

Underwater noise, IMO, and the EU: what's next?

► Roundtable report

13 March 2025 - CMA CGM Headquarters, Marseille



ifaw

Who is IFAW?

The International Fund for Animal Welfare (IFAW) is a global non-profit organisation with expertise in wildlife conservation and rescue. Over the past 50 years, IFAW has worked to address some of the major challenges in marine conservation and is currently advocating for measures to reduce underwater radiated noise (URN) from shipping and the risk of collisions between vessels and whales.

IFAW is currently working with industry and policymakers to reduce the impact of the shipping industry on marine biodiversity within European waters. Through our [Blue Speeds](#) campaign, IFAW is advocating for modest reductions in ship speed as an economic, effective, and easily implemented measure to reduce three major environmental threats: URN, vessel strikes, and greenhouse gas emissions (GHG).

This work is generously supported by:



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The roundtable

On 13 March 2025, IFAW organised a roundtable event hosted by CMA CGM in Marseille to discuss developments in URN from shipping at the International Maritime Organization (IMO) and European level, the importance of measuring acoustic signatures of ships, the role that the industry and specifically ports can play in shaping future demonstration projects, and potential incentive schemes for industry leaders that would like to take steps to reduce URN.

Bringing together a wide range of representatives from the shipping industry as well as port authorities, certification societies, policymakers, scientists, and researchers, this event aimed to stimulate discussion, providing an open exchange of information and exploration of opportunities to collaborate on this important marine conservation issue.

This report summarises the key points raised during the event.



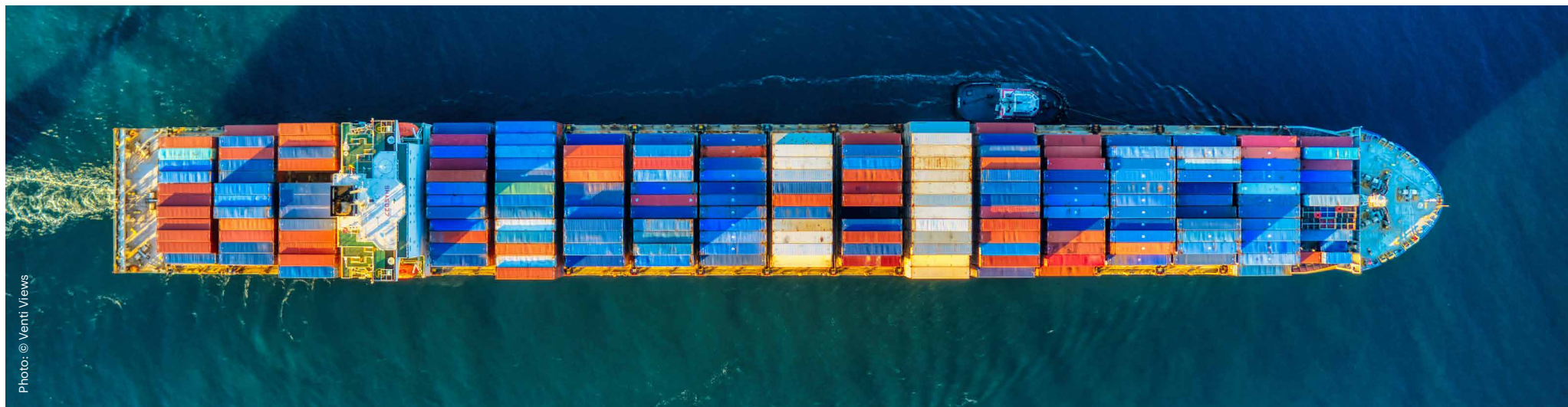
International and regional aspects under development regarding underwater noise from shipping



IMO's Revised Noise Guidelines and Experience Building Phase

IMO's framework for the reduction of URN from shipping includes the recently developed [Revised Guidelines](#) and an Action Plan to increase uptake and monitor effectiveness, after there was limited uptake of the original 2014 [Guidelines](#). A three-year Experience Building Phase (EBP) has also been launched, to gather information on best practices and inform future regulations (2023 to 2026).

