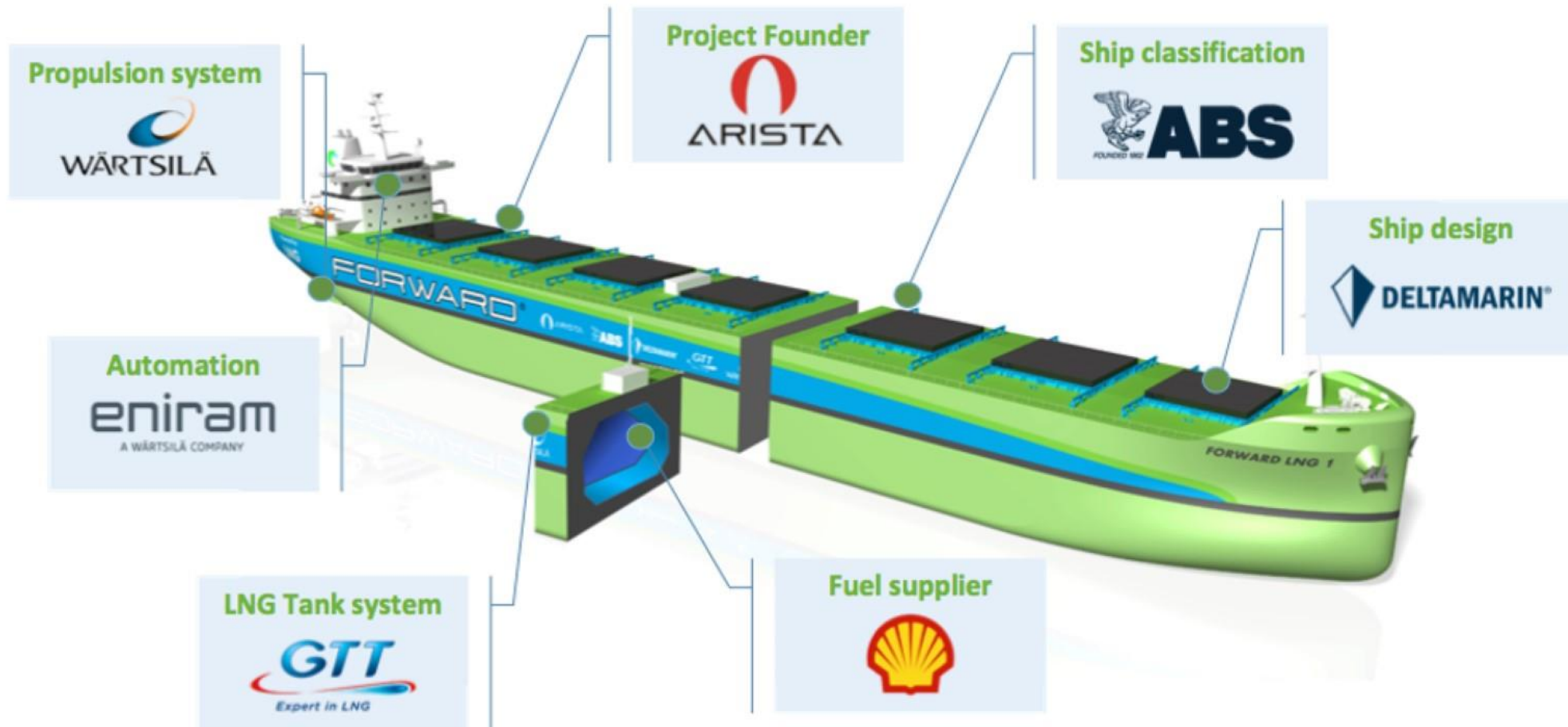




If you were to build a company
that aligns with IMO's 2050
emission reduction targets,
you would build it on LNG.

Our Vision - Leading an Alliance of Industry Leaders



Shell Calls us a “Game Changer”



“

Forward Ships is a credible, feasible, game-changer.”

