



Global Partnership for Mitigation of Underwater Noise from Shipping (GloNoise Partnership)

Part I: Project Information

GEF ID

10890

Project Type

MSP

Type of Trust Fund

GET

CBIT/NGI

CBIT **No**

NGI **No**

Project Title

Global Partnership for Mitigation of Underwater Noise from Shipping (GloNoise Partnership)

Countries

Global

Agency(ies)

UNDP

Other Executing Partner(s)

IMO

Executing Partner Type

Others

GEF Focal Area

International Waters

Taxonomy

International Waters, Focal Areas, Coastal, Ship, Areas Beyond National Jurisdiction, Large Marine Ecosystems, Pollution, Strengthen institutional capacity and decision-making, Influencing models, Convene multi-stakeholder alliances, Private Sector, Stakeholders, SMEs, Large corporations, Civil Society, Academia, Non-Governmental Organization, Type of Engagement, Partnership, Consultation, Participation, Information Dissemination, Communications, Public Campaigns, Education, Awareness Raising, Gender results areas,

Gender Equality, Capacity Development, Participation and leadership, Learning, Capacity, Knowledge and Research, Knowledge Generation, Knowledge Exchange, Enabling Activities

Sector

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 0

Duration

24 In Months

Agency Fee(\$)

185,250.00

Submission Date

10/5/2021

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
IW-1-1	GET	1,950,000.00	3,477,500.00
Total Project Cost (\$)		1,950,000.00	3,477,500.00

B. Indicative Project description summary

Project Objective

The overall objective of GloNoise project is to establish a truly global partnership to engage and assist developing countries to raise awareness, build capacity, define baselines and promote international policy dialogue on mitigation of underwater noise from shipping.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
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Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 1 - Global toolkits preparations, baseline studies and policy development	Technical Assistance	Outcome 1 ? Global toolkit(s), for ?baseline information gathering and analysis? and ?noise-related marine environmental risk and impact assessment? developed implemented and global and LPCs-level baselines, risks, impacts and policy options assessed and reported.	<p>Output 1.1: Shipping underwater Noise Assessment Toolkit(s) for baseline analysis and environmental risk and impact assessment, inclusive of data collection and analysis methods, developed and documented.</p> <p>Output 1.2: Global and national capacity building workshops conducted in order to roll out the Noise Assessment Toolkit(s) to relevant regional experts and LPCs.</p> <p>Output 1.3: LPCs carried out ?baseline studies? and ?environmental risk and impact assessment of underwater noise from shipping? using the Noise Assessment Toolkit(s) and developed the national baseline reports.</p> <p>Output 1.4: Global policy options for mitigation of</p>	GET	500,000.00	665,500.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 2 - Capacity Building and Awareness Raising in Developing Countries	Technical Assistance	Outcome 2 - Capacity building and awareness raising activities targeted at developing countries were carried out nationally and regionally towards understanding the issue of underwater noise from shipping and its mitigation	<p>Output 2.1: Developed the awareness raising course materials on ?underwater noise from shipping, its significance, impacts, mitigation methods and regulatory aspects?.</p> <p>Output 2.2: Capacity building workshops delivered based on Outputs 2.1 and 1.1 at regional and national levels.</p> <p>Output 2.3: An International Expert Workshop / Forum organized on ?state of knowledge and required future steps on shipping underwater noise mitigation? and the outcome documented for use in future policy making.</p> <p>Output 2.4: Implementation of a gender specific scholarship in the project to develop women experts on the subject.</p>	GET	900,000.00	1,800,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 3 ? Formation of Global Public-Private Partnerships on Underwater Noise Mitigation from Shipping	Technical Assistance	Outcome 3 ? Global Public-Private Partnerships in the form of a GIA (Global Industry Alliance) and a GSP (Global Strategic Partnership) formed and engaged in project activities	Output 3.1: Established a Global Industry Alliance (GIA) as a private-sector collaboration platform dealing with operational and technical measures for reduction of underwater noise from shipping. Output 3.2: GIA engaged in the project, identified ship quietening technical and operational measures and developed feasibility aspects and a roadmap for their future implementation . Output 3.3: Established a Global Strategic Partnership (GSP) as a public-private platform for in-kind support for implementation of the project and steering the policy agenda for strengthening of the regulatory framework for underwater noise reduction from shipping.	GET	215,000.00	400,000.00

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount(\$)	Co-Fin Amount(\$)
Component 4 ? Monitoring, Learning, Adaptive Feedback and Evaluation	Technical Assistance	Outcome 4 ? The coordination, monitoring and evaluation of project carried out on a regular basis and knowledge management and information sharing between all stakeholders accomplished	Output 4.1: Project coordination structure is in place at global and national levels. Output 4.2: Project monitoring, evaluation and reporting systems established and implemented. Output 4.3: Project communication and dissemination activities inclusive of dissemination of results of Components 1 to 3 planned and implemented. Output 4.4: Project participated in portfolio learning via IW:LEARN.	GET	160,000.00	300,000.00
Sub Total (\$)					1,775,000.00	3,165,500.00
Project Management Cost (PMC)						
GET			175,000.00		312,000.00	
Sub Total(\$)			175,000.00		312,000.00	

Project Management Cost (PMC)

Total Project Cost(\$)

1,950,000.00

3,477,500.00

Please provide justification

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount(\$)
Donor Agency	IMO	In-kind	Recurrent expenditures	600,000.00
Donor Agency	IMO	Grant	Investment mobilized	200,000.00
Other	IMO Member States ? costs for participation in IMO MEPC meetings	In-kind	Recurrent expenditures	1,425,000.00
Other	IMO Member States ? costs for participation in IMO MEPC meetings	Grant	Investment mobilized	1,102,500.00
GEF Agency	UNDP	In-kind	Recurrent expenditures	150,000.00
Total Project Cost(\$)				3,477,500.00

Describe how any "Investment Mobilized" was identified

Co-financing by IMO IMO will provide significant co-financing levels via (1) direct IMO personnel time, (2) cash input by the IMO and (3) the use of infrastructure of IMO and resources for facilitating the government and industry participants at IMO MEPC and SDC Sub-Committee meetings. The IMO contribution is estimated based on number of personnel engaged that is accounted as in-kind. Additionally, the cost of IMO meeting rooms for international delegations attending MEPC and SDC meetings throughout the project is counted as in-kind while extra amount of cash will be mobilized through the Technical Cooperation activities of IMO mainly in support of the capacity building activities of the project. This is counted as ?Investment Mobilized?. Co-financing by IMO Member States These are IMO member States (see <https://www.imo.org/en/OurWork/ERO/Pages/MemberStates.aspx> for full list) that take part in various IMO meetings and technical working groups in support of international regulatory debates and rule making. These member countries contribute to debate on mitigation of underwater noise via active participation at (1) IMO MEPC meeting that is the highest international regulatory body for such debates (3 meetings in two years); (2) Participation in the MEPC SDC Sub-Committee meeting on ship design that takes place 2 times/year; (3) Participation in a dedicated Correspondence Group set up by MEPC/SDC to deal with shipping underwater noise debate as inter-sessional activities between main meetings. Participation in all these international efforts involves provision of in-kind and cash resources by member governments that are used as the basis for estimation of co-financing levels. The level of co-financing is estimated based on cost incurred by these governments for taking part at all these meetings (MEPC/SDC

Subcommittee and Correspondence Group) while considering a reasonable percentage of time spent by each meeting on the subject of shipping underwater noise issue. ? The in-kind contribution is the estimated using the cost of time of individuals taking part in the meetings. ? The ?grant? contribution is estimated using the cost of travel to IMO in London, UK, inclusive of airfare, hotel and subsistence. In total and on average, 900 attendees per MEPC/SDC meeting are assumed with a 5% (MEPC) and 10% (SDC) of agenda time devoted to the noise issue. Part of the travel expenditure for such participation (5%) is allocated towards co-financing of this project as Investment Mobilized. ? It is worth noting that as examples of such meetings and their decisions, at MEPC 76, held in June 2021, the committee agreed to include in the biennial agenda of the SDC (Ship Design and Construction) Sub-Committee for 2022-2023 an output on the "Review of the 2014 Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life (MEPC.1/Circ.833) and identification of next steps", with a target completion year of 2023 (MEPC 76/15, paragraph 12.3.1). Also, the SDC Sub-Committee at its 8th session, held in February 2022, after considering a number of submissions on underwater noise issue, agreed to a work plan for the review of the 2014 Guidelines. Also the SDC agreed to work and progress on the subject inter-sessionally, established a Correspondence Group on Review of the Guidelines for the Reduction of Underwater Noise to progress the work. With regard to participation in such meetings, the number of registered participants for MEPC 77 has been 1548 while the participants at SDC 8 Sub-committee have been 649. There is no data on the numbers of Member States and observer organizations in the Correspondence Group but the Working Group on the issue was certainly well attended with 38 Member States and 18 observer organizations. The incremental co-financing ratio is about 1.74:1 that is reasonable for a global Medium Size Project specially that considering that during PPG phase when LPCs are chosen, significant additional co-financing will be secured as part of the LPCs LOES. In addition to LPCs, it is expected that the joining players as part of GIA (Global Industry Alliance), GSP (Global Strategic Partners) and will also commit additional co-financing both in terms of grant as well as in-kind.

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agenc y	Tru st Fun d	Countr y	Focal Area	Programmi ng of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Global	Internation al Waters	International Waters	1,950,000	185,250	2,135,250. 00
Total GEF Resources(\$)					1,950,000. 00	185,250. 00	2,135,250. 00

E. Project Preparation Grant (PPG)
PPG Required **true**

PPG Amount (\$)
50,000

PPG Agency Fee (\$)
4,750

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount(\$)	Fee(\$)	Total(\$)
UNDP	GET	Global	International Waters	International Waters	50,000	4,750	54,750.00
Total Project Costs(\$)					50,000.00	4,750.00	54,750.00

Core Indicators

Indicator 5 Area of marine habitat under improved practices to benefit biodiversity (excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
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Indicator 5.1 Number of fisheries that meet national or international third party certification that incorporates biodiversity considerations

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
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Type/name of the third-party certification

Indicator 5.2 Number of Large Marine Ecosystems (LMEs) with reduced pollutions and hypoxia

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (achieved at MTR)	Number (achieved at TE)
0	0	0	0

LME at PIF	LME at CEO Endorsement	LME at MTR	LME at TE
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Indicator 5.3 Amount of Marine Litter Avoided

Metric Tons (expected at PIF)	Metric Tons (expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
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Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
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	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	3,615			
Male	8,085			
Total	11700	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Indicator 11: Category 1 beneficiaries: Those that will directly engage in GloNoise project and will benefit: ? Total: 11,700 persons ? Men: 8,085 ? Women: 3,615 Category 2 beneficiaries: These beneficiaries are primarily those engaged in fishing capture industry. These beneficiaries are estimated using FAO data and assuming that 5 LME will benefit. Accordingly, the estimates are: ? Total: 3 million people in 5 LMEs will benefit; out of which: ? Men: 2.58 million ? Women: 0.42 million For details of assumptions, see Additional Information below this table. Additional Information on Core Indicator 11 The definition of ?beneficiaries? for estimation purposes are taken as (category 1) Those individuals that will directly get engage in the project implementation; and (category 2) Those that will benefit from the project impacts on their industry through reduction of shipping underwater noise. In the latter case, fishing industry (from capture to food-processing) is assumed to benefit most from long term impact of GloNoise agenda. In fishing sector, it is assumed that the main beneficiary is the fish capture sector. The estimated benefits are thus only related to fish capture aspect and no other downstream industries that heavily are dependent on fishing. ? Estimation of category 1 beneficiaries: The number quoted in the above table are derived from analysis of all those individuals that will take part in the project including those attending capacity building activities, national stakeholders meetings as well as those who directly contribute to the project activities and deliverables. ? Estimation of category 2 beneficiaries: For this category, it is assumed that fishing capture sector will mainly benefit from long term impacts of shipping underwater noise reduction. To quantify, estimations are based on FAO data for 2018 that shows that globally 39.98 million people were engaged in the primary sector of marine capture fisheries; 14 percent of which were women. In economic term, the FAO report specifies a total first sale value estimated at USD 151 billion per year indicating the size of the industry. For GloNoise estimations, it is assumed that those engaged in 5 LMEs will benefit; thus the number quoted in the above Table is derived from 39.98 million, 5 LMEs out of total 66 LMEs and 86%/14% men/women gender ratios. It is important to emphasize that the fishing capture sector is not the only one that will benefit but also wider industry and food chain linked to fishing capture (all downstream industries). On the gender issue, and as part of the gender related Output, the project will aim to collect more data on women's roles and contributions in the different downstream sea food industries to further understand the impact of underwater noise on global gender equality aspects.

Part II. Project Justification

1a. Project Description

1. PROJECT DESCRIPTION

1.1 Global Environmental Problems, Root Causes and the Barriers that need to be addressed

1.1.1 Global Environmental Problem

The effects of anthropogenic underwater noise on marine life have become an issue of global significance (UN 2018[1]¹). Water is an excellent medium for sound transmission and marine mammals, fishes and many aquatic invertebrates use sound for communication and /or gaining information about their environment (Popper *et al.* 2020). Man-made underwater sound can interfere with these functions and lead to effects ranging from very subtle behavioral reactions to death at very high exposures and depending on the physical properties of the received sound. Anthropogenic underwater sound comes from many sources such as geophysical surveys, sonars (Naval and others), powered vessels (often described as shipping), and energy exploration and production (**Figure 1**).

