



Environmental and sustainable performance of European Ports - 2017

ESPO – Isabelle Ryckbost



European Sea Ports Organisation

Port authorities

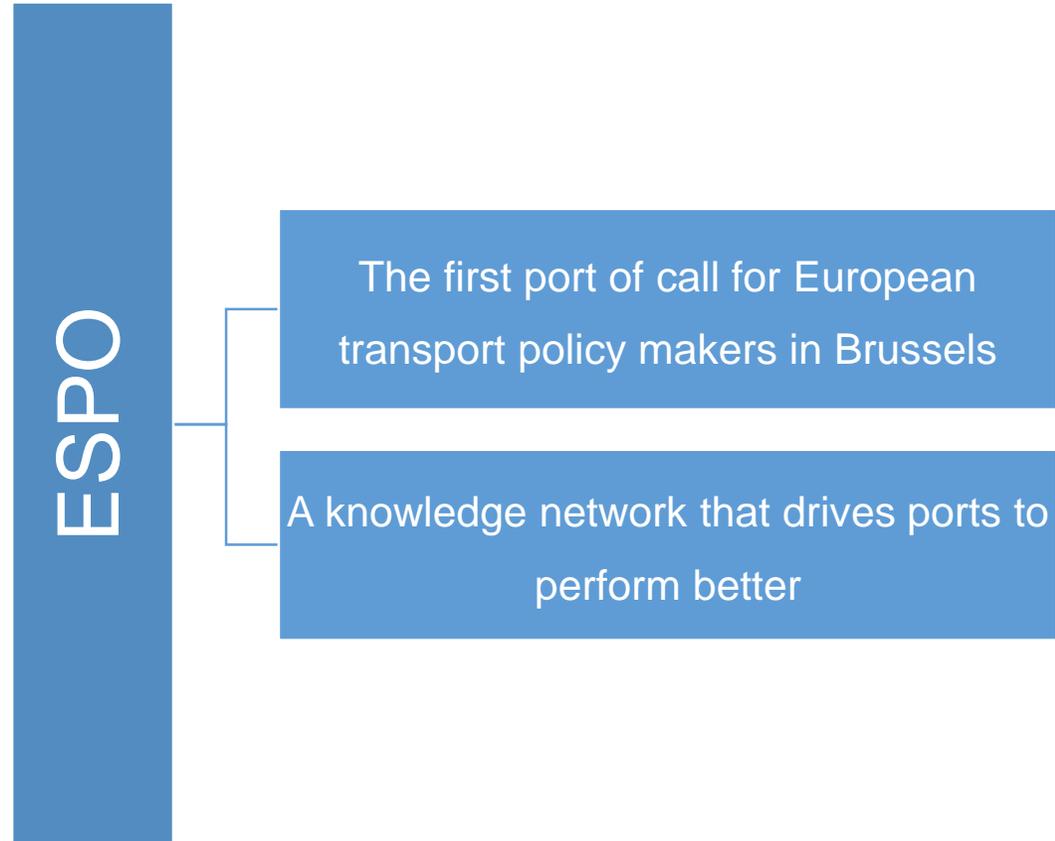