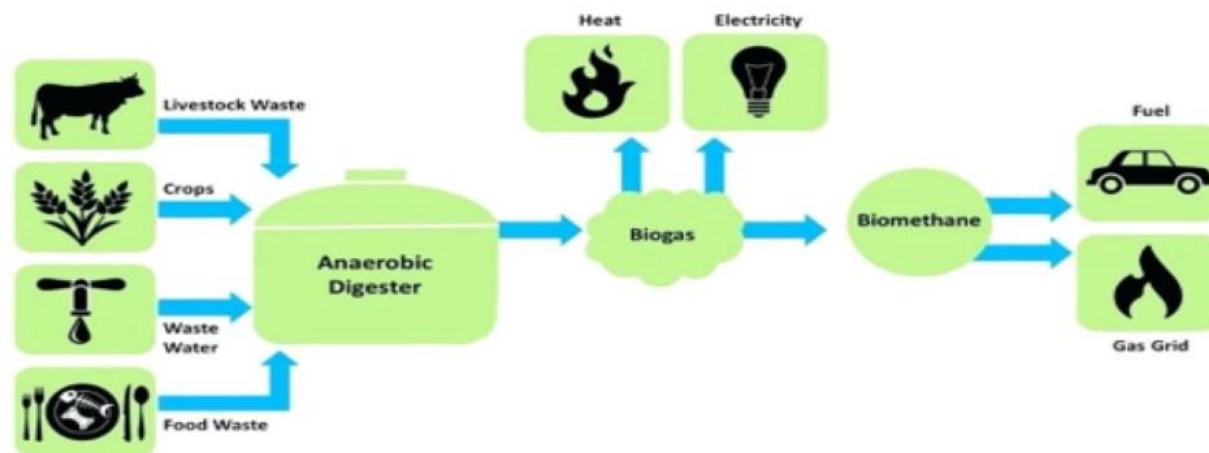
SHELL HAS COMMITTED TO:

Adequate bunkering to launch Forward's operation on 100% LNG

Forward Meets IMO's 2050 Emission Targets Today

EEDI reduction from Phase 0 baseline	Action to be taken	
	Service speed reduction	% of carbon neutral fuel in the mix
-40%	0.3 kn	0
-50%	1.8 kn	0
-70%	5.7 kn	0
-70%	0.0 kn	55%
-70%	1.8 kn	40%

BIOGAS:

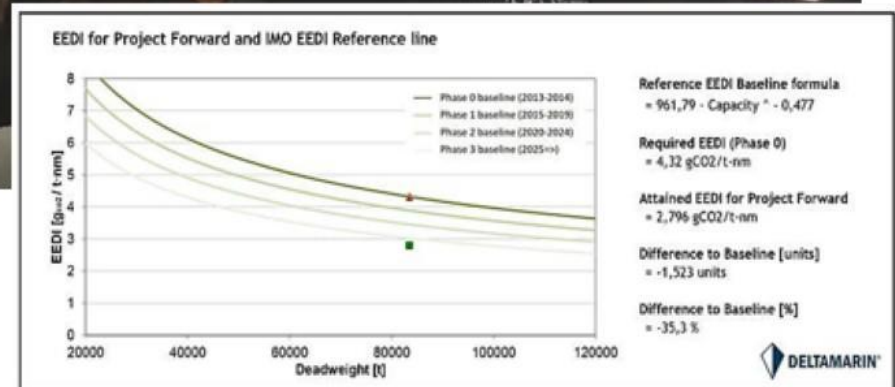


Forward's Patented Kamsarmax is Future-proof

Scale Model Tests Confirm Our Performance Predictions for IMO 2050 targets



EEDI reduction from Phase 0 baseline	Action to be taken	
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Why LNG as a Fuel

