Green Marine Europe Environmental Program

2025

Performance Indicators for Ports & Waterways

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AIR EMISSIONS - GREENHOUSE GASES AND AIR POLLUTANTS

OBJECTIVE: Reduce greenhouse gas (GHG) and air pollutant emissions.

APPLICABILITY: Depending on the number of employees and/or the participant's turnover, criteria 2.1, 2.2, 2.4, 3.1, 3.2 and 4.1 may constitute legal obligations if the port is subject to the EU Corporate Sustainability Reporting Directive (CSRD) or to national or regional employer-mobility requirements. In such cases, participants are expected to aim to go beyond regulatory requirements whenever possible.

LEVEL 1

Monitoring of regulations

LEVEL 2

2.1 Implement measures that discourage idling of vehicles and other equipment powered by Internal Combustion Engines (e.g., idle time limits, eco-driving, speed reduction, or fuel consumption reduction). Include, at minimum, the participant's own road, off-road, and unlicensed vehicles.

2.2 Implement active measures to reduce single-occupancy motorized travel by employees, optimize internal trips, and strengthen active mobility on site (e.g., incentives for public transit or carpooling, improved cycling and pedestrian access, installation of bike shelters and charging stations, consolidation of operational trips, and development of safe pedestrian routes).

2.3 Implement measures to reduce truck congestion.

2.4 In the event of concerning smoke emissions from vessels at anchor or alongside, implement awareness-raising and/or incentive measures to encourage corrective action.

LEVEL 3

3.1 Complete an annual GHG emissions inventory.
Note: Include Scope 1 at minimum, and Scope 2 is recommended, as defined by a recognized standard, such as the GHG Protocol.
Note: See Annex 1-A.

AND fulfill one of the following two criteria:

3.2 Within the last five years, complete a detailed inventory for all port and terminal operators', owned or leased registered or not, operated fleets, such as road and off-road vehicles and locomotives.
Note: The inventory must include, when available, the registration or model year, energy source (e.g., diesel, gasoline, LNG, electric, hybrid, hydrogen), emissions standard/tier (e.g., Euro or Tier), and relevant operational data such as horsepower and annual hours of operation. The inventory must be updated at least once every five years.

OR

3.3 Implement an action plan to transition to lower emission equipment through cleaner fuels, engine repowers, or equipment replacements, retrofits or electrification. This action plan can be implemented through direct incentives, rebates, national or regional funding programs, or other external financial mechanisms. The scope covers mobile equipment, cargo-handling equipment, and fixed installations directly operated by the participant.

LEVEL 4

4.1 Complete a port-wide inventory of GHGs and air pollutants emitted from all sectors: marine vessels (ocean going and harbour craft), cargo handling equipment, rail, truck, and administrative within the last 5 years. Inventory should include key GHGs: CO_2, CH_4, and N_2O and criteria air pollutants, such as NOx, SOx, VOC, and PM.
Note: See Annex 1-A.

4.2 Adopt a performance plan for air emissions resulting directly from the participant's activities. In the plan, define reduction measures and establish reduction targets for both GHG and air pollutants.
Note: See Annex 1-B.

LEVEL 5

5.1 Adopt a performance plan for port-wide air emissions that defines port-wide emission reduction measures, targets, and time frames. Demonstrate progress through projects and partnerships. Publicly disclose GHG and air pollutants reduction targets and time frame.
Note: See Annex 1-B.

5.2 Demonstrate an annual average reduction of ≥ 2.4% of the participant's direct GHG emissions (in intensity or absolute) over at least a 3-year time frame based on repeated inventories done for criterion 3.1 within the last three years.

5.3 Complete the inventory done for criterion 3.1 in accordance with a recognized standard, such as the GHG Protocol or ISO 14064, either by a credentialed professional to do the inventory or for every other inventory, conduct an external desktop review to check adherence to the standard.

5.4 Achieve an annual average reduction in GHG intensity of ≥1% over at least a three-year time frame, based on sequential inventories done for criterion 4.1 or on a more comparable hindcast, within the last five years.

AQUATIC ECOSYSTEMS (PORTS)

OBJECTIVE: Improve the condition and/or quality of aquatic ecosystems in the participant's immediate zone of influence and beyond.

NOTES:

- A port's immediate zone of influence refers to all aquatic ecosystems on the port property or in its vicinity that port activities and operations may directly impact.
- In this context, aquatic ecosystems include any body of water or watercourse in the participant's immediate zone of influence and beyond, including, for example, port waters, the shoreline, as well as surrounding streams, rivers, and wetlands.

LEVEL 1

Monitoring of regulations

LEVEL 2

Implement at least four of the following seven criteria:

2.1 Conduct a literature review of the data available on aquatic ecosystems in the participant's immediate zone of influence and beyond (considering surrounding sensitive habitats as well as industrial, public, and recreational activities).
Note: See phase I of annex 8-A.

2.2 Delineate the participant's immediate zone of influence and map known aquatic ecosystems on and around this zone.
Note: See phase I of annex 8-A.

2.3 Identify and establish contact with potential organizations and partners that can contribute to building knowledge of the aquatic ecosystems in the participant's immediate zone of influence and beyond.

2.4 Establish and maintain contact with the relevant government authority to identify and regularly update a list of potential aquatic invasive species (AIS) in the participant's immediate zone of influence and beyond. Report any new observations of an AIS in a timely manner.
Note: Refer to the EU official list of invasive alien species available on the European Commission "Invasive alien species" webpage. Use the EASIN (JRC) platform to identify potential AIS by country and to report new observations.

2.5 Provide port users up-to-date guidelines for in-water cleaning of commercial ships in port waters and/or raise awareness among recreational boaters by sharing best practices to reduce the introduction and spread of AIS via biofouling.
Note: See reference documents in the Members section of the Green Marine Europe website.

2.6 Ensure all prescribed best practices to minimize the impacts of maintenance and capital dredging on the aquatic environment are implemented during dredging operations (e.g., environmental surveillance by competent port staff or a third party during dredging activities, schedule dredging outside breeding and migration periods of sensitive species).

2.7 Facilitate educational activities or raise awareness among employees, tenants, users, or the community relative to the need for protecting aquatic ecosystems and preventing pollution in port waters.

