

Port Environmental Review System - 2017

Port of Harlingen



Table of content

1.	Environmental policy statement	3
2.	Port profile Harlingen	4
2.1	Port areas	4
2.2	The Industriehaven and the Nieuwe Industriehaven(Industrial harbours).....	5
2.3	Vissershaven	5
2.4	Veerhaven	5
2.5	Marinas.....	5
2.6	The brown fleet	5
2.7	Management of the port.....	6
3.	Register of environmental aspects and legal requirements	7
3.1	Register of environmental aspects.....	7
3.1.1	Port authority	7
3.1.2	General port activities	9
3.1.3	Tenants.....	9
4	Main environmental impacts	16
4.1	Overview of the environment performance indicators	17
4.2	Waste.....	18
4.2.1	Port waste.....	18
4.2.2	Green Deal for cleaner seas – Waste flyer	20
4.2.3	Complaint process	21
4.2.4	Fishing for litter	22
4.2.5	Happy Seal	24
4.3	Air quality	25
4.3.1	Measurements	25
4.4	Energy and light.....	28
4.4.1	LNG	28
4.4.2	On-shore power.....	29
4.4.3	Light pollution.....	30
4.4.4	Green Energy	31
4.5	Water quality.....	32
4.5.1	Waste water	33
4.5.2	Ballast water	33
4.5.3	Water Valley	34

4.6	Dredging	35
4.6.1	Dredging activities	35
4.6.2	Silt Engine	36
4.7	Social corporate responsibility	38
4.7.1	Environmental communication	38
4.7.2	Involvement local community	39
4.8	Noise.....	40
5	Responsibilities and resources	41
5.1	Environmental responsibilities internal and external	41
5.2	External responsibilities	42
5.3	Resources.....	43
5.4	Organogram.....	44
6	Conformity review of environmental policy and Legal requirements	45
6.1	Conformity to legal requirements	45
6.2	Policy conformity.....	46
7	Examples of best practices	47
6.2	Inzetplan oliebestrijding Port of Harlingen	47
6.3	Green Deal, Visserij voor een schone zee(GD171) – waste flyer	48
	Annex I – Annual report	50
	Annex II - Depth Harlingen Harbours	51
	Annex III - Laws and regulations.....	52
	Annex IV – Levy waste overview	55
	Annex V - Collected waste per MARPOL ANNEX.....	57
	Annex VI – Waste collection map.....	58
	Annex VII – Inzetplan Port of Harlingen(concept).....	60

1. Environmental policy statement

The geographical position of the port of Harlingen (i.e., North Sea and Wadden Sea), together with its international orientation, makes this port an important distribution and communication hub.

Moreover, the port of Harlingen provides employment to, and is one of the most important engines for industrial and economic development of the Frisian region and the city of Harlingen itself.

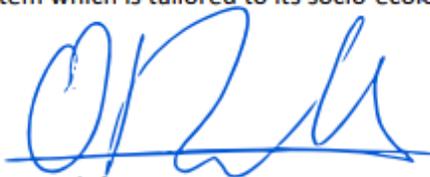
Furthermore, the port authority of Harlingen recognizes its responsibilities regarding the development of an environmental policy and management system attuned to its port activities and competences.

We are committed to contribute to a long-term sustainable development by identifying, monitoring and minimising the environmental impacts in our operations. For so doing we follow international standards as defined by the European Sea Port Organization (ESPO) in the Ports Environmental Review System (PERS) and in line with the principles of corporate and social responsibility.

More specifically we are committed to:

1. Develop, update and maintain an appropriate environmental management programme through the PERS methodology as managed by ESPO to guide and continuously improve our environmental performance.
2. Keep ourselves informed about, comply with, and as far as it is economically justified, exceed present environments legislation and other environmental requirements to which we subscribe.
3. Strive to minimize the ports footprint by using resources as efficiently as possible and prevention of environmental accidents. To achieve the port strives to provide adequate training and resources to carry out the environmental policy and to influence our tenants and suppliers to adopt sustainable practices and products.
4. Communicate our environmental policy internally (i.e., with our employees) and externally (e.g. with our tenants, contractors, or the inhabitants of Harlingen) by, amongst others, making our policy statement and environmental report public periodically.
5. Specifically the port authority will focus on the following environmental aspects:
 - Monitoring and efficient handling of the port's waste flow.
 - The port is committed to improve and air quality.
 - To encourage a sustainable energy usage and to reduce light pollution.
 - The port is committed to improve the water quality.
 - To limit the negative effects of dredging.
 - Community involvement: The port is committed to ensure that the port is a pleasant place to work and visit.
 - The port is committed to minimize noise nuisance.

The Port of Harlingen NV strives to formulate a policy and develop an environmental management system which is tailored to its socio-ecological context.



Onno Roelofs
Title: Port Manager
Port of Harlingen NV

2. Port profile Harlingen

The port of Harlingen is located Northwest of the town Harlingen. The city centre of Harlingen is located around the two oldest harbours; the Noorderhaven and Zuiderhaven, both are nowadays in use as marinas.

The port of Harlingen is located on the intersection of major road and waterways. The port is the intersection point between the inland waters of the Frisian Lakes, IJsselmeer with the Wadden sea and the North sea. Several important inland shipping lanes connect the port of Harlingen with the ports of Kampen, Amsterdam and Rotterdam. Furthermore the port has short sea routes with Great Britain, Scandinavia and the Baltic states. The strategic location on the crossroads of waterways means that the port has an important economic function for the North of the Netherlands and the province of Fryslân in particular. In *Annex I* an annual report of the port is shown.

2.1 Port areas

The port is divided into several areas (*Figure 1*) with each one focussing on a specific customer group. The activities of every port will be explained by the following sub-chapters.



Figure 1. Map of the port and main harbour areas

2.2 The Industriehaven and the Nieuwe Industriehaven(Industrial harbours)

The Industriehaven and its recent expansion through the Nieuwe Industriehaven is the location of the larger industrial facilities. In this part of the port, 1.500 meter of quay, is available for loading and unloading of sea and inland ships. These harbours are directly(without passing bridges and locks) reachable from the North Sea by a 7.5 metre deep channel through the Wadden Sea. For the depths of the different harbour areas see *Annex II*.

A variety of harbour related companies are active in this part of the port:

- Transshipment companies that facilitates the import and export and transit of goods by sea, road and inland waterways. Two of these companies are HOV Harlingen BV and Nesta Shipping BV.
- Food storage companies; Companies with warehouses for cold and deep frozen storage. Three of these companies are Daalimpex Coldstores, Lenger Seafood BV., and Urk fish auction.
- Bulk material companies process raw materials and food products(potatoes and fish). Among these companies are: Esco Frisia zout(salt production) and Spaansen(sand, gravel and concrete products).
- Maritime function, with among other: shipyards, (offshore)services and supply companies. Among these companies are Damen Shiprepair Harlingen, BDS Harlingen and Tuinman Sleepdiensten.
- Shipping agents within the port of Harlingen are Nesta shipping and Kuhlman Repco Shipping.

2.3 Vissershaven

The Vissershaven(*fishery harbour*) is the homeport for the Urk fishing fleet - which is one of the most important in the Netherlands. This is because the North Sea is easily reachable from the port area. At the end of the fishing week, the boats return to the harbour and deliver to, and trade their catch at the fish auction. The auction is owned by Urk Fish Auction. The most important fish catch landed in the harbour are: sole, plaice, haddock and cod from the North Sea, and shrimp, cockle and mussels from the Wadden Sea.

2.4 Veerhaven

The shipping company Doeksen maintains since 1923 the ferry lines to the Wadden island Terschelling and Vlieland. Yearly Doeksen transports almost 600.000 passengers between Harlingen and the Islands. Beside the regular ferries there is a fast ferry and a catamaran for freight transport.

2.5 Marinas

Harlingen has several marinas located close to, or in the old part of town. These are called the Northern and Southern harbour.

2.6 The brown fleet

The “brown fleet” consists out of 70 traditional sailing ships that are used for recreation purposes. It is of great importance to Harlingen because this fleet makes Harlingen the largest charter harbour in the Netherlands. The brown fleet sails with passengers from April till October on the Wadden Sea, the IJsselmeer and the Frisian lakes.

2.7 Management of the port

There are two organisations involved with management of the port of Harlingen. The Harlingen Port Authority is responsible for the management of most port areas¹. Ontwikkelingsmaatschappij Westergo CV/BV develops business in the Nieuwe Industriehaven area. All port areas together have an approximately a surface of 145 hectares.

From 2018 there will be a change regarding the management of the port. The Harlingen Port Authority will become independent and responsibilities will change across the various ports. The management of the different ports will be divided among the Harlingen port Authority and the municipality of Harlingen.

¹ Port of Harlingen, n.d. *Port of Harlingen*, www.portofharlingen.eu

3. Register of environmental aspects and legal requirements

3.1 Register of environmental aspects

This register of environmental aspects is *required for the effective management of the environmental performance. It is an overview of the awareness and knowledge of the environmental aspects in relation to the activities, products and services of the port.*

In this section, the environmental aspects are identified. An environmental aspect is defined by the ESPO as: “*Elements of the Port Authority’s activities, products, or services, which interact with the environment.*” An aspect is considered significant based on legal requirements, policy statements, or concerns of stakeholders. Policies and legal requirements are also identified for the aspects, to assure compliance to legislation. Please note that we have decided not to translate the Dutch laws and regulations.² Furthermore the EU directives are translated into national laws. For example the EU water directive framework is implemented at the national level through the Dutch law ‘Waterwet’. Therefore, sometimes we just list the national laws and not the EU directives. For a full overview of all laws and regulations concerning the environmental aspects consult *Annex III*.

Environmental Aspect Register Port of Harlingen

Table 1 Environmental Aspect Register Port of Harlingen

3.1.1 Port authority

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Port Authority					
P1	Shipping and Navigation	Emissions to air, Noise, Discharges to water	Harlingen Port Authority RWS	Marpol '73/'78 Waterwet EU richtlijn 2005/33/EC Scheepvaart emissies SECA. Green Deal Rijn en Wadden	On shore power facilities, LNG Facilities Sewage water
P2	Emergency Situations	Emissions to air, Discharges to water,	Harlingen Port Authority	Port regulations Scheepvaartverkeerswet	Primary water quality manager RWS /

² The Port Authority will answer any possible question in this regard. Contact persons: Dirk Klinkenberg, tel. +31(0)517 723328 or Majel Kremer +31 (0)517 492 274

		emissions to soil, emissions to sediments, port surroundings	RWS	Wet bestrijding maritieme ongevallen Incident management Arrangements	Wetterskip(fresh water)
P3	Safety		Licensee	Wet milieubeheer Bevi/Revi BRZO	Province, municipality and Ministry
P4	Administrative and Planning Activities	Mooring arrangement Under keel clearance Safety areas	Harlingen Port Authority	Havenverordening Pre-arrival procedure	
P5	Complaint and incidents	Emissions to air, discharges to water, Noise	Harlingen Port Authority, Environmental dept.	Havenverordening Scheepvaartverkeerswet Wet milieubeheer	Province Friesland Ministry RWS / Wetterskip
P6	Removal of shipping waste	Discharges to water, Emission to soil, Emissions to sediment	Harlingen Port Authority, Civil Engineering	Wet milieubeheer Marpol '73/'78 Haven afval plan Wvvs	Province Friesland/ authorised supervision Ministry ILT RWS
P7	Ballast water discharge	Discharges to water	RWS Licensee	Waterwet Balastwaterverdrag	RWS, Ministry ILT Mariflex

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Engineering & maintenance					
P8	Marine engineering	Emissions to soil, Emissions to water	RWS	Wet milieubeheer Waterwet	Soil remediation underwater (RWS)
P9	Coastal Engineering	Port surroundings, Emissions to soil, Emissions to land, resource consumption.	Harlingen Port Authority, Environmental dept., Civil Engineering	APV Wet milieubeheer Waterwet Bestemmingsplan Wet bodembescherming Besluit bodemkwaliteit	Site management / infrastructure / public space, sustainability, park management.
P10	Dredging, maintenance and disposal	Discharges to water, Emissions to sediments,	Harlingen Port Authority,	Wet bodembescherming Besluit bodemkwaliteit	

		changes in marine ecosystems	Civil Engineering, RWS	Waterwet Wet Natuurbescherming Wet algemene bepalingen Omgevingsrecht Wet milieubeheer WBR (Wet beheer rijkswaterstaatswerken)	
P11	Port installations maintenance	Emissions to soil, Emissions to sediment, Port surroundings, Discharges to water	Harlingen Port Authority, Environmental dept., RWS	Wet milieubeheer Waterwet	Discharges to surface water e.g. paint or oil spillage

3.1.2 General port activities

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
General port activities					
G12	Port based industry, Freight trucks, Forklift trucks.	Emissions to air, emissions to soil, discharges to water, noise, odour, port surroundings, safety, light pollution.	Licensee	Among others: Wet geluidhinder Wet milieubeheer Geluidzone Waterwet	All permits from municipality and environment are outsourced to FUMO