[1] See Section 1.8 for references

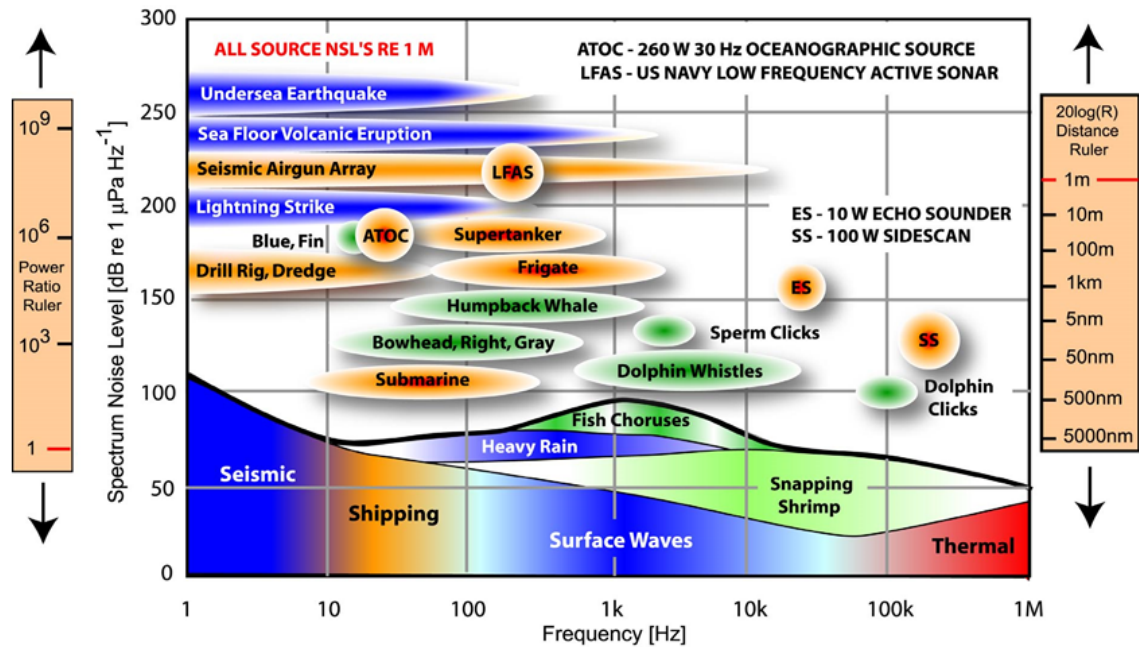


Figure 1 - Overview of anthropogenic and other marine sound sources (© seiche ltd)

Shipping is one of the major sources of underwater sound in the marine environment with ships of different sizes producing varied frequencies of sound. First there are small leisure crafts and boats with a length of up to 50 m and comprise e.g., recreational crafts, jet skis, speed boats, operational work boats, hover crafts. Then there are medium sized ships with a length of between 50 and 100 m, e.g., support and supply ships and many research vessels. The third group includes large vessels with a length of greater than 100m. This category includes container/cargo ships, super-tankers, and cruise liners.

Sounds from shipping have a wide range in frequencies from about 10 Hz extending up to and above 1 kHz. Sound levels vary between app. 160- and well above 200 dB re 1 μ Pa re 1m (OSPAR 2009; Erbe *et al.* 2019)[1]. The exact characteristics of the sound emissions depend on variables such as vessel type, size and operational mode. In general, the larger the ship gets, the more intense becomes its generated sound levels and the lower becomes its sound frequency. In line with this trend, large commercial vessels produce relatively loud and predominately low frequency sounds with the strongest energy concentrated below several hundred Hz with most broadband source levels generally in the 180 - 190 dB re: 1 μ Pa range (OSPAR 2009). Large vessels dominate low-frequency background noise in many marine environments worldwide and due to the steady increase in shipping over the past decades (estimated at 4 % per year globally), potential pressures on the marine environment will increase too (Erbe *et al.* 2019).

The impact and effects of shipping noise have been studied mainly in marine mammals (e.g. porpoises, dolphins, whales and seals) and less so in fishes and invertebrates (see Erbe *et al.* 2019 and Popper *et al.* 2020). They include a variety of behavioural responses (avoidance, attraction, other), masking which is the effect whereby shipping noise decreases the ability to detect a wanted sound, temporary or

permanent shifts in hearing threshold (TTS[2]², PTS[3]³), and stress (see Erbe et al. 2019). There is also the possibility that shipping noise has ecosystem effects via impacts through the food chain (if lower trophic levels are affected to a significant extent; see for example Popper et al. 2020). Finally, as with other sources of sound there can be economic consequences if fishery resources are adversely affected by shipping noise (see UN 2018).

Due to its ubiquitous nature, global increase and the documented effects on marine life, shipping noise has been identified by several policy bodies such as the UN, IMO OSPAR[4]⁴ and the EU, as an important issue which needs appropriate environmental management (see IMO 2009; OSPAR 2009; EC 2010; UN 2018). For example, in Europe, the EU has put into place the Marine Strategy Framework Directive (MSFD) which requires Member States to achieve 'Good Environmental Status' (GES) in their marine environment by 2020. The MSFD defines 11 qualitative descriptors for GES, one of which states that 'the introduction of energy, including underwater noise, is at levels that do not adversely affect the marine environment'. The EU has decided on two indicators that further specify GES with one of them explicitly dealing with continuous low-frequency sound as for example emitted by shipping (details in EC 2010 and EC 2017).

1.1.2 Root Causes and Barriers that need to be addressed

Underwater sound introduced by ships into the ocean environment originates from a number of sources with the main source of sound being the mechanical operation of machinery in particular the propeller. As far as the sound due to propulsion is concerned, modern powered vessels typically produce low frequency (i.e., <1000 Hz) sound from hydrodynamic flow noise, on-board machinery and dominantly when propeller is cavitating. For ships, the overall radiated sound levels and frequency spectrum relate to many factors including vessel size, speed, loading condition, age, engine type and propeller design. Larger vessels (exceeding 100 m) typically generate louder, lower frequency sounds than smaller ones.

Underwater noise due to shipping is a rising trend: There are evidences that low frequency ambient noise is influenced to a large extent by shipping traffic. There are well documented increases in the total number and concentration of commercial vessels and low frequency ambient noise levels in some areas that demonstrate that maritime commercial traffic significantly affects average levels of low frequency ambient noise levels (see McDonald et al. 2006, Andrew et al. 2011 and Erbe et al. 2009). As a result of growth of international commercial shipping that continues unabated, this sector is expected to contribute to underwater noise progressively more and more unless some action for mitigation of this source of noise is taken.

Marine life essential communication functions is under increasing stress: As indicated before, sound is critically important for most marine animals including marine mammals as its production and detection serves important biological functions such as communication, foraging, reproduction, navigation, and predator avoidance. Where there is an overlap between the frequencies of the anthropogenic sound sources and those of the sound used by marine animals, there can be interference with such important biological functions. The predominately low frequency sounds associated with

large commercial vessels directly overlap with typical low frequency communication sounds and hearing of many marine mammals, particularly large whales, some seals and sea lions and fishes (see **Figure 2**).

[1] Underwater, decibel levels are different from above water. Sound pressure levels in air are referenced to 20 μ Pa, while underwater they are referenced to 1 μ Pa. In order to compare decibel levels in air with decibel levels underwater, 25.5 dB must be added to the in-air values, together with an additional 36 dB owing to the higher acoustic impedance of water compared with that of air. Thus 100 dB re 20 μ Pa in air is equivalent to 161.5 dB re 1 μ Pa underwater (see UN, 2018. Oceans and Law of the Sea - Report of the Secretary-General A/73/68 United Nations General Assembly (available under <http://undocs.org/a/73/68>), New York City.)

[2] TTS: Temporary Threshold Shifts

[3] PTS: Permanent Threshold Shifts

[4] OSPAR is the Convention for the Protection of the Marine Environment of the North-East Atlantic. It is the current legislative instrument regulating international cooperation on environmental protection in the North-East Atlantic.

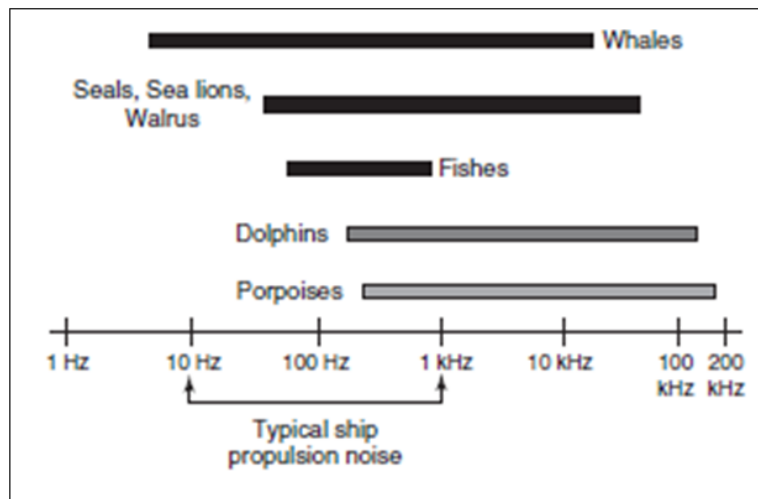


Figure 2 - Typical hearing ranges for groups of marine animals versus typical predominant frequencies of noise of commercial shipping [Southall B.L., et al]⁷

Studies have shown that marine animals may alter their behaviour in response to noise from vessels. Also, research shows that such alterations may have biological costs and can be strongly affected by physical and environmental factors. An important consideration for shipping noise, as a chronic and widely distributed low frequency sound source, is masking of biologically significant sounds (i.e., interference with the clear reception of important signals). Masking is strongly dependent on frequency overlap and spatial-temporal relationships between signals and noise. This can result in interference

with sounds used in breeding, foraging, and navigation that are critical to species survival (see Clarke *et al.* 2009 and Erbe *et al.* 2016).

Lack of enough data on impact of shipping noise on marine life: From a scientific perspective, there is a lack of knowledge on the effect of shipping noise for a variety of marine species (especially invertebrates and fishes but also lesser studied marine mammals; see Erbe *et al.* 2019). One of the gaps is that although marine traffic and thus the potential pressures arising from it is relatively well described even on a global scale (see, for example Thomsen *et al.* 2011; Halpern *et al.* 2015), there is very little data on related ambient underwater noise levels. It is true that in some areas, such as the Pacific, sound levels have been increasing, which could be due to the increase in shipping, but data coverage is very limited (see Erbe *et al.* 2019). This lack of baseline data was one of the main reasons why the EU MSFD continuous noise indicator for GES is primarily an incentive for a systematic mapping of shipping noise on a regional scale (see Dekeling *et al.* 2014). UN 2018 clearly points out the lack of data on both noise and marine species in western Africa, Pacific Islands regions and South-East Asia. It combines this finding with a call to more international cooperation on the issue.

Policy framework in dealing with underwater noise due to shipping is lacking: From an information and policy point of view, there has been significant progress in developing guidelines for managing the impacts of anthropogenic noise in general (for example Boyd *et al.* 2008; Prideaux 2016) and for specific sources such as dredging (see WODA 2013). As far as shipping is concerned, IMO have agreed on voluntary guidelines for reduction of noise from ships (IMO 2014). These guidelines are voluntary in nature, deal mainly with ship technology aspects and have received minimal attention in developing countries. There is a need for further policy development in support of promoting studies, policy development and also practical reduction of the underwater noise due to shipping.

Awareness barrier in developing countries needs to be removed: The awareness on the issue of anthropogenic underwater noise and its impacts on marine resources in developing countries is lacking. This is partly due to lack of understanding of the subject matter and partly down to lack of institutional structure and processes to develop information exchange and coordinated action among the diverse public and private sector entities affecting, and affected by, anthropogenic underwater noise. Because of these barriers, institutional, policy and legal arrangements in developing countries are insufficient or inadequate to address the issue.

Lack of financing of efforts in developing world: Finally, there is limited to non-existent financial resources allocated to address shipping noise as a global marine environment issue. This is particularly the case in developing countries where most of ship owning, shipbuilding and operations and cargo transportation are residing.

1.2 The Baseline Scenario and Associated Baseline Projects

1.2.1 Past and on-going efforts

The international dialogue on how underwater noise may negatively affect marine life intensified in the past two decades. One of the first international efforts on the subject of 'underwater noise from shipping' was a 2004 symposium hosted by the US National Oceanic and Atmospheric Administration (NOAA) entitled 'Shipping Noise and Marine Mammals: A Forum for Science, Management, and

Technology.? In this stakeholders? forum, while uncertainties and complexities regarding the potential effects of shipping noise were acknowledged, there was recognition that large vessels can represent a substantial contribution to the overall low frequency ambient noise levels.

A key action agreed by the stakeholders was the need to identify ship quieting technologies and how these could be scaled up to large commercial vessels. This led to a follow-on NOAA symposium in 2007 entitled ?Potential Application of Quieting Technology on Large Commercial Vessels.? As a result, the stakeholders agreed that they should focus specifically on technical aspects and costs-benefits of various noise?reduction options but at the same time on how shipping may be encouraged via regulatory, economic, public awareness to uptake of vessel?quieting technologies. One recommendation was to advance international awareness and action proposals to member countries at the IMO. Accordingly, the USA submitted a document to IMO MEPC entitled ?Shipping noise and marine mammals? (MEPC 57/INF?4). This document was a broad introduction to the topic, advising MEPC on noise from commercial ships and its potential adverse impact on marine life and a request made to IMO member states asking their stakeholders to participate in efforts for identification of potential adverse impacts associated with vessel noise and the potential mitigation of those impacts.

The formal consideration of this issue within the IMO was at the 58th Session of the MEPC in 2008, which led to the setting up of a Correspondence Group (CG) to review potential quieting technologies for large commercial vessels (MEPC 58/19). The outcome of this CG activity was the development of the ?Guidelines for ship design and operational modifications to accomplish vessel quieting? (MEPC 59/19; MEPC 60/18). The MEPC efforts concentrated primarily on propeller design and modification to reduce cavitation, but also considered hull design, on-board machinery, and operational modifications to reduce the aggregate impacts of ship noise on marine life. This finally led to the adoption of voluntary Guidelines in 2014 (see MEPC.1?Circ.833).

It is worth noting that in parallel with these formal IMO efforts to address underwater noise from shipping, some other international developments also took place. These include the development of technical measurement standards for underwater sound from ships (ANSI S12.64) and related measurement protocols being developed by the International Standards Organization. Additionally, the Arctic Marine Shipping Assessment (AMSA, 2009) highlighted potential impacts of novel shipping noise on Arctic ecosystems as shipping becomes more common in these areas. Furthermore, the International Whaling Commission's Environmental Concerns Scientific Working Group convened a special session in 2010 on potential masking impacts of shipping noise and other low?frequency sound. Finally, the European Union (EU) has begun to develop mechanisms to regulate continuous low?frequency noise via the EU Marine Strategy Framework Directive (MSFD).

On-going efforts include existing legal and policy frameworks, research, existing measures, and international collaboration and capacity building. Both UN 2018 and Erbe *et al.* 2019 provide comprehensive reviews on such efforts. However, as can be seen, most of the past and existing efforts are concentrated in the developed countries mainly in North America and Europe and the participation of developing countries has been non-existent.

1.2.2 Existing legal and policy frameworks

Global level

The UN Convention on the Law of the Sea (UNCLOS) is not specifically addressing underwater noise. However, marine underwater noise can be considered as a form of pollution and thus is addressed by UNCLOS requiring signatory States to take measures necessary to prevent, reduce and control pollution in order to preserve ecosystems as well as marine species. UNCLOS also includes State-level obligations and provisions concerning pollution and marine environmental protection from shipping.

Other international efforts such as the Rio Declaration on Environment and Development call for a precautionary approach when managing human impacts on the environment which in turn will guide risk assessment frameworks that will be discussed in more detail later. Of importance in this context is also the UN Sustainable Development Goal 14: Conserve and sustainably use the oceans, seas and marine resources. Other measures and guidance include the work of the Food and Agriculture Organization of the United Nations (FAO) concerning fishing vessels. The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (1972) and its Protocol has discussed noise from dredging activities. The Convention on Biological Diversity, the Convention on the Conservation of Migratory Species of Wild Animals and the International Whaling Commission have considered the impacts of underwater noise from various sources on marine biodiversity or specific marine species, as well as mitigation measures.