Port associations

Port administrations

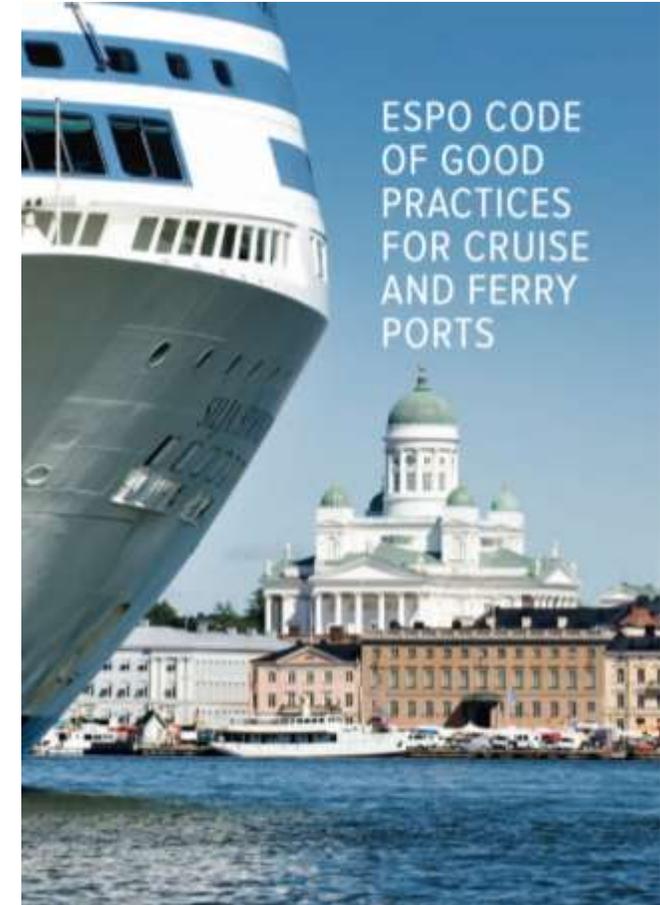
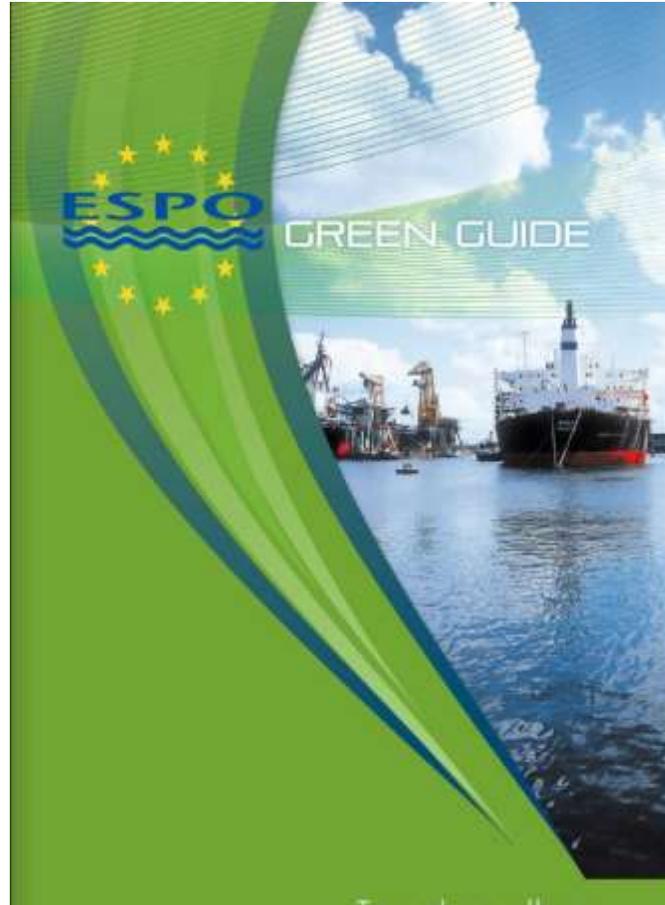
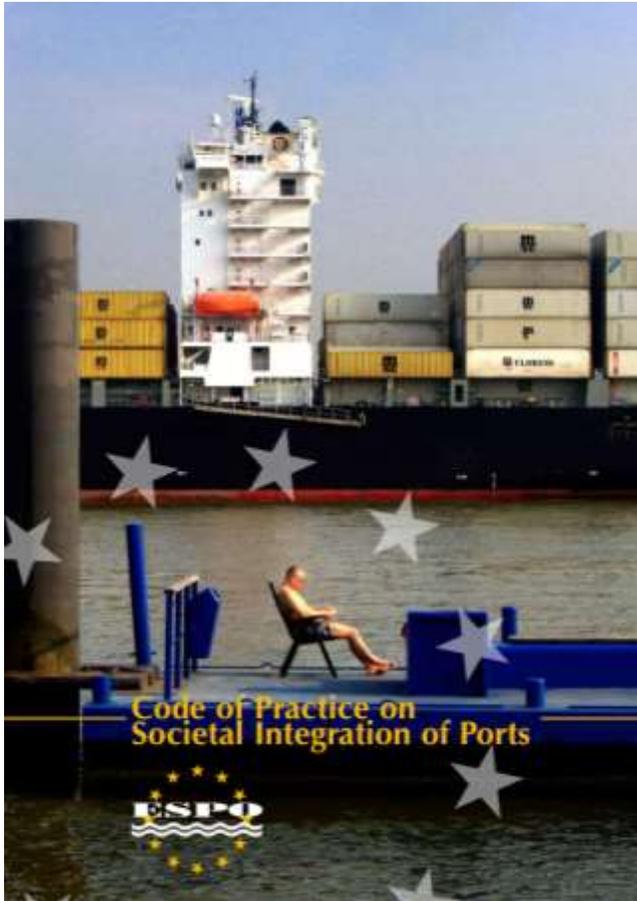
from EU and Norway