3.1.3 Tenants

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Cargo handling operations					

T13	Nesta Shipping	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee	(Regarding to all companies) Wet milieubeheer NEC richtlijn2 IPPC-richtlijn Kaderrichtlijn luchtkwaliteit RIE3 EIA-Richtlijn NER Omgevingsvergunning Geluidszone Waterwet	Salt and Pallets
T14	Spaansen Industriezand en Grind BV	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Building minerals
T 15	Port Services Harlingen bv.	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Transshipment
T 16	Frisia zout bv.	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Salt
T 17	De Boldert	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Transshipment
T 18	HOV Harlingen BV	Emissions to air emissions to noise, discharges to water,	Licensee		Transshipment and containers

		emissions to soil, dust			
T 19	KTF Kraanverhuur Transport Friesland B.V.	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Transshipment
T 20	Kloosterboer BV	Emissions to air emissions to noise, discharges to water, emissions to soil, dust	Licensee		Ammonia(safety) and fish

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Fisheries and Aquaculture					
T21	Fish action Urk BV	(Regarding to all companies)	(Regarding to all companies)	(Regarding to all companies) Wet milieubeheer	Fish supply/Fish auction
T22	Lenger Seafoods				Processing shellfish
T23	The Fish Company BV	Odeur	Licensee		Fish processing company

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Ship building and repair					
T24	Damen Shiprepair Harlingen BV	Discharge to water Emissions to soil	Harlingen Port Authority, Environmental department,	Havenverordening Wet milieubeheer	Shipyard
T25	Wierda Scheepsreparatie	Noise Waste production Port surroundings	RWS, FUMO, licensee	Wet geluidshinder/geluidszone, Waterwet	Ship repair
T26	Wärtsilä				Ship engine services
T27	Louis Baes repairs				Ship engine services
T28	TBG Harlingen				Shipyard
T29	Icon Yachts				Shipyard
T30	De Boldert				Ship engine services

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Oil & Gas Handling					
T33	Oliehandel Klaas de Boer	Safety Discharge to water	Harlingen Port Authority, Environmental department, RWS	Wet milieubeheer Bevi.Revi BRZO	Rijkswaterstaat> water FUMO> safety
T34	Vermilion Energy Netherlands (Gas)	Safety Discharge to water	Harlingen Port Authority, Environmental department, RWS	Wet geluidshinder/geluidszone, Waterwet	Ministry EZ> safety
T35	FinCo Bunker Terminal Harlingen(FBTH)	Safety Discharge to water	Harlingen Port Authority,		Rijkswaterstaat> water FUMO> safety

			Environmental department, RWS		
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Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Stevedoors and Shipping companies					
T36	Kustvaart Harlingen BV	(Regarding to all companies) Main impact is their shipping activities, see P1	(Regarding to all companies) Licensee	(Regarding to all companies) Wet milieubeheer	(Regarding to all companies) For shipping activities see P1
T37	Nesta Shipping BV				
T38	Kuhlman Repko Shipping BV				
T39	JR Shipping BV				

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Marine services					
T41	Tuinman sleepdiensten	Discharges to water	RWS	Wet milieu beheer	For shipping activities see P1
T42	BDS Harlingen	Discharges to soil Discharges to water Odour	RWS, Harlingen Port Authority, Civil Engineering	Wet milieu beheer Waterwet Wet bodembescherming Besluit bodemkwaliteit	For shipping activities see P1. Oil spill containment etc.
T43	C.I.V. Harlingen	Noise, Emissions to air	FUMO	Wet geluidhinder Wet milieu beheer Nederlandse Emissie richtlijn (NER)	Maritime retail (freight trucks)
T44	Steemar bv.	Noise, Emissions to air	FUMO	Wet geluidhinder Wet milieu beheer Nederlandse Emissie richtlijn (NER)	Maritime retail (freight trucks and oil storage)

Ref. Nr.	Aspects	Impact on	Responsible actor	Legal and other requirements	Remarks
Other business					
T45	Reststoffenenergiecentrale (REC)	Emissions to air Discharges to water Odour Dust	FUMO RWS	Wet milieu beheer Water wet Nederlandse Emissie richtlijn (NER)	Transshipment of furnace slag
T46	Windpower Centre	Noise	FUMO	Wet geluidshinder Omgevingsvergunning	Noiszone
T47	De Vlas Transport BV	Noise, Emissions to air	FUMO	Wet geluidhinder Wet milieu beheer Nederlandse Emissie richtlijn (NER)	Noiszone Mainly freight truck
T48	Shipping	Emissions to air Noise Discharges to water	FUMO RWS	Wet milieubeheer, Wet geluidhinder Nederlandse Emissie richtlijn	

		Dust		(NER)	
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FUMO = Frisian environmental and spatial implementation service

RWS = Rijkswaterstaat (Ministry of Infrastructure and Environment)³

Legal statement

We state that the register of environmental aspects and legal requirements in this document of the PERS application dated (23 januari 2018) is suitable and relevant for the main environmental aspects of the port of Harlingen.

naam: C. Vierenhalm

titel: mr.

plaats: Delfzijl

hantekening

A handwritten signature in blue ink, appearing to read 'C. Vierenhalm', is written over the text 'hantekening'.

³ Rijkswaterstaat is part of the Dutch Ministry of Infrastructure and the Environment and responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands, including main road and waterway networks, and main water systems. www.rijkswaterstaat.nl

4 Main environmental impacts

This section gives an overview of the top-priority environmental aspects for the port of Harlingen. These significant environmental aspects are defined, based on several sources. For instance, a team of researchers from the Earth System Science Group at Wageningen University and Research centre developed in close collaboration with the port authority a strategic overview of significant environmental aspects. To do this, they followed an evidence-based procedure described in the scientific literature.⁴ Moreover, they have also conducted a round of exploratory interviews with key stakeholders such as environmental organizations, the municipality and port tenants. The final prioritization of the environmental aspects was made through a last round of e-mail communication with the interviewees and a validation session between the WUR researcher's team and a representative of the port authority. This resulted in the following relevant environmental impacts.

ENVIRONMENTAL IMPACTS

1. WASTE
2. AIR QUALITY
3. ENERGY AND LIGHT
4. WATER QUALITY
5. DREDGING
6. COMMUNITY INVOLVEMENT
7. NOISE

⁴ Darbra, R.M., Ronza, A., Stojanovic, T.A., Wooldridge, C., Casal, J., 2005. A procedure for identifying significant environmental aspects in sea ports. *Marine Pollution Bulletin* 50(8), 866-874.

4.1 Overview of the environment performance indicators

The environmental performance of the port concerning different environmental aspects will be monitored through a set of performance indicators. An overview of all these performance indicators is given in the table below (*Table 2*). In the following sections we elaborate these environmental aspect and performance indicators.

Table 2. Overview of the environmental performance indicators

Environmental Aspect	Performance Indicator	Measurement units
Waste	Amount of collect waste(oil, household, small dangerous waste)	Weight of collected waste X 1.000 kg
	Green Deal for cleaner seas	distribute waste map among fleet(existing/new)
	Complaints	Number of complaints
	Fishing for Litter	Number of participating ships
	Happy seal	Weight of collected litter X 1.000 kg Weight of collected nets X 1.000 kg
Air quality	Air quality research	Measurements air quality research report
Energy and Light	LNG	Facilitating opportunities of LNG
	Onshore power	Explore weather and where on-shore power will be required
	Light pollution	Number of LED lights installed by the municipality
	Green Energy	Remain involved for sustainable electricity sources
Water quality	Waste water	Explore weather and where waste water collection infrastructure expansion is needed
	Ballast water	Following developments regarding ballast water and determine whether and how action is required
	Water Valley usage	Increase the number of companies connected to the system of the Water Valley
Dredging	Dredging activities	M ³
	Silt Engine	Securing funding or permits
Community involvement	Environmental Communication	Maintain PERS eco-certification. Issue biannual environmental report.
	Involvement local community	Internships
Noise	Noise complaints	Complaints received and initiated actions

4.2 Waste

Waste is environmental aspect that is most mentioned and often considered as the highest environmental priority by stakeholders. This issue is also highly regulated in international, EU and national laws. Therefore, for us, waste is a priority within several environmental aspects. This was already the case in the PERS of 2010 and 2014 for the port of Harlingen, this priority will be continued.

4.2.1 Port waste

The main international regulation in regards with waste is the Marpol 73/78, and the guideline Number. 2000/59/EG is the main EU regulation. The main national law is the *Wet Voorkoming Verontreiniging door Schepen(Wvvs)*. It is very clear that a clean port is a top priority for any port, also for us.

The Port of Harlingen NV has a Harbour waste plan(*Havenafvalplan-HAP*) for the seagoing fleet and a Fishery waste plan(*Visserijhavenafvalplan-VISHAP*⁵) for the fishing fleet. For the marinas there are similar arrangements as for the fishing fleet which is regulated in the *Jachthavenbesluit*. These waste plans contains an procedure for reporting complaints on how the port authority will process the complaints and weather actions need to be taken.

The VISHAP is an initiative from the Stichting Financiering Afvalstoffen Visserij(*SFAV*) this is a foundation of the fishing fleet whose members can, in exchange for their contribution, dispose a certain amount of their waste in the port.

The HAP has four categories of waste(*Table 3*). In the port there are several collection points for these specific types of waste. The main collection points are the Port reception facilities. These companies collect and process the waste according to Dutch and EU standards. In these EU laws it is also stated that all vessels must financially contribute to the collection and processing of waste. Therefore a system of indirect funding is used. Here ships pay a levy when entering the port(*Annex IV*), regardless if they intend to dispose waste or not. This will reduce the economic incentive of discharging waste at sea. When entering the port, beside paying a levy, they also must report the type and quantity of waste on-board. If their storage is insufficient to reach, they are obliged to dispose their ship-related waste at the port reception facility(*Havenontvangstvoorziening- HOV*) at the next port. In the table below there is an overview of the performance indicators of port waste and its progress.

⁵ Gemeente Harlingen, 2016. *Haven afvalstoffenplan*, <https://www.harlingen.nl/document.php?m=89&fileid=50896&f=ebf275c40ed19ff87cf48de748f614b3&attach ment=0&c=32378>, p. 28

Table 3. Overview of categories and collectors of HAP waste

Category	Collector
Annex I: Oil contaminated waste	MAIN, Zeeland Maritiem Cleaning, Reym b.v., Stroom en visser b.v
Annex II: Chemicals in bulk	Stroom en visser b.v., Reym b.v.
Annex IV: Sewage waste	Reym b.v., Stroom en visser b.v
Annex V: Small dangerous waste	MAIN, Reym b.v.
Annex V: Household waste	Omrin, Visser ATF, Van Ganzewinkel,

Performance indicator(s) of Waste				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2010	<i>Port waste</i>	<ul style="list-style-type: none"> Amount of collected waste collected per Marpol Annex 	2015	Amount collected waste is increasing.
			2017	Amount collected waste is increasing.
2010	<i>Port waste</i>	<ul style="list-style-type: none"> Number of ships that deposit waste 	2015	Number of boats participating Is increasing
			2017	Number of boats participating Is increasing.

Throughout the years the participation of ships that deposit there waste is increasing and therefore also the amount of waste. From 917 participating boats in 2013 to 1148 boats in 2016. For a full overview of collected waste per Annex in total of 2016 see *table 4* below. For a full overview of collected waste from 2013 till 2015 consult *Annex V*.

Table 4. Collected port waste in total per ANNEX of 2016

Port waste				
Annex I	Oil contaminated waste	952.824		Kg
Annex II	Contaminated liquid substances in bulk	0,00		M ³
Annex IV	Sewage waste	2.416		M ³
Annex V	Small dangerous waste(KGA)	32.664		Kg
Annex V	Household waste	314		M ³

4.2.2 Green Deal for cleaner seas – Waste flyer

On the 20th of November 2014 the Green Deal fisheries for a cleaner sea is signed⁶. This deal has been established because several parties have agreed that the maritime waste cycle should be closed. Through waste prevention, waste management in ports and maximizing different waste streams within the fishing industry this can be achieved. To support this initiative, there is a map drawn up by the port authority(*Annex VI*). This map⁷ shows where the fishermen can deposit certain waste and is distributed among the fleet periodically by hard copy and/or e-mail. In the table below there is an overview of the performance indicators of Green Deal and its progress.

Performance indicator(s) of Waste				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2017	<i>Green Deal</i>	<ul style="list-style-type: none">• Make fleet aware of different waste deposits	2017	Periodic distribution of waste flyer among fleet

⁶ Green Deal, 2014. *Overeenkomst Green Deal Visserij voor een Schone Zee* – https://www.noordzeeloket.nl/publish/pages/123313/green_deal_visserij_voor_een_schone_zee_4624.pdf, p. 10,12

⁷ Gemeente Harlingen, 2017. *Afvalinzameling visserij*, https://www.harlingen.nl/inwoners/onderwerpen-a-z_42168/product/afvalinzameling-visserij_1192.html

4.2.3 Complaint process

For all these waste plans there is a procedure to process complaints. A standard document and/or a telephone number is available to report complaints and problems. In 2016, there was a concept published of the complaint form, were no comments have been taken. In the beginning of 2017 the final complaint form was presented on the website of the municipality of Harlingen.