As explained earlier, the IMO has issued the non-mandatory guidelines for the reduction of underwater noise from commercial shipping (IMO 2014) that include a set of advice on issues such as prediction of noise levels via modeling, need for standards and references when measuring noise, guidance on vessel design considerations and operational measures to reduce noise impacts such as the reduction of speed (depending on propeller design, safety, and energy efficiency) and changing the shipping route to avoid sensitive marine areas.

A significant shortcoming of the current international framework is that these general provisions and the international policy frameworks are of a non-legally binding nature. Additionally, awareness on issues considered is lacking in many countries on the subjects covered in this section.

Regional level

On a regional level, policy frameworks addressing anthropogenic noise (including in some cases, shipping noise) are mainly located in the European Union (EU MSFD), The North-East Atlantic (via OSPAR and ASCOBANS, *Agreement on the Conservation of Small Cetaceans of the Baltic, North East Atlantic, Irish and North Seas*), the Mediterranean (for example via ACCOBAMS, *Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area*) and the Baltic (via ASCOBANS and HELCOM). The work in these fora is mainly dedicated to strategies, roadmaps, and guidance although both OSPAR and HELCOM are providing tools for the management of noise (non-shipping related) for the MSFD.

National level

Regulation of underwater noise applies noise criteria in some countries. Noise criteria describe received levels of noise that should not be exceeded in order not to cause harm to marine life. They have been developed and applied both for behavioural response and injury in a variety of countries for example in the US (see NMFS 2018), in Germany (BSH 2011) and in Denmark (Skjellerup *et al.* 2015). However, activities being regulated are mainly seismic surveys and pile driving for offshore wind farms, both leading to the emission of high intensity impulsive sounds which is different from those in shipping.

No national criteria exist for shipping noise as yet. Concerning frameworks for managing shipping noise on a national level, the ECHO Program (Port of Vancouver) is of relevance. The ECHO program aims at a better understanding and management of shipping impacts on whales (in particular killer whales, *Orcinus orca*). In 2017-19, voluntary vessel slowdown trials were conducted in key habitats for killer whales. These involve a reduction of vessel speed to 11 knots. In addition, the port of Vancouver reduces harbour due rates for such vessels that meet noise reduction standards.

1.2.3 Research and technology status

Noise monitoring and quantification: Notably, the MSFD has triggered a variety of projects aiming at systematically monitoring ambient noise in the Baltic (BIAS program, *Baltic Sea information on the acoustic soundscape*), the wider North Sea (JOMOPANS (*Joint Monitoring Programme for Ambient Noise North Sea*), the Atlantic (JONAS, *Joint Framework for Ocean Noise in the Atlantic Seas*) and the Mediterranean Sea (Quiet Med). All of these programs have been deploying noise monitoring stations in the respective study areas to document a baseline of ambient noise (and possibly a trend over time) and most have been working on the development of standards both for the measurement and analysis of underwater ambient noise. This includes the application of numerical modeling of the underwater noise and the production of noise maps that can be used in spatial risk assessment of noise (see guidelines in Dekeling *et al.* 2014). To mention here is also the International Quiet Ocean Experiment which is an international scientific program to promote research (monitoring and sound modeling for example) to improve the knowledge on the underwater soundscape and impacts on marine life (see <https://www.iqoe.org/>).

Underwater noise mitigation measures/technologies: There has been significant progress in developing mitigation measures for high intensity impulsive sounds over the past decade (summarised in Thomsen & Verfuss 2019). Concerning shipping noise, the aforementioned IMO guidelines (IMO 2014) provide an overview and non-mandatory guidelines on how to reduce noise impacts specifically for shipping. Therefore, as far as shipping is concerned, the measures for noise reduction are to some extent known but they are generally not applied widely yet.

1.2.4 International cooperation and capacity building

Capacity building activities so far: In their report of the Secretary General to the General Assembly, the UN clearly emphasises the need and the benefits of international collaboration and capacity building on the topic of anthropogenic underwater noise (UN 2018). Workshops and scientific conferences are an important tool to foster knowledge transfer and collaboration. One of such conferences is the International Conference on the Effects of Noise on Aquatic Life (Aquatic Noise) which is held every three years since 2007. One key aspect of this conference is that it includes scientists from different disciplines (e.g., physics and biology) as well as other stakeholders (regulators, industry); this allows information sharing over a wide range of issues (see <https://an2022.org/>). On shipping noise reduction, some international symposiums as discussed before were organised by NOAA and some in Europe. The capacity building is clearly needed in the developing countries as far as the baseline scenario indicates.

Impact assessment studies and need for application to shipping sector: Background documents and especially technical guidelines to assess noise impacts have been developed by policy bodies such as the Convention on Migratory Species of Wild Animals (CMS; see Prideaux 2016) and organisations such as the World Organisation of Dredging Associations (WODA, WODA 2013). Building on earlier work by the European Marine Board (Boyd *et al.* 2008), WODA 2013 emphasises the use of a risk-based approach to impact assessments of underwater sound. In this context, there is broad appreciation among regulators and scientists that the basic way of dealing with potential effects of anthropogenic sound is the risk-based approach.

In general terms, a risk assessment is the systematic process of evaluating the potential risks imposed by an activity or project. More specifically, it involves a stepwise procedure, including (i) risk identification; (ii) exposure assessment; (iii) dose-response assessment; (iv) overall characterisation of risk, which leads final to (v) risk management and the selection of appropriate mitigation measures. It is important to point out that mitigation measures should only be applied when risks are evident and where the level of sound is likely to cause significant impacts that lead, for example, to population or ecosystem level consequences or harm to individuals of specially protected species. This process is shown in **Figure 3**.

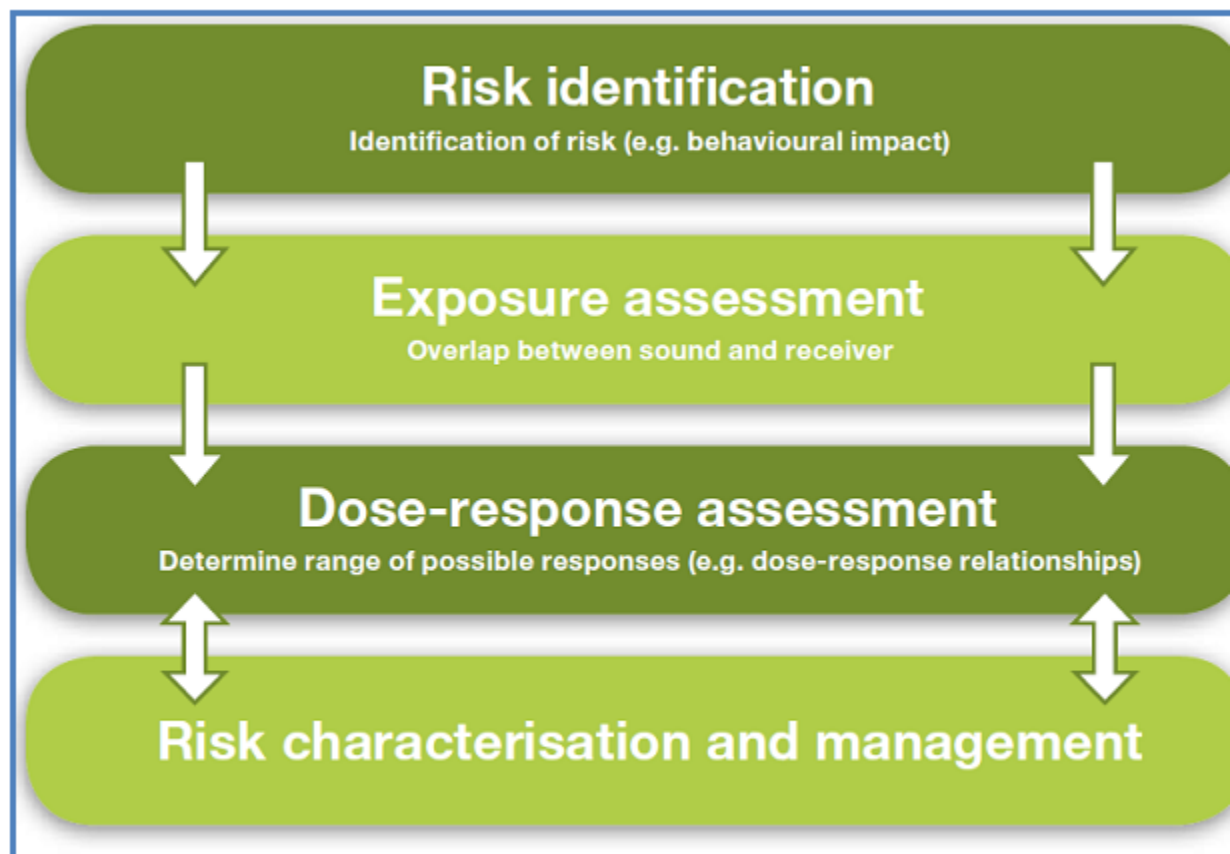


Figure 3 - Overview of the risk-based approach (WODA 2013)

In line with this, UN 2018 has emphasised the importance of guidance documents in international collaboration and capacity building. At the same time, it was also stressed that such documents and toolboxes should be tailored to the socioeconomic and cultural context of specific countries. In case of shipping no such technical guidance is available yet. Under the baseline scenario, a clear gap exists in relevant toolkits for underwater noise impact assessment due to shipping.

Funding aspects: Concerning funding for noise studies, a variety of mechanisms are available both from governments (e.g., US Navy) and industry associations (for example via the Joint Industry Program for Sound and Marine Life, International Organisation of Oil and Gas Producers, IOGP; see <https://www.soundandmarinelife.org/>). But again, also due to the location of knowledge-centres on this topic, studies are mainly undertaken by institutions from the developed world. A clear lack of engagement of developing countries and shipping in these efforts together with lack of funding for these activities exists.

As far as international collaboration and cooperation is concerned, the baseline scenario clearly indicates the existence of a considerable gap in this area. Most of collaborations have been in the developed countries and there is a clear need for engagement of developing countries in these efforts.

1.2.4 Glo-X model of partnership

IMO has in the past used a successful model of Glo-X partnership using GEF grants that includes projects such as:

- ? GloBallast[1] (2000-2004 and 2007-2017) dealing with reduction of transfer of AIS (Aquatic Invasive Species) in ship ballast water,
- ? GloMEEP[2] (2017-2020) dealing with reduction of GHG emissions from international shipping.
- ? GloFouling[3] (2019-2023) dealing with reduction of impacts of ship hull fouling on transfer of AIS as well reduction of GHG emissions.

In this model, a three tier governance structure (global, regional and national) is used with most of the on-the-ground works are being done at the national level. Under GloNoise, the same model of organizing and governing the project will be used and experience gained in these successful projects will be used to support delivery of GloNoise to the benefit of participating countries as well as global policy making.

In-line with other GEF funded Glo-X projects, it is worth noting that at PIF stage, the countries that are going to take part in the project are not known and thus no Letter of Engagement (LOE) is supplied. The selected LPCs will be decided at PPG phase and the LOEs will be supplied accordingly.

1.3 Proposed Alternative Scenario, Objectives, Components, Outputs

It was shown that under the baseline scenario, some progress has been made over the past two decades to understand the effects of anthropogenic underwater noise from shipping on marine life. These efforts have mainly concentrated in the developed countries. There have been important policy initiatives and regulatory actions and research on ambient noise in some regions including the development of

methods for data collection and analysis. Some progress has also been made in proposing the use of operational and technical measures to reduce shipping noise, including the advice given through the voluntary 2014 IMO guidelines. International collaboration and dialogue between experts and regulators have also increased in the past two decades with the establishment of important scientific meetings covering the effects of anthropogenic noise on aquatic life. Technical guidelines for assessing noise impacts for some sectors have been developed including those for dredging. The application of the risk-based approach as a framework for noise impact studies has also been considered and advocated as best practice.

The review of the baseline scenario shows considerable gaps in dealing with underwater noise from shipping as a global marine environmental topic. First and foremost is the very limited participation of developing countries[4] in this important effort so far. Filling this gap through an engagement of developing countries is an essential requirement because underwater noise from shipping is a global issue and also because of the important and decisive role that developing countries play in international shipping in terms of shipbuilding, ship operation, ship flag registration, supply of seafarers and level of dependents on shipping for their imports and exports.

Also, despite some advances made so far under the baseline scenario, there are profound gaps in the understanding of the impacts of underwater noise from shipping on aquatic life that are not likely to be solved by the existing baseline scenario and ongoing efforts. Thus, collection of baseline ambient noise data, their analysis and understanding of the worldwide scale of underwater noise from shipping need yet to be addressed.

While the regulatory mechanisms such as national?specific requirements by port and/or flag States and the international ones such as the voluntary 2014 IMO Guidelines may need to be strengthened through policy discussion, the challenge in mitigating underwater noise from shipping is at large a technological issue that can be handled primarily by industry / private sector. Thus, engagement of industry in the international efforts in a systematic way is very important.

Based on the above, the alternative scenario as advocated within this project supports progress to be made in the following areas:

? **Capacity building and awareness raising in developing countries:** This is essential for addressing the global issue of underwater noise from shipping, in particular in the developing countries, where they have been largely absent under the baseline scenario. Needless to say, that the engagement of developing countries on this subject is extremely important due to their high stake in international shipping.

? **Scientific and technical progress on understanding shipping noise scale and impacts:** As with many complex and evolving global maritime environmental issues, scientific and technical progress is needed in order to advance the understanding of the subject better. Under the alternative scenario, new research is needed to better understand the overall scope and biological significance of disturbance and masking from shipping noise as well as the way underwater noise can be mitigated. For example, on the technology side, the requirement may be expressed as below:

? Quantification of the link between ship noise reduction and regional ambient noise levels, as well as ambient noise levels themselves in many parts of the world.

? Coordinated sound measurements for vessels with means of tracking movement and other operational conditions including ship route and position via Automatic Identification System (AIS).

? Implementation, efficacy testing, and cost/benefit analyses of quieting technical and operational measures for ships.

? Better understanding of the relationship between sound and propeller cavitation and standardized individual vessel sound signatures for different ship classes and sizes under various operating and maintenance conditions.

? **Policy studies for strengthening the underwater noise reduction regulations for ships:** The voluntary 2014 IMO Guidelines need to be reviewed based on new evidence and proposals made for improving the regulatory framework for shipping noise reduction. The pace of efforts in this regard is slow under BAU (Business As Usual) scenario. Under the alternative scenario, the participating countries will aim to engage more in policy aspects, resulting from studies undertaken under this project in their respective countries or regions.

? **Environmental risk assessment of noise:** Based on the analysis of the baseline scenario, there is an urgent need for the development of risk-based guidance and training material specific to shipping that can be applied on a global level with a particular focus on developing countries. In such guidelines, not only methodology and techniques of doing the impact assessment need to be provided but also aspects such as marine species environmental and socioeconomic situations in each country could be included. Promotion and implementation of such tools also need to be catalyzed under the alternative scenario.

