



# Port Environmental Review System 2024-2026



July 2023



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# 1. Introduction

## 1.1 Environmental Policy

The Port of Lauwersoog<sup>1</sup>, hereafter referred to as 'the Port', aims to provide a lively, welcoming and multifaceted port by offering a variety of services and products. We believe that, in order to achieve this, we need to take the sustainability of the port into account. As a port in the north of the Netherlands, we are aware of our role in the transition to a sustainable future and are proud to be part of the same area that houses the Werelderfgoed Waddengebied and National Park Lauwersmeer. More specifically, we feel a certain degree of responsibility to protect these natural parks and anticipate the actions necessary to preserve them. We aim to be a clean, energy-neutral port. In order to realise these ambitions, the sustainable harbour coalition was formed in 2019. This coalition collaborates with parties involved with the Port and aims to develop and implement sustainable projects in the port. Examples of projects that are being explored by this coalition include but are not limited to: cleaner energy (solar- and wind parks), cleaner fuel for ships, reusing residual heat from cooling systems, using rather than dumping dredged sludge, limiting light pollution and exchanging knowledge and experiences with other ports in the north of the Netherlands. The Port aims to be a source of information and inspiration, both for other ports in the Netherlands as well as other parties that are involved with the Port.

As the Port, we are determined to aid the transitions that are required for a more sustainable future of the north of the Netherlands and aim to take an active role in these transitions. We shall contribute to long-term sustainable development by identifying, monitoring and minimising the environmental impacts of our operations. To achieve this, we follow the Ports Environmental Review System – an international environmental standard managed by the European Sea Port Organization (ESPO). We have formulated our environmental policy to comply with the standards of the ESPO.

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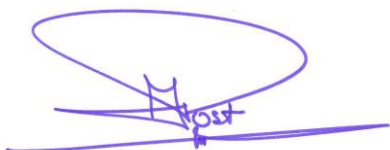
<sup>1</sup> In this report 'Port of Lauwersoog' can be read as 'Exploitatiemaatschappij Haven Lauwersoog BV'

As the Port of Lauwersoog, to minimise environmental effects and impact, we are committed to:

1. Developing, updating and maintaining an appropriate environmental management system through the PERS methodology as managed by ESPO to guide and improve our environmental performance.
2. Keeping ourselves informed about, complying with, and as far as it is economically justified, exceeding present environmental legislation and other environmental requirements to which we subscribe.
3. Working to prevent environmental incidents and maintaining a high level of preparedness to reduce the effects of any incidents that may occur.
4. Monitoring and minimising our carbon footprint by using resources as efficiently as possible.
5. Reducing energy consumption and exploring possibilities to implement clean energy sources.
6. Rethinking the way dredged sludge is used and creating a circular system which allows for the use of sludge in local agriculture and dyke elevation.
7. Reducing light pollution and continuing to implement projects from the 'Nature in the port' plan.
8. Communicating our environmental policy and co-operating in line with this policy with clients, suppliers, authorities, the local community and other parties involved with the Port of Lauwersoog.
9. Supporting and encouraging the implementation of innovations and (the development of) sustainable practices and the use of sustainable products internally (i.e., our employees and shareholders) and externally (i.e., our tenants, contractors, and the inhabitants of the village of Lauwersoog).
10. Periodically revising the environmental policy, taking due notice of the results from completed environmental audits and changes in future conditions, and adapting our environmental policy as needed.
11. Making sure that all necessary resources for the implementation of our environmental policy are made available and allocated accordingly.
12. Assuring that any expansion of the port and its activities are in line with the other statements in this environmental policy that are applicable.
13. Communicating our environmental policy internally (i.e., with our employees and shareholders) and externally (i.e., with our tenants, contractors, and the inhabitants of the village of Lauwersoog) by periodically publicly publishing our policy statement and environmental report.

As Port of Lauwersoog, we aim for the environmental management system and environmental policy to be tailored to the socio-ecological system of the port.

**Signed by Harm D. Post**

A handwritten signature in blue ink, appearing to read 'H. Post', with a large, sweeping blue oval flourish above it.

**CEO Manager Exploitatiemaatschappij Havencomplex Lauwersoog B.V.**

## 1.2 Port profile

The Port of Lauwersoog was created in 1969 when the Lauwersmeer was closed off with dykes. The port is located northwest of the village of Lauwersoog. The port can be reached directly from the Wadden Sea without passing through a ship lock because it is located entirely outside the dykes of the mainland. The Port plays an important role in the fishing industry in the north of the Netherlands. Alongside the fish auction where fish is sorted and sold, some of the port's facilities include 150 berths for fishing vessels, a ships' chandlers, a customs office, a floating dry dock for trawler repairs, several restaurants, fishmongers, angling stores and a passerby harbour with 60 berths. The core activities of the port include the management of fishing traffic, commercial leasing of port authority land, ensuring proper collection of waste, maintenance and repair work and maintaining and updating the port's environmental management system.

The Port is located in an area of high ecological value. As can be seen in figure 1. *Nature around the Port of Lauwersoog*, there are Nature 2000 areas surrounding the port. To the north of Lauwersoog is the Wadden Sea and to the south of Lauwersoog is Lauwersmeer. Because these are Natura 2000 areas, they are protected under the Wet Natuurbescherming. With the port so closely located to these protected areas, activities and developments of the port could possibly impact the protected areas when considering noise, light, water or air quality. Therefore, Wet Natuurbescherming must be considered when new activities or projects are implemented in the Port that could affect the Nature 2000 areas.