When there will be a complaint received by the port authority they will process these complaints according to the procedure that is documented in the port waste plan⁸(HAP). The number of complaint or reaction(s) will be post up. In the flow diagram below(Figure 3) the process steps of how complaint are handled is shown. In the table below there is an overview of the performance indicators Complaint process and its progress.

Performance indicator(s) of Waste				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2017	Complaint process	<ul style="list-style-type: none"> Number of complains/(re)action 	2017	No official complaint(s)/r(e)action has been made.

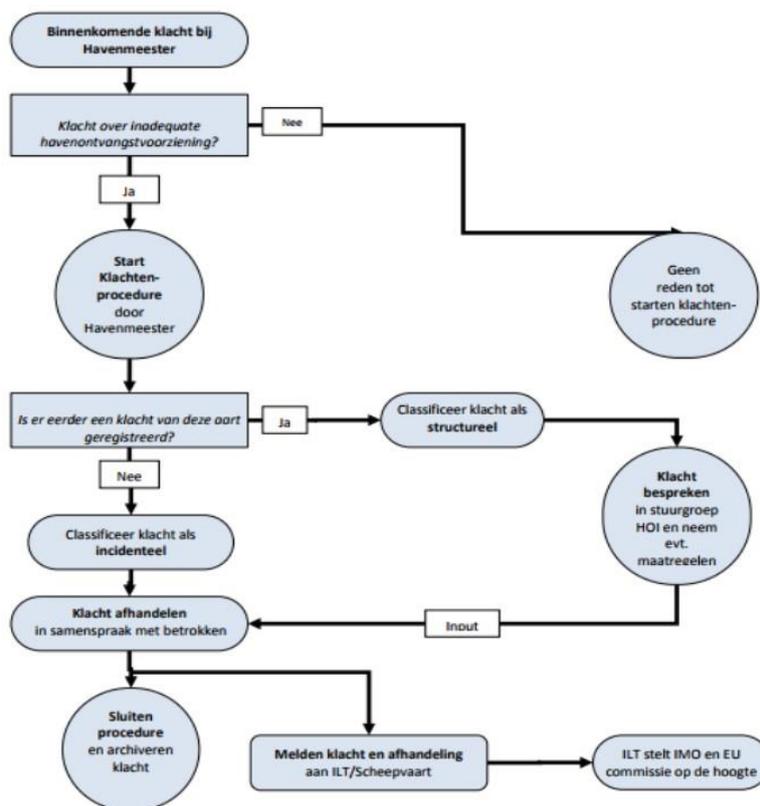


Figure 3. Flow diagram complaint process(HAP, 2016)

⁸HAP Harlingen, 2016,

<https://www.harlingen.nl/document.php?m=89&fileid=50896&f=ebf275c40ed19ff87cf48de748f614b3&attach ment=0&c=32378>

4.2.4 Fishing for litter

The Harlingen Port Authority is participating in the fishing for litter (part of the Green Deal) program which is provided KIMO. An imaginative yet simple initiative that aims to reduce marine litter by involving one of the key stakeholders, the fishing industry. KIMO provides fishing boats with (big) bags to collect marine litter. When the fishing boats arrive in the port they can unload their bags at the designated place. Once the waste is in the port it will be separated and processed as sustainable as possible. This reduces the volume of debris washing up on beaches and the amount of time fishermen spend untangling their nets. The initiative not only involves the direct removal of litter from the sea, it also raises awareness of the problems around litter in the fishing industry⁹. The goal is to monitor the litter that is collected and to encourage fishing vessels to participate in this project.

UK 34	FD 283	UK 284
UK 152	UK 197*	UK 45
PW 447	LT 162	SC 25
H 426	GY 57	SC 35
PZ 657	RN 1	SC 45
UK 184	UK 64	UK 195
LT 60	E 104	PD 43
PH 63	H 357	PD147

The list below (Table 5) are the amount of boats participating in the fishing or litter project in 2017.

Table 5. Participating boats on Fishing for litter project (KIMO, 2017)

In the last years the participating boats and the amount of collected litter is increasing. This is also shown in the indicator table. With this effort taken by the fishing industry it can be sad that this project is quite successful. In Figure 3 is shown how many litter in tonnage is delivered in 2017.

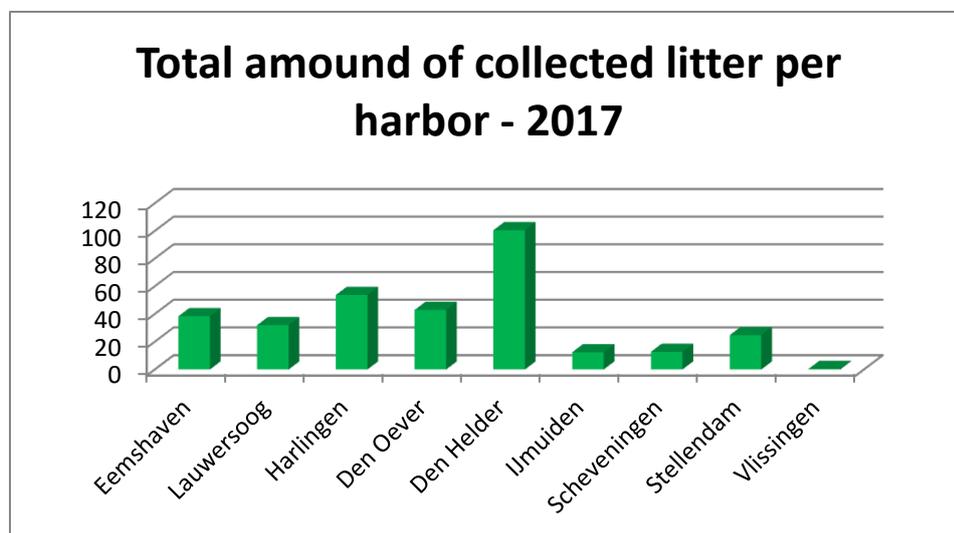


Figure 2. Amount collected litter per harbour in tonnage (KIMO, 2017)

⁹KIMO International, n.d. KIMO is a safety and environmental organization for coastal municipalities in Europe, <http://www.kimointernational.org/fishing-for-litter/>

In the table below there is an overview of the performance indicator(s) *Fishing for Litter* and its progress.

Performance indicator(s) of Waste				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2009	<i>Fishing For Litter</i>	<ul style="list-style-type: none"> Amount of collected litter in Kg 	2012	17.000 kg
			2017	53.000 kg
2009	<i>Fishing for litter</i>	<ul style="list-style-type: none"> Number of ships that participate in “Fishing for Litter” project 	2015	10 vessels
			2017	24 vessels

4.2.5 Happy Seal

Happy Seal started in 2016 as an pilot in cooperation with Urk Fish Action. This project gives the opportunity to fishermen to hand in their old fishing nets so they can be recycled. Nets were collected in specially designed containers and then to be recycled in a factory in Denmark to fibres, of which in Spain clothing can be made.

The Happy Seal pilot made a fast start and delivered more than initiators could imagine beforehand. Physically there has already been recycled a huge amount of nets which in turn unburdens the environment. The fishing nets were collected in ports of Lauwersoog and Harlingen.

The Happy Seal pilot is currently finished. The pilot itself was very insightful and therefore with the knowledge gathered they want to develop the pilot further. Now they are looking for partners whom are also involved in recycling of fishing net and waste to bundle strength. Also the initiators of happy seal are currently looking if they can apply happy seal as a sustainability label regarding the recycle industry in the fishing industry.

In the table below there is an overview of the performance indicators of Happy seal and its progress.

Performance indicator(s) of Waste				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2016	<i>Happy Seal</i>	<ul style="list-style-type: none">Collection of old fishing nets(<i>in kg?</i>)	2017	<i>Pilot is finished</i>
2017		<ul style="list-style-type: none">Follow developments Happy Seal	2019	

4.3 Air quality

The environmental aspect of air quality is high at the international policy agenda. The impacts of emissions to air of pollutants such as CO, NO_x, SO₂ have local and global dimensions. The European Commission has clearly given priority to the implementation and enforcement of the European air-related legislation, especially the comprehensive Directive 2008/50/EC on ambient air quality and cleaner air for Europe. The ESPO argues that “air quality is pointed out as the current top environmental priority by the European port sector as a whole. This reflects the priority given to issues related to the health of people working or living around ports, and is in line with the international and European policy agenda, through the on-going review of the EU Air Quality policy but also the several on-going initiatives that aim to control the exhaust emissions of air pollutants by vessels¹⁰. The Port of Harlingen NV assumes its own responsibility in this regard and includes emissions to air in its policy agenda.

FUMO writes permits, supervises companies and maintains where necessary. FUMO is committed to a better and safe living environment in Fryslân. This organisation is founded by several north Frisian municipalities and works primarily for them. Several tasks are delegated from the municipality of Harlingen, among them air quality and noise measurements.

Air quality measurements are done based on the Dutch law *Wet Milieubeheer-15 Nov. '07*. This law describes the main air qualities requirements. The objective of the law is to ensure good air quality while still permitting spatial development.

Calculations are conducted in 2008 (see PERS 2010) which show that the air quality meets legal standards for nitrogen oxide (NO₂), particulate matter (PM₁₀), benzene (C₆H₆) and carbon monoxide (CO). In the whole of municipality the calculated values were far below the limits.

Moreover, when companies applied for a permit (in Dutch, “*omgevingsvergunning*”) a standardised check is done for dust and odour emission according to the Dutch law: *Wet Milieubeheer*. Air quality has been also included in the last spatial planning of the municipality of Harlingen¹¹.

4.3.1 Measurements

Since the construction of a waste treatment plant for the production of energy within the port area, i.e. the REC (Reststoffen Energy Centrale: waste to energy incineration), there has been concerns about air quality around Harlingen. Therefore, emissions of the REC are monitored closely by several parties. Besides daily air quality measurements conducted by REC, there are also measurements conducted by third parties such as; TAUW and bio monitoring by Wageningen UR¹².

In 2015 the municipality of Harlingen and province of Fryslân decided to investigate the air quality. Measurements were needed at the local level of Harlingen and the surrounding municipalities. In November 2016 the first measurements started. For these measurements the National Institute for Public Health and the Environment (RIVM) has made the research proposal together with a support group consisting of representatives and experts from Harlingen. The municipal Amsterdam on health issues (the GGD-A¹³ - the municipal health service) are conducting the study concerning air quality.

¹⁰ ESPO, 2013. *ESPO Port Performance Dashboard*, European Sea Ports Organisation, Brussel (p.11).

¹¹ Spatial planning, n.d. <http://www.ruimtelijkeplannen.nl/>

¹² Rec loket, n.d. Rec Loket Harlingen, <https://www.harlingen.nl/recloket>

¹³ Gemeentelijke gezondheidsdienst Amsterdam, n.d. <http://www.ggd.amsterdam.nl/>

The main question of the research was: *What is air quality at living level in Harlingen and surroundings?*

So far, the average measured concentrations give the image of good air quality corresponds to the air quality in the rest of Friesland. At a location (Harlingen) sources of emissions were detected that affect short-term air quality (peak concentrations aromatics including benzene). Also a number of diffusion tubes show HCL, including those on it roof of the wind power centers there were increased concentrations. Future results must be reflected into what extent these observations are of structural nature.