Observers: Iceland and Israel

Since 1993

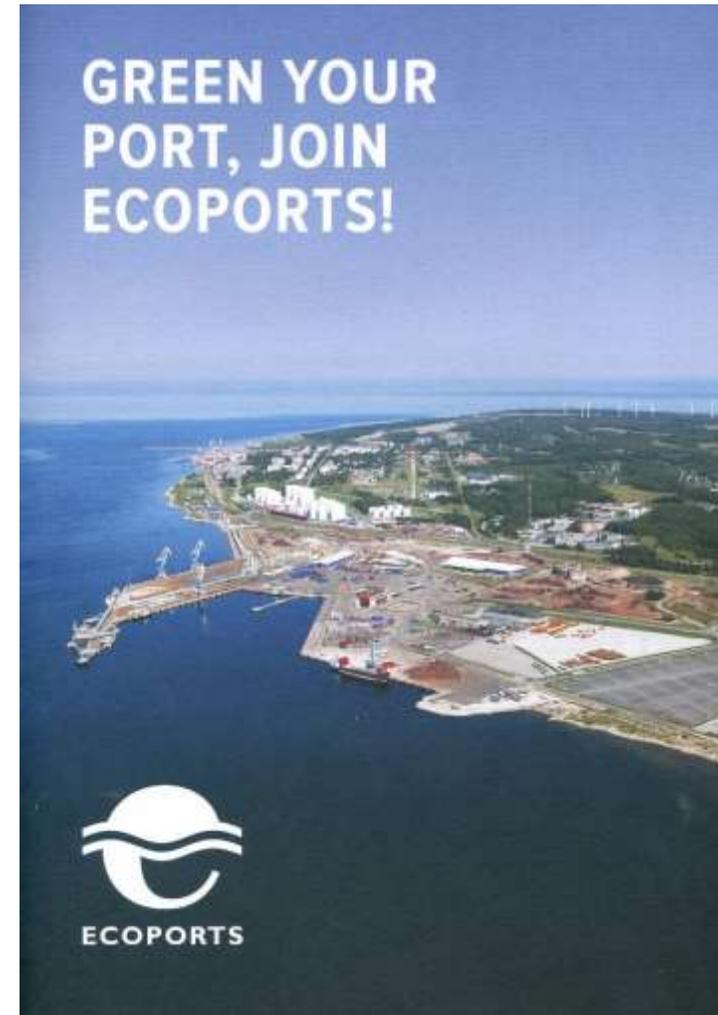


Sharing good practices: 3 areas- 3 codes



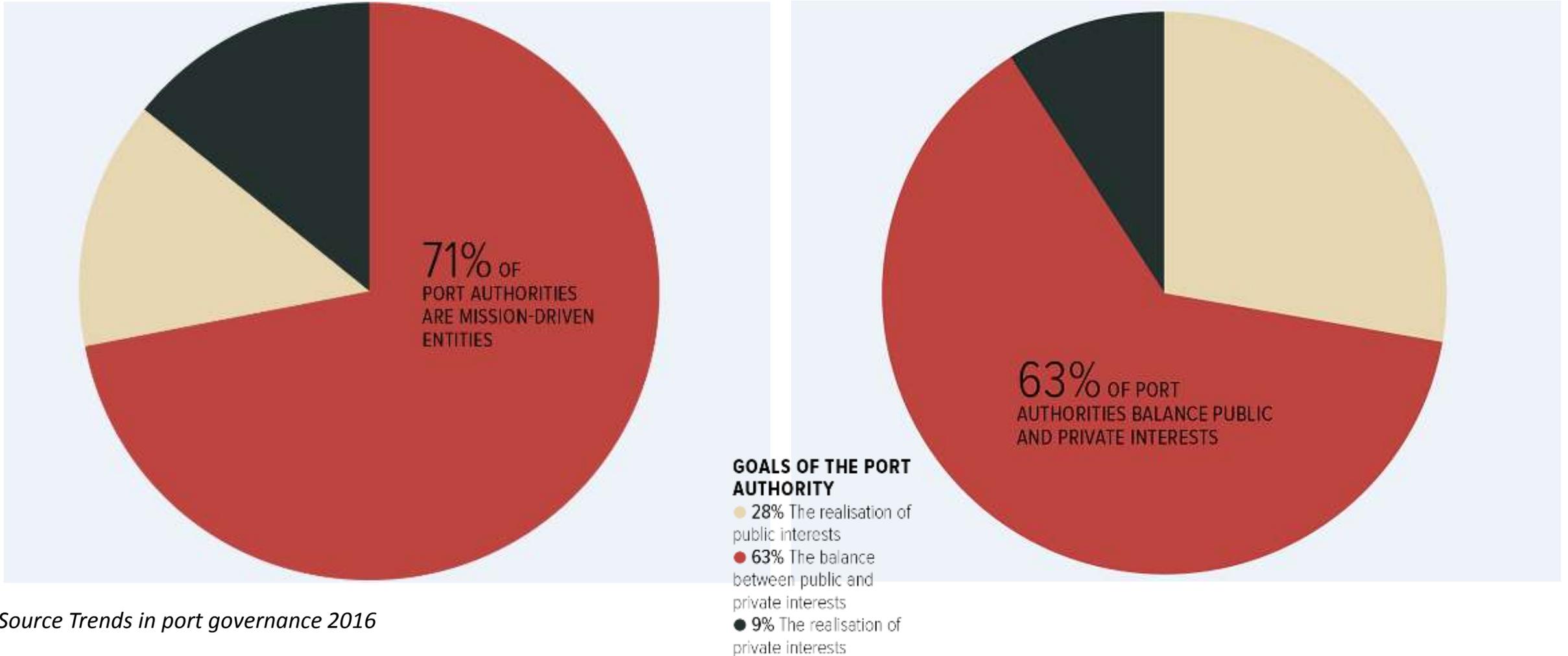
Ecoports network

- ✓ 20 years
- ✓ Around 90 ports are currently in the network
- ✓ Defines the environmental profile of your port: answering 250 questions (SDM): “check up”
- ✓ Review: compare with the average: “wake up call”
- ✓ 1/3 is PERS certified (Lloyd’s Register)
- ✓ SDM and PERS: 2 years valid