An important aspect of the Revised Guidelines is noise reduction management planning. This can involve management authorities and classification societies as well as shipowners, operators, designers, and builders. The Guidelines also identify the role of Member States and other stakeholders to establish incentive programmes to reduce underwater noise. Shipowners and operators were invited to participate in the EBP. The development of noise management plans for their fleet is a chance to get ahead of the game, putting them in a better position for discussions with regulators.



European context

Several pieces of European legislation address URN reduction, including the Zero Pollution Action Plan, the Environmental Crime Directive, and, most importantly, the Marine Strategy Framework Directive (MSFD). While IMO efforts are aimed at individual vessels, this Directive is aimed at ensuring levels of underwater noise do not have harmful impacts on marine life throughout European waters. Each Member State (MS) is required to develop a national strategy as to how it will achieve the objectives set by the Directive. Noise-affected area thresholds have been made mandatory as part of the MSFD compliance process, and MS must use these to develop their national strategies and set thresholds based on the habitats and species in their waters. MS should select noise-sensitive indicator species and determine the sound levels at which individuals of those species suffer negative effects—known as the Level of Onset of Biological Effects (LOBE).

Noise indicators under the MSFD have generally suffered poor implementation from MS, and there have been very limited assessments of whether the current situation in the ocean is within noise thresholds,

as highlighted by the recent [European Commission evaluation of the MSFD](#). A lack of concrete, results-oriented obligations was identified as one of the reasons for poor MSFD implementation to date. The European Commission is planning an ‘Ocean Pact’ in 2025 to harmonise all EU policy areas linked to ocean governance and to enable an integrated and coherent approach. This was highlighted as a good opportunity to push concrete measures to help with MSFD implementation.

The European Maritime Safety Agency (EMSA) presented the recently published [NAVISON report](#), which analysed underwater noise levels in all European seas and provided estimations of future noise levels. The report provides quantitative like-for-like comparisons of shipping contributions to ambient sound between regions, vessel categories, years, and forecast scenarios. The forecast scenario for GHG measures alone still saw URN levels increasing over time, whereas a combination of abatement measures for both GHG and URN saw decreases below the ‘business as usual’ scenario across all ship types in URN until 2050.

Discussion with participants

When asked about plans in the context of the IMO's EBP, participants highlighted the need for better facilities to provide noise measurements from individual ships so that a baseline can be set for each vessel. Several challenges regarding noise measurements were mentioned, such as the need for standardisation and the associated costs of obtaining accurate measurements. Incentivisation is important and would help such a process.

Although more research and data on the impacts of noise on marine biodiversity can help to inform assessments and mitigation measures, there is sufficient knowledge to demonstrate the need to reduce URN from shipping in many areas. Multiple stakeholders emphasised the importance of applying the precautionary principle due to the acknowledged impacts associated with URN, advocating against delaying action to obtain precise impact data while also suggesting that URN reduction measures can be implemented concurrently with the ongoing EBP.