LEVEL 3

Implement at least three of the following six criteria:

3.1 Identify potential sources of pollutants associated with the participant's operations and activities in the immediate zone of influence.

3.2 Carry out a characterization to benchmark the status of aquatic ecosystems in the participant's immediate zone of influence.
Note: See phase II of annex 8-A.

3.3 Support government authorities with their response plan to eradicate or reduce the risks of introducing and spreading aquatic invasive species (e.g., facilitate access, help implement response plan measures).
Note: This may also include participation in monitoring programs and implementation of national or European monitoring protocols to detect new aquatic invasive species.

3.4 Organize or actively participate (provide support through financial means, human resources, and/or material and equipment) in a clean-up activity of an aquatic environment in the participant's immediate zone of influence or beyond to remove macro waste from the water or the shoreline.

3.5 Support scientific research by facilitating access to the port territory for sampling purposes (e.g., aquatic invasive species monitoring, surveys of protected species, or assessments of sensitive habitats) or by participating in an expert working group.
Note: Whenever possible, ensure that environmental data collected through these collaborations are made openly accessible or shared with competent authorities, research institutions, and relevant stakeholders to strengthen transparency and knowledge exchange.

3.6 Implement measures to limit scrubber washwater discharges from ships in port waters.

LEVEL 4

Implement at least four of the following seven criteria:

4.1 Based on the information gathered in levels 2 and 3, implement an aquatic ecosystem monitoring program in the participant's immediate zone of influence.
Note: See phase III of annex 8-A.

4.2 Based on the information gathered in levels 2 to 3 and 4.1, develop an aquatic ecosystems management plan which includes an action plan to implement environmentally sustainable solutions.
Note: see Annex 8-B.

4.3 Implement, actively participate in, or financially support a project to restore or develop or enhance a natural or artificial aquatic habitat within the last five years.
Note: A project description must be submitted to Green Marine Europe no later than May 15. See Annex 8-C.

4.4 Collaborate with a research group, technology developer, innovation cluster, academia, or government agency on a research & development project on aquatic ecosystem protection around industrial-port zones (e.g., to monitor, measure, and foster biodiversity, reduce the risk of introducing and spreading aquatic invasive species, pollution prevention).

4.5 When contamination levels allow it, reuse dredged sediment in an environmentally beneficial way, either within the port area (e.g., land reclamation, creation of ecological infrastructure) or locally (e.g., beach replenishing, soil restoration, construction materials).

4.6 Actively participate in scientific research or pilot projects aiming to understand and reduce the impact of dredging and dredged sediment management on wildlife and natural habitats.

4.7 Any other measure, practice, or project aiming to improve the condition and/or quality of aquatic ecosystems in the participant's immediate zone of influence or beyond that is accepted by Green Marine Europe.
Note: A project description must be submitted to Green Marine Europe no later than May 15. See Annex 8-C.

LEVEL 5

Implement at least three of the following seven criteria:

5.1 In collaboration with local or regional stakeholders, expand the monitoring program implemented at Level 4 and make it a long-term program.
Note: See phase IV of annex 8-A.

5.2 Implement environmentally sustainable solutions identified in the aquatic ecosystem management plan at Level 4.

5.3 Within the last ten years, protect or contribute to protecting an existing natural aquatic habitat of ecological or community value from commercial or industrial development.
Note: A project description must be submitted to Green Marine Europe by May 15. See Annex 8-C.

5.4 Invest annually in one or more research & development or pre-commercial projects on aquatic ecosystem protection and/or restoration around industrial-port zones (e.g., to monitor, measure, and foster biodiversity, reduce the risk of introducing and spreading aquatic invasive species, pollution prevention).

5.5 Implement measures to reduce maintenance dredging needs (e.g., over-dredging or deflecting structures to minimize sediment deposition).

5.6 Within the last ten years, complete a sediment remediation project at a site under the participant's control.
Note: Such a project may involve removal or treatment of contaminated sediments to improve water or habitat quality for example through dredging and safe disposal, in-situ stabilization, or sediment remediation using environmental dredging or bioremediation techniques.

5.7 Use low-impact environmental dredging techniques for maintenance and capital dredging (e.g., controlled-lift dredgers, auger dredgers, precision suction systems, or sealed-hopper dredgers).

DRY BULK HANDLING AND STORAGE (PORTS)

OBJECTIVE: Reduce cargo losses and dust generated during handling, transportation, and storage of dry bulk.

APPLICABILITY: Only applicable to port authorities that operate a terminal conveying dry bulk commodities, as in granular or pelletized cargo that is typically stored in silos or piles, and therefore not applicable to break bulk, lumber, or other project cargo.

LEVEL 1
Monitoring of regulations
LEVEL 2
2.1 Collect cargo residues on the ground as soon as possible using methods that minimize dust generation (e.g., vacuum sweeping, water spraying). 2.2 Ensure that collected cargo residues are stored, recovered and/or disposed of appropriately, i.e. in suitable facilities or containers and protected from the weather, depending on their characteristics (e.g., particle size, hazardous properties). 2.3 Take measures to prevent water contamination during loading and unloading operations (e.g., use canvas between ships and docks when unloading). 2.4 For outdoor operations, reduce dust dispersion by using one or more methods (e.g., spraying a light mist; using screens, air or water curtains and/or drapes; reducing conveyor belt height and speed; Install windbreaks; cover piles with tarps if they are likely to be affected by wind or rain; bag materials/use big bags; reduce pile storage time. 2.5 Fit storm drains with screens, baskets, geo-textiles or other devices to filter suspended solids found in stormwater runoff and ensure that such devices are cleaned regularly. 2.6 Recover cargo losses under the conveyors. 2.7 Regularly wash vehicles in dedicated areas to avoid dust dispersal on and off-site.
LEVEL 3
3.1 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on. Note: See Annex 2-A. 3.2 Produce an incident report and maintain records for each incident of abnormal dust or discharge accompanied by a detailed analysis of the causes and corrective measures implemented. 3.3 Conduct a detailed analysis of the loading, unloading, and handling process to identify critical stages, situations, or areas causing dust dispersal and establish a protocol for preventative measures.
LEVEL 4
In the majority of the terminals operated by the port: 4.1 Implement a documented Inspection and Preventive Maintenance Program targeting dry cargo handling equipment and dust suppression technologies. Note: See Annex 2-B. 4.2 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind. Note: The participant must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. Procedures must also include a record of incidents and must be communicated to and systematically applied by relevant staff. 4.3 Use enclosed conveyors or chutes and telescoping arm loaders, operate in a closed circuit, or use other similar equipment to limit dust generation and the risk of releases into the environment, when relevant, based on cargo type and environmental risk level.

