CEN/CEN WS Green Bay

Date: 2026 -03

Draft CWA XXXXX: XXXX

Workshop: Green Bay

Introductory element — Main element — Complementary element

Einführendes Element — Haupt-Element — Ergänzendes Element

Élément introductif — Élément central — Élément complémentaire

ICS:

CCMC shall prepare and attach the official title page.

Contents

Page

Foreword 3

Introduction 4

Annex A (informative) Diagnostic Study 19

Annex B (informative) List of Recommendations for Managing Water and Energy Consumption Study 35

B.1 Water 35

B.2 Energy 35

Bibliography 43

Foreword

This CEN Workshop Agreement (CWA Green Bay:2026) has been developed in accordance with the CEN-CENELEC Guide 29 “CEN/CENELEC Workshop Agreements – A rapid way to standardization” and with the relevant provisions of CEN/CENELEC Internal Regulations - Part 2. It was approved by the Workshop CEN “Green Bay”, the secretariat of which is held by “AFNOR”], consisting of representatives of interested parties on YYYY-MM-DD, the constitution of which was supported by CEN following the public call for participation made on YYYY-MM-DD. However, this CEN Workshop Agreement does not necessarily include all relevant stakeholders.

The final text of this CEN Workshop Agreement was provided to CEN for publication on 2026-06-01.

The following organizations and individuals developed and approved this CEN Workshop Agreement:

— name organization and individual

— name organization and individual

— ...

Attention is drawn to the possibility that some elements of this document may be subject to patent rights. CEN-CENELEC policy on patent rights is described in CEN-CENELEC Guide 8 “Guidelines for Implementation of the Common IPR Policy on Patent”. CEN shall not be held responsible for identifying any or all such patent rights.

Although the Workshop parties have made every effort to ensure the reliability and accuracy of technical and non-technical descriptions, the Workshop is not able to guarantee, explicitly or implicitly, the correctness of this document. Anyone who applies this CEN Workshop Agreement shall be aware that neither the Workshop, nor CEN ,can be held liable for damages or losses of any kind whatsoever. The use of this CEN Workshop Agreement does not relieve users of their responsibility for their own actions, and they apply this document at their own risk. The CEN Workshop Agreement should not be construed as legal advice authoritatively endorsed by CEN/CENELEC.

Introduction

CEN/CENELEC Workshop Agreement

The following document was prepared as part of the Interreg Italy–France Maritime 2021–2027 programme, within the framework of the GREEN BAY project (IF Marittimo00040), which brings together the Var Chamber of Commerce and Industry, the Chamber of Commerce and Industry of Corsica, the Port System Authority of the Northern Tyrrhenian Sea, and the Port System Authority of the Eastern Ligurian Sea.

GREEN BAY is a European project dedicated to the ecological transition of commercial ports welcoming passengers. Its aim is to design and trial a cross-border eco-certification programme, jointly developed by French and Italian partners, in order to promote a shared approach to the environmental management of port terminals.

This European initiative aims to strengthen the sustainability and resilience of ports through pollution reduction, the careful management of natural and energy resources, biodiversity preservation, and the coordinated mobilisation of port stakeholders around climate and environmental challenges.

The project thus contributes to the harmonisation of practices and the dissemination of a shared framework of environmental excellence for European ports.

The GREEN BAY project is co-financed by the Interreg Italy–France Maritime 2021–2027 Programme, with funding of €799,840.80 (ERDF).

1 Scope

This reference document applies to passenger or mixed terminals in commercial ports. It applies regardless of the port authority or the management method. The area concerned is defined as the port public domain. This Workshop shall develop a document that shall specify requirements for the ecological transition of passenger commerce terminals. The requirements shall be means-based requirements that enable the achievement of better environmental performance but not results-based requirements.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply;

ISO 14050:2020, Environmental management — Vocabulary

EN 18140, Sustainable and smart cities and communities — Nature-based solutions (NBS) — Vocabulary and principles

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at http://www.iso.org/obp/

— IEC Electropedia: available at http://www.electropedia.org/

3.1
Shipowners and vessel charterers

Any person on whose behalf a vessel is operated. This also includes the shipowner or any other operator to whom the owner has entrusted the responsibility for the vessel's operation.

3.2
Port Authority

The port authority, or the competent public body designated under the applicable national legal framework, exercises regulatory and operational control functions within the port area.
These functions may include, as applicable, the allocation of berths, the management and use of terminal areas, the regulation of port operations and traffic, and the protection of the port domain and associated waterways.
The scope and distribution of these powers depend on the national institutional and legal framework and may be shared between different competent authorities.

Depending on the national port governance model, the Port Authority may also perform Terminal Manager and operational coordination functions, or these functions may be entrusted to a separate port managing body or operator.

In a major river-sea port, it exercises police powers over the preservation of the domain of the river sector.

3.3 **Terminal Manager**

Person responsible for the operation of the terminal, who is in charge of directing and coordinating the activities of the commercial port/terminal and related facilities, as well as managing all personnel.

3.4 **Port Operators**

Operators whose activities take place within the port area and/or are related to port operations.

3.5 Port Public domain

Territory defined within the jurisdiction of the Port Authority or its Terminal Manager(s).

3.6 Commercial port

Facilities arranged for the loading, unloading, and storage of goods, the embarkation and disembarkation of passengers, as well as the maintenance and servicing of commercial vessels.

3.7 Biodiversity

variability among living organisms on Earth, including variability within species, between species and of ecosystems

[SOURCE: ISO 14050:2020, modified — wording simplified]

NOTE 1 to entry: This includes variation in genetic, phenotypic, phylogenetic and functional attributes, as well as changes in abundance and distribution over time and space within and among species, biological communities and ecosystems, as described in EN 18140.

NOTE 2 to entry: Biodiversity is also referred to as biological diversity.

3.8 Environment

surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans and their interrelationships

[SOURCE: ISO 14050:2020]

3.9 Ship

A commercial vessel is a ship or boat designed to be used for commercial purposes.

3.10 Stakeholder

A person or organization that can either influence a decision or activity, or be influenced or feel influenced by a decision or activity.

3.11 Traceability

Waste management procedure enabling the identification of the origin, location, storage, and history (i.e., the trajectory) of waste throughout its production chain and subsequent management.

3.12 User

A person benefiting from the facilities and services provided by the port.

3.13 Passenger Terminal

port facility located within a commercial port and designed to accommodate passenger vessels, including cruise ships, ferries and other vessels providing regular or occasional passenger transport, and to handle the embarkation and disembarkation of passengers and, where applicable, vehicles.