Below (Figure 4) an overview of the measurement locations. The blue markers shows the measurement locations of the diffusion tubes, the red the measurement stations.¹⁴

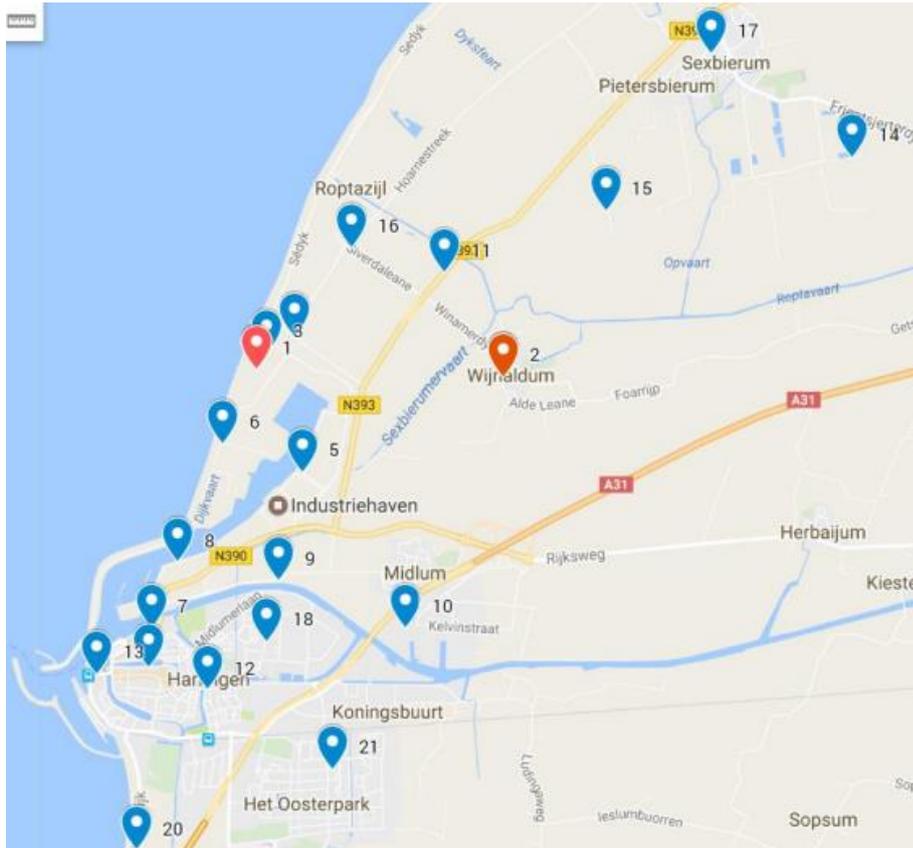


Figure 3. Measurement locations (GGD-A, 2017)

¹⁴, GGD Amsterdam, 2017. *Luchtkwaliteit Harlingen meetresultaten november 2016 – februari 2017*, GGD-Amsterdam, <https://www.harlingen.nl/document.php?m=103&fileid=52345&f=4ab3a5a22e3fd27efd7b31aa0adc6510&attachment=1&c=35776> p 11

To compare results, an overview (*Table 6*) of the averages measurements at the Harlingen measuring stations, Wijnaldum and the other measuring stations in the surroundings of Friesland (Balk and Kollumerwaard) and Amsterdam is made¹⁵.

Table 6. Overview of average concentrations (in µg / m3) Overview of average concentrations (in µg / m3) over the period from 15 November 2016 to 22 February 2017(GGD-A, 2017)

(nov-jan)	PM10	CO	SO ₂	NO	NO ₂	Benzeen	Tolueen	Xyleen
Harlingen	20.5	285	2.6	8.0	22.2	1.0	0.8	1.0
Wijnaldum	21.1	244	0.8	6.1	20.9	0.5	0.8	0.8
Friesland (RIVM)	19		0.4	5	18-21			
Amsterdam	25-33	370-490	1.3	14-72	33-54	1.5	3-3	1.8

In the table below there is an overview of the performance indicators air quality and its progress.

Performance indicator(s) of Air quality				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2016	Measurements	<ul style="list-style-type: none"> Air quality research report(GGD-A) 	2017	Interim results- Good air quality

¹⁵ GGD Amsterdam, 2017. *Luchtkwaliteit Harlingen meetresultaten november 2016 – februari 2017, GGD-Amsterdam*, <https://www.harlingen.nl/document.php?m=103&fileid=52345&f=4ab3a5a22e3fd27efd7b31aa0adc6510&attachment=1&c=35776>. p 13

4.4 Energy and light

Regarding the aspects of energy and light the Port of Harlingen NV has several on-going projects and plans which aim to engage tenants. Some of these projects are operationalized as performance indicators.

4.4.1 LNG

The port authority collaborates with a group of Wadden Sea ports (i.e. Groningen Sea Ports, Port of Den Helder, Den Oever, and Lauwersoog). In this collaborative effort, the port authority exchanges information with the other ports on several issues. One of them is the current developments around LNG.

There are several global developments regarding ship propulsion. One of the main developments in this context is LNG. LNG is seen as alternative fuel for ships but it requires adapted engines that can use LNG and (larger than diesel) storage tanks on-board. Furthermore the port need to have infrastructure to store and distribute LNG to the ships. If LNG gets traction, this will mean that new infrastructure in the port will be required. Therefore, the port authority will closely follow and monitor the developments around LNG for shipping purposes, to determine whether new and what type of LNG installations are required within the port. There are many opportunities in this area, e.g., the development of LNG terminals in Rotterdam which increase the supply of LNG and the green deal LNG Rijn en Wadden.

The latest developments around LNG with Doeksen is that the LNG tanks are placed in the new ferry's¹⁶. Also by effort of the port authority, there is progress in development of LNG in the port of Harlingen. There is made an start for the environmental permit (*omgevingsvergunning*) which will be delivered by FUMO and a concept is drafted of the Port regulation (*Havenbeheersverordening*). The expectation is that the *Port regulation* will be finalised in January 2018 and the first ferrys on LNG will depart in 2018. In the table below there is an overview of the performance indicators LNG and its progress.

¹⁶ De nieuwe schepen van Doeksen, 2017. *De LNG-tanks zijn geplaatst*, <http://www.denieuweschepenvandoeksen.nl/de-lng-tanks-zijn-geplaatst/>

Performance indicator(s) of Energy and light				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2015	LNG	<ul style="list-style-type: none"> Facilitating and follow developments/results of LNG pilot 	2017	<ul style="list-style-type: none"> - Start of application for environmental permit(FUMO) - Concept Port Control Regulation is ready(January 2018)

4.4.2 On-shore power

Shore power is the supply of shore side electrical power to a ship at berth while its main and auxiliary engines are turned off. Without onshore power, then, ships will have to keep generators or their main engines running to provide enough power for their needs. This is often less efficient than using the energy from the power net, thus using more resources in the form of fossil fuels. Additionally the running engines are a source of noise pollution and emissions to the air, ship fuels are often high in NOx and Co2 emissions. This leads to environmental impacts as well as to concerns and nuisances for local communities. That is why, in the port of Harlingen the installations are in place required for providing onshore power for visiting ships. However, in the industrial harbour the demand for power was too low compared to the high cost of installing the required infrastructure. Two new locations are being prepared to expand on-shore power facilities at Willemskade and installation of water and power facilities at Visserkade. Therefore there is made a start for first technical designs. The port authority is determined to explore if or when the usage of onshore power would be feasible in the rest of the port. Therefore, the following performance indicator is used.

Performance indicator(s) of Energy and light				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	On-shore power	<ul style="list-style-type: none"> Explore weather and where on-shore power will be required. 	2017	Old on-shore power cabinets are/or will be replaced.

4.4.3 Light pollution

Light pollution is slowly reaching the social and policy agendas. There are several negative effects related to light pollution. The natural day and night cycle works as a biological clock for animals, humans and plants alike. Bright nights can have a negative influence on the biological clock of living organisms. For example, it can hamper the navigation capacity for birds. For example, some species that use the sun and stars to navigate are so confused by brightly light oil platforms that they fly circles around these platforms till they drop in the sea from exhaustion.¹⁷ A darker night sky is not only positive to reduce these negative effects on birds, but also to meet the demand of some stakeholders of a dark(er) Wadden Sea. Some opportunities emerged to promote the North of the Fryslân and Groningen as a “Dark Night Sky”.

In the port of Harlingen most public light polluting is located along the roads, companies are responsible for most other light sources. The intention in this regard is to replace these lights with modern LED lights. Several fixtures along the *Lange Lijnbaan* in the port have already been replaced. Additional 54 fixture are scheduled or already have been replaced. There are several advantages to this program. For instance they contribute to less light pollution because LED lamps have better lenses that allow more precise direction of the lights. In the overview below (Figure 5) the current status of Led lights is shown.

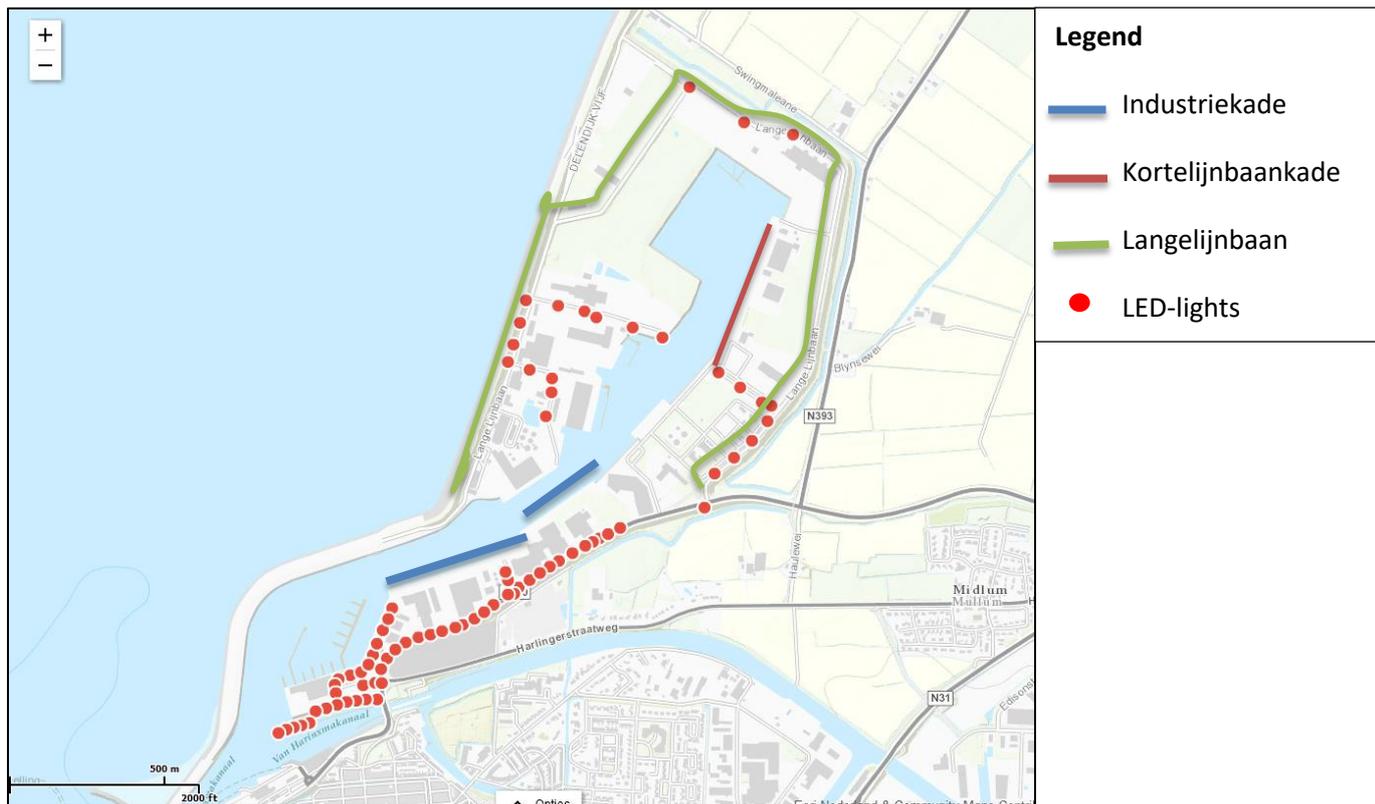


Figure 4. Current status LED-lights 21 September 2017 (Municipality of Harlingen, 2017)

¹⁷ Natuurinformatie, n.d. *Natuurinformatie trekvogels*, <http://www.natuurinformatie.nl/nnm.dossiers/natuurdatabase.nl/i006310.html>

This delivers the next performance indicators:

Performance indicator(s) of Energy and light				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	<i>Light pollution</i>	<ul style="list-style-type: none"> Amount of LED lights installed by the municipality 	2017	<i>On-going</i> . When normal lighting is broken, it will be replaced by LED-lights
2016		<ul style="list-style-type: none"> Smart lights 	2017	Being applied at industriekade(remote) and kortelijnbaan(local)
2017		<ul style="list-style-type: none"> Investigate whether the light fixtures of the quay lighting can be preserved 	2019	

4.4.4 Green Energy

The desire of renewable energy is increasing too due to global warming and depletion of the Earth. Green energy is generated using clean inexhaustible sources. Sources like wind, sunlight, heat from the earth or biomass. Omrin supplies to The Public Lighting Fryslân Foundation (Stichting Openbare Verlichting Fryslân-SOVF) thanks to the sustainable production of electricity in Harlingen, the Regional "Guarantees of Origin". The waste energy station in Harlingen provides for over more than 25% of total Friesian renewable energy production.

The SOVF includes the province of Fryslân, 23 municipalities., BV sports, Fries Museum / Ceramics Museum Princessehof, FUMO, OMRIN, Omrop Fryslân, Tresoar and security region Fryslân. From 2017 they have chosen for in the region produced sustainable electricity. They arrange the joint purchasing of their energy through the SOVF foundation. Fryslân is one of the first provinces in the Netherlands that chooses energy for local sustainable energy and thus leads the circular economy¹⁸.

