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Slyusarenko Anatoliy

Department of Navigation and Ship Management

Danube Institute of

National University "Odessa Maritime Academy"

ORCID: 0000-0003-1622-2030

RIGHTSHIP LAUNCHES MITIGATION AND CARBON INVENTORY REPORTING TOOL

Summary. Taking into account the relationship of states in the maritime risk management organization in the assessment of a new system that makes safety assessments to improve the level of shipping safety and risk management in the maritime industry, as well as to help interested parties get an initial idea of the operational characteristics of chartered vessels and encourage shipowners to invest in improving modern processes and technologies, those technologies that will make the entire supply chain safer and the greenhouse gas emission assessment tool, to improve the safety standards of the assessment of emissions from ships.

Key words: RightShip's strategy is to expand the sharing of ecosystem data; Safety Score; Shipfix; Launching a global fulfillment program for the marine and cargo markets with RightShip; The IMOS Platform version (Veson IMOS Platform); NxtPort Int'l platform; Green Marine environmental certification; Sea Cargo Charter methodology.

Introduction. The modern world dictates new requirements in the areas of working on the development of new safety indicators in cooperation with all interested parties in the shipping industry and which would provide clear,

transparent metrics to help interested parties get an initial idea of the operational characteristics of ships. The Maritime Risk Management and Environmental Assessment organization, RightShip, has launched a new system that makes safety assessments to improve shipping safety and risk management in the maritime industry [5]. Safety Score has been launched in response to this demand in these industries with even more transparent ship valuation methods. Over the past two years, RightShip has worked to develop a new safety indicator in collaboration with all stakeholders in the shipping industry and that would provide a clear, transparent metric that includes only those factors that are under the control of the operator, which helps improve support for maritime safety in the maritime sector. The resulting security assessment will be posted on the new RightShip platform, which will replace the current Qi platform and once the safety assessment is up and running, a predictive risk rating has also been made.

1. The main criteria

To give the maritime industry both preparation for the transition - which was announced in advance, and before the official launch which was carried out in September 2020. The previous RightShip Risk Rating gave a forecast, that over the next 12 months there is a possibility that the ship will suffer some kind of incident. Therefore, the new Safety Rating focuses on ensuring operational performance on ships (Safety Management Certificate), diploma holders, flag state (Certificate of Navigation under the Flag of the...) and class of vessels (Classification Certificate). Safety Score uses an advanced assessment methodology that analyzes the severity of any previous ship incidents, the frequency of their incidents, and any previously identified deficiencies or delays of a given vessel in ports. The new assessment also takes into account the activity of ship owners, operators and managers in safety and risk management, by analyzing their response to incidents, deficiencies or delays in vessels. This, in turn, helps to provide a clear, identifiable way to improve shipping safety standards and processes. It creates a level playing field for all vessels when

sailing, regardless of the type, size, age or shipyard of ship construction/repair, manufacturer, and at the same time allowing industry participants to compare their operating processes and safety procedures with the best data and reports obtained in the field.

RightShip is designed to help stakeholders gain an initial understanding of the performance of charter vessels and encourage shipowners to invest in improving processes and technologies, those technologies that will make the entire supply chain safer. Since 2001, RightShip's mission has been to help improve security in this area. An important element of the Safety Score is to ensure that the international market is provided with tools that, ultimately, help support those interested in it and their desire for continuous improvement. The new Safety Score takes into account the numerous feedback from the industries involved regarding the improvement, greater transparency and control of the ratings obtained and the results of extensive cooperation with owners, operators, managers, charterers and other participants in this global industry. RightShip has created a balanced assessment that can be used by all its participants. For customers looking to check due diligence, for them, RightShip provides a clearer picture of the performance of vessels and document holders (DOC holder).