? **Promotion of the uptake of quietening technologies:** There has been much emphasis so far on noise reduction (quietening) technologies to address anthropogenic underwater noise. These are reflected both in 2014 IMO Guidelines and 2018 UN dedicated report on the subject. Under the alternative scenario, efforts will be made to identify ways of accelerating the uptake of the noise reduction technologies for ships. This requires industry engagement as outlined below.

? **Industry engagement:** In achieving the above, the proactive involvement of industry is essential. This gap will be covered by this project via setting up of a project GIA (Global Industry Alliance) that would bring industry players together in order to promote relevant technologies as well as operational practices to mitigate the scale of this major global environmental issue.

? **Developing countries engagement, international collaboration and knowledge sharing:** Currently, there is little engagement of developing countries as well as little international cooperation with regards to South-North collaboration on the subject. Under the alternative scenario, this collaboration will be established and enhanced via wider dissemination efforts and creation of strategic partnership networks. In particular, the engagement of environmental organizations and key organizations with mandate of protecting marine mammals will be sought not only because they are key stakeholders on the subject but also because they have relevant expertise as well.

1.3.1 Project Objectives

The overall objective of GloNoise project is to establish a truly global partnership to engage and assist developing countries to raise awareness, build capacity, define baselines and promote international policy dialogue on mitigation of underwater noise from shipping.

The specific objective of the GloNoise Partnership is to create a partnership of 5 Leading Pilot Countries (LPCs) and support them, via engagement with IMO, private sector and strategic partners from developed countries, to tackle the major environmental issue of underwater noise pollution from shipping sector.

1.3.2 Project Strategy

The strategy for GloNoise implementation is based on the normal Glo-X family of projects and includes:

- ? A global component (Tier 1) with the mandate of developing global tools, guidance documents and resources, providing international coordination, information dissemination, awareness raising and establishing a strong cooperation with industry, NGOs and other stakeholders.
- ? A regional component (Tier 2), providing regional coordination and harmonization, information sharing and capacity building.
- ? A country component (Tier 3) that establishes a fast-track partnership of Lead Partner Countries (LPCs) for GEF-eligible countries in the priority regions. LPCs are expected to perform activities that will raise awareness on the issue of anthropogenic noise from shipping and to build capacity aiding future management of the issue.

It's expected that Tier 1 would focus on development of awareness-raising materials (for example technical guidance documents), building capacity in countries to implement existing guidelines and mostly to collect more information to support IMO's policy dialogue as well as global guidance documents (toolkits) for implementation by experts at national levels. Concerning Tier 2, GloNoise will aim to establish a dialogue with regional bodies that are already dealing with underwater noise from shipping, and which have in some cases, convened expert groups on the issue such as for example OSPAR, HELCOM, ASOBANS, ACCOBAMS, UNEP/MAP and the EU. With regards to Tier 3, the focus will be on capacity building and awareness raising efforts as well as baseline studies in some selected countries. Overall, GloNoise will have large elements of Tier 1 and 3 and smaller level of activities under Tier 2.

1.3.3 Project theory of change

The project's theory of change basically includes activities that would move the status from baseline scenario toward alternative scenario and facilitate the achievement of the project outcomes. **Figure 4** shows the theory of change in schematic form.

[1] Website: <https://www.imo.org/en/OurWork/PartnershipsProjects/Pages/GloBallast-Programme.aspx>

[2] Website: <https://glomeep.imo.org/>

[3] Website: <https://www.glofouling.imo.org/>

[4] There has been some involvement of developing countries in regional projects/studying impact and looking at potential solutions. One good example is ACCOBAMS Guidelines developed, in which Northern African countries also participated. See: https://accobams.org/wp-content/uploads/2019/04/MOP7.Doc31Rev1_Methodological-Guide-Noise.pdf

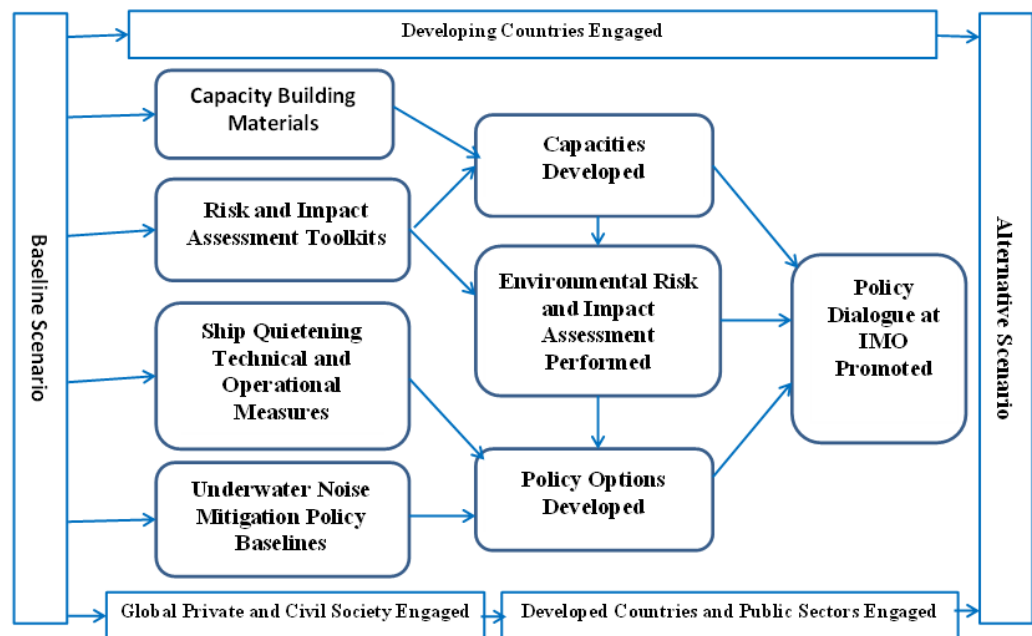


Figure 4 – GloNoise theory of change

It should be clarified that the theory of change shown here depicts a roadmap for future development that this project will aim to initiate and pave the way for further future efforts until 'alternative scenario' is achieved. Major assumptions for theory of change are:

1. Mitigation of underwater noise due to shipping is primarily an international effort and thus requires engagement of many parties. Such a global engagement is currently not in place.

? Shipping is dominated by developing countries and thus engagement of these countries is the most essential part for policy development and subsequent implementation of policies and measures. Developing countries has so far not been engaged in such efforts.

? The change will not happen unless there are strong policy measures in place. To get to an effective policy, baseline activities, both at international and developing countries levels, need to be undertaken at the first place. Also, it is essential to evaluate risk of underwater noise in order to further understand the scale of the problem. Theory of change is based on the fact that such international policies are non-existent.

? Although policy making is done by the governments and within IMO framework, engagement of industry and private sectors is important in order to ensure effective technological approaches are undertaken to make ships quieter in the future. Therefore engagement of both private and public institution in this effort is considered as an essential element of this theory of change.

The above theory of change is subsequently translated into various project activities and outputs that would yield the project outcome. This is shown schematically in **Figure 5**.

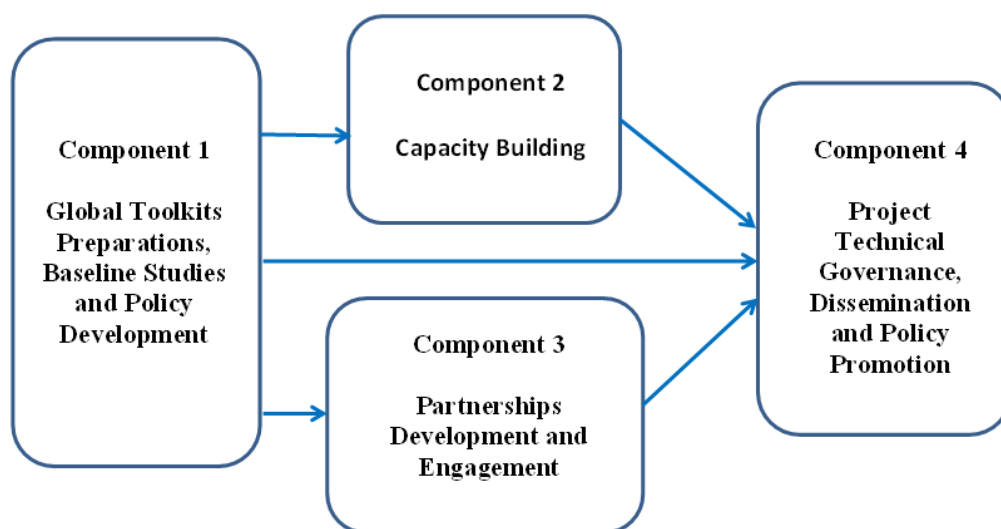


Figure 5 – Project components

1.3.4 Project Components, Outcomes and Outputs

The GloNoise project's technical work plan and agenda is represented under a number of project components / outcomes that are explained briefly in this section together with a list of specific outputs for each component.

Component 1 ? Global Toolkits Preparations, Baseline Studies and Policy Development

Outcome 1 ? Global toolkit(s), for ?baseline information gathering and analysis? and ?noise-related marine environmental risk and impact assessment? developed implemented and global and LPCs-level baselines, risks, impacts and policy options assessed and reported.

Under this Component, efforts will be directed at gathering information on baseline studies and environmental assessment of underwater noise from shipping with a view to improved understanding of shipping noise scale and impacts and the identification of gaps in scientific knowledge to assist with policy dialogues. Additionally, under this Component, efforts will be directed to foster an enabling environment in the LPCs for raising awareness on policy issues and develop the country's baselines on underwater noise from shipping.

To do the above, global tools will be developed, rolled out and implemented at both global and national levels. Experts from the LPCs will be capacitated to use the global tools and carry out the LPCs' baseline studies and submit relevant reports.

The outputs of this component include the following aspects:

? Output 1.1: Shipping underwater Noise Assessment Toolkit(s) for baseline analysis and environmental risk and impact assessment, inclusive of data collection and analysis methods, developed and documented.

Short description: This output will be developed at global level and will include a toolkit for Noise Risk Assessment and also guidance documents on how to develop the national baselines and status.

? Output 1.2: Global and national capacity building workshops conducted in order to roll out the Noise Assessment Toolkit(s) to relevant regional experts and LPCs.

Short description: Under this output, the experts needed to carry out the national risk and baseline assessments are trained on the toolkit(s) developed under Output 1.1.

? Output 1.3: LPCs carried out 'baseline studies' and 'environmental risk and impact assessment of underwater noise from shipping' using the Noise Assessment Toolkit and developed the national baseline reports.

Short description: This output will comprise of activities that would lead to preparation of risk assessment and baseline reports by various LPCs. The work will mainly be undertaken by experts training under Output 1.2.

? Output 1.4: Global policy options for mitigation of underwater noise from shipping were analyzed and developed.

Short description: Under this output, future scenarios will be analyzed for shipping underwater noise mitigation in terms of level of effectiveness, feasibility and needed regulatory framework.

To deliver the above outputs, a number of specific activities will be fully defined at the PPG phase of this proposal.

Component 2 ? Capacity Building and Awareness Raising in Participating Developing Countries

Outcome 2 ? Capacity building and awareness raising activities targeted at developing countries were carried out nationally and regionally towards understanding the issue of underwater noise from shipping and its mitigation

Based on baseline scenario evaluation, it was shown that the lack of awareness and capacity in developing countries is an essential barrier to wider appreciation of the scale of the underwater noise

environmental issue. This Component will aim to fill this important gap via a systematic level of capacity building activities directed at developing countries and policy makers. The main outcome of this Component is expected to be an increased awareness and capacity in developing countries on underwater noise scale and impacts, the existing regulatory frameworks and mitigation technical and operational measures.

The output of this component includes the following aspects:

? Output 2.1: Developed the awareness raising course materials on ?underwater noise from shipping, its significance, impacts, mitigation methods and regulatory aspects?.

Short description: Under this output, the capacity needs will be assessed first and based on results of needs assessment, a capacity building programme will be designed and developed.

? Output 2.2: Capacity building workshops delivered based on Outputs 2.1 and 1.1 at regional and national levels.

Short description: Under this output, all capacity building activities will be planned and executed at global, regional and national levels. The number and types of capacity building activities will be defined at the PPG phase.

? Output 2.3: An International Expert Workshop / Forum organized on ?state of knowledge and required future steps on shipping underwater noise mitigation? and the outcome documented for use in future policy making.

Short description: During the course of the GloNoise project, a minimum of one international forum will be organized in order to bring all the global stakeholders together and facilitate knowledge sharing. It is anticipated that this forum will mainly work towards policy development for promoting shipping underwater noise mitigation.

? Output 2.4: Implementation of a gender specific scholarship and capacity building in the project to develop women experts on the subject.

Short description: This output will concentrate on gender equality aspects and will develop activities to support women?s engagement in this discipline as well as the policy development activities. Most of the activities under this output will include capacity building but will also address issues such as more balanced gender engagement in project activities.

To achieve the above outputs, a number of specific activities will be fully defined at the PPG phase.

Component 3 ? Formation of Global Public-Private Partnerships on Underwater Noise Mitigation from Shipping

Outcome 3 ? Global Public-Private Partnerships in the form of a GIA (Global Industry Alliance) and a GSP (Global Strategic Partnership) formed and engaged in project activities

The move towards reducing underwater noise from shipping involves the use of policy measures as well as technical/technological and operational mitigation measures. To drive the process globally, GloNoise will form industry and strategic partnerships in support of objectives of the project. Two major largely private sector-oriented alliances will be formed for this purpose:

? A GloNoise Global Industry Alliance (GIA) will be formed to steer the whole understanding and uptake of ship noise quietening technical and operational measures. The focus will be on seeking views and support of the industry on the subject and catalyzing use of technologies for mitigation purposes.

? A GloNoise Global Strategic Partnership (GSP) will be formed to include all non-GIA institutions and public and private organizations (such as NGOs) that are willing to steer knowledge enhancement and environmental policy supports for implementation of the project as well as strengthening the policy support for this purpose.

The outputs of this component will include the formation of both partnerships as well as a minimum one activity by each partnership as follows:

? Output 3.1: Established a Global Industry Alliance (GIA) as a private-sector collaboration platform dealing with operational and technical measures for reduction of underwater noise from shipping.

Short description: Under this Output, the GIA, GIA Fund and members will be defined and the GIA will be fully set up. Further description of typical GIA members is given in **Section 4** on private sector engagement.

? Output 3.2: GIA engaged in the project, identified ship quietening technical and operational measures and developed feasibility aspects as well as a roadmap for their future implementation.

Short description: Under this Output, the GIA members will get engaged in the project with main concentration on technology aspects of shipping that would eventually lead to quieter ships with less underwater noise. The technologies will be identified, a technology roadmap will be developed and feasibility study for implementation of a selected number of technologies will be carried out.

? Output 3.3: Established a Global Strategic Partnership (GSP) as a public-private platform for in-kind support for implementation of the project and steering the policy agenda and strengthening of the regulatory framework for underwater noise reduction from shipping.