Performance indicator(s) of Energy and light				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2017	<i>Green energy</i>	<ul style="list-style-type: none"> Remain involved for sustainable electricity sources 	2017	<i>On-going</i>

¹⁸ Stichting openbare verlichting Fryslân, 2017. *Friese instellingen kiezen voor groene stroom uit Fryslân*, <https://www.harlingen.nl/document.php?m=95&fileid=52240&f=29dd29178fcc910c265539b74e0fdcf6&attachment=1&c=35713>

4.5 Water quality

Water quality is an important environmental aspect for the port of Harlingen. Also it was mentioned as a high priority aspect by the stakeholders that have been consulted by the WUR. The water in the Wadden Sea is considered natural water and the aim is to keep it clean. To avoid contamination, there are many initiatives. To do so the EU and the national government have dictated several laws and regulations regarding water quality:

- Water Framework Directive
- *Regeling milieukwaliteitseisen gevaarlijke stoffen*
- *Internationale Rijn-Commissie*
- *Internationale Maas-Commissie*
- *Internationale Schelde-Commissie*
- *Vereniging van Rivierwaterbedrijven RIWA,*
- OSPAR en EURATOM
- *Schelpdierwaterrichtlijn*
- *Nitraatrichtlijn*
- Balastwaterverdrag

The *Europese Kader Richtlijn Water* (KRW) obligates that the all EU members have and maintain sufficient clean surface and groundwater. To enforce this, Rijkswaterstaat¹⁹ is measuring the quality of the water. This measurement program MWTL (*Monitoring Waterstaatkundige Toestand des Lands*) has as objective to:

- Analyse the conditions and trends of the water both chemical and biological
- Asses the quality objectives
- Take measures regarding national and international agreements

Regarding water quality, the port of Harlingen will focus on several areas and will consider a set of performance indicators to monitor and improve the port's performance. To protect the harbor from oil contamination Rijkswaterstaat made a "inzetplan" On this map, measures are described to protect against pollution from the water. The *inzetplan* of the Port of Harlingen can be found in *Annex VII*.

¹⁹ Rijkswaterstaat is part of the Dutch Ministry of Infrastructure and the Environment and responsible for the design, construction, management and maintenance of the main infrastructure facilities in the Netherlands, including main road and waterway networks, and main water systems (www.rijkswaterstaat.nl).

4.5.1 Waste water

Waste water is an issue for the brown fleet. Currently, most of the waste water produced by this fleet is disposed directly in the seawater, inland water, and/or in the port area. This is, of course, an aspect (all stakeholders included the port authority seem to agree on this) that have to be addressed. In the Netherlands there is a law that forbids to discharge waste water in surface water: *Wet Verontreiniging Oppervlaktewateren een algemeen verbod op het lozen op oppervlaktewater*. This law still has many exceptions. However, these exceptions are being reduced. For example, in 2009 pleasure yachts were no longer excluded from this law and these ships now have to dispose the waste water on such a way that it will not be directly discharged into the environment. Currently the brown fleet is excluded from this law. Nevertheless, it is expected that the fleet will have to comply with this law in the near future. The performance indicator here is:

Performance indicator(s) of Water quality				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	Waste water	<ul style="list-style-type: none"> Explore weather/where waste water collection infrastructure expansion is needed. 	2017	On-going

4.5.2 Ballast water

Since September 8, 2017, the Ballast Water treaty has come into effect. This treaty, with some exceptions, applies to all seagoing vessels that are flagged under a country or are under authority of the country that has acceded the treaty²⁰.

In an international oriented port as Harlingen, ballast water is an important environmental aspect. Ballast water can be contaminated with exotic species that can harm the local ecosystems. Recent developments are focussing on treating this ballast water to prevent the spread of exotic species. There are rules about ballast water for ships that travel long distances. These ships change ballast water on certain spots in the ocean, to reduce the risk of spreading unwanted species. To treat ballast water there are several initiatives that investigate different options to process the ballast water before discharging.

Due to close collaboration between Damen Shipyards, Koninklijke Wagenborg, Mariflex, Wageningen Marine Research, MEA-nl en Groningen Seaports the "Invasave" is established. Also the Waddenfonds was an important partner in the establishment of this project. The so-called InvaSave system fits into a standard marine container and aboard on a pontoon or trailer. The InvaSave takes in the ballast water and cleans it during the loading time of ships in the port. The waste (sludge etc.) that is released during the treatment process is then removed and processed in a good way²¹.

²⁰ Koninklijke vereniging van Nederlandse Reders, 2017. *Ballastwaterverdrag binnenkort van kracht*, <https://www.kvnr.nl/website-2013/nieuwsberichten/2017/ballastwaterverdrag-binnenkort-van-kracht>

²¹ Maritiem Nederland, 2017. *Uniek ballastwaterbehandelingssysteem voor Harlingen en Groningen*, <http://www.maritiemnederland.com/nieuws/uniek-ballastwaterbehandelingssysteem-voor-harlingen-en-groningen/item2245>

The company Mariflex Transfer Services B.V., has given the permit to use the Invasave. This permit is needed because they will discharge ballast water from sea vessels. The ballast water will be treated, (before discharge), using the ballast water installation (Invasave) of Mariflex to remove living organisms. In addition, Mariflex asks for the withdrawal of water, at location of the concerned ship. This water will use the same installation to be treated and will be supplied back as ballast water to ships²².

Performance indicator(s) of Water quality				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2015	<i>Ballast water</i>	<ul style="list-style-type: none"> Follow developments of ballast water and determine whether and how we can initiate activities in the port. 	2017	Ballast water treatment facilitated in Harlingen by Mariflex (licensee holder).
2017	<i>Ballast water</i>	<ul style="list-style-type: none"> Monitor number of ballast water treatments 	2019	

4.5.3 Water Valley

Our commitment to achieve a 'clean water' situation within the port is illustrated by the Water Valley BV initiative. Water Valley is the name given to a project aimed at reducing the consumption of fresh water by the industry that is located in the port area. During the last port expansion a circular water pipe system has been installed around the port. This pipe system delivers sweet surface water from a nearby channel (*Van Harinxmakanaal*) to industrial users on the port's estate. Reducing in this way the usage of potable water.

Since May 2015, North Water owns the facilities of WaterValley in Port of Harlingen. This industrial water project is the first project outside the province of Groningen and fully fits the vision and ambition of North Water to provide solutions to water treatment and wastewater treatment issues in Northern Netherlands and North Germany.

Every year they supply about 1.5 million m³ of industrial water (fresh surface water) from the Harinxmakanaal to Frisia Salt and Spaansen in Harlingen. Frisia Salt then uses this water to dissolve salt from the surface and further processing brine. Spaansen use the water to wash sand, gravel and shells. The sand, gravel and shells are from the North and Wadden Sea and contain salt that needs to be washed out²³.

Water Valley is a subsidiary of development company Westergo, which aims to stimulate development in the Harlinger port area. Due to this acquisition, this Indicator for the port of Harlingen will expire.

²² Rijkswaterstaat, 2017. *Besluit, Watervergunning voor Mariflex Transfer Services B.V. voor lozen en onttrekken van ballastwater te Harlingen, Deifzyl en Eemshaven, RWS-2017/17843, 201*

²³ North water, 2015. *Overname installatie WaterValley*, <http://www.northwater.nl/overname-installatie-watervalley/>

Performance indicator(s) of Water quality				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2003	<i>Water valley</i>	<ul style="list-style-type: none"> Increase the number of companies connected to the system of the Water Valley 	2017	<i>On-going</i>

4.6 Dredging

The shallow character of the Wadden Sea forces the Port of Harlingen NV to continuously dredge the channels through which the harbour can be reached. Therefore, this activity is crucial to keep shipping lanes on the right depth. Each year 1,3 million cubic meters of silt is removed. However dredging and the disposal of it, is also one of the activities that can have a large impact.

4.6.1 Dredging activities

Dredging and the disposal of the dredged silt on other locations in the Wadden Sea result in large amount of floating particles (suspended matter), essentially making the water murky. When the water is murky less sunlight penetrates the water and the primary production (which, among others, occurs through the process of photosynthesis using light as source of energy), mainly plankton using photosynthesis, is lower. The absence of plankton, on its turn, has also an impact on, for instance, shrimp and fish that have plankton as basis food source. Primary production is highest during spring and summer. Therefore limiting dredging as much as possible during these seasons will lower the impact of this important activity.

Per January 1st 2018 a new permit for dredging has been issued. The amount of Co2 emissions per ship and the ULSP(Ultra low sulfer petrol) use also have been taken into consideration for the new dredging contract.

Dredging is carried out by *Baggerbedrijf de Boer Holding B.V.*, this company has implemented the *CO₂-prestatieladder* and has been ISO 14001 certified since 2012.²⁴

Performance indicator(s) of Dredging				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	<i>Dredging activities</i>	<ul style="list-style-type: none"> Avoid disposed dredging silt during the primary production period(spring&summer) 	2017	<i>On-going</i>

²⁴ Baggerbedrijf de Boer, 2016. <http://www.dutchdredging.nl/inzicht/>

4.6.2 Silt Engine

EcoShape is the executive party of the Silt engine project. The EcoShape consortium consists of partners in the private sector, such as dredging contractors (Boskalis, Van Oord and the Dutch Association of Dredging Companies), equipment suppliers (IHC Merwede) and engineering consultants (Arcadis, Royal HaskoningDHV and Witteveen+Bos); the public sector, such as government agencies (Ministry of Infrastructure and the Environment) and local authorities (Municipality of Dordrecht); and applied research institutes (Alterra, Deltares and the Institute for Marine Resources & Ecosystem Studies, IMARES), universities (Delft University of Technology, the University of Twente and Wageningen University) and research institutes (Royal Netherlands Institute for Sea Research, NIOZ). The Building with Nature programme is co-funded by the partners, with subsidies from the Ministry of Infrastructure and the Environment, the European Regional Development Fund and the Municipality of Dordrecht, and support from strategic partners such as the Port of Rotterdam. The partners operate jointly under the name EcoShape, a foundation in law that administers and represents the programme²⁵.

The port authority is involved in this interesting pilot regarding to dredging. This pilot project comes from the building with nature program.²⁶ This project contributes to the different thinking about dredging material. At present, dredging silt is often treated as waste and spreads at coastal location or, if contaminated, brought to special basins (e.g. the Slufter). In this pilot a silt engine is being studied. This means that the silt is deposited in the Wadden Sea on a location where natural forces (mainly the tide and storms) will move the silt towards the coast line (Figure 6). This project is aimed to strengthening the natural sedimentation process of tidal marshland along the coastal zone.

For the harbour, the primary objective in this regard is to gain insight in silt management and possible less sedimentation. If these objectives also support and speed up nature development, then is that an added bonus.

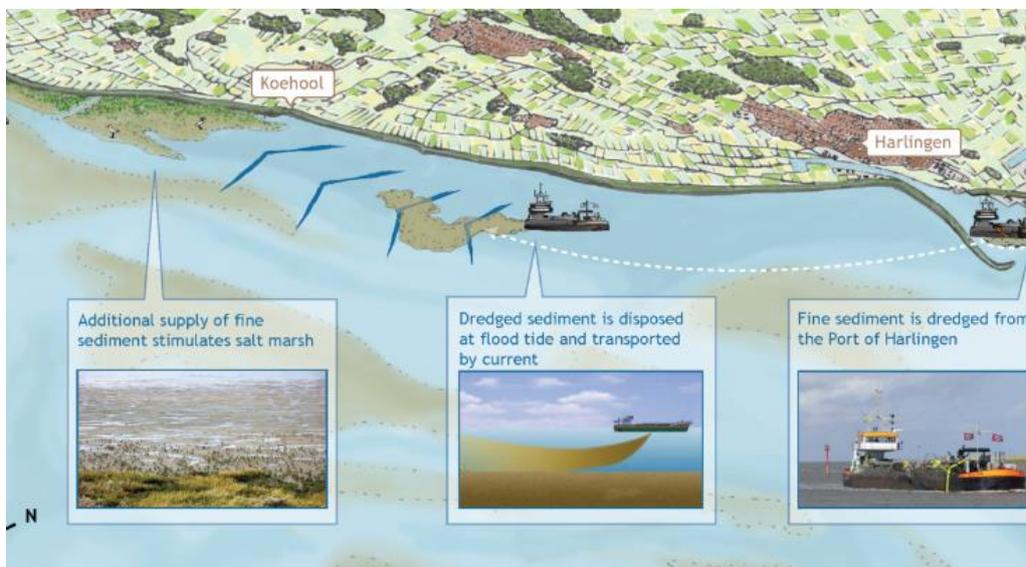


Figure 5. How the Silt engine works (EcoShape.n.d.)