A safety assessment is an indicator intended to be used as one of many factors in the process of due diligence. Therefore, in combination with the received full maritime expertise, allows you to evaluate the vessel for chartering, and provide all the analyzes and recommendations received, after a full inspection of this vessel, for the charterer. For the shipowners community, the new safety indicator also takes into account an approach to management efficiency, giving the concept of shipowners a true understanding of how they can improve ship safety by following many parameters. This encourages shipowners to invest in improving systems, processes and technologies on ships that give the entire supply chain processes and technologies more secure. It is believed that this will contribute to improving broader safety standards in all industries and will start a

new discussion on the safety of navigation. How risk management takes place, while simultaneously protecting such operations that reflect a particularly important role in the current environment. It was noted that RightShip will provide a number of technical resources to support the launch of a new shipping safety rating and facilitate the transition to them. These include educational webinars, trainings and other events using the Internet, as well as on a special resource page. RightShip and Veson Nautical groups have announced a new collaboration to give subscribers to Veson's freight management platform access to RightShip data.

2. The key aspects

The IMOS Platform version (Veson IMOS Platform) is a commercial freight management platform that allows charterers to make informed decisions about the type of vessel they would like to charter and use to transport their cargo, and allows shipowners to share the capabilities of their fleet. Starting from November 22, 2022, interested parties integration subscribers will be able to access the following RightShip data as part of the freight solution for chartering the Veson IMOS Platform, IP Chartering, as well as on the analyzes obtained and decisions before the trading analysis of the market, provided before signing agreements on the start of trading in the VIP Trade Hub, the following is provided:

- safety assessment;
- rating of greenhouse gas emissions;
- inspection status of the vessel.

As part of VIP Chartering, Veson IMOS Platform customers can use the resulting integration to create timely alerts and notifications to obtain ratings of vessels that meet and that do not meet specific freight requirements [1-2]. Charterers either they receive a preliminary warning, or they will be able to record those vessels that go beyond the expected rating parameters and this will be able to help them, protect them from wasting time or errors, and also standardize the process of pre-fixation. In the VIP Trade Hub, Veson customers can set minimum parameters for the greenhouse gas emission rating and safety points (GHG Rating

& Safety Score) to search for vessels from the information provided, which are nearby, at a given hour, in a certain geographical location. With the ability to search and sort by rating information, users will always be able to filter and make choices that may meet their requirements, and then make an informed and environmentally friendly decision before choosing a vessel. Such cooperation is a more profitable and correct solution in partnerships, acquisitions, timely warnings and data-driven communications that allow RightShip to develop and strengthen its position as coordinator of environmental, social and governance solutions for the maritime and raw materials trade sector. Using a digital maritime platform aimed at paying special attention to the safety, sustainability and well-being of the crew on ships and to achieve their goal, RightShip use this slogan "Zero harm for people and the Planet" - zero damage to people and the Planet.

RightShip's strategy remains to expand and share the resulting ecosystem data, and it marks another fantastic step forward for RightShip as well as for the entire global maritime industry as it expands across the partner network. The RightShip strategy wants to provide safer and smarter solutions for sea freight, while using modern technologies that ensure transparency in all workflows when and where necessary. Working with Veson means that customers can access information in a timely manner, as Veson helps the industry follow the planned course of sharing the data for the future without compromising customers.

Cooperation with Veson will be more transparent on the data obtained, constantly improving their quality, as the need for accurate transparency ESG (Environment, Social, Governance) is becoming more common in the world. RightShip provides significant Economic Value Added (EVA) economic value added for customers, allowing them to add and have the latest information about the ratings of shipowners and their vessels, directly in the decision-making process for chartering on the Veson IMOS platform. Such cooperation further confirms the desire to allow customers to refer to the data of the obtained ratings that they need in the work process of chartering ships. Such cooperation is a

profitable way to help the industry effectively charter and effectively carry out decarbonization. Paying attention, at the UN Climate Summit in September 2019 in New York, where the Getting to Zero Coalition and the partnership between the Global Maritime Forum, the Friends of Ocean Action Association and the World Economic Forum were created. This Coalition has set itself an ambitious goal, with every effort, to have commercially viable zero-emission vessels operating along deep-sea trade routes by 2030. This would allow this industry to achieve the IMO target, halving the annual greenhouse gas emissions from maritime shipping by 2050 compared to 2008 levels. And to support this goal of the IMO, the protection of the marine environment is preparing in June to establish new requirements for emission reductions and efficiency for vessels that will come into force in 2023.