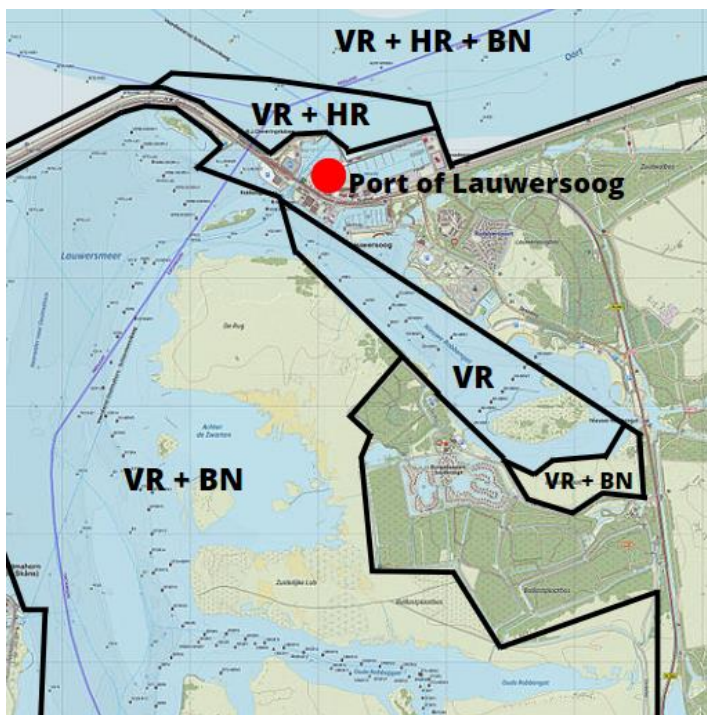


Figure 1. *Nature around the Port of Lauwersoog*. [This image was created using a map of Lauwersmeer and the surrounding areas<sup>2</sup> and Natura 2000 maps provided by the Ministerie van Economische zaken, Landbouw en Innovatie.<sup>3 4</sup> The abbreviations in different areas of the map indicate the following: VR = Vogelrichtlijn, HR= Habitatrictlijn, BN = Beschermd Natuurgebied.]

<sup>2</sup> <https://nl.wikipedia.org/wiki/Lauwersmeer#/media/Bestand:Lauwersmeer-natuur-OpenTopo.jpg>

<sup>3</sup> Natura 2000-gebied Lauwersmeer, Ministerie van Economische zaken, Landbouw en Innovatie, [https://www.natura2000.nl/sites/default/files/documenten/gebieden/008/n2k\\_008\\_00\\_lauwersmeer\\_.pdf](https://www.natura2000.nl/sites/default/files/documenten/gebieden/008/n2k_008_00_lauwersmeer_.pdf)

<sup>4</sup> Natura 2000-gebied Waddenzee, Ministerie van Economische zaken, Landbouw en Innovatie, [https://www.natura2000.nl/sites/default/files/documenten/gebieden/001/n2k\\_001\\_10\\_waddenzee.pdf](https://www.natura2000.nl/sites/default/files/documenten/gebieden/001/n2k_001_10_waddenzee.pdf)

## 2. Environmental aspects

### 2.1 Register of environmental aspects

As defined by ESPO, an environmental aspect is an “element of the Port’s activities, products, or services that interacts with the environment”, and a register of significant environmental aspects is necessary in order to determine “what, in line with which requirements, needs to be managed”.<sup>5</sup> This register of environmental aspects for the Port can be found on the next page in table 1. *Register of Environmental aspects*. The register shows the significant environmental aspects of the port’s activities, products and services. For each environmental aspect the involved (sub)departments as well as the impact on the environment and the persons/organisations responsible are reported. Additionally, which legislation and legal requirements apply can be found in this register along with the control measures that are being taken by the port to prevent and/or limit impact on the environment. For the legislation and legal requirements, please note that we have decided not to translate the Dutch laws and regulations.<sup>6</sup>




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<sup>5</sup> Port Environmental Review System (PERS), ESPO, 2016

<sup>6</sup> For any questions in this regard, please contact the port authority.

Ref. Nr.	(sub) department, tenant, operators	Impact on	Responsible person / organisation	Applicable legislation <sup>7</sup>	Legal requirements	Control measures
<b>Port</b>						
H1	Bunkering (spillage of fuel)	-Discharges to water -Emissions to sediment -Emissions to soil -Safety	Port Authority RUD Municipality Het Hogeland (permits), Rijkswaterstaat (RWS, quality water)	Marpol '73/'78 Waste Framework Directive (2008/98/EC) Wet milieubeheer Wet voorkoming verontreiniging door schepen (Wvvs) Publicatiereeks Gevaarlijke Stoffen Havenreglement	n/a to Port of Lauwersoog	-Containment
H2	Ship movements (noise & land traffic)	-Noise -Discharges to water -Emissions to air	Municipality Het Hogeland	Wet Geluidhinder Wet Milieubeheer Wet algemene bepalingen omgevingsrecht Bestemmingsplan Havenreglement	Offering guidance and/or safe passage	-Monitoring
H3a	Ship movements (waste removal)	-Use of resources -Emissions to soil -Discharges to water	Port Authority Ship owners Waste collectors	Wet milieubeheer MARPOL '73/'78 Haven afval plan Publicatiereeks Gevaarlijke stoffen Wvvs Waste collection permit	Facilitating waste collection points for different waste flows and dispose of waste to waste collector	-Facilitating -Monitoring
H3b	Ship movements (navigation)	-Safety	Port Authority Shipping Agencies	Scheepvaartverkeerswet Binnenvaartpolitierglement Loodsplichtbesluit Havenreglement Green Deal Rijn en Wadden	Offering guidance and/or safe passage	-Monitoring

<sup>7</sup> Please refer to Annex II: 'Laws and legislation' for a full overview of applicable legislation.

H4	Complaints and incidents	-Discharges to water -Emissions to soil -Emissions to air -Noise	Port Authority Municipality Het Hogeland	Wet milieubeheer Bestemmingsplan Havenreglement Visserij Havenafvalplan	Monitoring complaints, the municipality monitors complaints regarding permits	-Monitoring
H5	Emergency situations	-Discharges to water -Emissions to soil -Emissions to air -Safety	Port Authority Veiligheidsregio (Groningen & Friesland) Municipality Het Hogeland	Wet milieubeheer IBP Waddenzee Bestemmingsplan Havenreglement Scheepvaartverkeerswet Wet bestrijding maritieme ongevallen	Monitor and management of incidents with external parties	-Containment -Monitoring
<b>Port maintenance</b>						
M1	Dredging and disposal of sediment	-Emissions to soil -Discharges to water -Marine ecosystems	Port Authority RWS	Wet bodembescherming Besluit bodemkwaliteit Waterwet Wet Natuurbescherming Wet algemene bepalingen Omgevingsrecht Wet milieubeheer WBR (Wet beheer rijkswaterstaatswerken) Besluit lozen buiten inrichtingen Activiteitenbesluit Natura 2000	Meet regulatory requirements specified in Natura-2000 beheerplan Waddenzee (2016-2022) <sup>8</sup>	-Monitoring by Rijkswaterstaat
M2	Maintenance of port infrastructure	-Emissions to soil -Emissions to sediment -Discharges to water	Port Authority RWS	Wet milieubeheer Waterwet Natuurbeschermingswet Wet Algemene Bepalingen Omgevingsrecht Natura 2000	Guaranteeing safety	-Containment -Monitoring

