PORT OF DEN HELDER

Port Environmental Review System (PERS)

2021- 2023

PORT OF DEN HELDER

ECOPORTS

ESPO

PORT OF DEN HELDER

Contents

1. Introduction

Port of Den Helder is located in the UNESCO world heritage area Wadden Sea. The port realizes that this location brings with it that sustainable developments and environmental protection are important conditions for the economic development in and near the Port of Den Helder (Port of Den Helder) is located in the UNESCO world heritage area Wadden Sea.

Port of Den Helder was Ecoport certified for the first time in 2015. In 2019, Port of Den Helder developed a sustainability policy for both his own operations and for the chain in the port. The projects and the management of the port concerning the environment are described in this Port Environmental Review System (PERS). The PERS is an instrument of ESPO (European Sea Ports Organization) for ports in Europe to increase awareness about environmental challenges, deliver compliance with legislation and tot demonstrate a high standard of environmental management.

The PERS is based on elements of the ISO 14001 standard, this makes it easier for ports to meet the international environmental standard. The results of the past two years are displayed and the plans for the upcoming two years (2021-2023) are being presented. Reviewing of the PERS is done by the independent bureau Lloyd's Register, after which, in case of a positive review, an EcoPorts certification is being awarded on sufficient progress of the environmental performance of the port. This PERS 2021-2023 is in English in contrast to the PERS 2017-2019. We have chosen English because of the trilateral cooperation with the Germany and Denmark Wadden Sea ports. .

2. Port profile

Port of Den Helder is The Offshore Service and logistic centre of the Southern North Sea in The Netherlands. For more than thirty years operations and maintenance for the offshore sector have been based in Den Helder. The Port of Den Helder occupies, on both a national and international scale, an important position as the offshore supply base. On a daily basis, 95% of all production platforms and various drilling rigs in the Dutch sector of the North Sea receive deliveries of supplies and replacement crew members are supplied from Den Helder. Also activities based on the UK sector of the Southern North Sea are serviced from Port of Den Helder. Not only is it the port with the shortest sailing times to the largest number of platforms on the Continental Shelf, but it is also the base of operations delivering optimum service to the international offshore industry.

The Port of Den Helder aims to further expand and underline this solid position over the next few years. Skills that have been required to build its current position are transferable to other offshore (energy) sectors, such as Offshore Wind, Ocean Energy and Ocean Life. Den Helder is centrally located at the heart of the Offshore Wind Locations in the North Sea, not only for the Dutch windfarms but also for the large far offshore windfarms from the UK, Denmark and Germany.

Ground-breaking developments in the field of technology and research have resulted in a massive upsurge in market demand to which the seaport has so far always come up with a suitable response, in the form of new (ISPS-certified) and well-sheltered quaysides, a port that operates 24/7 and delivers optimum service provision thanks to central logistics and rapid vessel handling, and with short sailing times to the Continental Shelf.

The Port of Den Helder is also an ideal base of operations for the (de)mobilisation of vessels deployed for seabed survey work, diving activities and inspection, repair and maintenance work. Semisubmersible rigs operating in the wind energy sector regularly visit the port.

Various sectors and activities can be found in the port:

- **Offshore port**
  The offshore sector has been located in the PoDH with operations and maintenance for more than thirty years. The port serves 140 production platforms and various drilling rigs in the Dutch North Sea sector every day; materials are brought to the platforms by ship while the personnel are brought to the platforms by helicopter via Den Helder Airport. Nine energy companies bundle their logistics activities with the SNS pool. In addition, the port is used by ships that are used for, among other things, seismic research and the laying of cabling on the seabed.

- **Den Helder Airport**
  Den Helder Airport is one of the largest offshore heliports in North West Europe. Every day, helicopters fly offshore employees to and from the drilling platforms and oil and gas production platforms on the Dutch Continental Shelf. Den Helder Airport also serves business customers outside the offshore business who are looking for the shortest possible travel time to their destination.
- **Fishery**
  The Den Helder / Texel Cooperative Fish Auction is one of the most modern fish auctions in Europe.
- **Knowledge hub**
  International research institutes including TNO, IMARES, WMC, NIOZ, MCN, KIM / NLDA and ECN conduct applied research from Den Helder on a wide range of innovations in the field of sustainable energy generation at sea, ecological protection of the sea, making activities sustainable sea. Other areas of research are corrosion prevention measures for offshore platforms, wind turbines and hulls.
- **Other port activities**
  - Houses the main communication and coordination center of the Dutch Coast Guard;
  - Ferry service between Den Helder and Texel, operated by TESO.
  - Marinas for recreational sailors
  - Home base of the Royal Dutch Navy

2.1 Civil and military port

The Royal Dutch Navy is also located in the harbor. For environmental policy, we make a distinction between the civil and military port. This PERS only focuses on the civil port. Port of Den Helder maintains close contacts with the Royal Dutch Navy, therefore a Cooperation Statement was signed in 2013 between the Royal Dutch Navy and the Port of Den Helder. For example, when it is busy in the civil port, civil ships can use of quays in the military port, provided the operations of the Navy are not impeded by this. Although the civil ships are moored in the military port, these ships are subject to the rules and regulations of Port of Den Helder, this way the civil use of the military port falls under the EcoPort certification.

2.2 Port area

The area of Port of Den Helder is approximately 87 hectares in size (water 36 ha and terrains 51 ha), with the following terrains / quays / waters:

- Het Nieuwe Diep with the quays: (Paleiskade, Nieuwediepkade, Visserijkade, Het Nieuwe Diep and Het Nieuwe Werk;
- Industrialport Westoever / Spoorweghaven;
- Oostoever with the quay Oostoeverkade at the Noord-Hollands kanaal;
- Koopvaardersbinnenhaven with public quays for pleasure craft;
- Inland port Kooyhaven ;
- Business park Kooypunt.

Port of Den Helder explores various locations in the port that can be (re) developed in the short, medium and long term to offer space for new activities in the port.
The development strategy is aimed at optimal use of the available space before expansion.
For a Wadden Sea port such as Den Helder, expansion is only possible if all space within the port has been optimally utilized and, moreover, only via the Building with Nature route, on the condition that economic and ecological profit must be in balance with each other. In 2019, a tendering process was started by the province of Noord-Holland for a feasibility study into the concept of expanding the port via the Building with Nature route.

2.3 Management statement

Port of Den Helder is aware of its socio-economic responsibility as a manager of an important port area. Port of Den Helder is an important economic engine for the Kop van Noord-Holland. Den Helder is the largest logistics hub for the Offshore in the southern part of the North Sea. People are aware that the harbor location is located in the UNESCO-protected Wadden Sea world heritage site. The port has therefore consciously opted for a strategy of sustainable growth with an eye for people and nature.

The core values of Port of Den Helder are:

> "Port of Den Helder is a professional, self-aware and learning organization with room for input, personal responsibility, as a reliable partner, based on mutual dependence and with an eye for sustainability."

Port of Den Helder strives for continuous improvement of its environmental policy that is in line with the activities and competencies of the port, and that is in line with developments in the market.
To achieve this continuous improvement in our environmental policy, environmental performance indicators are set to monitor the environmental performance and progress towards achieving these environmental goals. The environmental aspects register, with significant environmental aspects and legal requirements, is a very helpful tool for us.
In the field of sustainability, Port of Den Helder places itself in an exemplary function. From the position as connector and driver of the chain of port-bound companies, we encourage mutual sustainability.

For this we have identified the most important environmental aspects and relevant indicators have been drawn up to be able to monitor our progress.

The indicators are also a means to further develop our environmental policy and to identify areas of success or problem areas.

Port of Den Helder is committed to a policy that meets international standards and, where possible, goes beyond strict compliance with international, European, Dutch or local legislation. For example, Port of Den Helder contributes to Corporate Social Responsibility (maatschappelijk verantwoord ondernemen).

We have committed ourselves to/for:

- Maintenance, compliance and development of a PERS certification from the European Sea Ports Organisation;
- Develop a sustainability policy in collaboration with our stakeholders;
- Implementation of our Ambition Document Sustainability Port of Den Helder in which a contribution is made to the protection of the environment;
- Monitoring and reduction of waste; promoting waste reduction and recycling;
- Avoidance of noise pollution;
- Stay informed and comply with relevant environmental legislation and regulations;
- Participate in various think tanks and system studies in the field of energy transition
- Publish external communication of our environmental policy on the website;
- Sustainable projects in the port by identifying the port company and where possible to develop;
- Organizing port meetings and workshops with stakeholders on the theme Sustainability
- Encouraging companies, foundations and government agencies to develop sustainable projects in the port area;
- Sharing information with other Wadden Seaports to learn together and improve our joint environmental policy;
- Publishing a biennial Environmental Report on our website

Port of Den Helder strives for an environmental management system that is tailored to the socio-economic and ecological context of the port area and to adapt this to current events.

Den Helder, July 2020

J.F. Bolderheij
Director NV Port of Den Helder

3. Environmental Aspects and Legal Requirements Port of Den Helder

3.1 Environment Aspects register

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 (*Table 1*) 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. 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 II.*

Ref. Nr.	(sub) department, tenant, operators	Impact on	Responsible person / organisation	Applicable legislation	Legal requirements	Control measures
	Port authority					
H1	Bunkering-spillage of fuel	Water	Harbour: Rijkswaterstaat Inner Harbour: Hoogheemraadschap Hollands Noorderkwartier Harbour master	Waterwet Havenbeheersverordening, section 11	Prevention of water Contamination Notification	Enforcement Signaling and report Containment Permission
H2	Ship - noise	Noise	Harbour master Omgevingsdienst Noord-Holland Noord	Omgevingsvergunning milieu, section 4	Average noise levels on several controlpoints	Monitoring
H3	Ship - waste delivery	Land Water	Harbour master IL&T	Havenbeheersverordening, section 7, 10 Marpol 73/78 Wet voorkoming verontreiniging door schepen	Obliged facilities for segregated disposal Notification	Monitoring Enforcement
H4	Ship - delivery ballastwater / waste water	Water	Harbour master	Marpol 73/78 Wet voorkoming verontreiniging door schepen	Obliged facilities Notification	Monitoring/signaling

			RWS IL&T	Havenbeheersverordening, section 10 Waterwet Wet voorkoming verontreiniging door schepen	Notification disposal	
H5	Cargo Handling	Water Land	Harbour Master Ships Agencies IL&T Omgevingsdienst Noord-Holland Noord	Omgevingsvergunning milieu, section 2, 4 PGS 15 Havenbeheersverordening, section 2, 3, 6, 8	Permit Permission	Monitoring/signaling Supervise and enforce Supervise and enforce
H6	Dredging-sediment disposal	Land Water	Port engineer	Waterwet Natura 2000-beheerplan Waddenzee Wet natuurbescherming Flora- en faunawet Wet milieubeheer	Permit Review Review Review Permit/Notification	On project base
H7	Incidents and complaints	Water Air Noise	Harbour master Senior advisor	Omgevingsvergunning milieu, section 1 Havenbeheersverordening, section 8		Monitoring Act on incidents Handle complaints
H8	Shipping and navigation	Water Safety	Harbour master RWS (Rijkshavenmeester) IL&T	Havenbeheersverordening, section 7 Scheepvaartwet Binnenvaartpolitiereglement Port State Control	Notification Permission	Monitoring Supervise and enforce
H9	Port Maintenance	Land Water	Port engineer	Waterwet Natura 2000-beheerplan Waddenzee Wet natuurbescherming Flora- en faunawet Wet milieubeheer Wet bodembescherming	Notification Permission	On project base

	Tenants and organisations					
T1	Cargo processing operations	Air Land Water Noise	Ships Agencies IL&T Omgevingsdienst Noord-Holland Noord Harbour master	Wet milieubeheer PGS Waterwet Wet geluidhinder	Permit Notification Permission	 Supervise and enforce Supervise and enforce
T2	Cargo Handling	Water Land Noise	Ships Agencies IL&T Omgevingsdienst Noord-Holland Noord	Wet milieubeheer Wet geluidhinder PGS 15	Permit Permission Exemption	 Supervise and enforce Supervise and enforce
T3	Fishery - waste	Water Land	Ships Fish auction IL&T	Marpol 73/78 Wet voorkoming verontreiniging door schepen	Notification Obliged facilities for segregated disposal	Monitoring Supervise and enforce
T4	Ship building and repair	Water Land Air Noise	Shipyard Omgevingsdienst Noord-Holland Noord	Wet milieubeheer Wet geluidhinder Waterwet	Permit	Monitoring
T5	Waste management	Water Land	Waste collectors Senior Advisor IL&T Omgevingsdienst Noord-Holland Noord	Wet milieubeheer Havenbeheersverordening, section 10	Permit Permit port reception facility	Monitoring Supervise and enforce Supervise and enforce
T6	Bunkering	Water	Bunkering companies Harbour master RWS Omgevingsdienst Noord-Holland Noord	Wet milieubeheer Havenbeheersverordening, section, 8 en 11	Permit Notification	 Monitoring Supervise and enforce Supervise and enforce
T7	Land traffic containers	Air	Agencies	Richtlijn 2008/50 EG betreffende luchtkwaliteit en schonere lucht voor Europa Wet vervoer gevaarlijke stoffen	Permit/ Notification	

				Wet milieubeheer Wet inzake luchtverontreiniging Wet wegvervoer goederen Wet geluidhinder		
			IL&T Omgevingsdienst Noord-Holland Noord			Supervise and enforce Supervise and enforce
T8	Fishing for Litter	Water	KIMO Fishery Bek & Verburg	Wet milieubeheer Marpol 73/78 Havenbeheersverordening Gebruiksvoorschriften kades	Permit Notification	Supervise and monitoring
	Other					
O1	Safety / Security	Safety Security	IL&T Omgevingsdienst Noord-Holland Noord Harbour master PFSO PSO	Arbo wet ISPS-code EU 725/2004 Havenbeveiligingswet	Permit/Notification Notification	Working conditions Protection port facilities and ships
O2	Sustainability: CO2 reduction – own operations	Air	Port of Den Helder – Project group Sustainability/Policy Advisor		Ambitiedocument Duurzaamheid PoDH – Actieplan Duurzaamheid	Monitoring CO2 prestatieladder

Legal statement

We state that the register of legal and other environmental requirements in this section of the PERS application, dated april 2020, is suitable and relevant for the main environmental aspects of the Port of Den Helder.

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3.2 Environmental performance indicators

As in the previous PERS, Port of Den Helder has for this PERS prioritized five environmental aspects based on the project plans for the coming two years as shown in Table 2. These environmental aspects are related to the Ambitiondocument Sustainability Port of Den Helder – Heading for a climate neutral port (Ambitiedocument Duurzaamheid Port of Den Helder – Op koers naar een klimaat neutrale haven). The Ambitiondocument Sustainability and the environmental priorities have been drawn up in consultation with the stakeholders. Every year there is a meeting with the stakeholders in which the state of affairs is discussed and new initiatives are coordinated.

Prioritization	PERS 2017 - 2019	PERS 2021 – 2023
1	Waste	Port Development (on land)
2	Noise	Air Quality
3	Energy consumption	Energy consumption
4	Port development (on land)	Garbage/Port waste/Ship waste
5	Dredging (Operation and Waste processing)	Noise

Table 1 Environmental aspects of the previous PERS and the current PERS.

Table 2 shows the environmental aspects of the previous PERS and the current PERS. As with the previous PERS, a number of indicators have been drawn up as performance indicators. Port of Den Helder sets goals that it pursues in its environmental policy. Based on this Port of Den Helder can quantify results and determine whether the environmental policy has been successful.

Environmental priorities	Indicator	Unit
Waste	Amount of waste per year	m^3 Waste per year
	Monitoring complaints about port waste reception facilities	Amount of complaints
	Amount of waste collected via fishing for litter	Tons waste per year
	Number of participating vessels fishing for litter project	Amount of ships
Noise	Monitoring noise complaints	Amount of complaints
	Integrated noise research	Completion of research + determination of port noise space
Energy consumption	Monitoring the use of shore power by ships	kW/year
	Monitoring power consumption through lighting	kW/year
Port development (on land)	Project development according to the roadmap	Program roadmap
Dredging	Amount of dredging per year	M^3/year

Table 2 Environmental aspects and indicators of the PERS 2017-2019.

3.3 Results PERS 2017-2019

In the PERS 2017-2019, Port of Den Helder has prioritized five environmental aspects based on project plans, these were:

1. Waste
2. Noise
3. Energy consumption
4. Port development (on land)
5. Dredging

3.3.1 Waste

Indicator(s)

- Amount of waste collected in the port each year

After a period in which the number of calls (incoming ships) decreased while there was an increase in the reception of ship waste, a stabilization can be observed over the years 2017-2018 (figure 1). But over 2019 there was another increase in the reception of waste.

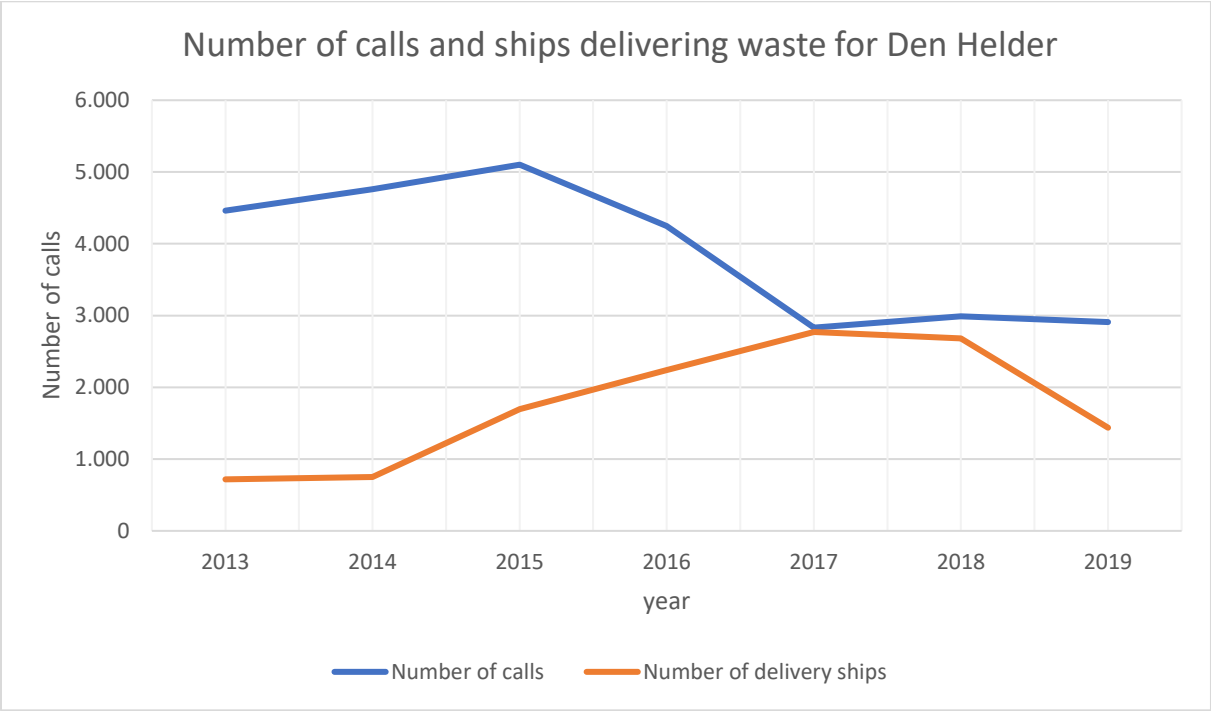


Figure 1: number of calls and ships delivering waste for Den Helder

convention	waste type	type of waste
MARPOL 73/78, ANNEX I	Fuel residues (sludge)	Ship generated
	Used engine oil	
	Bilge water	
	Oily tank washings	Cargo-associated waste
	Bballast water (from cargo tanks)	
MARPOL 73/78, ANNEX II	Tank washings chemicals	Cargo-associated waste
MARPOL 73/78, ANNEX IV	Sewage	Ship generated
MARPOL 73/78, ANNEX V	Domestic waste	Ship generated
	Small dangerous waste	
	Plastic	
	Food waste	
	Cargo-associated waste	Cargo-associated waste
	Other waste	
	Dry cargo residues	
MARPOL 73/78, ANNEX VI	Ozone depleting substances	Ship generated
	Scrubber waste	
Ballastwater Convention	Sediments	Ship generated
	Untreated ballastwater	

Table 4: explanation about Marpol Annexes

In contrast to the decrease in the number of ships delivering waste, there is an increase in the delivery of Annex V over 2019, as well as an increase in total delivery of waste.