Beyond 2020, CO2 and other pollutants come to focus

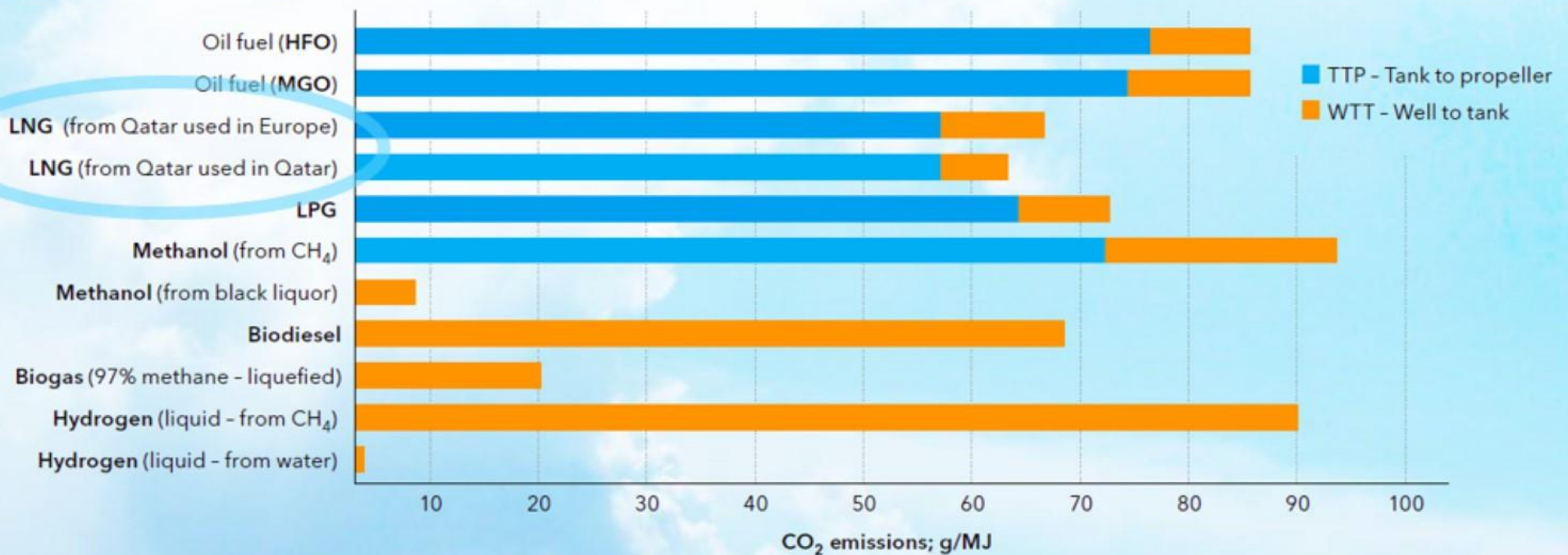
	CO2	SOx	After treatment	NOx	After treatment	PM	in 2020	in 2025	after 2025	Extra CAPEX	Extra OPEX	Expected price	Storage on board
	EMISSIONS						AVAILABILITY		EXPENSES		OTHER		
HFO													
LSFO													
LNG													