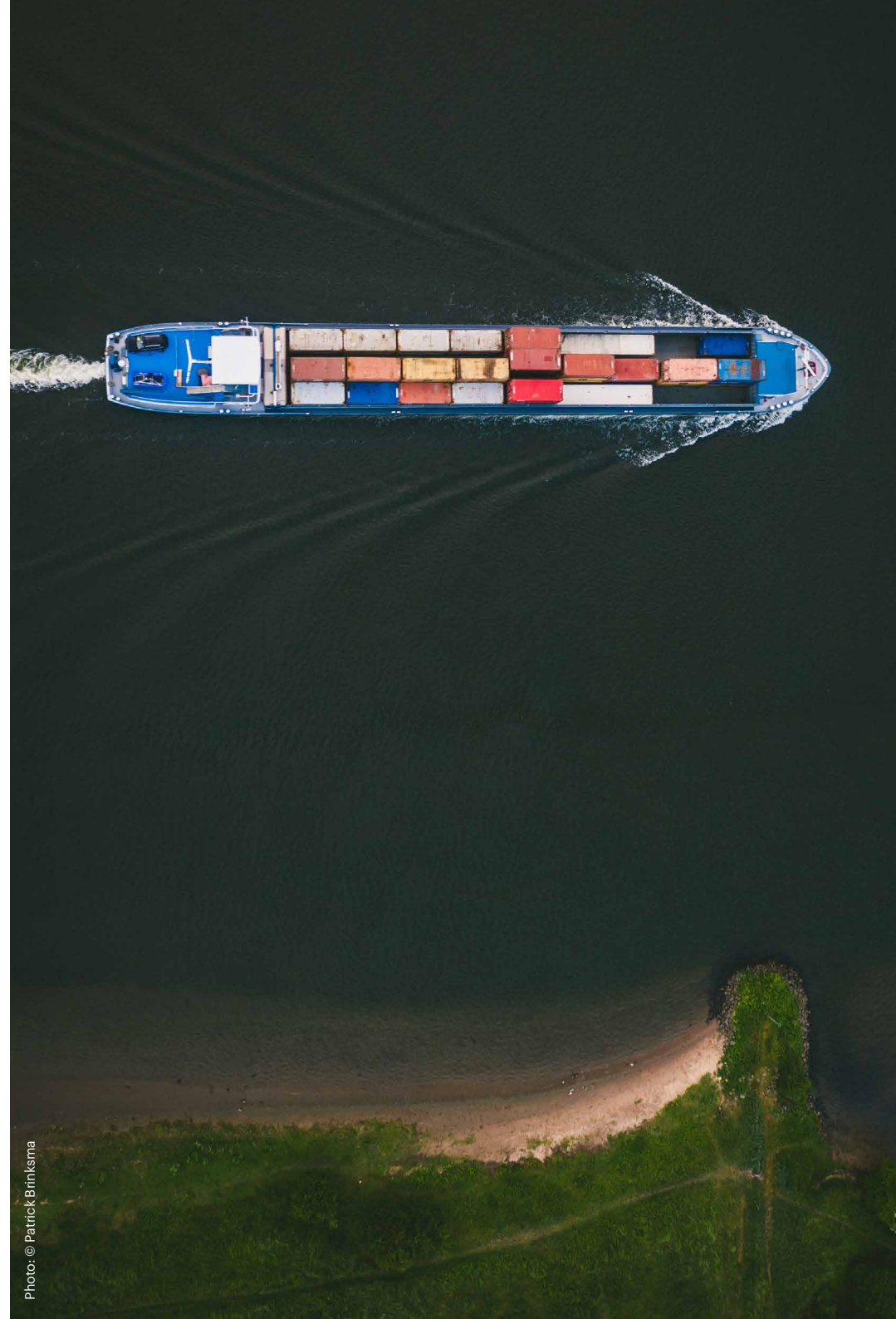


Photo: © Patrick Brinkema

CMA CGM Fleet Navigation Center presentation

The CMA CGM Group is working to reduce the impact of its activities on the ocean and to preserve biodiversity. Thanks to its Fleet Navigation Center, the Group optimises vessel navigation in all weather conditions and provides warnings for risk of collisions with large marine mammals. On the East Coast of the US and Canada, CMA CGM Group vessels are required to reduce their speed to a maximum of 10 knots in certain areas recognised as important whale habitat.

In partnership with the Woods Hole Oceanographic Institution, the Group financed two hydrophone buoys deployed off Savannah, Georgia, and Norfolk, Virginia, to help detect North Atlantic right whales and thus limit collision risk. Buoy data is available on the Fleet Navigation Center's internal tool and allows for the anticipation of speed reduction zones. On the US West Coast, the CMA CGM Group has voluntarily committed to the 'Green Flag' speed reduction programme in a sanctuary near the Santa Barbara Islands.

In partnership with the Benioff Ocean Initiative and the Marine Mammal Center, an application based on acoustic data and whale observations automatically alerts their vessels present in this sanctuary of potential collision risks via the Fleet Navigation Center's internal tool. The Group implemented an internal dashboard in 2023 to monitor navigation rules, allowing the Fleet Navigation Center to track vessel compliance rates in areas with a 10-knot speed limit and provide performance indicators.