<sup>8</sup> Rijkswaterstaat is currently reviewing this management plan and is working on an updated version for 2023. Until this new management plan is in effect, the port meets the requirements from the Natura-2000 beheerplan Waddenzee from 2016 - 2022



		-Port surroundings		Sructuurvisie Waddenzee Omgevingsvergunning		
<b>Environmental Departement</b>						
E1	Port operations (noise)	-Noise	Municipality Het Hogeland	Wet Milieubeheer Wet geluidhinder Wet algemene bepalingen omgevingsrecht Havenreglement Bestemmingplan (geluidszone) Omgevingsvergunningen	n/a to Port of Lauwersoog	-Monitoring
E2	Port operations (light)	-Light pollution -Safety	Municipality Het Hogeland	Natuurbeschermingswet Wet Milieubeheer Activiteitenbesluit Besluit Arbeidsomstandighedenwetgeving Structuurvisie Waddenzee Bestemmingplan	n/a to Port of Lauwersoog	-Facilitating -Monitoring
E3	Nature	-Marine and land ecosystems	Port Authority RW	Water Framework Directive 2000/60/EC Waterwet Natura 2000 Beleidslijn tijdelijke natuur Structuurvisie Waddenzee	Meet regulatory requirements specified in Natura-2000 beheerplan Waddenzee (2016-2022) <sup>9</sup>	-Monitoring
<b>Tenants and Organisations</b>						
T1	Oil storage	-Discharges to water -Safety	Licensees RWS	Wet milieubeheer Waterwet Bevi/Revi BRZO Wet bodembescherming	n/a to Port of Lauwersoog	-Monitoring

<sup>9</sup> Rijkswaterstaat is currently reviewing this management plan and is working on an updated version for 2023. Until this new management plan is in effect, the port meets the requirements from the Natura-2000 beheerplan Waddenzee from 2016 - 2022

				Besluit bodemkwaliteit Publicatiereeks Gevaarlijke Stoffen Activiteitenbesluit Nederlandse Richtlijn Bodembescherming		
T2	Ship repair	-Emissions to air -Discharges to water -Noise -Waste	Vergunninghouder RWS	Waterwet Wet milieubeheer Wet geluidhinder Wet algemene bepalingen omgevingsrecht Bestemmingsplan Havenreglement	n/a to Port of Lauwersoog	-Monitoring
T3	Fish landing and auction	-Noise pollution -Light pollution -Odour -Waste	Vergunninghouder	Wet milieubeheer Activiteitenbesluit Havenreglement	n/a to Port of Lauwersoog	-Monitoring
T4	Fish processing	-Odour -Waste	Vergunninghouder	Wet milieubeheer	n/a to Port of Lauwersoog	-Monitoring
T5	Restaurants	-Waste	Vergunninghouder	Wet milieubeheer Voedsel- en Warenwet	n/a to Port of Lauwersoog	-Monitoring
T6	Waste management	-Waste	Ship owners Waste collectors	Marpol 73/78 Landelijk Afvalbeheerplan 3 Kaderrichtlijn Marine Strategie Wet milieubeheer Publicatiereeks Gevaarlijke Stoffen WvS Waste collection permit Havenreglement Visserij havenafvalplan Partnership with KIMO	Facilitating waste collection points for different waste flows and dispose of waste to waste collector	-Facilitating -Monitoring

Table 1. Register of Environmental aspects

## 2.2 Prioritising environmental aspects

Based on the impacts on the environment, a list of priorities has been drafted by the port authority. This was done in collaboration with the sustainable harbour coalition. As described in the introduction, the sustainable harbour coalition takes the interests of a variety of parties into consideration. The list of priorities indicates which environmental aspects the port will focus on in the coming years. As shown in table 2. *Priorities of environmental aspects*, energy (efficiency) is currently the main priority for the port. This is not only because the Port aims to be a source of information and inspiration for other ports in this area of sustainability, but also because the port wants to anticipate and motivate the transition to more sustainable energy sources and fuels.

In the conformity review in section 4 of this document, more information can be found on how the Port plans to implement future projects that contribute to the environmental aspects listed below.

No.	Environmental aspect	Environmental Performance Indicator <sup>10</sup>
1	Energy (efficiency)	Energy consumption, cleaner energy
2	Nature	M2 native vegetation, light pollution
3	Dredging	Cubic meters of dredged sludge used
4	Waste	Awareness of (the uses of) plastic waste
5	Connectedness to the local community	Sustainable harbour coalition meetings, No. of visitors of the WEC

Table 2. *Priorities of environmental aspects*

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<sup>10</sup> A more elaborate overview of the environmental performance indicators related to the environmental aspects mentioned in table 2 can be found in the conformity review in section 4 of this document.

### 3. Responsibilities and resources

#### 3.1 Structure of the organisation

The environmental policy of the port is determined by the board of shareholder and the board of directors. The environmental policy is implemented by the office manager and the harbourmasters.

