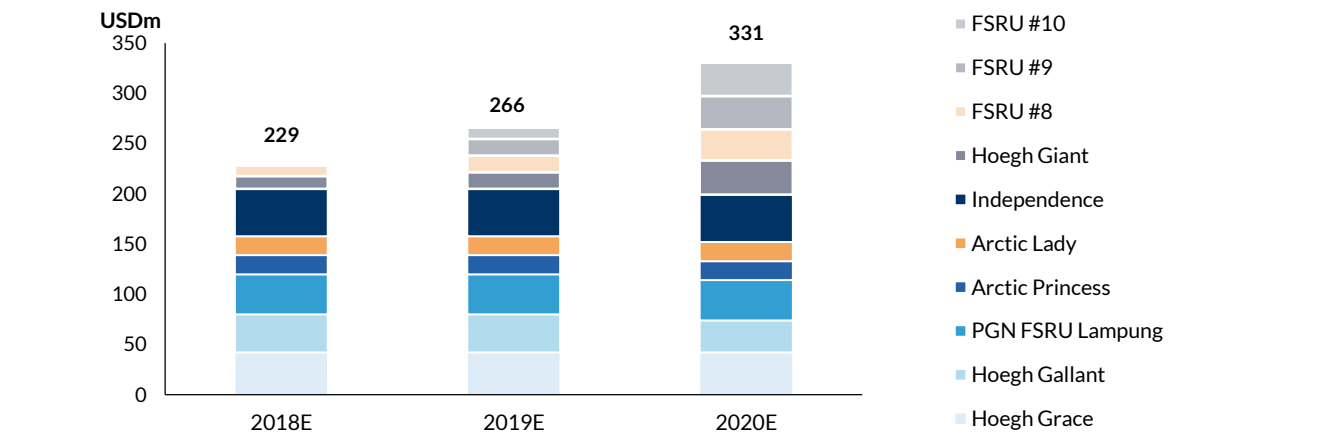
- **Höegh Giant:** The ship will trade as an LNG carrier (index-linked contract) for the initial part of the Gas Natural Fenosa contract. In 2020E, we assume the conversion to a long-term FSRU contract. Our understanding is that this contract is assigned at lower EBITDA than typical guidance for new FSRUs at USD36m per year. We assume USD 34m.
- **FSRU #8:** We assign this vessel to the Chile project, but assume start-up in June 2020E. Hence, the vessel will trade as an LNG carrier until delivery on our estimates with contract EBITDA at USD33m as of Q3 2020E.
- **FSRU #9:** We assign this vessel to the Ghana project and assume start-up in January 2020E with contract EBITDA at USD33m.
- **FSRU #10:** We assign this vessel to an unknown project at this time and assume start-up in January 2020 with contract EBITDA at USD33m.
- **Höegh Gallant:** This vessel is set to trade as an LNGC after its contract ends in 2020E.

Chart 788: EBITDA contribution per vessel for HLNG, 2018-20E



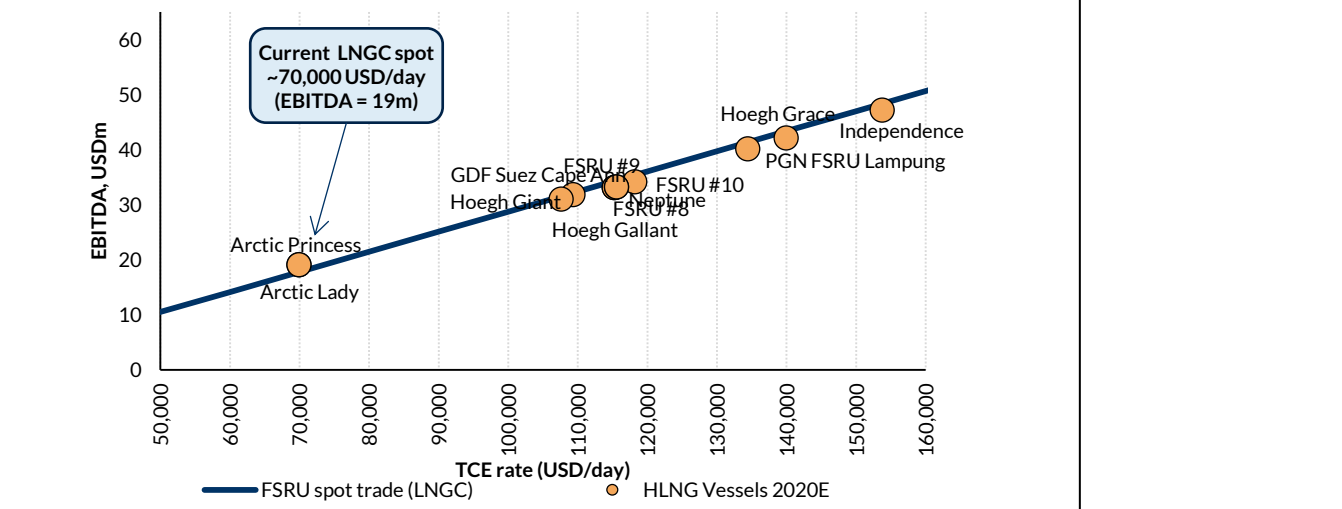
Source: Kepler Cheuvreux

Chart 789: HLNG EBITDA from projects (2018-20E)



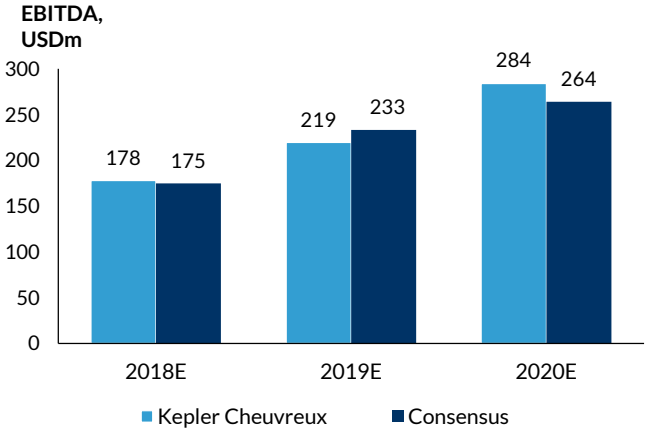
Source: Kepler Cheuvreux

Chart 790: 2020E EBITDA per vessel versus TCE rate (blue line = EBITDA if trading as spot LNGC)



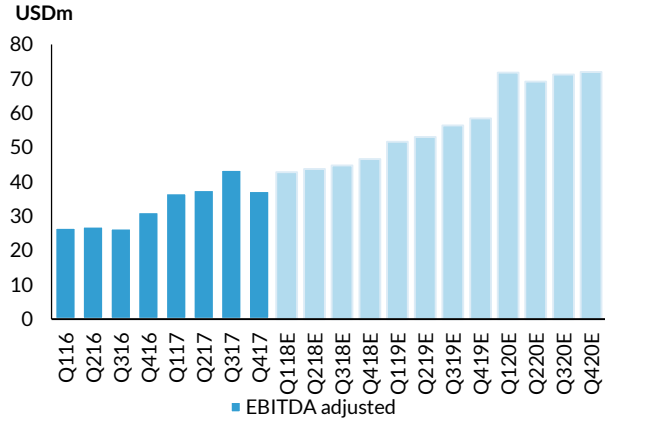
Source: Kepler Cheuvreux

Chart 791: HLNG EBITDA, Kepler Cheuvreux versus consensus



Source: Kepler Cheuvreux, Bloomberg consensus

Chart 792: HLNG quarterly EBITDA (consolidated)



Source: Kepler Cheuvreux

Our estimates are in line with consensus for 2018-19E, but slightly higher for 2020E (+USD18m). In our view, our bullish assumptions for LNGC spot rates will offset part of the negative impact from FSRUs not entering contracts before 2019-20E.