LEVEL 5
In <u>all</u> of the terminals operated by the port: 5.1 Conduct a comprehensive and documented analysis of all loading, unloading, internal transport, and handling processes, including hazardous bulk materials, to identify high-risk stages, conditions, or areas for dust generation, material loss, or environmental releases. 5.2 Based on the comprehensive assessment in criterion 5.1, further develop and implement the Inspection and Preventive Maintenance Program with advanced protocols and engineering controls (e.g., enhanced containment, capture systems, negative-pressure units, specialized equipment) to minimize exposure, dispersion, and releases, along with regular monitoring to verify the effectiveness of these measures. <u>Note</u>: See Annex 2-B 5.3 Adopt a procedure for managing loading and unloading operations in cases of abnormal dust emissions due to wind. <u>Note</u>: The participant must have in place a procedure or a policy that defines, for each type of cargo, the adverse weather conditions that affect loading and unloading operations, and preventive measures to be taken. This procedure must also include a record of incidents and must be communicated to, and systematically applied by, relevant staff. 5.4 Use enclosed conveyors or chutes and telescoping arm loaders, operate in a closed circuit, or use other similar equipment to limit dust generation and the risk of releases into the environment, when relevant, based on cargo type and environmental risk level.

ENVIRONMENTAL LEADERSHIP

OBJECTIVE: Recognize the significant influence of port authorities and waterways as landowners and/or managers over the environmental practices of their tenants and users.

DEFINITION:

- Tenants and users refer to companies that occupy or operate within the port domain for maritime, logistics, or related activities.
- Waterway managers refer to entities responsible for the operation, maintenance, and regulation of a navigable waterway.

LEVEL 1

1.1 Reach level 2 for at least one other performance indicator in the program.

LEVEL 2

2.1 Reach level 2 for **at least two** other performance indicators of the program.

AND fulfill one of the following three criteria:

2.2 At least one of the port's eligible tenants is a Green Marine Europe participant or is certified under another recognized standard or certification scheme (e.g., ISO 14001, EMAS).
Note: An "eligible tenant" is a terminal or shipyard operator, or a ship owner/operator, located within the participant's boundaries that could potentially become or already is a Green Marine Europe participant.

OR

2.3 Write and publicly communicate an environmental policy.

OR

2.4 Develop and update annually a section on the company's public website presenting an overview of the Green Marine program and the company's latest performance results.
Note: Green Marine Europe offers assistance to participants in developing the content.

LEVEL 3

3.1 Include environmental clauses on all relevant environmental issues covered by the program (e.g., air emission & energy performance, water & soil quality, biodiversity protection, waste management) in all renewed/new leases and contracts related to maritime operations and public markets on port territory.

Fulfill one of the following 3 criteria:

3.2 At least 25% of the port's eligible tenants are Green Marine Europe participants or are certified under a recognized standard or certification scheme (e.g., ISO 14001, EMAS).
Note: An "eligible tenant" is a terminal or shipyard operator, or a ship owner/operator, located within the participant's boundaries that could potentially become or already is a Green Marine Europe participant.

OR

3.3 Implement a voluntary system (e.g., a chart or voluntary agreement of environmental best practices) that encourages tenants to establish environmental objectives in line, minimally, with the scope of the Green Marine Europe program and the issues it addresses.

OR

3.4 Undergo a formal internal or external audit, or a comparable system of verification, at least every five years to verify the environmental compliance of all operations under the participant's control.
Note:
• Any non-compliance found should be rectified, when possible, within the following year. Otherwise, an action plan with a timeline should be developed.
• Comparable systems of verification refer to any formal and independent procedure providing an assurance level comparable to an environmental audit under ISO 19011 or EMAS.

LEVEL 4

Fulfill at least four of the following criteria:

4.1 At least 50% of the port's eligible tenants are Green Marine Europe participants or are certified under a recognized standard or certification scheme (e.g., ISO 14001, EMAS).
Note: An "eligible tenant" is a terminal or shipyard operator, or a ship owner/operator, located within the participant's boundaries that could potentially become or already is a Green Marine Europe participant.

4.2 Use 1% or more of annual operating revenues to finance environmental or social projects linked to the participant's environmental footprint.

4.3 Finance or make donations of at least 1% of annual operating revenues to environmental projects.

4.4 Use a variable fee schedule based on the environmental participation of users (e.g., a variable fee schedule based on the environmental certification obtained by ships or on the type of fuel used by ships).

4.5 Implement an environmental management system (e.g., ISO 14001).
Note: At level 4, the EMS is not required to be certified if the participant can demonstrate that all the elements of an EMS are in place. An EMS certification is, however, mandatory to use this criterion to achieve Level 5.

4.6 Publish an annual report providing details of the participant's environmental performance.
Note: The report must follow a recognized standard, such as the Corporate Sustainability Reporting Directive (CSRD) or the Global Reporting Initiative's Reporting Guideline

4.7 Complete a project within the last five years that provides public access to the waterfront.

4.8 Complete a project within the last five years that restores a natural terrestrial habitat (must not be linked to a mandatory compensation measure).

4.9 Convert at least 50% of the participant's fleet of road vehicles to low or zero-emission technologies or energy sources in line with Directive (EU) 2019/1161.
Note: Directive (EU) 2019/1161 includes electric vehicles, hydrogen-powered vehicles, plug-in hybrids, or vehicles running on alternative low-emission fuels.

4.10 Introduce innovative or exemplary technologies or projects, within the last five years, aimed at significantly reducing the environmental footprint of the port's or waterway's activities (e.g., shore power programs, development of renewable energy, upgrade of wastewater or stormwater treatment systems, reuse of construction materials).
Note: See Annex 4-A

4.11 Any other comparable measure accepted by Green Marine Europe.
Note: The project must have been started (e.g., installation of equipment, final investment decision, etc.) during the last three years.
Note: See Annex 4-A.

