



Walking the green mile

by Dan Nash, *Head of RoRo, VesselsValue*

Flows of money were already pouring into sustainable funds prior to the rendition of *Amazing Grace* by Garth Brooks at “green president” Biden’s inauguration. Electric vehicle maker Tesla increased its market cap by an astonishing \$500b in 2020. It is now more valuable than the world’s top eight automakers combined, thanks to its cutting-edge lithium-ion battery technology and the visionary Elon Musk, who takes more risks than most. If only such equity returns were possible in the margin-thin shipping business.

In January 2021, Stena Line took the bull by the horns in the ro-ro sector by re-announcing the intention to build the world’s first fossil-free, fully-battery powered ro-pax of its size. At 200 meters in length, the lightweight *Stena Elektra* will have a capacity for 1,000 passengers and 3,000 lane meters (lm) of freight, capable of sailing 50 nautical miles on a single charge targeting the Gothenburg-Frederikshavn route. People at Stena are looking to add fuel cells, hydrogen, and biofuels to extend the power from 60-70 MWh in collaboration with the Volvo and Scania groups and the Port of Gothenburg, which is a smart move. Regrettably, she will not be ordered for another four years, launching into service later in 2030. Rome wasn’t built in a day, but it feels slightly undercooked. DFDS responded soon after in more bullish tones, partnering up with ABB, Ballard Power Systems Europe, Hexagon Purus, Lloyd’s Register, KNUD E. HANSEN, Ørsted, and Danish Ship Finance to develop a ferry 100% powered by hydrogen which could be fully operational by 2027 – if public money from the EU Innovation Fund is approved.

So, we finally have a race towards carbon neutrality in the ro-ro & ferry sector, which can only benefit the wider industry bringing more investors to the table. Sale and purchase activity has been down prior to COVID-19, with a scarcity of second-hand buyers and new orders stalled as ship owners deliberate on green technology and best timing. The container operator Maersk, pledging carbon neutrality by 2050, will place its first zero-emissions order within three years, deciding between ammonia, methanol, biodiesel, and lignin fuel. That is a lot of fleet replacement – and subsequently new bunker/energy carrier demand. And if the European Commission makes good on carbon taxation to achieve climate targets by 2030, we could be looking at a major shake-up in the industry.

Premium for zero-carbon ships

Transparency is the name of the game in today’s consumer-led supply chains. Manufacturers are acutely aware of environmental, social and governance (ESG) standards, using tech such as blockchain for immutability and supply

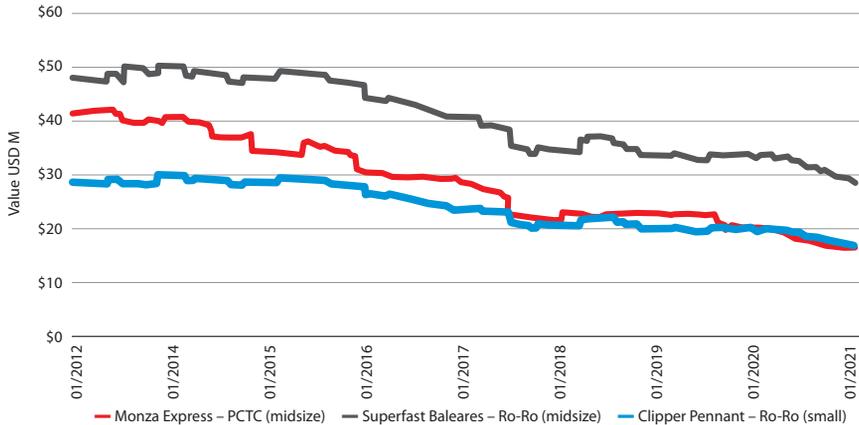
accountability. Global forwarders advertise online carbon calculators for sales and emissions clarity, enabling exporters to see the climate footprint per unit of cargo quoted. DSV is currently working on a digital platform that will enable customers to choose more climate-friendly routes and pay extra for green fuel. Whilst carriers, as transport suppliers to both manufacturers and forwarders, must accurately report on CO₂ emissions per freight unit to secure long-term contract business. Fairly soon, the end consumer will expect zero-carbon transportation from end-to-end in the supply chain, on cost parity over land and sea. There lies the drawback for ship owners.