4 Policy Declaration

This is a document in which the port commits to a process of continuous improvement aimed at reducing all environmental impacts of the port, stating its intention to mobilize the financial, human, and material resources necessary for this purpose.
This declaration shall be approved by the Terminal Manager and/or the Port Authority and communicated to stakeholders.

5 The Diagnostic Study

The approach requires, as a preliminary step, a diagnostic study related to the environmental quality of the port. This diagnostic allows for establishing the baseline status and objectively assessing the situation of the port at the launch of the process.

The study aims to support the strategic approach in light of the specific characteristics of the port.

The study shall follow Annex A

The diagnostic may be based on existing studies and assessments carried out by the port authority, by competent national or regional public bodies, or by other officially recognised technical organisations, provided that such studies comply with the methodological requirements defined in this document.
Where no relevant study is available, or where existing studies do not meet the required scope, level of detail or methodological standards, the Terminal Manager or Port Authority shall mandate the preparation of a dedicated study, which may be carried out by an external consultancy firm.
Where necessary, supplementary analyses may be conducted to address identified data gaps or to ensure full compliance with the requirements of the present specification.
This approach aims to ensure methodological consistency while avoiding unnecessary duplication of existing validated assessments.

The terms of reference cover at least the following five chapters:

➢ The port and its environment;

➢ Origin, nature, and impact of pollution on the port environment and its users;

➢ Comprehensive description of existing solutions and equipment;

➢ Definition of desired quality objectives;

➢ Initial action plan to achieve these objectives.

An example of the study's terms of reference is provided in Appendix A.

6 Implementation of operational criteria

The port shall be responsible for complying with the criteria listed in the following paragraphs. When the source of pollution identified in the diagnostic originates outside the port domain, the Terminal Manager shall inform the Port Authority.

6.1 Waste and pollution treatment

	Criteria	Detail of the criteria
1	Monitoring of the reception and treatment plan for ship-generated operational waste	The Terminal Manager is responsible for coordinating the management of waste generated by vessels and ensuring that their removal and handling are carried out appropriately. They maintain traceability of the volumes, types of waste, and actions related to their management. The Terminal Manager shall develop a reception and treatment plan for ship-generated operational waste that describes the waste management chain from collection to disposal. The plan is accompanied by a report that specifies the types and quantities of waste produced by vessel operations. These documents are submitted to the competent authorities.
2	Management of waste from transit passengers within the port area	The Terminal Manager shall: ▪ Comply with current regulations. ▪ Provide selective collection of paper, cardboard, plastic, aluminum, and glass at terminals open to the public. ▪ Implement specific measures for the treatment of cigarette butts, ensuring their collection and proper disposal to reduce their environmental impact. ▪ Take measures to prevent waste from being blown away. Establish communication tailored to the target audience to ensure compliance with waste sorting implemented within the port domain.
3	Management of waste produced by ships: waste and fluids (MARPOL Annexes 1 and 5)	The Terminal Manager shall: ▪ In cases where they manage waste produced by ships: promote waste recovery solutions and measures to reduce waste generation. ▪ In cases where they do not manage waste produced by ships: offer shipowners/charterers approved waste service providers who promote waste recovery solutions. Establish approvals or propose to the Port Authority approvals that include at least the regulatory requirements for the collection, transport, and trade of waste, best practices within the port to prevent pollution, and encouragement of waste recovery.

Criteria		Detail of the criteria
4	Management of waste produced by the Terminal Manager, service providers, subcontractors, and delegated operators	The Terminal Manager shall: ▪ If the sorting of hazardous and/or non-hazardous waste is recommended in the initial **diagnostic**, ensure that the system in place is appropriate, monitored, enclosed, and maintained. ▪ Ensure traceability of waste volumes/types and the implementation of actions related to their management. ▪ Take all necessary measures to limit the proportion of non-recovered waste (landfilling and incineration) generated by their own activities. In addition, the Terminal Manager shall commit to a strategy to reduce single-use plastics, in particular by : ▪ Signing any national or local charters related to plastic waste reduction where applicable. ▪ Implementing measures that include : ▪ Raising awareness among stakeholders about the issues related to plastic pollution. ▪ Reducing the use of plastic materials. ▪ Managing, recovering, and recycling plastic waste. Finally, the Terminal Manager shall encourage service providers and subcontractors to commit to waste recovery practices.
5	Dredged sediments	The Terminal Manager implements sustainable management of dredged sediments, following a circular economy approach and promoting local reuse.
6	Ship wastewater (MARPOL Annex IV)	The Terminal Manager shall provide wastewater collection solutions for small, regularly operating passenger vessels (such as island, river, or lake shuttles).
7	Minor and ad hoc maintenance and servicing activities on vessels while docked	In the case of minor and occasional maintenance or servicing operations at berth that may result in discharges into the natural environment or pose a risk of accidental pollution, the Terminal Manager shall: ▪ Ensure, in coordination with the shipowner/charterer, that measures are adopted and followed to minimize the environmental impact of these operations (including micro- and macro-waste, and all types of pollutants), particularly through awareness-raising among shipowners and consultation with the harbor master to implement preventive measures. ▪ Encourage shipowners/charterers to use biodegradable products.

Criteria		Detail of the criteria
8	Collection and treatment of stormwater runoff from paved surfaces (aprons/hardstands)	The Terminal Manager shall, at a minimum, implement measures to reduce pollution from stormwater or stormwater outfalls: ▪ By adopting best practices for cleaning paved port surfaces. ▪ By implementing, jointly with the relevant local authorities, measures to limit land-based waste reaching the sea. When recommended by the diagnostic study, the Terminal Manager shall ensure the collection and treatment of runoff water from port areas likely to be contaminated. In such cases, the Terminal Manager shall ensure that the system implemented is appropriate and properly maintained.
9	Refueling of ships with hydrocarbons	During ship refueling operations with hydrocarbons by tanker truck or barge, the Terminal Manager ensures that the operators responsible for refueling have the necessary equipment and procedures in place to minimize the risk of accidental pollution. The Terminal Manager ensures that operators comply with these procedures.
10	Obsolete equipment	The Terminal Manager shall ensure the disposal or dismantling of obsolete installations/equipment to maintain the overall cleanliness of the port. Obsolete equipment should be directed to the designated waste storage area.
		When recommended by the diagnostic study, the Terminal Manager shall assess the impacts of port activities on air quality within the port and surrounding areas, and implement appropriate measures. ▪ To reduce the impact of the Terminal Manager's equipment

11 Air pollution	▪ To reduce the impact of passenger vehicles waiting to board. ▪ To reduce the impact of ships at berth: through incentives to welcome vessels with lower air quality impacts (alternative fuels / decarbonized fuels, innovations such as wind-assisted propulsion, onboard batteries, shore power compatibility), and by encouraging the effective use of equipment or measures that help reduce air pollution while at berth. If shore power is available at the port, the Terminal Manager, together with the Port Authority, shall work to require shore connection for compatible vessels during stopovers longer than two hours. The Terminal Manager shall prioritize — or request that the Port Authority prioritize — berth allocation to vessels with lower impacts on air quality whenever possible. In the event of pollution episodes identified by the authorities, the Terminal Manager shall inform users and all port operators of the situation and encourage them to adopt measures aimed at improving air quality. A list of recommended practices is provided in Appendix B.