Shipfix Technologies, a startup launched to grow rapidly without geographical constraints in the field of modern data software and technology for the maritime and commodity markets, announced a partnership with RightShip, the world's largest organization for comprehensive inspection of marine vessels. This partnership will provide Shipfix customers with access to RightShip's operational data, which will allow them to gain organizational experience in global security, sustainability, and social responsibility practices. Taking advantage of this experience of the organization in the field of global security, sustainability and social responsibility will give them the opportunity to start their journey in the field of environmental protection, social protection and management (ESG - Environment, Social, Governance).

Customers will be able to make more informed decisions during trading and operational processes, workflows using the Shipfix system, which supports users through aggregation and anonymization of tonnage intentions and freight orders prior to the start of physical trading flows. This strategic partnership supports Shipfix Technologies' commitment to promoting sustainable ship chartering in industry trade, both from an environmental perspective, both in

terms of the well-being of crew finding on ships and for coastal operators. RightShip is believed to be one of the most reliable sources of information in the shipping markets and Shipfix Technologies is interested in entering the integration ecosystem for information on trade data and the most modern workflows. RightShip's partnership with Shipfix will provide early awareness of the quality of the tonnage offered during the preloading phase, so on the opportunity to provide its customers with all the information that will allow them to opt for safe, high-quality goods that are offered, and for the sustainability of further freight traffic. RightShip's joint partnership with Shipfix is the right choice and it is another step towards the maritime industry, as well as striving for a zero-harm result to the environment, a desire for decarbonization, while reducing carbon emissions. And it also confirms the commitment that RightShip with Shipfix will adhere to current requirements in the decarbonization metrics set by the IMO in the industry (ESG).

The RightShip data available to Shipfix users will include:

- The RightShip greenhouse gas rating is a systematic and transparent means of comparing the relative efficiency of a global shipping fleet based on a vessel's CO₂ emissions.
- The RightShip Safety Assessment includes improving maritime safety standards by focusing on the ship's history of operation over the past five years. At the same time, a systematic and transparent tool includes various sets of obtained maritime data and expert reviews, which are concentrated in one simple assessment for understanding by all, when comparing each vessel with the World Fleet and only after that to obtain a complete picture of global maritime security.
- The status of RightShip inspections is undoubtedly the evaluation of each vessel in accordance with the requirements of the software, as well as by checking the professionalism of the crew and their compliance rating to comply with the requirements of legislation and safety of navigation, while paying attention to compliance with industry guidelines and requirements for advanced maritime

practice. All these requirements will be imposed on vessels and monitored through accredited inspectors and independent expertise with RightShip. The data obtained from RightShip will be sent and superimposed on the data of the current Automatic Identification System (AIS), and all ship location data currently in the Shipfix vessel catalog will be provided, and then this data will be fully searchable on navigation maps, tonnage data and other ship data. This powerful combination derived from RightShip will enable interested customers to achieve their ESG goals by considering and managing risks, both for the environment and for the safety of navigation.

SEA-LNG is pleased to share its research on the use of LNG as a marine fuel in 2022-2023. This research resource describes how far the shipping industry has progressed towards LNG decarburization results in 2022 and what decarburization results are expected in 2023. It can be noted that 2022 was another successful year in terms of increasing orders for LNG-powered ships and their number was equal to 2021, despite the fact that exceptionally high LNG prices rose in 2022. Most of the ships have been equipped with low slip engines, which are capable of reducing greenhouse gas emissions by 23%, as well as exceptionally reducing emissions into the air we breathe. Today it can be noted that LNG is the only scalable fuel that is available today for the shipping industry, for the transport of goods. LNG addresses both climate and human health issues wherever possible (Fig. 1).