Why LNG as a Fuel

Beyond 2020, CO₂ and other pollutants come to focus

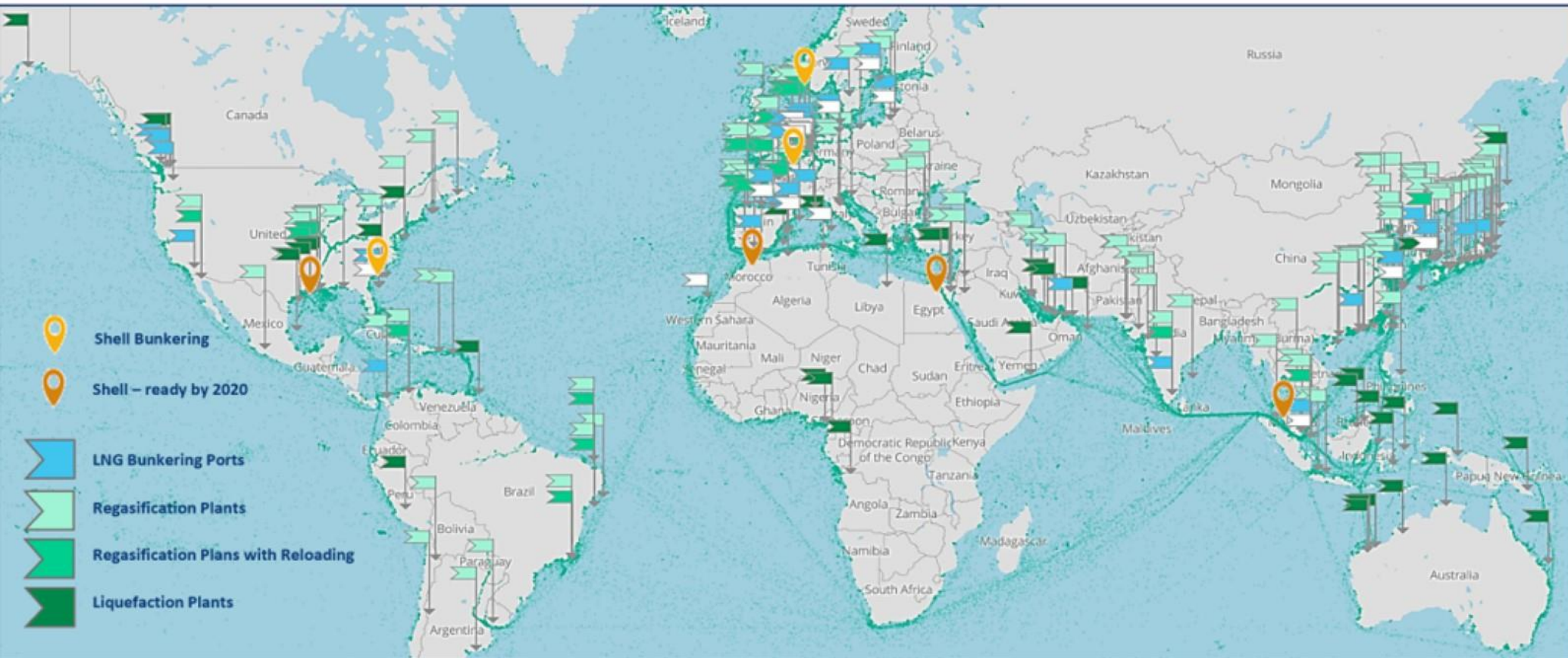
CO₂ EMISSIONS OF ALTERNATIVE FUELS:

Source: DNV-GL



LNG is Generally Available

2019: LNG fuel is available in 150 global locations and overlapping with key maritime hubs



2019:

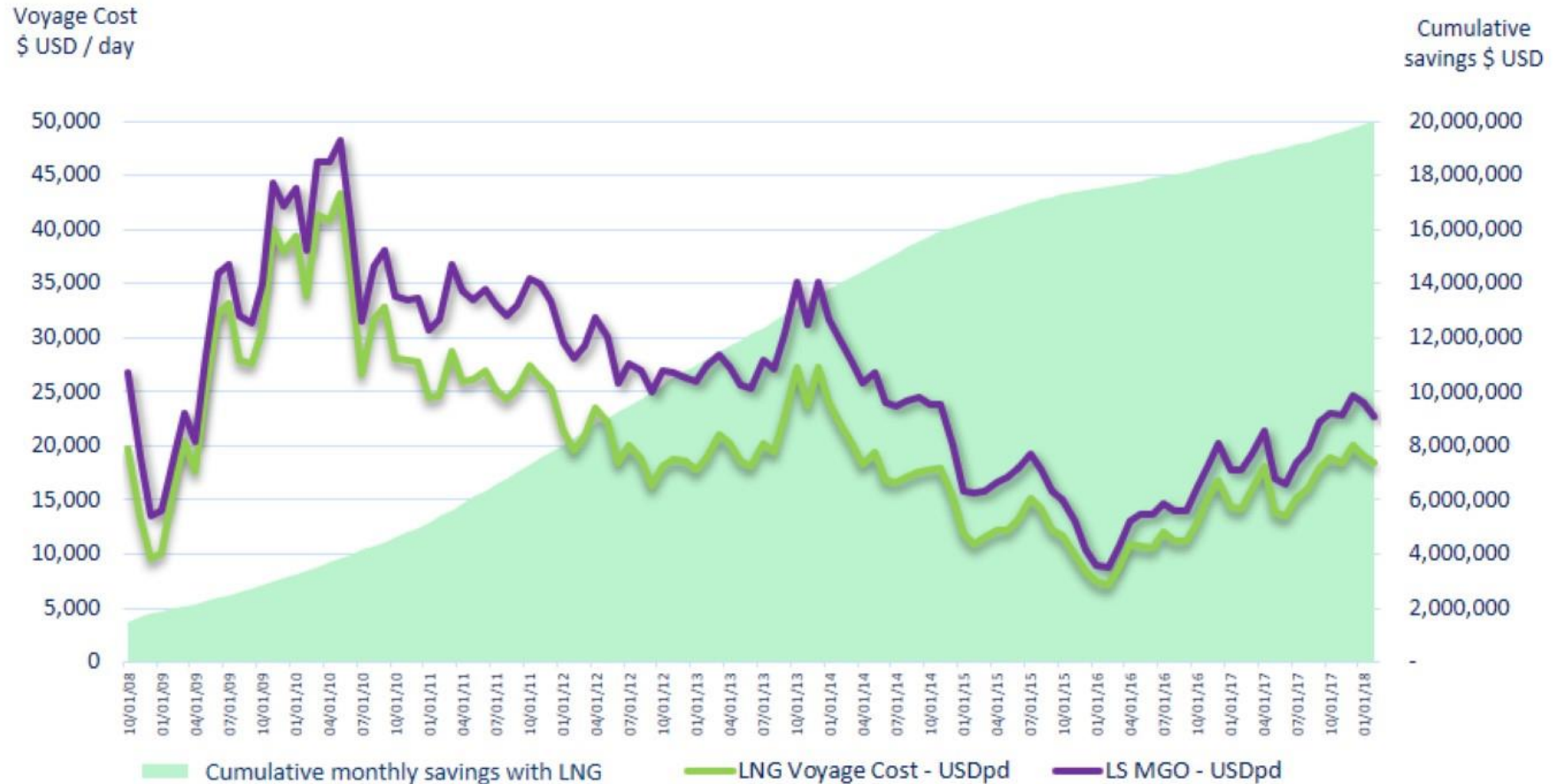
- 49 Ports supplying LNG
- 282 LNG-fueled ships in operation and on order
- 139 LNG-ready ships
- 30 Bunker Vessels supplying LNG as fuel (6 in operation)
- Large container players committing to LNG: CMA-CGM ordered 9 ships of 22K TEU

Source: GTT, Capital Link presentation, March 2018

Sources:  