Critères	Détail du
12 Noise pollution	When recommended by the diagnostic study, the Terminal Manager shall monitor the noise impacts of port activities within the port and surrounding areas, and implement appropriate measures : ▪ To reduce land-based noise pollution. ▪ To reduce noise pollution from ships at berth, by encouraging shipowners/charterers to limit noise emissions from their vessels. A list of recommended practices is provided in Appendix B.

6.2 Sanitary equipments

Criteria		Detail of the criteria
13	Sanitary equipments	The Terminal Manager shall ensure that a sufficient number of sanitary facilities are made available, accessible to all, and properly maintained.

6.3 Accidental pollutio

Criteria		Detail of the criteria
14	Pollution control equipment	On paved port areas, the Terminal Manager shall: ▪ Establish an emergency pollution management procedure in coordination with the harbor master's office and the Port Authority, adapted to the size and activities of the port. ▪ Ensure the availability of a stock of hydrocarbon spill response equipment suitable for potential accident scenarios, products, and volumes. An inventory of the equipment on hand shall be maintained and easily accessible, listing at least the types of equipment and purchase dates. ▪ Ensure that personnel are trained and aware of emergency pollution response procedures. On the water, the Terminal Manager shall initiate procedures with the relevant authorities and facilitate their interventions.

6.4 Water and energy ressources

Criteria		Detail of the criteria
15	Water consumption management	The Terminal Manager shall: ▪ Monitor water consumption. ▪ Implement measures to control and/or reduce it. ▪ Identify potential alternative water supply sources and/or reuse possibilities, and implement these solutions as much as possible. A list of recommended practices is provided in Appendix C.
16	Energy consumption management s	The Terminal Manager shall: ▪ Monitor energy consumption. ▪ Implement measures to reduce consumption. ▪ Identify potential renewable energy production systems within the port area and implement these solutions as much as possible. A list of recommended practices is provided in Appendix C.

6.5 Greenhouse gas emissions reduction

Criteria		Detail of the criteria
17	Measurement and reduction of greenhouse gas (GHG) emissions	The Terminal Manager commits to regularly monitoring direct and indirect greenhouse gas (GHG) emissions within the defined scope and to implementing reduction actions. A list of recommended practices is provided in Appendix D.

6.6 Biodiversity

Criteria	Detail of the criteria
18 Biodiversity	✦ The Terminal Manager commits to progressively implementing actions or equipment to protect and restore terrestrial and marine biodiversity, at a minimum focusing on the following issues: ▪ Combatting light and noise pollution ▪ Use of biodegradable products ▪ Reduction of impermeable surfaces and/or greening of port areas Measures to prevent the introduction and propagation of invasive species Incorporating eco-design principles in structures during construction works Furthermore, the Terminal Manager encourages shipowners and charterers to implement measures in favor of biodiversity on board their vessels. A list of recommended practices is provided in Appendix E.

6.7 Training and awareness-raising of port staff

Environmental training is a fundamental criterion. It shall ensure that port personnel are capable of implementing the present approach.

Criteria	Details of the criteria
1 Training and awareness of port staff	The Terminal Manager shall ensure that all its staff are trained in the port's environmental management approach and in all the challenges related to the ecological transition. It shall also ensure that such training is regularly updated.

2	Awareness-raising of temporary and seasonal staff	The Terminal Manager shall ensure that its temporary or seasonal staff are made aware, during their induction phase, of the port's environmental management approach.
3	Internal communication	The Terminal Manager shares the purpose and objectives of the approach with its staff in order to encourage their involvement in its implementation, for example by: ▪ Communicating on the actions undertaken; ▪ Encouraging individual and collective contributions to the approach.

6.8 Information and awareness-raising of users and handling of feedback

Criteria		Details of the criteria
1	External communication / User awareness and handling of feedback	The Terminal Manager shall: ▪ Provide users, through all appropriate means, with information and/or awareness-raising on the approach, as well as a presentation of the environmental facilities available. ▪ Conduct environmental awareness activities for passengers transiting through the terminals. ▪ Establish a system for listening to users and handling feedback. A list of recommended practices is provided in Annex F.
2	Information and awareness-raising of port operators	The Terminal Manager shall: ▪ Provide port operators, through all appropriate means, with information on the environmental approach. ▪ Engage all port operators whose activities have an impact on the overall port environment in the environmental management approach. ▪ Define global environmental monitoring indicators covering all port operators.

6.9 Governance

Criteria		Details of the criteria
1	Preparation of an annual report	An assessment is carried out at least once a year under the responsibility of the Terminal Manager. This assessment shall review all the criteria of the approach and establish an action plan. The results of the actions undertaken as part of this approach are shared annually with the relevant stakeholders. The governance of the approach is ensured through the implementation of monitoring indicators.
2	Action Plan	The Terminal Manager defines specific actions in an environmental action plan. This document includes a timeline, specifies responsibilities, and allocates the necessary resources (Who does what, how, and when?).

Annex A
(informative)
Diagnostic Study

Special Technical Specifications

CONTEXT

Port activities have a significant impact on the environment, both within the port area itself and in its terrestrial and marine areas of influence. Port operations therefore cannot be considered today without taking into account the environmental impacts and potential nuisances related to their functioning.

As part of the environmental approach prior to obtaining the “Clean Ports” certification, it is necessary to identify the sources of pollution (liquid/solid) and nuisances (air quality/noise levels) for which the port is responsible, in order to propose actions aimed at controlling and reducing them. Water and energy consumption are also taken into account.

The completion of a diagnostic study, which constitutes the first step of this approach, shall make it possible to achieve this objective and shall propose an appropriate action plan.

This annex sets out the specifications relating to the implementation and conduct of this study.

A.1 PURPOSE OF THE STUDY

The purpose of this study is to carry out a diagnostic assessment of the state of pollution/nuisances and of the impacts generated by or affecting the port. It shall make it possible to establish a multi-year action programme, prioritised and costed, to be implemented in order to improve the environmental situation within the port and its area of influence.