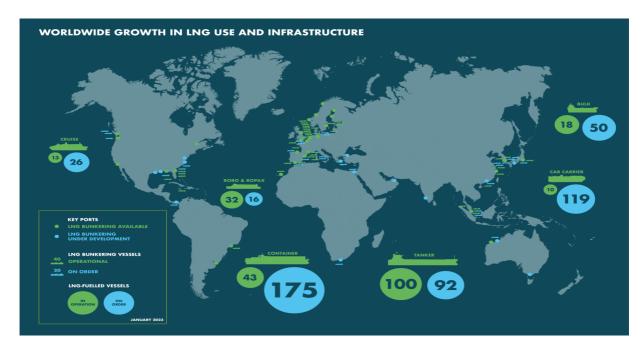


Fig. 1. SEA-LNG's View from the Bridge 2022-2023

Shipowners investing in an LNG fleet must be assured that LNG infrastructure already exists at key ship bunkering locations and that this LNG infrastructure is rapidly developing around the world. As the industry shifts from fossil fuels to zero-emissions renewable fuels, there is also growing awareness that decarburization will not be a "big bang" process in the form of an instant overhaul and that the entire LNG infrastructure will not be overhauled in no time, it will take some time. Most likely, this will happen in stages and gradually. Marine fuel will be progressively decarburized using LNG and provided that this fuel is supplied in sufficient quantities, and it will be fully recognized that low and zero emission decarburization using existing LNG infrastructure is mutually beneficial. Therefore, the industry is investing heavily in new production in the energy supply infrastructure, which will affect the reduction of greenhouse gas emissions. This is an investment process for today and for the next 25-30 years. This is a typical timeframe for new construction of a ship's energy infrastructure. Thus, it is important to note that estimates of marine fuel alternatives should be based on rigorous comparisons using accurate decarburization data.

All LNG-powered ships provide cleaner emissions locally and reduce greenhouse gas emissions globally. We are paving the way for zero-emission maritime transport through the use of sustainable bio-LNG and renewable synthetic LNG. Currently, about 80% of the world's demand for transport fuels (automobile, rail, air and marine) is met by the extracted fossil fuel - oil. But there are also major alternatives to fossil fuels such as:

- liquefied hydrocarbon gases (LHG);
- liquefied and compressed natural gas (LNG and CNG);
- synthetic fuels derived from natural gas or coal methanol, dimethyl ether (DME), synthetic liquid hydrocarbons (SHL);
 - ethanol;
 - hydrogen.

At present, the Global LNG bunkering infrastructure is developing rapidly. Bunker Navigator, the SEA-LNG chart chart, provides an overview of key developments in LNG bunkering and how this growing infrastructure relates to the world's major shipping routes, presence in traditional oil bunkering ports, and the LNG infrastructure that will become the basis for ship bunkering in future. The graph also allows us to view case studies describing bunkering projects being developed by SEA-LNG members at specific locations (Fig. 2).



Fig. 2. Growth of LNG-fuelled fleet

The use of LNG is a viable, zero-carbon way to transport cargo on ships using its variants, both bio-LNG and renewable synthetic LNG. Importantly, this is a clearly defined and accepted path that allows global shipping to immediately find ways to decarbonize. Well-to-Wave (WtW) principle. The use of LNG reduces greenhouse gas emissions by approximately 23% compared to the use of petroleum-based marine fuel.