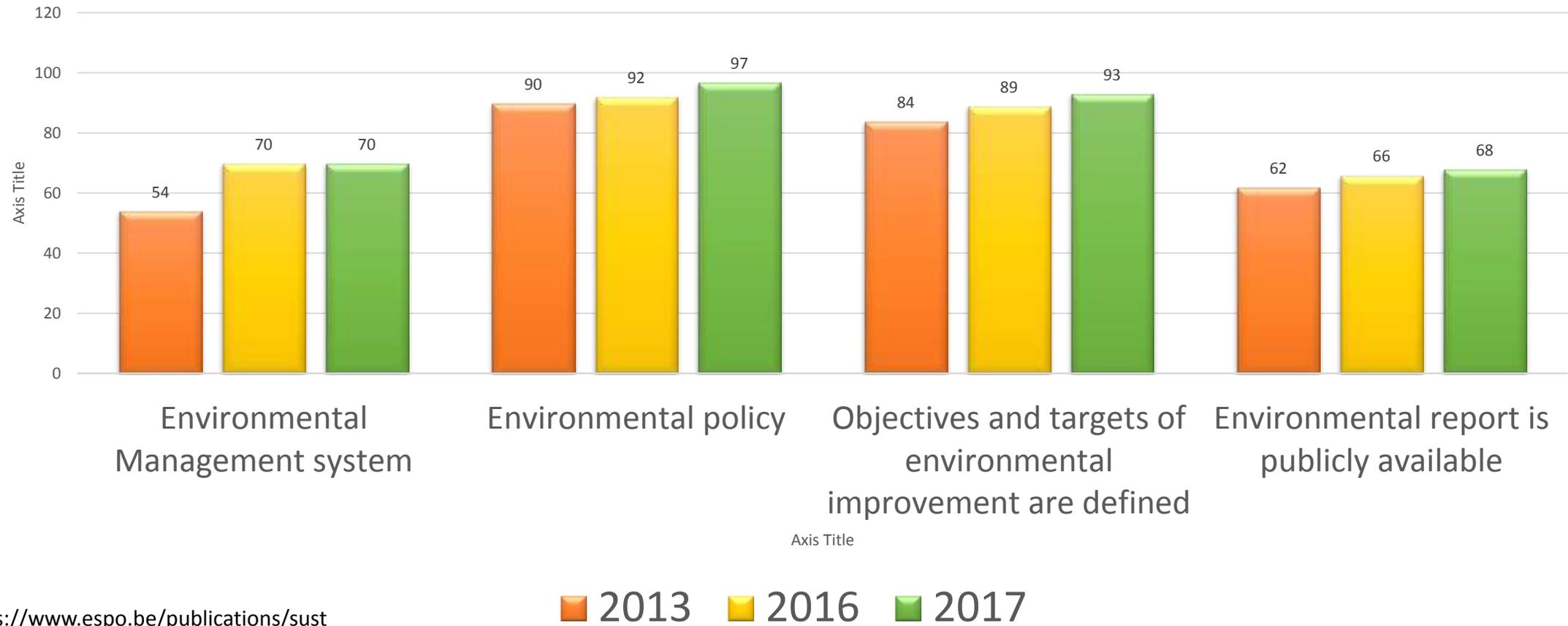


For 78% of Port Authorities :