This programme shall distinguish between what falls under the responsibility of the port and what does not.

A.2 SCOPE OF THE STUDY

The scope of the study shall mandatorily include:

▪ The administrative boundaries of the commercial port (port area). If the port area does not include the water body bordering the quays and reclaimed land, the study shall specify which entity is responsible for its management.

▪ The port's catchment area (its boundaries correspond to those of the geographical catchment area and of the stormwater drainage network whose outlets discharge into the port).

▪ The nearby maritime area (its boundaries, proposed by the consulting firm, may be revised during the course of the study depending on the status of the nearby marine areas and on the assessment of the impact of pollution generated by port activities).

The study perimeter shall be specified using an aerial view

A.3 CONTENT OF THE STUDY

The study shall necessarily include the following technical phases:

Phase 1:

I. An overview of the applicable environmental regulations;

II. A presentation of the commercial port and its immediate environment;

III. Detailed information on the sources, nature and impacts of pollution on the environment, the living environment and human health;

IV. Levels of water and energy consumption;

V. An exhaustive description of the solutions and equipment already in place;

Pollution and nuisances

Phase 2:

VI. Definition of the desired quality objectives;

VII. An action programme to achieve these objectives.

The minimum content of each of the above themes is detailed in this CCTP.

A.3.1 Regulatory Preamble

The main points relating to the regulations in force governing commercial ports and the activities carried out therein shall be presented in order to identify the legal obligations of the port operator, the mandatory documents to be produced (in particular with regard to the management and traceability of waste and effluents), to detect any potential cases of non-compliance, and subsequently to distinguish actions or developments that fall under the application of regulatory requirements.

A.3.2 The Port and Its Environment

Description of the port and its operation

➢ Type of port, legal status, nature of the operator, identification of the port's managers and operators, and identification of the port authority;

➢ Definition of the boundaries of the commercial port;

➢ Surface areas: quays, reclaimed land, parking areas, water bodies and buildings;

➢ Description of port activities;

➢ Port facilities and equipment (technical areas, careening areas, dry dock, parking areas, sanitary facilities, fuel supply stations or systems, water supply points, wastewater collection systems, stormwater management, and equipment and procedures for the collection of non-hazardous and hazardous waste, whether within or outside a designated area);

➢ Port attendance and types of users;

➢ Operating procedures (operating mode, staff, financial charges, practices);

➢ Operational constraints (e.g. the need to maintain a certain water depth);

➢ Natural and anthropogenic risks;

➢ Safety of people and property.

➢ Procedures and equipment for dealing with accidental pollution;

➢ Management of hazardous substances;

➢ Port security;

➢ Past, ongoing and planned actions relating to environmental management carried out by the port site operators.

The information relating to the description of the port and its operation shall be accompanied by commented photographic appendices to facilitate understanding.

The port's immediate environment

➢ Natural environment within the port's area of influence: type of coastline (rocky, low-lying), protected areas, presence in the immediate vicinity of a river, stream or beach;

➢ Human environment: location within an urban area (number of inhabitants), tourist municipality (number of inhabitants in winter and summer), influences and impacts of the human environment on the port.

Biodiversity

> The study shall in particular carry out a literature review and compile available environmental data relating to marine and terrestrial biodiversity within the port and its area of influence, where such data exist, using for example the following elements (non-exhaustive list):

➢ Studies carried out by external service providers for ports that have already implemented actions in favour of biodiversity;

➢ Impact studies and regulatory files (Water Framework Directive files, Natura 2000 assessment files,…);

➢ Naturalist surveys conducted as part of the aforementioned studies;

➢ Any studies carried out by institutions and bodies responsible for environmental matters

➢ Studies conducted by managers of protected areas or by environmental associations and national bodies (networks of marine protected areas such as Natura 2000 sites, Coastal Conservatory sites, National Parks), , environmental associations, IUCN sites for terrestrial biodiversity (birds, insects).

Perception of the port by users and residents

Following the analysis of the results of a survey and field visits, the consulting firm shall present the image of the port as perceived by its users (e.g. professionals, shipowners, passengers, harbour pilots), port staff and residents living in the vicinity of the port, at a minimum with regard to the following items:

➢ Impact on the living environment and observed nuisances;

➢ Quality of services and facilities provided;

➢ Quality of effluent and waste management within the port;

➢ Quality and functionality of existing facilities and overall cleanliness;

➢ Perception with regard to water and energy savings.

This survey shall comply with the provisions of the GDPR and shall be conducted on the basis of one or more questionnaires approved by the contracting authority.

A.3.3 Origin, nature and impacts of pollution on the environment and quality of life

In this chapter, the main chronic inputs and emissions directly linked to port activities, originating either from the watershed or from the marine environment, shall be described and quantified.

In addition, a list of accidental inputs (having already occurred or potentially foreseeable) shall be provided. The purpose is not to carry out a risk assessment of the port site, but to enable the contracting authority to better understand accidental pollution events.

Effluents (liquid pollution)

Where available data allow, the study shall seek to characterize the sources of these various inputs. The contractor shall specify whether these effluents are collected and treated or discharged into the receiving environment and, if so, which one(s). The following distinction shall be made:

➢ **Effluents generated within the port area**, for example:

- inputs directly linked to port facilities, operations and maintenance (cleaning of infrastructures, equipment maintenance, use of equipment, etc.);
- inputs related to vessels calling at the port (collection of wastewater, bunkering [on land or by floating barge], deck washing, various repair works on vessels, etc.);
- inputs related to runoff (paved areas, parking areas, technical zones, etc.);
- inputs related to the presence of commercial activities;

➢ **Effluents generated outside the port area within the watershed**:

- presence within the port or nearby of a channelled watercourse or an outfall;
- runoff water from city streets whose discharge outlet is the port basin;
  The contractor shall also take into account pollution originating from the marine environment;

➢ **Accidental pollution** (occurring within or outside the port but likely to reach it) shall be analysed.

OPTION – Water quality analyses

In order to obtain sufficient data, the analysis of the water column within the port area shall be carried out (service included in its scope of work), taking into account existing outfalls, as well as in the nearby marine area.

The analyses shall be carried out by an accredited laboratory, in accordance with national accreditation schemes (e.g. ISO/IEC 17025), and in compliance with applicable national environmental regulations

The number of sampling points is determined according to the size of the port area.
The location of the sampling points and the periods most conducive to obtaining meaningful results shall be determined by the engineering consultancy and submitted to the contracting authority for validation.