Studying the acoustic signatures of commercial ships



Photo: © Kinsey Wang

French project

During [IFAW's last roundtable](#), shipowners noted that some of the main barriers to the implementation of URN reduction measures were the lack of available data and systematic measurements. They felt having access to the acoustic signatures of their fleet would help them implement appropriate mitigation measures to reduce URN.

Some participants from France showed an interest in pursuing this topic further and have been working with IFAW to produce a concept note for a ship noise measurement project at the French level.

France seems interesting for such a project, as there is a low level of knowledge among French shipowners of the acoustic signatures of their fleets, and the current regulatory context is conducive to mobilising France to acquire data. Several next steps were identified, such as studying commercial traffic to determine the most relevant areas to conduct a study and presenting the concept note to the French Ministry of the Sea.

Experiences from other measurements projects

JASCO presented some of the lessons learned over the past 10 years with URN measurements and slowdown implementation projects. Such measurements are applicable to all ships, both in deep and shallow waters, following international standards (ISO). A [technical report](#) was produced by JASCO in 2023 to propose a consistent base measurement approach and recommendations for a common metric upon which to assess vessel noise emissions.

The [ECHO Program](#) in the Port of Vancouver trialled ship slowdowns in 2017, which resulted in significant reductions in underwater noise emissions, with some exceptions (for example, ships with controllable pitch propellers). Conclusions from these projects were that measurements are needed to inform mitigation. Modelling is a useful tool for studying the potential effects of different mitigation actions (i.e., NAVISON). JASCO recommends supporting the development of a standard for opportunistic measurements of URN from ships.

The [DEMASK](#) project was also presented. It aims to bring together policymakers, NGOs, and the maritime industry in the management of the underwater soundscape of the North Sea. DEMASK hopes to develop an approach for defining policy scenarios for underwater noise management and a method to quantify the effectiveness of those scenarios to mitigate noise pollution and its effects on marine life. It was highlighted that collaboration is key—DEMASK encourages shipping stakeholders to do what they can to reduce underwater noise as soon as possible, starting with collaboration with other stakeholders.

The [PIAQUO](#) project was also mentioned as an example of using acoustic buoys dedicated to opportunistic measurements of URN from ships. The objective was to help shipowners with the assessment of the current situation, giving them tools to then develop noise management plans. The acoustic signatures of more than 700 ships were recorded, and shipowners can request their measurements through PIAQUO's website.



Photo: © IFAW



Discussion with participants

Participants were asked about their requirements for participating in URN measurements for their vessels and which methodology would be needed for them to consider the data useful and reliable. Standards for opportunistic measurements were called for, while it was also recommended to look at existing measurements before making new ones. Trade associations could publish and share the data with shipowners, so awareness is increased.

Available measurements, such as the ones made through PIAQUO, are not being requested by ship operators. One of the reasons mentioned was the lack of awareness that these measurements exist; however, GDPR rules prevent making this information public, so the data needs to be requested individually by shipowners.

Measurements are still considered very expensive, so a financial framework is needed, and ports and governments could play a role. Other aspects could be included in the measurements process, such as impacts on biodiversity, which could help to secure funding.

Real-time data access was also requested, for comparison with noise measurements from onboard sensors. JASCO recalled that this is already happening in Vancouver, with buoys sending real-time data to ships who signed a designated protocol, but it is a question of investment.

The role of ports in the reduction of underwater noise from shipping

Port call optimisation and 'Just in Time' arrival

Ports have a significant role to play in the reduction of underwater noise from shipping. Reduced ship speeds have been demonstrated to be very effective for most ship types to reduce URN and the risk of ship strikes, as well as helping to decrease GHG emissions from ships. However, the lack of port call optimisation is often mentioned as an obstacle to reducing speed.

The shipping industry is still operating mainly under the 'Sail Fast Then Wait' (SFTW) model, where ships are incentivised to reach ports as quickly as possible, only to end up idling outside congested ports for days waiting for a berth, accounting for 20% of the sector's carbon footprint. The concept of 'Just in Time' (JIT) arrival was put forward by the industry in recent years. JIT allows ships to optimise speed during their voyage and only arrive at port when all facilities and services are available, offering important fuels and emission savings. The objective is to increase port efficiency and port call optimisation while offering important fuel and emission savings.