4.12 Implement a sustainable infrastructure management framework within the infrastructure project development process.
Note: A recognized framework (e.g., Envision, BREEAM infrastructure) that provides measurable criteria for integrating sustainability, resilience, and stakeholder engagement into the design, construction, and management of infrastructure.

LEVEL 5

5.1 Fulfill at least two additional criteria listed in level 4.
Note: Reminder that an EMS certification is mandatory to use criterion 4.5 toward achieving Level 5.

5.2 Attain an average that is equivalent to level 4 with respect to the program's other performance indicators.

LOCAL COEXISTENCE AND IMPACT MANAGEMENT

OBJECTIVE: Help improve the health and well-being of local stakeholders by reducing or maintaining at a low level their exposure to dust & other polluting air emissions, noise & vibrations, light, visual pollution, traffic, potable water usage, and odours & nuisance wildlife caused by the participant's activities and operations.

NOTE:

- In the context of this indicator, the local stakeholders include all people in close proximity to the participant (e.g., employees, nearby tenants, residents, local businesses, people using nearby recreational areas).

LEVEL 1

Monitoring of regulations

LEVEL 2

Implementation of the majority of applicable criteria:

Noise & Vibrations

2.1 Issue a notice to ships that their sirens are to be used only to ensure safe movement.

2.2 Adopt operational procedures or take measures limiting the use, or reducing the impact of warning signals, without compromising safety (e.g., use strobe light during nighttime operations, use lynx alarm, adapt the height or direction of the device, adjust the frequency of the signal).

2.3 Take measures to reduce the noise emanating from rail operations at the port (e.g., such as rail lubrication).

2.4 Limit idling of vehicles, equipment, and locomotives.

2.5 Have a documented process (e.g., purchase policy) for selecting less noisy equipment when buying new equipment.

2.6 Carry out activities and operations that generate noise and vibrations as much as possible within hours that would have the least impact on local stakeholders.

Dust & Other Pollutant Air Emissions

2.7 Adopt dust control measures on the participant's operated property (e.g., watering, wet brushing, sweeping, maintenance of pavement, landscaping).

2.8 Apply measures to improve the management of bulk cargo storage (e.g., covering cargo that is stored in piles, reducing the height of such piles, moving piles to areas that are less exposed to wind, building/installing containment walls).

2.9 Implement mitigation measures (e.g., canvas, tarpaulins, curtains, or other equivalent control barriers) during spray painting and blasting operations to prevent the dispersal of dust and aerosol particles by the wind.

2.10 Collect and confine spent abrasives and debris (after blasting to dock-bottom or yard grounds) to avoid dispersion by wind and runoff (e.g., cover piles of spent abrasives and debris or store them in covered containers).

Odours & Nuisance Wildlife

2.11Take measures to avoid the dispersion of garbage and recyclables by wind and wildlife (e.g., covers, fencing) and to reduce odours.

2.12 Limit the presence of wildlife that is or can become a nuisance to the local community away from operation and construction sites, outbuildings, and workboats (e.g., limit reproduction and access to wildlife, use sustainable visual or audio deterrence measures).

Traffic

2.13 Implement measures to manage traffic (e.g., bus, truck, railway) in and out of the property to avoid local congestion (e.g., signboard, traffic coordinator or checker).

Light Pollution

2.14 Direct lights so they only illuminate the necessary zone.

2.15 Switch off bothersome lighting at a specific time if there are no operations underway.

Visual Pollution

2.16 Maintain all spaces on the property clean and free of litter, especially in areas bordering and visible from public spaces and roads (e.g., next to a residential area or a park).

Potable Water Usage

2.17 Adopt common potable water consumption measures (e.g., repair water leaks, do not water vegetation or use water for housekeeping purposes during full sun or dry periods).

LEVEL 3

3.1 Assess activities and operations to determine the level of impact they have on the local stakeholders (e.g., dust and other polluting air emissions, noise, vibrations, light, visual pollution, traffic, potable water usage, and odours & nuisance wildlife).

3.2 Adopt a Stakeholder Impacts Mitigation and Management Plan to mitigate and manage impacts related to the participant's activities, operations, and new projects, including when contracting work to a third party, and that incorporates all applicable best practices in level 2.
Note: See Annex 3-A.

LEVEL 3 (continued)

3.3 Have a procedure for evaluating environmental and social aspects of new projects, activities, or types of operations including the handling of new products, if there is uncertainty around the potential for environmental and social impacts and where mitigation measures are not known to be effective and established.
Note: Not applicable to projects that are subject to an environmental assessment under existing regulations.
Note: See Annex 3-B.
Noise
3.4 Adopt and communicate a policy that deals with noise from vessels at anchor, and/or collaborate with the competent authorities to establish and communicate procedures for dealing with noise from vessels at anchor (e.g., operation of auxiliary or back-up engines, maintenance work).
Visual Pollution
3.5 Maintain buildings and facilities on the property (e.g., exterior cleaning and repainting), especially in areas bordering and visible from public spaces and roads.

LEVEL 4

4.1 Based on the assessment in criterion 3.1, further develop and implement the Plan under criterion 3.2 to define objectives and an action plan.
Note: See Annex 3-A.

Implementation of the majority of the following applicable criteria:

4.2 Install and maintain green corridors (e.g., dune system), vegetated or recreational areas (e.g., tree alley, parks) between the operating site and residential area.

4.3 Have a procedure or system in place that optimizes truck movements to manage congestion and mitigate other associated issues.

Noise
4.4 Monitor noise in real-time in areas of concern, as identified in the assessment of criterion 3.1 (e.g., areas located close to residences or subject to frequent complaints) and have a data monitoring process in place.

4.5 Create and maintain noise barriers using a sustainable approach (e.g., vegetated buffer zone or noise barrier walls with limited local stakeholder and environmental impacts).

4.6 Install silencer/muffler, timer, or any other device to control and/or reduce noise from noisy equipment or cover with sound-insulating material.