Short description: Under this Output, the GSP will be organized via inviting membership, defining terms of reference for specific activities and the way GSP members will contribute. Further description of typical GIA members is given in **Section 4**.

? Output 3.4: GSP supported relevant knowledge-based studies and made a submission(s) to IMO on the result of such studies for consideration by the MEPC.

Short description: Under this Output, the GSP will carry out the self-defined activities and will aim to support IMO policy making via relevant submission(s) to MEPC on shipping underwater noise.

To deliver the above outputs, several specific activities will be fully defined at the PPG phase of the project developments.

Component 4 ? Project Technical Governance, Dissemination and Policy Promotion including Monitoring, Learning, Adaptive Feedback and Evaluation

Outcome 4 ? The technical coordination, monitoring and evaluation of project carried out on a regular basis and knowledge management and information sharing between all stakeholders accomplished

The project will establish global and national governance structures to pursue the technical implementation and monitoring of the project via engaging the partners, stakeholders, receiving their feedback, prepare and review various progress reports such as periodical reports and annual reports, carry out independent evaluation of the project and put in place a communication system for feedback and learning from the project's experience. This structure will also ensure the involvement of various international and national stakeholders including LPCs, GIA and GSP in steering the project's work plan in a collaborative and efficient way. Under this component, all technical coordination, disseminations and monitoring activities will be carried out.

The outputs of this component will include the following aspects:

? Output 4.1: Project coordination structure is in place at global and national levels.

Short description: The project technical governance structure will be developed as part of preparation of GloNoise ProDoc. This output will make sure that all elements of the governance structure are implemented.

? Output 4.2: Project monitoring, evaluation and reporting systems established and implemented.

Short description: The project monitoring aspects would include a number of reporting activities that will be carried out and completed under this output. Some elements of monitoring of the project are defined in **Section 7**; however, full details of activities will be clarified in the PPG phase.

? Output 4.3: Project communication and dissemination activities inclusive of dissemination of results of Components 1 to 3 planned and implemented.

Short description: Under this output, the GloNoise communication policy and plan will be developed and implemented. Aspects such as project website, project dissemination activities, project visibility aspects, etc. will be defined and implemented to achieve this output.

? Output 4.4: Project participated in portfolio learning via IW:LEARN.

1.4 Alignment with GEF Focal Area and Strategic Priorities

Global shipping is truly international and transboundary and its environmental problems such as underwater noise require international coordination and cooperation. As such, the GloNoise project is strongly linked and is fully in line with the GEF-7 International Waters (IW) focal area strategy related to development of transboundary collaboration on marine environmental protection and Blue Economy developments. It also supports the IW's objective of sustaining healthy coastal and marine ecosystems.

According to its Four-year Framework and Programming Direction, GEF-7 encourages decisions towards the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, in particular Sustainable Development Goals 14 (Life below Water). GloNoise fully aligns with this GEF-7 priority area because of its impact on marine life. Also, the goal of the GEF-7 strategy is to maintain globally significant biodiversity in landscapes and seascapes via main objectives of addressing:

1. Mainstream biodiversity across sectors as well as landscapes and seascapes;
2. Address direct drivers to protect habitats and species; and
3. Further develop biodiversity policy and institutional frameworks.

One such huge area of consideration for protection of biodiversity is the Earth hydrosphere and oceans (i.e. International Waters) where the GloNoise project aims to concentrate on. Further examination of the above ?Objective 2 - Address direct drivers to protect habitats and species?, GEF-7 provides three main entry points; one of which is ?International Waters Focal Area/Coastal and Marine Protected Areas?. GloNoise closely relates to this entry level and in particular will support its ?Objective 1 - Strengthening Blue Economy opportunities?.

To promote Blue Economy for potential sustainable development of future, all players including marine transport would require to aim for more sustainable use of marine and coastal resources. For this purpose, GEF encourages transboundary collaborations such as those advocated under the Large Marine Ecosystems (LMEs) concept in order to foster a holistic understanding of the issues, root causes and solutions as applies to large bodies of waters. GEF-7 aims for strengthening Blue Economy opportunities, through three areas of strategic actions:

1. Sustaining healthy coastal and marine ecosystems;
2. Catalysing sustainable fisheries management; and,
3. Addressing pollution reduction in marine environments.

The proposed GloNoise project relates to all the above activities in particular strategic actions 1 and 3. Specifically, it is directly in-line with strategic action 3 on pollution reduction in the marine environment. Addressing pollution reduction in marine environments, GEF-7 aims to support a variety of policy developments, promote public-private partnerships and stimulate private sector engagement. One specific area highlighted in GEF-7 Programming Directions is:

?Increase understanding of marine noise in a transboundary context potentially through target research, towards stimulating the adoption by private sector of good practices aiming at avoiding and mitigating the impacts of marine noise on marine fauna?.

GloNoise fully supports this element of GEF-7 Programming Directions via concentrating on marine noise in a transboundary context (partnership of Lead Pilot Countries) as well as including promotion of public-private partnership for more effective environmental governance in the form of GIA (Global Industry Alliance) and GSP (Global Strategic Partnership) as explained in previous sections. GEF support for developing countries in understanding and assessing their marine underwater noise due to shipping, will be an important move in dealing with the transboundary and global issue of marine underwater noise in particular in relation to shipping.

Shipping noise reduction is expected to require ships with alternative and quieter machinery power systems that means transition from diesel-based prime movers to for example fuel cell with fairly low noise and vibration levels. Additionally, it is expected that reduction of ship operation speed would be another technical / operational measure for noise abatement purposes. Both the move to fuel cell technologies and slower ships that may result from the need for marine noise underwater reduction would also lead to significant reduction in shipping fuel consumption and thus GHG mitigation. Therefore, the project aligns nicely with the GEF:CC strategy and plan.

1.5 Incremental/Additional Cost Reasoning and Expected Contributions from the Baseline and Co-financing

Table 1 shows detailed numbers of co-financing that are estimated based on cost reasoning and the past experience from the predecessor Glo-X projects as fully described under **Section C**.

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount (US \$)
Donor Agency	IMO	In-kind	Recurrent expenditures	600,000
Donor Agency	IMO	Grant	Investment mobilized	200,000

Other	IMO Member States[1] ? costs for participation in IMO MEPC meetings	In-kind	Recurrent expenditures	1,425,000
Other	IMO Member States ? costs for participation in IMO MEPC meetings	Grant	Investment mobilized	1,102,500
GEF Agency	UNDP	In-kind	Recurrent expenditures	150,000
Total Co-financing				3,477,500
GEF Financing				2,000,000
Grand total				5,477,500
Co-financing ratio (ratio of co-financing to GEF investment)				1.74

Table 1 ? Indicative sources co-financing levels and co-financing ratio

As **Table 1** indicates, and in terms of Incremental Cost Analysis (ICA) of the project, GloNoise envisions leveraging US \$2.00 million in GEF funding to achieve a total incremental co-financing of about US \$3.5 million with significant potential for raising the co-financing during PPG when the 5 LPCs are selected and their LOEs are secured. As such, GEF intervention for preparing the ground work and policy and technology options for mitigation of shipping underwater noise will spur a significant level of co-financed activities ?on-the-ground? both at international policy development level as well as national levels.

In the absence of the GEF incremental funding, it will not be possible to bring together such vast international and national players in order to focus on topic of shipping underwater noise that has significant trans-boundary characteristics. Also, the GEF increment will enable participation of developing countries in this global effort and will help such countries to investigate their national status, risks, and human capacities in dealing with shipping underwater noise.

The GEF increment will also help close the considerable gaps in this area that has been detailed under baseline scenario and alternative scenario analysis that includes aspects such as:

? The first important gap is the very limited participation of developing countries in this important effort so far. Filling this gap through an engagement of developing countries is an essential requirement because underwater noise from shipping is a global issue and also because of the important and decisive role that developing countries play in international shipping in terms of shipbuilding, ship operation, ship flag registration, supply of seafarers and level of dependents on shipping for their imports and exports.

? There are significant gaps in the understanding of the impacts of underwater noise from shipping on aquatic life that are not likely to be solved by the existing ongoing efforts. Thus, conducting systematic risk assessment techniques will help countries, in particular developing countries, to understand the scale of underwater noise impacts on their environment and economy.

? Significant gap exists on policy framework in preventing shipping underwater noise at both international and national (in particular in developing countries) levels. GloNoise will aim to close this gap.

? Finally, while the policy options and their development is an important element of the subject, the challenge in mitigating underwater noise from shipping is at large a technological issue that can be handled primarily by industry / private sector, if right and long lasting policy frameworks are established. The GEF increment would enable not only engagement of industry in such efforts but also engagement of developed countries as strategic partners to the project is helping North-South technical cooperation.

? On wider analysis of baseline scenario and alternative scenario, please see **Section 1.2** on the baseline scenario and associated baseline projects and **Section 1.3** on alternative scenario; which provide full details of existing gaps, related projects as well as why there is a need for the move to alternative scenario.

? On wider environmental benefits of this GEF intervention, more details are given in the next section (see **Section 1.6**)

Overall, the project represents the first-ever initiative to promote national-regional-global action in understanding and assessment of the scale of underwater noise due to shipping and its impacts on marine environment. As a result of the global partnerships developed, the risk-based assessment of underwater noise carried out and the country baseline studies completed, the project will result in significant trans-boundary synergy of diverse players that is essential for dealing with this issue. GEF support is instrumental for creation of this globally oriented platform for collaboration and partnership with developing countries in dealing with this subject and without GEF increment, such partnership will be impossible to form.

1.6 Global Environmental Benefits

1.6.1 General environmental benefits

A number of global environmental benefits are associated with the GloNoise project as highlighted below:

? The first global benefit of the project relates to the fact that GloNoise heavily concentrates on developing countries where awareness and knowledge on the subject of underwater noise from shipping is minimal. This focus will bring significant benefits in creating capacity, understanding the baselines, catalysing subsequent activities and helping with buy-in for future required regional and international policies.

? The project represents the first-ever initiative to promote national-regional-global action in understanding and assessment of the scale of underwater noise due to shipping and its impacts on marine life. As a result of the global partnerships developed, the risk-based assessment of underwater noise carried out and the country baseline studies completed, the project will result in significant transboundary synergy of diverse players that is essential for dealing with this issue.

? The project will provide substantial global environmental benefits via a move towards the reduction of underwater noise in the world's coastal waters and LMEs where the majority of marine life exists. In doing so, GloNoise will contribute to the reduction of a major environmental stress (e.g. underwater noise) for the benefit of protection of marine life and sustainability of marine resources and future Blue Economy objectives.

? As indicated in **Section 1.4**, this project will provide an opportunity for GEF to pursue its mandate related to the protection of marine life and associated biodiversity and its strategic priorities related to enabling long term policy reforms at global, regional and national levels as well as the move towards Blue Economy. Without the intervention by GloNoise and due to the aforementioned lack of awareness and capacity in developing countries, it is unlikely that the issue of underwater noise due to shipping will receive the required attention on a global level and as a result, it is unlikely that globally oriented policy developments (for example at the IMO) can be pushed beyond the current baseline scenario.

? Another global benefit relates to the alignment of the project to support objectives of UN 2030 SDG 14 on 'life below water'. This project is also in-line with the mandate of IMO MEPC activities as related to underwater noise and it will provide much needed extra input, especially from developing countries, into the MEPC debates on the subject.

? The fact that the GEF funding under GloNoise will bring to the table a significant level of added baseline funding and co-financing for the benefit of marine life and ecosystem, can be considered another major benefit of the project for delivering global environmental benefits.

1.6.2 Benefits in terms of consistency with national priorities and regional and international conventions

Consistency with National Priorities

As for the LPCs' national priorities and the priorities of wider developing countries, there is no significant information on the subject and this gap is planned to be filled as part of the PPG consultations and some project activities where national report on the subjects will be prepared. As indicated, the LPCs will be identified under the PPG phase using the same format and process that has successfully done under past IMO-GEF-UNDP Glo-X projects. This subsequently will follow wide consultations during the PPG phase to ensure activities are aligned to requirements of each LPC.

In terms of alignment to national priorities, it is already emphasized in **Section 2** (where the main features of the LPCs are described) that the choice of LPCs will also be guided by their previous engagement on the subject and if they already have any policy, strategy, etc. in this area. Additionally, a number of activities are planned at national levels that would include aspects such as national level baselines to be established under Component 1 of the project that will address the current status of the country, inclusive of existing policies and strategies that will subsequently lead to future policy options at national and international levels.

Consistency with regional legal and policy frameworks

As stated in **Section 1.2.2**, there are a number of regional bodies addressing anthropogenic underwater noise through regional legal and policy frameworks but these are largely associated with the waters surrounding the EU, the North-East Atlantic, the Mediterranean and the Baltic. For example, the EU's

Marine Strategy Framework Directive (MSFD) recognizes underwater noise as an ocean pollutant and has a descriptor (descriptor 11) for Good Environmental Status (GES) specifically referring to underwater noise which requires EU Member States to have strategies in place for monitoring and, where necessary, mitigating underwater noise. GloNoise aims to take advantage of these baseline efforts and promote similar approaches in developing countries.

Consistency with international priorities

The GloNoise project will contribute, inter alia, to biodiversity targets and conservation measures consistent with the obligations of participating countries under the Convention on Biological Diversity (CBD), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), the UNCLOS main theme of preservation of marine resources and environment, the IMO existing guidelines and policy development and a significant number of regional efforts as outlined above. A summary of how GloNoise is consistent with and supportive of international and regional priorities follows.

Convention on Biological Diversity (CBD): Decision XII/23 of the CBD Conference of the Parties (COP) 12 addressed the issue of impacts of anthropogenic underwater noise on marine and coastal biodiversity and invited competent organizations, including IMO, to take appropriate measures within their mandates, to avoid, minimize and mitigate the potential significant adverse impacts of anthropogenic underwater noise on marine and coastal biodiversity, this included:

- ? Building capacity in developing regions where the awareness and scientific capacity to address this issue has yet to be strengthened;
- ? Engaging industry and other relevant sectors, including the naval and mining sectors, when developing guidelines in order to increase their ownership and participation in the implementation of the guidelines; and
- ? Encouraging collaboration and communication among relevant international bodies to enhance synergies in addressing this issue.

Conservation of Migratory Species of Wild Animals (CMS): CMS has recommended Parties to undertake research of the impact of underwater noise, and to limit or mitigate man-made noise to address Sustainable Development Goal (SDG) 14 target 14.1 to ?by 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution? which also applies to noise pollution.

UNCLOS and environment: The UN Convention on the Law of the Sea (UNCLOS), whilst not specifically mentioning noise pollution, does define the term ?pollution? as ?the introduction by man, directly or indirectly, of substances or energy into the marine environment..., which results or is likely to result in such deleterious effects as harm to living resources...? (Art. 1(1) (4)). Based on this, anthropogenic underwater noise is considered by some as a form of pollution of the marine environment under UNCLOS.