What will then happen to ro-ro asset values as we transition to green? It depends on the cargo mix, respective markets, and the vessel type. In the mid-term, we expect to see a divergence in charter rates with stronger relative demand for liquefied natural gas (LNG) powered tonnage and battery hybrids. Pure car & truck carrier (PCTC), ro-ro, ro-pax/ferry, and con-ro ship owners already priced-in to LNG such as Siem, UECC, NYK, K-Line,

Tab. 1. Value change of selected ro-ro vessel ranges – from 1/10/20 to 31/01/21 (\$m/lm)

Age	Large (5,500 lane metres)	Midsize (3,500 lm)	Small (2,500 lm)
0		-0.6%	
5		-1.8%	
10		-3.7%	
15		-6.7%	
20		-10.8%	
25		-15.7%	

Fig. 1. Ro-ro/vehicle carrier values – from 1/01/12 to 31/01/21



Source for Fig. 1 & Tab. 1: VesselsValue

Stena RoRo, WALLENIUS-SOL, Bore, Tallink Grupp, Matson, Crowley, Seaspan are in a favourable position to capitalise over non-green assets. Grimaldi’s green battery-in-port hybrids are a clever compromise, and values should hold up relatively well, especially if the battery tech develops. NYK recently announced they plan to replace the existing PCTC fleet with 40 newly built LNG-fuelled vessels over the next decade, reducing CO₂ emissions by 50% per tonne-kilometre by 2050. However, these plans could be revised if the EU toughens its policy on emissions, pushing through a regional carbon levy as a logical next step. Biden is likely to support it.

A blueprint from Norway

Latest global predictions from auto analysts suggest 20% of all new car sales will be electric by 2030, rising to 58% by 2040. These are big numbers and perhaps conservative for Europe, noting more than half of Norway’s total was electric in 2020, with many arriving on PCTC’s from Tesla’s Gigafactory in Shanghai (although

outsold by Volkswagen). Norway has the highest number of electrical ferries in the world (though these are relatively small units), where the pioneer Norled is now building a hydrogen-driven ferry. The car market transformed due to generous government tax incentives, excellent stakeholder collaboration, and strong consumer demand for electric vehicles.

General Motors (GM) referenced Norway’s success in their **Super Bowl commercial last month**, employing Will Ferrell to great comedic effect. GM is launching 30 new global electric vehicles by 2025, aiming to be completely electric by 2035. With such development, investment, and demand – it is plausible to imagine a scenario next decade where a leading car manufacturer will insist their sophisticated electric tech vehicles are shipped on zero-carbon vessels, paying a premium for the service, bringing value back to ship owners and shareholders invested.

Values as we transition to green

Figure 1 compares historical values for a vehicle carrier and two ro-ros of similar

age, tracking the PCTC-midsize *Monza Express* (3,693 car equivalent units, CEUs, of cargo capacity; built in 2009 by Hyundai Mipo), the ro-ro-midsize *Superfast Baleares* (3,625 lm, 2010, Navantia Carenas), and the ro-ro-small *Clipper Pennant* (1,830 lm, 2009, Ast de Huelva) from 1 January 2012 until 31 January 2021.

As per the red trend line, the PCTC depreciated at the fastest rate, losing 61% in nine years. The midsize and small ro-ros, as per the black and turquoise trend lines, held value depreciating 41% and 42%, respectively. Midsize PCTCs were cannibalised by larger vessels during this period, as new Post Panamax deliveries of 7,000 to 8,500 CEUs hit the water from 2013. We are starting to see the same scenario play out today in the European straight ramp ro-ro market, with mega-sized deliveries of 5,000-7,800 lm squeezing out smaller tonnage on competing routes.

Based on the high proportion of valuable cars on Large Car and Truck Carrier/PCTC/Pure Car Carrier vessels, vehicle carriers will be the first type to ‘go green.’ Closely followed by ro-paxes/ferries trading on shorter city-to-city journeys, where passenger income is the driver of earnings. Pure cargo ro-ros will enjoy the longest period of grace due to a more diverse freight mix. The impact on values, as non-green assets compete head-on with green assets in their respective markets, is the big unknown. As per Table 1, ro-ro values have been falling over the last four months, primarily due to an oversupply. Government incentives to encourage scrapping could address this imbalance (environment-friendly ship decommissioning being a topic of its own).

The scales tip

Investing in bridging fuels versus carbon-neutral solutions continues to divide ship owners. However, we are beginning to see carriers take clearer positions with electric, biofuels, and hydrogen emerging as front runners in the ro-ro sector. Dual-fuel LNG engines equipped with battery packs, which also have the flexibility to run on fossil-free liquid or gas, are a safe bet. The need for real-time asset valuations has never been greater. □



Ship owners report increasing difficulty in selling small, vintage tonnage, particularly in Europe. The net must be cast wider on a global level, and this is where VesselsValue can help connect sellers to buyers by utilising its extensive online sales database. Search features cover year built, builder’s yard, lane meter and passenger capacities, engine type, vessel speed, ramp and deck strengths, deck heights and adjustable decks, etc. The same database is tracked by our proprietary algorithm to provide real-time market valuations using the latest transactional inputs (incl. time and spot charter, adjusting to the state of the market in the absence of raw sales and purchase data). Head to www.vesselsvalue.com for more info.