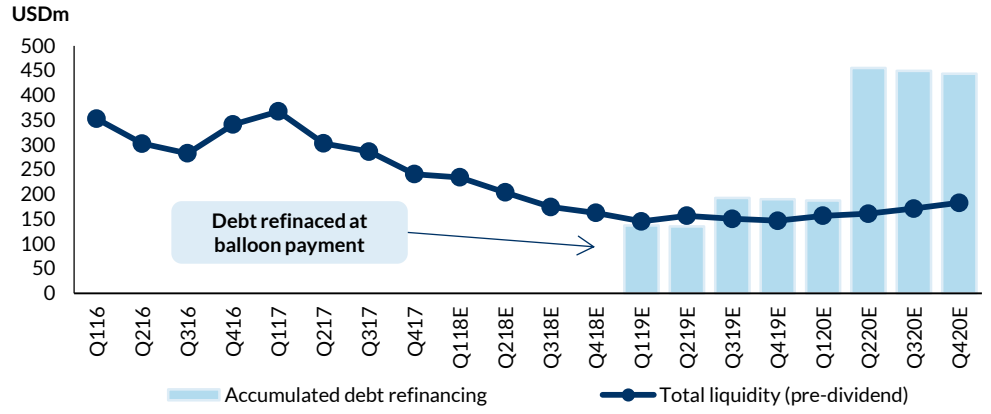
Some cash burn from spot trading, but liquidity should be sufficient

We estimate that Höegh's FSRUs have "cash breakeven" levels at an EBITDA of USD25-30m per year (debt amortisation and interest), which means that all vessels on fixed-income contracts have positive cash generation in our estimates (c. USD10-20m per vessel). However, for vessels that trade in the spot LNGC market, some cash-burn is to be expected. For example, our estimates imply cash-burn for FSRU #8 in 2018-19 of USD7-10m per year.

For the consolidated company, we expect cash generation from Höegh's vessels to amount to USD3m in 2018, USD16m in 2019 and USD73m in 2020. This estimate includes debt amortisation, interest, SGA (group and development) and taxes. The chart below illustrates Höegh's available liquidity in our base-case scenario. We have assumed all balloon payments are fully refinanced as of 2019E. Given these assumptions, Höegh's liquidity should be sufficient to cover newbuild capex.

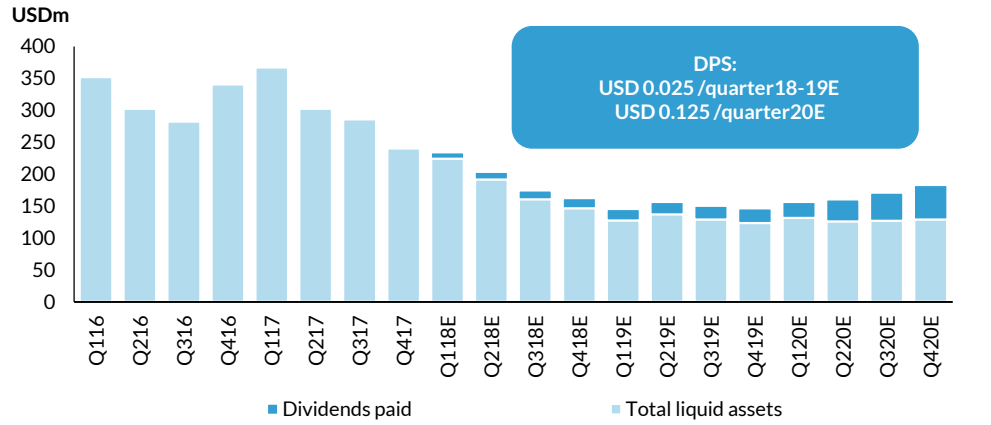
In Q4 2017, Höegh LNG cut quarterly dividend payouts from USD0.125 per share to USD0.025. The company noted that they viewed this as a temporary measure to preserve liquidity and investment capacity. We include USD0.025 per share dividends in 2018-19, increasing back to dividend payouts of USD0.125 per share from 2020E on our estimates.

Chart 793: Consolidated Höegh LNG liquidity (cash + available RCF), given our base-case scenario



Source: Kepler Cheuvreux, company information

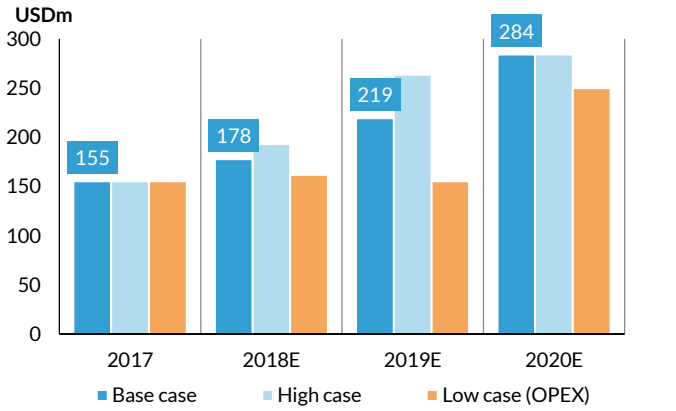
Chart 794: Consolidated Höegh LNG liquidity after dividend distribution



Source: Kepler Cheuvreux, company information

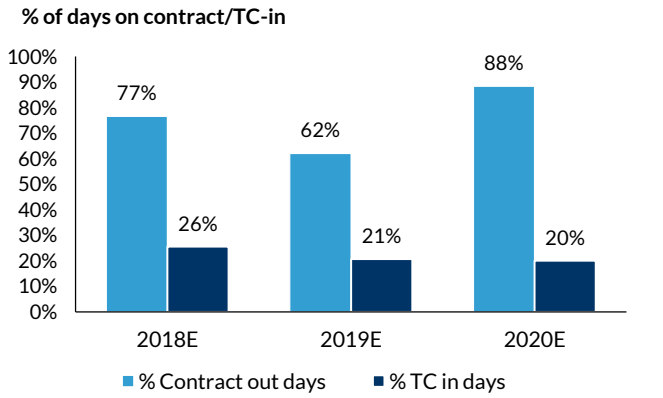
Despite strong contract coverage, Höegh's liquidity will be exposed to underlying spot LNGC rates from 2018-19 due to several open spot positions. In the charts below, we illustrate a scenario analysis for Höegh's EBITDA and liquidity based on different LNGC rate assumptions. In the low-case scenario, LNGC spot market rates falls to opex levels (USD18,700 per day) in two months, which would cut Höegh's consolidated EBITDA to USD160m in 2018E, USD155m in 2019E, and USD250m in 2020E. Overall, the negative impact on the group's liquidity to 2020E in such a scenario is c. USD110m.

Chart 795: Kepler Cheuvreux scenarios for EBITDA



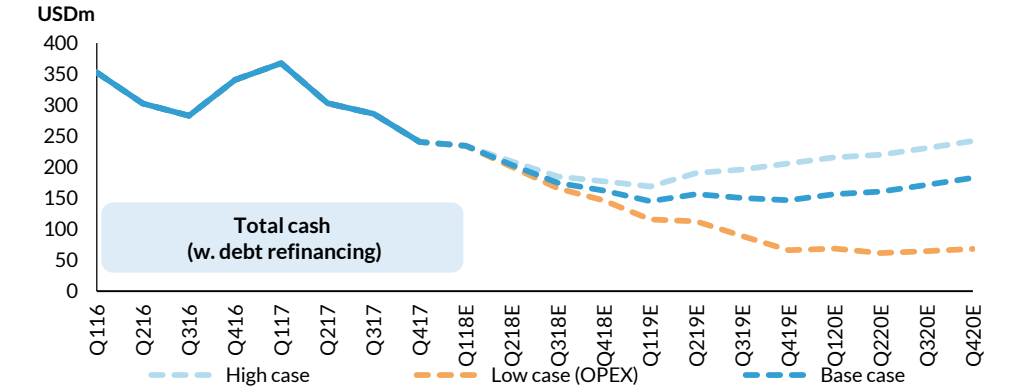
Source: Kepler Cheuvreux

Chart 796: HLNG, contract coverage relative to available days



Source: Kepler Cheuvreux, company information

Chart 797: Scenario analysis for Höegh LNG's liquidity (cash + available RCF)



Source: Kepler Cheuvreux

Deconstructing the forecasts:

In the table below, we outline our key estimates and assumptions for Höegh LNG's consolidated accounts in 2017-20E. For more details, see the attached P&L, balance sheet and cash flow statements.

EBITDA: We model the operational development in Höegh LNG's consolidated accounts based on contribution to EBITDA from FSRUs and LNGCs:

- **Vessels on contract:** EBITDA contributions are set equal at guidance levels for already employed vessels. For new contracts, we assume EBITDA of USD34m for Höegh Giant and USD33m for FSRUs#8-10.
- **Vessels trading as spot LNGCs:** Before a contract starts, we expect FSRUs to trade in the spot LNGC market as a TDFE. Here, we assume KECH's spot rate for TDFE LNGCs, in addition to an opex reduction from USD22,500 per day to USD18,700 per day for the vessels.
- **Other chartering costs and SGA:** Our vessel SGA includes USD2,500 per day for each vessel when employed. In addition, Höegh has significant other SGA costs related to group administration and business development. We estimate the total SGA stable at USD41m per year for the consolidated company. Charter hire expenses include the bareboat hire of the two arctic LNGCs from the JV to Höegh LNG.