In April 2021, Sphera, an ESG consultancy, published its 2nd Life Cycle Greenhouse Gas Emissions Study on LNG use and as stated that with the previous paper's 2019 calculation, the latest data available from engine OEMs and fuel suppliers, it is noted that the study demonstrated a 23% reduction in greenhouse gas emissions (Fig. 3). These studies reaffirmed the non-pollution benefits with analysis showing that the combustion of LNG in the latest engines produces almost no SOx, NOx or particulate emissions. Participants included Caterpillar, GE, MAN Energy Solutions, Rolls Royce (MTU), Wärtsilä and Winterthur Gas & Diesel, ExxonMobil, Shell and TotalEnergies on the supplier side.

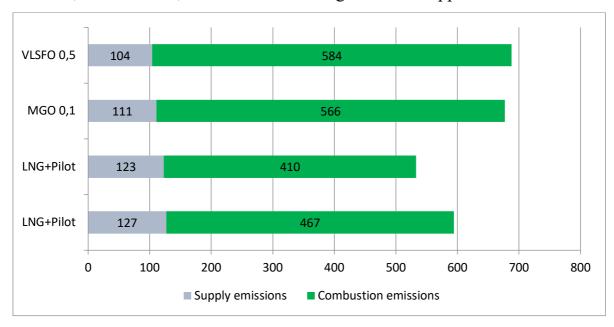


Fig. 3. Starting shipping's decarbonisation journey now

RightShip has announced an appropriate new link for its launched Marine Emissions Portal (MEP) with port data exchange platform NxtPort International, which serves as a market for port communities established in the port of Antwerp and which is designed for more than 3000, both public and private organizations. Int'l's NxtPort platform enables ports, terminals, shipowners, as well as managers to securely access and combine the sources of all data obtained from different supply chains, while encouraging data exchange and connections between interested organizations. NxtPort Int'l offers universal access to a range of digital tools, including weather forecasting for an upcoming flight to avoid unplanned delays while waiting for port entry.

With this new deal with NxtPort Int'l, all port communities around the world will be able to experience the MEP RightShip system. This MEP RightShip system is provided in a set of services designed to support ports and terminals in obtaining complete information so that having this information better understand and manage emissions from different types of vessels in certain areas and specific areas. Nxtport Int'l has excellent experience and understanding in the port business, dealing with goods that have a high potential for the impact of work in ports and terminals. Nxtport Int'l trusts RightShip MEP in providing information on reducing the ship's CO₂ emissions, paying attention to this information for its customers. RightShip is confident that by providing support to many new customers who wish to begin the journey towards zero damage in the maritime industry. RightShip has already launched an expanded and improved set of modern tools for monitoring, measuring and for comparative analysis of greenhouse gas (GHG) emissions associated with world shipping. RightShip's greenhouse gas emissions assessment during monitoring provides a transparent method for assessing relative performance between different vessels and comparing their CO₂ emissions. At the same time, vessel monitoring is carried out with similar vessels according to the technical characteristics of the SEU, their sizes and types, subject to the use of modern tools, while encouraging data exchange and an easy-to-interpret scale from A to G.

RightShip announced that the Port of Quebec in Canada has joined an evergrowing list of organizations that are already able to use their own greenhouse gas (GHG) emission assessment tool to improve safety standards for assessing emissions from vessels entering the waters of the Port of Quebec [6]. The port of Quebec now offers incoming vessels certain discounts on port tariffs, depending on the greenhouse gas emission rating and the effectiveness of protection against CO₂ emissions on the ship. The use of the RightShip rating system enables the Port of Quebec by accredited inspectors to measure and then manage the emissions of vessels measuring from an area of 35 km² (14 m²) under the EcoCargo initiative. EcoCargo is designed to stimulate the decarburization of shipping by stimulating and reducing port fees based on data received from RightShip or the level of achievement of the shipowner himself as part of his work under the Green Marine environmental certification program. This initiative can help reduce the potentially harmful effects of greenhouse gases on the local population and on the environment. Giving ultimately the opportunity to create a safer landscape with improved air quality and an uncontaminated environment. RightShip's carbon accounting reporting data provides companies with a special communication of reporting that has been measured and tracked. Only after that it compares the company's greenhouse gas emissions for certain periods of time.