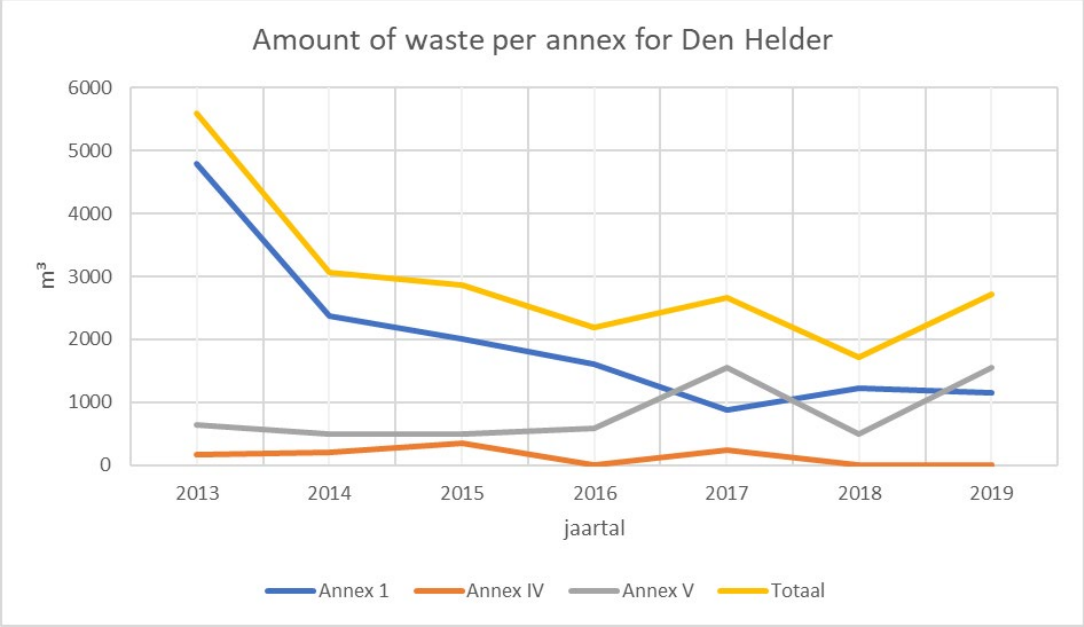


Figure 2: Amount of waste per annex for Den Helder

The same trend as in figure 1, can be seen in figure 2 over the 2017-2018 period, that the disposal per ship has stabilized. However, in 2019 an increase in the total delivery per ship can be observed.

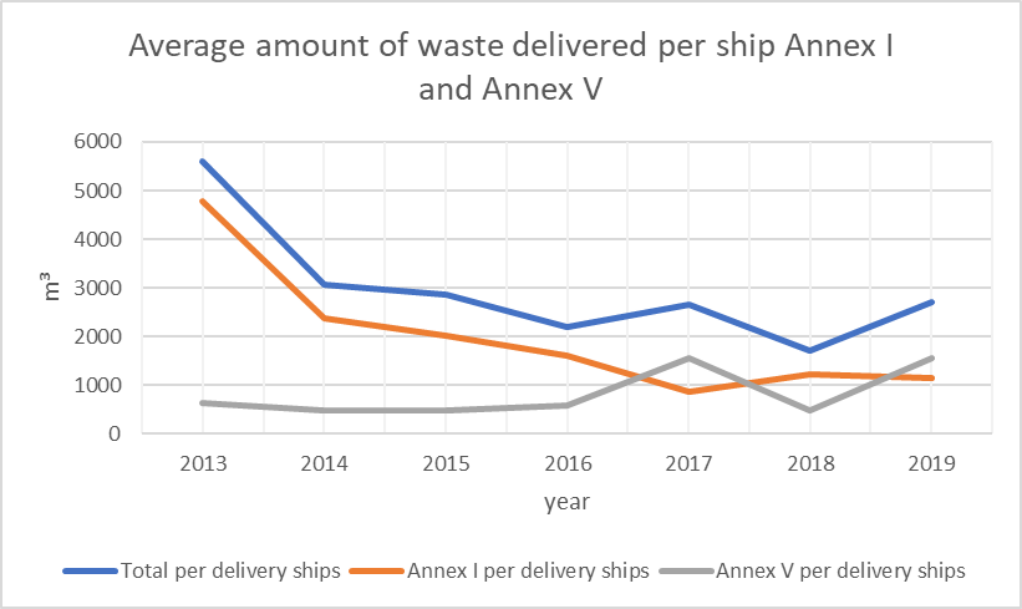


Figure 3: Average amount of waste delivered per ship Annex I and Annex V

In figure 4, the same trend can be seen for all Dutch seaports for 2017-2018, a stabilization over the periode 2015-2018, and an increase in 2019. It should be noted that maritime transport has for the greater part Den Helder as its permanent home base, with the result that a large number of these ships have an exemption (artikel 35a Wet voorkoming verontreiniging door schepen) for payment and notification of shipwaste. The ships that have this exemption have a contract with a collector and will therefore always dispose of all their waste at the port of Den Helder.

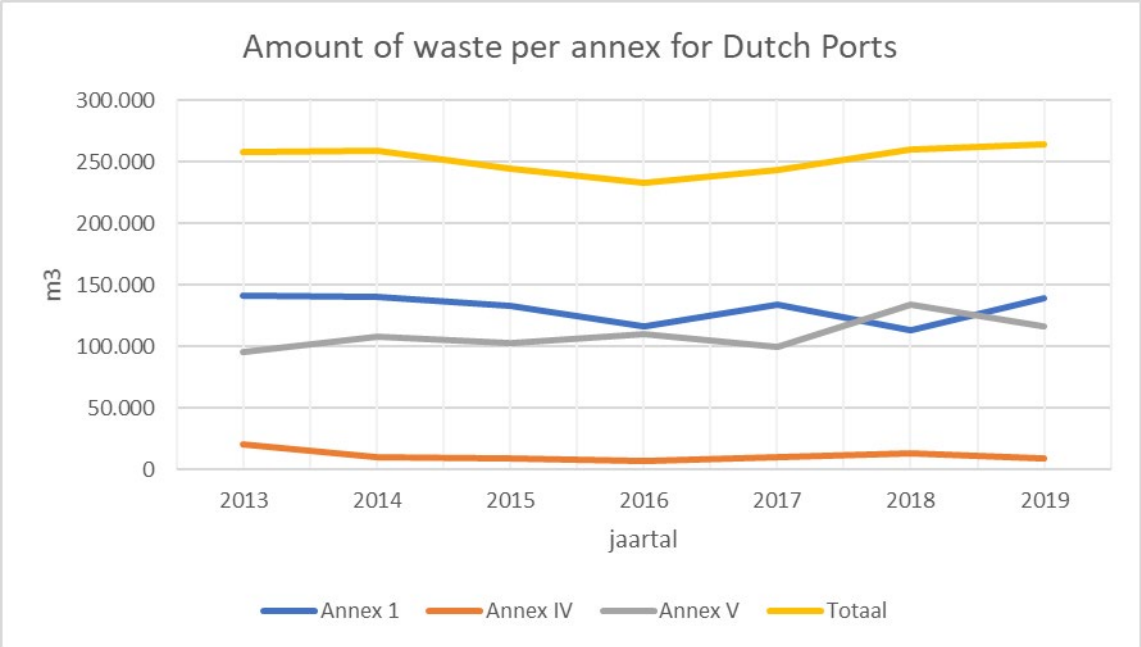


Figure 4: Amount of waste per Annex for Dutch ports. The total results for 2019 are not yet available.

- Monitoring of complaints about port waste facilities

Port of Den Helder uses a complaint form (appendix 7.1) with which captains can communicate their complaints of inadequacy of port reception facilities. Port of Den Helder did not receive any complaints in the 2017-2019 period. From this can be concluded that captains are generally satisfied with the method of collection and the reception facilities in the port.

- Amount of waste collected via the Fishing for Litter project

The Fishing for Litter project is carried out under the responsibility of KIMO Netherlands and Belgium. Fishing vessels bring caught waste to land instead of throwing it back into the sea.
The waste is collected in a special Fishing for Litter-container which is placed at the quayside. The amount of waste that is caught with the Fishing for Litter program varies greatly as shown in table 5. In 2016, 8 vessels in the port of Den Helder participated in the Fishing for Litter project. By now that figure has grown to participating ships 17. Port of Den Helder strives to increase this number by increasing the awareness of the program among fishing vessels.

Year	Tonnes FFL waste collected in Dutch ports
2017	92.18
2018	74.28
2019	49.34
total	215.8

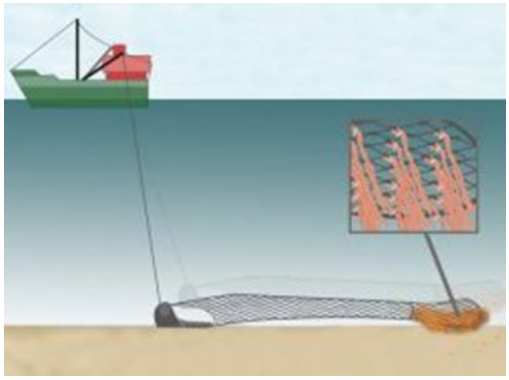
Table 5: Tonnes of FFL waste collected in the Dutch ports by the Fishing for Litter project

- Green Deal Fishery for a clean sea (Green Deal Visserij voor een Schone Zee)

On 20 November 2014, Port of Den Helder signed the Green Deal together with other Dutch fishing ports. The fishing ports together with the stakeholders, including the fishing industry, strive to reduce litter at sea through waste prevention. The purpose of the Green Deal Fisheries for a Clean Sea is:
“The fishing vessels keep all household waste, all the" Fishing for Litter "and all the waste from operational management and fishing gear on board separately and deliver these three waste streams in Dutch fishing ports as much as possible separately. In 2016, five fishing ports will facilitate the waste streams offered by the fishery in an adequate manner and without delay for fishermen. The three waste streams are collected separately. In 2020 this will be expanded to all Dutch fishing ports."
In the port of Den Helder, the fishery can already deliver the waste streams without delay.

As a result of the Green Deal projects Bek & Verburg, a waste collector, has started in 2018 with the separate collection of old/used fishing nets and dolly rope. Dolly rope is used to protect the fishing nets against wear from dragging over the seabed. Pieces of dolly rope are still often found on the beaches. The old/used fishing nets are collected in a container placed at the fishing cooperative. The fishing vessels receive special bags to collect the dolly rope, which bags are also collected in a special dedicated container at the fishing cooperative. Both the old/used fishing nets and the dolly rope are recycled.





Dolly rope

In 2013, a project was started in which fishermen, material producers, researchers, the government and conservationists work together to find alternatives for the use of dolly rope. Many different materials have been tested in recent years, from rubber to natural fibers and even wood. A few more promising alternatives remain from these tests. From October/November 2019, fishermen Have been testing, among other things, biodegradable dolly rope. In addition to biodegradable dolly rope, yak leather is also used. This is one of the alternatives that has been positively received in conventional fishing. Dirk Kraak from the BRA 5 from Den Helder is one of the skippers who use yak leather instead of dolly rope. The yak is an Asian mountain cattle with very thick and stiff skin. The leather is extremely tough. The results of the tests are not available yet.

There has also been created a special website on which the fishery can see per port which waste, how and where it can be delivered: www.visserijvooreenschonezee.nl. The port of Den Helder has facilities for the separate collection of different types of waste (Annex III Flyer Fishing waste collection)

The website www.visserijvooreenschonezee.nl

Evaluation of the Green Deal

The Green Deal's term will expire at the end of 2020, therefore recently the Green Deal has been evaluated.
General conclusion: Most of the goals of this Green Deal have been achieved. A lot has been establised within the current term.

Specific conclusion:
Almost all actions from the Green Deal Fisheries have been carried out or are in progress. It also emerges that some actions require continuous attention, for example increasing waste awareness among fishermen, because otherwise results will decrease. This actually took place when there was temporarily less attention for the Green Deal.

About the added value of the cooperation:

The greatest added value of the Green Deal is in the network function. Parties that were previously not in contact with each other and who were somewhat suspicious of each other, are now talking to each other under the umbrella of the Green Deal and are working towards a common goal. Related to this, knowledge sharing is also an important plus of the Green Deal. Best practices, ideas and knowledge are regularly shared during joint consultations and theme days.
Central coordination from the Green Deal has also been important for its success. A level playing field is important for participating parties and is guaranteed by the Green Deal. In addition, coordination of processes in, for example, ports is important to ensure that waste management runs as smoothly as possible. The deals have contributed greatly to this.

Recommendation:

The evaluation shows that a majority of the participants wish to continue the collaboration. For the fishing and beach clusters in particular, importance is attached to continuity in the direction taken in order to prevent a relapse.

The partners of this Green Deal are currently looking into how and in what form the Green Deal can be continued after 2020.

3.3.2. Noise

- Amount of noise complaints per year

Port of Den Helder did not receive any complaints regarding noise pollution during the period 2018 - 2019.

- Noise space in the port

The noise space in the port is very limited. Expansion of the port is only possible if there is sufficient noise space. In order to be able to further develop the port, an integrated noise space study is carried out. The investigation has been carried out by the zone manager, the Minister of Infrastructure & Water Management, and has shown that the permitted noise space is exceeded at some points in the port. The municipality of Den Helder, as the competent authority, is required to draw up a noise reduction plan to ensure that measures are taken to remedy the observed exceedances within a period of 5 years. The plan is supposed to be ready in 2020. Port of Den Helder will actively participate in the creation and implementation of this plan.

3.3.3 Energy consumption

- Shore power facilities

In January 2017 Port of Den Helder received a subsidy of € 500.000,- of the Province in the context of sustainable ports, for the project shore power facilities. The intention was to construct shore power facilities along Het Nieuwe Diep, Het Nieuwe Werk, Spoorweghaven and Nijverheidskade. However, due to a change in the operational management and planning of the ships, it was decided at this moment to only install shore power facilities along Het Nieuwe Diep and Het Nieuwe Werk. Very recently it was decided to install the same shore power facilities on the Nijverheidskade as on Het Nieuwe Diep / Het Nieuwe Werk

The “Shore power facilities” project has been delivered and put into use in April 2019. The facilities are equipped with a modern calculation system, whereby the user can easily activate the desired connection through an app or by telephone. A start has been made with monitoring the use and consumption of electricity.

Figure 5: Energyconsumption shore power facilities Het Nieuwe Werk April 2019 – December 2019

For the business case, research was conducted into the energy demand for Het Nieuwe Diep/Het Nieuwe Werk. On this basis, energy consumption was estimated to be higher than it is today. This can be regarded as a positive side effect. The positive effect is that by using these shore power facilities the ships are more aware of the use of electricity. As a result of that, there has been a decrease in energy consumption.

Energy consumption quays and areas Port of Den Helder:

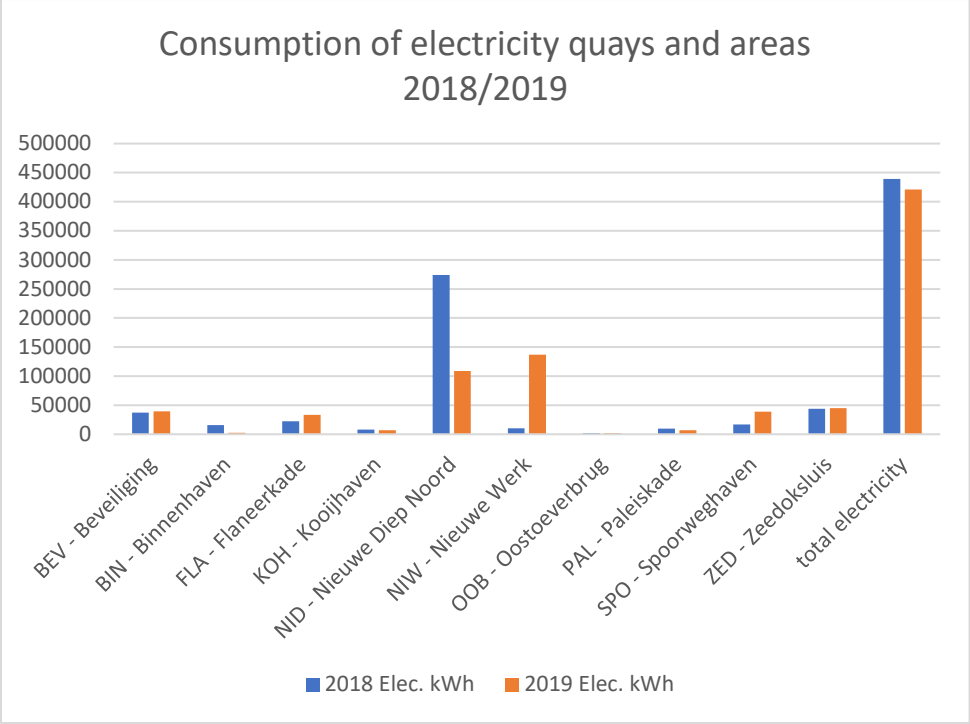


Figure 6: Energyconsumption quays and areas Port of Den Helder 2018-2019

The energy consumption at Nieuwe Diep Noord shows high consumption in 2018, because a drilling platform has been moored all year round. As stated in the PERS 2017-2019, this platform has been connected to shore power. In the course of 2019, this platform left the port of Den Helder, so a reduction in energy consumption can be seen.

The increase in energy consumption at Het Nieuwe Werk in 2019 is related to put the shore power facilities in use on this quay

- Lighting

In October 2016, the Raad van Advies Waddenzeehavens signed the Dark Sky Declaration of Intent, on behalf of all the Wadden Sea ports. In 2017/2018 agreements have been made by the parties in the context of reducing light emissions in the Wadden Sea Area.
In accordance of the declaration Port of Den Helder has replaced the lighting on Paleiskade with new luminaires with LED. This lightning is smartly controlled via an app.
To achieve optimal use of the light, a lighting plan has been drawn up that also takes into account the work lighting from the ships. The quay is divided into sections for this. The lighting can be switched on or off per section.

The result of this modern lighting is a reduction of 85% of energy consumption. Which amounts to a total consumption of approximately 5,000 Kw per year instead of 35,000 Kw per year.

A light and dark Wadden sea excursion was also organized in 2018 by the port of Den Helder together with the municipality of Den Helder and the Milieufederatie Noord-Holland, to inspire individual entrepreneurs how to deal with outdoor lighting in accordance with the Declaration. And also how they can contribute to a Dark Sky World Heritage Wadden Sea region. As a result of that excursion the NAM has in the course of 2019, adjusted the lighting in LED where possible

The lighting of the recently realized business park Kooyhaven is equipped with energy-efficient LED. The light fixtures' default setting is "orientation level" so that the light emission is limited. When work is being carried out on the quay, it can be set at "work level". This switch-on is for a duration of two hours, after which the lighting automatically returns to the orientation level.

The left image shows the conventional lighting, the right image shows energy-efficient, smartly controlled, LED lighting.

3.3.4 Port development (on land)

In the 2015-2017 Environmental Report it was stated that the implementation of a number of projects from the Roadmap would be continued.
However, due to changed internal policies at the Royal Dutch Navy, the Marsdiepkade project has been terminated. The Royal Navy has indicated that they need this site for their own relocation.

The Building with Nature (harbor mouth modification) and Paleiskade 2 projects were started in the recent period. Both projects are in the initiative phase and are now being examined for feasibility.