²⁵ EcoShape, 2012. *Building with Nature, Thinking, acting and interacting differently*, https://www.ecoshape.org/uploads/sites/2/2016/07/ECOSHAPE_BwN_WEB.pdf

²⁶ EcoShape, n.d. *Slibmotor Koehoal Haven van Harlingen*, <https://www.ecoshape.org/nl/themas/duurzame-havenontwikkeling/#/nl/projecten/slibmotor-haven-van-harlingen/>

In Figure 7 below the proposed and existing locations are shown on a bathymetric map. In the winter of 2016/2017, 300,000M³ has been transported to the furthest distribution site. This fall an approximately additional 170,000 m³ will be added by the end of 2017.

Results suggest that the fate of disposed sediment on the short term (days-weeks) is determined by the phasing of disposal within in the tidal cycle (disposal during ebb, flood, high water or low water) but less important over longer periods (weeks - months)²⁷. Interim results show that more research is needed to make a statement about the applicability of the pilot. For 2018 Ecoshape looking for ways to obtain funds to continue the Silt Engine pilot in 2018. In the meantime Ecoshape continues with analysing and monitoring.

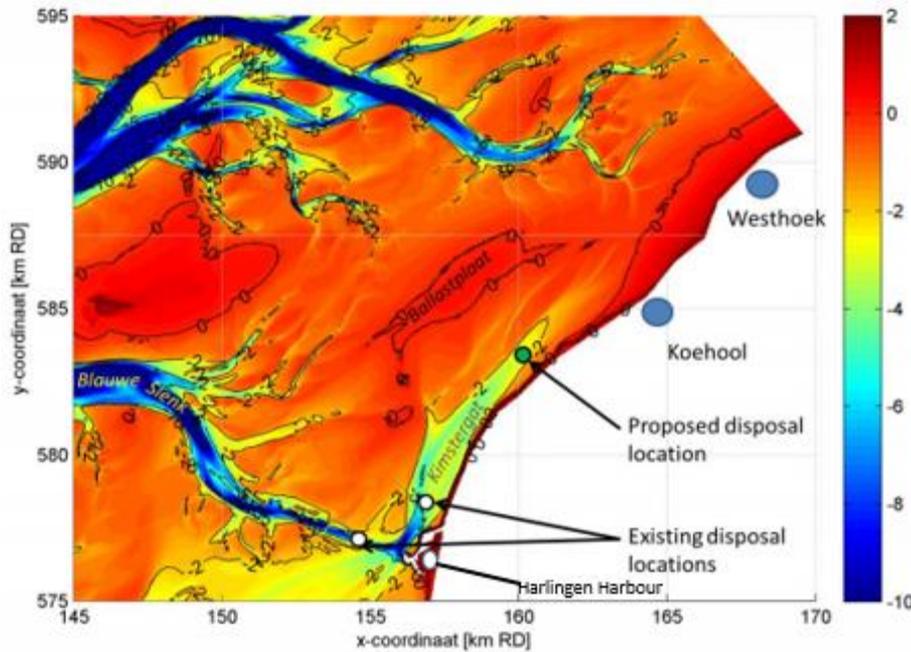


Figure 6. Proposed and existing disposal locations plotted on a bathymetric map(Deltares, 2017)

Performance indicator(s) of Dredging				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	<i>Silt engine</i>	<ul style="list-style-type: none"> Obtaining the funds and permits that are required to start the silt engine pilot 	2015	Funds and permits are obtained and pilot has started
		<ul style="list-style-type: none"> Follow silt engine pilot and its results 	2017	Interim results of silt engine pilot are known. More research is needed.

²⁷ Deltares, 2017. Effectiveness of the mud motor near Koehool - Results and interpretation of a tracer study, <https://www.ecoshape.org/uploads/sites/3/2016/07/Rapport-Effectiveness-of-the-mud-motor-near-Koehool.pdf>

4.7 Social corporate responsibility

The local community and the ports surroundings are important to the Port of Harlingen NV. Just as the port is important for the local community. For example, the port is a source of direct and indirect employment. These jobs can be grouped into several sectors: fishing and related industries; tourism and recreation; industry; and shipping. These sectors form the economic backbone of Harlingen and are important for the wider region of Friesland.

4.7.1 Environmental communication

The port has an impact on the human and natural environment. Therefore, it is the port's responsibility to regulate and as much as possible to minimize the negative impacts and to maximize the positive ones. The objective here is to make the port a pleasant place to visit, work and live. Essentially, to be a good neighbour. For so doing, the port is committed to develop and maintain an port environmental management system(PERS) in order to identify, monitor, and control the most relevant environmental aspects and impacts, and so improve the environmental and social performance. This leads to the following indicator.

Performance indicator(s) of environmental aspect Social corporate responsibility				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	<i>Environmental communication</i>	<ul style="list-style-type: none"> Developing and maintaining an environmental management system(PERS) 	2014	Developed and maintained PERS
			2017	PERS has been reviewed
2014	<i>Environmental communication</i>	<ul style="list-style-type: none"> Communicate about the environmental policy trough the website and other means 	2015	PERS is available for insight on the website of the municipality
			2017	PERS will be available for insight on the website of the municipality

4.7.2 Involvement local community

In the extent of Environmental communication we aim to work on social corporate responsibility by involving the local community into some of the activities occurring in the port area. For example, through our support to an energy education project. More specifically, we are aiming here to start collaborating with research centres and Dutch universities (as it has been the case in the past with the Wageningen University and currently with Van Hall Larenstein) and offer internship places regarding environmental management. In this way we aim to guaranty that our environmental management system and PERS certificate can be properly updated in a transparent manner. Below the performance indicators for community involvement is shown.

Performance indicator(s) of Community involvement				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2014	<i>Involvement local community</i>	<ul style="list-style-type: none">Engage with research centres/universities to offer internship regarding environmental management	2017	Internship provided by a student of Van Hall Larenstein

4.8 Noise

In the PERS of the port of Harlingen of 2010 and 2014, noise was one of the top 3 environmental aspects. One of the reasons for this high ranking was that regulation demanded the development of a port vision concerning noise (*geluidsvisie*). It goes without saying, that another reason was, and still is, that the port is located close to the residential areas of the city of Harlingen.

Now, there are many and fragmented laws and regulations regarding noise. For instance, the Dutch law: (in Dutch) *Wet geluidshinder* that relates noise to spatial planning. It dictates that outside an industry area, a zone must be established in which the total noise may not exceed 50 decibel. However, the shape and size of the zone is determined within the spatial planning process. The spatial plan (*bestemmingsplan*) specifies the noise zoning for a particular area. There are other laws such as the (in Dutch) *Wetboek van strafrecht* that applies when deliberate and excessive noise is produced that disturbs, e.g., night rest.

Currently a spatial zoning for the port of Harlingen has been established in the spatial plan. Companies working or that want to work in the port have to comply with this noise regulations. This is detailed and implemented/enforced through permits (*omgevingsvergunning*). Currently, there are no regular measurement of the sound levels in the port and the nearby residential areas, or in noise sensitive objects like schools. However, sound assessment can be carried out based on complaints received by the port authority. The regional agency that can measure whether the sounds do/do not exceed the limits set in the permits is the *FUMO*.

Complaints and noise pollution is taken seriously by the port. So far, and since 2012 that we started to monitor our performance concerning noise, we have not received any complaints concerning noise pollution. Nevertheless we will continue monitoring and adequate action will be taken if and as soon as complaints are received. That makes the following performance indicator:

Performance indicator(s) of Noise				
Indicator initiated in (year)	Indicator	Measurements units	Year	Progress
2012	X	<ul style="list-style-type: none"> Complaints received and initiated actions 	2017	<i>On-going</i> - no complaints received

5 Responsibilities and resources

Documented responsibilities and resources related to environmental aspects

The purpose of this section is that the Port Authority can demonstrate that it has adequate and appropriate management organization and personnel in place to deliver the objectives specified in the policy statement. This section contains environmental responsibilities of key personnel identified of key personnel identified by job, title/position and Department/Office/Agency. This section also contains a structure of organization and the position of identified staff. At last follows a description of the resources allocated specifically for port environmental management.

5.1 Environmental responsibilities internal and external

Table 7. Environmental responsibilities internal and external

Environmental Responsibilities of Key Personnel*	
For those areas for which the Port authority has responsibility, what personnel are responsible for the following functions?	
	Department
Port Operations (Dredging)	Civil Engineering / Municipality Harlingen
Port Operations (Navigation)	Port Authority / Municipality Harlingen
Port Operations (Shipping)	Port Authority / Municipality Harlingen
Port Operations (Terminals)	Port Authority / Municipality Harlingen and Private firms
Cargo Handling Operations	Private firms
Jetty/Wharf Management	Private firms
Site Management	Ontwikkelingsmaatschappij Westergo cv/bv
Strategic Planning	Port Authority / economic affairs / Municipality Harlingen
Supplies acquisition	Port Authority / economic affairs / Municipality Harlingen
Operator Licensing/Permit	Port Authority (Province/Ministries)
Quality Management	Port Authority / Municipality Harlingen
On site Contractor Management	Private firms
On site Conservation	Private firms
Emergency Planning	Port Authority / Public Safety dept./ Municipality Harlingen
Waste Management	Collection: Port Authority / Municipality Harlingen Storage: province of Fryslân and ministries)
Marina / Slipway management	Port Authority
Environmental Document Management	Environmental department / Municipality Harlingen
Environmental Data Management	Environmental department / Municipality Harlingen
Soil pollution assessment	Province department environment and Rijkswaterstaat
Air Quality monitoring	Province / ministries
Water Quality monitoring	Rijkswaterstaat / Wetterskip Fryslân
Vehicular Management of Terminal traffic	Traffic department / Municipality Harlingen
* Key personnel are those managers and others who are responsible for environment critical activities that may affect the environment. These are activities that may cause, control or minimise environmental impacts when managed, or may cause impacts if control was lost or that may result in a breach of environmental policy or regulations.	

5.2 External responsibilities

Several environmental responsibilities that are relevant to the port are done by external parties. The first four organisations are governmental organisations whose tasks are related to or have an effect on the activities that take place at the port. The last two organisations, the waste collectors and stevedoring companies, are taking care of tasks that the port has outsourced. In the table below (Table 8) is an overview of the organisations and a short summary of their responsibilities.

Table 8. External responsibilities

Organisation	Responsibilities
Port of Harlingen /Municipality Harlingen	<ul style="list-style-type: none"> ▪ Nautical management port (competent authority shipping) ▪ Technical management (dredging) ▪ Drafting visions about the port and environmental management ▪ Noise zoning ▪ Enforcement business permit ▪ Collecting complaints ▪ Drafting spatial planning ▪ Waste collection permits for shipping waste (Haven Ontvangst Installaties) Several tasks are outsourced to a regional co-operation: Friese Uitvoeringsdienst Milieu en Omgeving (FUMO)
Port of Harlingen/Municipality Harlingen	<ul style="list-style-type: none"> ▪ Develop, operate and manage the ports of Harlingen ▪ Keep records and report to municipality and province etc ▪ Comply with laws and regulations set by governments
Stevedoring companies	<ul style="list-style-type: none"> ▪ Ensure correct loading and unloading of ships
Wetterskip Fryslân	<ul style="list-style-type: none"> ▪ Quality control inland waters ▪ Water barriers ▪ Manager of regional water systems ▪ Quality waste water
Rijkswaterstaat	<ul style="list-style-type: none"> ▪ Administrator main water system and quality control open water
Province Fryslân	<ul style="list-style-type: none"> ▪ Competent authority regarding parts of the <i>wet milieubeheer for several companies</i> ▪ Waste collection permits companies ▪ Translation and implementation of national policy to regional policy ▪ Monitoring of water boards ▪ Licences issuer for some ground water extractions and infiltrations
National government	<ul style="list-style-type: none"> ▪ Provide national policy context and strategic goals for water management ▪ Implementation of European regulations and policy ▪ Supervision over other governmental organization that are involved with water and port management
Waste collectors	<ul style="list-style-type: none"> ▪ Several companies have the permits for and are responsible for a safe and efficient the waste collection in the port

5.3 Resources

Environmental management and sustainability is increasingly important for the Port of Harlingen NV. To improve the ports environmental performance several objectives have been made specific and several actions have been taken. Environmental management activities and responsibilities are dispersed through the organisation (which is highly interwoven within the municipality's organization. Additionally some tasks and responsibility correspond to external parties (see, e.g., section 5.2). Therefore, it is difficult to specify the resources allocated to environmental port policy.

However several statement can be made:

- The port is committed to, and has made available the resource to set up an environmental management system and to become PERS certified and maintain.
- The port collaborates within the Wadden sea harbour²⁸ initiative in which knowledge about relevant issues such as LNG, funding opportunities, and environmental management systems are shared.
- The port collaborates with knowledge institutes and, in this way, aim to strengthen the port's capacity to update the environmental management system and maintain the PERS certification.
- A specific budget post has been allocated for dredging activities.
- Noise zoning and soil protection is done by the FUMO and is being financed from the general budget of the municipality.
- The Port authority has its own budgets.
- Responsibility's will be re-established.