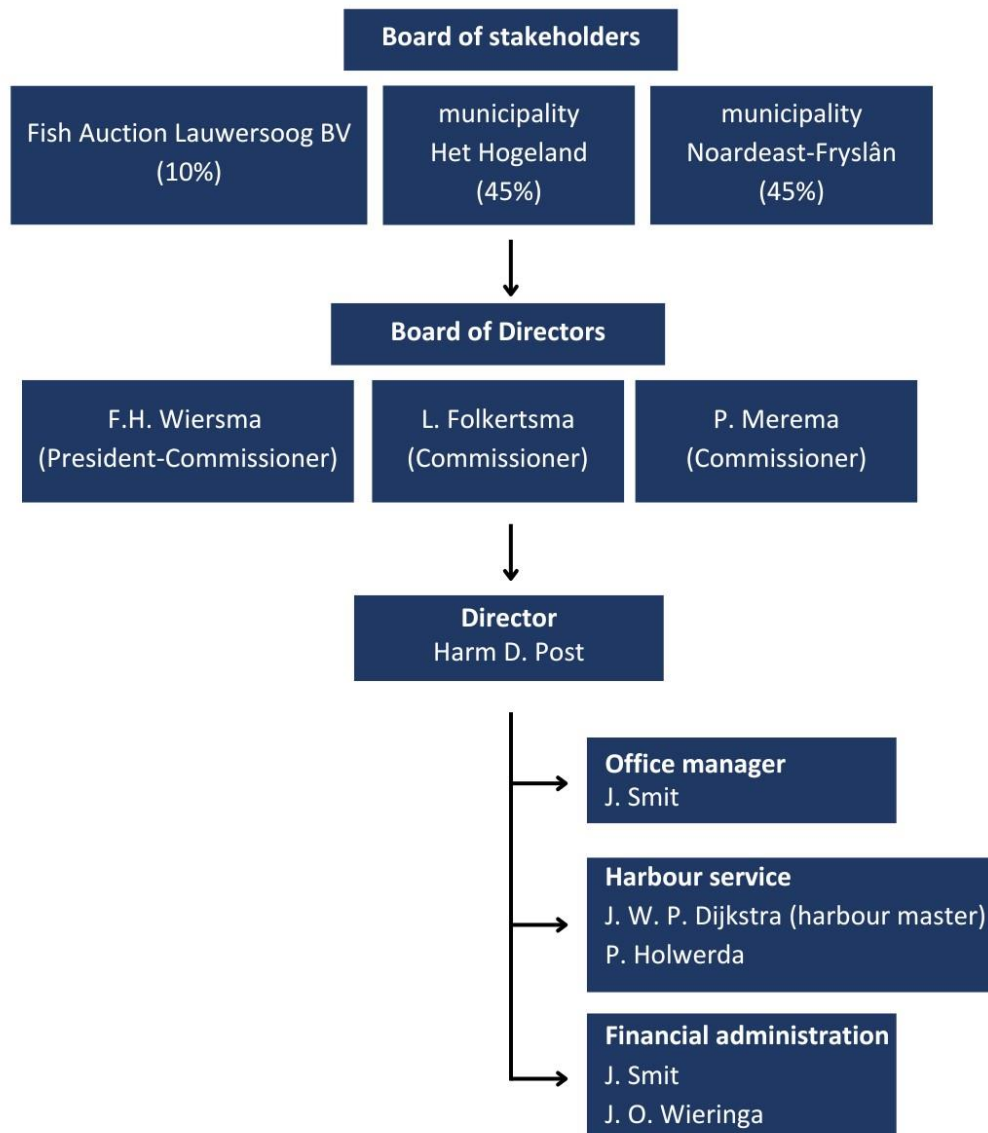


Figure 2. Organogram of the port authority of Lauwersoog

### 3.2 Environmental responsibilities of key personnel

Responsibility	Job title/name <sup>11</sup>	Additional information
Port Operations (Dredging)	Harbourmasters	
Port Operations (Navigation)	Harbourmasters	
Port Operations (Shipping)	Harbourmasters	
Port Operations (Terminals)	Harbourmasters	
Cargo Handling operations	Harbourmasters	
Jetty/wharf management	Private firms	
Site management	Port authority	
Strategic planning	Director	
Supplies acquisition	Port authority	
Licensing/permits	Port authority/province/ministries	
Quality management	n/a to Port of Lauwersoog	
On site Contractor Management	Port authority	
Emergency planning	Port authority	
Waste management	HAP, Port authority	Permits for storage: province of Groningen, Ministries for collection permits
Marina/slipway management	Port authority	
Environmental document management	Port authority	
Environmental data management	Port authority	
Soil pollution assessment	Province of Groningen/Rijkswaterstaat	
Air quality monitoring	Province of Groningen/ministries	
Energy and carbon footprint monitoring	Port authority	
Water quality monitoring	n/a to Port of Lauwersoog	
Noise management		Municipality Het Hogeland
Vehicular Management of Terminal traffic	n/a to Port of Lauwersoog	

Table 3. Environmental responsibilities of key personnel

<sup>11</sup> Please note that we have decided not to include a column in the table for 'Department/Office/Agency'. As can be seen in Figure 2. *Organogram of the port authority of Lauwersoog*, the Port of Lauwersoog is a small port that does not have different departments.

### 3.3 Promoting awareness of environmental policy

The sustainable harbour coalition was founded in 2019 with the goal to explore possibilities for sustainable developments in the Port. Ever since its establishment the coalition has been meeting twice a year to discuss ongoing projects and to assess which sustainable projects could be implemented in the future. The sustainable harbour coalition currently consists of over 100 members. Other goals of the sustainable harbour coalition are to promote awareness amongst employees and businesses located in the port and inspire them to comply with our environmental policy. Additionally, the sustainable harbour coalition communicates the minutes from their twice-yearly meetings and the findings of any research done related to sustainable projects in the port to all parties involved. Even though the Port offers no formal training, all parties that are in collaboration with the port are motivated to consider the environmental impacts of their activities.

Evidence of efforts to promote awareness amongst employees of the importance to comply with the environmental policy and the potential environmental impacts of their work activities is done by training, communication and the dissemination of appropriate information. As we are a very small organization all employees always know of every step we make, because we do it together and need the knowledge of everyone. The staff always talk with the employees about every impact. For example if we have the ambition to use other fuels, with less Co<sup>2</sup> emissions, we have to talk to the employees about the consequences, possibilities and problems.

Our stakeholders are diverse and could be framed as almost everyone who visits the harbour of Lauwersoog. The fishermen, industrial companies, our nautical businesses, restaurants, recreationists and companies who lease our grounds are our paying clients. Our shareholders are the local authorities of the Hogeland and Noardeast-Fryslan plus the Visafslag Lauwersoog. Several governmental authorities like Rijkswaterstaat, Omgevingsdienst, Waterschap Noorderzijlvest and more are other important stakeholders. With this summary we forget a lot of minor stakeholders. Needs and expectations are a harbour in a good and safe condition, to facilitate all the usual activities., in a more and more sustainable environment.

### 3.4 Resources

Environmental management and sustainability are increasingly important for the Port. To improve environmental performance, several objectives have formulated and actions will be taken accordingly. The environmental management system of the port is communicated within the organisation and among employees. Because the Port of Lauwersoog is a small port, it is unfeasible to specify personnel and resources allocated to environmental port policy. However, several statements can be made:

- The port authority is committed to their environmental policy. To achieve the goals stated in the environmental policy, the port authority strives to provide adequate training when required and resources and to influence our tenants and suppliers to adopt sustainable practices and products.
- The port is committed to an environmental management system and aims to be PERS certified. Resources have been made available to achieve this. The port is committed to periodically revise the environmental management system and to update and maintain the PERS certification.
- We aim to keep ourselves informed about the many and fast changing environmental related issues and we are engaged in partnerships with other organizations to achieve this.