The analyses shall cover the following parameters:

➢ Suspended solids (TSS)
➢ Chemical Oxygen Demand (COD)
➢ Biochemical Oxygen Demand over 5 days (BOD_5)
➢ Total Organic Carbon (TOC)
➢ Total hydrocarbons
➢ Detergents
➢ Heavy metals (METOX): Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Zinc
➢ Nitrates
➢ Ammoniacal nitrogen
➢ Phosphates
➢ *E. coli*
➢ Enterococci

OPTION – sediment quality analyses

With regard to sediments, the contracting authority shall provide the engineering consultancy with the analyses carried out in the context of dredging operations.

The analyses shall cover the following parameters:

- Physicochemical parameters, organic matter and nutrients
  Heavy metals and metalloids
  Polycyclic Aromatic Hydrocarbons (PAHs)
  Polychlorinated Biphenyls (PCBs)
  Organotins
  BTEX (Benzene, Toluene, Ethylbenzene, Xylenes)
  Hydrocarbons
  Metals
  Salts
  Organic matter
  Phenol

-

Waste (solid pollution)

For each activity and source, the engineering consultancy shall identify the nature of the waste, establish its typology (household and similar waste, non-hazardous industrial waste, and hazardous industrial waste), and estimate the respective quantities.
This assessment shall be based on observations carried out on site by the services currently responsible for waste collection and treatment, as well as on the results of surveys and field visits.

For each waste typology, the study shall determine:

- potential storage areas within the port,
- collection methods,
- service providers responsible for collection and treatment (recovery/disposal).

It shall verify that the port operator complies with its legal (national) obligations (IRP directive MARPOL), particularly regarding the overall organization and traceability of waste transiting through the port, whether or not the operator is the source of the waste flows.

The engineering consultancy shall include a site-scale map of the port showing the spatial distribution of waste according to its typology, as well as the associated collection facilities, in order to better assess waste management practices.
Waste generated as a result of interventions following accidental pollution events shall also be taken into account.

At a minimum, the following waste sources shall be detailed:

➢ Waste generated within the port area and resulting from port activities (waste from port users, waste from technical areas, waste from boat maintenance and repair areas, obsolete equipment, etc.);

➢ Waste resulting from interventions on the water body or on land following accidental pollution incidents;

➢ Waste generated by vessels calling at the port and transiting through the port (including passenger waste);

➢ Waste generated by commercial activities located within the port;

➢ Waste originating from outside the port area (via marine and land routes): macro-waste transported by water in all its forms (streams, drainage networks, sea, surface runoff).
Data on currents and prevailing winds shall be analysed in order to understand the dynamics of macro-waste transport and accumulation.

All of this information shall be used to improve the effectiveness of the waste management plan required by regulations.
The **Port Waste Reception and Handling Plan for operational waste and cargo residues** shall be analysed, and improvements and/or modifications may be proposed.

Air Pollution

The engineering consultancy shall seek to characterize the influence of the commercial port activity on air pollution.
The sources are multiple and may be supplemented by the engineering consultancy:

➢ Vessels calling at the port;
➢ Cars and trucks waiting to embark in parking and staging areas;
➢ Cars and trucks approaching the port (traffic congestion generated by vehicle flows);
➢ Heating systems of buildings and commercial premises;
➢ Other thermal port equipment (handling machinery, etc.);
➢ Vehicles used by the port operator;
➢ (0).

For this purpose, the analysis shall rely on air quality monitoring data generated either by port authorities, by officially operated external monitoring bodies, or by a combination of both, in accordance with applicable EU and national regulations.

Noise pollution

The engineering consultancy shall seek to characterize the influence of the commercial port activity in terms of noise nuisance.
The sources are multiple and may be supplemented by the engineering consultancy :

➢ Vessels calling at the port;
➢ Road traffic (light and heavy vehicles) within the port area;
➢ Vehicle parking within the port;
➢ Handling operations;
➢ Use of port facilities and equipment (technical areas, boat maintenance and repair areas, bunkering, pumping operations, etc.);
➢ Public address announcements (loudspeakers);
➢ Commercial and service activities within the port;
➢ (0).

Assessment of the impacts of pollution and nuisances

Based on the elements and data collected on effluents, waste, air pollution and noise pollution, the engineering consultancy shall assess, by thematic area, the impacts of the commercial port activities on the port site and on its terrestrial and marine area of influence.

This assessment shall take into account the applicable regulations and threshold values for receiving environments and for human health.

At a minimum, the following aspects shall be addressed:

➢ Impact on the water bodies present;
➢ Impact on soils and terrestrial areas;
➢ Impact on quality of life and human health (including air quality and noise nuisance);
➢ Impact on the safety of property and persons within the port.

The analysis of these impacts shall necessarily take into account:

➢ The characteristics of the port site;
➢ Local meteorological, hydrographic and hydrodynamic conditions;
➢ The sensitivity of the receiving environments (terrestrial/marine);
➢ The perception of users and residents.

Each impact shall be quantified as far as possible. For each one, the contractor shall specify whether it is chronic or temporary and identify the party responsible.The impacts shall be mapped together with their areas of influence in order to facilitate understanding.

A.3.4 Analysis of water and energy consumption

Analysis of energy consumption related to port operations

The engineering consultancy shall carry out an analysis of the electricity consumption of the commercial port and shall detail the main sources of consumption, for example:

➢ Power supply to vessels calling at the port;
➢ Power supply to buildings and commercial premises located within the port;
➢ Equipment installed within the port (technical areas, boat maintenance and repair areas, handling equipment, etc.);
➢ Lighting of parking areas and paved areas;
➢ Monitoring and security systems;
➢ (...).

Detailed information and analyses shall be provided on the following points:

➢ Power distribution cabinets and control systems (timers, calendar-based controls);
➢ Location of the public lighting substation;
➢ Contracted power capacity per supply point;
➢ Summary of electricity bills, in order to establish a breakdown by supply point and an overall summary table;
➢ Operating and maintenance arrangements;
➢ Recent developments, modifications or extensions, and short-term projects.

The contractor shall establish an annual breakdown of electricity consumption by supply point and shall rank electricity consumers by level of consumption.
It shall also analyse billing data (verification of subscriptions and detection of power exceedances).

In addition, the engineering consultancy shall draw up an inventory of available energy performance assessments.

Analysis of water consumption related to port operations

The engineering consultancy shall carry out an assessment of water consumption for the operation of the commercial port. It shall detail the main sources of consumption, for example:

➢ Water supply to vessels calling at the port;
➢ Water supply to buildings and commercial premises located within the port;
➢ Use of technical facilities within the port (e.g. boat maintenance and repair areas);
➢ Irrigation of green spaces;
➢ Maintenance of port areas and facilities;
➢ (...).

