

# Container carrier

## Quantifying the benefits of applying in erection stage



Container carrier

# Total cost of ownership and payback period



Application scenarios						Comparing the scenarios		
		Hempaguard NB (Erection Stage)	Hempaguard X7 (Post-Delivery Docking)	Hempaguard X7 (Pre-Delivery Docking)	SPC***	Hempaguard NB vs SPC*** (Erection Stage)	Hempaguard X7 vs SPC*** (Post-Delivery Docking)	Hempaguard X7 vs SPC*** (Pre-Delivery Docking)
Paint	Paint Purchase Cost	\$800,000	\$800,000	\$800,000	\$280,000	\$520,000	\$520,000	\$520,000
	Paint Application & Washing Cost	\$180,000	\$190,000	\$185,000	\$0	\$180,000	\$190,000	\$185,000
	General S/Y Cost	\$0	\$70,000	\$70,000	\$0	\$0	\$70,000	\$70,000
	Potential Mark-up Cost	\$0	\$50,000 - \$100,000*	\$500,000 - \$1,000,000**	\$0	\$0	\$50,000 - \$100,000*	\$500,000 - \$1,000,000**
NB Yard Cost	Diver Cost	\$0	\$0	\$0	\$11,500			
	Extra Costs Next DD	\$0	\$0	\$0	\$18,000			
	Additional Fuel Consumption	\$0	\$0	\$0	\$220,000			
Cleanings	Total Cost of Fuel	\$41,000,000	\$41,000,000	\$41,000,000	\$45,400,000			
Fuel								
TCO	Total Cost of Ownership	\$41,980,000	\$42,110,000 - \$42,160,000	\$42,555,000 - \$43,055,000	\$45,929,500			
Total Savings \$						\$3,949,500	\$3,819,500-\$3,769,500	\$3,374,000-\$2,874,500
Expected Payback Period (Months)						14	17-18	25-35

Assumptions: Container Vessel Type ~13,000 TEU, Consumption: 45t/day, Speed: 14 knots, Fuel Price: \$650/t

- \* Sea Trial cost for 3rd party management and fuel consumption
- \*\* Potential Mark-up S/Y Cost depends on the s/y location and has to do only for pre-delivery docking
- \*\*\* SPC Product with 2.5% speed loss for 5-years

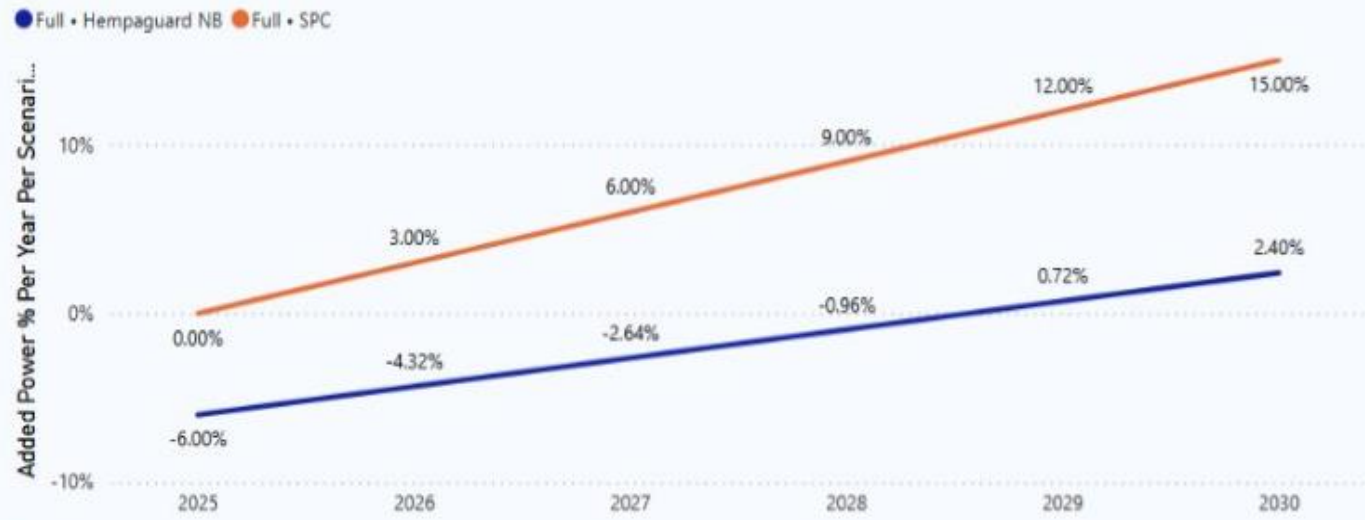




# Hull coating upgrade: Expected efficiency improvement



Added Power % per year



## Assumptions

Out of dock savings are based on the absolute power gain from the smoothness of silicone compared to self-polishing antifouling.