The port authority is part of the municipality Harlingen, responsibilities are dispersed within the organisation. The responsibilities will change in 2018 when the Harlingen Port Authority will get independent. Previously, it was often unclear for the distribution of budgets among the municipality and the port. This will no longer play any role in the future.

On the next page there is an organogram that shows how environmental management is organised for the Port of Harlingen NV. It should be noted that this is not a complete overview of the municipality nor just from the port, it is a mixture of both.

²⁸ Waddenzeehavens, n.d. *The Wadden Sea harbours: Den Helder, Den Over, Harlingen, Lauwersoog, Groningen Sea Port*, <https://www.waddenzeehavens.nl/?cat=8#/#>

5.4 Organogram

Below (Figure 8) the organization of the environmental management in the Port of Harlingen NV is shown. The boxes double lined are departments, boxes single lined are tasks and boxes with dotted lines are positions.

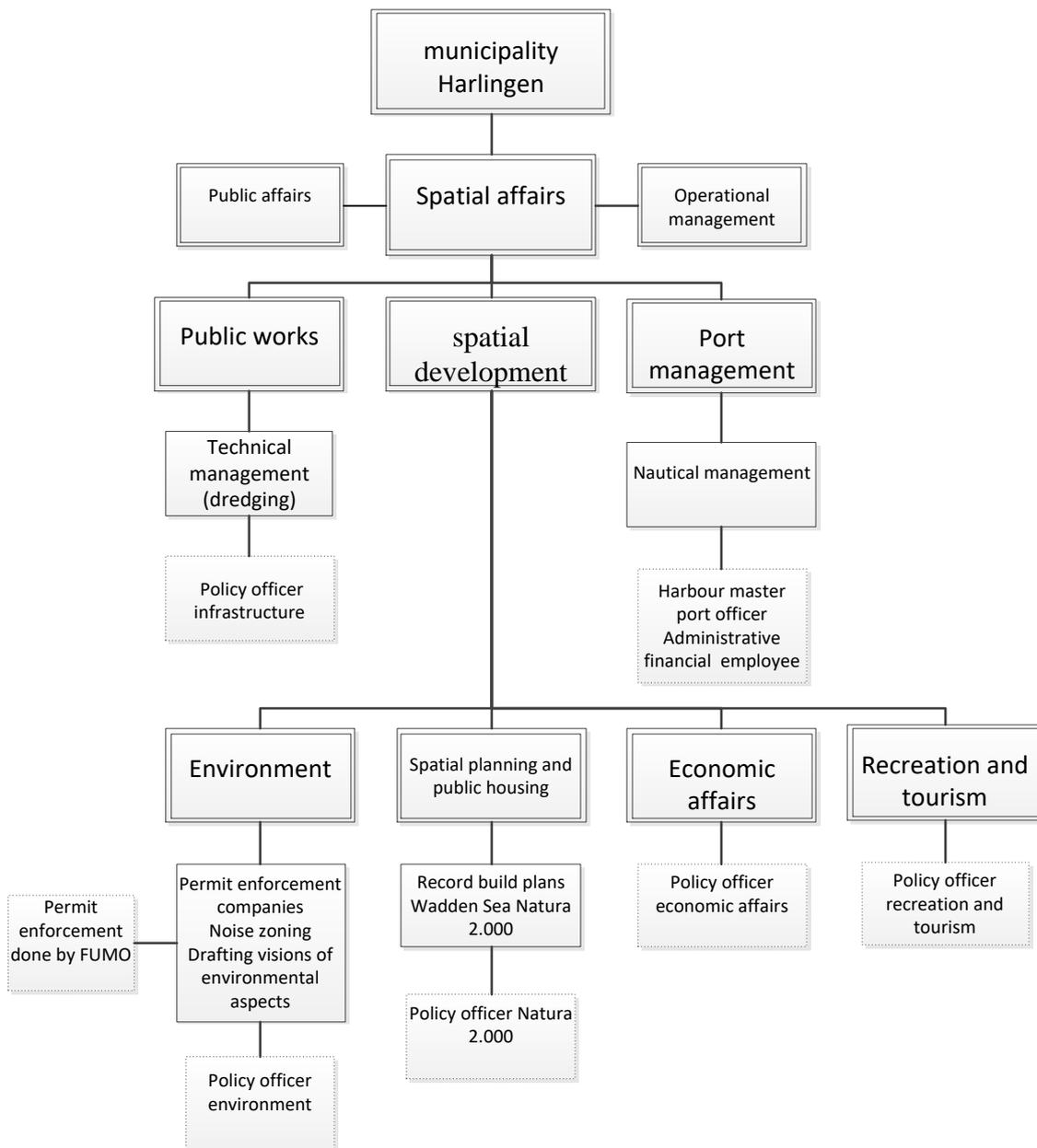


Figure 7. Organogram Port of Harlingen

6 Conformity review of environmental policy and legal requirements

This section contains the conformity with laws and regulations as well as the conformity with the ports own policy.

6.1 Conformity to legal requirements

The Port of Harlingen NV is committed to comply with all relevant laws and regulations. We have no signals of noncompliance with law and regulations known by the port authority. NGO's and local stakeholder as well as several governments organisations would be quick to point out non-compliance.

Following is valid till the Harbor Port Authority is independent.

Note that the port is managed by the municipality and that juridical experts of the municipality are responsible for ensuring compliance with law and regulations. To ensure greater conformity with legal requirements, some of the municipality experts are member of the FUMO (Friese Uitvoeringsdienst Milieu en Omgeving) this organisation is a collaborate network and platform for spatial planning expert of government employees. All municipalities that are member of the FUMO exchange knowledge and information. The main objective of FUMO and its sister organisation (*RUD, Regionale Uitvoerings Diensten*) in the other parts of the Netherlands is to support its members (the municipalities) in collaborative subjects and on behalf of the members performing tasks and facilitate joint projects. Basically the municipalities outsources certain tasks (like; noise zoning) to a regional organisation. All this joint expertise guarantees a high standards of knowledge and compliance with current legal requirements. Therefore, based on no warnings from FUMO, and no complaints from other governmental or private organisation, it can be concluded that the Port of Harlingen NV is complying with its legal requirements.

Legal statement

We state that the register of environmental aspects and legal requirements in this document of the PERS application dated (23 januari 2018) is suitable and relevant for the main environmental aspects of the port of Harlingen.

naam: C. Vierenhalm

titel: mr.

plaats: Delfzijl

hantekening

A handwritten signature in blue ink, appearing to read 'C. Vierenhalm', is written over the 'hantekening' label.

6.2 Policy conformity

This is the third time that we apply for a PERS certification. Within our policy statement we commit ourselves to maintain our environmental management system. To do this, we follow international standards. We aim to update and maintaining the PERS certification, and to ensure compliance with the indicators of the PERS. When required, the partnerships with research institutes (e.g. the Wageningen University and/or Van Hall Larenstein University) or other organizations and experts will be maintained. The data of the indicators will be collected as aforementioned to monitor the environmental performance of the port.

Regarding the environmental impacts, we try to actively keep ourselves informed about the progress made, execute the required actions and stimulate tenants and vessels to comply with the regulations. Next to that, we will comply with the commitments formulated; being the most relevant:

- Keep ourselves informed about the progress made, execute the required actions and stimulate tenants and vessels to comply with the regulations.
- Allocate funds and resourced for specific and relevant projects such as for the silt engine (to facilitate the development of saltmarshes).
- For other projects funds and resources have been allocated. e.g. the installation of LED lights.

7 Examples of best practices

6.2 Inzetplan oliebestrijding Port of Harlingen

1. Project Description

Action plan oil prevention

The Wadden Sea is special because of its shallow, silt-rich areas and powerful tidal currents. The social, ecological and economic values of the Wadden Sea region are strengthened by the attractive islands and with the port of international importance.

These values of the Wadden area must be cherished and protected.

In order to prevent and limit the influence on de Wadden Sea due to oil pollution in the port, a plan has been drawn up by Rijkswaterstaat to make it possible to work as quick and efficiently as possible in the event of oil pollution in the port. The “inzetplan oliebestrijding haven” can be found in ANNEX VII. Noted that this is still an concept version.

2. Environmental Aspects involved

Direct effect on port and ships in the port. Points of interest are Sluice/outgoing water, embankment with rock. If oil is outside the port -> see “inzetplan Friese kust”.

Waste and Water quality are the environmental aspects involved.

3. Stakeholders involved

BDS Harlingen B.V.
Gemeente Harlingen
Havendienst Harlingen
Rijkswaterstaat Noord-Nederland
Rijkswaterstaat Verkeer- en Watermanagement
Waddenvereniging

4. Contact for information

Port of: Harlingen
Contact name: Dirk Klinkenberg
Job title/position: Harbor Master
Postal address: Waddenpromenade 9-3, 8861 NT Harlingen
Telephone: 0517-723338
Fax: n/a
E-mail: D.Klinkenberg@portofharlingen.nl
Website: <http://www.portofharlingen.nl>

6.3 Green Deal, Visserij voor een schone zee(GD171) – waste flyer

1. Project Description

Fishing for litter

The Green Deal Fisheries for a Clean Sea wants to reduce the amount of waste that ends up in the fisheries sector. Fishing vessels will therefore store waste as much as possible separately and dispose of separately in Dutch fishing ports. The waste streams that are separated are: household waste, the "Fishing for litter" waste (waste caught by by-catch) and waste from business and gear.

In order to close the waste chain, logistic measures are taken, both on board and in ports. There is a pilot with Big Bags on board for the storage of household waste. This pilot will end at the end of 2014. The experience gained is included in the Green Deal. Another point of attention is the logistics and organization degree in fishing ports. It is considered how waste can be processed faster, or waste can be delivered near the landfills and which measures are effective and financially feasible.

In addition, the Green Deal parties want to create more awareness through education. And they join a project that develops an affordable alternative for lint (polyethylene wires that protect fishing nets). The Port of Harlingen developed a flyer that shows where the waste point are situated in the harbour.

2. Environmental Aspects involved

Ships will aboard the three waste streams and deliver as much as possible in the Dutch fishing ports. To achieve that, best practices are developed. By 2020, this will lead to a structured collection by fisheries. Other parties will process this structured collection in the harbor waste plan for fishing ports.

In addition, parties want to continue and expand the current "Fishing for litter" program. By 2020, 95% of waste from operations and gear and "Fishing for litter" landfilled by fishing vessels in the Netherlands will be recycled or used. All this ultimately will contribute to the reduction of litter coming from the fishing industry which will lead to lesser pressure on the ecosystem.

Waste is the environmental aspect involved.

3. Stakeholders involved

Bek & Verburg, Gemeente Den Haag, Gemeente Harlingen, Gemeente Hollandse Kroon, Groningen Seaport, Haven Den Oever, Haven Lauwersoog, Haven Scheveningen, KIMO Nederland en België, Maritieme Afvalstoffen Inzameling Nederland, Port of Den Helder, Stichting de Noordzee, Stichting ProSea marine education, VisNed, Zeehaven IJmuiden NV

4. Contact for information

Port of: Harlingen

Contact name: Andries Koornstra

Job title/position: Port officer

Postal address: Waddenpromenade 9-3, 8861 NT Harlingen

Telephone: 0517-723332

Fax: n/a

E-mail: A.Koornstra@portofharlingen.nl

Website: www.portofharlingen.nl/

Annex I – Annual report

	<u>2015</u>	<u>2016</u>	<u>+/- %</u>
Containers (TEU's)	19.702	22.975	+ 16
Zeescheepvaart			
• Overslag (tonnen) *)	1.526.331	1.780.871	+ 16
• Aantal laden / lossen	491	631	+ 28
• Aantal niet laden / lossen	<u>489</u>	<u>641</u>	+ 31
• Totaal aantal zeeschepen	980	1272	+ 30
Binnenscheepvaart			
• Overslag (tonnen) **)	1.781.621	1.940.093	+ 9
Totaal overslag (tonnen) *) + **)	3.307.952	3.720.964	+ 12
Visserij			
• Totaal aantal <u>zeekotters</u>	2122	2465	+ 16
• Totaal aantal binnenvissers	3345	3375	+ 1
Beroepszeilvaart			
• Passanten (aantal)	942	989	+ 5
Riviercruiseschepen	55	40	- 27
Zeecruiseschepen	2	2	-

In bovenstaande cijfers werden niet opgenomen:

- het totale gewicht van de overgeslagen containers
- overslag die plaats vond via rederij Doeksen