IMO Guidelines and policy making: As stipulated under baseline scenario, the IMO has already developed non-mandatory ?Guidelines for the reduction of underwater noise from commercial shipping to address adverse impacts on marine life? under Resolution MEPC.1/Circ.833, April 2014 with the

objective of providing general advice on reduction of underwater noise to ship designers, shipbuilders and ship operators. IMO work so far has largely concentrated on ship and ship technologies and aims to resolve the underwater noise issue at source. GloNoise is closely associated to this area of noise mitigation from ships and thus it will support the IMO policy making process.

1.7 Innovation, Sustainability and Potential for Scaling-up

The GloNoise project aims to deliver tangible benefits to marine biodiversity and ecosystem via contributing to reduction of underwater noise from shipping. For this purpose, it seeks to use innovative risk-based approaches to underwater noise impact assessment, embarks on wide ranging capacity building in developing countries and forms a truly global partnership that would act as a platform for innovation and future sustainability and scalability of the undertaken efforts as outlined below.

1.7.1 Innovation

The project will implement innovative risk-based impact assessment of underwater noise due to shipping and as such will elevate the current knowledge on the subject. With use of such techniques, the project will promote the international efforts whereby best practice solutions will be examined and promoted in developing countries as a way of reducing marine underwater noise.

The project also seeks new and effective partnerships between public and private sectors that will be unique in the area of international and transboundary efforts on underwater noise reduction. To ensure transboundary nature of the project activities, the 3-tiered global-regional-national actions will ensure the engagement of key stakeholders whilst it will leverage co-financing at all levels.

The GloNoise project heavily concentrates on developing countries, where shipping plays significant roles and as such is one of the first initiatives to do so on the topic of underwater noise from shipping. This is an innovative and welcome development worldwide and will bring more impetus to policy development within the IMO arena.

Overall, GloNoise will develop a truly innovative international, multi-stakeholder platform on underwater noise from shipping with developing countries as well as public-private partnerships at its core. It will catalyze further understanding of the subject, use innovative impact assessment methods, and promote best practice and technologies that would mitigate the underwater noise by shipping.

1.7.2 Sustainability

The future sustainability of the GloNoise agenda and activities will be achieved for the following reasons:

? A strongly established global platform on underwater noise due to shipping in the form of an institutional framework and partnerships will ensure that future efforts on capacity building, knowledge creation, policy making and implementation of best practice at national, regional and international levels will be sustained. Key project partnerships (LPCs, GIA and GSPs) that are going to be formed

under this project will act as the main driver for future sustainable activities on this important environmental issue.

? Use of existing national and regional institutions (such as Regional Seas programmes, GEF LME programmes, etc.) that are the main stakeholders for such transboundary issues and their active engagement will ensure longer term sustainability of the efforts.

? Formation of national task forces that will act as seeds for longer-term, cross-sectoral institutional mechanisms at national level.

? The project main aim of raising awareness and capacity in the developing countries will involve engagement of national experts that could then sustain such efforts at national level.

1.7.3 Scaling up

The idea of 'pilot countries' used within this project, similar to other Glo-X projects, is based on a successful model of piloting some activities and then scaling them up to other countries. Upon successful completion of GloNoise, the basis for the vertical and horizontal up-scaling will be provided in view of the need of many other countries to take similar steps as those to be undertaken by LPCs within this project. In terms of development of relevant technologies, technical and operational measures and policy developments, scope for up-scaling will also exist beyond the GloNoise project. Engagement of GIA is mainly to drive technology, technical and operational measures while engagement of GSPs are to bring global and regional expertise as well as policy supports; both of which will open the horizon for future stability of GloNoise efforts. For example:

? Lead Pilot Countries (LPCs) participating in the GloNoise project will be expected to pass on knowledge and experience gained through the project to other countries in their regions via a number of regional activities.

? New knowledge and experience gained by LPCs and regional partners through their participation in the GloNoise project will feed back to the IMO to promote policy aspects of underwater noise reduction due to shipping beyond the existing voluntary 2014 IMO Guidelines.

? This project is expected to act as a catalyst for future scaled up activities in this area via promotion of awareness on this important environmental issue, via development of technical capacity and institutional capacity while working with stakeholders.

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1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

1.8 Project maps and coordinates

The following map shows the geographical regions where the GloNoise intervention aims to concentrate on.

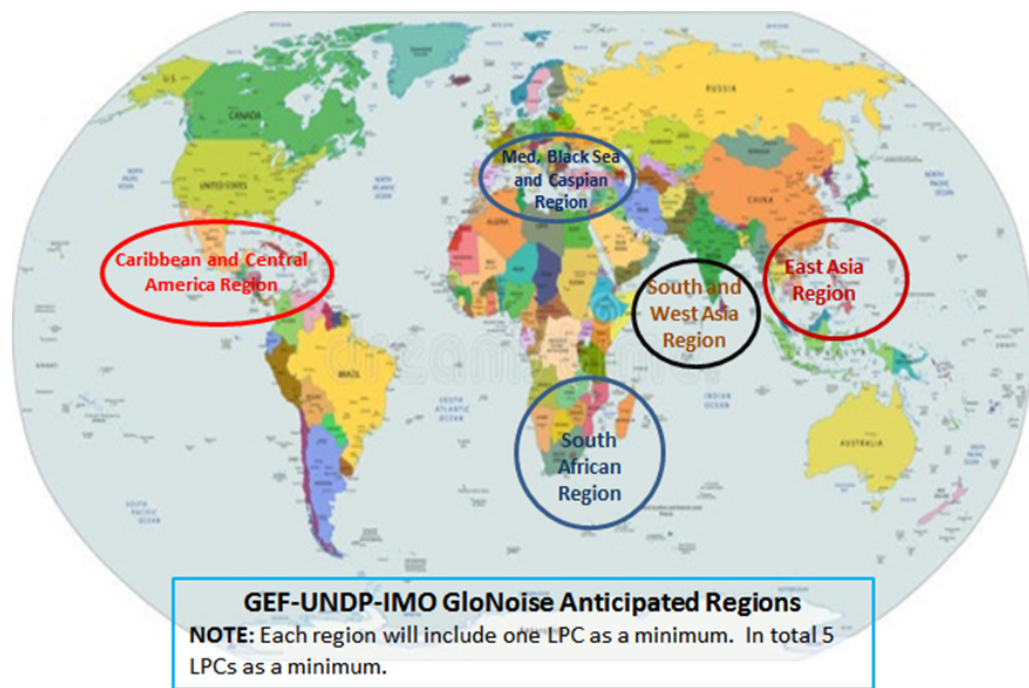
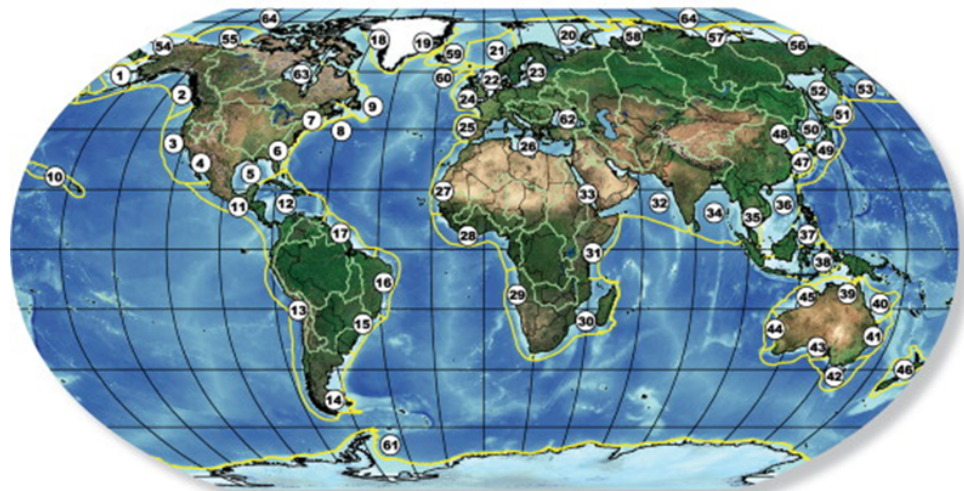


Figure 6 – GloNoise targeted regions

Figure 7 shows the global map for existing LMEs.

Large Marine Ecosystems of the World and Linked Watersheds



- | | | | | | |
|-------------------------------------|-------------------------|---------------------------|--|----------------------------|------------------|
| 1 East Bering Sea | 13 Humboldt Current | 25 Iberian Coastal | 37 Sulu-Celebes Sea | 48 Yellow Sea | 60 Faroe Plateau |
| 2 Gulf of Alaska | 14 Patagonian Shelf | 26 Mediterranean Sea | 38 Indonesian Sea | 49 Kuroshio Current | 61 Antarctic |
| 3 California Current | 15 South Brazil Shelf | 27 Canary Current | 39 North Australian Shelf | 50 Sea of Japan / East Sea | 62 Black Sea |
| 4 Gulf of California | 16 East Brazil Shelf | 28 Guinea Current | 40 Northeast Australian Shelf-
Great Barrier Reef | 51 Oyashio Current | 63 Hudson Bay |
| 5 Gulf of Mexico | 17 North Brazil Shelf | 29 Benguela Current | 41 East-Central Australian Shelf | 52 Okhotsk Sea | 64 Arctic Ocean |
| 6 Southeast U.S. Continental Shelf | 18 West Greenland Shelf | 30 Agulhas Current | 42 Southeast Australian Shelf | 53 West Bering Sea | |
| 7 Northeast U.S. Continental Shelf | 19 East Greenland Shelf | 31 Somali Coastal Current | 43 Southwest Australian Shelf | 54 Chukchi Sea | |
| 8 Scotian Shelf | 20 Barents Sea | 32 Arabian Sea | 44 West-Central Australian Shelf | 55 Beaufort Sea | |
| 9 Newfoundland-Labrador Shelf | 21 Norwegian Shelf | 33 Red Sea | 45 Northwest Australian Shelf | 56 East Siberian Sea | |
| 10 Insular Pacific-Hawaiian | 22 North Sea | 34 Bay of Bengal | 46 New Zealand Shelf | 57 Laptev Sea | |
| 11 Pacific Central-American Coastal | 23 Baltic Sea | 35 Gulf of Thailand | 47 East China Sea | 58 Kara Sea | |
| 12 Caribbean Sea | 24 Celtic-Biscay Shelf | 36 South China Sea | | 59 Iceland Shelf | |

Figure 7 – LMEs (Source: <https://www.sciencedirect.com/science/article/abs/pii/S2211464513000620>)

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities

Civil Society Organizations No

Private Sector Entities No

If none of the above, please explain why: Yes

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement

It should be mentioned that Stakeholders' engagement under PIF has not been extended to various countries and wider industry as this would normally take place at PPG phase and after the selection of LPCs at IMO through a transparent and open process (the reason for LPCs selection during PPG has extensively explained earlier).

However, at the PIF level, the matter has been raised at IMO during the 76th meeting of the Marine Environmental Protection Committee (MEPC) in June 2021, at which the Committee (comprising of all member States and Observers) asked the IMO Secretariat to discuss with potential donors, such as GEF, the potential funding of a global underwater vessel noise project (See document MEPC 76/15, paragraph 12.3.5). Further detailed consultations are thus would take place at PPG phase and would include significant level of engagement with countries, industry and non-governmental organizations to define details of their engagement. In the following, the reasoning and the processes to be adopted are further clarified.

Problems related to anthropogenic underwater noise are inter-disciplinary by nature, so the success of the project depends on the full involvement and cooperation of a broad group of stakeholders. Likewise, international shipping and its related underwater noise pollution is truly an international issue and thus require engagement of various countries when considering mitigation. Thus, the GloNoise partnership aims to be a multi-stakeholder coalition of countries, private industries, non-governmental organisation and centres of excellence both at global, regional and national levels. The following types of institutions and organizations are expected to play a role:

? *National Government partners:* Maritime administrations; port authorities, environmental agencies and ministries, etc. These are generally the public sector organisations.

? *Shipping and ports sector:* Shipping, ports and possibly other sectors that operationally emit underwater sound such as dredging, oil and gas offshore wind industry. These are generally the private sector organisations.

? *Technology providers and learned organisations:* Shipbuilders, propeller manufacturers, and industrial R&D organisations that could play major role in noise reduction of ships. These are generally the private sector organisations.

? *Universities* that focus on underwater noise from shipping research. These are generally public organization but potentially can be private organisations as well.

? *Environmental Organisations and Institutes:* National and regional relevant institutions including marine research institutes, NGOs, Regional Sea Conventions and related International/Regional Organizations dedicated to protection of cetaceans, etc. These are generally public or private organisations.

Taking into account the above categories of partners, the GloNoise intends to organise the stakeholders into three major partnership groupings as follows:

? **Country partnerships:** The GloNoise project would have a very strong developing countries' perspective and will bring together a number of countries to play the role of Lead Pilot Countries (LPCs). These countries will lead the international efforts in understanding, raising awareness, defining

their baseline, support policy developments; all directed towards tackling the underwater noise from shipping issue.

? **Industry partnership:** The GloNoise strategy is to organise a private sector partnership based on the successful model that was used under IMO-UNDP-GEF Glo-X projects in the form of a GIA (Global Industry Alliance). The main purpose of the GIA will be the creation of industrial coalitions and actors to address the technical and operational issues relating to quietening of ships as well as technical support for policy making purposes.

? **Strategic partnerships:** A number of countries, through their organizations with knowledge-base or policy-base or environmental concern on the subject, will get engaged in the GloNoise project and carry out self-funded activities through the route of Global Strategic Partnerships (GSP). GloNoise GSP will comprise global or regional organizations / countries that would help the GloNoise project with their resources or knowledge and knowhow during the execution.

During the implementation of the project, stakeholder engagement will work across global multilateral, regional and national tiers. Engagement will be through the governance structure as outlined in **Section 6**.

GloNoise aims to have about 5 LPCs as its main developing countries? partnership. The choice of GloNoise?s LPCs will be made during the PPG phase based on the following criteria:

- ? Country?s proven record of relatively strong policy agenda on environmental protection.
- ? Existence of the basic political will in the country on the subject.
- ? The level of interest of the country for promotion of policy making and/or noise mitigation efforts including policies, strategies and regulations.
- ? Countries with higher stakes in protection of international waters resources and marine life.
- ? Countries with real underwater noise issues.
- ? Countries with significant regional influence including leading participants in LMEs-related activities.

Stakeholders? engagement process

The stakeholders? engagement will take place at two stages:

? Engagement of primary stakeholders leading to project partnership: This will follow a process of engagement of all potential partners in the ProDoc development stage in order to secure their support for the project activities. Most of this engagement will be realized through LPCs consultations that are planned to take place at the PPG phase. The consultation process will include face to face or virtual meetings with each country?s main stakeholders. This engagement and consultations will lead to a

country-level project plan as well as issuance of Letters of Engagement (LOEs) for submission to GEF as part of final ProDoc (similar to other Glo-X projects).