“ensuring sustainable port activity” is an objective

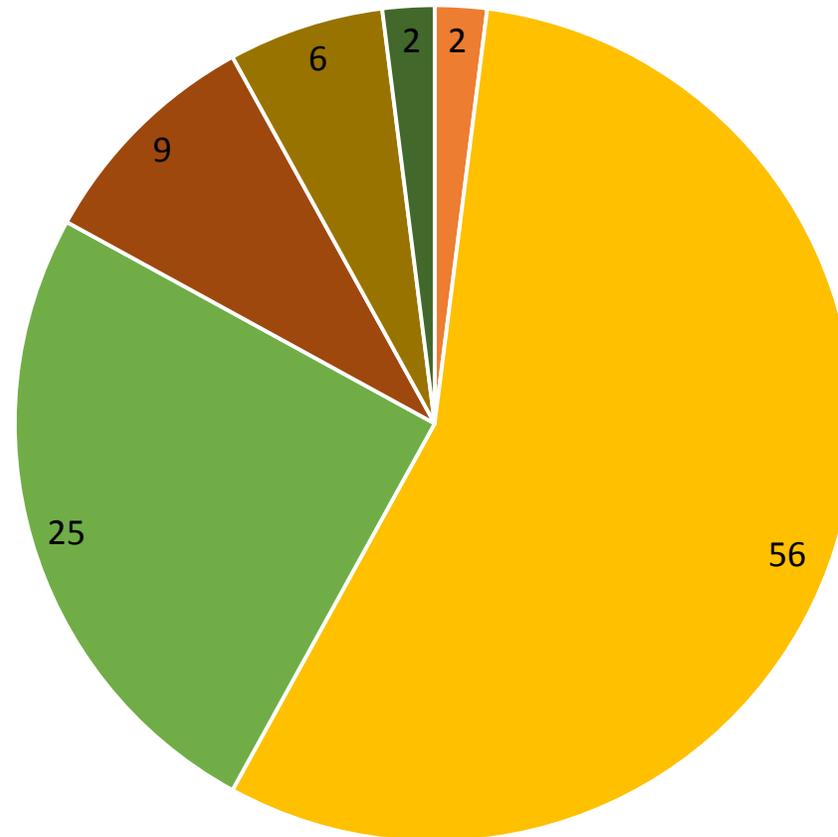


Environmental Management Indicators



More ports are demonstrating environmental credentials and transparency through **independent third-party review and audit**

EMS CERTIFICATES



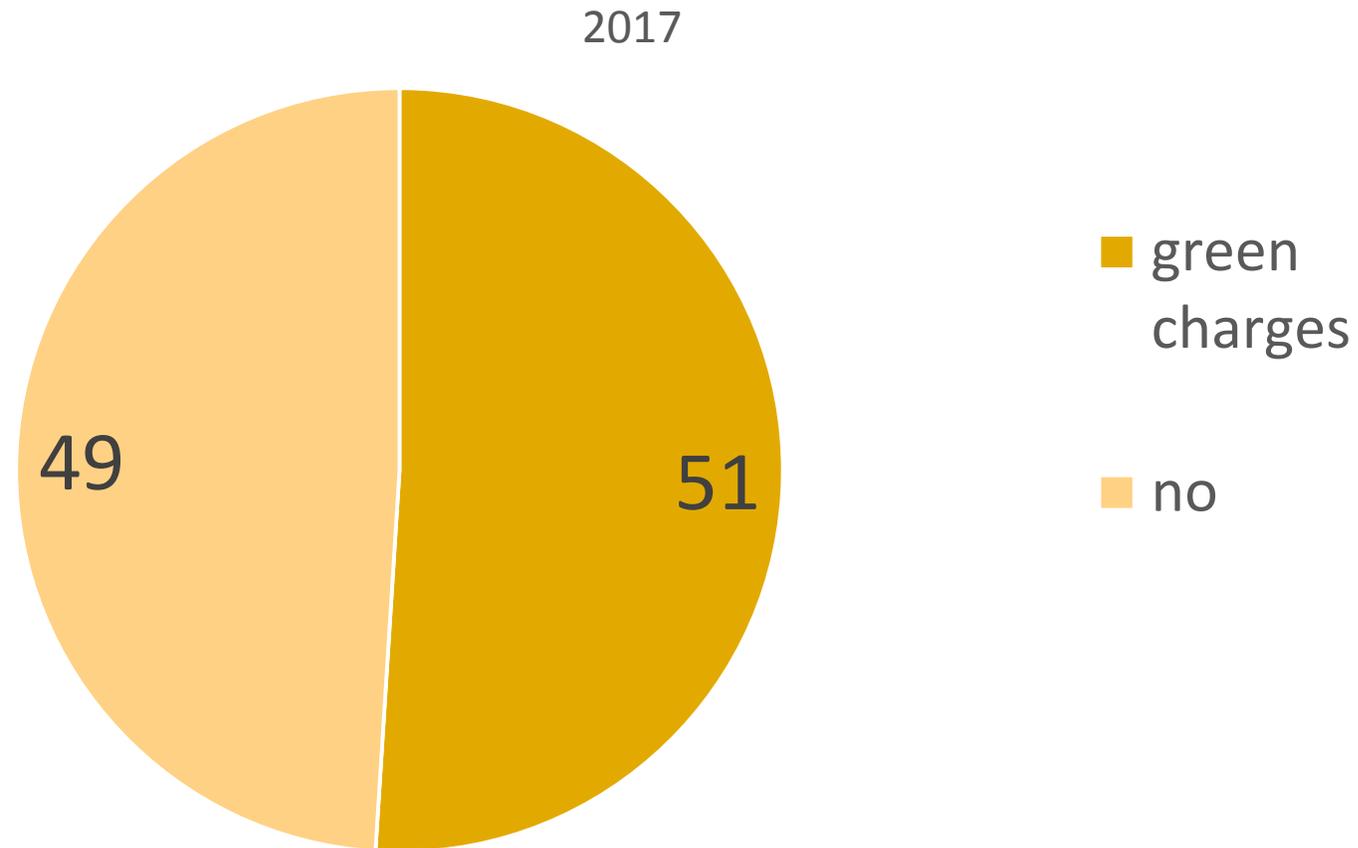
<https://www.espo.be/publications/sustainability-report-2017>

EMAS ISO 14001 PERS ISO and PERS PERS + ISO + EMAS ISO+ EMAS

What is the most monitored issue?