On the back of these assumptions, we expect Höegh LNG's consolidated EBITDA to reach USD177m in 2018E, USD220m in 2019E and USD284m in 2020E.

Depreciation and financial items: Depreciation and interest rates are expected to gradually increase with the delivery of new vessels. We assume fixed interest rates for new FSRUs of 4%.

Tax: We expect taxes to stay USD2m per quarter for Höegh.

DPS: We include USD 0.025 per share dividends in 2018-19, increasing back to dividend payouts of USD 0.125 per share from 2020E on our estimates. The upstream distributions from HLMP to HLNG are assumed to be stable at USD6.9m per quarter (including the IDRs).

Table 75: Key financials

Key financials (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
P&L figures:								
TCE revenues	**278.7**	**312.2**	**365.8**	**436.9**	**64.0**	**76.0**	**75.1**	**77.3**
OPEX	-51.6	-57.3	-69.2	-75.6	-13.3	-13.5	-13.2	-14.4
SGA	-42.7	-41.6	-41.6	-41.6	-10.1	-10.6	-10.4	-10.4
Charter hire expenses	-35.5	-35.5	-35.5	-35.6	-8.9	-8.9	-8.8	-8.9
EBITDA reported	**148.9**	**177.8**	**219.5**	**284.1**	**31.6**	**43.0**	**42.8**	**43.7**
EBITDA adjusted	155.2	177.8	219.5	284.1	43.5	37.4	42.8	43.7
Depreciation & impairment	-42.7	-53.5	-68.1	-72.5	-11.2	-11.3	-11.8	-14.0
EBIT	**106.2**	**124.4**	**151.3**	**211.6**	**20.4**	**31.7**	**31.0**	**29.7**
Net financial items	-60.0	-68.6	-78.0	-75.6	-16.1	-13.3	-16.1	-17.8
Tax	-5.1	-8.0	-8.0	-8.0	-3.2	1.6	-2.0	-2.0
Div. preferred shares	0.0	-8.8	-8.8	-8.8	0.0	0.0	-2.2	-2.2
Net profit reported	**41.1**	**39.1**	**56.5**	**119.2**	**1.1**	**20.0**	**10.8**	**7.7**
Net profit adjusted	46.8	39.1	56.5	119.2	13.0	11.8	10.8	7.7
EPS adj (USD)	0.62	0.51	0.74	1.57	0.17	0.15	0.14	0.10
DPS	0.50	0.10	0.10	0.50	0.13	0.13	0.03	0.03
Segment assumptions:								
HLNG EBITDA adj.	**35.5**	**55.1**	**96.8**	**167.2**	**11.1**	**11.1**	**12.6**	**13.1**
HMLP EBITDA adj.	**117.0**	**122.7**	**122.7**	**116.8**	**20.4**	**35.6**	**30.2**	**30.6**
Distribution to HLNG (including IDR)	27.1	27.6	27.6	27.6	6.9	6.9	6.9	6.9
Operating assumptions:								
Avg. TCE rate ($/day)	111,116	101,436	97,393	113,348	108,540	115,373	110,493	98,692
Avg. EBITDA margin ($/day)	62,969	62,152	62,174	77,610	67,568	58,023	67,944	60,004
Total vessel days (available)	2,465	2,861	3,530	3,660	644	644	630	728
TC Coverage (% available days)	89%	77%	62%	88%	86%	86%	86%	75%
Selected balance sheet items:								
Cash and cash equivalents	247.6	154.0	130.7	136.6	299.0	247.6	231.7	199.2
Total interest bearing debt	1,155.7	1,467.1	1,559.2	1,446.2	1,260.8	1,155.7	1,337.3	1,315.6
Preferred shares	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0
Minority interest	126.3	126.3	126.3	126.3	123.9	126.3	126.3	126.3
Net interest bearing debt	**1,134.4**	**1,539.5**	**1,654.8**	**1,536.0**	**1,085.8**	**1,134.4**	**1,331.9**	**1,342.7**
Leverage ratio (%)	70%	73%	71%	68%	71%	70%	71%	72%
Operating cash flow	128.9	155.4	197.1	261.7	35.7	32.2	37.2	38.1
Investing cash flow	-308.7	-440.0	-190.0	0.0	169.0	-76.5	-200.0	-20.0
Financing cash flow	146.4	191.0	-30.4	-255.7	-52.0	-51.3	146.9	-50.6
Change in cash	**-33.4**	**-93.6**	**-23.3**	**5.9**	**152.8**	**-95.6**	**-15.9**	**-32.5**

Source: Kepler Cheuvreux, company information

Valuation

We value FSRUs on a DCF basis, taking into account HLNG's contracts and residual values

Our preferred valuation method for Höegh LNG is an equity sum-of-parts (SOP) based on estimated fleet values less net interest-bearing debt and other company commitments. This valuation approach is similar to the Net Asset Value (NAV) approach used for the dry bulk, tank and LPG segments, but it differs in the fact that we estimate the value of HLNG's vessels by using a DCF over the contract period including a residual value instead of taking quoted second-hand values from an external source. The reason for this difference is that the transaction market for second-hand FSRU vessels is quite illiquid, and no official quoted vessel prices exist for older vessels. Hence, we have to estimate the vessel values ourselves, and for Höegh's vessels, we also need to include the value of fixed-income contracts.

The following table illustrates the sensitivity of the equity NPV from a new FSRU project with different assumptions on EBITDA and contracts. We estimate this based on a DCF model, where we assume total newbuild costs for a new FSRU of USD248m (given Clarkson's quote of USD235m in yard payment), combined with a 75% debt leverage level at a 4% interest rate and a 15-year profile.

Table 76: Equity NPV in new FSRU project given USD33m EBITDA (Normal guiding = USD36m)

Equity NPV (10% equity cost)		Contract duration (yrs.)					
		5	10	15	20	25	30
EBITDA per year (USDm)	26	15.5	20.2	22.7	**25.1**	28.6	31.9
	28	21.5	29.9	34.8	**38.6**	43.0	46.8
	30	27.6	39.7	46.8	**52.0**	57.4	61.7
	31	30.7	44.6	52.9	**58.8**	64.5	69.2
	32	33.7	49.5	58.9	**65.5**	71.7	76.6
	33	**36.7**	**54.3**	**64.9**	72.3	**78.9**	**84.1**
	34	39.8	59.2	71.0	**79.0**	86.1	91.5
	35	42.8	64.1	77.0	**85.8**	93.3	99.0
	36	45.8	69.0	83.0	**92.5**	100.5	106.5
	38	51.9	78.8	95.1	**106.0**	114.8	121.4
	40	58.0	88.5	107.2	**119.5**	129.2	136.3
	42	64.1	98.3	119.2	**133.0**	143.6	151.2

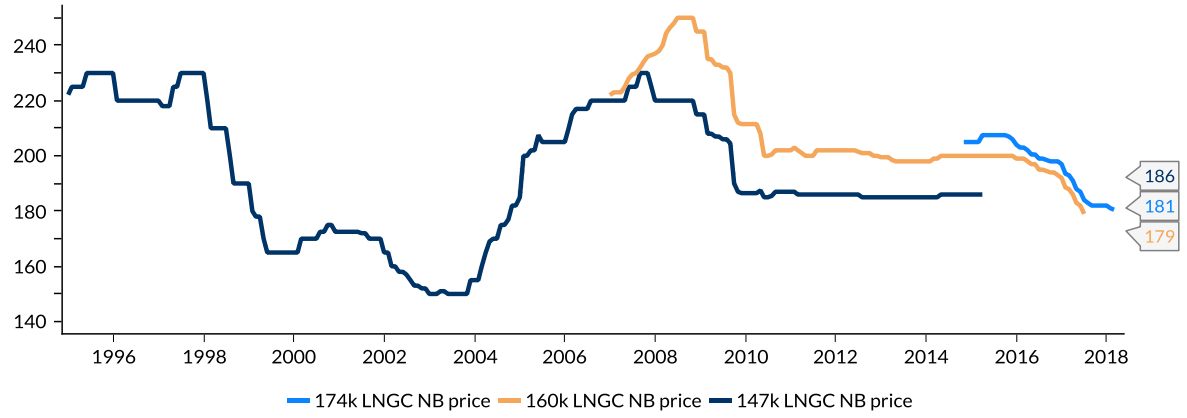
Source: Kepler Cheuvreux

In our view, there are several factors that drive the value of an FSRU project, but we believe the following three are among the most important and are also highlighted in our valuation analysis:

- **Contract EBITDA** (annual cash flow from a project): In our base case, we assume new projects at an annual EBITDA of c. USD33m. This implies a margin compression from the typical spot guidance of USD36m.
- **Contract duration (years):** A longer contract is obviously better, as it limits the residual value risk for our valuation. The residual value of an FSRU is estimated linearly from resale values to scrap. We only have official quotes for the newbuild costs of LNG carriers. However, we estimate FSRU newbuild costs by taking into account total delivery and conversion costs. Our current estimate for the newbuild cost for an FSRU is USD235m.