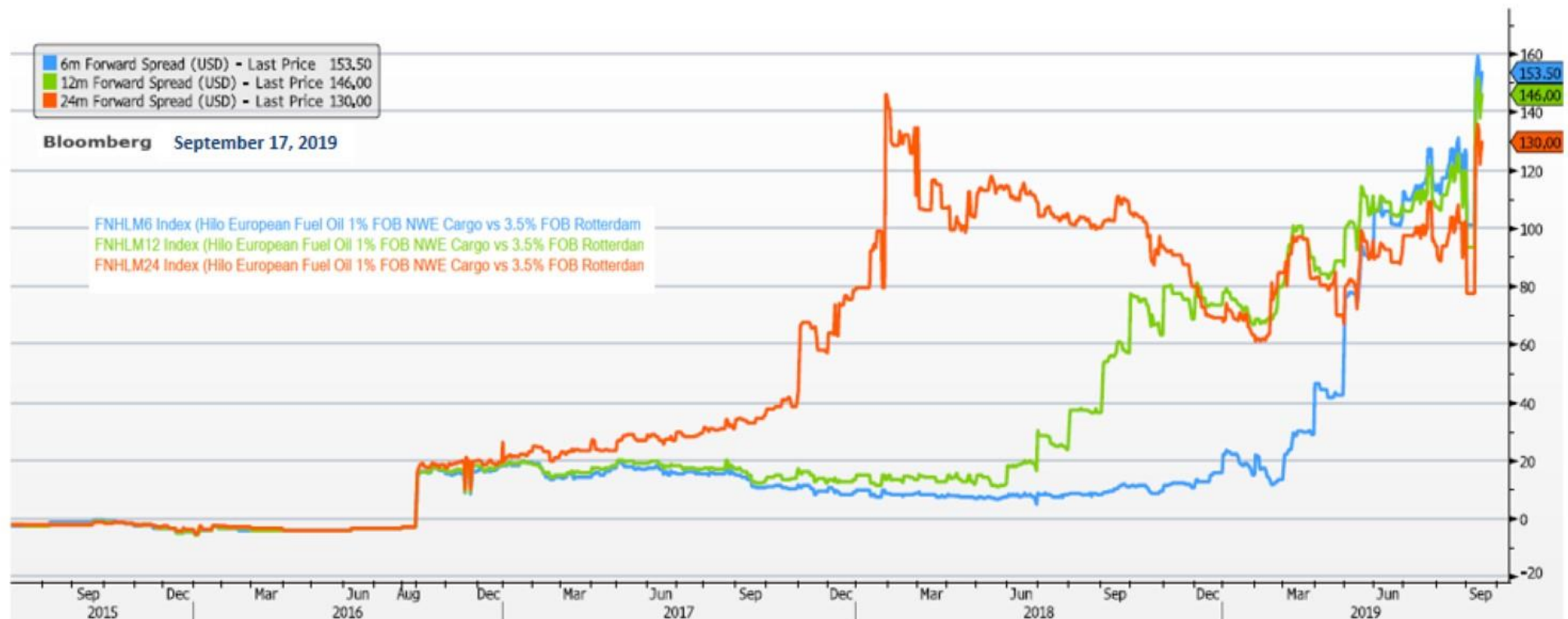
Historically, LNG is Cost-Competitive

Over the past 10 years, having operated our Forward Kamsarmax fueled with LNG vs. MGO would have created a \$20m hard cash accumulated savings



Fuels: The recipe for the perfect Price Arbitrage

The spread between high and low sulphur fuel oil has already widened significantly for 2020



NOTES:

- 0.5% LSFO and LNG fuels are not reported – Platts only now does

Forward's Kamsarmax is Cost-Competitive already Today

August 12, 2019, Rotterdam

FUEL TYPE	PRICE	PER	EQUIVALENT QUANTITY		TOTAL COST	Δ over LNG	Δ over LNG SPOT
LSMGO	\$ 529.50	t	7,568	t	\$ 4,007,256	\$ 1,379,564	\$ 2,271,452
LSFO	\$ 483.90	t	7,568	t	\$ 3,662,155	\$ 1,034,463	\$ 1,926,351
HFO 380	\$ 301.50	t	7,979	t	\$ 2,405,669	\$ (222,023)	\$ 669,864
LNG	\$ 8.80	MMBtu	298,584	MMBtu	\$ 2,627,692	\$ -	\$ 891,888
LNG SPOT	\$ 5.81	MMBtu	298,584	MMBtu	\$ 1,735,804	\$ (891,888)	\$ -

August 12, 2019, Singapore

FUEL TYPE	PRICE	PER	EQUIVALENT QUANTITY		TOTAL COST	Δ over LNG	Δ over LNG SPOT
LSMGO	\$ 561.00	t	7,568	t	\$ 4,245,648	\$ 1,490,354	\$ 2,339,399
LSFO	\$ 520.30	t	7,568	t	\$ 3,937,630	\$ 1,182,337	\$ 2,031,382
HFO 380	\$ 357.50	t	7,979	t	\$ 2,852,493	\$ 97,199	\$ 946,244
LNG	\$ 9.23	MMBtu	298,584	MMBtu	\$ 2,755,294	\$ -	\$ 849,045
LNG SPOT	\$ 6.38	MMBtu	298,584	MMBtu	\$ 1,906,249	\$ (849,045)	\$ -

As per above, the first 100 ships alone can produce savings of approx. \$2 m / ship x 100 ships = \$200 m / year = \$4 billion in twenty years, covering essentially the full value of the capital investment.