Indicators	2013 (%)	2016 (%)	2017 (%)	% change 2013-2017
Waste	67	79	88	+21
Energy consumption	65	73	80	+15
Water quality	56	70	75	+19
Water consumption	58	62	71	+13
Air quality	52	65	69	+17
Sediment quality	56	63	65	+9
Noise	52	57	64	+12
Carbon Footprint	48	47	49	+1
Soil quality	42	44	48	+6
Marine ecosystems	35	36	44	+9
Terrestrial habitats	38	30	37	-1

Environmentally Differentiated Port Charges



1



Air quality

2



Energy
consumption

3



Noise

4



Water quality

5



Dredging:
operations

6



Garbage /
Port waste

7



Port development
(land related)

8



Relationship with
local community

9



Ship waste

10

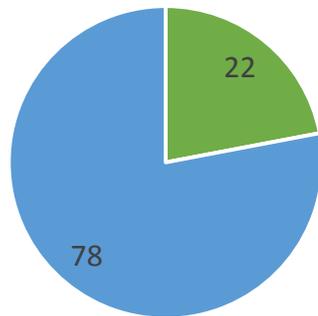


Climate change

**Top 10 environmental
priorities of European
ports for 2017**



2017



- LNG bunkering in the port
- not available

- < 2018: **Port of Hamburg** offers environmental discounts for Tier III and higher ships that emit less NOx emissions and for the use of OPS
- **First ship-to-ship LNG bunkering operations** in Port of Zeebrugge with *ENGIE Zeebrugge*, which is the world's first purpose-built LNG bunkering vessel
- **Poseidon Med II project:** take all steps towards the adoption of LNG as marine fuel in the Eastern Mediterranean. Promoting Greece as a marine bunkering and distribution hub for LNG



1/5 ports have adequate OPS for merchant shipping at one or more of the berths

HIGH VOLTAGE OPS

19%

OPS

48%

0% 10% 20% 30% 40% 50% 60%



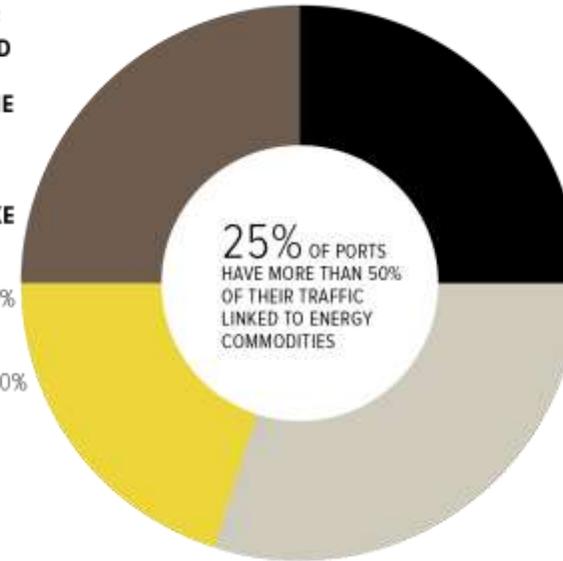
- **Port of Helsinki:** energy review every four years
- **Solar power at Port of Piraeus:** 1436 photovoltaic panels (300Wp each) have been installed along a wall and on the ground covering an area that previously was not used
- **Port of Rome (Civitavecchia):** Wave Sax project: testing a hydraulic turbine to **convert waves into electricity** (WaveSax project).

Ports are key players in the energy sector

- Main entry points of energy commodities and locations for energy production
- Port authorities are facilitators and supporters of the energy transition
- Energy management is a key concern of port authorities

APPROXIMATE PERCENTAGE OF ENERGY-RELATED TRAFFIC IN THE PORT BY VOLUME (E.G. CRUDE OIL, REFINED PETROLEUM PRODUCTS, COKE AND COAL, LNG, ETC.)

