MRV Benchmark Report 2021

CLdN Ro-Ro SA

Summary of final report

pwc

Executive summary
CLdN Ro-Ro MRV benchmarking

This report was commissioned by CLdN Ro-Ro SA (hereafter 'CLdN') in September 2021 as part of a wider effort to understand and improve the sustainability of the company's operations. It provides an overview of the evolution of the fuel consumption, carbon dioxide (CO_2) emissions, and energy efficiency of CLdN's fleet, both year to year (across reporting years 2018/19/20) and compared to seven of its peers.

Background

The European Commission's Monitoring, Reporting and Verification ('EU-MRV') Regulation entered into force in January 2015, with the first reporting period starting in January 2018. The Regulation provides requirements for the monitoring, reporting and verification of CO_2 emissions from ships > 5,000GT arriving at or departing from ports in the EU/EEA by the companies which operate them. Operating in and around the North and Baltic Seas, CLdN and its seven peers are all covered by the regulation and as such, have all reported CO_2 and fuel consumption metrics under the scheme since it came into force.

As such, the EU-wide legal framework of the MRV dataset was chosen as a good basis for the benchmarking of the 8 peers, across various metrics including fleet characteristics, fuel consumption and CO_2 emissions, and energy efficiency. More specifically, the purpose of the report was to compare the performance both from year to year and across the peer group; CLdN was particularly keen to understand the impact of a strategic shift decided upon around 2015 to begin investing in larger, more fuel-efficient vessels.

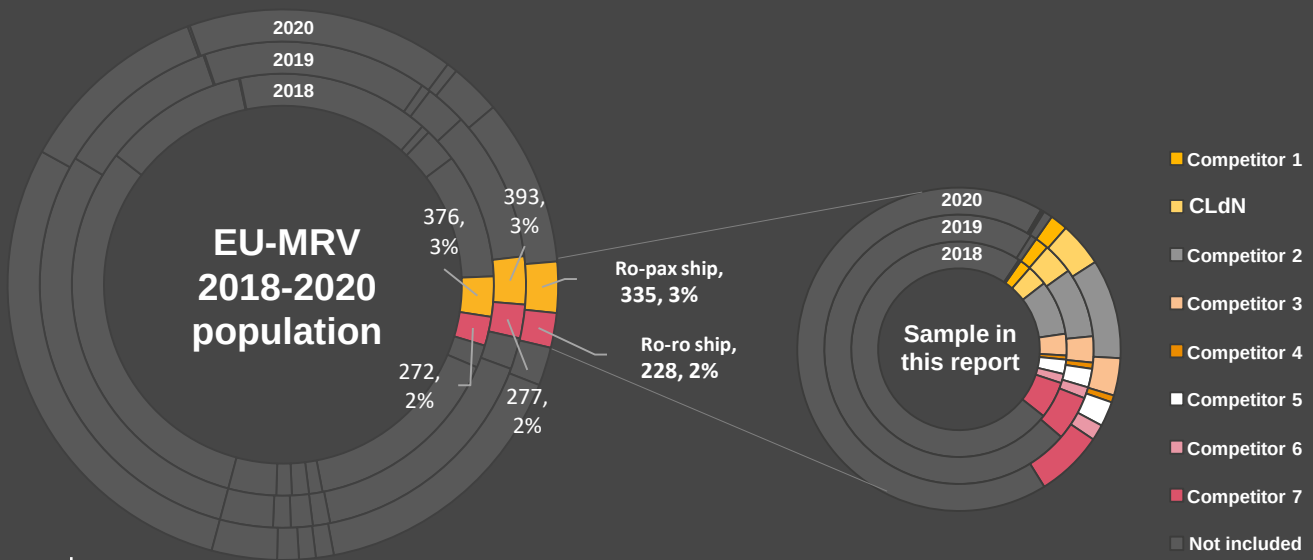
How was the report compiled?

The sample used within this report is a subset of the publicly available EU-MRV data reported from 2018 to 2020, as shown in Exhibit 1. It specifically focuses on the ro-ro and ro-pax vessels belonging to a total of eight operators selected based on their region of operations, fleet composition[1], and comprising roughly 180 vessels per reporting year, or roughly 30% of the entire EU-MRV ro-ro and ro-pax population.

The only data added to the extracted EU-MRV dataset was the operators' names, deadweight, and build year which was exclusively sourced from the operators' annual reports or MarineTraffic[2].

> "Every sector of the global economy needs to transform and radically decarbonise in just over two business cycles – including maritime transport.

Exhibit 1: Sample dataset



[1] Region of operations refers to in/around the North and Baltic seas, although in order to maintain the integrity of the sample and include all vessels of the given operators, there are some which operate in the Mediterranean. Fleet composition refers to Ro-Ro and Ro-Pax vessels.

[2] This summary is subject to the assumptions included in the main report appendices.