The data obtained from RightShip is based on existing experience in the field of carbon dioxide emissions accounting, this data will be provided to charterers as well as freight forwarders over the past five years. The development of reporting technology comes at a time when wholesalers in the mining and oil and gas industries, freight forwarders, traders and investors are under pressure to demonstrate their work to reduce Category 3 emissions. This main part of category 3 includes vessels that make up the transportation of goods at ports. Category 3 emissions account for 88% of emissions in the oil and gas sector and up to 95% in the mining sector. These category 3 emission reduction requirements come from several areas that should include regulators and governments, as well as consumers associated with business supplies, and investors, all of which have stricter environmental, social and governance (ESG) requirements for reporting

and working to reduce the harmful effects of greenhouse gases during productivity. RightShip publishes reports that can provide and encourage the maritime industry to improve energy efficiency through the EcoCargo scheme, designed to encourage the de-loss of shipping in which the Quebec Port Authority is interested.

At the same time, government incentives for port tariffs are key to decarbonization and to improve the standards of safe assessment of emissions from vessels entering ports, and to terminals, they are also responsible for ensuring the profitability of freight traffic with zero damage. But according to the data obtained in this area, there is a lag in time for the introduction of innovations and modernization, as well as after a long time for the modernization of ships. Improved reporting capabilities from RightShip after the monitoring will show an assessment of greenhouse gas emissions, followed by calculations of carbon emissions estimates and key emission points by which they have been identified and all recommendations for reducing greenhouse gas emissions should be used. Users benefit from this by upgrading the filters on ships. After that, cargoes will be recommended along routes to delivery ports, after such comparisons, all data are submitted to suppliers and these indicators affect the performance of ships. Make informed decisions in the field of sustainable supply and establish intelligent ESG strategies. This provides all ocean-related businesses to get a high-tech and best-in-class method for tracking greenhouse emissions once their reports are compiled, and it makes the process of choosing supply logistics clear and beneficial for all parties.

To achieve a significant reduction in greenhouse gas emissions in activities in the energy and raw materials sectors, this requires clear data. And not just any data, but this requires detailed, comprehensive and accessible to all customers data on a wide range of emissions reduction indicators, in order to be able to identify emission hotspots in their activities and opportunities to improve emissions reduction. This is too difficult a task, and in order not to do it blindly, the Carbon

Accounting Reporting Tool comes to the rescue. In the maritime industry and, accordingly, in those industries that are related to the raw materials industries with sea transportation, it is necessary to achieve the IIR's goal of reducing carbon emissions by 50% by 2050. And to reach the Paris Agreement to limit global warming by 1.5 degrees Celsius, it does not look ambitious enough to achieve such goals. To do this, we need to take climate change seriously and for this we need to continue to provide tools and ways that contribute to obtaining data on reporting and transparency in the most problematic and require the use and implementation of scientific ideas and knowledge to begin today the tasks to achieve the Paris Agreement on limiting global warming. Particular attention is paid to specificity and accessibility to data that can be filtered according to the individual requirements of each client in order to ensure maximum relevance for each company and so that this data is presented in an accessible form and is as useful as possible. Customers are provided with a visualization of the obtained summary data on greenhouse gas emissions and after this data is automatically generated into analytical data. All the data obtained should be available with easyto-read graphs that reflect the characteristics of individual vessels in accordance with the Sea Cargo Charter methodology.