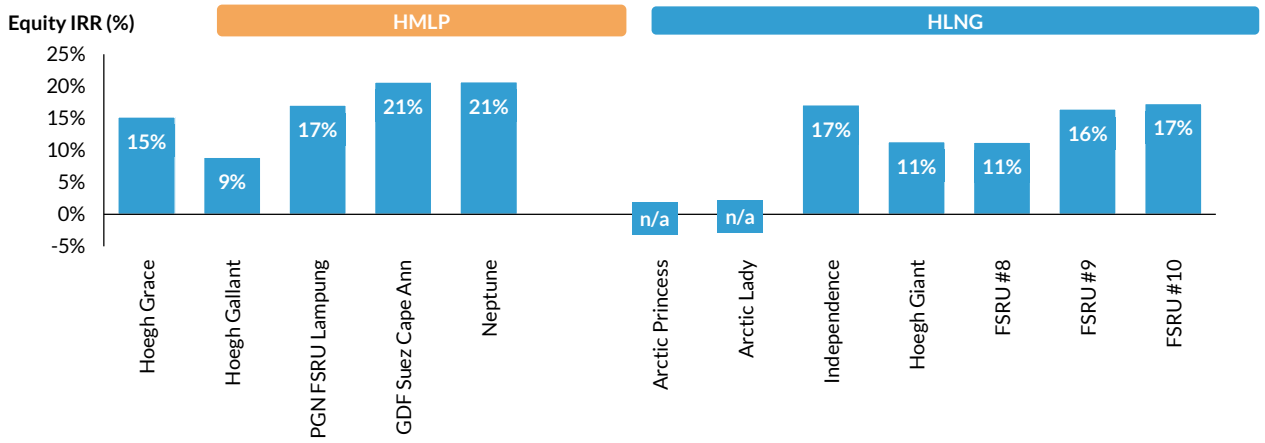
- **Newbuild values:** Changes in newbuild costs drive the implied profitability of FSRU projects. Falling newbuild costs are positive for new FSRUs, as they lower the investment cost, but they are negative for older FSRUs, as they lower the residual value. In recent years, newbuild costs for LNGCs have fallen, which impacted the valuation of HLNG's older vessels negatively. However, the effect is somewhat offset by better economics on new FSRUs. In the chart below, we illustrate our running equity IRR (%) for HLNG's projects. We see that new FSRUs still have strong returns, despite lower EBITDA, due to the lower investment cost in newbuilds.

Chart 798: LNGC newbuilding prices (Clarksons)



Source: Clarksons, Kepler Cheuvreux

Chart 799: Equity IRR in FSRU project given USD33m EBITDA (Normal guiding = USD36m)



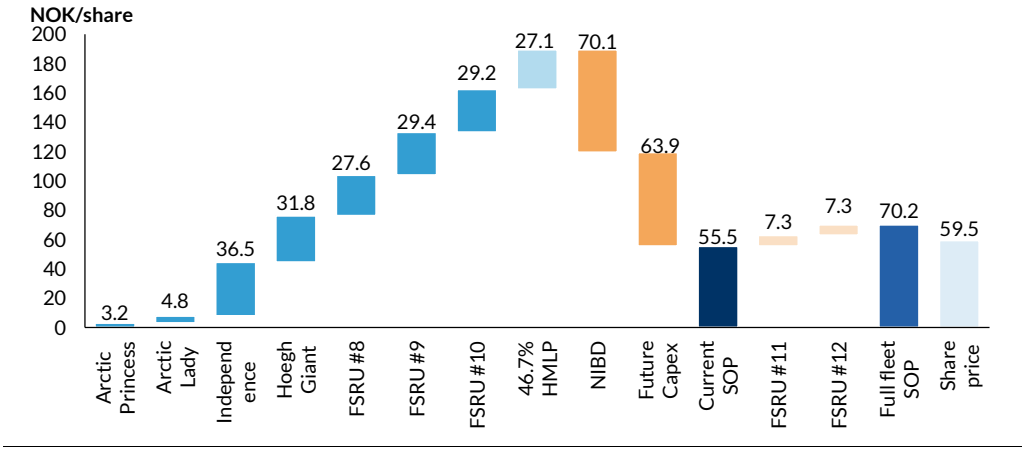
Source: Kepler Cheuvreux

HLNG trades at a strong discount to our base-case SOP (NOK70)

Despite our assumed margin compression on new FSRUs to USD33m, we still see significant upside to HLNG's valuation. Our sum-of-parts valuation for the current fleet (including FSRUs #8-10) values HLNG at NOK55 per share. However, HLNG's strategy implies two additional FSRUs (FSRU #11-12) contracted in 2019, which, based on our assumptions, could contribute an addition USD72m each, based on current economics. If we include these additional projects, our full fleet SOP for HLNG rises to NOK70 per share.

Given the recent weakness in the company's share price, HLNG trades at a P/SOP P/SOP 0.85x including the value of FSRUs #11-12. We think the current strong discount to our SOP is a reflection of the market's fear of contract risk after the announced delays in the Chile project and cancellation of the Pakistan project in 2017. However, we believe these fears are unwarranted, given that we expect growth in the LNG market to pick up, combined with still strong economics for new FSRU projects. Our DCF valuation already includes delays in FSRU projects for vessels #8-10, where the ships trade at spot prices, in addition to an EBITDA margin decrease to USD33m for new projects.

Chart 800: Sum-of-the-parts (SOP) valuation bridge for HLNG (base case)



Source: Kepler Cheuvreux

Our SOP is based on our estimated fleet values less net interest bearing debt and other company commitments:

- **Gross asset values (GAV):** We value the group on a fully delivered basis, in which we include a DCF value for all FSRU projects, including the contract as explained above. After contracts end, the FSRU is exposed to residual risk, and the value is equal to our linear newbuild-to-scrap line. The two Arctic LNGCs are valued according to our TDFE vessel values with an estimated market value of USD84m, fully consolidated.
- **Net interest bearing debt and other commitments:** All NIBD estimates are calculated relative to Höegh LNG's latest quarterly report, and so balance sheet items are from the Q4 2017 report. Since we value the fleet on a fully delivered basis, we include future capex in commitments. We also include project and business development SGA for ongoing and new FSRU project included in the SOP. We estimate this excess SGA to be USD14m on a proportionate basis for HLNG, and assumed EV/EBITDA multiple 8x. Thus, the total commitment is USD112m.