### 3.5 External responsibilities

Organisation	Responsibility
Municipality (het Hogeland)	Noise zoning
	Waste collection permits for shipping waste (Haven Ontvangst Installaties)
	Enforcement business permit
Rijkswaterstaat Corporate Dienst Noord-Nederland	Administrator main water system and quality control open water
Province of Groningen	Authority regarding parts of the 'Wet Milieubeheer'
	Waste collection permits companies
	Translation and implementation of national policy to regional policy
National government	Provide national policy context and strategic goals for water management
	Implementation of European regulations and policy
	Supervision over the other governmental organizations that are involved with water and port management
Several waste collectors	Several companies that have the required permits are responsible for safe and efficient waste collection in the port
Stevedoring companies	Ensure correct loading and unloading of ships

Table 4. *External responsibilities*

## 4. Conformity review

This chapter will provide a review of the environmental performance of the port, as well a review of the compliance with environmental legislation. Additionally, priorities will be given for improvement based on this review. In table 5, *Environmental performance indicators*, performance indicators with environmental objectives as well as targets and concrete actions are given for each of the prioritised environmental aspects to illustrate how the Port plans to take on each environmental aspect. This section will also elaborate on the compliance with environmental legislation and prioritised plans for improvement for each of the environmental aspects.

Environmental aspect	Indicator	Target	Action(s)
Energy (efficiency)	Cleaner energy	Reduce CO2 emissions	Using residual heat from cooling systems in the port
		Reduce CO2 emissions	Placing solar panels on roofs of businesses in the port where possible
	Energy consumption	50% reduction in light emissions	Dark sky project
	Cleaner fuel	Reduce CO2 emissions	Transitioning to vehicles with a more sustainable fuel source
		Reduce CO2 emissions	Researching how hydrogen could be used to power ships
	Mindful use of energy	Reduce CO2 emissions	Transport of products such as dredged sludge to local farmers and dyke elevation projects, being more mindful of light and shore power usage.
Nature	Light pollution	50% reduction in light emissions	Dark sky project
	A safe space for animals to live and breed	Facilitate protected species	Keep the breeding pontoon in use and provide more breeding space on the roof of the Werelderfgoed Centrum (WEC)
		Increase m2 of native vegetation in the port	Plant more native vegetation in the port
Dredging	Dredged sludge used	Process 150.000 cubic meters of dredged sludge yearly into clay products to be used in agriculture and dyke elevation	Using sludge dredged from the port for local agriculture and dyke elevation
		Reduce CO2 emissions	Serving as an example and source of inspiration for other ports by providing information on using the dredged sludge
Waste	Awareness of (the uses of) plastic waste	Increase awareness of the (uses of) plastic waste in the port	Involve visitors of the Port of Lauwersoog in the collection and recycling of plastic waste



Connectedness to local community	Maintaining the sustainable harbour coalition	Organising a meeting with the coalition twice a year	Continue the sustainable harbour coalition and expand the network of the coalition
	Building the WEC and opening it to the public	Attract 150.000 visitors yearly (once the centre opens in 2025)	Implement sustainable developments in the WEC to be a source of information and inspiration for municipalities, companies and other ports.

Table 5. Environmental performance indicators

#### 4.1. Energy (efficiency)

One of the major priorities within sustainability for the Port is energy sources and energy consumption. Even though big improvements have been made already (see 5.1, Shore power) there are still many possibilities to improve in this regard.

##### 4.1.1. Cleaner energy

The fish auction is one of the bigger companies located in the port with one major residual product that results from its services: heat produced by the cooling systems that are used to chill the fish that is sorted and sold here. The Port aims to use this residual heat, for example to heat different companies located in the port in colder months. Multiple companies located in the port have expressed their interest in this project, and research is currently being conducted with the fish auction to determine how much residual heat is produced and in what ways this could be used. Another source of clean energy that the port is exploring is solar power. Multiple companies located in the Port have already installed solar panels on the roofs of their buildings, but more companies still are currently looking into renovating their roofs in order to fit on (more) solar panels. Additionally, plans are being made for an ecological solar park on the east side of the port.

##### 4.1.2 Energy consumption

The Port aims to reduce energy consumption, specifically energy consumption related to light. As part of the Dark Sky Project (see 4.2.1 for more information), the port strives for a reduction of 50% in light emissions, which will go hand in hand with the reduction of energy consumption.



##### 4.1.3. Cleaner fuel

Multiple companies located in the port have expressed their goals to transition their fossil fuelled company vehicles to electric vehicles. Additionally, a goal for the transport of dredged sludge from the port to buyers is to use sustainably fuelled vehicles. The Port aims to be a source of inspiration regarding ships that use clean fuels. Currently, one of the big examples of sustainable marine vessels, the Ecolution, is docked in the Port. This sailing vessel generates electricity by sailing and has served as a big inspiration for the development of more sustainable marine vessels. The Port is proud to have the Ecolution docked in the port but strives to take further steps in the development of sustainable energy sources for ships.

#### 4.1.4 Mindful use of energy

Apart from implementing more sustainable sources of energy, the port also aims to motivate a mindful approach of energy consumption. Aims for future projects are to keep the transportation of products, like dredged sludge, local. Additionally, through the Dark Sky project, local businesses are motivated to use less light (especially at night) where possible. An example of a completed project in this regard is the modification in the payment system for shore power (see 5.1, Shore power).

#### 4.2. Nature

The nature in and around the Port is of high importance. In line with the Wet Natuurbescherming, the Port aims to protect the nature and wildlife in these areas.

##### 4.2.1 Dark sky project

The port aims to be the first 'dark sky' port of the Netherlands and has been exploring possibilities to reduce light pollution since 2007. At this point in time, the 'donkerte' project is being realised in collaboration with a variety of parties, such as the province of Groningen and the Rijksuniversiteit Groningen. The goal of this project is to reduce light pollution in the Port by 50%. Reduced light pollution can not only offer a reduction in energy costs for the local businesses, but it is also beneficial for the wellbeing of animals and humans in and around the port. At the moment, research is being conducted to determine the baseline for light pollution in the area and the possibility of implementation of interventions without compromising on safety in and around the port.



##### 4.2.2 Nature in the port

In order to provide a safe space for a multitude of species of animals to live and breed, the Port has implemented a variety of projects and aims to continue implementing projects from the project plan 'Nature in the port'. Plans that have already been implemented can be found in section 5.2. In the future, the port would like to invest in the planting of more native vegetation to increase biodiversity, more nest boxes for a wider variety of birds, and the realisation of greener fences to make the port both more visually pleasant as well as more climate adaptive. Additionally, the port aims to realise a breeding space for a variety of birds on the roof of the Werelderfgoed Centrum.