- LNG total cost includes including pilot fuel of LSMGO of approx. 100 t / year
- 5,500 running hours or 230 sailing days a year, at service speed
- Savings between LSMGO and LNG assume ships operate only in ECA 0.1% areas

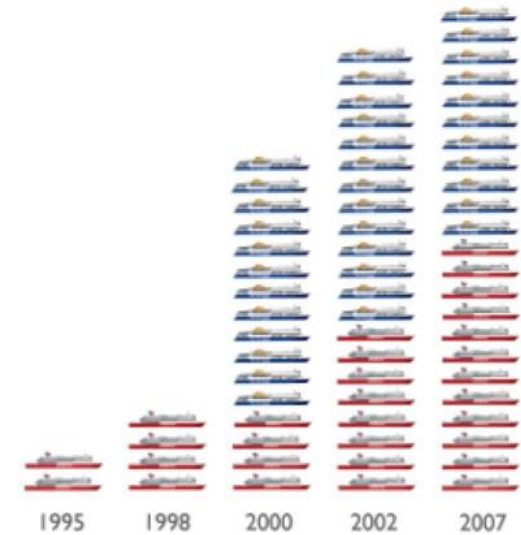
SAVINGS
PER FORWARD KAMSARMAX
PER YEAR UP TO
\$2,271,000

“A once-in-a-generation disruption”

1974 -1989



1995 - 2007



Forward Ships is proud to be a Founding Signatory



GLOBAL
MARITIME
FORUM

Unleashing the
potential of the global
maritime industry

Call to Action in support of decarbonization

**Getting
to Zero
Coalition** →

We are a member of the
Getting to Zero Coalition

#GettingtoZeroCoalition

www.forwardships.com

ANNEX

Now & the Future: Forward's Kamsarmax's Savings

FORWARD SHIPS: Competitive Yearly Savings with LNG vs. 0.5% LSFO (in USD)

		ANNUAL DIFFERENCE IN FUEL COST										
		FUEL PRICE (USD/MT)										
		\$ 300	\$ 350	\$ 400	\$ 450	\$ 500	\$ 550	\$ 600	\$ 700	\$ 800	\$ 900	\$ 1,000
LNG PRICE (USD/MMBTU)	\$ 2	1,713,769	2,111,989	2,510,209	2,908,429	3,306,649	3,704,869	4,103,090	4,899,530	5,695,970	6,492,411	7,288,851
	\$ 3	1,406,636	1,804,856	2,203,076	2,601,296	2,999,516	3,397,736	3,795,957	4,592,397	5,388,837	6,185,278	6,981,718
	\$ 4	1,099,502	1,497,723	1,895,943	2,294,163	2,692,383	3,090,603	3,488,823	4,285,264	5,081,704	5,878,144	6,674,585
	\$ 5	792,369	1,190,590	1,588,810	1,987,030	2,385,250	2,783,470	3,181,690	3,978,131	4,774,571	5,571,011	6,367,452
	\$ 6	485,236	883,456	1,281,677	1,679,897	2,078,117	2,476,337	2,874,557	3,670,998	4,467,438	5,263,878	6,060,319
	\$ 7	178,103	576,323	974,543	1,372,764	1,770,984	2,169,204	2,567,424	3,363,864	4,160,305	4,956,745	5,753,185
	\$ 8	-129,030	269,190	667,410	1,065,631	1,463,851	1,862,071	2,260,291	3,056,731	3,853,172	4,649,612	5,446,052
	\$ 9	-436,163	-37,943	360,277	758,497	1,156,718	1,554,938	1,953,158	2,749,598	3,546,039	4,342,479	5,138,919
	\$ 10	-743,296	-345,076	53,144	451,364	849,585	1,247,805	1,646,025	2,442,465	3,238,906	4,035,346	4,831,786
	\$ 11	-1,050,429	-652,209	-253,989	144,231	542,451	940,672	1,338,892	2,135,332	2,931,772	3,728,213	4,524,653
	\$ 12	-1,357,562	-959,342	-561,122	-162,902	235,318	633,538	1,031,759	1,828,199	2,624,639	3,421,080	4,217,520