- Building with Nature:

A key characteristic that distinguishes a Building with Nature design from other integral approaches is the proactive utilization and/or provision of ecosystem services as part of the engineering solution.

The general aim of the project is to investigate the feasibility of a new port mouth for Den Helder. This port mouth not only creates economic opportunities in the port of Den Helder, but at the same time reinforces the surrounding nature. The physical objective has two spearheads: promoting the quality of nature in and around Balgzand and promoting sustainable economic growth in the Kop van Noord-Holland by creating space in the port for port-related activities.

The Building with Nature project involves two tracks, namely the construction of two port dams through which the port mouth will be further outside the existing port and the construction of a fish migration river to increase the ecological quality in Den Helder and in the surrounding area.

The preparation time for this project is long because it is a complex project. Both in terms of concept, because Building with Nature is fairly new, but also because the planning area is in a Natura 2000 area and is part of the UNESCO World Heritage Wadden Sea. Research must show that the project has a positive influence on the flow patterns and how the port dams can be fitted within the legal framework.

This research has been carried out by Royal HaskoningDHV for the Province of Noord-Holland and the municipality of Den Helder. From the assessment of the demand for space, it was concluded that expansion is necessary to be able to accommodate the demand for space for both the civilian and military port. (see 3.3.4 Hydrogen – Longterm (after 2030) – System Studies)

Location of the two sea arms with the building with nature project.

Three possible configurations for the port dams have been identified. For each of these configurations, it has been determined by means of a superficial test that the total space demand of Port of Den Helder and the Royal Dutch Navy can be fitted. In addition, the configurations were tested for their effects on the ecological target.
For all three configurations, it was concluded that the desired positive development on the Balgzand cannot be achieved at this moment. The nature movement is possibly willing to go along with a port expansion, on the condition that nature compensation can be found on the land. Partly because of this, the final report of the feasibility study has been postponed to later in 2020.

- Bird breeding island

A few years ago a "vogelrots" (bird breeding island) was developed by Landscape Noord-Holland. The area where the rock was build was originally assigned to be a (temporary) dredging storage location . After termination of these activities the area had been returned to nature. Due to the decline in the supply of dredging it was decided by the municipality of Den Helder, environmental park 't Oost, landscape Noord-Holland and Port of Den Helder to redesign the area as a bird breeding island. The project has a surface area of approximately 4.5 ha and has been taken into use in the summer of 2017 (press release appendix 7.9). Since then the bird breeding island has flourished and is currently housing the highest number of birds so far, with the numbers still rising.

	2017	2018	2019
Nijlgans	-	1	-
Bergeend	-	1	-
Wilde Eend	-	1	-
Scholekster	3	4	3
Kluut	36	20	-
Kleine plevier	2	2	1
Kievit	-	2	-
Kokmeeuw	11	194	230
Zwartkopmeeuw	-	1	1
Stormmeeuw	3	8	16
Zilvermeeuw	-	-	1
Visdief	125	158	327
Noordse Stern	3	4	4
Dwergstern	10	7	12
Holenduif	-	-	1
Oeverzwaluw	130	100	90
Witte kwikstaart	-	-	1
Totaal	**323**	**503**	**687**

Table 6: Breeding birds on the bird breeding island 2017-2019

3.3.5 Dredging

Dredging Het Nieuwe Diep was also on the program for the PERS period 2017-2019. The dredging work involved dredging at maintenance depth. A total of 200.000 m3 was dredged in the port of Den Helder. The work is carried by Dredging Company De Boer. The company was aware that the work had to be done in an area immediately adjacent to the Natura 2000 Wadden Sea area and the UNESCO Wadden Sea World Heritage Site. The execution of the work started in Q4 2019 and will be completed in Q1 2020. For the execution of the work, the following ships were used:
Ploegboot Peter: The world's most sustainable bed leveller.

The 22.4-metre-long vessel complies not only with the strict IMO Tier 3 standard for the emission of harmful substances in shipping but also with the Euro Stage 5 standard for emissions in inland shipping.
Crane vessel Rival: This ship is certified with a Green Award for Inland shipping, level Silver.

Dredging company De Boer is also certified on level 3 of the CO2 performance ladder (CO2 prestatieladder).

3.4 PERS 2021 – 2023

For the coming period 2021 – 2023, Port of Den Helder will prioritize the following five environmental aspects for the Port Environmental Review System (PERS):

1. Port Development (on land)
2. Air Quality
3. Energy Consumption
4. Garbage/Port waste/Ship waste
5. Noise

This prioritization is in line with the Ambitiedocument Duurzaamheid Port of Den Helder.

Environmental Aspects	Indicator	Unit	Target	Action
Air Quality	Monitoring CO_2	Ton CO_2	For 2018-2022: 12% (ca. 35 Ton CO_2	Visualize CO2 emissions from own business operations; steering and monitoring
Energy consumption	Monitoring the use of shore power by ships	kW/year	Connection of amount of ships	Port of Den Helder addresses the users of the port where possible using the shore power supply
	Monitoring power consumption through lighting	kW/year	Depending on activities on the quay	Where possible reduction/ switching-off lighting
Garbage/ port waste/ ship waste	Amount of waste per year	M3 per year	depending on delivery of ships	Port of Den Helder consults with the stakeholders
	Percentage of clean plastic that is recycled or used for energy generation	%	depending on delivery of ships	Port of Den Helder consults with the stakeholders
	Monitoring complaints			

	about port reception facilities	Amount of complaints	0	Enter into/ remain in conversation with stakeholders, seek constructive solutions and possibly update HAP
	Number of participating vessels fishing for litter	Amount of ships	17	Promoting project involving fish auction in communication
Noise	Monitoring noise complaints	Amount of complaints	0	For projects, Port of Den Helder makes agreements with stakeholders; Port of Den Helder will consult with the perpetrators
	Noise reduction	dB	Depending on the results of the noise reduction plan	Port of Den Helder actively cooperates with the competent authority in the noise reduction plan

Table 7 Environmental aspects and indicators of the PERS 2021-2023

3.4.1 Ambition document sustainability Port of Den Helder

Ambitiedocument Duurzaamheid
Port of Den Helder
Op koers naar een klimaat neutrale haven

Port of Den Helder is located in the UNESCO World Heritage Wadden Sea and Natura 2000 area the Wadden Sea. Partly for this reason, the development of the port is always balanced against the interests of nature; economy and ecology must go hand in hand. Making the port more sustainable is a matter of course.

The role of sustainability has changed considerably in recent years. Where sustainability was initially seen as a theme for idealists and for companies to improve their image, sustainability has now become anchored in society. Citizens expect more from the government, employees demand more from their employers and companies & organizations must participate in this development and thus understand that sustainability is important for the strategic positioning of their brand or (cost) saving on energy and other raw materials.

The most recent developments worldwide and within the Netherlands also show that there is now cooperation between dozens of companies and organizations for the benefit of a climate agreement. In addition, the government has also taken on its role and the 2018 Climate Act has come up, which demands more from all parties in the field of sustainability.

Therefore the Port of Den Helder has developed “Ambitiedocument Duurzaamheid Port of Den Helder”. The port has considerable ambitions when it comes to sustainability. These ambitions can be seen on three levels:

1. The own activities
2. The chain in the port area
3. Outside the chain, focused on Noord-Nederland

The sustainability policy of Port of Den Helder will be primarily focused on the first two levels.

With regard to making Port of Den Helder and the port area more sustainable, the following themes have been defined:

- Energy
- Emissions
- Circularity

These themes are made up of spearheads, each with an individual objective “dot on the horizon” and a growth path towards this objective. The themes have been named from the point of view of the Trias Energetics.

The Trias Energetic is the most commonly used method to implement energy-saving measures. It was introduced in 1996 by Novem and has been further developed by TU Delft. This has emphasized the sequence of the consecutive steps:

- Step 1: limit the energy demand
- Step 2: use energy from renewable sources
- Step 3: use finite (fossil) energy sources as limited and efficient as possible

For each theme there is a roadmap.

Energy

"In 2025, Port of Den Helder will have energy-neutral operational management, in 2035 Port of Den Helder will be climate neutral as a company"

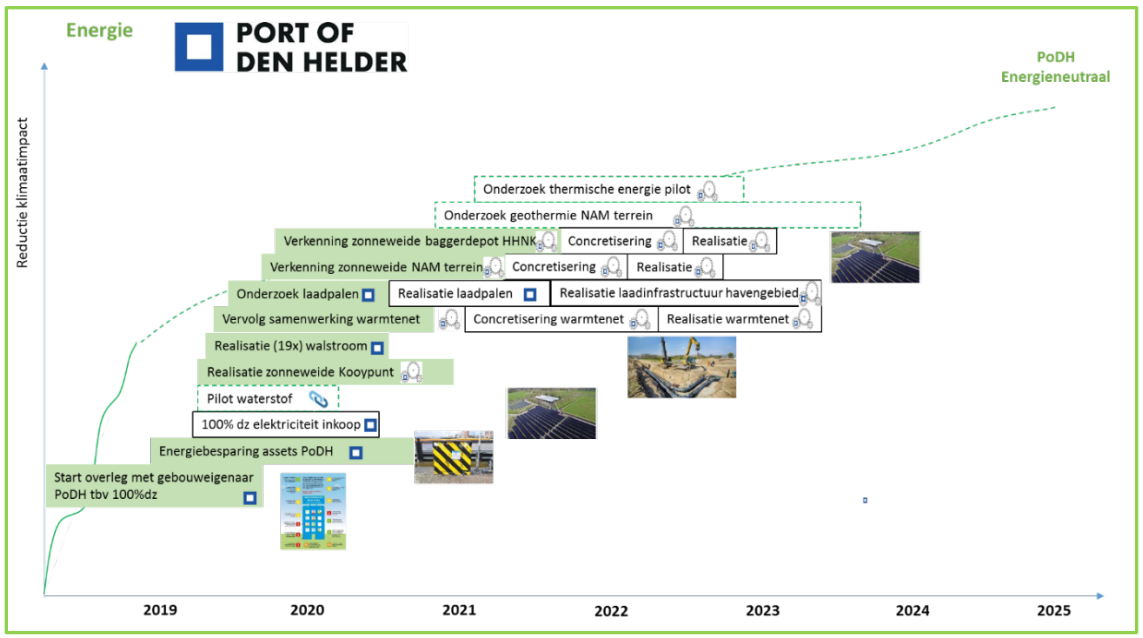
The objectives with regard to reducing energy consumption are clear: in 2025 the entire business operations of Port of Den Helder will be energy neutral. With this the port is ahead of the national goal of being energy neutral by 2050.
The energy-neutral operational management is realized on the basis of the trias energetics: start saving, try to produce sustainable energy as much as possible locally and use greener energy for the remaining energy consumption.

The port distinguishes sustainability between Port of Den Helder's own activities and assets and those of the chain. With the ambitions energy-neutral in 2025 and climate-neutral in 2035, Port of Den Helder focuses on its own activities and assets:

- Monitoring (including the chain) of energy use
- Reducing energy consumption
- Greening energy consumption
- Generating sustainable energy locally

To make the chain energy neutral and climate neutral, the focus is primarily on:

- Reducing the use of fossil fuels
- Using energy from sun / wind / heat / biomass
- Use of hydrogen as an energy carrier
-



- ## Emissons

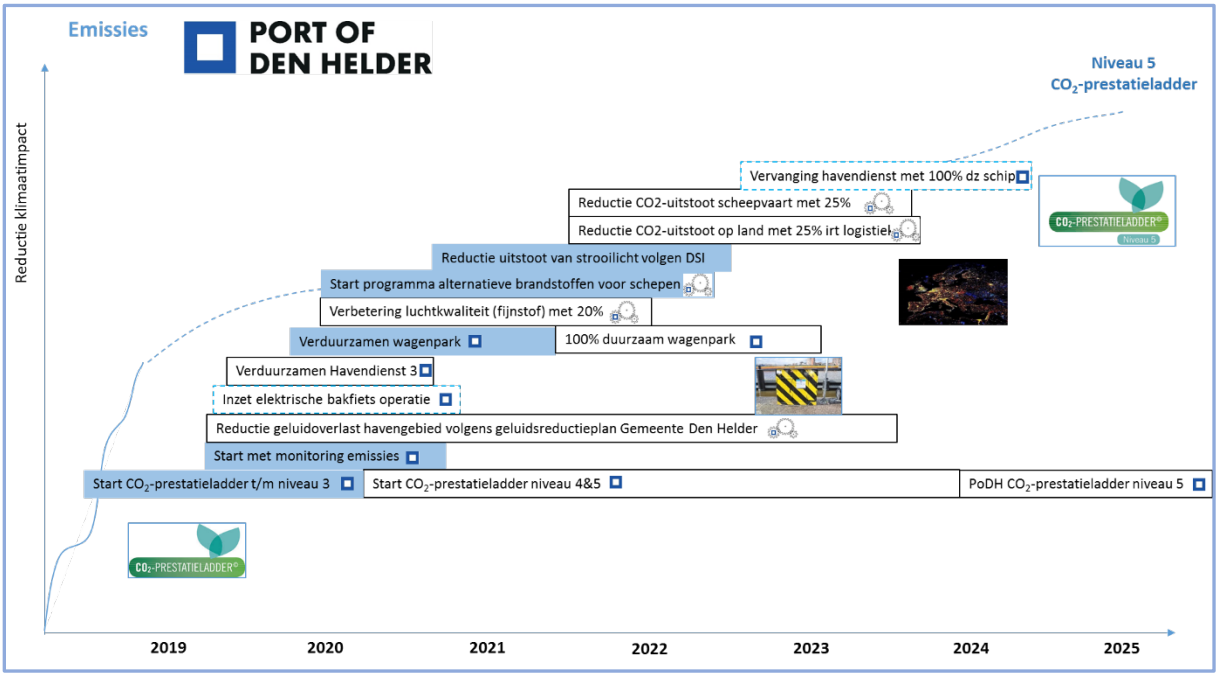
"In 2025, Port of Den Helder will have reached the highest step of the CO2 performance ladder"

The CO2 reduction objectives that the Netherlands has set itself are clear: 49% CO2 reduction in 2030 and 95% CO2 reduction in 2050. The indicative allocation of this reduction task, in which the CO2 reduction to be achieved is indicatively distributed across a number of domains, shows that Port of Den Helder and the companies and institutions based in the port play an active role in various domains (industry (recycling), transport, built environment, electricity).

Within the Port of Den Helder working area, however, there is a variety of emissions that extends beyond just CO2. The location of the port on both UNESCO World Heritage and Natura 2000 areas means that limiting noise and light emissions is just as important as reducing CO2 emissions. At the same time, it can be said that the port already scores very favorably in terms of quantity of emissions on many fronts. The fact is that emissions, partly in view of the location of the port directly adjacent to the traffic route to the TESO, are difficult to allocate to one source/area, making it necessary to seek collaboration with multiple stakeholders and/or umbrella organizations at both in the field of monitoring as realization measures for sustainability.

In the period up to 2025, Port of Den Helder focusses on 3 things for area management:

1. mapping the various emissions (including CO2, particulate matter, noise, light)
2. reducing the amount of "environmentally polluting" emissions
3. replacing fuels with a negative impact on the environment with (more) sustainable fuels



• Circularity

"In the port of Den Helder 100% of the residual flows will be reused in 2040"

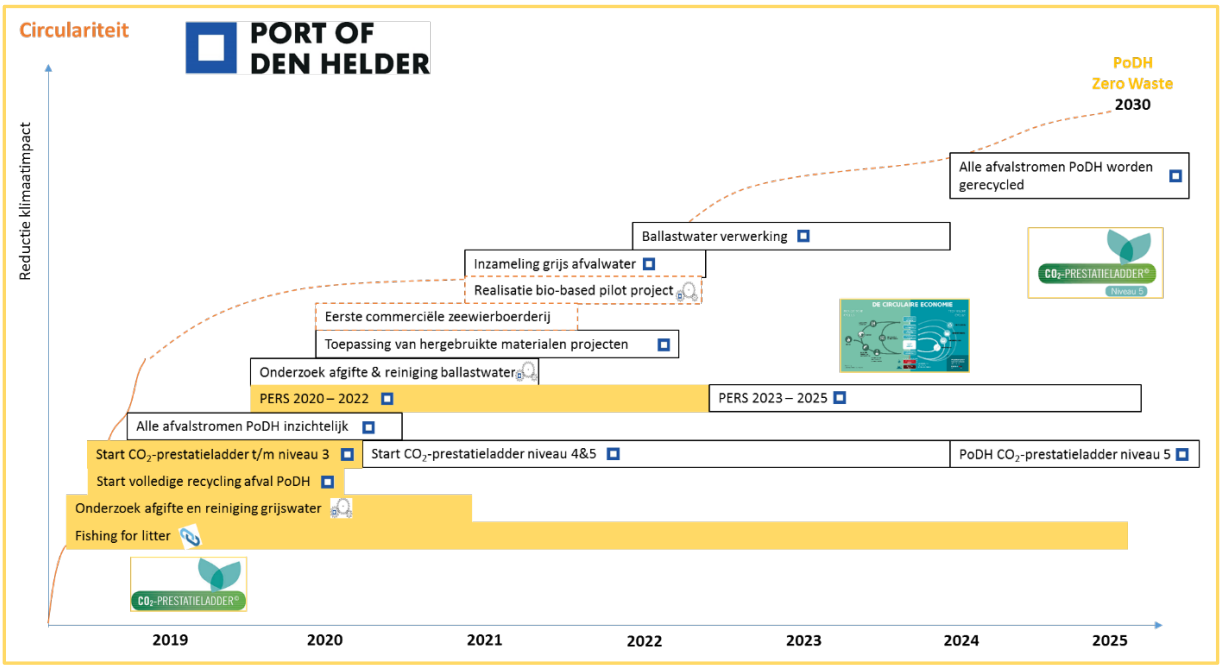
The national government's objective is to be fully circular by 2050. Port of Den Helder anticipates this objective by planning to already be fully circular in 2040.

Port of Den Helder focusses on gaining (and keeping) insight into waste flows, minimizing waste flows and the circular use/processing of waste.

Port of Den Helder applies the principles of the Ellen MacArthur Foundation. Two cycles of materials are defined within this method, namely:

1. A biological cycle in which residues safely return to nature after use
2. A technical cycle for which product (parts) are designed and marketed in such a way that they can be reused at a high quality level

The technical cycle is, in the short term, close to the daily operations of Port of Den Helder. However, the biological cycle is also a cycle that can be applied in the (medium) term and, above all, can also offer opportunities.



The document "Ambitiedocument Duurzaamheid - Port of Den Helder *Op koers naar een klimaatneutrale haven"* can be found on our website https://podh.eu/nl/duurzaamheid-en-milieu

Actionplan 2019-2020 Sustainability (Actieplan 2019-2020 Duurzaamheid) – Port of Den Helder

For the implementation of Ambitiedocument Duurzaamheid, Port of Den Helder has drawn up an action plan.
In order to be able to implement the stated ambitions in the document we need both the commitment of the Port of Den Helder employees and the commitment of our stakeholders. Therefore an internal working group has been set up to deal with internal business operations, and an agreement has been made with stakeholders to meet at least once a year to discuss project progress and discuss plans for the coming year and where necessary, interact with individual stakeholders.

A deliberate choice has been made for a short duration of the action plan, namely two years, so that it can be regularly adjusted and supplemented.
When choosing the projects in the 2019-2020 action plan, a conscious decision was made to start / name projects that are as close as possible to Port of Den Helder's own operations. Partly to get commitment within your own organization.

The following projects have been chosen:

- Purchase of sustainable/green electricity
- Saving assests / becoming circular
- Havendienst 3 uses sustainable fuel
- Sustainable port building
- Realization shore power
- Ship’s waste (gray waste water/ballast water
- Fishing for Litter
- Hydrogen (Pilot project/blue hydrogen/green hydrogen)

In order to be able to monitor the results of the sustainability measures we take, we have decided to determine our footprint on the CO2 Performance Ladder.