Dust & Other Polluting Air Emissions
4.7 Monitor dust and other polluting air emissions (e.g., $PM_{2.5}$ PM_{10}, CO, NO_2, O_3, SO_2, H_2S, heavy metal vapours or particles, VOCs, PAHs, or odours) in the areas of concern, as identified in the assessment of criterion 3.1 (e.g., areas located close to residences, areas subject to frequent complaints, areas particularly exposed to wind) and have a data monitoring process in place. Choose monitoring frequencies in line with best practices specific to the emissions (e.g., near real-time to monthly measurements).

Light Pollution
4.8 Evaluate existing lighting plans and take effective measures to optimize lighting and reduce impacts.

4.9 Install fixtures that optimize lighting (adjustable lighting time and intensity) when replacing fixtures or during new projects.

Visual Pollution
4.10 Implement and, where applicable, maintain beautification measures such as landscaping (e.g., planting trees and shrubs, adding ornamental features), murals, improved design or engineered solutions for existing and/or new buildings and facilities, aboveground infrastructure, external furniture, fences, especially in areas bordering or visible from public spaces and roads.

4.11 Implement procedures and lease requirements to ensure leased land and water lots within the port are maintained and in good repair.

Potable Water Usage
4.12 Use equipment or technologies to minimize or recycle/reuse water for the most water-intensive operations.

LEVEL 5

5.1 Implement all applicable criteria listed in Level 4.

5.2 Demonstrate that the objectives set as part of the CIMMP for each community impact relevant to the participant are met according to the timeline of the action plan and that the measures implemented are as effective as possible.

5.3 For impacts of concern to local stakeholders (e.g., noise pollution, dust and other pollutant air emissions like $PM_{2.5}$, PM_{10}, CO, NO_2, O_3, SO_2, H_2S, heavy metal vapours or particles, VOCs, PAHs), publicly disclose monitoring data collected at Level 4 (e.g., real-time noise data, near real-time $PM_{2.5}$ data, biannual reporting for metal analysis) through an online portal or website, making sure the data is digestible for the general public.

SPILL PREVENTION AND STORMWATER MANAGEMENT

OBJECTIVE: Prevent spills and leaks of pollutants and manage stormwater to minimize contamination into the environment (water and land).

NOTE:

- The term 'location', as mentioned in levels 4 and 5 for criteria related to stormwater management, refers to any given delimitated area on the participant's owned or leased property where stormwater can potentially be contaminated based on activities and operations and/or known data (as identified in the Water and Land Pollution Prevention Plan under criterion 3.2).
- Participants should ensure that the measures required under 2.3,2.4 are implemented either directly by the port authority or via enforceable obligations or coordination mechanisms with tenants, depending on the operational control of each site.

LEVEL 1

Monitoring of regulations

LEVEL 2

Implementation of at least 60% of the applicable criteria:

2.1 Perform vehicle, equipment and machinery fueling, lubrication, and maintenance in an adequately equipped designated area and/or at a minimum distance of 30 m (100 ft) from the water and at a minimum distance of 15 m (50 ft) from a tributary (e.g., catch basin, ditch, storm drains) unless the area is covered by or is part of a permitted and properly operating stormwater management system. If these requirements cannot be met, alternative pollution prevention measures must be taken (e.g., watertight lids, rubber rugs, retention pans).

2.2 In areas draining to surface water, use, inspect and ensure proper maintenance of secondary containment (e.g., containment berms and retention or drip trays/pans) for stationary devices and equipment that can potentially leak or which need to be resupplied periodically (e.g., generating sets, compressors). Use a risk-based approach to determine the adequate volume of each secondary containment to contain anticipated spills or leaks. All employees using such devices and equipment must be aware of the procedure to follow (what to do, who to contact) in case of a spill or leak (e.g., proper signage visibly posted directly on devices and equipment, internal emergency number, annual employee training).

2.3 Implement inspection and maintenance procedures for all devices and equipment (e.g., tanks, generating sets, compressors, landscaping equipment) that could potentially leak liquid contaminants into the environment (e.g., drainage system, natural receiving environment).

2.4 Regularly inspect near shore water and property to identify any illicit discharge. If such a discharge is identified, implement corrective measures as soon as possible to stop contamination from the source or inform the entity responsible or any other relevant entity If the contamination is not under the control of the participant.
Note: Near-shore waters refer to surface waters directly adjacent to port infrastructure (e.g., quays, berths, breakwaters, jetties, and dredged channels).

2.5 Check for visible sheen on, colour and odour of water collected in secondary containments and excavation pits or extracted from monitoring wells. If there is a doubt about its quality, the water must be sampled, analyzed for contaminants of concern, and managed appropriately or treated prior to being discharged into the environment.

2.6 Always have at key locations a spill kit containing all the necessary material to adequately respond as soon as possible to accidental discharges. Ensure the relevant staff is competent to use these kits (e.g., through appropriate training, annual refresh of response procedures, various information and communication tools) and that any contaminated material is disposed of by an authorized firm.

2.7 Implement good housekeeping practices to ensure surfaces near storm drains (e.g., wharves, driveways, loading and unloading areas, paint blasting areas and other pathways to surface waters) are clear of pollutants (e.g., solid wastes, grit, dust, paint or paint residues).

2.8 Prevent the uncontrolled discharge of wash water that could contain oils, chemical products (e.g., detergents, solvents), or residues/suspended solids into the environment via treatment or containment, for example.

LEVEL 3

3.1 Implement all applicable best practices of level 2.

3.2 Adopt a Water and Land Pollution Prevention plan that covers all sites that the participant operates on.
Note: See Annex 2-A.

3.3 Keep a record of all accidental discharges of pollutants into the environment that occur on the participant's operated property. Notify tenants of their responsibility to keep records of accidental discharges of pollutants into the environment that occur on their leasehold, and any spill that must be reported by law should also be reported to the port authority.

3.4 Keep a registry of all owned and leased fixed, portable, and mobile (e.g., forklifts, mobile cranes) hydraulic equipment operated near the shore. At least for each owned equipment, assess the technical feasibility as well as modernization and maintenance costs of switching from conventional to readily and inherently biodegradable, minimally toxic, and non-bioaccumulative lubricants (includes oils and greases).