Savings over time is based on speed loss difference of silicone compared to self-polishing antifouling translated to power saving.

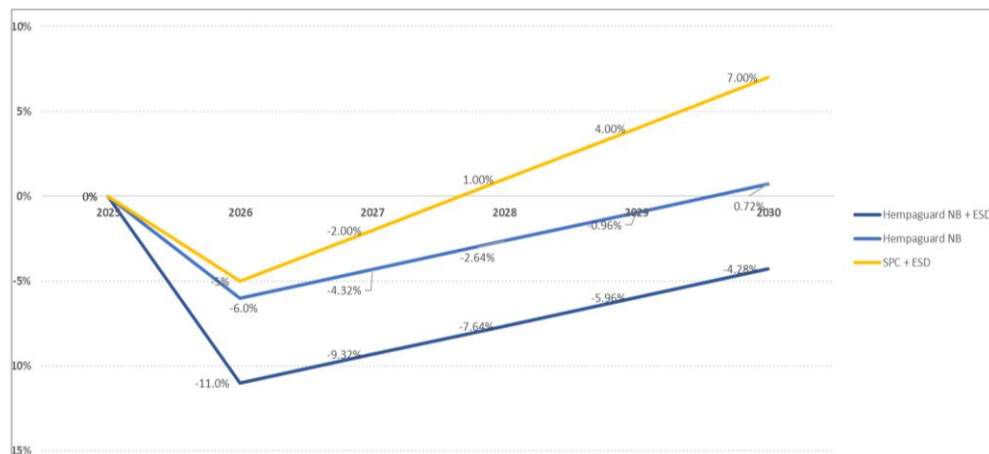
3:1 relationship between power increase and speed loss is assumed.

Paint System Description	Seamflow	Out of Dock Power Gain %	Surface Preparation %	Speed Loss %	Out of dock & Surface Preparation Diff%	Overtime Power Savings %	Total Fuel Savings %
Full • Hempaguard NB		6.00	0.00	1.40	6.00	3.30	9.30
Full • SPC		0.00	0.00	2.50	0.00	0.00	0.00

# Increase vessel performance according to CII/EEDI

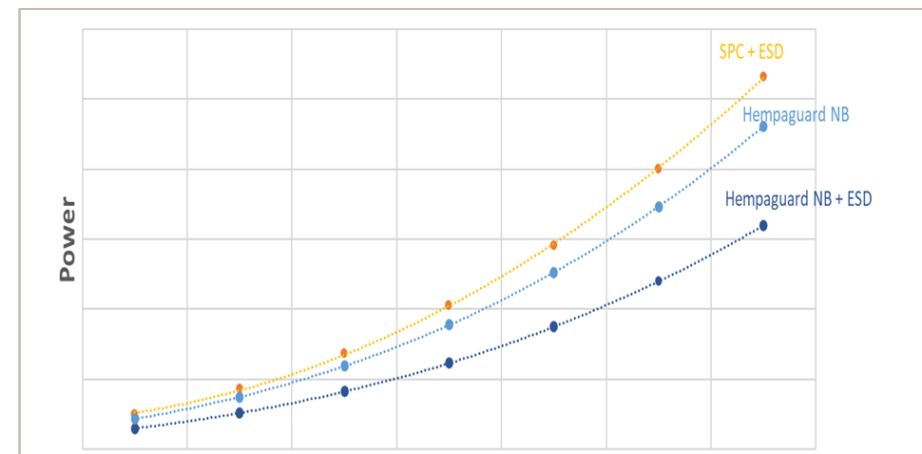


CII difference from reference year



Coating system	2025	2026	2027	2028	2029	2030
Hempaguard NB + ESD	5 (C)	4.45 (B)	4.53 (C)	4.62 (C)	4.70 (D)	4.79 (D)
Hempaguard NB	5 (C)	4.70 (C)	4.78 (C)	4.87 (D)	4.95 (D)	5.04 (E)
SPC + ESD	5 (C)	4.75 (C)	4.90 (C)	5.05 (D)	5.20 (E)	5.35 (E)

Impact on Vref for purpose of EEDI



# Reducing emissions for your newbuild container

## Comparing Hempaguard to traditional SPCs



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### Industry, Innovation and Infrastructure

Paint savings up to 14%, avoiding the supply of 6,444 litres of coating



**40 t CO2e not emitted in the manufacturing and application of coatings**



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### Climate action

Reduces CO2e emissions from fuel consumption by 12%, equivalent to 11,727 t of fuel over 5 years



**36,517 t CO2e emissions avoided over 5 years**



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### Life below water

Reduction of hazardous substances in the sea: no copper oxide and minimal use of co-biocides



**36,517 t CO2e emissions avoided over 5 years**



Assumptions:

Vessel ID: Container 14KTEU

Flat bottom m2: 10,000 / Vertical bottom m2: 15,000