Detailed information and analyses shall be provided on the following points:

➢ Inventory of networks (location, type of materials, overall condition);
➢ Inventory of network components (available water meters, pressure reducers, shut-off valves, etc.);
➢ Leak detection;
➢ Summary of water bills;
➢ List of issues commonly encountered in network management;
➢ Recent or planned modifications.

The contractor shall establish an annual breakdown of water consumption by use and shall rank water consumers by level of consumption.
It shall also analyse billing arrangements.

A.3.5 Exhaustive description of existing solutions and equipment

The engineering consultancy shall identify the equipment and solutions available within the port to control environmental impacts, nuisances, and water and energy consumption referred to in the previous sections.
In conclusion, the engineering consultancy shall provide, for each piece of equipment, an assessment of its level of performance.

Below are examples by thematic area; the engineering consultancy may supplement this list depending on the infrastructure present within the port.

Solutions and equipment for the collection and treatment of effluents

➢ Description of equipment and networks designed to collect runoff water from paved areas, parking areas and quays, and to treat it (where applicable);

➢ Description of equipment designed to collect water from technical areas and boat maintenance and repair areas, and to treat it (where applicable);

➢ Description of equipment intended to collect greywater and blackwater from vessels and to treat it (where applicable);

➢ Description of equipment related to fuel bunkering operations (by sea and by land);

➢ Description of equipment specific to public sanitary facilities;

➢ Description of equipment used by commercial activities to discharge and treat their effluents.

Solutions and equipment for the collection and treatment of waste generated within the port, by source

(vessels calling at the port, commercial activities, passenger terminal, technical areas, boat maintenance and repair areas, passengers waiting to embark)

➢ Inventory of waste collection equipment;
➢ Number and allocation of containers / bins / litter bins;
➢ Simplified waste collection facility, dedicated "clean point", hazardous / non-hazardous / special waste storage cabinets;
➢ Destination of waste (recovery or disposal).

Resources for combating accidental pollution in terrestrial and marine environments

➢ Description of the equipment and procedures in place, including identification of the stakeholders involved.

Solutions and equipment available on the water to combat pollution of the water body

➢ Description of equipment and means for the recovery of macro-waste;
➢ Description of equipment for hydrocarbon recovery.

Solutions to limit air pollution

➢ Description of available equipment and good practices to limit emissions from vessels approaching the port and during berthing, and to reduce the toxicity of exhaust fumes;

➢ Description of good practices and communication measures to limit exhaust gas emissions from cars and trucks waiting to embark or approaching the port. Where technical measures exist, they shall be described;

➢ Description of solutions implemented in technical areas, boat maintenance and repair areas, commercial premises and other buildings (e.g. passenger terminal).

Solutions to limit noise pollution

➢ Description of available equipment and good practices to limit noise pollution from vessels approaching the port and during berthing;

➢ Description of good practices and communication measures to limit noise from cars and trucks waiting to embark or approaching the port. Where technical measures exist, they shall be described;

➢ Description of solutions implemented in technical areas, boat maintenance and repair areas, commercial premises and other buildings (e.g. passenger terminal).

Solutions to control water consumption

The engineering consultancy shall describe the equipment and good practices aimed at controlling water consumption within the port. A distinction shall be made between:

➢ **Corrective approaches**, for example:
▪ Repair of leaks;
▪ Identification and awareness-raising of major water consumers.

➢ **Preventive approaches**, for example:

▪ Installation of sub-meters at network entry points;
▪ Implementation of consumption monitoring through regular meter readings;
▪ Maintenance programmes and procedures (replacement of seals, monitoring of water distribution equipment and systems, including sanitary facilities);
▪ Installation of pressure reducers;
▪ Installation of push-button taps in sanitary facilities;
▪ Possible allocation of water quotas (to be defined prior to the installation of sub-meters);
▪ Installation of leak detection systems, with or without centralized management;
▪ Installation of shut-off devices applied to the water network;
▪ Implementation of water pricing schemes encouraging water savings and allowing rapid return on investment;
▪ Awareness-raising through training and information of operating staff and all port users.

Solutions to control energy consumption

The engineering consultancy shall describe the equipment and good practices aimed at controlling energy consumption within the port. A distinction shall be made between:

➢ **Solutions to reduce electricity consumption**, for example:

▪ Consideration of existing and emerging technologies (e.g. low-energy lighting, LED systems, etc.) based on cost–benefit analyses;
▪ Awareness-raising of staff and users;
▪ Implementation of pricing schemes encouraging energy savings and allowing a return on investment;
▪ Improvement of maintenance practices (preventive maintenance) and maintenance procedures;

▪ Use of processes enabling power modulation according to operating hours;
▪ Renegotiation of supplier contracts (tariff changes, reduction of contracted power capacity).

➢ **Solutions for on-site electricity generation from renewable energy sources** and the distribution of the power produced (entire port or part of the port, total or partial redistribution to the public grid). The engineering consultancy may also highlight any green energy supply contracts in place.

A.3.6 Definition of desired quality objectives

After characterizing the environmental status of the port site, the engineering consultancy shall, based on criteria it defines, classify the pollution and nuisances for which the port is responsible according to their level of severity.
Pollution and nuisances for which the port is not responsible shall also be listed.

Once this work has been completed, the engineering consultancy shall be able to propose a list of quality objectives relating to the items inherent to port activities, which shall be achieved in order to improve the environmental situation of the site under study.
These objectives shall be realistic, motivating and systematically take into account the applicable regulations. They shall be sufficiently precise to enable effective monitoring of the implementation and success of the actions undertaken.

In response to the quality objectives, the engineering consultancy shall propose development, management, training and communication actions.
These objectives and proposed actions shall be discussed in consultation with the contracting authority.

A.3.7 Action programme to achieve these objectives

The engineering consultancy shall establish a multi-year action programme structured as follows:

➢ Information and awareness-raising for managers (including staff), users, professionals operating within or transiting through the port, and residents;
➢ Reduction of pollution and waste at source within the port site;
➢ Collection and treatment of effluents and waste generated and transiting through the port site (appropriate treatment streams);
➢ Control of accidental pollution (caused or suffered);
➢ Reduction of water consumption and conventional energy use;
➢ Reduction of nuisances related to air quality and noise levels.