### 4.3. Dredging

The dredging activities of the Port are in compliance with the regulatory requirements specified in Natura-2000 beheerplan Waddenzee (2016-2022)<sup>12</sup>. Within the boundaries of this piece of legislation, the Port aims to use the dredged sludge from the Wadden Sea for local initiatives rather than dumping it back into the Wadden Sea. The port started with a pilot for the project ‘Slibhub Lauwersoog’ in 2021 in collaboration with Klai bv. Between then and now, the port has explored uses for the sludge such as agriculture and dyke elevation. To assure that the sludge is suitable to be used in agriculture, a variety of tests have been done to determine the physical, chemical and biological qualities of the sludge. Additionally, fertilization guides have been formulated for the sludge based on the organic matter content and minerals present in the sludge. The port strives to dredge sludge to order in the future and process 150.000 cubic meters of sludge yearly into clay products that can be used for local agriculture and dyke elevation. Additionally, the port aims to communicate research findings from this project and exchange knowledge on this topic with other parties such as other ports in the north of the Netherlands, the Advisory Board of Waddenzee Ports and local municipalities.

### 4.4. Waste

The Great Plastic Bake-Off project is currently in progress in the Port. The goal of this project is to raise awareness on the (uses of) plastic waste in the port. A total of 80 elementary school classes have been invited to participate in the project to show children how the collection and recycling of plastic waste is done. Additionally, educational materials like posters and billboards will be placed in the port to inform tourists on this topic. Another goal of the project is to use recycled plastic waste from the port as construction material or decorative elements in the Werelderfgoed Centrum.



<sup>12</sup> Rijkswaterstaat is currently reviewing this management plan and is working on an updated version for 2023. Until this new management plan is in effect, the port meets the requirements from the Natura-2000 beheerplan Waddenzee from 2016 - 2022

## 4.5 Local community

The Port aims to be the centre of an abundant network of ports, municipalities, foundations, governmental organisations and local businesses. The port aspires to connect, inspire and educate all parties involved by sharing and exchanging knowledge specifically related to sustainable innovations and projects. Specified below are a few key projects that support this goal.

### 4.5.1 Sustainable harbour coalition

The Port aims to be a source of information and inspiration, both for other ports in the Netherlands as well as other parties that are involved with the Port. To give body to these ambitions, the sustainable harbour coalition was founded in 2019. The coalition has been meeting twice a year ever since its establishment to determine what is happening in the harbour in terms of sustainability. All members are encouraged to introduce ideas and give feedback on ongoing projects. Projects that are currently being explored by the coalition include but are not limited to: cleaner energy (solar- and wind parks), cleaner fuel for ships, reusing residual heat from cooling systems, reusing dredged sludge, limiting light pollution, and exchanging knowledge and experiences with other ports in the north of the Netherlands. The coalition aids in the goal of the port to be connected to its local community, which relates to both a bigger scale (other ports in the Netherlands) as well as a smaller scale (the local businesses and residents of the village of Lauwersoog).

### 4.5.2. Werelderfgoed Centrum

At this point in time, the Werelderfgoed Centrum is being built in the Port. This centre will house a variety of facilities: the seal sanctuary, catering establishments, a museum, laboratories, conference rooms and lecture halls. The ambition is that the Werelderfgoed Centrum will serve not only as a tourist attraction, but as an educational hotspot where both experts and laymen can find information on the Wadden Sea and exchange knowledge and experiences. The centre itself will also serve as an inspiration, since sustainability is considered in every aspect of the centre (construction, facilities, education, maintenance, etc.). The goal is to attract at least 150.000 visitors yearly.

## 5. Best practices

### 5.1 Shore power

<p><b>Charging individual shore power use</b>  <b>Port of:</b> Lauwersoog  <b>Country:</b> The Netherlands</p>
<p><b>Environmental issues:</b>            Energy consumption, light pollution</p>
<p><b>Relevance to the 5 Es framework of the ESPO Green Guide:</b>            Exemplifying, enabling and encouraging</p>
<p><b>Project description</b></p> <p>The ships docked in the port of Lauwersoog could already make use of shore power before, which meant a reduction in air pollution due to the fact that ship's engines were not needed to generate power. However, in order to improve on this even further, the port of Lauwersoog invested in shore power systems that would allow for the tracking and charging of individual use, rather than splitting the energy bill evenly among the ships docked in the port. This meant that shippers became aware of their energy consumption, because more consumption now meant more costs. This motivated shippers to reduce their energy consumption. Over the course of 2022, the energy consumption in the port of Lauwersoog went from 1.000.000.000 kWh to 415.000 kWh which translates to a 58,5% decrease of energy consumption. In practice, this resulted in a reduced use of lights and heating in the ship. Therefore, not only energy consumption but also light pollution was reduced. This project can be an example for other ports that want to reduce the consumption of shore power by shippers. The reduction of shore power was enabled by the installation of the new shore power system that tracks individual power consumption. With this new shore power system, shippers are informed of their individual energy consumption which encourages them to reduce their energy consumption.</p>
<p><b>Stakeholders:</b>            Port of Lauwersoog</p>
<p><b>Contact person:</b> Johan Smit  <b>Position:</b> Office manager  <b>Email:</b> <a href="mailto:directie@havenlauwersoog.nl">directie@havenlauwersoog.nl</a></p>



## 5.2 Nature in the Port

<p><b>Nature in the port</b>  <b>Port of:</b> Lauwersoog  <b>Country:</b> The Netherlands</p>
<p><b>Environmental issue:</b>  Habitat and ecosystem loss (land)</p>
<p><b>Relevance to the 5 Es framework of the ESPO Green Guide:</b>  Exemplifying and engaging</p>
<p><b>Project description:</b>  To improve the biodiversity and increase safe spaces for a variety of animal species to live and breed in the port, the project plan 'Nature in the port' was created in 2018. Since 2018 multiple projects from this plan have been implemented. Firstly, a breeding pontoon has been docked outside the breakwater since 2021 to offer a safe breeding space for a variety of bird species. The breeding pontoon is being used by birds like the common tern, the arctic tern and the Eurasian oystercatcher. Compared to 2021, there was an increase in 2022 in counted common tern nests and fledged young birds in the port. Secondly, nest boxes that are able to house both common house martins and bats have been placed in three separate locations in the port. Finally, in order to provide habitat for a variety of insect species and to improve the biodiversity of the port, native vegetation has been planted in several areas of the port. These projects provide a source of inspiration and can function as an example for other ports looking to tackle the issue of loss of habitat and ecosystem (on land). In order to bring these projects to fruition, a variety of experts and interested parties were engaged with the design and implementation of the projects.</p>
<p><b>Stakeholders:</b>  Port of Lauwersoog, Rijkswaterstaat, Foundation Nature for Knowledge, Waddenvereniging, Sustainable harbour coalition</p>
<p><b>Contact person:</b> Bas Bijl  <b>Position:</b> Project Manager 'Nature in the port'  <b>Email:</b> <a href="mailto:bijl@waddenvereniging.nl">bijl@waddenvereniging.nl</a></p>