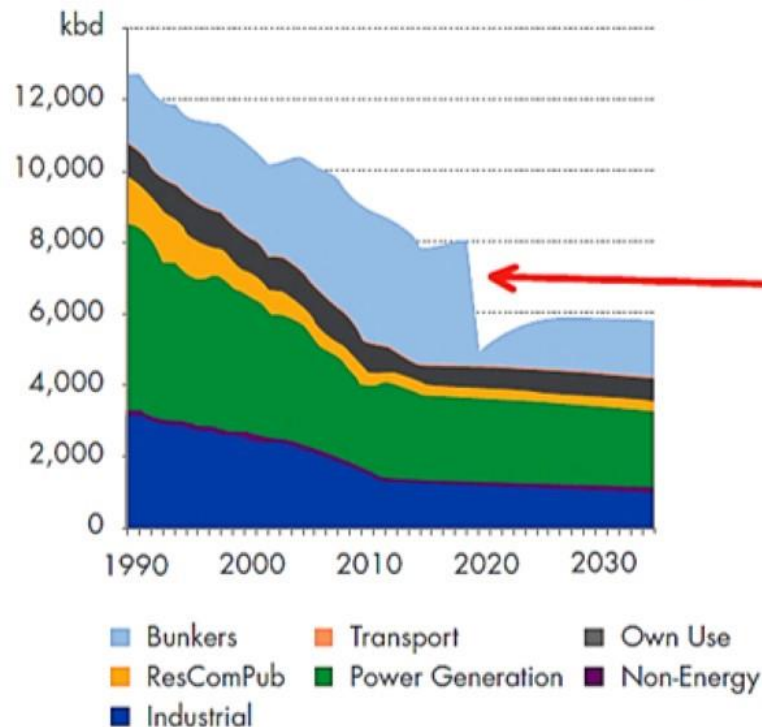
"The huge demand shift from HFO to LSFO is likely to increase bunker costs by up to four times their current level"

Wood Mackenzie
Research
March 2017

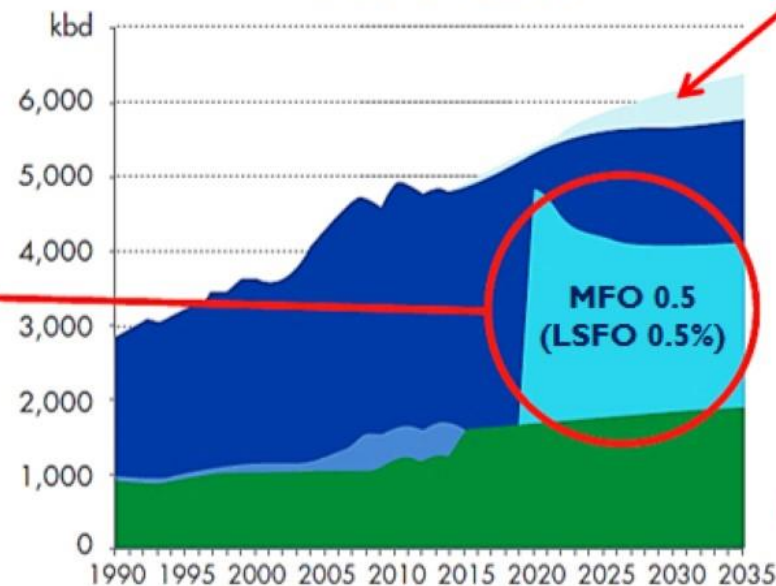
- The table above summarizes the cost benefits from bunker costs only, for various prices of LNG and liquid fuel, assuming 5,500 running hours or 230 sailing days a year, at service speed.
- Within normally expected price variations, Forward Ships yield savings of more than \$ 1 million per year.
- If the price of liquid fuel rises above \$550 USD/MT, Forward Ships are unquestionably the winners.

Fuels: The recipe for the perfect Price Arbitrage

Global Residual Fueloil Demand by sector



Bunker Demand



LNG

Compared with the 300kbd LSFO displaced during the ECA transition in 2015, the 3Mbd 2020 transition could have a dramatic impact.



Shell
LNG

Source: Shell, June 2017