The CO2 Performance Ladder is a CO2 management system that consists of 5 levels. Up to and including level 3, an organization works on emissions from its own organization (and all its projects). From levels 4 and 5, CO2 emissions from the chain and sector are also addressed. A certified organization meets the requirements of the CO2 Performance Ladder at a certain level (and all underlying levels). These requirements stem from four perspectives:

A- Insight: Determining the energy flows and the CO2 footprint
B- Reduction: the development of ambitious goals for CO2 reduction
C- Transparency: Structural communication about CO2 policy
D- Participation: Participation in initiatives in the sector in the field of CO2 reduction

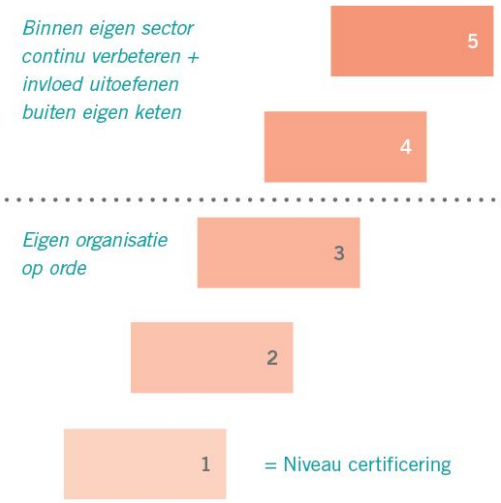


Figure 8: CO_2 performance ladder

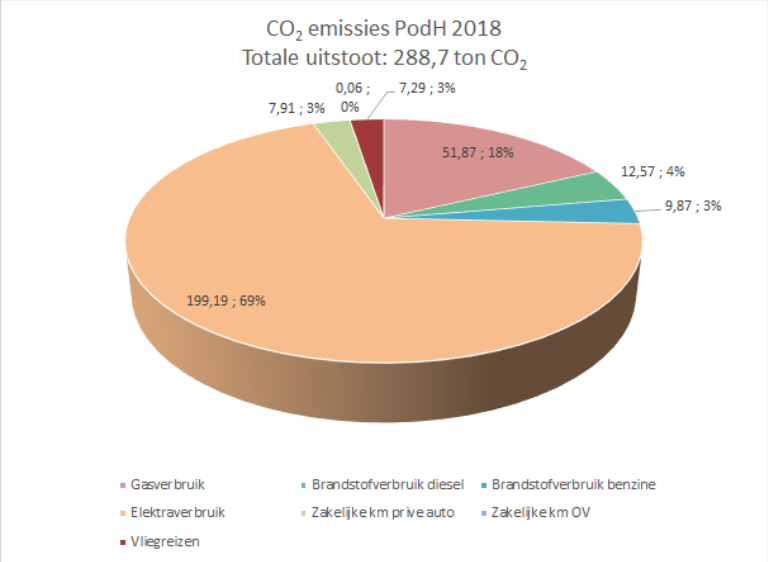


Figure 9: CO_2 footprint PoDH

The CO2 footprint of our own business operations for 2018 (baseline measurement) is determined at the end of 2019. We are currently taking measures to achieve a further CO2 reduction.

With 68%, electricity consumption (gray power) has by far the largest share in this.
In view of this, the named project "Purchase of sustainable/green electricity" fits in perfectly with this.

Port of Den Helder has completely switched to the use of green energy from 1 January 2020.
The green energy that the port purchases from this year is used for shore-based power boxes, public lighting in the port, the operation of the infrastructures (bridges and locks), and the pumping installations for drinking water on the quays.
Given our switch to 100% green energy by 2020, that will therefore already result in a huge reduction. The biggest challenge after that is reducing gas consumption.

On 27 February 2020, the municipality of Den Helder and the related parties, including Port of Den Helder, were awarded the CO2-aware Certificate Level 3. The Municipality of Den Helder is the first municipality in North Holland to carry this certificate.
This makes Port of Den Helder the first seaport in the Netherlands that is CO2 certified.

PORT OF DEN HELDER

CO_2-bewust Certificaat
Niveau 3

Hierbij verklaart Nederlands Certificatie Kantoor B.V. dat het managementsysteem voor het CO_2-bewust handelen van

Gemeente Den Helder
Drs. F. Bijlweg 20, 1784 MC DEN HELDER KVK: 37160613

Type: Middelgroot

voldoet aan niveau 3 van het handboek CO_2-prestatieladder versie 3.0 en is van toepassing op:

Er voor zorgen dat er binnen de gemeente Den Helder openbare faciliteiten zijn waar inwoners veilig, kunnen recreëren, wonen, leren en werken.

C - Commerciële gebouwen
D - Gebouwen-complexen
EA code: N 81.1

Dit certificaat is alleen geldig in samenhang met het certificaataanhangsel met hetzelfde nummer, waarop de van toepassing zijnde locatie's met betrekking tot deze goedkeuring vermeld zijn. Dit certificaat heeft 1 bijage.

Certificaatnummer: NCK.2019.293.CO2.N078
Datum verstrekking: 28 januari 2020
Geldig tot en met: 16 december 2022

Getekend te Beverwijk

NCK Nederlands Certificatie Kantoor BV

CO_2-PRESTATIELADDER

Nederlands Certificatie Kantoor B.V. Velserweg 14 1942 LD Beverwijk Pagina 1 van 2

Certificaataanhangsel

CO2-bewust Certificaat Niveau 3

Hierbij verklaart Nederlands Certificatie Kantoor B.V. dat het managementsysteem voor het CO_2-bewust handelen van:

N.V. Port of Den Helder
Het Nieuwe Diep 33, 1781 AD DEN HELDER KVK: 56350481

Werkmaatschappij van:
Gemeente Den Helder
KVK: 37160613

Voldoet aan de eisen uit de NEN-EN-ISO 9001:2015

Het kwaliteitsmanagementsysteem is van toepassing op:

Er voor zorgen dat er binnen de gemeente Den Helder openbare faciliteiten zijn waar inwoners veilig, kunnen recreëren, wonen, leren en werken.

C - Commerciële gebouwen
D - Gebouwen-complexen
EA code: N 81.1

Dit certificaataanhangsel is alleen geldig in samenhang met het certificaat met hetzelfde nummer.

Certificaatnummer: NCK.2019.293.CO2.N078
Datum verstrekking: 09 maart 2020
Geldig tot en met: 16 december 2022

Getekend te Beverwijk

NCK Nederlands Certificatie Kantoor BV

CO_2-PRESTATIELADDER

Nederlands Certificatie Kantoor B.V. Velserweg 14 1942 LD Beverwijk Pagina **5** van **5**
Dit certificaataanhangsel is onderdeel van het hoofdcertificaat NCK.2019.293.CO2.N078

3.4.2 Port Development (on land)

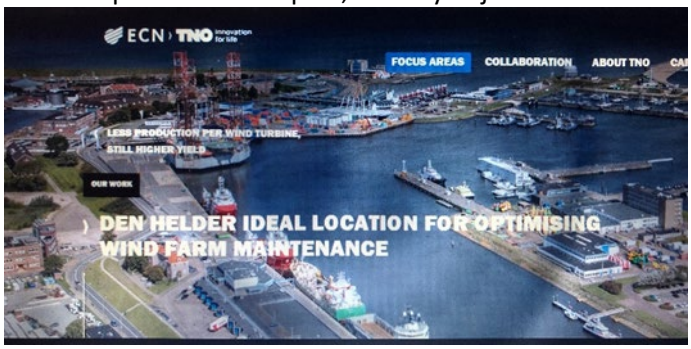
Port of Den Helder's development strategy is fully focused on facilitating the energy transition at sea. The existing function of an important Offshore service port for the extraction of oil and gas in the North Sea will switch between now and 2030 to a sustainable offshore logistics port for the extraction of renewable energy in the North Sea. New activities will be located in the port for this function and, together with existing companies, will operate sustainably in a logistics chain that extends from the port to the sea, both by water and by air. And the port will support these activities with sufficient facilities and sufficient space. The development required for this is accomplished in the following three images:

1. From maintenance hub in oil and gas extraction to maintenance hub for renewable energy extraction in the North Sea;
2. From energy hub of North Sea gas to energy hub for hydrogen;
3. From clean ECOPort to Climate neutral chain.

Figure 10: Energy transition requires port transition

Vector 1: Towards maintenance hub for Offshore Wind

This vector focuses on the development of frame space and port infrastructure in the seaport in order to facilitate the maintenance of offshore wind farms. The need is to eventually realize a total of 6 ha of frame space in the seaport, directly adjacent to water.



This need is substantiated in a quantitative analysis ECN / TNO

(download: https://portofdenhelder.nl/files/documents/TNO-2019-R11115.pdf)

The strategy to realize this need has been elaborated in the Port of Den Helder Roadmap
The Roadmap indicates which areas in the port can be developed for which purpose. The strategy is based on two principles:
(1) Infringement for extension. The golden rule applies as a “Wadden harbor” that expansion can only be considered when all space in the port is used optimally. An extension of the port must then be realized along the road of “Building with Nature” so that the economy and ecology remain in balance.
(2) Civil-military cooperation. The joint use of the port by Offshore and the Royal Navy means that it cannot be developed without civil-military cooperation. This collaboration has been designed under the name Spatial-Strategic Exploration for the Maritime Cluster Den Helder. The Province, Municipality and Royal Navy are the client. The Roadmap of Port of Den Helder is included in this exploration.

Vector 2: Towards Energy hub for Hydrogen
This vector focuses on the development of the infrastructure required for the transition from North Sea gas to Hydrogen hub. The strategy aims to realize a landing point in Den Helder for a substantial part of the green hydrogen production at sea. To this end, Den Helder must be connected to the hydrogen backbone that Gasunie aims to realize as a central loop to connect all major industrial clusters in the Netherlands to hydrogen. The large-scale production of green hydrogen at sea is expected to be a reality from 2030 onwards. On the way there, two important hydrogen initiatives are being realized in Port of Den Helder:

1. The realization of a green hydrogen filling station at Kooyhaven (See: Short term (2020-2023) - Hydrogen pilot)
   The hydrogen for this filling station is produced locally by electrolysis of green electricity, from the network. With this initiative, Port of Den Helder aims to facilitate zero-emission mobility on road and water by 2022. The project includes a sailing demonstration vessel that is propelled entirely zero hydrogen emissions. This vessel is being tested by a pool of port users.
2. The realization of a blue hydrogen production facility on Oostoever.The production of blue hydrogen takes place on the NAM plant. Blue hydrogen is produced from natural gas, whereby the released CO2 is captured and stored in the empty gas fields under the North Sea (CCS). This project is a strategic building block in the upscaling of the large-scale use of hydrogen in the process industry and energy generation.

Hydrogen
Den Helder is potentially not only in an excellent position as an offshore port for maintenance work and logistics services in the North Sea. In addition, Den Helder is also ideally situated as a landing place for sustainably generated energy from the offshore wind farms.
Hydrogen is an important future carrier for transport and storage of this wind energy. The existing gas pipeline system from the North Sea with which natural gas is currently transported via Den Helder to the Dutch hinterland, can play an important strategic position in this. In this sense, the NAM gas treatment installation at Oostoever and the associated Gasunie national gas network, located in Den Helder, form strategic assets for the energy transition. This brings Den Helder in to the picture for the landing of hydrogen, for the Amsterdam Metropolitan Area and the industries in the Noordzeekanaalgebied, among others.
In light of the energy transition and the emergence of the hydrogen economy, Port of Den Helder is working on the positioning of the port and this strategic gas infrastructure in particular.
The management of Port of Den Helder is therefore conducting an extensive series of discussions with, among others, the following strategically relevant parties: Tennet, NAM, Gasunie, TaTa steel, New Energy Coalition, NWEA and ECN-TNO. In addition, Port of Den Helder participates in three

major system studies in the field of system integration, system infrastructure and port optimization and innovation. Port of Den Helder has also contributed to the Ministry of Economic Affairs project "Exploration of landing nets at sea 2024-2030" and the North Sea 2030 strategic agenda. Finally, Port of Den Helder actively participated in a series of seminars and workshops related to the energy transition , including the Energy Lab Hydrogen that was organized by the Province of Noord-Holland in November 2018.

The main findings that emerged from this exploration are set out below:

1. In order to achieve the climate objectives, maximum use of Offshore Wind is essential. In addition, maximum efforts must be made to electrify polluting industrial clusters.
2. To achieve the target of a 49% reduction in CO2 emissions by 2030, underground storage of CO2 is inevitable. However, there is insufficient support for storage on land. Storage in former gas fields at sea is more likely.
3. The offshore wind farms planned until 2030 are likely to be primarily connected to the land by electricity cables. The exploration of landing sites shows that the wind farms off the Hollandse Kust will be connected to Beverwijk by cable. The electricity supplied with this will be converted into hydrogen on land, for the benefit of the TaTa-steel. In addition to using green hydrogen, TaTa can also in the coming decades, only meet the sustainability goals by re-using CO and storing CO2. For the latter, direct discharge to the gas fields at sea is seen as the most desirable option. No pipeline capacity is available for transporting CO2 from IJmuiden to Den Helder.
4. The Kop van Noord-Holland is not in the picture for the landing of electricity cables, due to the lack of sufficient purchase and the absence of a connection to the national 380KV high-voltage grid. No extension of the high-voltage grid to Den Helder is foreseen.
5. In the long term, energy transport in the form of molecules will be unavoidable, because the electricity grid will then no longer be able to absorb the amount of electricity from the sea, nor will it be able to buffer the peaks and troughs in the supply and demand of wind energy. Hydrogen is considered the most obvious alternative energy carrier. The existing gas infrastructure is in principle technically suitable for the transport of hydrogen.
6. It is expected that the large-scale production of (green) hydrogen production at sea will start after 2030. Until then, the production of "gray" and "blue" hydrogen has been inevitable, especially in light of government ambitions to shut down coal-fired power stations by 2030. "Blue" hydrogen is produced from natural gas, where the released CO2 is captured and stored. In the context of the "strategic agenda for the North Sea", the ambition is to realize a first hydrogen production site at sea before 2030 that uses the existing gas infrastructure.
7. The most obvious is that the energy from wind farms that will be further developed at sea from 2030 will be brought ashore in the form of hydrogen. The transport of molecules is a factor of 10 cheaper than that of electrons, which creates a feasible business case especially for longer distances. Existing oil & gas installations may not offer sufficient space for large-scale hydrogen production, so that new platforms or possibly even artificial islands need to be installed for this.
8. Whether the existing gas infrastructure at sea can be used for the transport of hydrogen from these distant wind farms is still uncertain, and depends partly on where exactly those wind farms are planned. Gasunie does not exclude the need to install a new gas pipeline from the sea. It is not yet known where that gas pipeline will come ashore, but Den Helder is in principle favorable.
9. The use of the existing gas pipeline system at sea for the transport of hydrogen also depends on the availability of the pipelines. Three pipelines will come ashore in Den Helder. Natural gas from the North Sea is expected to be brought ashore via one or more of these pipelines for a number of decades. In addition, at least one of these pipes may be used for the removal and storage of CO2 in gas fields at sea.

10. Gasunie expects that parts of the existing gas pipeline system can be cleared from 2030 for a hydrogen “backbone” on land. This “backbone” will be connected to the major industrial regions of our country. Buffering and storage of hydrogen is necessary to absorb peaks and troughs in the supply and demand of hydrogen. The salt caverns in the east of the country are the only suitable technical option for this.
11. After 2030, green hydrogen can be connected to this backbone from the sea via Den Helder. This will require a relatively small installation. Such a connection does not provide extensive employment. Spin-off is minimal as long as there are no direct volumes of off-take capacity in the vicinity.
12. In anticipation of the large-scale supply of green hydrogen from the sea (after 2030), Den Helder is favorable as a production location for “blue” hydrogen, because the CO2 captured is directly and therefore in the cheapest way via an existing gas pipeline to the gas fields in the North Sea. can be disposed of. CO2 storage is technically possible for this and there is also support for it. It still has to be authorized in regulations.
13. With this strategic position, the port of Den Helder can also position itself as a collection and loading point for CO2 from other production locations. It appears that the supply of these CO2 volumes is most likely by ship, in the absence of available pipeline capacity and connections by land. Delivery by ship from Delfzijl and the IJmond are interesting options.
14. A blue hydrogen plant (chemical production facility) provides a significant amount of employment and has a financial and commercial life in this future market to at least 2050 and beyond. The economic spinoff can be significant because the production process releases large volumes of oxygen and residual heat, which can be an attractive location factor for other industries.
15. Gasunie, as well as NAM, seem to find this particularly promising for this blue hydrogen production because of the proximity of CO2 storage options, in the light of the energy transition; but also in light of the potential economic added value of the assets in Den Helder.
    Below is an overview of the promising developments in the field of hydrogen that Port of Den Helder has now picked up and what their status is. A distinction is made between three phases in which the hydrogen developments take place, each with its own horizon in time:
    1. Long term (after 2030) the large-scale production and landing of green hydrogen from the sea.
    2. Medium term (2023-2030) the production of blue hydrogen as transition gas in the process of becoming a fully sustainable and fossil-free economy.
    3. Short term (2020-2023) the realization of a hydrogen filling station in the port for shipping and road transport.

- Long term (after 2030)

The large-scale production of green hydrogen at sea is expected after 2030. The wind farms that will be installed up to 2030 will in principle be connected to the coast via power cables. For the "IJmuiden Ver" wind farm, which must be fully operational by 2030, there is the option of converting part of the power via offshore electrolysis into hydrogen. However, the general picture is that the large-scale hydrogen production can only be expected at the later wind farms, which are supplied further at sea. To make this possible, there are currently plans to use one or more artificial islands, on which large electrolysis installations can be installed. Den Helder is in these longterm views in the picture as a location for the transit (and possibly also storage) of the hydrogen from the sea.

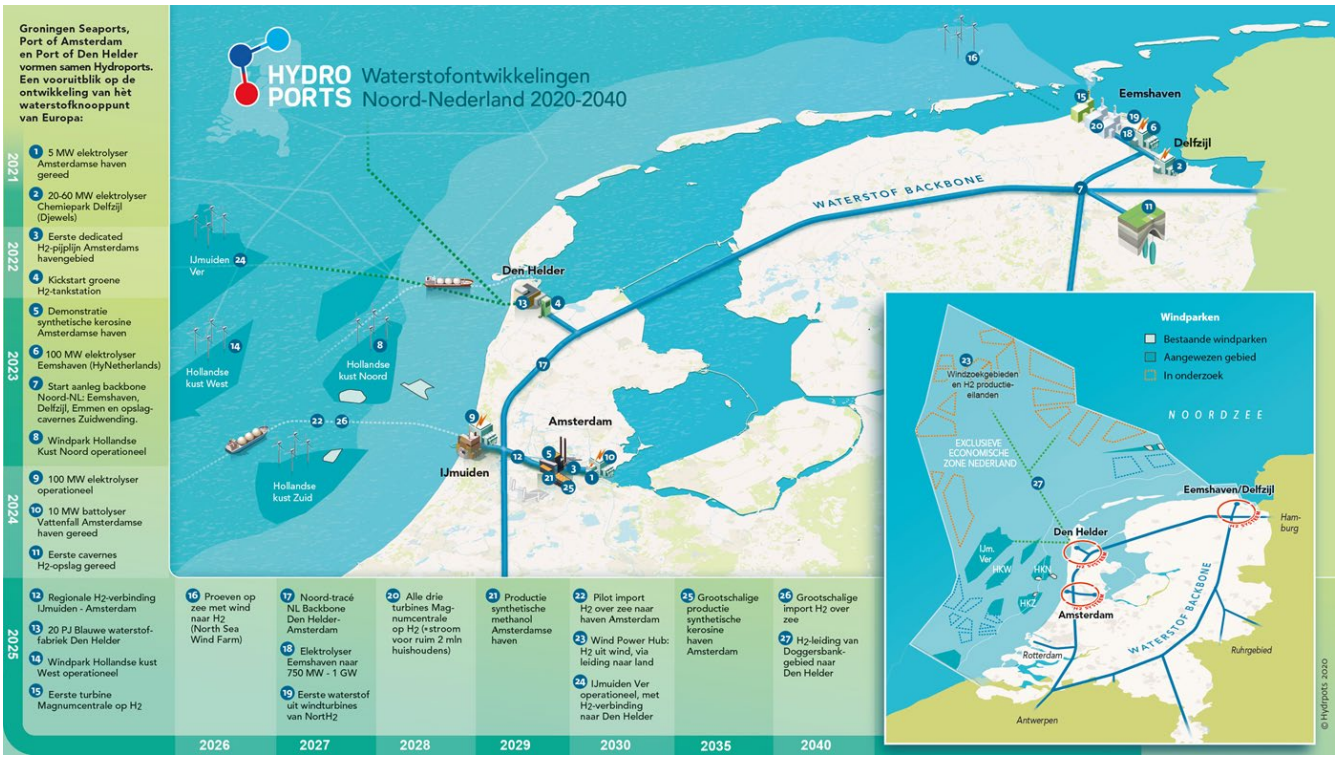


Figure 11: Hydrogen developments in Noord-Nederland 2020-2040

TNO

The TNO System Integration program is investigating the possibilities of using the existing gas infrastructure in the North Sea to accelerate the energy transition. As part of this program, a pilot will be carried out in 2020 on the Q13A platform of Neptune Energy off the coast of Scheveningen for the production of hydrogen at sea. That is a global first. The hydrogen produced is fed through an existing pipeline to provide energy to a nearby platform.