The [Blue Visby Solution](#) was presented as another concept to eradicate the SFTW operational practice. This independent and collaborative platform combines software, operations, and contracts to systemically optimise the ocean passage of participating ships and thereby reduce GHG emissions. Speed reduction in this case doesn't affect the delivery time for the cargo; more time is spent sailing and less time waiting. Results from a study show that the expected speed reductions from the Blue Visby model may reduce underwater noise emissions by 47% to 72%, depending on the ship type. Vessel strike risk could also be reduced by 41% to 65%. One important aspect of the Blue Visby solution is a change in the contractual framework, introducing a benefit-sharing mechanism that incentivises all contractual partners to increase sustainable vessel operations.

Participants called for the development of communication protocols between ships and ports and suggested emulating what the airline industry has had in place since the 1940s (aeroplanes do not depart until the destination airport has an available space).

Maersk, as a container line, explained their operating model, which is a regular scheduled service between ports. However, schedule reliability is still relatively low despite all technology. To improve predictability, information flow between ports and vessels is critical. Both are not yet secured to a sufficient level. Another approach would be winning key customers of container liners for more sustainable transportation and who can drive policy change container liners, who can drive policy change for more sustainable transportation.

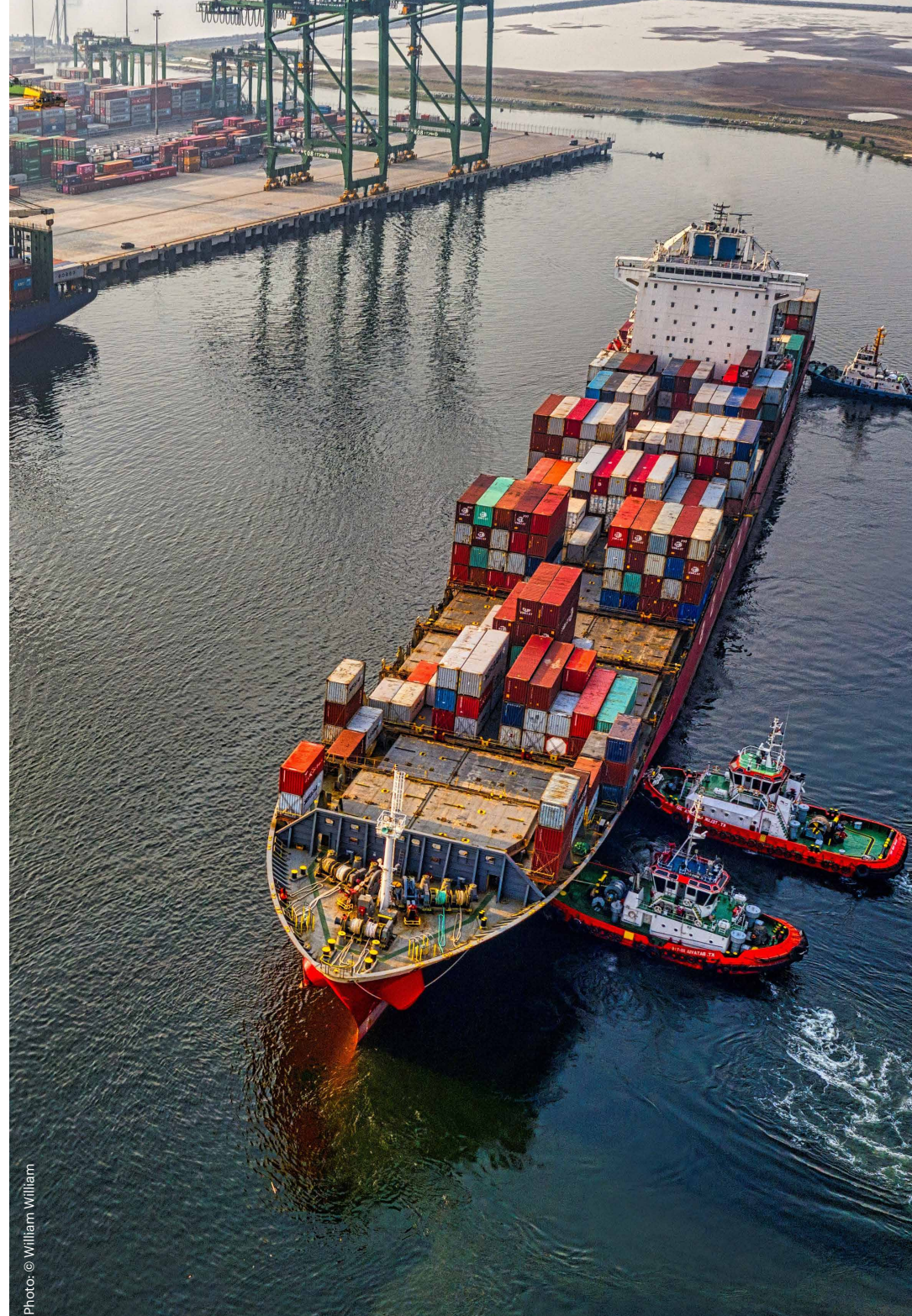


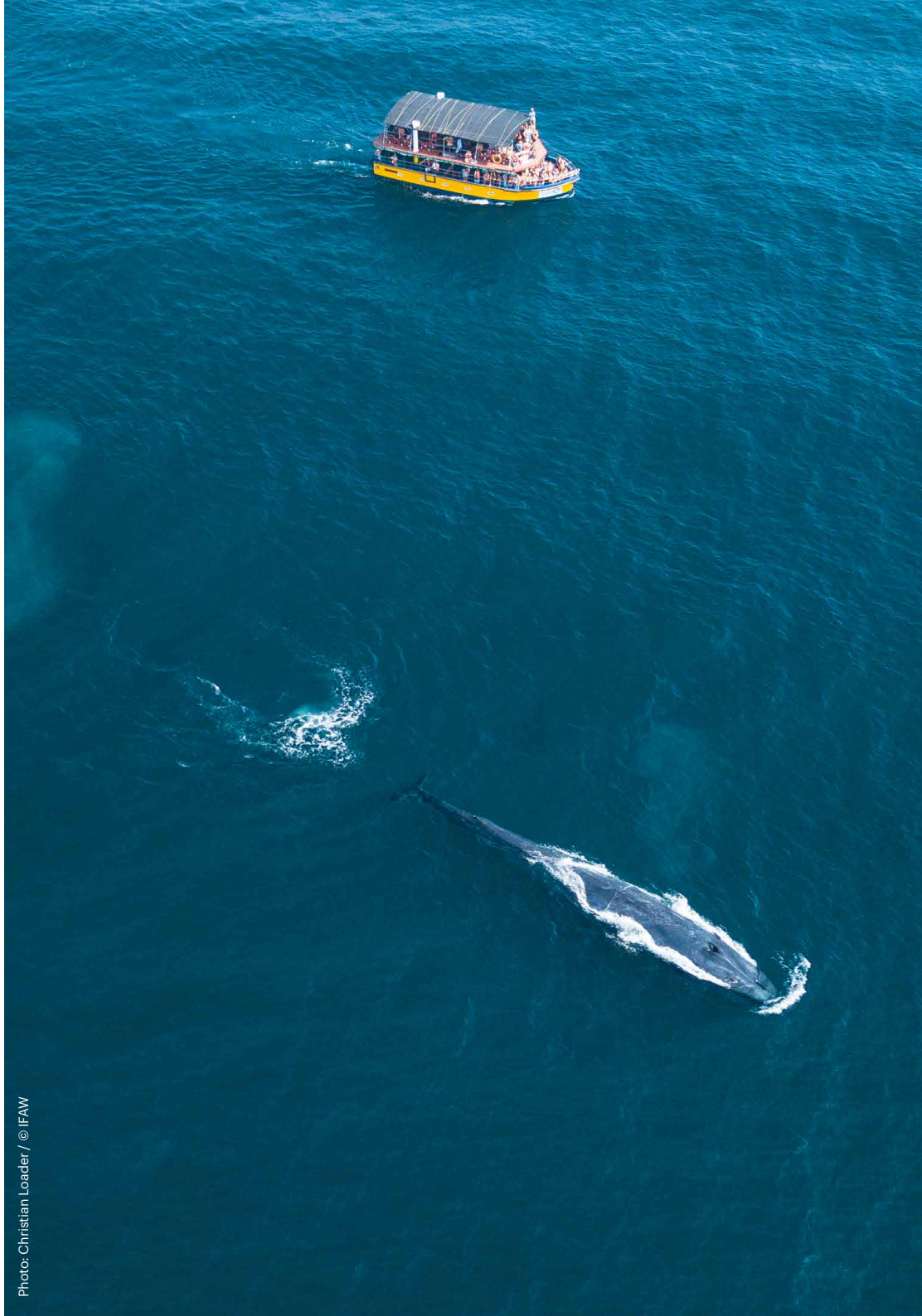
Photo: © William William

Incentive schemes