For each proposed action, the engineering consultancy shall specify:

▪ Estimated environmental and socio-economic benefits;
▪ Nature and quantities of pollutants and waste transiting through each type of facility;
▪ Appropriate treatment streams for the various pollutants and waste according to their nature;
▪ Regulatory status of new installations and associated constraints;

▪ Monitoring procedures, from collection through to treatment;
▪ Nature of the works required (civil engineering, dedicated facilities, quays, roads, etc.);
▪ Any specific equipment required (shredders, compactors, weighing systems, grit chambers, oil separators, tanks, etc.);
▪ Organizational arrangements to be put in place (information signage, access route signage, etc.), targeting the relevant user groups where applicable;
▪ Human resources required to operate these new installations (technical staff, administrative staff, supervisory personnel and management).

- Estimated costs of the works and civil engineering installations to be constructed;

▪ Implementation schedule for the works;
▪ Estimated cost of equipment;
▪ Operating costs;
▪ List of potential financial partners.

The actions shall be prioritized in a summary table. This table shall specify who is responsible for implementing each action, based on their responsibility with regard to the identified pollution and nuisances.

A.4 Collection of available information

The contracting authority shall make available to the engineering consultancy all information in its possession enabling the consultancy to organize its investigations as effectively as possible.
In particular, it shall ensure the cooperation of its departments and the provision of the data they hold, which are necessary for the proper execution of the study.

The engineering consultancy shall propose an indicative list of the data sought in relation to the objectives of the study.

It shall also carry out investigations in cooperation with the competent public authorities at national, regional and local level, as well as relevant environmental and water management bodies, and collect any additional relevant information.

A.5 Site visits

Surveys and site visits shall be carried out with:

➢ Managers and operators of the port site, in order to characterize their scope of action, field of activity, management and decision-making processes, and associated constraints;

➢ Professionals working within the port or transiting through it, in order to more precisely characterize their activities (qualitatively and quantitatively), their production of liquid and solid waste (qualification and quantification), their practices related to the management of pollution and waste, and their expectations in this regard;

➢ Shipowners, in order to more precisely characterize their activities (qualitatively and quantitatively), their production of liquid and solid waste (qualification and quantification), their practices related to pollution management, and their expectations in this regard;

➢ Other port users (e.g. passengers).

The list of stakeholders to be consulted shall be submitted to the contracting authority for validation. The engineering consultancy shall also propose, for validation, the periods most conducive to surveys and site visits in order to obtain tangible results, and shall justify its choices.

This phase shall also provide an opportunity to inform the various stakeholders about the approach being undertaken and to raise awareness of the need for practices that are more respectful of environmental quality.

If, during these site visits and surveys, the engineering consultancy identifies a malfunction or anomaly likely to cause harm to the environment, it shall immediately inform the Terminal Manager and/or the port Authority so that urgent action can be taken to resolve the situation.

A.6 Meetings

A Steering Committee shall be established to monitor the study, and may be composed of the following members:

➢ The port authority, Terminal Manager or both;
➢ Public institutions, representatives of competent public authorities, and relevant local stakeholders

➢ The Port operators;

➢ Representatives of users and residents designated by the contracting authority.

The contracting authority may establish a restricted Steering Committee and thematic working groups to allow for better interaction with the engineering consultancy.

The contracting authority reserves the right to be assisted by any expert or organization it deems necessary to successfully carry out its port site quality improvement project. This assistance may be particularly involved during the various Steering Committee and study follow-up meetings.

A.7 Deliverables

The engineering consultancy shall provide the contracting authority with a copy of the documents presented during the meetings.
Each meeting shall be supported by a presentation, and a report shall be drafted by the consultancy, submitted for validation and distribution to the contracting authority.

Annex B
(informative)
List of Recommendations for Managing Water and Energy Consumption Study

B.1 Water

➢ Installation of sector-specific water meters

➢ Implementation of water-saving devices: dual-flush toilets, aerators

➢ Detection and repair of leaks using remote monitoring systems

➢ Rainwater harvesting and treatment if necessary

➢ Reuse of treated wastewater

➢ Use of non-potable water for purposes such as boat washing

➢ Other measures (e.g., desalination units)

B.2 Energy

Energy-saving measures:

➢ Energy-saving devices: LED relamping, installation of timers or presence detectors, optimization of temperature settings, implementation of centralized technical management systems

➢ Green energy contracts

➢ Measures for window/glazing renewal

Building energy performance:

➢ Building insulation

➢ Building control's systems

Renewable energy implementation:

➢ Wave energy systems

➢ Photovoltaic canopies

➢ Wind turbines

➢ Seawater-based thermal energy (thalassothermy)

A.3.3

Origin, Nature and Impact of Pollution on the Environment and the Living Environment**

In this section, the main inputs and chronic emissions directly linked to port activities, originating from the catchment area or from the marine environment, shall be described and quantified.

In addition, a list of inputs of accidental origin (that have already occurred or could potentially occur) shall be provided. The purpose is not to carry out a risk assessment of the port site, but to enable the contracting authority to gain an understanding of accidental pollution.

Effluents (liquid pollution)

Where available data allow, the consulting firm shall seek to characterise the sources of these various inputs. The service provider shall indicate whether these effluents are collected and treated, or whether they are discharged into the receiving environment, and if so, which one(s). The following distinction shall be made:

➢ Effluents generated within the port area: for example, inputs directly linked to port facilities, operations and maintenance (cleaning of facilities, maintenance of equipment, use of equipment, etc.), linked to vessels calling at the port (collection of wastewater, bunkering [land-based or by floating barge], deck washing, various repairs on vessels, etc.), linked to runoff (reclaimed land, parking areas, technical zones, etc.), and linked to the presence of commercial activities;

➢ Effluents generated outside the port area within the catchment basin: presence within or near the port of a channelled watercourse or an outfall, runoff water from city streets whose discharge point is the port basin. The service provider shall also take into account pollution originating from the marine environment;

➢ Accidental pollution (occurring within or outside the port but likely to reach it) shall be analysed.

OPTION

In order to obtain sufficient data, the consulting firm shall carry out analyses (service included in its scope of work) of the water column within the port area, taking into account existing outfalls, as well as in the nearby marine area. The analyses shall be entrusted to a laboratory approved by the Ministry for Ecological Transition and accredited by COFRAC (for France).

The number of sampling points is set at three (3) within the port perimeter. The location of the sampling points and the periods most favourable to obtaining meaningful results shall be determined by the consulting firm and submitted to the contracting authority for approval.

The analyses shall cover the following parameters:

➢ TSS (Total Suspended Solids);

➢ COD (Chemical Oxygen Demand);

➢ BOD_5 (Biochemical Oxygen Demand over 5 days);

➢ TOC (Total Organic Carbon);

➢ Total hydrocarbons;

➢ Detergents;

➢ Heavy metals (METOX): Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Zinc.