## 6. Annexes

### 6.1 Annex I: Legal framework Haven Afval Plan (HAP)

This appendix contains an overview of legislation and formalities related to the delivery of waste applicable to the Haven Afval Plan (HAP). The legislation mentioned in this appendix can be found in the HAP Groningen Seaports (2017). Again, note that we have decided not to translate the Dutch laws and regulations.<sup>13</sup>

#### International legislation:

##### MARPOL 73/78

The aim of the MARPOL 73/78 is reducing pollution of the sea that results from ships dumping harmful substances and waste. Therefore, rules and regulation apply to discharging anything from ships into the sea. Additionally, further specific requirements are given for the construction, layout and equipment of ships. As a contracting state, The Netherlands implements the conditions and provisions of MARPOL 73/78 and the now ratified Annexes (I, II, III, IV, V and VI) for its territory and territorial waters. MARPOL 73/78 has been implemented via the Wvvs (Wet voorkoming verontreiniging door schepen), whereby it has been decided to follow the structure of MARPOL 73/78 as much as possible.

#### European legislation:

The following legislation is in effect:

- Verordening (EEG) nr. 2913/92 van de Europese Raad van 12 oktober 1992 tot vaststelling van het communautaire douanewetboek (afgegeven scheepsafvalstoffen worden beschouwd als niet-communautaire goederen die in het vrije verkeer worden gebracht als bedoeld in artikel 79 van deze Verordening);
- Richtlijn nr. 2000/59/EG van het Europees Parlement en de Raad van de Europese Unie van 27 november 2000 betreffende havenontvangstvoorzieningen voor scheepsafval en restanten van schadelijke stoffen;
- Richtlijn 91/156 van de Raad tot aanwijzing van afvalstoffen;
- Richtlijn 75/439/EEG inzake de verwijdering van afgewerkte olie;
- Richtlijn 91/689 van de Raad betreffende gevaarlijke afvalstoffen;
- Richtlijn 94/31/EG van de Raad tot wijziging van Richtlijn 91/689/EEG betreffende gevaarlijke afvalstoffen;
- Richtlijn 95/21 van de Raad betreffende de naleving internationale normen op het gebied van de veiligheid van schepen, voorkoming van verontreiniging en leef- en werkomstandigheden aan boord (havenstaatcontrole)
- Richtlijn 1836/93/EG van de Raad van 29 juni 1993 inzake de vrijwillige deelneming van bedrijven uit de industriële sector aan een communautair milieubeheer en auditsysteem.

#### National legislation:

##### Wvvs and Wet milieubeheer

The international and european framework as described above is implemented in The Netherlands with the Wvvs. Based on the Wvvs, further guidelines are specified in the following AMvB's and ministerial regulations:

- Besluit havenontvangstvoorzieningen (Bhov)
- Regelinghavenontvangstvoorzieningen(Rhov)
- Besluit voorkoming verontreiniging doorschepen (Bvvs)
- Regeling voorkoming verontreiniging doorschepen (Rvvs)
- Regeling inzake het scheiden en gescheiden houden van gevaarlijke afvalstoffen

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<sup>13</sup>For any questions in this regard, please contact the port authority.

Regarding the collection and disposal of waste, guidelines are to be found in the Wet milieubeheer and AMvB's regulations that are based on this law. The relevant regulations are:

- Besluit inzamelen afvalstoffen
- Regeling inzamelaars, vervoerders, handelaars en bemiddelaars van afvalstoffen
- Regeling melden bedrijfsafvalstoffen en gevaarlijke stoffen
- Besluit algemene regels voor inrichtingen milieubeheer;
- Landelijk afvalbeheerplan 3

Further applicable:

- Scheepvaartreglement territoriale zee
- Regeling communicatie en lood aanvragen zeevaart
- Wet op de Economische Delicten

Provincial and local legislation:

Regelgeving op provinciale en lokaal niveau die relevant is voor dit plan:

- Provinciale Milieuverordening Groningen;
- Gemeenschappelijke regelingen
- Havenverordening Haven van Lauwersoog



## 6.2 Annex II: Laws and legislation

This appendix contains a register of all applicable legislation for each of the related issues.

Issue	Applicable legislation
Waste	<p><u>International:</u> MARPOL 73/78</p> <p><u>European:</u> Richtlijn 2000/59/EG Richtlijn 2019/883 Richtlijn 2913/92 Richtlijn 91/156 Richtlijn 75/439/EEG Richtlijn 91/689 Richtlijn 95/21</p> <p><u>National:</u> Kaderrichtlijn maritieme strategie Wet milieubeheer - Activiteitenbesluit milieubeheer - besluit inzamelen afvalstoffen - regeling inzamelaars, vervoerders, handelaars en bemiddelaars van afvalstoffen - regeling melden bedrijfsafvalstoffen en gevaarlijke stoffen - landelijk afvalbeheerplan 3 (LAP3) - publicatiereeks gevaarlijke stoffen</p> <p>Wet voorkoming verontreiniging schepen - besluit &amp; regeling voorkoming verontreiniging schepen - besluit havenontvangstvoorzieningen - regeling inzake het scheiden en gescheiden houden van gevaarlijke afvalstoffen - besluit meldingsformaliteiten en gegevensverwerking scheepvaart - scheepvaartverkeerswet - regeling melding en communicatie scheepvaart</p> <p><u>Provincial and local:</u> Geconsolideerde omgevingsverordening november 2022, provincie Groningen</p> <p><u>Other:</u> Scheepvaartreglement territoriale zee Wet economische delicten</p>
Soil	<p>Wet bodembescherming Besluit bodemkwaliteit (o.a. baggerspecie) Nederlandse richtlijn bodembescherming</p>
Air/emissions	<p>MARPOL 73/78 Wet milieubeheer, hoofdstuk 5.2 Wet inzake luchtverontreiniging Besluit broeikasgassen in apparatuur op schepen milieubeheer Besluit brandstoffen luchtverontreiniging Richtlijn 1992/32/EG zwavelgehalte van brandstoffen Havenverordening Harlingen 2020 EU richtlijn 2005/33/EC scheepvaart emissies</p>