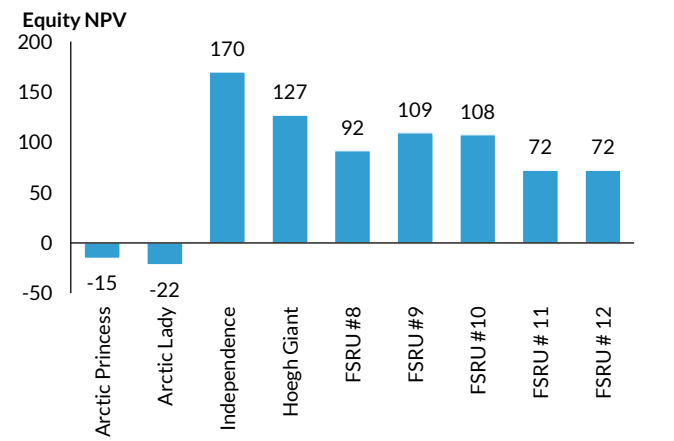
Table 77: Sum-of-the-parts valuation (SOP)

Proportionate HLNG SOP (USDm)	Type	Age	Owned (%)	Remain. TC out	EBITDA (contract)	DCF (including contract) Current	Full fleet
Höegh LNG:							
Arctic Princess	ST LNGC	12.0	34%	8.0	6	32	32
Arctic Lady	ST LNGC	11.8	50%	8.2	9	47	47
Independence	FSRU	3.8	100%	7.0	47	360	360
Höegh Giant	FSRU	0.8	100%	20.0	34	314	314
FSRU #8	FSRU	-0.2	100%	20.0	33	272	272
FSRU #9	FSRU	-0.9	100%	20.0	33	289	289
FSRU #10	FSRU	-1.3	100%	20.0	33	288	288
FSRU # 11	FSRU	tba	100%	20.0	33		72
FSRU # 12	FSRU	tba	100%	20.0	33		72
Total fleet value (USDm)		**1.2**		**16.5**	**262**	**1,601**	**1,746**
of which fleet on water						1,601	1,601
NIBD & other commitments (rel. last quarterly report)							
47% ownership in Höegh LNG Partners (HMLP)						**267**	**267**
Cash						216	216
Interest bearing debt (incl. JV)						-795	-795
Other assets/liabilities						0	0
Group (incl. new project development) SGA (USD 14m, 8.0x)						-112	-112
Future capex						-630	-630
Total NIBD and commitments						**-1,054**	**-1,054**
SOP (USDm)						**547**	**692**
# shares (fully delivered)						77.2	77.2
SOP/share (NOK)						**55.5**	**70.2**
Share price (NOK)						59.5	59.5
P/SOP						**1.07x**	**0.85x**
EV proportionate (USDm)						1,641	1,641
EV/GAV						**1.02x**	**0.94x**

Source: Kepler Cheuvreux

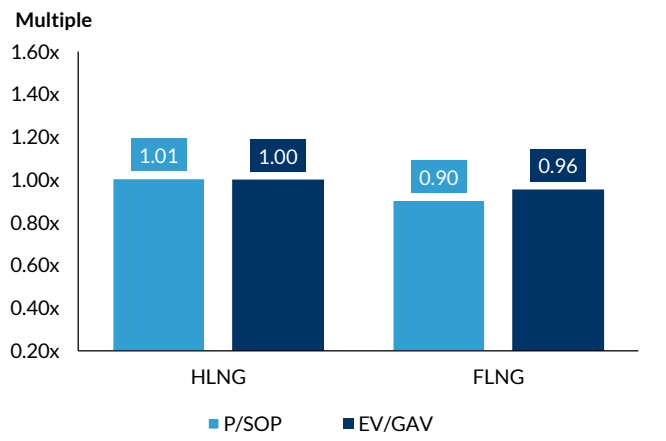
The chart below lists the equity NPV value for each of HLNG's vessels. Based on our estimates, the FSRU Independence contributes the most to our valuation due to its high project EBITDA (USD47m per year). FSRUs #8 and #10 still make a strong positive contribution, despite trading in the spot market in our base-case scenario. Given the economics of a USD33m project with a 20-year contract, the additional value from FSRUs #11-12 is USD72m per vessel.

Chart 801: Equity NPV from HLNG's projects



Source: Kepler Cheuvreux

Chart 802: P/SOP versus peers



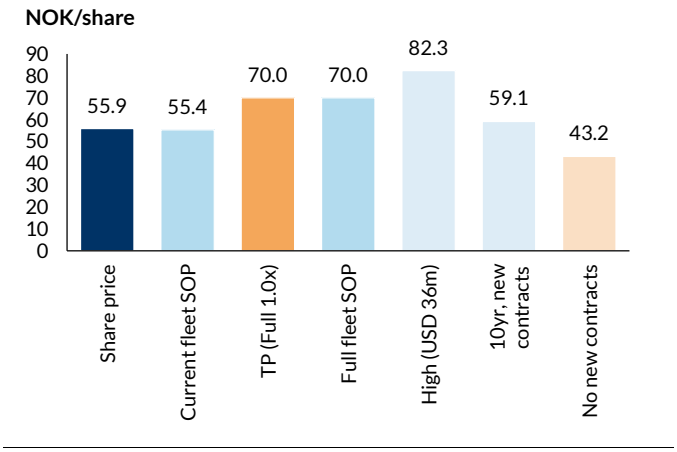
Source: Kepler Cheuvreux

We initiate coverage of HLNG with a Buy rating (TP NOK70)

We see the strong discount to our SOP valuation as sufficient to warrant a Buy rating on Höegh LNG. Even with assumed spot trading for FSRUs until project start-up and an EBITDA margin decrease to USD33m, we find the economics of the HLNG investment case compelling. We set our target price at NOK70 (1x base-case SOP), implying and upside of c. 25% from current share price.

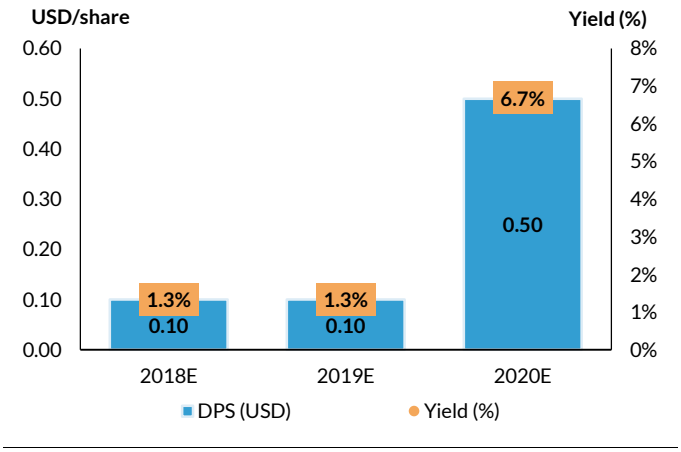
On the back of a positive outlook for the LNG market, we believe that potential new contract announcements could be a trigger for HLNG. New contracts could restore faith in the investment case, and allow investors to price in additional value for new FSRU projects. In addition, it should remove the fear of further contract delays and margin compressions (beyond USD33m). The charts below illustrate our scenario analysis for Höegh LNG, including the dividend yield on the new DPS payouts.

Chart 803: Kepler Cheuvreux scenario valuation for HLNG



Source: Kepler Cheuvreux

Chart 804: Dividend yield for HLNG



Source: Kepler Cheuvreux

Contract residual is key investment story risk

Our base-case estimates already reflect a margin decrease to USD33m on new FSRU contracts, down from typical guidance of USD36m; given our SOP, we still see significant upside in this scenario. Another risk for HLNG is that new contracts are given with shorter durations, leaving the group more exposed to residual value risk. If we assume new contracts have durations of ten years, our SOP would be NOK59 per share. If no new contracts are allocated, the SOP would be NOK43 per share.

As an upside scenario, we illustrate the SOP if EBITDA stays at USD 36m (equal to the typical guidance for new FSRU projects). This would bring the SOP to NOK 82 for Höegh LNG.

Table 78: Additional HLNG equity value (NOK/share) from new FSRU project given USD33m EBITDA (Normal guiding = USD 36m)

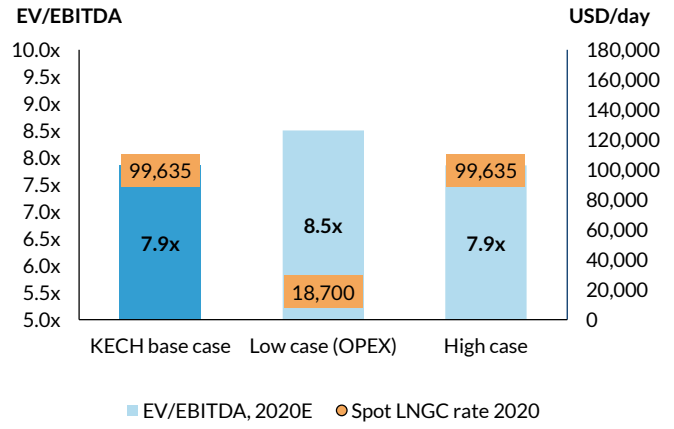
HLNG: NOK/Share		Contract duration (years) 5	10	15	20	25	30
EBITDA per year (USDm)	26	1.4	1.8	2.0	2.3	2.6	3.0
	28	2.0	2.8	3.3	3.6	4.1	4.5
	30	2.6	3.8	4.5	5.0	5.6	6.0
	31	2.9	4.3	5.1	5.7	6.3	6.7
	32	3.2	4.8	5.7	6.4	7.0	7.5
	33	3.5	5.3	6.3	7.1	7.7	8.3
	34	3.8	5.8	6.9	7.7	8.5	9.0
	35	4.1	6.2	7.5	8.4	9.2	9.8
	36	4.4	6.7	8.2	9.1	9.9	10.5
	38	5.1	7.7	9.4	10.5	11.4	12.0
	40	5.7	8.7	10.6	11.9	12.8	13.6
	42	6.3	9.7	11.8	13.2	14.3	15.1