System studies

In addition to the TNO North Sea System Integration program, Port of Den Helder is also involved in a number of system studies, in which focuses on the longer term perspective of the energy transition. One of those studies concerns a study by CE Delft into the energy infrastructure in Noord-Holland. In this study, for Noord-Holland Noord, hydrogen is seen as a necessary solution to meet the demand for sustainable energy. The electricity network in this region cannot handle that demand. The Noordzeekanaalgebied and Den Helder are considered as obvious locations for hydrogen production and landing in this study. This conclusion is, moreover, entirely in line with the Noord-Holland 2050 Environmental Vision (Omgevingsvisie), in which the port of Den Helder is also mentioned as an important sustainable energy port for the metropolitan region.

The significance of seaports in the energy transition is more specifically investigated in a system study conducted by the New Energy Coalition, in collaboration with the University of Groningen. Port of Den Helder, Groningen Seaports and Port of Amsterdam are involved in this study in a supervision and review committee. The focus of the research is primarily on the significance of ports in the hydrogen network. The completion of this so-called port sketch is planned for the autumn of 2020.

The three ports mentioned, play a crucial role in the development of the hydrogen economy and have positioned themselves as "Hydrogen Ports".
The opportunity arises from these ports to be a "driver" in the development of the hydrogen economy in Noord-Nederland. By entering into this partnership between the ports, the hydrogen market can be accelerated and the infrastructure required for this can be accessed.
In a third system study, more in-depth investigations are made into which infrastructural requirements and innovations present themselves for the port of Den Helder in order to effectuate the promising position with regard to offshore wind and hydrogen. This study is being conducted by ECN-TNO on behalf of a Port of Den Helder consortium together with 10 partners. The study must result in a substantiated substantiation of the expected number of ship movements and the required infrastructure space and facilities. To this end, an arithmetic model is used, which is calculated over three periods until 2030-2040-2050. The model results show an increasing growth in the number of ship movements over these periods. In the model calculations, the space demand in the seaport for logistics and warehousing ranges from initially 1.3 ha to ultimately 6 ha.
This outcome is important for the future development of the port of Den Helder, also in relation to the developments of the defense port and the Building with Nature process. (see 3.2.4 Port development (on land) - Building with Nature)

- Medium term (2023-2030)

In order to achieve the climate objectives, the necessary measures must already be taken in the run-up to the hydrogen economy to reduce CO2 emissions considerably. The production of blue hydrogen plays an important role in this. Blue hydrogen can be seen as a transition gas, in prelude to the design of the future fully sustainable hydrogen economy. The cost price of blue hydrogen will be considerably more favorable than green hydrogen in the coming decade and that makes it possible to take targeted steps in the run-up to 2030 and to invest in the infrastructure and industrial processes required for hydrogen. In addition, CO2 emissions are already reduced during this transition phase, by capturing it and storing it under the seabed.

Blue hydrogen production plant

Port of Den Helder, together with (among others) NAM, Gasunie and the New Energy Coaltion, is investigating the feasibility of a blue hydrogen production plant at the existing NAM location. Den Helder is favorably situated for this, because the existing gas pipeline system at sea can provide for both the supply of natural gas and the removal of CO2. Moreover, the route of the intended Dutch hydrogen backbone runs through the Kop van Noord-Holland, so that a power supply from Den Helder can be realized with a relatively limited investment.

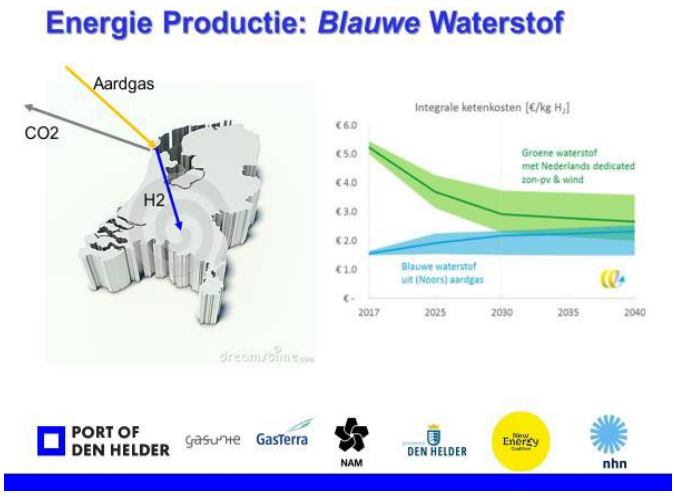


Figure 12: Energy Production: Blue Hydrogen

An initial feasibility study took place in May 2019. First indications are that blue hydrogen from Den Helder can offer a possible solution for the energy demands of Agriport and the data centers in Wieringerwerf. There was sufficient evidence to justify an in-depth investigation into the required investments in the gas infrastructure of the Kop van Noord-Holland.
The possibility of transporting CO2 from Den Helder to the empty gas fields at sea offers additional potential. CO2 storage facilities are expected to represent increasing market value in the coming decade. From this perspective, the port of Den Helder has the potential to grow in the medium term into a loading point for CO2 transport from other industrial regions, such as, for example, Chemelot. With a number of gas transport facilities, the port of Den Helder can be made suitable for this function. Discussions are being held with parties that are seriously investigating this possibility.

Figure 13: Loading port CO2 discharge to North Sea gas fields??

- Short term (2020-2023)

Hydrogen pilot

For the short term, Port of Den Helder anticipates the realization of a hydrogen filling station in the port for shipping and road transport. A consortium has been set up for this purpose with Engie, Pitpoint and Damen Shipyards. In April 2019, these parties formalized the cooperation in a letter of intent. The aim of this collaboration is to realize a complete hydrogen chain, including the generation of green electricity from solar energy, the production of hydrogen from electrolysis, a storage and refueling facility and a demonstration vessel powered by hydrogen fuel cells. The design of this chain and the specific input from the consortium parties are shown schematically in the image below.

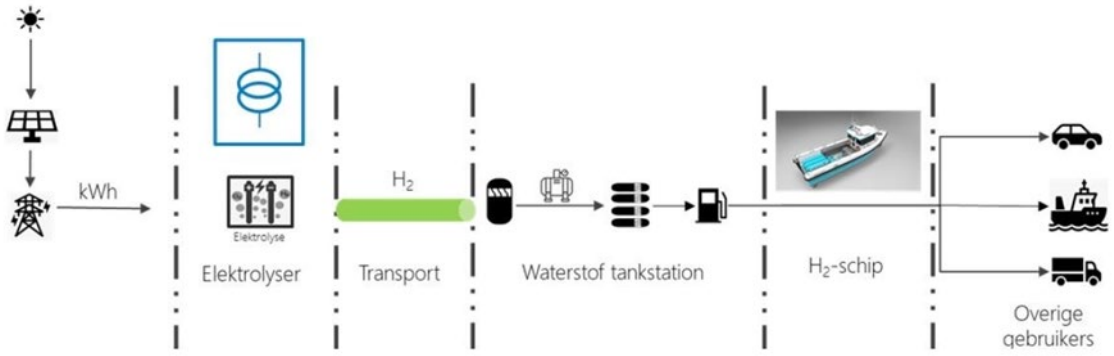


Figure 14: pilot production and deployment of green hydrogen

The overall project coordination is the responsibility of Engie. The input from Port of Den Helder consists of making a lot available at Kooyhaven for the fuel station and renting out land for the realization of the solar park. Port of Den Helder will also be part of a user pool for the temporary use of the demonstration vessel as a harbor boat.

Demonstration vessel

The demonstration vessel will be used by various port users in order to collect information about the different sailing profiles. That information can then be used to make improvements to hydrogen propulsion.

In June 2019, the consortium submitted a DKTI grant application to the Netherlands Enterprise Agency. The DKTI scheme stands for Demonstration scheme for Climate Technologies and Innovations in Transport (Demonstratieregeling klimaattechnologieën en –Innovaties in transport). This pilot fits perfectly within this scheme. In December 2019, the consortium received a grant from the DKTI scheme of 1.4 million euros for this project.
The consortium has also submitted a subsidy application under the Investeringskader (part of the Waddenfonds) within the total Green Shipping program.
The Green Shipping program focuses on the reduction of CO2 emissions from Wadden shipping and the stimulating technology developments on ships and in ports. This four-year program facilitates shipping companies, fishermen, shipyards, ports and suppliers to achieve sustainable objectives, by supporting them to make decisions regarding technologies and investments for refit (conversion) and new construction and port infrastructure. Measures or decisions that must are taken to reduce emissions as a result of current laws and regulations this program. This program is for Wadden Sea shipping and goes much further than the established ones legislation and is strongly focused on CO2 reduction. Zero emission is the target and green hydrogen will make a huge contribution to this. When using green generated hydrogen there is no more emission of harmful gases in the chain and no CO2 emissions.

Following this pilot, Port of Den Helder is in consultation with various parties about the future use of the hydrogen bunker facilities. Up to now, the following parties have expressed their interest in this:

1. KM plans the acquisition of two hydrogen-powered small (training) vessels.
2. Maritime Academy in Harlingen is going to convert the training vessel Emili (inland vessel of the Kempenaar type) into a hybrid propulsion system of diesel-electric and hydrogen. This ship regularly calls at the port of Den Helder.
3. A stakeholder is planning the acquisition of a new hydrogen propelled inland navigation vessel for sand transports. This ship will also regularly visit the port of Den Helder.
4. Deep Hydrography and Geophysics plans the acquisition of multiple emission-free small recording vessels for operations on the Wadden Sea.

In addition, Port of Den Helder has joined a Recoy initiative aimed at the realization of a hydrogen aggregate for shore power. Such an “off grid” aggregate could possibly offer a solution for Port of Den Helder to provide river cruise ships in the inland port with emission-free and low-noise shore power. The hydrogen must then be obtained from the hydrogen filling station in Den Helder.
(See 6.2 Best practices Hydrogen Pilot)

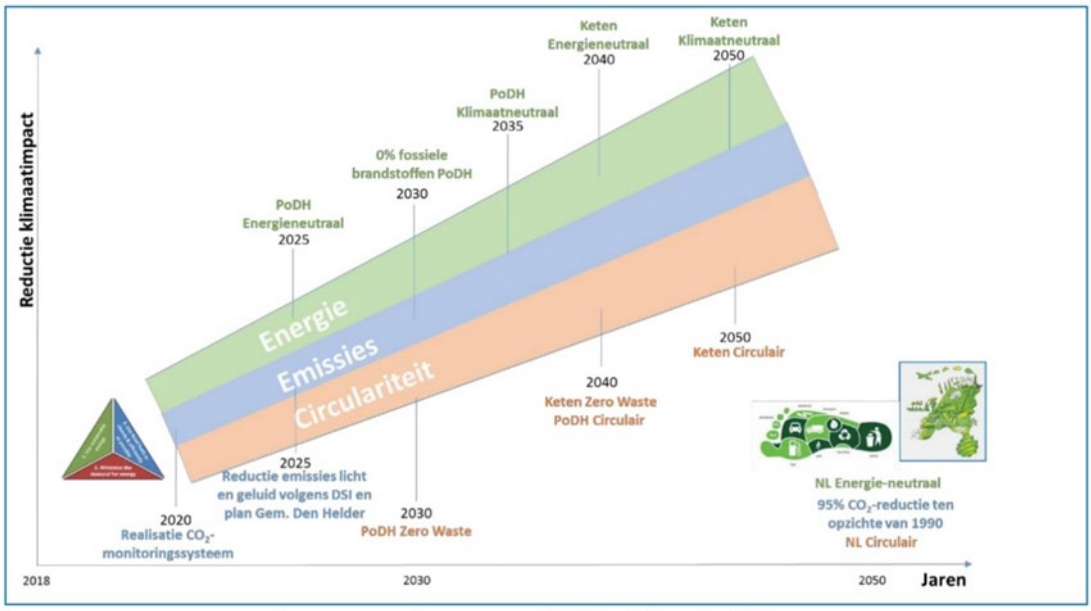
Figure 15: Hdrogen is on the map of Port of Den Helder

Vector 3: Towards a climate neutral port chain

This vector focuses on the further sustainability of the port. The ambition is to have the Port Authority's business operations climate-neutral by 2025. But the ambition goes further and aims for a completely climate-neutral port chain by 2050. These ambitions and the way there are described in the Ambition Document Sustainability - Port of Den Helder (link). The sustainability development strategy addresses three performance areas:

1. Energy
2. Emissions
3. Circularity

Each year, an action plan with concrete projects is determined on the basis of the ambitions and these performance areas. (See: 3.4.1 Ambition document sustainability Port of Den Helder)



3.4.3 Air quality

Port of Den Helder has already started monitoring its own energy consumption (electricity, natural gas and fuels). This monitoring will be further expanded and set up more systematically in the coming years. The emissions of Port of Den Helder are relatively low compared to other transport movements in the port, including stakeholders and traffic to and from the ferry connection to Texel

Now that shore power facilities on the quays Het Nieuwe Diep - Het Nieuwe Werk, has been put into use, the consumption of electricity will be monitored (3.3.3 Energy consumption, figure 4). As indicated in our Sustainability action plan, further measures will be taken to reduce our energy consumption

- Reduction of own emissions

In the period up to 2025, the port will focus on 3 things for the management area:

1. Mapping what is emitted (including CO2, particulate matter)
2. Reducing the amount of "environmentally-polluting" emissions
3. Replacing fuels with a negative impact on the environment with (more) sustainable fuels

As already indicated Port of Den Helder had its CO2 footprint established in 2018. This will be monitored over the next years.

Port of Den Helder itself has limited responsibility for land transport movements. For us, the most important source is the use of our own fleet. We aim to have our fleet converted within 5 years to vehicles that run on alternative and sustainable fuel. Simultaneously we are also investigating the use of an electric cargo bike to reduce the use of cars for few operational activities in a short distance from the office. The aim to make the entire fleet sustainable within five years is, especially for company cars that are only used in the work area, a very feasible option.

In addition to the fleet, the port has ownership of one vessel. Port of Den Helder intends to replace this vessel or its propulsion with a vessel based on sustainable fuel or propulsion. In anticipation of this, last year Port of Den Helder switched to using a more sustainable fuel for the Havendienst 3.

- Reduction emissions on land

Various stakeholders within the working area are responsible for a considerable amount of land transport movements. Due to the current design of the port, there are many daily transport movements by road from the industriehaven Westoever to the sea port.
In and around the port large traffic intensity is created by the different traffic flows, namely by TESO, Royal Dutch Navy, urban traffic and offshore and port supplies, which come together in the port area. All these transport movements lead to nuisance (traffic jams) and, due to the use of standard trucks, to CO2 emissions.

A hydrogen pilot is being worked on to achieve a reduction in emissions. the pilot itself is described in 3.3.4 Sort term - Hydrogen pilot.
Within the Hydrogen pilot, a hydrogen filling station for road and shipping is also being developed. Port of Den Helder is in talks with the various stakeholders to see whether it is possible to switch to hydrogen for their cargo transport and equipment (for example fork-lift truck).

- Reduction shipping emissions

In addition to road cargo transport, shipping is one of the larger sources of emissions in the port area. Port of Den Helder is actively committed to reducing CO2, NOX and SOX emissions from shipping. A concrete example of this is the realization of shore power facilities (§.3.2.3 Shore power facilities).
Instead of using auxiliary engines on board for light and heating, the ships that moor in the port will use the shore power facilities, which will lead to a reduction of emissions and noise pollution.

The port of Den Helder does not yet have the technology to supply large seagoing vessels with shore power.

In 2018, approximately 24 fishing vessels switched from diesel to the ChangeXL fuel in Den Helder. It has been shown that the use of ChangeXL provides a fuel saving of 4 - 7% and a decrease of an average of 20% NOx and 40% particulate matter. The vessel of Port of Den Helder, Havendienst 3, has also switched to the use of Change XL.

The Royal Dutch Navy intends to operate two of its smaller sea-going vessels emission-free within a few years. Port of Den Helder is currently following these developments closely.
In addition, Port of Den Helder strives to reduce shipping emissions by proactively promoting the use of alternative (more sustainable) fuels. Port of Den Helder will focus on cooperating with large-scale users to create the preconditions for clean fuels in the area (sea section 3.3.4 Hydrogen)

3.4.4 Energy consumption

- Monitoring energy consumption

Active monitoring of energy use, frequent analysis and immediate correction when deviations are found is essential towards achieving energy neutral. Currently, Port of Den Helder uses around 885 MWh of electricity and a limited amount of natural gas (5,100 Nm3) per year with all installations, from office to bridges and from lighting to shore power. The total CO2 emissions in 2018 is 288,7 tons of CO2 per year.

- Green electricity

As of 1 January 2020, Port of Den Helder has completely switched to the use of green electricity. The green electricity that the port will purchase from this year is used for shore power, the public lighting in the port, the operation of the infrastructures (bridges and locks), as well as the pumping installations for drinking water on the quays.

- Dark sky declaration of intent

On the various quays, energy saving is recieved by replacing outdated conventional lighting with modern LED that complies the guidelines from the Dark Sky Declaration of Intent. By 2025 at the latest, all the area lighting at Port of Den Helder will also be energy efficient. As a first step, this new energy-efficient LED,has been installed on the Paleiskade in November 2018. (see 3.2.3 Energy consumption - Lighting)

- Use of renewable energy

The working area of Port of Den Helder offers opportunities for the local production of sustainable energy. After realizing energy savings from our own installations, Port of Den Helder's energy consumption will be approximately 950 MWh per year. Natural gas consumption, on the other hand, will decrease. This amount of electricity can be generated locally by, for example, realizing a new solar park with an area around 1 hectare. Port of Den Helder will explore the possibilities of connecting with stakeholders in the area who are already planning to realize solar parks. A formal procedure for a solar park at Kooypunt (15 ha.) is already completed. Construction is expected to start in 2020-2021.

Also an apllication for a solar park has been submitted for 2 ha. on Oostoever.

In addition, PoDH has contributed various grounds to the offer of the Regional Energy Strategy for the possibilities of solar energy, amoung others Oostoever. In the context of the energy transition, the possibilities of an energy hub (blue hydrogen, green hydrogen, carbon capture storage, etc. and solar parks) on Oostoever are being investigated.

- Heat network

The previous PERS indicated that the Heat Network project had started.
This project is still ongoing. Currently, the focus is on the use of heat for households. It has been established that the rol of Port of Den Helder in this is limited. We will therefore follow this project from the sidelines.

3.4.5 Garbage/ port waste/ ship waste

In the coming period, various projects will start in the area of reducing waste and becoming circular, both the internal operations of Port of Den Helder and the users (shipping) of our port.