? Engagement of project beneficiaries and wider stakeholders during the execution of the project: This will take place via a process of setting up a National Task Force in each LPCs that would ensure that engagement of all stakeholders in the project. This model has been used very successfully under Glo-X member of projects and will be implemented under this project.

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

At economic level, GloNoise agenda and its impact on economic sectors can be closely related to marine food resources and in particular fishing industry and specifically fishing capture. Analysis of this aspect will be highlighted in relation to gender:

? While the gender aspects of fishing capture sector is heavily biased towards men (86% men versus 16% women according to FAO report) for specific reasons of working conditions, the related sea food industries downstream of fishing capture, in particular sea food processing and preparations, are generally dominated by women. For example, it is stated that "small-scale fisheries and aquaculture value chains are important for the livelihoods of coastal communities worldwide. Women play a pivotal role in small-scale fisheries around the world. Close to half of the 40 million people worldwide who work in small-scale fisheries are women. Women dominate the post-harvest handling, processing, selling of fresh fish, packaging and marketing of seafood (<https://www.iied.org/fish-night-7-gender-equality-seafood-value-chain>)

? Overall it could be mentioned that the economic impacts and gender engagement varies along the value chain from fishing capture to sea food industries and both gender will be impacted economically due to future decline of marine biodiversity and life resources. Unfortunately, the gender aspects of the full value chain could not be evaluated. However, indicators related to fishing capture sector are included in the section on Project Core Indicators (**Section F**).

At policy level, the IMO's Strategic Plan and High-level Action Plan specifically address the goal of strengthening the role of women in the maritime sector (High-level Action 3.5.2) in line with the United Nations General Assembly (UNGA) resolution A/RES/72/147. That resolution which highlights the need raised in previous resolutions regarding "Strengthening the institutional arrangements for support of gender equality and the empowerment of women" calls upon all actors, including Governments, the United Nations system and its specialized agencies, other international organizations and civil society to intensify and accelerate action to achieve the full and effective implementation of the Beijing Declaration and the Platform for Action. In addition, the World Maritime Day theme for 2019 was "Empowering Women in the Maritime

Community". This provided an opportunity to raise awareness of the importance of gender equality, in line with the UN's Sustainable Development Goals (SDGs), and to highlight the important contribution of women within the maritime sector.

At the operational level, the Programme for the Integration of Women in the Maritime Sector (IWMS) remains the primary vehicle for supporting the SDG 5 to "Promote gender equality and empower women". The project will operate in accordance with the above-mentioned SDG and High-level Action.

In particular, the governance/administration of the GloNoise project will strive to incorporate gender equality principles into its operation at global, regional and national levels to ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life (SDG 5.5). The particular elements to be used would include aspects such as:

- IMO's Women in Maritime Associations (WIMA): Seven WIMAs have been established in Africa, Arab States, Asia, the Caribbean, Latin America and the Pacific, covering some 152 countries and dependent territories and 490 participants. The GloNoise will aim to engage WIMAs, where they exist in the proposed GloNoise regions, to for example, raise awareness of women in maritime at GloNoise activities/training events;
- IMO's annual women in maritime day 18th May: In support of this event, GloNoise will organise coordinated annual events during the lifetime of the project;
- GloNoise will support gender specific recruitment of consultants for the project, where possible;
- GloNoise will include a gender specific scholarship in the project to develop women experts on the subject. This is included under Output 2.4 of the project where specific activities will be undertaken on gender equality aspects in order to support women's engagement in this discipline as well as the policy development activities. The scholarship will specifically aim for developing women's knowledge and capacity on underwater noise discipline with a view for participation in future policy making as a way to fast track participation of women in such debates and decision making processes.

These goals and specific activities will be maintained throughout the administration of the GloNoise project within IMO and partner States and the coordination of the project. Also, they would be maintained in relevant project's activities when rolled out into regional and national plans and through interaction with stakeholders.

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

As indicated within the project description, the industry/private sector engagement is important to this project due to the need for use of technical and operational ship quietening technologies for noise mitigation. This will take place via establishment of a Global Industry Alliance (GIA) that has been successfully applied in other GEF-related past Glo-X family of projects. The reasoning and rationale for the GIA was further described in **Section 2** on "stakeholders and public-private partnership".

Also, as a major marine environmental issue, engagement of developed countries, their knowledge-based organizations, R&D institutes and NGOs with strong credentials on the subject is important for the project. This group of stakeholder, mainly public organizations, will be organized together into a Global Strategic Partnership (GSP) within GloNoise project.

Component 3 of the project has been devoted to not only engage all these stakeholders in the form of a GIA and a GSP but also allocate specific activities to them to be delivered in-kind or using their own funds. Details of related outputs can be seen under **Section 1.3.4** on Component 3. Further details on GIA and GSP are given under partnership in **Section 2** on "stakeholders and public-private partnership".

In differentiating between GIA and GSP, their domain of work is different as explained below:

? GIA as the name implies comprises of mainly private industry sectors. The main role of GIA is to articulate private sectors approach to mitigation of underwater noise from international shipping (Component 3 activities), to help with the development of global toolkits and risk assessment methodologies as well as capacity building training material (Component 1). GIA members will be paying membership fee to a GIA Fund to support the GIA activities. Candidates for the GIA could include:

- ? Marine/Naval engineering companies
- ? Marine /Naval architecture companies
- ? Port authorities
- ? Shipbuilding companies

- ? Underwater acoustic specialists
- ? Classification societies
- ? Universities/Ocean and marine research institutes

? The role of GSP - that would comprise countries and institutions primarily from developed countries, with significant knowhow on underwater noise as well significant interest on underwater noise reduction - is to help with promotion of policy options and supporting the LPCs via development of bilateral knowledge-exchange and support relationships. Their support will be mainly for Component 1 on national assessments as well as Component 4 on policy development and promotion aspects. Support by GSPs will be mainly in-kind and with no direct cash payment to the project. The GSPs generally will be linked to governments and thus are expected to be public organizations. Candidates for the GSP would mainly include the Members States that have been prominent in the discussions at MEPC and SDC including those below:

- ? Australia
- ? Canada
- ? Chile
- ? New Zealand
- ? United Kingdom
- ? United States
- ? Regional Seas Bodies
- ? Governmental departments

NGOs (e.g. IWC, IFAW, WWF, FOEI)

5. Risks to Achieving Project Objectives

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

The risks associated with the project are analysed and the important ones are documented in the following Table.

Risk 1: The project is not primarily associated with a mandatory international regulatory framework, as the IMO guidelines for the reduction of underwater noise from commercial shipping are non-mandatory. Thus, the project may not attract similar levels of commitment as demonstrated by countries and industry stakeholders as other Glo-X projects that supported IMO's mandatory instruments such as GloBallast and GloMEEP. As such, there may be a lower level of political commitment to the project itself as well as to sustained action beyond the project.

Mitigation: This risk is mitigated by the fact that underwater noise pollution is increasingly being recognised globally as a significant threat to aquatic ecosystems and marine life. Also, there is mounting scientific evidence linking noise exposure to a range of detrimental effects on marine fauna, including marine mammals, sea turtles and fishes, some of which are endangered or commercially important. Therefore, as global political pressure to address anthropogenic underwater noise increases, specifically in relation to shipping, it is expected that the political commitment to the project will intensify. Also, capacity building activities of the project will aim to alleviate this shortcoming through awareness raising for the authorities as well as wider stakeholders. The criteria for choice of LPCs (see **Section 2**) would have major impact on mitigation of this risk and thus will be taken into account during the selection of the LPCs.

Risk 2: As outlined under **Section 1.2**, there are a variety of initiatives at global, regional and even national levels. There is a risk that due to a lack of coordination, some of the vital initiatives and the associated knowledge base are not recognised and thus the project could lose part of its actuality and comprehensiveness.

Mitigation: The GloNoise global tier will be very strong and will aid in collection of the necessary knowledge base via the international expert workshop. Tier 2 will be partly devoted to form informal collaborations with the existing initiatives. Additionally, with the formation of GIA and GSP as public-private partnerships and their engagement in the project, the risk of lack of coordination with other initiatives will significantly be reduced.

Risk 3: There is a risk that the guidance material and toolkit to be developed may not be tailor-made to the socioeconomic and environmental situation in each region and Lead Pilot Country. The capacity building as well as baseline studies might thus lose thrust and effectiveness.

Mitigation: The Project Coordination Unit (PCU); see **Section 6**, will establish a very close communication with the LPCs when planning and conducting regional and national workshops as well as baseline studies. The online survey on the 2014 IMO guidelines, see Output 1.5, will have specific sections where member states can raise concerns and point out issues that are specific to their socioeconomic and environmental situation. All these will feed into the process of tools guidance/toolkit development to ensure that the developed material can satisfy specific requirements of developing countries.

Risk 4 - Lack of political will or strong country-level focus on underwater noise pollution. This could occur due to lack of awareness or political priority for the participating countries.

Mitigation: The best way to mitigate this risk is right at the point of selection of LPCs. The selection should be based partly on level of enthusiasm of the country on understanding the importance of underwater noise pollution and taking part in relevant international efforts. The choice of countries with a stronger policy agenda on environmental protection, higher stakes in maritime industry and its governance (strong in ship owning, building or flag, etc.), countries with higher interests in preservation of marine resources, can alleviate this risk significantly.

Risk 5 ? Need for social distancing due to COVID19 may negatively impact the on time delivery of some of the project's outputs.

Mitigation: Assuming that COVID19 continues in its current intensity, the short term and long term risks of COVID on project is considered as 'low'. This is due to the nature of the project that mainly involves desktop and local studies with no or minimal need for practical testing and measurement. The only area that face to face engagement is favourable is on capacity building activities. This is most likely to take place face to face as current COVID trends indicate. However, in case of the need for full social distancing, these activities can take place virtually. During the pandemic and so far, IMO has developed its virtual training capacities significantly via more effective use of Learning Management Systems such as Moodle. These tools will be used for delivery of GloNoise capacity building activities, if need be.

Risk 6 ? COVID may negatively impact the GloNoise sustainability

Mitigation: This risk is assessed as 'low' as sustainability of GloNoise activities is not dependent on practical measurement and experimentation and the likely future social distancing can be resolved via virtual working practices. As such, the main mitigation policy will be the use of virtual tools and working practices as IMO has gained a lot of experience during the past two and half years.

On emerging from COVID and lesson learnt so far, there are clear opportunities to take advantage of such experience in better coordination and management of projects that are global and the partners reside in different parts of the world. One of these opportunities is a mix of virtual and face to face activities that could be used for more effective engagement of stakeholders throughout the project. IMO is already using this in other projects for example in providing capacity building on a continuous professional development basis (i.e. more engagement just than attending a training workshop) using a mix of virtual and face to face activities that so far has been successful. Additionally, most of the stakeholders' consultation during the PPG could be performed virtually with some limited crucial face to face meetings. The same can be done for project implementation phase. This opportunity will be taken into consideration during the PPG phase when details of activities and delivery methods are going to be defined.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

The process management and monitoring of the project will be carried out through the 3-Tier approach that has so far been successfully used under the IMO's Glo-X family of projects. The 3-Tier approach includes global, regional and national elements:

? A global tier providing international coordination and information dissemination, including the development of toolkits and guidelines, development of capacity building materials, baseline information gathering and establishing a strong cooperation with industry and NGOs through a multi-stakeholder platform.

? A small regional tier facilitated and coordinated by the LPCs in relevant regions through hosting regional events aimed at regional harmonization, information sharing, training and capacity building.

? A pilot country tier that not only facilitates all the national capacity building activities but also provides support for the baseline studies at each LPC, stakeholders engagement, the dissemination of information to national stakeholders to increase awareness and cooperation in dealing with maritime underwater noise.

The GloNoise multi-tiered implementation strategy is shown in **Figure 8**.

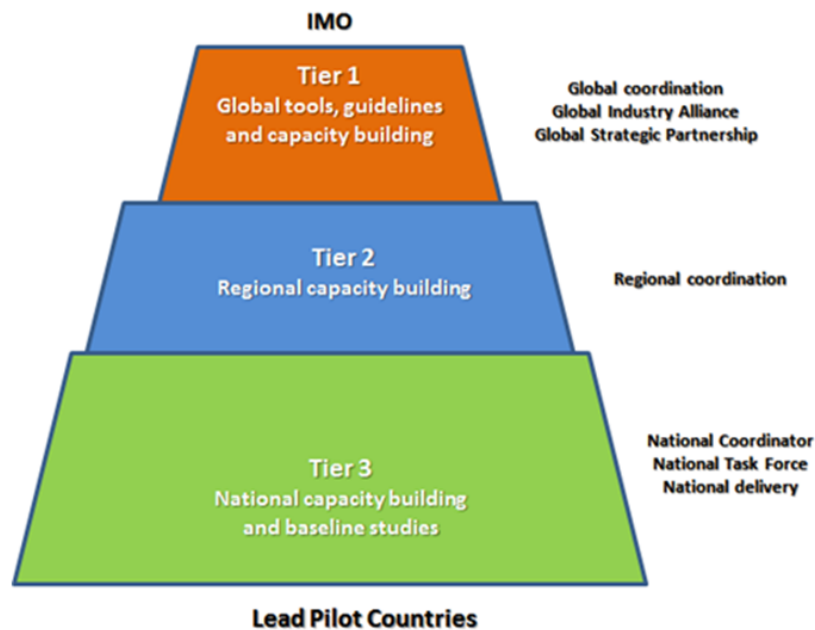


Figure 8 – Three tier activity-based process management model of GloNoise project

In terms of project management and governance, the widely successful model used under GEF-funded Glo-X projects will be used. Accordingly, the project will be implemented by UNDP and executed by the IMO; thus a Project Executive Committee (ExCom) representing UNDP and IMO will provide high-level coordination and support for its implementation. The coordination for the project will be through IMO as the Executing Partner, with stakeholder and process engagement at global, regional and national levels. Within the IMO, the overall day-to-day project management and coordination will be done via a dedicated lean Project Coordination Unit (PCU).

A Global Project Task Force, National Task Forces (one in each LPC), a Global Industry Alliance Task Force and a Global Strategic Partnership Task Force will be established as part of overall governance of the project. Financially, participation and operation of the above task forces will be to a large extent self-funding and in-kind. Full details of project governance structure will be developed during the PPG phase.

The monitoring and evaluation of the project will be carried out via regular meetings of the ExCom comprising of UNDP and IMO; annual meetings of the Global Project Task Force comprising all LPCs, IMO, UNDP, representatives of GIA and GSP; provision of regular six-monthly progress reports, mid-term review and an independent final review of the project performance.

As for coordination activities with GEF and other GEF funded projects, this will be carried out through the above governance structure by UNDP, IMO (e.g. GloFouling and other non-GEF funder projects) and each LPC where applicable. As noted under baseline scenario and baseline projects (Section 1.2), there has been some noise related initiatives in the past. These initiatives provide a good deal of knowledge and knowhow on the issue of underwater noise that would be utilized as baseline for GloNoise activities. This will benefit the project via knowledge sharing and strengthening of technical management of the project. The coordination with these initiatives will be carried out either through

GIA (Global Industry Alliance) or GSP (Global Strategic Partners); details of which need to be worked out during the ProDoc development phase via wider consultations. As defined under Component 4, Output 4.2 will specify details of the project monitoring and evaluation activities during the ProDoc developments.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assessments under relevant conventions?