LEVEL 4

4.1 Implement a documented Preventive Inspection and Maintenance program for vehicles and equipment, containers and tanks, and any associated conveyance systems (e.g., conveyor, aboveground piping, transfer hoses) used exclusively for the participant's direct activities and which might release discharges into the environment (fuel, lubricants, etc.).
Note: See Annex 2-B

4.2 Based on the assessment at Level 3, develop and start implementing an action plan with targets and a reasonable timeframe to progressively switch from conventional to biodegradable, minimally toxic, and non-bioaccumulative lubricants (oils and greases), while respecting OEM specifications. The action plan should prioritize readily over inherently biodegradable lubricants for equipment sub-systems (e.g., hydraulic systems, engines, transmissions, gear reducers) posing the greatest spill risk (e.g., potential for hose rupture) and water and soil contamination.

AND fulfill one criteria option that exceeds the participant's regulatory requirements: 4.3 OR 4.4 OR 4.5-4.7

4.3 Develop and adopt a Stormwater Management plan.
Note: See Annex 2-C.

OR

4.4 Develop and deliver local training and outreach activities relating to water quality that facilitate community and stakeholder engagement and demonstrate measurable improvements year on year. Improvements could be measured in terms of, for example, outreach (e.g., how many people are being reached with the programs, how are the programs expanding over time) and/or training (e.g., how many training sessions/year, follow-up interview feedback on outreach and usefulness of training).

OR

In at least one of the participant's locations where stormwater can potentially be contaminated, as defined in the note below the objective:

4.5 Collect and treat stormwater using an appropriate stormwater treatment system.
Note: Stormwater treatment must be adapted to the contaminants present (e.g., catch basins, bioswales, oil separators, hydrodynamic separators, or any other type of simple or complex treatment system).

4.6 Inspect and maintain stormwater treatment systems on a regular basis or according to the manufacturer's specifications to ensure good performance of the systems.

4.7 Sample and analyze treated stormwater routinely to ensure proper functioning of treatment equipment and infrastructure. Samples must be collected following a recognized/approved procedure and analyzed by an accredited laboratory.

LEVEL 5

5.1 Have secondary containment in place for all fixed and portable outdoor above-ground storage tanks and containers (permanent and in transit) that are located within a distance of 30 m (100 ft) from the water and 15 m (50 ft) from any ditch, sewer system, underground stream, etc. This requirement applies to all hazardous products.
Note: Secondary containment includes any measure that prevents a spill or leak from a primary storage tank or container from entering the environment. The secondary containment must have the capacity to address a discharge resulting from the most typical failure mode. Acceptable measures include, but are not limited to: impervious dike, berm, containment curb or wall; weir, boom, floating barriers; spill diversion or retention pond; sump with a collection system; double-walled tank.

5.2 Perform a spill response exercise on a regular basis (at least annually in case of a tabletop exercise, at least every two years for a simulated site-specific drill, including the post-mortem of a spill incident).

5.3 Demonstrate that the targets set in the action plan developed in 4.2 relative to the use of biodegradable, minimally toxic, and non-bioaccumulative lubricants (oils and greases) are met according to the set timeframe.

Fulfill the following three criteria in the majority of the participant's locations where stormwater can potentially be contaminated, as defined in the note below the objective:

5.4 Collect and treat stormwater via an appropriate stormwater treatment system.
Note: Stormwater treatment must be adapted to the contaminants present (e.g., catch basins, bioswales, oil separators, hydrodynamic separators, or any other type of simple to complex treatment system).

5.5 Inspect and maintain stormwater treatment systems on a regular basis and/or according to the manufacturer's specifications to ensure good performance of the systems.

5.6 Sample and analyze treated stormwater routinely to ensure proper functioning of treatment equipment and infrastructure. Samples must be collected following a recognized/approved procedure and analyzed by an accredited laboratory.

AND fulfill one criterion that exceeds the participant's regulatory requirements: 5.7 OR 5.8

5.7 Develop and adopt a Storm Water Management plan.
Note: See Annex 2-C.

OR

5.8 Carry out or participate in a research and development project or demonstration for a spill management or stormwater treatment technology within the last three years.

STAKEHOLDER RELATIONS

OBJECTIVE: Maintain or improve the quality of relations with the various stakeholders through open and transparent communications.

Definition of 'Stakeholder' in the present context: Groups of people affected by the participant's activities and operations or interacting with the participant (e.g., employees, tenants, residents/neighbours, NGOs, IGOs, local authorities, governmental and environmental organizations, shipowners, suppliers, and businesses).

NOTES:

- For this indicator, General Annex 7-A should be consulted to ensure the proper implementation of the criteria. This appendix contains additional information (rationales, examples of justification documents for external verification, precision of the requirements, implementation options and certain definitions) to help participants properly interpret the criteria and guide their implementation.

LEVEL 1

Monitoring of regulations

LEVEL 2

2.1 Make available/post a telephone number of, or redirect calls to, the authority in charge of receiving inquiries and concerns (including complaints) related to the participant's activities.

2.2 Develop and implement a documented procedure to keep track of and respond to inquiries and concerns (including complaints). As appropriate, dedicate a person to respond and/or be dispatched to the site in a timely fashion, implement and monitor corrective measures and readjust as needed.

2.3 Identify, locate, and update the participant's network of stakeholders.

2.4 Regularly monitor media posts about the participant's activities and the stakeholders' perception of the participant.

2.5 Communicate news and information about the participant's activities and operations using at least two communication means. For example:

a) Social media;
b) Radio or podcast;
c) LinkedIn;
d) YouTube;
e) Newsletter;
f) Webpage with stakeholder-related content;
g) TV;
h) Magazine.
i) Local newspapers;

2.6 Incorporate in the applicable policies or value statement of the company the commitment of senior management to maintain and improve the quality of community relations.

LEVEL 3

Fulfill at least three of the following criteria:

3.1 Describe each stakeholder or stakeholder group identified in criterion 2.3. For each of them, identify issues and concerns related to the participant's activities, for ex., through a materiality analysis, as well as any ongoing and potential future collaboration opportunities.

3.2 Develop and implement a documented communication strategy or plan with a focus on responsiveness, transparency, engagement to reach out to stakeholders, and feedback.