Annex II - Depth Harlingen Harbours

	<i>Lengte</i>	<i>Hoogte kade/steiger</i>	<i>Diepte</i>	<i>Geul</i>	<i>Ton/m²</i>
		+ NAP	- NAP	- NAP	
Industriekade paal 1-8	140	3,00	6,50	7,50	6
Industriekade paal 8-38	600	3,00	7,50	7,50	6 tot 9
Korte Lijnbaankade	450	3,20	8,50	8,50	20
Visserskade	260	3,00	6,00	6,00	1,5
Dok oost	185	3,75	4,90		
Dok west	170	3,00	4,90		
Vluchthaven	165	2,50	4,50		
Vissershaven betonsteiger	240	3,00	5,20		
Vissershaven steiger hout	400	2,50	5,20		
NW Willemshaven charterkade	200	3,00	6,00		
Tsjerk Hiddessluizen			4,50		
Tsjerk Hiddesdrempel			4,40		
Voorhaven			7,50		
Hermeskade	280	+/- 0,80		3,75	
NW Willemshaven	365	3,50	6,00	6,20	3
NW Willemshaven achterin			5,60		
Plankenpad	130	2,00	4,50		
Wilbrinkkade	210	4,00	7,50		
Zuiderpiersteiger	500	3,00	2,50 tot 5,60		
Wachtpalen Noorderpier	210	4,00	7,50		
Sassteiger	50	1,00	5,00		

Annex III - Laws and regulations

Issue	Wetgeving
Waste	<p>International: MARPOL 73/78</p> <p>European: Richtlijn 2000/59/EG Richtlijn 2913/92 Richtlijn 91/156 Richtlijn 75/439/EEG Richtlijn 91/689 Richtlijn 95/21</p> <p>National: Wet milieubeheer <ul style="list-style-type: none"> - besluit algemene regels voor inrichting milieubeheer - besluit inzamelen afvalstoffen - regeling inzamelaars, vervoerders, handelaars en bemiddelaars van afvalstoffen - regeling melden bedrijfsafvalstoffen en gevaarlijke stoffen - landelijk afvalbeheerplan II 2009-2021 - publicatiereeks gevaarlijke stoffen </p> <p>Wet voorkoming verontreiniging schepen <ul style="list-style-type: none"> - besluit voorkoming verontreiniging schepen - regeling voorkoming verontreiniging schepen - besluit havenontvangstvoorzieningen - regeling inzake het scheiden en gescheiden houden van gevaarlijke afvalstoffen - besluit meldingsformaliteiten en gegevensverwerking scheepvaart </p> <p>Kaderrichtlijn maritieme strategie</p> <p>Provincial en local: Provinciale milieuverordening Fryslân HAVenverordening Harlingen</p> <p>Others: Scheepvaartreglement territoriale zee Wet economische delicten</p>
Soil	<p>Wet bodembescherming</p> <p>Besluit bodemkwaliteit (oa baggerspecie)</p> <p>Nederlandse richtlijn bodembescherming</p>
Air/emissions	<p>MarPol 73/78</p> <p>Wet milieubeheer, hoofdstuk 5.2</p>

	<p>Wet inzake luchtverontreiniging</p> <p>Besluit broeikasgassen in apparatuur op schepen milieubeheer</p> <p>Besluit brandstoffen luchtverontreiniging → uitvoering richtlijn 1992/32/EG betr zwavelgehalte van brandstoffen</p> <p>havenbeheersverordening</p> <p>EU richtlijn 2005/33/EC scheepvaart emissies.</p> <p>Kaderrichtlijn luchtkwaliteit</p> <p>NEC – nationaal emissie plafond</p> <p>EIA- energie investerings aftrek → fiscaal voordeel voor energiezuinige technieken</p> <p>IPCC richtlijn</p> <p>NeR – nederlandse emissie richtlijn</p>
Water	<p>Wet milieubeheer</p> <p>Kaderrichtlijn water</p> <p>Wet geluidhinder</p> <p>Waterwet</p> <p>Grondwaterrichtlijn</p> <p>Wet bestrijding maritieme ongevallen</p> <p>Ballastwaterverdrag</p>
Noise	<p>Wet geluidhinder</p> <p>Wet milieubeheer, hoofdstuk 11</p> <p>Besluit geluid milieubeheer</p> <p>Gebruiksvoorschriften haven</p> <p>Omgevingsvergunning</p> <p>Bestemmingsplan</p>
Nature	<p>Habitat richtlijn</p> <p>Vogelrichtlijn</p> <p>Natura 2000</p> <p>Wet natuurbescherming</p> <p>PKB Waddenzee</p> <p>Internationale afspraken en Europese richtlijnen Waddenzee:</p> <ul style="list-style-type: none"> - Verklaring van Schiermonnikoog - Verdrag van Bern - Verdrag van Bonn - Ramsar verdrag - Vogelrichtlijn - Habitat richtlijn - Europese Kaderrichtlijn water - Particular sensitive Area - Werelderfgoed - Afspraken IMO (internationale Maritime Organisatie) - Afspraken OSPAR (Oslo Parijs Conventie)
Safety	<p>Wet bestrijding maritieme ongevallen</p> <p>Wet veiligheidsregio's</p> <p>Havenbeveiligingswet</p> <p>Bestemmingsplan</p>

	Besluit externe veiligheid transportroutes
	Besluit externe veiligheid buisleidingen
Scheepvaart	SOLAS Verdrag
	Schepenwet
	Binnenvaartwet
	Scheepvaartverkeerwet
	Wet buitenlandse schepen
	Wet havenstaatcontrole
	Wet laden en lossen zeeschepen
	Havenbeveiligingswet

Annex IV – Levy waste overview

Categorie schip	Type afval	Tarief per afgifte	Wijze afgifte	Afgifterecht	
Zeeschepen	Annex I	Directe betaling	Via agentschap	MAIN	€ 50
	Annex V	€ 50 +€ 10 adm	Via agentschap	Visser	
Noordzeekotters bij Insula	Annex I	SFAV	Milieuboot/ bunkerboot	De Boer/MAIN	
	Annex V	Overeenkomst met Insula	Inzamelaar via Insula		
	Overig	Overeenkomst met Insula	Inzamelaar via Insula		Verpakt vloeibaar afval
Noordzeekotters niet bij Insula (lid SFAV)	Annex I	SFAV	Milieuboot/ bunkerboot	DeBoer/MAIN	
	Annex V	€5	Milieuboot/ bunkerboot	MAIN	
	Overig	€5		MAIN	
	KGA	SFAV	Insula (gele zak)	MAIN	
Noordzeekotters niet bij Insula (niet lid SFAV)	Annex I	Directe betaling	Milieuboot/ bunkerboot	De Boer/MAIN	
	Annex V	€50+€10 adm.	Milieuboot/ bunkerboot	MAIN	€ 50
	Overig	Directe betaling	Milieuboot/ bunkerboot	MAIN	
Binnenschepen	Annex I	SAB	Milieuboot/	MAIN	

			bunkerboot	
	Annex V	Directe betaling	Milieuboot/ bunkerboot	MAIN
Wadvissers	Annex I	SAB/SFAV	Milieuboot/ bunkerboot	De boer/MAIN
	Annex V	Directe betaling	Milieuboot/ bunkerboot	MAIN/Insula
VBZH	Annex I	SAB	Milieuboot/ bunkerboot	MAIN
	Annex V	Overeenkomst met gemeente	Perscontainer	Visser
Overige "bruine zeilvaart"	Annex I	SAB	Milieuboot/ bunkerboot	MAIN
	Annex V	Afvalheffing	Perscontainer	Visser
Recreatievaart	Annex I	Directe betaling	Jachthaven	
	Annex V	Directe betaling	Jachthaven	
	Annex I =	Afgewerkte olie (sludge)	Annex V =	Vaste afvalstoffen incl.
		Lenswater (bilge)		Klein Gevaarlijk Afval
		Ladingsresten olie		Verplakt vloeibaar afval
		Ballastwater olie		Veegvuil
		Waswater olie		Huishoudelijk afval
		Brandstofresten		Emballage

Annex V - Collected waste per MARPOL ANNEX

Port waste - 2015			
Annex I	Oil contaminated waste	1.012.046	Kg
Annex II	Contaminated liquid substances in bulk	0,00	M ³
Annex IV	Sewage waste	0,00	M ³
Annex V	Small dangerous waste(KGA)	27.199	Kg
Annex V	Household waste	621	M ³

Port waste - 2014			
Annex I	Oil contaminated waste	975.969	Kg
Annex II	Contaminated liquid substances in bulk	0,00	M ³
Annex IV	Sewage waste	0,00	M ³
Annex V	Small dangerous waste(KGA)	27.173	Kg
Annex V	Household waste	730	M ³

Port waste - 2013			
Annex I	Oil contaminated waste	829.966	Kg
Annex II	Contaminated liquid substances in bulk	0,00	M ³
Annex IV	Sewage waste	0,00	M ³
Annex V	Small dangerous waste(KGA)	21.651	Kg
Annex V	Household waste	535	M ³

Afvalinzameling visserij in de Waddenzeehavens

Algemene inleiding

Op 20 november 2014 is de Green Deal Visserij voor een Schone Zee ondertekend. Deze Green Deal is tot stand gekomen omdat de partijen zijn overeengekomen dat de maritieme afvalkringloop gesloten moet worden, doormiddel van afval preventie, afvalmanagement in de havens en door afgiftemaximalisatie van verschillende afvalstromen vanuit de visserij.

Doelstelling

1. De vissersschepen houden al het 'Fishing for litter' en al het operationeel scheepsafval en huishoudelijk afval dat niet geloosd mag worden apart aan boord, en geven deze drie afvalstromen in de Nederlandse visserijhavens zoveel mogelijk apart af.
2. In 2016 Faciliteren vier visserijhavens de afvalstromen uit de visserij op toereikende wijze en zonder oponthoud voor de vissers. De drie afvalstromen worden apart ingezameld.
3. Uniforme werkwijze Waddenzeehavens vanuit Ecoports en Green Dealprojecten.

Om deze doelstelling te realiseren is er door de Noordelijke Visserijhavens een uniform overzicht van de inzamelingsfaciliteiten opgesteld, zodat nog duidelijker is waar en hoe diverse afvalstromen afgegeven kunnen worden.

Wie doet wat?

In Nederland kennen we voor de afgifte en verwerking van scheepsafval het systeem van directe en indirecte financiering.

Stichting Financiering Afvalstoffen Visserij:

De visserij kan middels het betalen van een abonnementstarief lid worden van het SFAV. Het abonnementstarief geldt als de indirecte financiering voor afvalstromen Annex I en Annex V-KGA. De visser krijgt van het SFAV zakken uitgereikt die gebruikt kunnen worden voor Annex V-KGA.

Havenbeheerder:

Naast het lidmaatschap van het SFAV betaald de visser aan de havenbeheerder een vast bedrag (HAP-heffing) per binnenkomst voor de afgifte van Annex V-huishoudelijk afval. De havenbeheerder zorgt daarmee voor de inzameling, afvoer en verwerking van Annex V- huishoudelijk afval.

Geen SFAV lid valt onder het HAP zie www.harlingen.nl/haven

Visser:

Van de visser wordt verwacht dat hij zijn afval in de daartoe bestemde, in de onder genoemde tabel verduidelijkte, opslag locaties deponert of de inzamelaar belt voor de afgifte van vloeibare afvalstromen.

Overig bedrijfsafval:

Al het overige bedrijfsafval valt onder het systeem van directe financiering, dit wil zeggen dat de visser rechtstreeks met de inzamelaar afrekent. De visser is hiervoor zelf verantwoordelijk.

Fishing for litter:

Het Fishing for litter afval (big bags) wordt door het KIMO kosteloos opgehaald en afgevoerd.

Contact gegevens:

Port of Harlingen, havendienst

haven@harlingen.nl

Waddenpromenade 9-3

Postbus 10.000, 8860HA Harlingen.

Tel. 0517-492300 www.harlingen.nl/haven

Faciliteiten in de haven van Harlingen

Soort afvalstroom	Afvalverwerker + contact	Opslag, hoe / waar?	Opgehaald op	Bijzonderheden
Annex I Oliehoudend afval	Main Tel. 0223-632177	Bilgeboot	Aanvraag	MAIN XI (VHF11)
Annex V KGA	Main Tel. 0223-632177	SFAV-lid: - Groene SFAV-zak in de grijze container vv visserijnummer Geen SFAV-lid: - Main	Aanvraag	Visveiling verzamelt grijze containers en plaatst SFAV-zakken in container van Main.
Annex V Huishoudelijk afval	Visveiling Urk locatie Harlingen Tel. 0517-413011	Grijze containers op - visserijsteigers - Industriekade t.h.v. HOV (bij ISPS-hek) - Industriekade t.h.v. Daalimpex (ISPS-hek)	Zelf in container plaatsen	Pilot mini-bigbags uitgifte door Visveiling
Scheepsgebonden bedrijfsafval	Visveiling verzamelt voor: - Visser ATR/Omrin Tel. 0517-413011		Aanvraag	Bij grote klussen zelf container bestellen bij Visser ATR Tel:0517-418552
Pluis	Visveiling verzamelt voor: Tel. 0517-413011	Container bij visveiling	Aanvraag	
Fishing for Litter	Visveiling verzamelt voor: KIMO/Bek & Verburg 0517-413011	Bigbags bij voorkeur op visserijsteigers.	Aanvraag	Bij weekendplek aan Industriekade: vervoer aanvragen bij Visveiling