Another important role that ports can play in the reduction of URN from shipping is via the use of incentives. Shipowners recognised that financial incentives (such as reduced port fees) or non-financial incentives (such as priority berthing) provided by ports would encourage them to implement noise reduction measures. There are examples of ports around the world that implement such incentives by encouraging speed reduction, such as Vancouver, Los Angeles, and Long Beach. There are also voluntary environmental certifications which aim to encourage better environmental practices by the shipping industry, including URN reduction. Two such certifications were presented:

- ▶ The [Environmental Ship Index](#) (ESI) is a voluntary system from ports for ports, designed to illustrate the environmental performance of ships performing above current international legislation of the Marine Pollution Convention of IMO regarding air pollutants, CO₂, and URN. It scores NO_x, SO_x, and noise emissions directly and proportionally, offering fixed bonuses for management reports. It enables ports and other interested parties to provide incentives for ships to improve their environmental performance.
- ▶ The [Green Marine Europe certification programme](#) offers a comprehensive framework for maritime companies, shipyards, and soon ports to benchmark and then reduce their environmental footprint. It is a sector-specific certification supporting the implementation of an ecological transition policy, allowing stakeholders to draw a roadmap to address key environmental issues with 11 performance indicators. This certification scheme includes independent external verification and public reporting of participant results, promoting continual improvement and advancing environmental excellence within the maritime industry.

Photo: Christian Loader / © IFAW





Discussion with participants