Source: Kepler Cheuvreux

Supplementary figures

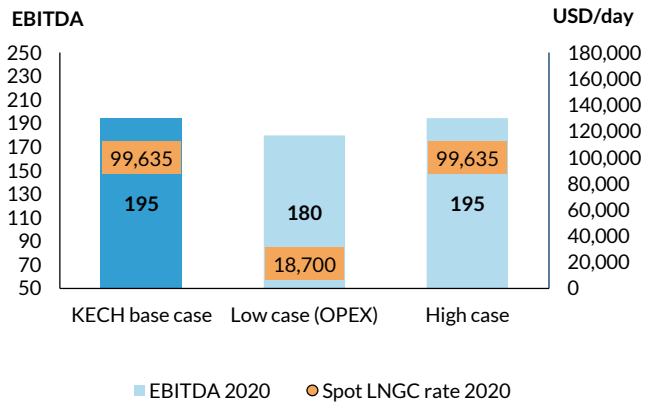
Trading multiples and sensitivities

Chart 805: HLNG, EV/EBITDA versus changes in spot LNGC rate (proportionate ownership of vessels, HMLP at market price)



Source: Kepler Cheuvreux

Chart 806: HLNG, EBITDA versus changes in spot LNGC rate (proportionate ownership)



Source: Kepler Cheuvreux

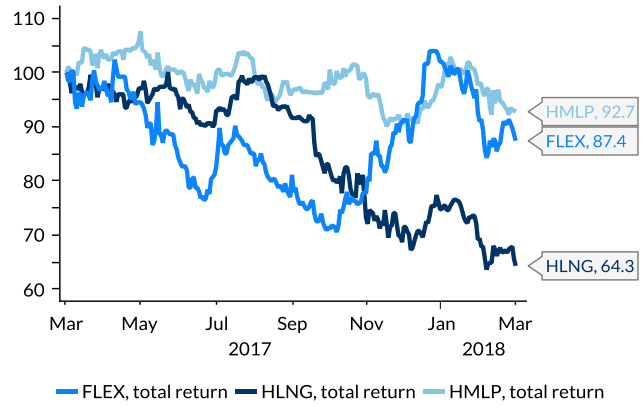
Table 79: Valuation metrics for consolidated company

Standard metrics	Price	EV	2018E	2019E	2020E
EBITDA adjusted			177.8	219.5	284.1
EV/EBITDA		**2,451**	**13.8x**	**11.2x**	**8.6x**
EPS adj (USD)			0.51	0.74	1.57
P/E	**59.5**		**14.6x**	**10.1x**	**4.8x**
DPS			0.10	0.10	0.50
Yield (%)	**59.5**		**1.3%**	**1.3%**	**6.7%**
Net interest bearing debt			1,539.5	1,654.8	1,536.0
NIBD/EBITDA			**8.7x**	**7.5x**	**5.4x**

Source: Kepler Cheuvreux

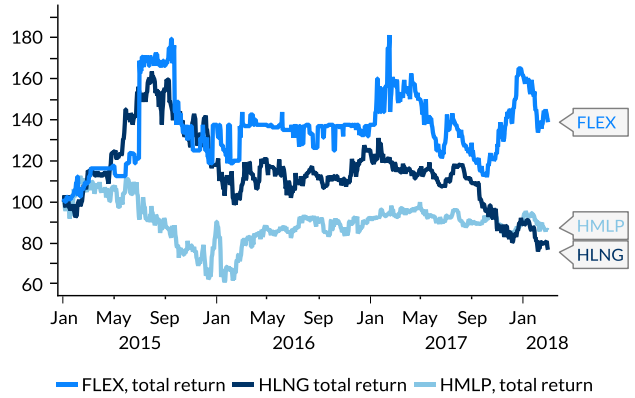
Share price development

Chart 807: LTM share price development LNG peers



Source: Macrobond

Chart 808: LNG peers share price since Jan 2015



Source: Macrobond

Income statement

Table 80: P&L figures

Consolidated P&L (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Total revenues	**279.4**	**312.2**	**365.8**	**436.9**	**64.1**	**76.1**	**75.1**	**279.4**
Voyage expenses	-0.7	0.0	0.0	0.0	-0.1	0.0	0.0	-0.7
OPEX	-51.6	-57.3	-69.2	-75.6	-13.3	-13.5	-13.2	-51.6
SGA	-42.7	-41.6	-41.6	-41.6	-10.1	-10.6	-10.4	-42.7
Charter hire expenses	-35.5	-35.5	-35.5	-35.6	-8.9	-8.9	-8.8	-35.5
EBITDA	**148.9**	**177.8**	**219.5**	**284.1**	**31.6**	**43.0**	**42.8**	**148.9**
Depreciation	-42.4	-53.5	-68.1	-72.5	-11.2	-11.3	-11.8	-42.4
Impairment and value adjustments	-0.4	0.0	0.0	0.0	0.0	0.0	0.0	-0.4
EBIT	**106.2**	**124.4**	**151.3**	**211.6**	**20.4**	**31.7**	**31.0**	**106.2**
Net financial interest	-58.4	-68.6	-78.0	-75.6	-16.1	-13.3	-16.1	-58.4
Other financial items	-1.6	0.0	0.0	0.0	0.0	0.0	0.0	-1.6
Profit before tax	**46.2**	**55.8**	**73.3**	**135.9**	**4.3**	**18.4**	**15.0**	**46.2**
Taxes	-5.1	-8.0	-8.0	-8.0	-3.2	1.6	-2.0	-5.1
Div. preferred shares	0.0	-8.8	-8.8	-8.8	0.0	0.0	-2.2	0.0
Net profit reported	**41.1**	**39.1**	**56.5**	**119.2**	**1.1**	**20.0**	**10.8**	**41.1**
Net profit adjusted	46.8	39.1	56.5	119.2	13.0	11.8	10.8	46.8
EBITDA reported	**148.9**	**177.8**	**219.5**	**284.1**	**31.6**	**43.0**	**42.8**	**148.9**
Adjustments	6.3	0.0	0.0	0.0	11.9	-5.6	0.0	6.3
EBITDA adjusted	155.2	177.8	219.5	284.1	43.5	37.4	42.8	155.2
EPS	0.54	0.51	0.74	1.57	0.01	0.26	0.14	0.54
EPS adj (USD)	**0.62**	**0.51**	**0.74**	**1.57**	**0.17**	**0.15**	**0.14**	**0.62**
DPS	0.50	0.10	0.10	0.50	0.13	0.13	0.03	0.50
# Shares adj. (end)	76.0	76.0	76.0	76.0	77.2	76.0	76.0	76.0