A top performer within the peer group

CLdN decided upon a fleet renewal strategy in 2015 that would see them come to operate the largest short-sea ro-ro vessels in the world with the delivery of CELINE and DELPHINE in 2017 and 2018, respectively. This is indicative of the strategic shift toward ordering larger capacity, more fuel-efficient vessels, the impact of which is evident. CLdN had the largest relative fleet increase (22% CAGR or five vessels) over the period 2018-20, and operates the youngest fleet with an average vessel age of 12.7 years compared to peer group average of 17.2 years. Furthermore, CLdN was responsible for over 50% of the total deadweight capacity increase over the period, and – driven by these large, new vessels – achieved the largest growth in transport work (a combined measurement of cargo in metric tonnes and distance travelled in nautical miles) with a CAGR of 25% from 2018-20, firmly establishing itself as the second largest operator in the sample by transport work performed.

Exhibit 2: Total peer fleet capacity in deadweight with CAGR from 2018-2020

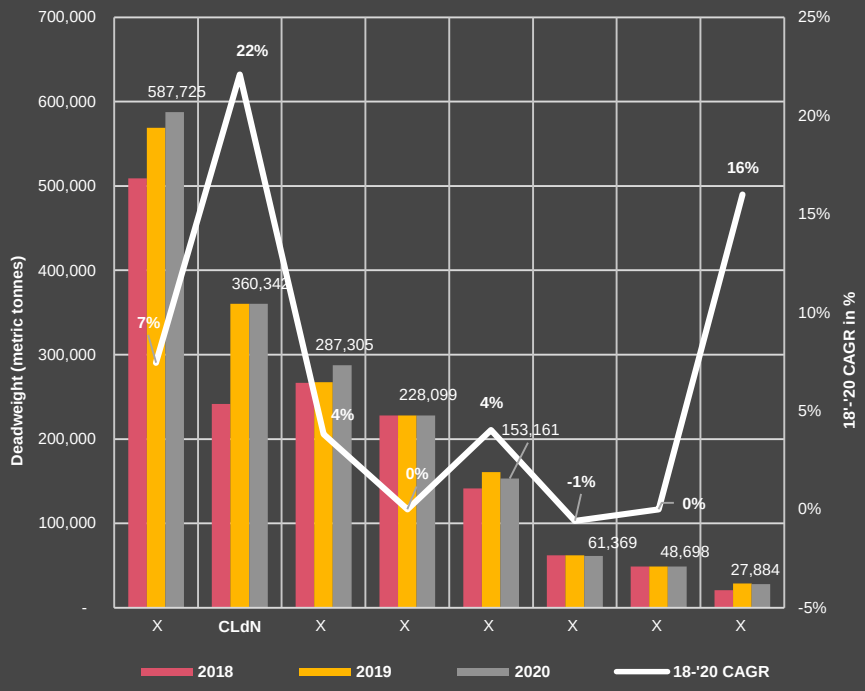
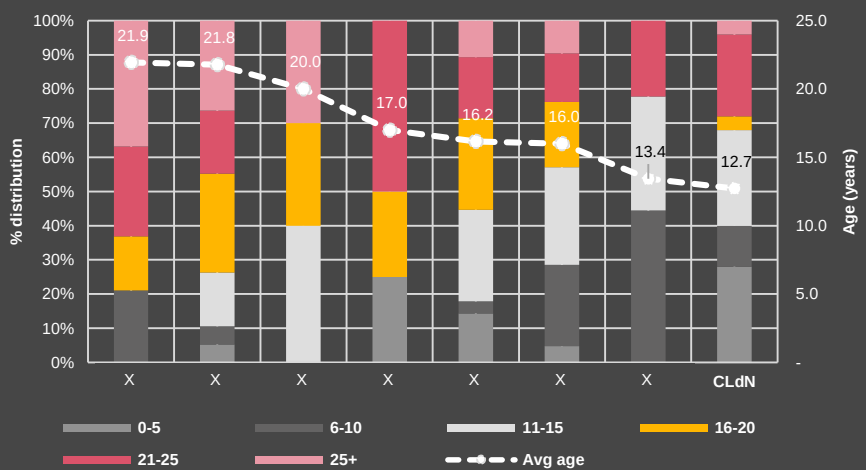


Exhibit 3: Peer fleet age distribution with average age for 2020

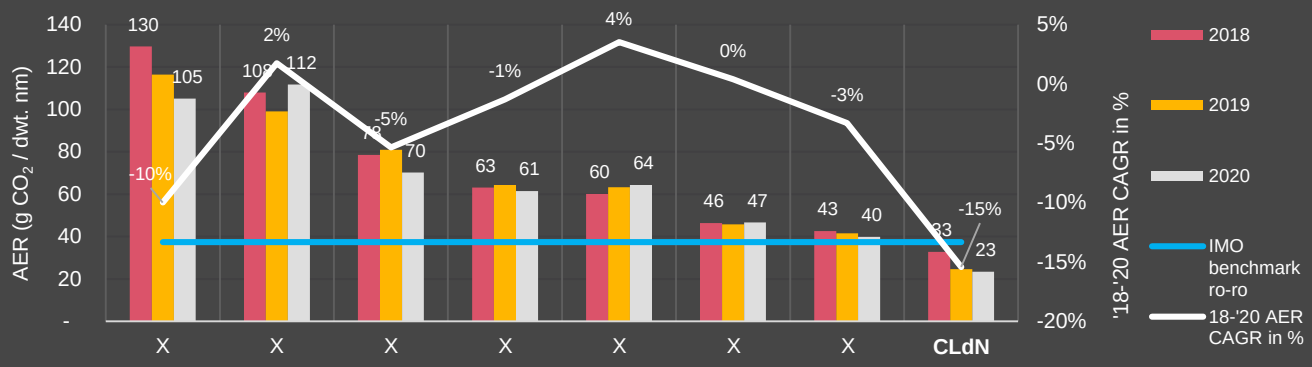


CLdN is tied for the largest share of young vessels, but has the youngest average fleet age of the peer group