Annex C
(informative)
List of Recommendations for Improving Air Quality and Reducing Noise Pollution

- **Shore power connection for ships:** Allow ships to connect to the port's electrical network to reduce atmospheric pollutant emissions during their stay.
- **Installation of shaded structures (canopies):** Use shaded structures to reduce ambient temperature and limit the use of air conditioning in passenger vehicles.
- **Installation of misting systems:** Reduce the need for air conditioning in passenger vehicles.
- **Awareness on air conditioning use**: Inform users and staff about the importance of not leaving air conditioning on in vehicles while waiting to board during heat waves or pollution peaks.
- **Real-time air quality messaging:** Provide live information on air quality conditions.
- **Conversion of port vehicles and equipment to low-emission engines:** Reduce atmospheric emissions from operational vehicles and machinery.
- **Greening of port areas:** Plant trees and vegetation to improve air quality.
- **Regular maintenance of equipment:** Ensure regular maintenance of machinery and vehicles to minimize pollutant emissions.
- **Installation of charging stations for electric vehicles:** Facilitate the use of electric vehicles by providing charging infrastructure.
- **Encouragement of ships with Carbon Intensity Indicator (CII) rated A or B:** Promote the reception of cleaner ships.
- Reception of low-emission buses (tour operators) and promotion of nearby excursions for cruise passengers: Limit thermal vehicle use on the port to reduce atmospheric emissions.
- **Implementation of electric bikes or soft mobility solutions for cruise passengers**
- **Promotion of low-emission tenders**
- **Development of services with extended operating hours:** Encourage passengers to disembark from their vehicles.
- **Installation of noise-reducing pavement on terminals**: Limit noise pollution from terminal traffic.
- **Installation of damping surfaces on RO-RO ramps:** Reduce noise pollution caused by ferry boarding and disembarking.
- **Study and installation of adapted public address systems:** Minimize noise pollution from speakers.
- Encouragement for shipowners/charterers to limit microphone announcements and onboard music volume at the quay:
- **Monitoring of air quality within the port environment.**

Annex D
(informative)
List of Recommendations for Conducting a Greenhouse Gas (GHG) Inventory

D.1 Assistance in Defining the Scope of the Greenhouse Gas (GHG) Inventory

There are several methods for calculating greenhouse gas (GHG) emissions, including the Bilan Carbone© or the GHG Protocol or ISO 14064.

Most methods distinguish emissions into three scopes:

▪ Scope 1: Direct emissions from fossil fuel combustion by the port.

▪ Scope 2: Indirect emissions associated with the purchase or production of energy by the port.

▪ Scope 3: All other indirect emissions.

The inventory scope at a minimum includes the Terminal Manager's own activities. Voluntarily, or as part of a continuous improvement approach, the scope can be extended to include all activities of port operators, the ship maneuvering phase, and the transit phase from departure port to arrival port.

D.2 Examples of Actions to Reduce Emissions

▪ Control of energy consumption (see Annex B)

▪ Replacement of boilers or other fuel-consuming equipment with lower-emission alternatives

▪ Maintenance of air conditioners and other systems to minimize losses of heat transfer fluids

▪ Implementation of a responsible procurement policy

▪ Implementation of a company travel plan

▪ Establishment of a sustainable policy for business travel

▪ Waste reduction and recycling / recovery

▪ Replacement of thermal vehicles and equipment with lower-emission alternatives

Annex E
(informative)

List of Recommendations for Preserving Biodiversity on Passenger Terminals and Onboard Ships

The following list provides examples of actions that can be undertaken to preserve biodiversity:

➢ Greening port areas with adapted and nectar-producing plant species

➢ Undertaking soil decompaction and permeability restoration measures

➢ Prohibiting the use of neonicotinoid insecticides or herbicides throughout the port area, particularly for the maintenance of green spaces

➢ Using only biodegradable and environmentally safe products

➢ Prohibiting the planting of invasive or highly water-consuming plant species

➢ Controlling the spread of invasive plant species through mechanical techniques

➢ Favoring native nectar-producing plants

➢ Minimizing noise and light pollution that could disturb the behavior or development of certain plant and animal species; choosing lighting color temperatures that reduce impacts on nocturnal wildlife

➢ Implementing building greening systems that improve thermal efficiency and contribute to biodiversity restoration

Eco design :

- Installing equipment that restores altered functionality and supports the preservation and development of plant and animal species (e.g., artificial nurseries, birdhouses, insect hotels, etc.)
- Promoting the use of ecological engineering solutions across port structures and equipment

➢ Enhancing port structures through the creation of natural habitats; encouraging the renaturation of abandoned port areas

➢ Supporting organizations engaged in biodiversity protection

➢ Collaborating with companies and research centers working on biodiversity preservation

➢ Raising passenger awareness of marine and terrestrial biodiversity

➢ Nature Based Solutions

For Shipowners/Charterers:

➢ **Promote UV treatment of ballast water**
➢ **Implement measures to reduce the risk of collisions with cetaceans** (e.g., route deviations when cetaceans are detected, reporting sightings through dedicated tools, crew training)
➢ **Limit the use of biocides and use antifouling paints with lower environmental impact**
➢ **Respect the protection of seagrass meadows when anchoring** (e.g., using mapping tools)
➢ **Hull cleaning when moving between different geographic zones**

Annex F
(informative)
Examples of Communication and Awareness-Raising Actions

Quarterly newsletter addressed to stakeholders (ports, local authorities, maritime sector companies).

➢ **Social media posts** targeting professionals and decision-makers in the port sector.

➢ **Mini-documentaries or immersive videos** showcasing concrete transformations at the port.

➢ **Posters**.

➢ **Photographic exhibitions**.

➢ **Exhibitions in ferry terminals** highlighting good port practices.

➢ **Port stakeholders' engagement charter**.

➢ **Informational panels and QR codes in ports** explaining implemented measures (biodiversity, waste management, noise pollution, etc.).

➢ **Collaboration with shipping companies** to integrate awareness messages onboard ferries and in terminals.

➢ **Inter-port competitions** to highlight the most innovative ecological initiatives.

➢ **Organization of environmental events and conferences** open to the public or to passengers waiting to board.

➢ **Port visits for school groups, students, and local residents**.

➢ **Smartphone applications** (e.g., educational games encouraging users to reduce pollution, manage waste, and optimize energy use in real time, with rewards, badges, and progress comparisons).

➢ **Organization of port clean-up events**.

Bibliography

[1] EN XXXX, *Title of reference*