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

As indicated in other Sections, the LPCs will be identified under the PPG phase of this project using the same format and process that has successfully done under past IMO-GEF-UNDP Glo-X projects. Selection of LPCs will take place through an open system of inviting all countries to nominate themselves and then using specific criteria for their selection. After selection of LPCs, significant level of consultations will be carried out in order to align the project to national requirements including national policies and strategies.

In this respect, **Section 2** of this PIF already mentions the issue and emphasizes that the choice of LPCs will also be guided by their previous engagement on the subject and if they already have any policy, strategy, etc. in this area.

Additionally and for alignment with national strategies, policies and plans, the project aims to establish national baselines under Component 1 of the project and this also will address the existing policies and strategies that will subsequently lead to future policy options at national and international levels.

8. Knowledge Management

Outline the knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The GloNoise project will include a dedicated Knowledge Management element through which existing knowledge on anthropogenic noise will be compiled, managed and disseminated. Increased awareness and understanding of shipping noise impacts and the IMO guidelines will assist with policy dialogues and build capacity to support future management of the issue, particularly within developing countries. The improved information base available to countries will support the development of

enhanced national understanding to address the shipping noise management practices. A number of relevant specific outputs, such as national reports, a GloNoise website, regular project publications, an international expert workshop, stakeholder workshops in lead countries, etc. will be used as vehicles for better knowledge sharing and management. Furthermore, as mentioned above, the GloNoise project will establish links with the existing GEF investments IW:Learn and LME:Learn in order to facilitate the management and exchange of knowledge and information on the issue.

The GloNoise Knowledge Management activities will adopt an approach to knowledge management that builds upon the experience, lessons learned and knowledge management platforms developed during the GloBallast, GloMEEP and GloFouling projects. In particular the project will employ a communications strategy that will incorporate the dissemination of information on shipping noise impacts, the IMO guidelines and the noise assessment toolkit including the translation of materials into appropriate regional languages. The regional elements of the GloNoise project will focus on targeted communication establishing a dialogue with regional bodies that are already dealing with underwater noise from shipping, and which have in some cases, convened expert groups and deliver training and delivering capacity building workshops.

The project will also incorporate the development of a GloNoise project website to ensure a broad dissemination of knowledge gained throughout the project supported by a targeted media campaign. Also, wide dissemination of project progress and results will be done via the IMO Secretariat. For example, as part of MEPC meetings, widespread access is achieved to all players in maritime industry including maritime Administration representatives, NGOs, industry associations, non-for-profit organizations and charities advocating environmental sustainability, representatives of various member states ministries and so on. This access that is facilitated via various IMO meetings and committees will be fully utilised for dissemination purposes.

9. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification *

PIF	CEO Endorsement/Approval	MTR	TE
Low			

Measures to address identified risks and impacts

Provide preliminary information on the types and levels of risk classifications/ratings of any identified environmental and social risks and potential impacts associated with the

project (considering the GEF ESS Minimum Standards) and describe measures to address these risks during the project design.

Project Information

<i>Project Information</i>	
1. Project Title	Global Partnership for Mitigation of Underwater Noise from Shipping (GloNoise)
2. Project Number (i.e. Atlas project ID, PIMS+)	
3. Location (Global/Region/Country)	Global
4. Project stage (Design or Implementation)	Design
5. Date	26 March 2021

Part A. Integrating Programming Principles to Strengthen Social and Environmental Sustainability

QUESTION 1: How Does the Project Integrate the Programming Principles in Order to Strengthen Social and Environmental Sustainability?

Briefly describe in the space below how the project mainstreams the human rights-based approach

The project's core objective is supporting human rights obligations related to the enjoyment of a safe, clean, healthy and sustainable environment by addressing the major environmental issue of underwater noise from shipping. It also aims to establish a global stakeholders' partnership, with a particular focus on developing countries and thereby support local actions for green recovery, including by empowering local communities as engines for systemic change for sustainable development. To date there has been limited participation of developing countries stakeholders in addressing underwater noise from shipping, despite that developing countries and their people play an important role in international shipping in terms of shipbuilding, ship operation, ship flag registration, supply of seafarers and level of dependents on shipping for their imports and exports. Assisting developing countries, their respective stakeholders to raise awareness of the issue, to build capacity and to collect information to assist the policy dialogue on anthropogenic underwater noise mitigation from shipping will therefore enable people from those countries to participate in decision-making processes in a non-discriminatory and transparent manner, in line with the human-rights based approach.

The project will also support the reduction of underwater noise from shipping in the world's coastal waters and LMEs where the majority of marine life exists, and in doing so, contribute to reduction of a major environmental stress (e.g. underwater noise) for the benefit of protection of marine life and sustainability of marine resources. The project therefore has a strong positive impact in terms of protecting the rights of the people to a clean and healthy, sustainable environment by reducing the pollution caused by shipping particularly in developing countries where many people are reliant on the socioeconomic benefits of their marine resources.

Furthermore, as for all IMO executed projects, it is important to note that IMO as a United Nations Agency fully aligns itself with the UN Human Rights and Principles and relevant established policies, guides and ensures throughout its work operation, as well as cooperation with government agencies and civil society organizations involved its projects that themselves follow them. As such, IMO upholds such principles as accountability and the rule of law, participation and inclusion, and equality and non-discrimination and promotion of these principles during its projects implementation.

Briefly describe in the space below how the project is likely to improve gender equality and women's empowerment

The IMO's Strategic Plan and High-level Action Plan specifically address the goal of strengthening the role of women in the maritime sector (High-level Action 3.5.2) in line with the United Nations General Assembly (UNGA) resolution A/RES/72/147. This provides the platform for raising awareness of the importance of gender equality and to highlight the important contribution of women within the maritime sector. Additionally, the Programme for the Integration of Women in the Maritime Sector (IWMS) remains the primary vehicle for supporting the SDG 5 to 'promote gender equality and empower women'. The project will operate within the above gender equality platform.

Operationally and in project governance, the GloNoise will strive to incorporate gender equality principles into its global, regional and national levels to ensure women's full and effective participation and equal opportunities for engagement at all levels of decision-making and execution of the project in line with UN SDG 5 aspirations. The project in particular will also ensure inclusion of respective women in maritime stakeholder groups in the various foreseen key decision-making processes.

This will be maintained throughout the implementation of the GloNoise project at all levels of governance and implementation.

Briefly describe in the space below how the project mainstreams sustainability and resilience

GloNoise mandate to contribute significantly to global efforts in mitigation of shipping underwater noise pollution indicates that the project itself will directly contribute to a future sustainable and resilient maritime environment and ecosystem. This mainstream role towards ecosystem sustainability and resilience will be maintained into the future by GloNoise developments via:

- ? Establishment of a basic global platform on shipping underwater noise in the form of relevant institutional framework and trans-boundary network partnerships (Lead Pilot Countries, Global Industry Alliance and Global Strategic Partners).
- ? Use of existing national and regional institutions (such as Regional Seas programmes, GEF LME programmes, etc.) that are the main stakeholders for such trans-boundary issues and their active engagement will ensure longer term sustainability of the efforts.
- ? Formation of national task forces that will act as seeds for longer-term, cross-sectoral institutional mechanisms at national level.

Briefly describe in the space below how the project strengthens accountability to stakeholders

Accountability to stakeholders is built into the governance structure of project. GloNoise will be managed and monitored through the 3-Tier approach that has so far been successfully used under the IMO's Glo-X family of projects. The 3-Tier approach includes global, regional and national elements that ensure the stakeholders engagements both in governance as well as in implementation aspects. For example, provisions will be made within the project management for various stakeholders to get involve in project activities (e.g. under the Global Project Task Force). Additionally, the national level activities will be based on full engagement of the national stakeholders (e.g. in the form of a National Task Force) and regular stakeholder meetings.

Part B. Identifying and Managing Social and Environmental Risks

<p>QUESTION 2: What are the Potential Social and Environmental Risks?</p> <p><i>Note: Complete SESP Attachment 1 before responding to Question 2.</i></p>	<p>QUESTION 3: What is the level of significance of the potential social and environmental risks?</p> <p><i>Note: Respond to Questions 4 and 5 below before proceeding to Question 5</i></p>	<p>QUESTION 6: Describe the assessment and management measures for each risk rated Moderate, Substantial or High</p>
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<i>Risk Description</i> <i>(broken down by event, cause, impact)</i>	<i>Impact and Likelihood</i> <i>(1-5)</i>	<i>Significance</i> <i>(Low, Moderate Substantial, High)</i>	<i>Comments</i> <i>(optional)</i>	<i>Description of assessment and management measures for risks rated as Moderate, Substantial or High</i>
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Risk 1: Lack of capacity or lack of strong country-level focus on underwater noise pollution.	I = 2 L = 1	Low	This risk could occur due to lack of awareness or political priority in the participating countries. Thus mitigation will concentrate on choosing the right partnering countries for this project.	<p>The mitigation of this risk will take place at the point of selection of LPCs (Lead Pilot Countries) that has yet to be undertaken under the PPG phase. The selection would be based partly on level of enthusiasm of the country in understanding the importance of underwater noise pollution and level of participation in relevant international efforts.</p> <p>The criteria for the choice of countries include aspects such as a stronger policy agenda on environmental protection, higher stakes in maritime industry and its governance (strong in ship owning, ship building or flag administration, etc.) and countries with higher interests in preservation of marine life resources, will alleviate this risk significantly. To this end, and as part of the PPG phase of the project and before selection of the LPCs, exclusionary criteria for the selection process will be developed and implemented in order to manage/avoid any such risks.</p>
Risk 2: Future regulatory framework developed for underwater noise reduction from shipping may lead to a decrease in international trade with economic and social consequences for developing countries	I = 1 L = 1	Low	This is a general risk for all new regulations for international shipping that normally have some impact on shipping trade and its social consequences.	This risk is normally mitigated via reduced reliance on regulatory measures to extent possible. As such, the project will aim to advocate solutions that are primarily technological or operational based such that any subsequent regulations could encourage their use without impeding international trade. It must be noted here that reducing the noise emitted from a ship propeller will make the ship more efficient concerning fuel consumption. Thus, technical mitigation measures will benefit both shipping's bottom line and help to reduce the industry's carbon footprint

<p>Risk 3: Difficulties associated with lack of international coordination may lead to diverse and uncoordinated approaches to the subject</p>	<p>I = 2</p> <p>L = 2</p>	<p>Low</p>	<p>In the past, there has been a variety of initiatives at global, regional and even national levels on the subject as reviewed under the PIF. There is a risk that due to a lack of coordination, some of the vital initiatives and the associated knowledge base are not recognized and thus the project could lose part of its actuality and comprehensiveness.</p>	<p>To mitigate this risk, GloNoise intends to develop centrally coordinated governance structure as well as engaging wide international partnerships including:</p> <p>GloNoise will establish a strong global governance tier in its project coordination under IMO, that will centrally aid in collection of the necessary data and knowledge using international experts and workshops.</p> <p>GloNoise will establish a strong international partnership by the industry in the form of a GIA (Global Industry Alliance) and by the other organisations in the form of a GSP (Global Strategic Partnership). These public-private partnerships will help to bring all major international players to the table.</p> <p>Using the above scheme, the risk of lack of coordination with other initiatives will significantly be reduced or eliminated.</p>
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<p>Risk 4: Increase in shipping GHG emissions as a result of measures to be proposed by the project</p>	<p>I = 2 L = 1</p>	<p>Low</p>	<p>This risk is associated with how shipping underwater noise will eventually be mitigated. One area of investigation under subsequent projects will be the identification of shipping underwater noise hotspots that may lead to proposals such as re-routing of ships in certain areas. In such a case, the risk of increased shipping GHG emissions due to re-routing need to be considered and mitigated.</p>	<p>Although this risk is not related to this project (as the project does not aim to identify marine noise hotspots), but may arise via some of the IMO and industry follow-up to the project, it is documented here for completeness. Therefore, no mitigation measure is proposed here as the issue of noise hotspots and their impacts need to be first studied and then solutions proposed. In addition, the anticipated transition of shipping to a much lower carbon footprint, via intro of low and zero carbon fuel sources, would more than offset any moderate emission increases due to limited re-routing around identified marine noise hot spots.</p>
<p>[add additional rows as needed]</p>				
	<p>QUESTION 4: What is the overall project risk categorization?</p>			
	<p><i>Low Risk</i></p>	<p>X</p>		
	<p><i>Moderate Risk</i></p>	<p>?</p>	<p>Note that while pre-screening assessed the project as Low Risk, the final SESP will confirm this risk categorization and if Moderate Risk is justified the necessary assessments and management plans will be incorporated into the project.</p>	
	<p><i>Substantial Risk</i></p>	<p>?</p>		
	<p><i>High Risk</i></p>	<p>?</p>		
	<p>QUESTION 5: Based on the identified risks and risk categorization, what requirements of the SES are triggered? (check all that apply)</p>			
	<p>Question only required for Moderate, Substantial and High Risk projects</p>			

<u>Is assessment required?</u> <u>(check if ?yes?)</u>	?		Status? (completed, planned)
<i>if yes, indicate overall type and status</i>		?	Targeted assessment(s)
		?	ESIA (Environmental and Social Impact Assessment)
		?	SESA (Strategic Environmental and Social Assessment)
Are management plans required? <i>(check if ?yes)</i>	?		
<i>If yes, indicate overall type</i>		?	Targeted management plans (e.g. Gender Action Plan, Emergency Response Plan, Waste Management Plan, others)
		?	ESMP (Environmental and Social Management Plan which may include range of targeted plans)
		?	ESMF (Environmental and Social Management Framework)
Based on identified risks, which Principles/Project-level Standards triggered?		Comments (not required)	

	<i>Overarching Principle: Leave No One Behind</i>		
	<i>Human Rights</i>	?	
	<i>Gender Equality and Women's Empowerment</i>	?	
	<i>Accountability</i>	?	
	<i>1. Biodiversity Conservation and Sustainable Natural Resource Management</i>	X	Standard 1: Biodiversity Conservation
	<i>2. Climate Change and Disaster Risks</i>	X	Standard 2: Climate Change
	<i>3. Community Health, Safety and Security</i>	?	
	<i>4. Cultural Heritage</i>	?	
	<i>5. Displacement and Resettlement</i>	?	
	<i>6. Indigenous Peoples</i>	?	
	<i>7. Labour and Working Conditions</i>	?	
	<i>8. Pollution Prevention and Resource Efficiency</i>	?	

Supporting Documents

Upload available ESS supporting documents.

Title

Submitted

Pre-SESP for IMO-UNDP-GEF GloNoise 18 June 2021-FINAL

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And GEF Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
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ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place