- 25% Less than 10%
- 30% 10% – 30%
- 20% 30% – 50%
- 25% More than 50%



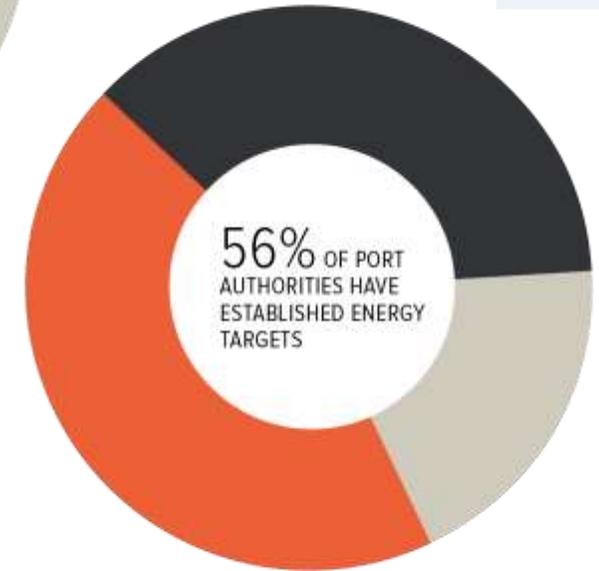
ROLE OF PORT AUTHORITY IN THE PRODUCTION OF RENEWABLE ENERGY

- 41% Provider of land
- 38% Initiator/facilitator
- 16% Logistics support
- 16% Investor/co-investor
- 13% Operator of the facilities
- 5% Other roles



HAS THE PORT AUTHORITY ESTABLISHED ANY TARGETS RELATED TO ENERGY CONSUMPTION AND EFFICIENCY FOR THE PORT AUTHORITY OR FOR THE WHOLE PORT FOR THE NEXT YEARS?

- 37% Yes, at the port authority level
- 19% Yes, for the port as a whole
- 44% No targets





NoMEPorts: Good Practice Guide on Port Area Noise Mapping and Management (2008) Partners: Amsterdam, Civitavecchia, Valencia, Livorno, Copenhagen-Malmö

Project Neptunes: aims to mitigate the noise pollution from vessels by developing **an universal measurement protocol**, guidelines for noise **labelling** of vessels and a **best practice guide** for noise hindrance reduction measures.

The Port of Helsinki commissions **every 3 or 4 years new noise assessments, along with noise modelling and measurements**; has built a 1 km **noise barrier** in one of the ports.

Interreg IV A Programme 2007-2013 project ***Pentathlon*** – *Ports of Stockholm, Helsinki, Tallinn, Turku and Naantali*: developed a **systematic noise management model**.

4



Water quality

- The **discharge of scrubber wash water is not allowed** in Belgian and German ports
- **Port of Venice:** a treatment plant in the passenger terminal able to treat 95% of annual rainfall



- **North Adriatic Port Authority**

Construction of 8 hectares of artificial saltmarshes (barene) from dredged sediments

- **Port of Lisbon:** Innovative Dredging Project (ESPO award finalist 2014) - new ways for collaborating, co-operating and contributing with the natural and social environment.

- **Port of Dublin:** monitoring buoys to record impact of dredging operations on marine environment



Photo port of Antwerp

Port of Antwerp “Operation Clean Sweep”

Antwerp is the main polymer hub in Europe for plastic pellets. Manufacturing industry, logistics operators and the transport sector have set up a “Zero Pellet Loss” consultative platform.

The Port of Koper (ESPO award winner 2014): No Waste, Just Resources! an innovative approach to waste management by encouraging the re-use and reprocessing of waste products into environmentally-friendly materials.

Circular economy: Ports serve as 'matchmakers' and crossing-points for all kinds of waste and industrial flows. Ports are ideal places to further develop the circular economy. Good examples are **Antwerp, Amsterdam, Hamburg and Rotterdam.**



Bremenports: Luneplate – winner of ESPO award 2016

Unique compensation area (1060 hectares) for port extensions and infrastructure projects leading to land requirements in the Wadden Sea environment: tidal habitats behind the dyke line.



HAROPA: 'Green and Blue Belt network' (a programme created to preserve and restore the ecological continuity of the land) at the regional scale and **implements the 'Prevent Mitigate Compensate'** initiative to minimise the impact of its developments on the natural environment.



ESPO to review the code of good practices on societal integration

- Learn from good practices in ESPO award submissions
- Governance ports have changed
- Cities changed: new challenges, new role

“What ports can offer to the city”

INITIATIVES LED BY THE PORT AUTHORITY AIMED AT IMPROVING SOCIETAL INTEGRATION OF PORT ACTIVITIES

- 81% Initiatives to establish cohabitation with local communities in and around the port area
- 80% Initiatives to make society experience and understand the port
- 36% Initiatives to attract young people to work in the port
- 18% Other societal integration initiatives
- 10% None



9



Ship waste

- **Free disposal of clean and separated plastic waste** in Dutch ports
- **Shoreham Port** engages with and supports the volunteers from the **Surfers Against Sewage (SAS)** group in cleaning Shoreham Port's beaches.
- **Port of Tallinn** has taken the initiative to protect the Baltic Sea by **building a micro-tunnel**, which enables cruise ships to discharge big amounts of sewage.

10



Climate change

Climate neutral ports: e.g. Port of Gothenburg, Milford Haven, etc.

Port of Amsterdam set to be coal free by 2030

Port of Calais produces a regular “**greenhouse gas report**” monitoring direct and indirect GHG emissions.