Source: Kepler Cheuvreux, company information

Balance sheet and cash flow

Table 81: Balance sheet and cash flow

Balance sheet (USDm)	2017	2018E	2019E	2020E	Q3 2017	Q4 2017	Q1 2018E	Q2 2018E
Available cash	152.9	59.3	36.0	41.9	248.6	152.9	137.0	104.5
Restricted cash	20.6	20.6	20.6	20.6	26.9	20.6	20.6	20.6
Investments	74.0	74.0	74.0	74.0	23.6	74.0	74.0	74.0
Other current assets	39.9	39.9	39.9	39.9	42.5	39.9	39.9	39.9
Vessels and newbuildings	1,619.1	2,125.7	2,337.5	2,265.1	1,598.6	1,619.1	1,887.3	1,873.4
Other long-term assets	52.5	52.5	52.5	52.5	51.9	52.5	52.5	52.5
Total assets	**1,959.0**	**2,372.0**	**2,560.5**	**2,494.0**	**1,992.0**	**1,959.0**	**2,211.3**	**2,164.9**
Interest bearing debt incl. capital lease	1,155.7	1,467.1	1,369.1	1,002.9	1,260.8	1,155.7	1,337.3	1,315.6
Refinanced IB debt	0.0	0.0	190.0	443.3	0.0	0.0	0.0	0.0
Other current liabilities	41.6	41.6	41.6	41.6	81.7	41.6	41.6	41.6
Other long term liabilities	56.5	56.5	56.5	56.5	74.0	56.5	56.5	56.5
Shareholder's equity	478.9	580.4	676.9	723.3	451.7	478.9	549.6	524.9
Preferred shares	100.0	100.0	100.0	100.0	0.0	100.0	100.0	100.0
Minority interest	126.3	126.3	126.3	126.3	123.9	126.3	126.3	126.3
Total equity and liabilities	**1,959.0**	**2,372.0**	**2,560.5**	**2,494.0**	**1,992.2**	**1,959.0**	**2,211.3**	**2,164.9**
Net interest bearing debt	**1,134.4**	**1,539.5**	**1,654.8**	**1,536.0**	**1,085.8**	**1,134.4**	**1,331.9**	**1,342.7**
Equity ratio (%)	30%	27%	29%	32%	29%	30%	29%	28%
Cash flow (USDm)	**2017**	**2018E**	**2019E**	**2020E**	**Q3 2017**	**Q4 2017**	**Q1 2018E**	**Q2 2018E**
Net profit	44.5	47.8	65.3	127.9	3.6	17.8	13.0	9.9
Depreciation, amort. & impairments	42.7	53.5	68.1	72.5	11.2	11.3	11.8	14.0
Change working capital	-13.7	0.0	0.0	0.0	-3.1	-6.3	0.0	0.0
Other non-cash items	55.3	54.2	63.6	61.2	24.0	9.4	12.5	14.2
Cash flow from operations	**128.9**	**155.4**	**197.1**	**261.7**	**35.7**	**32.2**	**37.2**	**38.1**
Investment in newbuilding and vessels	-377.0	-440.0	-190.0	0.0	-2.1	-26.3	-200.0	-20.0
Proceeds from sale of vessels	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other investing activities	68.2	0.0	0.0	0.0	171.1	-50.2	0.0	0.0
Cash flow from investing	**-308.7**	**-440.0**	**-190.0**	**0.0**	**169.0**	**-76.5**	**-200.0**	**-20.0**
Repayment of debt	176.5	311.5	-104.6	-386.3	-18.4	-130.4	181.6	-21.7
Proceeds from new debt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Refinancing of debt	0.0	0.0	196.7	273.3	0.0	0.0	0.0	0.0
Share issue (repurchase)	110.7	0.0	0.0	0.0	0.0	110.9	0.0	0.0
Dividend pref. shares	0.0	-8.8	-8.8	-8.8	0.0	0.0	-2.2	-2.2
Dividends paid	-68.0	-43.2	-35.6	-58.4	-17.1	-17.1	-16.5	-8.9
Other	-72.7	-68.6	-78.0	-75.6	-16.5	-14.8	-16.1	-17.8
Cash flow from financing	**146.4**	**191.0**	**-30.4**	**-255.7**	**-52.0**	**-51.3**	**146.9**	**-50.6**
Other adjustments	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Change in cash and cash equivalents	**-33.4**	**-93.6**	**-23.3**	**5.9**	**152.8**	**-95.6**	**-15.9**	**-32.5**
Cash balance period-in	186.4	153.0	59.4	36.0	95.8	248.6	152.9	137.0
Cash balance period-out	153.0	59.4	36.0	42.0	248.6	152.9	137.0	104.5

Source: Kepler Cheuvreux, company information

Key financials

FY to 31/12 (USD)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Income Statement (USDm)								
Sales	178.0	154.3	216.6	232.5	278.7	312.2	365.8	436.9
% Change	31.3%	-13.3%	40.4%	7.3%	19.9%	12.0%	17.2%	19.4%
EBITDA adjusted	34.6	0.4	90.3	111.3	155.2	177.8	219.5	284.1
EBITDA margin (%)	19.4%	0.2%	41.7%	47.9%	55.7%	57.0%	60.0%	65.0%
EBIT adjusted	4.2	-16.5	68.5	80.0	111.9	124.4	151.3	211.6
EBIT margin (%)	2.3%	-10.7%	31.6%	34.4%	40.2%	39.8%	41.4%	48.4%
Net financial items & associates	-26.2	-16.6	-42.5	-53.7	-58.4	-68.6	-78.0	-75.6
Others	-0.3	-4.2	-8.9	-3.6	-1.6	-8.8	-8.8	-8.8
Tax	-0.5	-2.0	-1.1	-5.1	-5.1	-8.0	-8.0	-8.0
Net profit from continuing operations	-20.8	-88.4	-26.8	14.0	41.1	39.1	56.5	119.2
Net profit from discontinuing activities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net profit before minorities	-20.8	-88.4	-26.8	14.0	41.1	39.1	56.5	119.2
Net profit reported	-20.8	-88.4	-26.8	14.0	41.1	39.1	56.5	119.2
Net profit adjusted	-22.8	-39.3	16.0	17.6	46.8	39.1	56.5	119.2
Cash Flow Statement (USDm)								
Cash flow from operating activities	24.3	80.4	75.2	75.5	128.9	155.4	197.1	261.7
Capex	-186.0	-660.8	-56.4	-264.8	-377.0	-440.0	-190.0	0.0
Free cash flow	-161.7	-580.4	18.8	-189.3	-248.1	-284.6	7.1	261.7
Acquisitions & Divestments	5.0	0.0	0.0	18.0	0.0	0.0	0.0	0.0
Dividend paid	0.0	-19.4	-43.1	-48.5	-68.0	-43.2	-35.6	-58.4
Others	64.1	62.4	-62.3	165.9	106.2	-77.3	-86.8	-84.4
Change in net financial debt	-92.6	-537.3	-86.7	-53.9	-209.9	-405.1	-115.3	118.8
Balance Sheet (USDm)								
Intangible assets	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tangible assets	834.2	1,024.1	1,050.5	1,269.4	1,619.1	2,125.7	2,337.5	2,265.1
Financial & other non-current assets	108.1	86.6	45.7	39.3	52.5	52.5	52.5	52.5
Total shareholders' equity	389.1	459.0	491.6	596.1	605.2	706.7	803.2	849.6
Pension provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liabilities and provisions	711.9	897.8	1,010.7	1,117.4	1,353.8	1,665.3	1,757.3	1,644.3
Net financial debt	473.2	460.5	423.2	584.9	1,008.1	1,413.2	1,528.5	1,409.7
Working capital requirement	2.4	-33.0	-29.3	-50.4	-1.7	-1.7	-1.7	-1.7
Invested Capital	836.7	991.0	1,021.3	1,219.0	1,617.4	2,124.0	2,335.8	2,263.3
Per share data								
EPS adjusted	-0.33	-0.57	0.22	0.23	0.61	0.51	0.74	1.57
EPS adj and fully diluted	-0.33	-0.57	0.22	0.23	0.61	0.51	0.74	1.57
% Change	-chg	-chg	+chg	4.8%	166.8%	-15.9%	44.8%	110.8%
EPS reported	-0.30	-1.28	-0.36	0.18	0.54	0.51	0.74	1.57
Cash flow per share	0.35	1.16	1.03	0.98	1.68	2.04	2.59	3.44
Book value per share	5.66	5.23	5.76	5.80	6.25	7.63	8.90	9.51
Dividend per share	0.00	0.00	0.00	0.40	0.50	0.10	0.10	0.50
Number of shares, YE (m)	68.70	69.88	76.83	76.83	76.03	76.03	76.03	76.03
Ratios								
ROE (%)	-6.2%	-10.5%	4.1%	4.1%	10.1%	7.4%	9.0%	17.0%
ROIC (%)	0.6%	-1.8%	6.8%	7.1%	7.9%	6.6%	6.8%	9.2%
Net fin. debt / EBITDA (x)	13.7	1,275.7	4.7	5.3	6.5	7.9	7.0	5.0
Gearing (%)	121.6%	100.3%	86.1%	98.1%	166.6%	200.0%	190.3%	165.9%
Valuation								
P/E adjusted	na	na	59.8	30.9	11.6	13.8	9.5	4.5
P/E adjusted and fully diluted	na	na	59.8	30.9	11.6	13.8	9.5	4.5
P/BV	1.4	2.1	2.3	1.2	1.1	0.9	0.8	0.7
P/CF	23.0	9.6	12.7	7.2	4.2	3.5	2.7	2.1
Dividend yield (%)	0.0%	0.0%	0.0%	5.7%	7.1%	1.4%	1.4%	7.1%
Dividend yield preference shares (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
FCF yield (%)	-29.0%	-74.4%	1.9%	-34.9%	-46.1%	-52.9%	1.3%	48.7%
EV/Sales	5.8	8.0	6.6	4.9	5.5	6.2	5.6	4.5
EV/EBITDA	29.8	na	15.8	10.1	10.0	11.0	9.4	6.9
EV/EBIT	na	na	20.8	14.1	13.8	15.7	13.7	9.2

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Prices in this report are taken as of the previous day's close (to the date of this report) on the home market unless otherwise stated.