It was agreed that everyone wants a cleaner, quieter ocean, but practical implementation is needed, which will ultimately be driven by regulation. Critical to industry is how to measure impact—is progress being made? When asked what motivated them to participate in incentivisation schemes, participants suggested that it gave them a common referential and concrete actions, allowing them to share and compare similar criteria. It also allowed them to define a strategy to address key environmental issues. However, smaller ship operators may be more reluctant as they need help to draft such strategy. Financial incentives were noted as useful, but certification programmes also help gain credibility with customers and public recognition.

Conclusion

Attention to the issue of URN from shipping is increasing, both at the global and regional level. Mandatory (EU) and voluntary (IMO) frameworks for the reduction of this pollutant are now taking shape, and uptake by all stakeholders is now critical if progress is to be made. The IMO's Experience Building Phase is currently at the midpoint, so there is some urgency to ensure this is a success. This roundtable provided the opportunity for shipping stakeholders to share updates, challenges, and solutions—lessons learned and best practices were also discussed. Baseline data for ship noise measurements were raised as essential if progress is to be made, and for shipping stakeholders and regulators to better understand if measures have been successful in reducing URN. Several projects highlighted work underway across the sector to mitigate URN, but further effort will be required to make the reductions needed to improve ocean and biodiversity health.

All presentations shown during this event can be found [here](#).

IFAW would like to sincerely thank all participants for their attendance and for the efforts that led to an engaging, positive, and constructive dialogue during this roundtable. Special thanks to CMA CGM for graciously hosting this event.

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