Port of Barcelona invests in **electrical mobility** (vehicles and charging systems) to reduce emissions

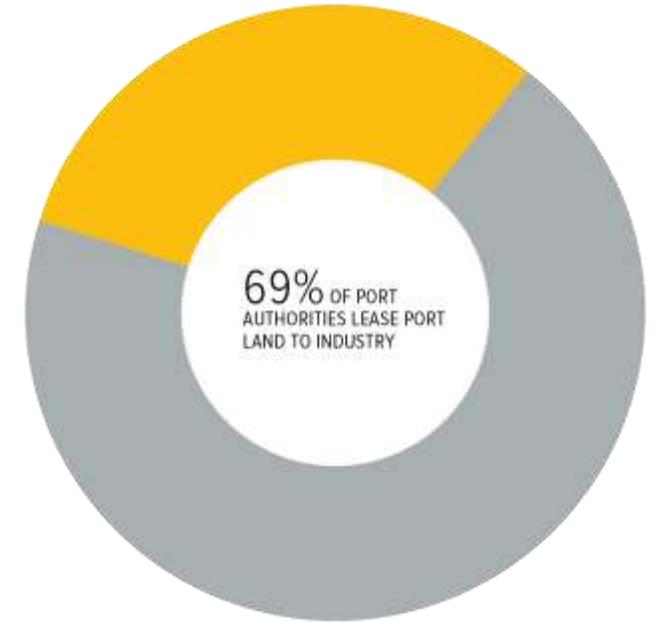
Different ports are measuring carbon footprint.

Ports are home and key partners of industrial clusters

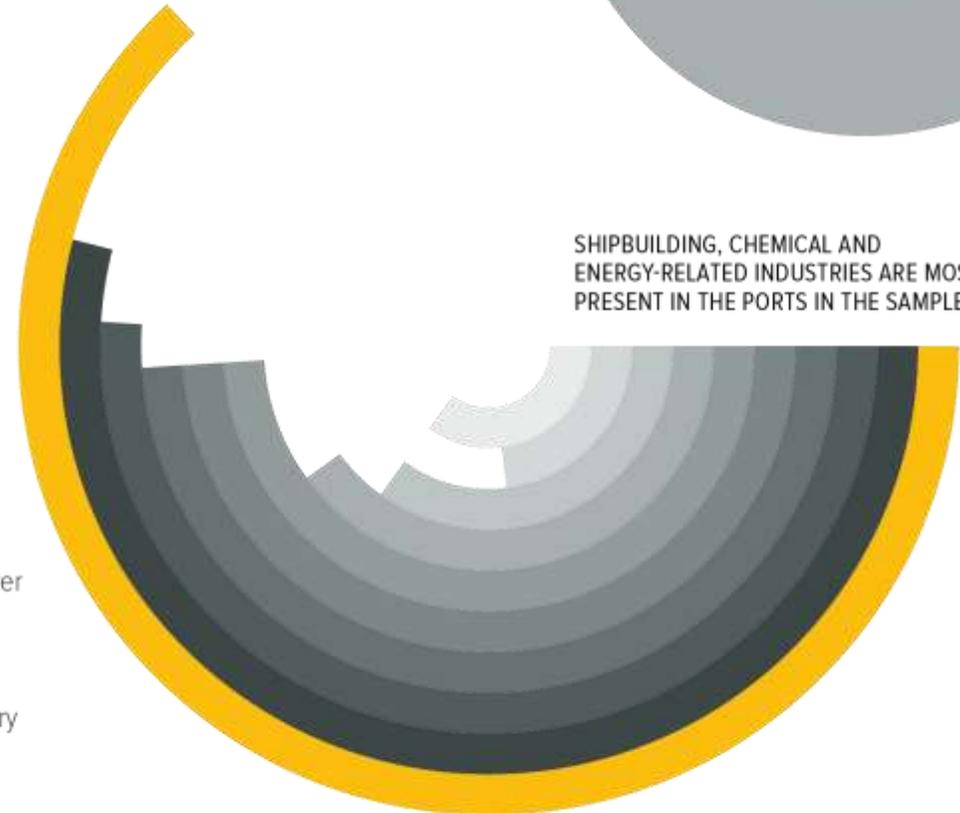
Port of Rotterdam:
Wuppertal study 2016 outlines how industry in the port can comply with Paris Agreement: **4 pathways to decarbonise the industry cluster.**

SECTORS OF INDUSTRY IN THE PORTS

- 63% Shipbuilding
- 54% Chemical
- 51% Food industry
- 49% Electrical power
- 49% Petroleum
- 49% Construction
- 40% Steel industry
- 35% Fishing industry
- 23% Automotive
- 35% Other



SHIPBUILDING, CHEMICAL AND ENERGY-RELATED INDUSTRIES ARE MOST PRESENT IN THE PORTS IN THE SAMPLE



SAVE THE DATES

ESPO CONFERENCE ROTTERDAM 2018

Investing in the Port of Tomorrow

31 MAY – 1 JUNE 2018



ESPO AWARD 2018 & 25 years ESPO

7 November 2018





THANK YOU – isabelle.ryckbost@espo.be