- Saving assests / circularity Port of Den Helder

In our Sustainability action plan by saving assets and becoming circular, the following options are indicated:

- to become paperless office
- switching off the lighting when leaving the office or switching off the screens
- separately collecting the waste of the office
- the use of electric bicycles at short distances

- Sustainable office building

The plan is to make sustainability agreements in consultation with the building owner.
This includes:

- replacing the the office lighting with LED
- making provisions for the separate collection of waste
- placing charging stations for electric vehicles
- placing charging infrastructure for electric bicycles in the bicycle storage

In addition, the building owner is working on a plan for the further sustainability of the building.

- Fishing for litter

In the “Fishing for Litter project”, the participating fishermen take the litter that ends up in their nets to land, where it is collected, transported, monitored and processed. The fishermen participate free of charge. The fishermen take big bags on board to store this waste on the ship. When they return to the port, the fishermen place the big-bag on the quay from where it is removed and processed by waste collectors. In this way it is prevented that the same waste is always fished by fishermen or washed up on the beaches. The Fishing for Litter project started in 1999 at the port of Den Helder as a pilot of Rijkswaterstaat. Port of Den Helder participates in this project by providing quay site for the fishing for litter containers and supervising the dumped waste. All this in close collaboration with the waste collector Bek & Verburg and KIMO.

- Port Waste Plan/Fishery Port Waste Plan

Pursuant to the Wet voorkoming verontreiniging door schepen, designated seaports must have a port waste plan, which describes how sea-going vessels can deliver their waste to the port in question. This is to prevent the waste generated on board the ship from being discharged into the sea.

In the port of Den Helder, waste materials covered by Marpol Annex I, II, IV, V, V-domestic waste (huisvuil), V-small hazardous waste (KGA), V-cargo residues ans VI, can be delivered to the designated port reception facilities.
Further agreements are made with holders of a port reception facility with regard to the recycling of the waste, for example the collection and recycling of fishing nets and dolly rope.

In the consultation with the holders of a port reception facility, the options for further optimizing the delivery / recycling of ship's waste can be placed on the agenda. The Port waste plane and the rates can be found on and downloaded via https://www.havendenhelder.nl/nl/havenafvalplan.
If the port reception facility is inadequate, the captain can file a complaint with a complaint form. Port of Den Helder must then deal with this complaint and also report this to IL&T.

3.4.6 Noise

- Noise in the port

An integral noise survey was carried out in 2017 in the context of the Roadmap "Program for development". The military part of the port was also involved in this investigation. This was a complicated and time-consuming investigation. In addition to the Noord-Holland Noord Environment Agency, the Ministry of Infrastructure and Water Management is also involved as zone manager (Department of defense), and the municipality of Den Helder as the competent autorithy.

The report was delivered early 2018. This research has shown that there is no longer sound space available in the port.
In 2020, the municipality of Den Helder will start drawing up a noise reduction plan for the port area. A noise reduction plan offers a solution for acoustically full industrial areas. The municipality draw up a noise reduction plan to nullify the exceeding of limit values within a certain period (five years). The plan requires (at plot level) a quantitative acoustic basis for compliance with the limit values within five years. The agreements in the noise reduction plan make it possible to grant a permit or change existing permits in those five years.

- The role of Port of Den Helder

In the draw-up of the noise reduction plan Port of Den Helder will play a supporting role.
In addition, in the context of the Ecoports Innovation Program (Investeringskader Waddengebied - Waddenfonds), in collaboration with, among others, the Dutch order of inventors (NOVU), innovative solutions will be sought to reduce noise emissions, partly to enable further development of the port. These techniques will also be applicable in the other Wadden Sea ports.
Port of Den Helder itself is a limited producer of noise emissions. The realization of shore power facilities in the port not only provides a substantial reduction in the area of CO2, NOX and SOX, but also a considerable reduction in noise emissions. Further measures to reduce noise in the port will be investigated.

4. Responsiblities and resources

4.1 Environmental Responsibilities of Key Personnel

Environmental Responsibilities of Key Personnel*		
For those areas for which the Port authority has responsibility, what personnel are responsible for the following functions?		
	Port of Den Helder	**Others**
Port Operations (Dredging)	Technisch Beheer	
Port Operations (Navigation)	Havendienst	Rijkshavenmeester
Port Operations (Shipping)	Havendienst	Rijkshavenmeester
Port Operations (Terminals)	Havendienst	Agencies
Cargo Handling Operations		Agencies
Jetty/Wharf Management		Owner
Site Management	Havendienst/Technisch beheer	Owner
Strategic Planning	MT / CEO / RvC / AVA	
Supplies acquisition	Accountmanager/Salesmanager	Agencies
Operator Licensing/Permit	Havendienst / Port of Den Helder	Owner/Agencies
Quality Management	CFO	Owner/Agencies
On site Contractor Management		Agencies
On site Conservation	Technisch beheer	Owner / User
Emergency Planning	Havendienst	Agencies
Waste Management	Beleidsadviseur	Captains / Agencies
Marina / Slipway management	Technisch beheer	Rijkswaterstaat
Environmental Document Management	Beleidsadviseur	
Environmental Data Management	Beleidsadviseur/Technisch beheer/Finance	
Soil pollution assessment	Havendienst	Omgevingsdienst Noord-Holland Noord
Air Quality monitoring		Omgevingsdienst Noord-Holland Noord
Water Quality monitoring		Hoogheemraadschap Hollands Noorderkwartier / Rijkswaterstaat
Vehicular Management of Terminal traffic	Tecnhisch beheer	Owner/Agencies
Communication with external stakeholders about environmental subjects	Beleidsadviseur	
Port security	(dep.) Port Security Officer ((plv.)PSO)/ Port Facility Security Officer (PFSO)	Port Security Authority (PSA)
*** 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.**		

Table 8: Environmental responsibilities of key personnel

4.2 Organization structure

Port of Den Helder is a government nv whose shares are held by the municipality of Den Helder. The NV was created on 1 March 2013 through the privatization of the municipal port authority. Port of Den Helder has a flat organizational structure as shown in Figure 17. The organizational structure consists of a Management Team, three line departments and three staff positions.

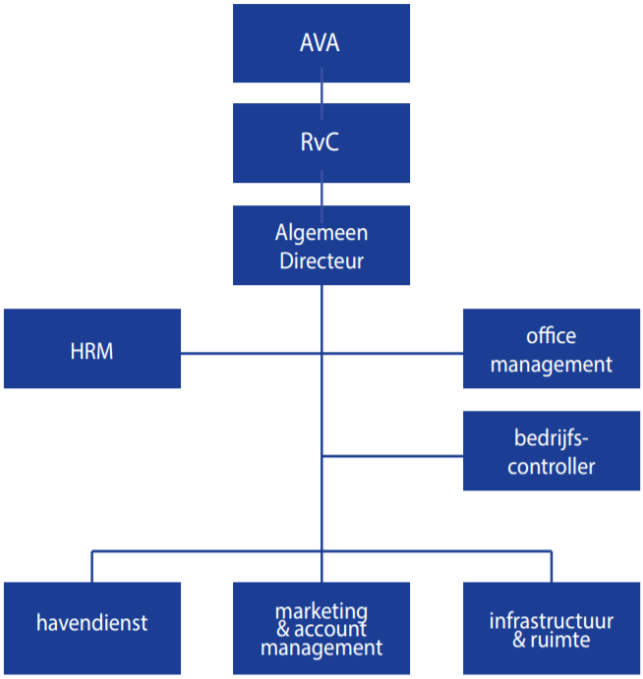


Figure 16: Organogram of Port of Den Helder

As the core task of Port of Den Helder, port development is fully embedded in the organization. The program management organization is in line with the Infrastructure & Spatial Planning department, but relies on the organization's nautical, commercial, technical and financial management functions.

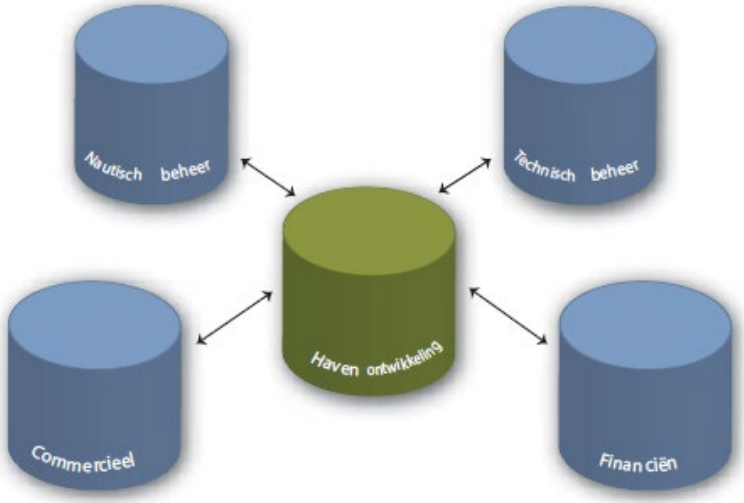


Figure 17: Relationship between the development function and the four management functions mentioned.

4.3 External responsibilities

Party	Responsibility
Rijkswaterstaat	Traffic and roads Protection against water – maintenance dikes and shore line Water quality Water permits
Hoogheemraadschap Hollands Noorderkwartier (regional water board)	Coastal security (dikes) Water quality Water permits
Ministry of Infrastructure and Watermanagement	Safety on the water (*rijkshavenmeester*) Port State Control
Inspection Environment and Transport	Port State Control - Monitoring compliance with environmental laws and regulations for port waste collectors on mobile collection facilities (trucks, barges) Supervisory authority
Omgevingsdienst Noord-Holland Noord	Enforcement Supervision waste treatment plants and stationary collection facilities
Province Noord-Holland	Nature conservation Channel and lock management (Noord-Hollandskanaal / Koopvaardersschutsluis)
Municipality Den Helder	*Omgevingsvergunning* Land use planning reports
Ministry of Defence	*Scheepvaartverkeerswet* Safety on the water (*rijkshavenmeester*) Bridge management (Moormanbridge)
Companies	Comply with requirements in laws, regulations, permits and the *gebruiksvoorschriften* (port's conditions of use) of the port

Table 9: External responsibilities

4.4 Resources allocated for Port Environmental Management

Port of Den Helder realizes that it works as a seaport in a unique ecological context, UNESCO World Heritage Wadden Sea, and considers its environmental policy as important pillars for the economic development of the port. The environmental policy is integrated into the Port of Den Helder business plan and is becoming increasingly intertwined with the various activities in the port. Port of Den Helder is committed to its sustainable status and has taken several steps to spend both time and money on this:

- The bi-annual EcoPorts certification from ESPO is included in the budget;
- The port supports the Fishing for Litter project;
- The senior advisor is responsible for the implementation of the environmental policy, the implementation of activities to follow the indicators and for the continuation of the EcoPorts certification;
- The senior advisor is also responsible voor the Ambitiedocument Duurzaamheid Port of Den Helder, and the Actionplan Sustainability Port of Den Helder;
- Collaboration with various stakeholders to implement sustainability in both its own business operations and the port (Ambitiedocument Duurzaamheid Port of Den Helder);
- Collaboration with other Wadden Sea ports, both national and international, and knowledge institutions to exchange experiences and discuss problems;
- Cooperation with other ports, such as Amsterdam and Groningen Seaports, to give substance to the energy transition, for example the establishing of Hydroports.
- Making money available and acquiring additional funds to undertake sustainable projects such as the hydrogen pilot

In addition, Port of Den Helder has also developed a structural vision for the port and has recognized that there are opportunities in the energy transition. This allows the port to position itself strategically on the market for maintenance of offshore wind farms, but also to take this into account when designing the port. With this Port of Den Helder demonstrates that it takes sustainability into account in the short and long term.
Port of Den Helder works towards a further integration of environmental aspects in order to achieve a continuous improvement of environmental and environmental policy. Port of Den Helder also uses performance indicators. By working towards a measurable goal, Port of Den Helder can better evaluate and improve its policy.

Compliance with the law is monitored by several government agencies:

- At the national level, the Human Environment and Transport Inspectorate of the Ministry of Infrastructure and Water Management guarantees compliance with legal regulations with regard to sustainability and physical safety;
- At the regional and local level, the North Holland North Environmental Agency (ODHNH) guarantees compliance with regional and local legislation of, among others, the municipality of Den Helder and PoDH.

The inspections by these control / enforcement agencies guarantee that PoDH complies with the legislation. The annual update of the overview of laws and regulations made by the policy advisor is a useful instrument to ensure that PoDH continues to comply with legal standards and requirements in the future.

5. Conformity review on legal requirements and policy

In this policy statement, Port of Den Helder commits itself to its intention to develop and update an environmental policy. The coordination of this falls under the responsibility of the policy advisor. The person in this position is responsible for:

- Developing and maintaining the EcoPorts certification;
- Collecting data for the indicators of the PERS;
- Collaborate with research institutes, Wadden Sea ports or other organizations and experts when necessary;
- Keeping up to date with legal obligations at international, national, regional and local level by updating the overview of relevant laws and regulations annually by consulting various sources;
- Encourage and stay informed of sustainable initiatives in the port.
  The compliance with the legislation is checked by the legal department of Groningen Seaports.
- At the national level, the national Inspection of Living Environment and Transport (IL&T) of the Ministry of Infrastructure and Environment guarantees compliance with legal requirements with regard to sustainability and physical safety;

Compliance with the legislation is monitored by various government agencies:

- At the national level, the Human Environment and Transport Inspectorate of the Ministry of Infrastructure and the Environment (Inspectie IL&T van het ministerie van I&W) guarantees compliance with legal regulations with regard to sustainability and physical safety;
- At a regional and local level, the Omgevingsdienst Noord-Holland Noord (ODNHN) guarantees compliance with regional and local legislation of, among others, the municipality of Den Helder or PoDH.

The inspections by these control / enforcement agencies ensure that PoDH complies with legislation. The annual update of the overview of legislation and regulations produced by the policy advisor is a useful tool to ensure that PoDH continues to comply with legal standards and requirements in the future.

6. Best practices

6.1 Shore based power facilities

Port of Den Helder – Shore based power facilities

1. **Project description**

During the last PERS period (2017-2019) the project to place new shore-based power facilities had been realized.
The project contributes to optimizing the facilities in the port. In addition, it also contributes to the sustainability ambitions of the port, such as reducing air emissions and noise.
An additional positive effect is that shipping is more aware of whether or not to leave equipment on board switched on. In this way, it also contributes to reducing energy consumption.

2. **Environmental Aspects involved**

- Air pollution
- Noise
- Energy reduction

3. Stakeholders involved
    - Port of Den Helder
    - Shipping

Contact for information

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6.2 Hydrogen pilot

Port of Den Helder - Hydrogen Pilot

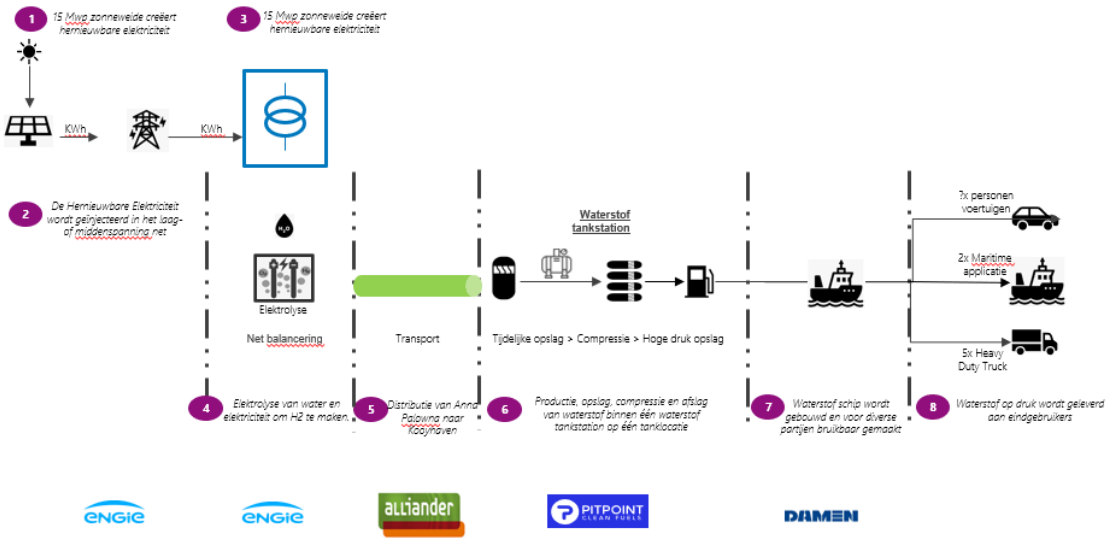
1. Project description

The realization of a hydrogen filling station in the port for shipping and road transport.
A solar park will be generated green energy.
The green hydrogen is produced, stored and made available on site by electrolysis.
As part of the project a hydrogen vessel will be developed, which will be offered to a pool of potential users.
The uniqueness of the project is that this project encompasses the entire chain

The project can play an important role for zero-emission shipping in the Wadden Sea.

2. Environmental Aspects involved

- Air pollution



In addition, there is interest from Alliander (network manager electricity) to investigate the possibilities for net balancing. The conversion of the overcapacity of electricity into

hydrogen is being investigated.
This could prevent an overload of the electricity network.

3. Stakeholders involved

- Port of Den Helder
- Damen
- Engie
- PitPoint
- Alliander

4. Contact for information

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7. Annexes

Annex I Environmental Report 2018 – 2019 NV Port of Den Helder

Port of Den Helder is gelegen in het UNESCO werelderfgoedgebied Waddenzee. De haven realiseert zich dat duurzame ontwikkeling en milieubescherming belangrijke randvoorwaarden zijn voor de economische ontwikkeling in en nabij de haven en dat de haven hiervoor een samenhangend milieu- en omgevingsbeleid op moet stellen.
Port of Den Helder heeft zich mede daarom ten doel gesteld om zich Ecoport te certificeren. In 2015 is de eerste certificering behaald en in december 2017 de hercertificering voor de periode 2018 - 2019. Eind 2019 zal opnieuw een hercertificering worden aangevraagd

In het kader van deze (her)certificering dient er een tweejaarlijks environmental report te worden opgesteld, waarin verslag wordt gedaan van de doelen die in de benoemde periode zijn gesteld en tot welke resultaten die hebben geleid. Tevens wordt een kort overzicht gegeven van de doelen die voor de komende certificering (2021-2023) worden gesteld.

1. Port Profile

De haven van Den Helder is een belangrijke economische motor voor de Kop van Noord-Holland. Naast de thuisbasis voor de Koninklijke Marine is Den Helder tevens de grootste logistieke hub voor Offshore onderhoud in het zuidelijk deel van de Noordzee. Den Helder dankt deze sterke positie aan:

1. De centrale geografische ligging ten opzichte van het Nederlands Continentaal Plat;
2. De combinatie van een open zeehaven en een helikopterhaven;
3. De sterke maritieme kennispositie, met een brede vertegenwoordiging van kennisinstellingen, beroepsopleidingen en maritiem onderwijs op academisch niveau;
4. De aanwezigheid van hoogwaardige en veelzijdige logistieke service providers die zich onderscheiden in een snelle afhandeling.

Als leverancier van onderhoud en logistiek voor de offshore sector vertegenwoordigt de haven van Den Helder een niche positie van nationaal belang. Vanuit de haven van Den Helder worden 144 platforms op het Nederlands deel van het Continentaal Plat bevoorraad. 90% van de in Nederland aanwezige offshore bedrijven zijn gevestigd in Den Helder.

Den Helder heeft de potentie om het met succes beproefde concept van “pitstop haven” voor de offshore Olie- & Gasmarkt op de Noordzee verder uit te bouwen en in te zetten voor:

1. Consolidatie van het marktaandeel olie en gas;
2. Onderhoud en logistiek van Windparken op zee;
3. Ondersteuning van andere “renewables”, zoals getijdenenergie;
4. Scheepsonderhoud.