In October 2020, a group of charterers, including some of the world's largest loader owners, launched the Maritime Cargo Charter. Measurements are taken as a basis for matching climate in freight activities, policies and ambitions outlined in the IIR's initial strategy, and environmental behavior to promote disregard for international shipping. To assess and disclose the compliance of climate with freight activities in the absolute goal of the IMO, set out in its Initial Strategy, which is to reduce the total annual greenhouse gas emissions in the shipping industry ("GHG") by 2050, while making efforts to phase out navigation as soon as possible in this century. As a result, the Maritime Cargo Charter will allow cargo owners and shipowners to coordinate their freight activities and be responsible for environmental relations and will always stimulate the

decarbonization of international shipping, in order to ensure a better future for the environment and for maritime shipping. The main purpose of the signatories to the Charter is to support and work towards the decarbonization of international shipping. A group of 17 founders of the Maritime Cargo Charter: Anglo American, ADM, Bunge, Cargill Ocean Transportation, COFCO International, Dow, Equinor, Gunvor Group, Klaveness Combination Carriers, Louis Dreyfus Company, Norden, Occidental, Shell, Torvald Klaveness, Total, Trafigura, and Ørsted.

Conclusions. Analysis of the research results shows that the activities of sea transportation remain the most energy-efficient way to move goods around the world in relation to other modes of transport. Therefore, sea transportation, as before, remains highly profitable, but at the same time they account for most of the world's greenhouse gas emissions. The financing of courts should be calculated annually according to its operational characteristics, according to its climatic consistency. This funding should be calculated by calculating the climate consistency of each vessel after a full maritime examination and effective analysis of decarbonization.

To determine the impact of emissions on the climate, carbon volume should be calculated using the Average Efficiency Ratio (AER) indicator. AER is calculated in units of grams of CO₂ per ton and must be calculated on all flights of the vessel during operation during the calendar year. The AER efficiency ratio is calculated based on the information received about the IMO Global Data Collection System (IMO DCS). In addition, it is envisaged that the Maritime Cargo Charter provides support for a number of other initiatives, such as, in particular, the UN Sustainable Development Goals, the Framework Structure of the Global Logistics Emission Council (GLEC). This problem was considered and solved by the Global Logistics Emissions Council (GLEC), a group of companies, non-governmental organizations, environmentally friendly freight programs, as well as experts involved in the study, tracking and reduction of carbon emissions

into the atmosphere during freight transportation. Currently, more than 100 multinational corporations use the GLEC Framework to measure and report on logistics emissions in the multimodal supply chain. They have benefited from increased transparency of emissions within the company itself and vis-à-vis their customers, governments, investors and the general public. They also have the ability to use the results to set clearer goals, and to identify and track the results of improvement opportunities for managing procurement and climate risks [7]. Led by the Smart Freight Center (SFC) and partners, the Global Logistics Emissions Council (GLEC) has jointly developed and tested a method for accounting for carbon emissions into the atmosphere and which should be used as shippers, carriers and logistics service providers of the GLEC Framework. Since the launch of this system back in 2016, an increasing number of companies such as DHL, Maersk, Kühne + Nagel, DB Schenker, HP, PepsiCo, Dow and Syngenta are accepting and coordinating environmentally friendly freight transportation programs with the GLEC Framework for collecting and sharing carbon dioxide data.

The general starting point of the GLEC Framework is the constant calculation of the volume of annual emissions grouped on the basis of three groups based on the Protocol by Greenhouse Gas Categories.

- direct, belong to the category -1;
- due to the generation of electricity belonging to the category -2;
- related to the supply chain belonging to category -3.

Many companies report and submit annual emissions data to the "Carbon Disclosure Project (CDP)" or provide this data in corporate reports for the annual calculation of the rating indicator, which allows you to track progress through a comparative analysis of annual emissions. In this case, the Key Performance Indicators (KPI) annual emissions are better measured by the intensity of greenhouse gas emissions. In order to meet the requirements of the Energy Efficiency Index of Existing Sea Vessels (EEXI) and the International Maritime

Organization (IMO) CII protocols, shipowners face the difficult task of choosing the optimal decarbonization solution [6]. Therefore, the decarbonization operator service solves this problem by combining the obtained estimates based on data after the opinion of experts and this allows operators to achieve a complete understanding in accordance with making a profitable investment in decarbonization.

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