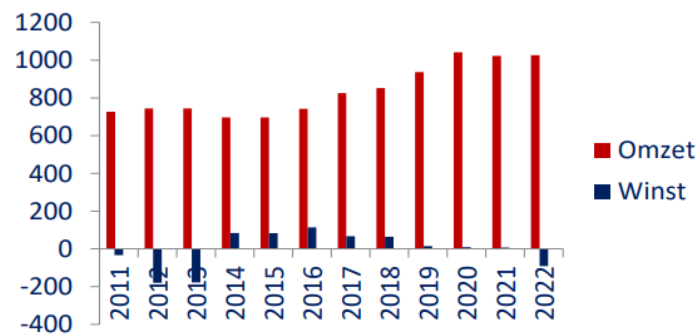
	<p>Kaderrichtlijn luchtkwaliteit          NEC – nationaal emissie plafond          EIA- energie investeringsaftrek          IPCC richtlijn          NeR – Nederlandse emissie richtlijn</p>
Water	<p>Wet milieubeheer          Kaderrichtlijn water          Wet geluidhinder          Waterwet          Grondwaterrichtlijn          Wet bestrijding maritieme ongevallen Ballastwaterverdrag</p>
Noise	<p>Wet geluidhinder          Wet milieubeheer, hoofdstuk 11          Besluit geluid milieubeheer          Gebruiksvoorschriften haven          Omgevingsvergunning          Bestemmingsplan</p>
Nature	<p>Habitat richtlijn          Vogelrichtlijn          Natura 2000          PKB Waddenzee          Internationale afspraken en Europese richtlijnen Waddenzee:          - Verklaring van Schiermonnikoog          - Verdrag van Bern          - Verdrag van Bonn          - Ramsar verdrag          - Vogelrichtlijn          - Habitat richtlijn          - Europese Kaderrichtlijn water          - Particulary sensitive Area          - Werelderfgoed          - Afspraken IMO (internationale Maritieme Organisatie)          - Afspraken OSPAR (Oslo Parijs Conventie)          Natuurbeschermingswet</p>
Safety	<p>Scheepvaartverkeerswet          Wet vervoer gevaarlijke stoffen          Wet bestrijding maritieme ongevallen          Wet veiligheidsregio's          Havenbeveiligingswet          Bestemmingsplan          Besluit externe veiligheid transportroutes          Besluit externe veiligheid buisleidingen</p>
Scheepvaart	<p>SOLAS Verdrag          Schepenwet          Binnenvaartwet          Scheepvaartverkeerwet          Wet buitenlandse schepen          Wet havenstaatcontrole          Wet laden en lossen zeeschepen          Havenbeveiligingswet</p>

Table 6. Overview of applicable legislation

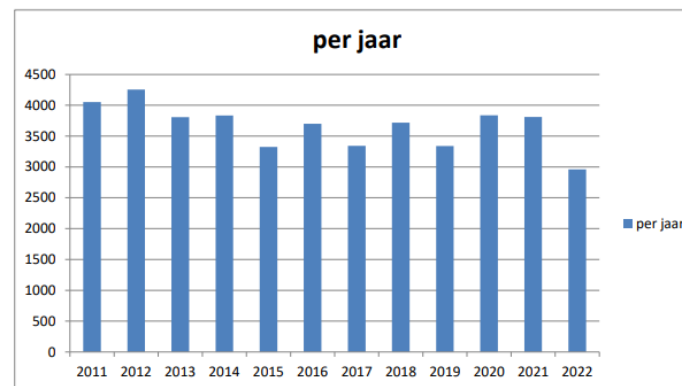
### 6.3 Annex III: Yearly report

This appendix contains the yearly report for 2022 of the Port of Lauwersoog.<sup>14</sup>

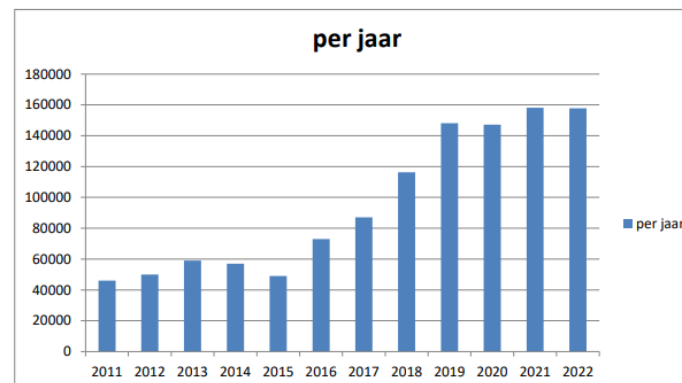
**Omzet en winst**



**Aantal scheepsbewegingen**



**Afschrijvingen (exclusief éénmalige verkoop Havenkantoor)**



<sup>14</sup> Please note that we have decided not to translate these figures. For any questions in this regard, please contact the port authority.

## 6.4 Annex III: Sources images

This appendix contains the sources for the images used in this document.

### **Images on the cover of this document:**

<https://www.binnair.nl/panorama-haven-lauwersoog/>

<https://www.townsville-port.com.au/environment/environmental-certification/>

<https://www.espo.be/>

### **Image of the Port of Lauwersoog in Section 2. Environmental aspects**

<https://www.havenlauwersoog.nl/wp-content/uploads/2018/10/DSC02636-1-e1540370179399.jpg>

### **Images of the Ecolution in Section 4. Conformity Review**

Photo made by Steven Radersma, RTV Noord

### **Image of the Great Plastic Bake-Off in Section 4. Conformity Review**

Photo made by Stephanie Zuurman

### **Images of the Dark Sky Project in Section 4. Conformity Review**

Photo made by Rutger Bus

### **Image shore power in Section 5. Best Practices**

Photo made by Stephanie Zuurman

### **Images of vegetation in Section 5. Best Practices, Nature in the port**

Photos made by Stephanie Zuurman

### **Images of the breeding pontoon in Section 5. Best Practices, Nature in the port**

Photo made by Krijn Dijkema: <https://krijndijkema.nl/2022/06/21/sternstee/>

### **Images in Annex III: yearly report**

Internal document Port of Lauwersoog: 'Haven Lauwersoog Jaarverslag 2022'