Companies mentioned

Stock	ISIN	Currency	Price
Avance Gas	BMG067231032	NOK	21.78
BW LPG	BMG173841013	NOK	34.10
Concordia Maritime	SE0000102824	SEK	11.45
d'Amico International Shipping	LU0290697514	EUR	0.22
D/S Norden	DK0060083210	DKK	118.50
DHT Holdings	MHY2065G1219	USD	3.66
Euronav	BE0003816338	EUR	6.51
Flex LNG	BMG359471031	NOK	11.10
Frontline	BMG3682E1921	NOK	30.84
Golden Ocean Group	BMG4032A1045	NOK	71.55
Hapag-Lloyd	DE000HLAG475	EUR	33.14
Hoegh LNG	BMG454221059	NOK	55.90
Maersk	DK0010244508	DKK	10,070.00
Royal Dutch Shell	GB00B03MLX29	EUR	26.00

Source: Factset closing prices of 01/03/2018

Disclosure checklist - Potential conflict of interests

Company Name	Disclosure
Avance Gas	nothing to disclose
BW LPG	nothing to disclose
Concordia Maritime	nothing to disclose
D/S Norden	nothing to disclose
d'Amico International Shipping	nothing to disclose
DHT Holdings	nothing to disclose
Euronav	nothing to disclose
Flex LNG	nothing to disclose
Frontline	nothing to disclose
Golden Ocean Group	nothing to disclose
Hapag-Lloyd	KEPLER CHEUVREUX and UniCredit Bank AG have entered into a Co-operation Agreement to form a strategic alliance in connection with certain services including services connected to investment banking transactions. UniCredit Bank AG provides investment banking services to this issuer in return for which UniCredit Bank AG has received a consideration or a promise of consideration. Separately& through the Co-operation Agreement with UniCredit Bank AG for services provided by KEPLER CHEUVREUX in connection with such activities& KEPLER CHEUVREUX has also a received consideration or a promise of a consideration in accordance with the general terms of the Co-operation Agreement UniCredit Bank AG holds or owns or controls 5% or more of the issued share capital of KEPLER CHEUVREUX. UniCredit Bank AG provides investment banking services to this issuer in return for which UniCredit Bank AG has received a consideration or a promise of consideration A representative of UniCredit Bank AG serves on the board of directors of KEPLER CHEUVREUX
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Name of the Research Analyst(s): Petter Haugen, Vetle Johansen

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Rating Breakdown	A	B
Buy	46%	42%
Hold	35%	37%
Reduce	17%	13%
Not Rated/Under Review/Accept Offer	2%	8%
Total	100%	100%

Source: KEPLER CHEUVREUX
A: % of all research recommendations
B: % of issuers to which material services of investment firms are supplied

12 months rating history

The below table shows the history of recommendations and target prices changes issued by KEPLER CHEUVREUX research department (Equity and Credit) over a 12 months period.

Company Name	Date	Business Line	Rating	Target Price	Closing Price
d'Amico International Shipping (EUR)	05/05/2017 07:33	Equity Research	Reduce	0.20	0.32
	02/03/2018 08:37	Equity Research	Reduce	0.19	0.22
Hapag-Lloyd (EUR)	07/03/2017 08:38	Equity Research	Buy	32.65	29.57
	08/06/2017 07:50	Equity Research	Buy	30.67	26.35
	01/09/2017 07:11	Equity Research	Buy	41.55	35.94
	14/11/2017 06:43	Equity Research	Buy	40.00	31.25
	05/12/2017 08:11	Equity Research	Buy	37.00	32.25
	19/01/2018 07:06	Equity Research	Buy	42.00	34.44
Maersk ()	29/05/2017 07:24	Equity Research	Buy	14000.00	
Maersk (DKK)	23/08/2017 06:33	Equity Research	Buy	16500.00	13480.00
	10/10/2017 07:47	Equity Research	Buy	16000.00	11510.00
	08/11/2017 08:25	Equity Research	Buy	15200.00	11220.00
Royal Dutch Shell (EUR)	12/05/2017 06:05	Equity Research	Buy	27.50	25.32
	30/06/2017 05:58	Equity Research	Hold	23.50	23.46
	02/10/2017 06:24	Equity Research	Buy	27.00	25.57
	03/11/2017 07:39	Equity Research	Buy	28.00	27.32
	29/11/2017 08:16	Equity Research	Buy	29.50	26.86
	18/01/2018 07:08	Equity Research	Buy	31.50	28.59
	02/02/2018 07:34	Equity Research	Buy	31.00	27.61

Credit research does not issue target prices. Left intentionally blank.

Please refer to the following link https://research.keplercheuvreux.com/app/disclosure for a full list of investment recommendations issued over the last 12 months by the author(s) and contributor(s) of this report on any financial instruments.

Equity research

Rating system

KEPLER CHEUVREUX equity research ratings and target prices are issued in absolute terms, not relative to any given benchmark. A rating on a stock is set after assessing the twelve months expected upside or downside of the stock derived from the analyst's fair value (target price) and in the light of the risk profile of the company. Ratings are defined as follows:

Buy: The minimum expected upside is 10% over next 12 months (the minimum required upside could be higher in light of the company's risk profile).

Hold: The expected upside is below 10% (the expected upside could be higher in light of the company's risk profile).

Reduce: There is an expected downside.

Accept offer: In the context of a total or partial take-over bid, squeeze-out or similar share purchase proposals, the offer price is considered to be fairly valuing the shares.

Reject offer: In the context of a total or partial take-over bid, squeeze-out or similar share purchase proposals, the offered price is considered to be undervaluing the shares.

Under review: An event occurred with an expected significant impact on our target price and we cannot issue a recommendation before having processed that new information and/or without a new share price reference.

Not rated: The stock is not covered.

Restricted: A recommendation, target price and/or financial forecast is not disclosed further to compliance and/or other regulatory considerations.

Due to share prices volatility, ratings and target prices may occasionally and temporarily be inconsistent with the above definition.

Valuation methodology and risks

Unless otherwise stated in this report, target prices and investment recommendations are determined based on fundamental research methodologies and relies on commonly used valuation methodologies such as Discounted Cash Flow (DCF), valuation multiples comparison with history and peers, Dividend Discount Model (DDM).

Valuation methodologies and models can be highly dependent on macroeconomic factors (such as the price of commodities, exchange rates and interest rates) as well as other external factors including taxation, regulation and geopolitical changes (such as tax policy changes, strikes or war). In addition, investors' confidence and market

sentiment can affect the valuation of companies. The valuation is also based on expectations that might change rapidly and without notice, depending on developments specific to individual industries. Whichever valuation method is used there is a significant risk that the target price will not be achieved within the expected timeframe.

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Credit research

Recommendation system (issuer or instrument level)

Buy: The analyst has a positive conviction either in absolute or relative valuation terms and/or expects a tightening of the issuer's debt securities spread over a 6 months period.

Hold: The analyst has a stable credit fundamental opinion on the issuer and/or performances of the debt securities over a 6 months period.

Sell: The analyst expects of a widening of the credit spread to some or all debt securities of the issuer and/or a negative fundamental view over a 6 months period.

No recommendation: The analyst does not provide formal, continuous coverage of this issuer and has not assigned a recommendation to the issuer.

Restricted: A recommendation, target price and/or financial forecast is not disclosed further to compliance and/or other regulatory considerations.

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Valuation methodology and risks

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Valuation methodologies and models can be highly dependent on macroeconomic factors (such as the price of commodities, exchange rates and interest rates) as well as other external factors including taxation, regulation and geopolitical changes (such as tax policy changes, strikes or war) and also on methodologies' changes of recognized agencies. In addition, investors' confidence and market sentiment can affect the valuation of companies. The valuation is also based on expectations that might change rapidly and without notice, depending on developments specific to individual industries.

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KEPLER CHEUVREUX, Milan branch	Commissione Nazionale per le Società e la Borsa	CONSOB
KEPLER CHEUVREUX, Amsterdam branch	Autoriteit Financiële Markten	AFM
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