While the peer's average fleet age range spans almost a decade, almost 1 in 3 vessels in the peer group are 25+ years old; these vessels tend to be less efficient than modern equivalents, which helps explain CLdN's performance throughout this study, which is largely driven by their fleet renewal strategy. This modernisation effort has seen the oldest vessel in the 2020 data since leave the fleet, with two new builds joining in 2021/2022.

CLdN performed strongly across the energy efficiency metrics assessed

Exhibit 4: Peer fleet Annual Efficiency Ratio [AER] (g CO_2 / dwt. nm) with CAGR from 2018 – 2020 (all vessels)



CLdN's average CO_2 emissions per vessel declined every year, despite a 25% increase in transport work[1] over the same period

CLdN's CO_2 emissions and energy efficiency metrics show similar trends, with CLdN operating the second most technically efficient fleet (from a vessel design standpoint – EEDI & EIV) and leading the average Annual Efficiency Rating ('AER') per vessel for the peer group. CLdN also had the leading average Energy Efficiency Operating Index[1] ('EEOI') per vessel by a significant margin – indicating the most efficient operation of its fleet among the peers.

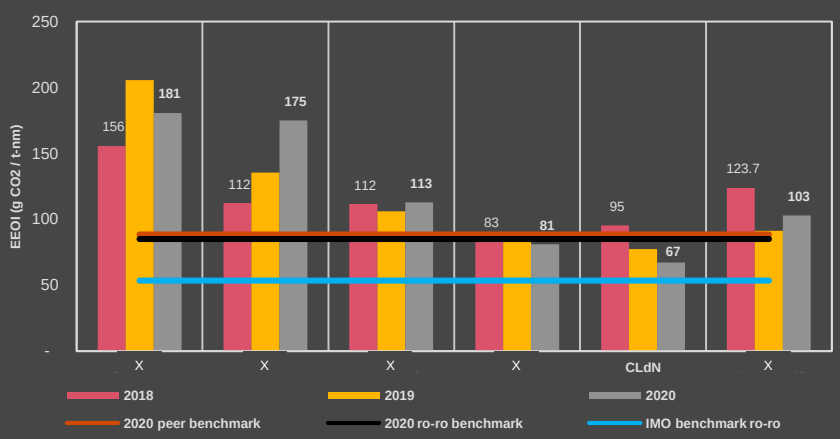
The decline of CLdN's CO_2 emissions despite an increase in transport work performed illustrates the changing profile of its fleet over the period. Despite the increase in transport work, the CO_2 emissions of an average vessel in the fleet fell by roughly 12% or 3,000 metric tonnes of CO_2 over the period. This trend is expected to continue given that CLdN received one LNG-powered newbuild in 2021, which will be followed by a second in 2022. LNG has a significantly lower emissions factor than traditional marine fuels and will likely have a significant emissions reduction impact in the maritime sphere over the coming decades. Currently all the peers in the group use a mix of light and heavy fuel oil (according to the emissions factors calculated from the CO_2 emitted), meaning that there is an opportunity for sustainability-minded operators to start delivering dramatic improvements over the current figures as they renew their fleets – an effort that will be increasingly driven by the regulatory environment in the future.

CLdN became the top EEOI performer in 2019

CLdN had the top EEOI in 2019 and 2020, one of two of the sample size that scored below both the peer average and the IMO benchmark for ro-ro vessels. The large new vessels that joined the fleet in 2019-20 decreased the average fleet EEOI by about 22%, and CLdN managed EEOI improvements in all deadweight size classes except 0-10,000 dwt. Three of the peers in the sample actually increased their average fleet EEOI from 2018-20, two of which by sizeable margins.

While the modernisation of the fleet accounts for the majority of the emissions reduction, this study also analysed the data with CLdN's six largest, newest vessels (delivered 2018-2020) excluded in order to assess the impact of potential operational measures employed to reduce fuel consumption and CO_2 emissions. As expected, the pace of EEOI improvement slowed once these vessels were removed, but the overall trend was still evident, indicating that the operational measures are likely having some affect in terms of improving the efficiency even with the smaller, older vessels in the fleet.

Exhibit 5: Peer Energy Efficiency Operational Indicator (EEOI) evolution



[1] Figures referring to transport work (and EEOI, of which transport work is a factor) refer only to ro-ro vessels due to differences in the way that ro-pax vessels calculate and report transport work.