3.3 Publicly disclose at least one annual report or corporate plan related in part or entirely to social responsibility (e.g. sustainability action plan or annual report, corporate social responsibility report, strategic plan).

3.4 Organize at least two outreach strategies annually to raise public awareness (e.g. port days, open houses, info sessions, voluntary workshops, webinars, visitor or information center, site tours, school visits).

3.5 Organize or actively participate (provide support through financial means, human resources, and/or material and equipment) in social and/or environmental activities or events every year with local stakeholders and/or to the benefit of the local stakeholders (e.g. tree-planting campaigns, educational activities, fundraising events, scholarships).

LEVEL 4

Fulfill one of the following two criteria:

4.1 Actively participate in implementing and/or supporting a permanent committee open to local stakeholders that meets at least biannually (e.g., citizen or liaison committee) to discuss the subject matter directly related to the participant's activities and operations.

OR

4.2 Regularly hold meetings with one or more local stakeholder groups (subject matter and questions coming from the groups or members directly). Overall, this should represent a minimum of two meetings a year.

AND, fulfill three of the following four criteria:

4.3 Actively participate in meetings with one or more local organizations or NGO to discuss subject matter that contributes to the environmental or social well-being of the community, and that is not directly related to the participant's activities (e.g., be a Board member, regularly participate in committee meetings).
Note: Payment of membership is not sufficient to fulfill this criterion.

4.4 Recognize stakeholder relationships within the participant's strategic plan as part of the company-wide culture (e.g. aiming for responsiveness, transparency, engagement, and feedback).

4.5 Develop and implement a communication process to regularly inform and allow stakeholders to ask questions and make comments before, during, and after implementing new projects with potential social and environmental impacts. Make public and easily accessible all required steps for the stakeholders to ask questions and make comments.
Note: New projects include new services, operations, activities, or handled products with potential environmental or social impacts.
Note: See Annex 3-B.

4.6 Have a local stakeholder representative on the organization's governing bodies (if governance rules allow it).

LEVEL 5

5.1 Evaluate, within the last three years, the stakeholders' perception of the participant. Based on the results, develop and implement measures addressing the concerns raised to improve the relationship with local stakeholders.
Note: See Annex 7-B.

5.2 Within the last five years, carry out a co-creation project or develop an initiative in collaboration with one or more local stakeholders.
Note: See Annex 7-C.

UNDERWATER NOISE **(PORTS)**

OBJECTIVE

Manage and mitigate underwater noise (UN) sources from ships entering and exiting the port and from regular port activities and operations, maintenance, development, and construction work to reduce impacts on marine species, particularly marine mammals.

APPLICABILITY: Applicable only for ports located in marine (saltwater) environments, including brackish waters such as estuaries.

NOTE:

- Growing evidence shows that UN can adversely impact a broad range of aquatic species like fish, benthic invertebrates, reptiles like sea turtles, etc. Based on its level and frequency, UN can have direct or indirect as well as physiological, auditory, and behavioural effects on exposed species, depending on their sensitivity to noise. Given the current level of knowledge and extent of existing practical approaches to reducing UN impacts on marine mammals, ports can focus their efforts on protecting these species by applying the criteria of this performance indicator. However, they are also encouraged to consider other marine species impacted by UN. Future development may expand the scope of the indicator to include freshwater species and ports in freshwater environments.
- This indicator references the document listed below that can be found on the Members' Section of Green Marine Europe's website:
    - International Maritime Organization (IMO) Revised guidelines for the reduction of underwater radiated noise from shipping to address adverse impacts on marine life (MEPC.1/Circ.906) (criteria 2.1, 4.3 – See Annex 1 for examples of class notations).

LEVEL1
Monitoring of regulations
LEVEL 2
Fulfill 3 of the 4 following criteria: 2.1 Promote and raise awareness of tenants and ship operators calling at the port about the issue of UN and approaches to managing it by distributing the International Maritime Organization (IMO) revised guidelines, along with any other pertinent information on the effects of UN on marine species and sensitive areas. 2.2 Promote the provision of marine mammal sighting data by port users, including ship owners and pilotage associations, using a recognized application (e.g., Whale Alert, Whale Report, and the Pelagis Observatory) or a logbook reported to a recognized central database or subject regulator. 2.3 Summarize current knowledge on sensitive habitats and marine species potentially impacted by UN in the area (e.g., using the World Shipping Council Whale Chart) to better understand the extent of the port's zone of influence on the local soundscape (e.g., operations/ maintenance/construction/development zones, shipping traffic routes, anchorage sites), which may inform vessel traffic management (e.g., slowdown zones, alternative vessel routing). 2.4 Contract a competent and/or experienced marine mammal or protected species observer (MMO or PSO, respectively) during port-related in-water or on-land construction work (below high-water mark) that is known to increase significantly the level of noise in the soundscape, and prioritize daylight periods for noisier work. Note: Applicable for ports or port tenants engaged in construction or development work. The decision to require the services of a MMO or PSO should be based on the presence of endangered species and sensitive areas.

LEVEL 3

3.1 Implement all applicable criteria listed at Level 2.

3.2 Develop and adopt an Underwater Noise Mitigation and Management Plan (UNMMP), which incorporates a range of noise mitigation options, best practices, and operating procedures for both impulsive and ambient noise-generating activities including port maintenance, construction, and development, shipping traffic, and/or anchorage sites.
Note: See Annex 6-A.

AND fulfill one of the following 3 criteria:

3.3 As part of the UNMMP, establish an ambient UN monitoring program and, to understand local soundscape conditions, analyze and archive the UN data.
Note: The program must be developed in collaboration with a bioacoustician or a specialized firm and specify the objectives, methodology, location of hydrophones, and data collection frequency. If the port is planning time-limited construction, development, or operational changes, additional noise measurements should be taken using the same protocol to see how those activities change the soundscape conditions.

OR

3.4 Offer a recognition program to ship owners who demonstrate efforts to reduce ship underwater radiated noise.
Note: Efforts may include evidence of operational measures, such as hull and propeller maintenance, and participation in speed reduction programs and alternative routing measures.

OR

3.5 Participate in a regional stakeholder group with industry members (e.g., port tenants, other ports in the region, ship owners, shipyards) or an expert working group to advise and facilitate research and development, projects, or programs.