Voor zowel de offshore Olie & Gasmarkt als voor de offshore windmarkt is Den Helder in beginsel uitstekend gepositioneerd. De centrale ligging van Den Helder en de hier aanwezige bedrijven en kennis zijn niet alleen relevant voor het onderhoud en logistiek van Olie & Gas platforms, maar ook voor windparken op zee.
Vanwege fysieke beperkingen in de haven zal Den Helder waarschijnlijk geen omvangrijke bijdrage kunnen gaan leveren aan de bouw en assemblage fase van winderparken op zee, in termen van opslag en overslag van grote onderdelen van windturbines. Diensten die een minder groot ruimtegebruik behoeven, kunnen wel in en vanuit de haven van Den Helder geleverd worden.

Onderhoud en logistiek is de nichemarkt waar Den Helder zich op zal richten wanneer de parken zijn gerealiseerd.

2. Port Area

Het gebied van Port of Den Helder is ongeveer 87 hectare groot (water 36 ha en terreinen 51 ha), met de volgende terreinen/kades/wateren:

- *Het Nieuwe Diep* en de aangrenzende kades (*Paleiskade, Nieuwediepkade, Visserijkade, Het Nieuwe Diep* en *Het Nieuwe Werk*);
- De industriehaven *Westoever* / Spoorweghaven;
- De loskade bij het *Noord-Hollands kanaal* in de buurt van industrieterrein *Oostoever*;
- De *Koopvaardersbinnenhaven* en de aangrenzende openbare kades;
- Het Regionaal gebonden havenbedrijventerrein *Kooyhaven,* het bedrijventerrein *Kooypunt* en industrieterrein *Oostoever.*

PoDH verkent diverse locaties in de haven die op de korte, middellange en lange termijn kunnen worden (her)ontwikkeld om ruimte te bieden voor nieuwe bedrijvigheid in de haven.
De ontwikkelstrategie is gericht op inbreiding vóór uitbreiding.
Uitbreiding is voor een Waddenzeehaven als Den Helder alleen mogelijk, wanneer alle ruimte binnen de haven optimaal is benut en bovendien alleen via de weg van Building with Nature, met als voorwaarde dat economische en ecologische winst met elkaar in balans moeten zijn. In 2019 is in samenwerking met Provincie, Gemeente, Koninklijke Marine, Port of Den Helder en Landschap Noord-Holland een aanbestedingstraject opgestart voor een haalbaarheidsstudie naar het concept van uitbreiding van de haven via de weg van Building with Nature.

3. Environmental Policy Statement

Port of Den Helder is zich bewust van haar sociaal-economische verantwoordelijkheid als manager van een belangrijk havengebied. Port of Den Helder is een belangrijke economische motor voor de Kop van Noord-Holland. Den Helder is de grootste logistieke hub voor de Offshore in het zuidelijk deel van de Noordzee. Hierbij is men zich er bewust van dat de havenlocatie in het natuurrijke UNESCO werelderfgoedgebied Waddenzee is gelegen. De haven heeft daarom bewust gekozen voor een strategie van duurzame groei met oog voor mens en natuur.

De kernwaarden van Port of Den Helder zijn:

"Port of Den Helder is een professionele, zelfbewuste en lerende organisatie met ruimte voor inbreng, een eigen verantwoordelijkheid, als betrouwbare partner, vanuit wederzijdse afhankelijkheid en met oog voor duurzaamheid."

Port of Den Helder streeft naar continue verbetering van haar milieu- en omgevingsbeleid dat aansluit op de activiteiten en competenties van de haven, en dat in lijn is met de ontwikkelingen op de markt. Hiervoor hebben we de belangrijkste omgevingsaspecten geïdentificeerd en zijn relevante indicatoren opgesteld om onze voortgang te kunnen meten.

De indicatoren zijn ook een middel om ons milieu- en omgevingsbeleid verder te ontwikkelen en succes- danwel probleemgebieden te signaleren.
Port of Den Helder zet zich in voor een beleid dat voldoet aan internationale standaarden en gaat waar mogelijk verder dan strikte naleving van internationale, Europese, Nederlandse of lokale wetgeving. Zo werkt Port of Den Helder mede aan maatschappelijk verantwoord ondernemen.

Wij zetten ons in voor/om:

- Onderhoud, naleving en ontwikkeling van een PERS certificering van de European Sea Ports Organisation;
- Ontwikkelen en uitvoeren van een duurzaamheidsbeleid in samenwerking met onze stakeholders
- Monitoring en vermindering van afval; bevordering van afvalreductie en recycling;
- Vermijding van geluidsoverlast;
- Op de hoogte te blijven en te voldoen aan relevante milieuwetgeving en -regelgeving;
- Deelnemen aan diverse denktanks en systeemstudies op het gebied van energietransitie
- Externe communicatie van ons milieubeleid publiceren op de website;
- Duurzame projecten in de haven door het havenbedrijf te identificeren en daar waar mogelijk te ontwikkelen;
- Het organiseren van havenbijeenkomsten en workshops met stakeholders rondom het thema verduurzaming
- Stimulering van bedrijven, stichtingen en overheidsinstanties om duurzame projecten te ontwikkelen in het havengebied;
- Delen van informatie met andere Waddenzeehavens om gezamenlijk te leren en ons gezamenlijke milieu- en omgevingsbeleid te verbeteren.

PoDH streeft naar een milieumanagementsysteem dat is toegesneden op de sociaal-economische en ecologische context van het havengebied en dit aan te passen aan de actualiteit.

4. Results PERS Port of Den Helder

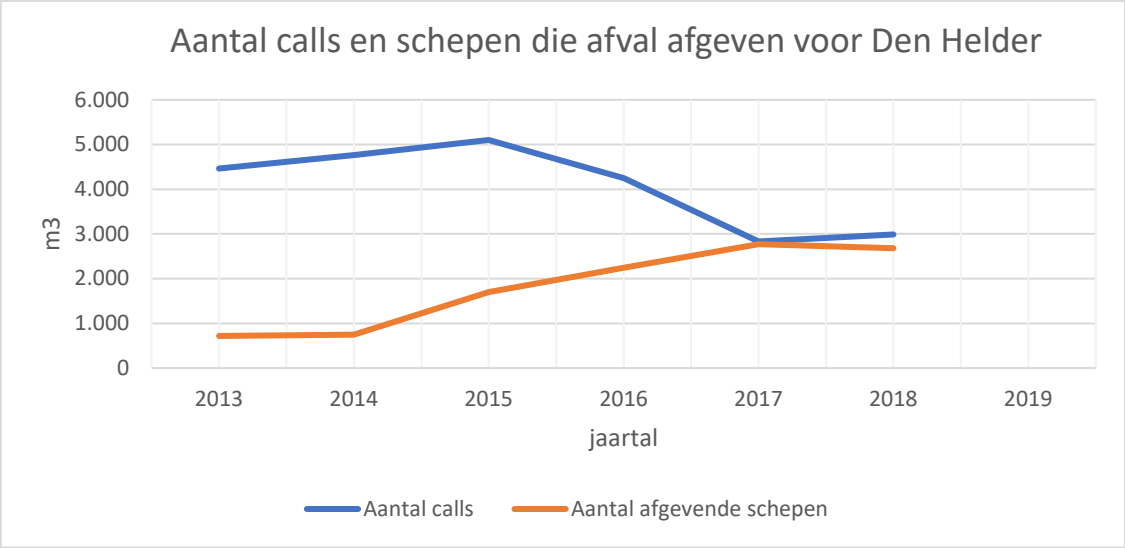
In de Port Environmental Review System (PERS) 2017-2019 heeft Port of Den Helder vijf omgevingsaspecten geprioriteerd op basis van projectplannen, deze waren:

1. Afval
2. Geluid
3. Energiegebruik
4. Havenontwikkeling (op het land)
5. Baggeren.

1. Afval

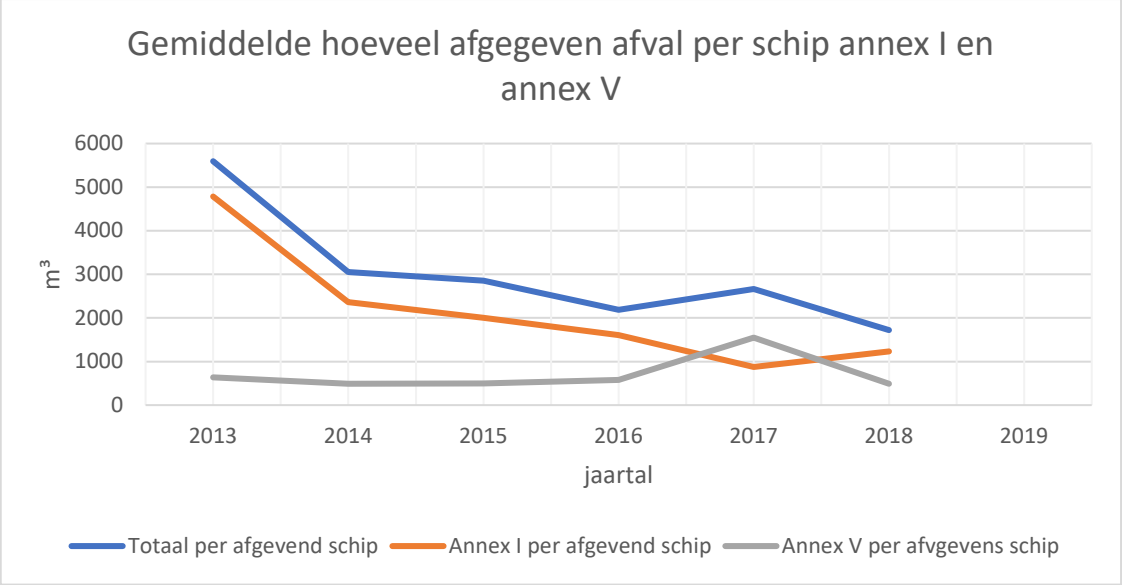
Hoeveelheid afval dat jaarlijks in de haven wordt verzameld

Na een periode waarin het aantal calls (binnenkomende schepen) is afgenomen, terwijl er wel een toename in de ontvangst van scheepafvalstoffen was, is er over de jaren 2017 – 2018 een stabilisatie waar te nemen (figuur 1).



Figuur 1: Aantal calls en schepen die afval afgeven voor Den Helder

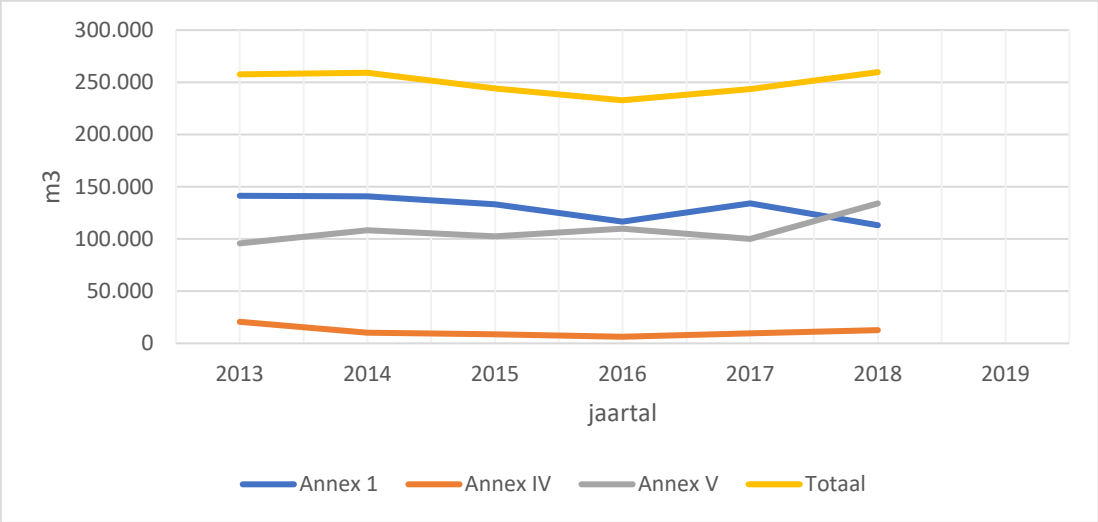
In figuur 2 is over de periode 2017-2018 een zelfde trend waarneembaar, de afgifte per schip is gestabiliseerd.



Figuur 2: Gemiddelde hoeveelheid afgegeven afval per schip Annex I en Annex V voor Den Helder

In figuur 3 is voor 2017-2018 dezelfde trend waarneembaar bij alle Nederlandse zeehavens. Voor Den Helder zij daarbij opgemerkt dat de zeevaart die Den Helder aandoet voor het overgrote deel Den Helder als vaste thuisbasis heeft met als gevolg dat een groot deel van deze schepen een ontheffing (artikel 35 Wet voorkoming verontreiniging door schepen) heeft voor de aanmelding en afgifte van scheepsafvalstoffen.

De schepen die over deze ontheffing beschikken hebben een contract met een inzamelaar en zullen dus altijd al hun afval afgeven in de haven van Den Helder.



Figuur 3: Totale afgifte scheepsafval in Nederlandse havens in m³

2. Geluid

Aantal geluidsoverlastklachten per jaar

Port of Den Helder heeft in de periode 2018 – 2019 geen klachten ontvangen met betrekking tot geluidsoverlast.

Overzicht van geluidsruimterapporten voor nieuwe bedrijven

In het kader van de Routekaart "Programma voor ontwikkeling" is er in 2017 een integraal geluidsonderzoek uitgevoerd. In dit onderzoek is ook het militaire deel van de haven betrokken. Dit was een gecompliceerd en tijdrovend onderzoek. Naast de Omgevingsdienst Noord-Holland Noord is hier ook het Ministerie van Infrastructuur & Waterstaat als zonebeheerder (defensie) bij betrokken. Het rapport is begin 2018 opgeleverd. Uit dit onderzoek is gebleken dat er geen geluidsruimte meer beschikbaar is in de haven. De gemeente Den Helder is in de lead voor het opstellen van een geluidsreductieplan. Gelet op de complexiteit in de haven, loopt dit proces nog.

3. Energiegebruik

Walstroomfaciliteiten

In januari 2017 heeft de provincie in het kader van 'Duurzame zeehavens" een subsidie van € 500.000,-- beschikbaar gesteld waarmee de aanleg/vervanging van walstroomkasten in de haven van Den Helder mogelijk was geworden.
De intentie was om walstroomfaciliteiten langs Het Nieuwe Diep, Het Nieuwe Werk, Spoorweghaven en Nijverheidskade aan te leggen. Echter door een wijziging in de bedrijfsvoering en planning van de schepen is er voor gekozen om op dit moment alleen walstroomfaciliteiten aan te leggen langs Het Nieuwe Diep en Het Nieuwe Werk. Vooralsnog is besloten om de oude walstroomfaciliteiten op de Spoorweghaven en Nijverheidskade te blijven gebruiken.

Walstroomfaciliteiten langs Het Nieuwe Diep en Het Nieuwe Werk

In april 2019 is het project “Walstroomfaciliteiten” opgeleverd en in gebruik genomen. De kasten zijn voorzien van een modern verrekensysteem, waarbij de gebruiker eenvoudig via een app of telefonisch de gewenste aansluiting kan activeren.
Gestart is met de monitoring van het gebruik en verbruik van het elektra.

Verlichting versus energieverbruik

De Raad van Advies Waddenzeehavens heeft in oktober 2016 mede namens Port of Den Helder de Dark Sky Intentieverklaring ondertekend. De ondertekenaars streven hierbij naar het verminderen van lichtvervuiling en het tegengaan van strooiverlichting in het Unesco werelderfgoed Waddenzee.
In november 2018 hebben wij de oude conventionele werkverlichting op de Paleiskade vervangen door maatwerk LED-verlichting, welke voldoet aan de uitgangspunten van de Dark Sky intentieverklaring.
De verlichting op de kade wordt middels een app aangestuurd, waarbij tot op steiger niveau de verlichting aan en uit geschakeld kan worden bij werkzaamheden. Resultaat van deze moderne verlichting is dat er ca. 85% minder energie wordt verbruikt, dat wil zeggen ca. 5.000 Kw per jaar in plaats van 35.000 Kw per jaar.

De linker afbeelding toont de conventionele verlichting, de rechter afbeelding toont energiezuinige, slim aangestuurde, ledverlichting.

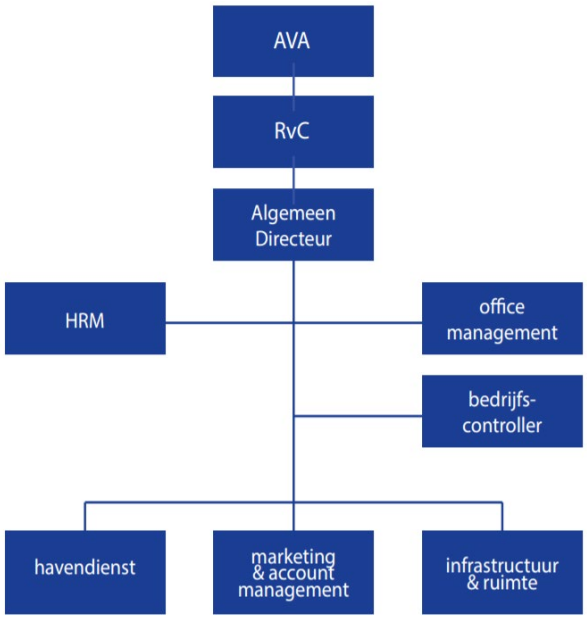
4. Havenontwikkeling (op het land)

In het Environmental Report 2015-2017 was gemeld dat de uitvoering van een aantal projecten uit de Routekaart verder ter hand zouden worden genomen.
In de afgelopen periode zijn de projecten *Building with Nature* (aanpassing havenmond) en Paleiskade 2 opgestart. Voor beide projecten geldt dat ze in de initiatiefase zitten. Beide projecten worden nu op haalbaarheid onderzocht.
In verband met gewijzigd intern beleid bij de Koninklijke Marine is het project Marsdiepkade beëindigd.

5. Baggeren
Voor de PERS periode 2017-2019 stond ook het baggeren van Het Nieuwe Diep op het programma. Het werk is inmiddels gegund aan Baggerbedrijf De Boer. Het bedrijf is zich ervan bewust dat er gewerkt wordt in een gebied direct grenzend aan het Natura 2000 gebied Waddenzee en het UNESCO werelderfgoedgebied Waddenzee. De uitvoering van de werkzaamheden zullen in Q4 2019 worden gestart en in Q1 2020 worden afgerond. Voor de uitvoering van de werkzaamheden zal er o.a. gebruik worden gemaakt van het kraanschip “Rival” welke gecertificeerd is met een Green Award Silver. Daarnaast is het Baggerbedrijf De Boer gecertificeerd op niveau 3 CO2-prestatieladder.

5. Environmental management organization

Port of Den Helder is een overheids NV waarvan de aandelen in handen zijn van de gemeente Den Helder. Port of Den Helder kent een platte organisatiestructuur zoals zichtbaar in figuur 8. De organisatiestructuur bestaat uit een Management Team, drie lijnafdelingen en drie staffuncties.
Het environmental organisation management is onder gebracht bij de afdeling Infrastructuur & Ruimte. Het documentbeheer, waaronder de PERS, ligt bij de Beleidsadviseur van die afdeling. Het databeheer ligt zowel bij de verschillende afdelingen van Port of Den Helder.



Figuur 8 Organisatiestructuur NV Port of Den Helder

6. Stakeholders

De ligging van Port of Den Helder, open zeeverbinding, diep water, korte vaarafstand naar Nederlands Continentaal Plat en de visgronden, is de basis geweest van de ontwikkeling van de haven als de grootste logistieke hub voor de Offshore in het zuidelijk deel van de Noordzee.
Daarnaast is de visserij hier gevestigd met een Visafslag en heeft de Koninklijke Marine hier haar thuisbasis.

Binnen het beheersgebied van Port of Den Helder zijn derhalve een groot aantal stakeholders actief, voor de (wind)offshore (agentschappen, rederij, bevoorraders, scheepvaart, transportbedrijven), voor de visserij (visafslag, visserijschepen, transportbedrijven); en de Koninklijke Marine (toeleveranciers, onderhoudsbedrijven).