LEVEL 4

4.1 Implement all criteria listed at Level 3.

4.2 Develop and incorporate UN reduction targets into the UNMMP in the port's jurisdiction and/or surrounding waters based on data obtained from the ambient UN monitoring program in criterion 3.3.
Note: This strategy must include a methodology to measure progress achieved in reducing UN generated at the port and to set realistic noise reduction targets.

AND fulfill one of the following 4 criteria:

4.3 Administer an incentive program for ship owners implementing vessel noise mitigation measures (e.g., offer a discount/berthing fee reduction for ships with a class notation for UN).

OR

4.4 Establish an *in-situ* acoustic monitoring system with a detailed protocol to collect data on the relative source level of individual ships or on the noise level as contributed by vessel type, and share this data with ship owners.
Note: This criterion is linked with criterion 4.2 from the Underwater Noise indicator for ship owners.

OR

4.5 Within the last five years, support/collaborate on scientific research that includes the measurement of UN from ships and/or other port-related activities.

OR

4.6 Lead or co-lead a permanent regional or local stakeholder group with industry members (e.g., port tenants, other ports in the region, ship owners, shipyards) as well as research and environmental groups and governmental agencies, aiming to share UN-related information, raise awareness, and identify mitigation and management measures relevant at the regional level along shipping routes and in port areas. The group must meet minimally twice a year.

LEVEL 5

5.1 Implement 4 of the 6 criteria listed at Level 4.

5.2 Demonstrate that the UN reduction targets set in criterion 4.2 are met through direct measurement.
Note: If a significant correlation is demonstrated between a proxy variable (e.g., participation rate in a vessel slowdown) and UN reduction, and if approved by Green Marine Europe, the proxy measurement may be used in alternation with direct measurements to demonstrate that targets are on track.

5.3 Demonstrate continual improvement in implementing the UNMMP through the use of noise reduction solutions and technologies that reduce UN.

WASTE MANAGEMENT

OBJECTIVE: Reduce waste production at the source, increase waste recovery, and encourage circular economy.

NOTE:

- Circularity is a systemic approach to material management that focuses on retaining and recovering value from materials through reuse, repair, refurbishment, remanufacturing, repurposing, and/or recycling. It aims to reduce material use at the source, redesign products to be less resource-intensive, and transform waste into valuable inputs, keeping materials in continuous circulation and minimizing environmental impact.

LEVEL 1
Monitoring of regulations
LEVEL 2
Implementation of the majority of applicable criteria: 2.1 Equip offices, workspaces, and facilities with strategically located and labelled recycling bins for niche waste streams such as used batteries, electronic devices and ink cartridges with co-located and labelled bins for garbage and recycling. 2.2 Install clear signage for waste disposal on the participant's property. 2.3 Provide training and/or raise awareness of staff on circularity principles and on dangerous waste management. 2.4 Encourage the use of 1) reusable (e.g., reusable dishes), 2) recyclable and 3) compostable supplies. 2.5 Encourage staff to adopt sustainable paper use practices (e.g., reduce overall printing and copy paper consumption, double-sided printing, use post-consumer recycled paper, reuse and recycle paper). 2.6 Promote and encourage tenants, users, contractors, and/or clients to minimize waste and to recycle. 2.7 Gather information on waste collection, transport and treatment service providers to better understand the relative costs and the environmental benefits related to the disposal of waste, recycling, and organics. 2.8 Eliminate or limit the use of single-use items (e.g., packaging, plastic bottles, coffee cups, cutlery) in administrative offices and elsewhere on the site. 2.9 Eliminate or limit at source the use of materials/products that are dangerous or harmful to humans and the environment throughout the site. 2.10 Place marked garbage and recycling containers at convenient locations on site (e.g., for employees and visitors). **Ports operating dry bulk terminals (2.11, 2.12, 2.13):** 2.11 Adopt procedures to minimize the amount of cargo residues left on board the ships. 2.12 Ensure the cleaning and proper management of solid cargo residues on docks from handling operations (e.g., residues on the ground, cargo hold residues, dunnage). 2.13 Recover off-specification products as much as possible (e.g., products captured in stormwater sumps and effluent treatment works) or reintroduce them into the handling process. Note: Not applicable to terminals that handle multiple dry bulk products because of cross-contamination risks.
LEVEL 3
3.1 Implement all applicable best practices listed at level 2. **AND** 3.2 Maintain a list of leading microplastic sources in use within the participant's direct activities and operations. **Fulfill one of the following two criteria:** 3.3 Produce an annual inventory of all waste being generated during the participant's direct activities (administrative and/or site operations). Note: The inventory does not include waste generated from demolition or construction projects. Note: See Annex 5-A. **OR** 3.4 Conduct a waste audit every three years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations). Note: The audit does not include waste generated from demolition or construction projects. Note: See Annex 5-A.

LEVEL 4
4.1 Adopt an environmentally preferable purchasing policy that encourages sustainable purchasing practices (e.g., products using less packaging, reusable/recyclable/compostable products, products with post-consumer recycled content, circular economy products). 4.2 Conduct a waste audit every two years to identify the types and amount of waste being generated during the participant's direct activities (administrative and/or site operations). Note: The audit does not include waste generated from demolition or construction projects. Note: See Annex 5-A. 4.3 Based on the results from the waste audit (and inventory if available), adopt and implement a Waste Management and Reduction plan that describes the participant's waste management practices and procedures, including all applicable best practices of levels 2 and 3. The plan must also define measurable waste reduction, recycling, and/or diversion targets, and identify practices and strategies to achieve them. Note: Each participant defines its own "normalizer" to take into account fluctuations in port activities (e.g., per ton, per capita, per vessel). Note: See Annex 5-B. 4.4 Adopt and implement formal procedures for reducing, reusing, recycling, and valorizing and/or properly disposing waste generated during construction, excavation, and deconstruction work (e.g., cement, concrete, bricks, gypsum, wool, asphalt, wood, steel, and other metals). These procedures must be included in all construction, deconstruction, and excavation projects.
LEVEL 5
5.1 Demonstrate continual achievement in waste diversion and reduction at source in line with the objectives established in the Waste Management and Reduction plan.