Binnen al deze sectoren spelen de inzamelaars van scheepsafvalstoffen ook een rol van betekenis. Daarnaast zijn er ook diverse overheidsinstanties actief, waaronder Rijkshavenmeester, Rijkswaterstaat, Hoogheemraadschap Hollands Noorderkwartier, Inspectie Leefomgeving & Transport, Douane, Landelijke Eenheid Politie, Omgevingsdienst Noord-Holland Noord en de gemeente Den Helder.

7. Duurzaamheid

In december 2018 is door het MT van Port of Den Helder het Ambitiedocument Duurzaamheid Port of Den Helder – Op koers naar een klimaat neutrale haven vastgesteld. Dit ambitiedocument is samen met de stakeholders van Port of Den Helder tot stand gekomen.
Voor onze duurzaamheidsambitie is gekozen voor de thema's Energie, Emissies en Circulariteit.
Voor de uitvoering van het Ambitiedocument is in juli 2019 het Actieplan duurzaamheid Port of Den Helder 2019-2020 vastgesteld. Daarin zijn projecten opgenomen die zowel de eigen bedrijfsvoering betreffen als projecten in de keten van Port of Den Helder.

8. Projecten Port of Den Helder 2020-2022

Voor de komende periode worden door Port of Den Helder de volgende vijf omgevingsaspecten geprioriteerd voor het Port Environmental Review System (PERS) 2020-2022:

1. Air Quality (in relatie tot 5. Climate change)
2. Energy consumption
3. Garbage/port waste
4. Ship waste
5. Climate change
6. Noise

Deze prioritering sluit aan op het Ambitiedocument Duurzaamheid Port of Den Helder.
Vanuit dit document wordt er iedere twee jaar een Actieplan Duurzaamheid vastgesteld.
Bovenstaande prioritering is onderdeel van het Actieplan 2019-2020.
In 2019 wordt gestart met het vaststellen van de CO2 footprint van onze eigen bedrijfsvoering. In de jaren zal dit gemonitord worden, zodat de effecten van de te nemen maatregelen ook inzichtelijk. (Air Qualitiy – Climate Change).

Nu de oplevering van de walstroomvoorziening op de kades Het Nieuwe Diep – Het Nieuwe Werk, is geweest, zal het gebruik van de voorziening en het verbruik gemonitord worden. Daarnaast zullen er interne acties in gang worden gezet, om het energieverbruik op kantoorniveau ook te reduceren.

Voor het scheepsafval zal verder worden ingezet op recycling van de afvalstoffen. Daarbij moet gedacht worden aan het recyclen van visnetten, pluis en plastic. Voorts zal onderzoek gedaan worden naar de behoefte aan afgifte van grijs afvalwater en ballastwater c.q. ballastwaterresiduen. Ook zal in de komende periode het Geluidsreductieplan vorm moeten gaan krijgen. Daarbij worden tevens de subsidie mogelijkheden in het kader van het Investeringskader Wadden (Innovatiemotor Waddenzeehavens) voor het toepassen van innovatieve maatregelen om tot reducering van geluid te komen, onderzocht.

Daarnaast zijn er allerlei initiatieven rondom waterstof. Er is een pilot opgestart voor de realisatie voor een (groene) waterstof vulstation voor de scheepvaart; en op de middellange termijn de productie van blauwe waterstof en op de langere termijn de productie van groene waterstof. Meer daarover kunt u lezen in de PERS 2020-2021.

Den Helder, november 2019

Andrea van Santen BeleidsadviseurNV
Port of Den Helder

Annex II - Laws and regulations

Issue	Laws and regulations
Waste	**International**: MARPOL 73/78 European: Richtlijn 2000/59/EG (28-06-2021: Richtlijn 2019/883/EG) Richtlijn 2913/92 Richtlijn 91/156 Richtlijn 75/439/EEG Richtlijn 91/689 Richtlijn 95/21 **National**: Wet milieubeheer - 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 Wet voorkoming verontreiniging door schepen - besluit voorkoming verontreiniging door schepen - regeling voorkoming verontreiniging door schepen - besluit havenontvangstvoorzieningen - regeling havenontvangsvoorzieningen - regeling inzake het scheiden en gescheiden houden van gevaarlijke afvalstoffen - besluit meldingsformaliteiten en gegevensverwerking scheepvaart Kaderrichtlijn maritieme strategie **Provincial and local**: Provinciale milieuverordening Noord-Holland Havenverordening Port of Den Helder Gebruiksvoorschriften kades **Others:** Scheepvaartregelement territoriale zee Wet economische delicten
Land /Water	Waterwet Wet bodembescherming Besluit bodemkwaliteit (oa baggerspecie) Nederlandse richtlijn bodembescherming Natura 2000-beheerplan Waddenzee Wet natuurbescherming Flora- en faunawet

Air/emissions	Marpol 73/78 Wet milieubeheer, hoofdstuk 5.2 Wet inzake luchtverontreiniging Besluit broeikasgassen in apparatuur op schepen milieubeheer Besluit brandstoffen luchtverontreiniging → uitvoering richtlijn 1992/32/EG betr zwavelgehalte van brandstoffen Havenbeheersverordening Port of Den Helder EU richtlijn 2005/33/EC scheepvaart emissies. Kaderrichtlijn luchtkwaliteit NEC – nationaal emissie plafond EIA- energie investerings aftrek →fiscaal voordeel voor energiezuinige technieken IPCC richtlijn NeR – Nederlandse emissie Richtlijn
Water	Wet milieubeheer Kaderrichtlijn water Wet geluidhinder Waterwet Grondwaterrichtlijn Wet bestrijding maritieme ongevallen Ballastwaterverdrag Incidentbestrijdingsplan Waddenzee (IBP Waddenzee)
Noise	Wet geluidhinder Wet milieubeheer, hoofdstuk 11 Besluit geluid milieubeheer Gebruiksvoorschriften haven Omgevingsvergunning Bestemmingsplan
Nature	Habitat richtlijn Vogelrichtlijn Natura 2000 Wet natuurbescherming Structuurvisie Waddenzee Internationale afspraken en Europese richtlijnen Waddenzee: - Verklaring van Schiermonnikoog - Verdrag van Bern - Verdrag van Bonn - Ramsar verdrag - Vogelrichtlijn - Habitat richtlijn - Europese Kaderrichtlijn water - Particulary sensitive Area - Unesco Werelderfgoed - Afspraken IMO (internationale Maritime Organisatie) Afspraken OSPAR (Oslo Parijs Conventie)
Safety/Security	Wet bestrijding maritieme ongevallen Wet op de veiligheidsregio's ISPS-code (EU 75/2005) Havenbeveiligingswet Arbeidsomstandighedenwet (Arbo wet) Besluit externe veiligheid transportroutes Besluit externe veiligheid buisleidingen

Shipping	SOLAS Verdrag Schepenwet Binnenvaartwet Scheepvaartverkeerwet Wet buitenlandse schepen Wet havenstaatcontrole Wet laden en lossen zeeschepen Havenbeveiligingswet

In 2022, the Environmental Act (Omgevingswet) will enter into force, which will incorporate a number of the above-mentioned Dutch laws.

Annex III Flyer Fishing Waste collection

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, door middel van afvalpreventie, afvalmanagement in de havens en door afgiftemaximalisatie
van verschillende afvalstromen vanuit de visserij.

Een van de gestelde doelen hierbij is:
Artikel 1: Doelen

- 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.
- In 2016 faciliteren vier visserijhavens de aangeboden afvalstromen uit de visserij op toereikende wijze en zonder oponthoud voor de vissers. De drie afvalstromen worden apart ingezameld.

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

Faciliteiten in de haven van Den Helder

Soort afvalstroom	Afvalverwerker + contact	Opslag, hoe/waar	Opgehaald op	bijzonderheden
Annex I - Oliehoudend afval	SFAV lid: ISD (0223-632177 Geen SFAV-lid: ISD (0223 – 632177)	Via bilge boot of vacuüm wagen	Aanvraag	
Annex V- KGA	ISD (0223-632177)	SFAV lid: SFAV zakken in kuub container op kade Geen SFAV lid: ISD (0223 – 632177)	Aanvraag	Indien gelost wordt op visafslag: in container visafslag
Annex V - Huishoudelijk afval	ISD (0223-632177)	In kuub container op de kade.		Indien gelost wordt op visafslag: in container visafslag
Oude netten (net afval)	Schone netten: inleveren bij CIV Overig: ISD (0223 – 632177)	Bij CIV in container	Aanvraag	
Pluis	Inleveren bij CIV	CIV voert af		
Fishing for Litter (KIMO)	Bek & Verburg	In de daartoe bestemde container op de kade nabij visafslag		

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 (SFAV)

De visserij kan middels het betalen van een abonnementstarief lid worden van de SFAV (www.sfav.nl , telefoon 0527 – 683535).

Het abonnementstarief geldt als de indirecte financiering voor de afvalstromen Annex I en Annex V-KGA. De visser krijgt van de SFAV zakken uitgereikt die gebruikt kunnen worden voor Annex V-KGA.

Havenbeheerder

Naast het lidmaatschap van de SFAV betaalt 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.

Is de visser (schip) **niet** lid van de SFAV dan is de visser zelf verantwoordelijk voor de afvoer van de afvalstromen. Zie hiervoor het Havenafval Plan NV Port of Den Helder, www.Port of Den Helder.eu/nl/havenafvalplan

Visser

Van de visser wordt verwacht dat hij zijn afval in de daartoe bestemde, in bovenstaande tabel verduidelijkte, opslag locaties deponeert of de inzamelaar belt voor de afgifte van o.a. vloeibare afvalstromen.

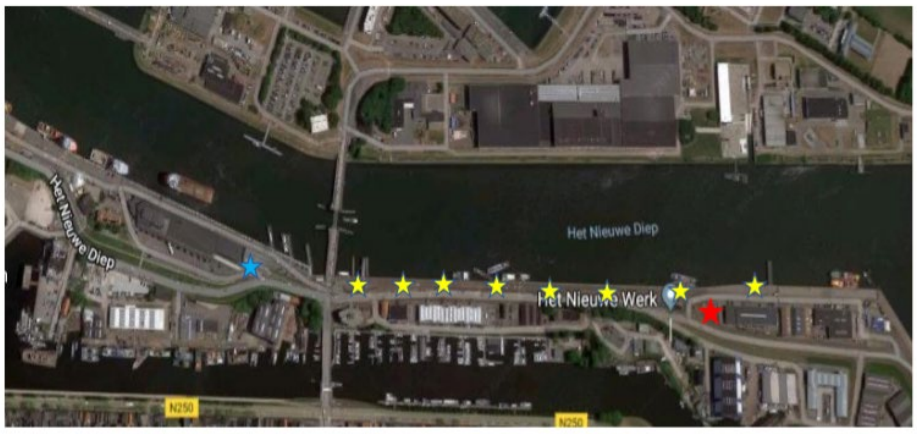
Overig bedrijfsafval:

Al het overige bedrijfsafval, bijv. netten, pluis, vistuig, pallets etc. valt onder het systeem van directe financiering.

Directe financiering wil zeggen dat de visser de afgifte hiervan rechtstreeks met de inzamelaar afrekent. De visser is hiervoor zelf verantwoordelijk.

Fishing for Litter
Het Fishing for Litter afval (het opgeviste afval uit zee) wordt door het KIMO kosteloos opgehaald en afgevoerd.

Contact gegevens:
NV Port of Den Helder
Het Nieuwe Diep 33
1781 AD Den Helder
Telefoon 06 – 109 684 53
e-mail: avansanten@podh.eu
www.portofdenhelder.eu



= Fishing for Litter container
= Oude schone netten + pluis
= Huisvuil + KGA voor SFAV-leden

Annex IV Press release new shore power facilities

Vernieuwde walstroomvoorzieningen Port of Den Helder

Foto van kapitein die de stekker inplugt onder toezien van een ass. Havenmeester + Engie

De nieuwe walstroomkasten op de kade 'Het Nieuwe Diep-zuid', tussen de Moormanbrug en de Koopvaardersschutsluis, zijn vandaag officieel in gebruik genomen door Port of Den Helder door de aansluiting van de Glomar Pride op de walstroomvooziening.

In de afgelopen maanden heeft technisch dienstverlener ENGIE, in opdracht van Port of Den Helder, het ontwerp en de bouw van negentien nieuwe walstroomkasten gerealiseerd.

Na marktonderzoek gaven klanten aan behoefte te hebben aan meer en betrouwbare aansluitingen met een hoger vermogen. De nieuwe kasten hebben daarom ieder zes aansluitingen met een vermogen tot 125A en zijn voorzien van een modern verrekensysteem, waarbij de gebruiker eenvoudig via een app of telefonisch de gewenste aansluiting kan activeren.

Jan-Wouter Thijssen, Chief Operational Officer: "De verduurzaming van deze energievoorziening zal voor Glomar met name eraan bijdragen dat onze schepen niet langer de generatoren hoeven in te zetten om stroom op te wekken. Op deze manier zal de CO_2 uitstoot en geluidshinder verminderen!"

Duurzaam ondernemen is voor Glomar Offshore een vast onderdeel voor de bedrijfsvoering. Het project "Walstroom", door Port of Den Helder geïnitieerd, is dan ook een welkome vooruitgang op de huidige faciliteiten in de haven.

Recent heeft Port of Den Helder een stevige ambitie uitgesproken op het gebied van Duurzaamheid. Het walstroomproject en de aangebrachte optimalisatie van de faciliteiten in de haven is een van de eerste projecten uit een greep van ideeën om de haven te verduurzamen. Ieder schip dat aanmeert zal vanaf vandaag gebruik gaan maken van deze voorziening, wat direct leidt tot vermindering van emissies en geluidsbelasting.

De projectfinanciering is mede tot stand gekomen door een bijdrage van de provincie Noord-Holland uit de subsidieregeling 'Duurzame Zeehavens'.

Annex V Press releases Hydrogen pilot

6 december 2019:

Realisatie uniek tankstation groene waterstof stap dichterbij

Het initiatief van Port of Den Helder, ENGIE, Damen Shipyards en diverse andere partijen om een waterstoftankstation voor maritiem en wegvervoer te ontwikkelen in de regio Den Helder is een stap dichterbij nu voor dit project DKTI-subsidie van bijna 1,4 miljoen euro is toegekend. De DKTI-Transport subsidieregeling geeft invulling aan afspraken uit het Energieakkoord (2014), het Klimaatakkoord (vanaf 2019) en de Duurzame Brandstofvisie. De subsidie is onder andere toegekend vanwege de professionele aanpak en het complexe karakter van het project. De belangrijkste redenen zijn het vervolgpotentieel en de toegevoegde waarde ten aanzien van de ontwikkeling van de waterstofeconomie doordat het project de hele keten omvat.

In het gebied van de Kooyhaven te Den Helder worden twee verschillende waterstof vulpunten gerealiseerd. Een vulpunt waar personenvoertuigen en vrachtwagens kunnen tanken en een vulpunt op de Kooyhaven langs het Noordhollandsch Kanaal waar schepen waterstof kunnen bunkeren. Het blijft echter niet bij het realiseren van een tankstation. Als onderdeel van het project gaat Damen Shipyards een waterstofschip ontwikkelen dat aan een pool van potentiële gebruikers aangeboden wordt. Onder andere de Port of Den Helder zal dit schip gaan gebruiken. Het streven is om in 2021 de keten van zonnepark, elektrolyser en tankstation volledig operationeel te hebben. Het schip op waterstofaandrijving zal naar verwachting halverwege 2020 gereed zijn.

De groene waterstof wordt niet aangevoerd, maar wordt door middel van elektrolyse op locatie geproduceerd, opgeslagen en beschikbaar gemaakt voor scheepvaart, vrachtverkeer en personenvervoer. Om de elektrolyser te voeden met groene stroom gaat ENGIE hier lokaal een zonnepark van 2,6MWp voor realiseren. De verwachte maximale capaciteit zal rond de 400kg groene waterstof liggen. Pieter Blok, Manager Duurzaamheid bij ENGIE: "Voor succesvolle waterstofprojecten is samenwerking in de keten essentieel. Met alle expertise die de verschillende partijen op tafel brengen, ben ik ervan overtuigd dat we erin zullen slagen om van dit innovatieve station een succes te maken en de ontwikkeling van groene waterstof te versnellen."

Het waterstoftankstation kan een belangrijke rol gaan spelen voor emissieloze scheepvaart op de Waddenzee. Het consortium verwacht dat waterstof ook voor andere initiatieven in Den Helder een interessante optie is. Zo zouden de activiteiten van serviceschepen, offshore suppliers en vervoer van personeel van en naar de offshore installaties van Den Helder zo ook verduurzaamd kunnen worden. Maar ook het verduurzamen van schepen van de Koninklijke Marine wordt door realisatie van het waterstoftankstation mogelijk gemaakt. Dit project is dan ook een belangrijke bouwsteen in de waterstof ambities van de regio, die een belangrijke pijler zijn in de onlangs gepresenteerde voorstellen voor een Regiodeal.

Geïnteresseerde maritieme dienstverleners kunnen zich bij de Port of Den Helder melden als ze met het waterstofschip hun gebruikersbehoeften willen testen. Jacoba Bolderheij, PoDH: "Als de vulstations zijn aangelegd, is iedereen die behoefte heeft aan waterstof welkom!"

PORT OF DEN HELDER

Proefproject moet binnen drie jaar van start gaan in de haven

Snel waterstof tanken

Delano Weltevreden
d.weltevreden@mediahuis.nl

Den Helder ■ Port of Den Helder, energiebedrijf Engie en scheepswerf Damen gaan samen waterstof produceren en daarmee proefdraaien in Den Helder.

Kees Turnhout, adjunct-directeur van Port of Den Helder is enthousiast over het proefproject dat binnen drie jaar van start moet gaan.

Hij zegt: „Engie wil in de Noordkop zonneparken aanleggen van in totaal vijftien hectare. Met die groene stroom wordt middels elektrolyse waterstof geproduceerd dat wordt opgeslagen in een waterstofvulstation in de haven van Den Helder. Damen Shipyards ontwikkelt een boot die op waterstof gaat varen. Het is de bedoeling dat die boot door meerdere partijen wordt gebruikt voor relatief korte afstanden op de Waddenzee en in de haven."

Robin Middel van Damen: „We verwachten in 2022 het scheepje in de vaart te hebben. Het gaat om een vaartuig van twaalf meter lang. Het is geschikt om in de marinehaven, op de rede van Den Helder of in de Waddenzee gebruik te worden."

Middel: „Port of Den Helder is nu aan zet om de faciliteiten te scheppen waar waterstof getankt kan worden. Voor de rest valt er op dit moment niets te zeggen over de wijze van inzet. Dat hangt van het verloop van de testfase af."

Engie heeft bij de gemeente Den Helder inmiddels toestemming gevraagd om op Oostoever twee hectare grond te gebruiken voor de aanleg van een zonnepark, weet Turnhout.

Zonnepark in Noordkop nodig van 15 hectare

Voor Den Helder is het proefproject van belang vanwege de overgang van fossiele op duurzame energie, zegt Turnhout. „Het pilot-project beslaat de hele keten, van het opwekken van energie tot aan het varen met waterstof. In de energietransitie willen wij helemaal vooraan in de race staan." Port of Den Helder hoopt dat ook andere bedrijven aanhaken bij het pilot-project. „We zijn ook in gesprek met transportbedrijven in de regio", zegt Turnhout.

Hij roept de gemeente op om ook aan de proef mee te doen door bedrijfsvoertuigen aan te schaffen die op waterstof kunnen rijden. Milieuwethouder Remco Duijnker heeft daar wel oren naar. „We zijn meer dan geïnteresseerd."

Voor het pilot-project is subsidie gevraagd uit de pot Demonstratie klimaattechnologieën en -innovaties in transport (DKTI-transport). De regeling is bedoeld voor ondernemingen, kennisinstellingen en niet-gouvernementele organisaties die productontwikkeling in de transportsector willen versnellen.