

# ESPO GREEN GUIDE 2021

## A MANUAL FOR EUROPEAN PORTS TOWARDS A GREEN FUTURE



# FOREWORD

By ESPO Chair  
Annaleena Mäkilä

The commitment of Europe's ports on environment and sustainability is not new.

Creating an environmental Code of Practice was the first common initiative of the members of ESPO when the organisation was created in 1993. Since then, the document has been updated and revised twice, meeting the challenges of the day.

Over the last ten years the port environment has been changing. The world is in full transition and to meet the environmental challenges we are faced with nowadays demands a full rethinking of the way we produce, consume, transport and live.

Port authorities in Europe understand that it is time to step up their own, and sectoral, ambitions in order to create a future without emissions and pollution. However, as mission-driven entities, Europe's port managers want to go beyond merely mitigating externalities and getting fit for a green future. Being at the centre of supply chains, hubs of energy, industry and blue economy, ports want to positively contribute and help Europe set course towards a green future.

Carrying out the necessary green transition cannot be done by port authorities on their own. More than ever, there is a great need to engage in coalitions of the willing, both between ports as between ports and their stakeholders and surrounding community. Knowledge and effort sharing, innovative thinking and cooperation will be key ingredients to deliver on the green ambitions.

I am delighted to present this new ESPO Green Guide 2021. It will assist European port managing bodies on their journey towards a green future. In the tradition of ESPO, the new Guide invites all ports to set the bar higher but leaves no one behind. Even though climate change will affect all ports, the wide diversity of European ports means that ports are not impacted in the same way by environmental challenges, nor can they equally force through the green transition. Every port is starting from a different point. Not all ports have the same tools at their disposal to steer change.

The Green Guide 2021 comes with an extensive online database of good green practices in European ports. These clearly show that each port in Europe, no matter its size or geographical location, can be a green front runner at some point and serve as example to others.

I would like to thank all members who actively contributed to this 4th edition of the ESPO Green Guide and in particular the secretariat for their hard work in putting this together.

The ESPO Green Guide 2021 is a milestone on the way to a green future, not an end point. It provides a basis for further exchanges among the members of ESPO's Sustainable Development committee, EcoPorts members and European port managers and professionals in general. Because moving towards a green future is without doubt a first priority for all port professionals!

## A MESSAGE FROM

European Commissioner for Transport,  
Adina Vălean

*If we are to succeed in our historical transition towards climate neutrality, we will need all sectors and industries on board, including our transport systems and ports.*

*It is a huge challenge that we have set ourselves, but I am encouraged when I see initiatives such as this Green Guide undertaken by the European Sea Ports Organisation (ESPO). Not only does it provide a flexible roadmap for port authorities to green their own activities, but it also lays out a vision for port authorities as partners, facilitators and drivers of change and sustainability within their networks.*

*This approach matches the ambition that the European Commission has also set out in our Sustainable and Smart Mobility Strategy. We believe ports should become zero-emission nodes. Not least, because the choices and investments made by ports —in terms of greening and modernisation— have significant knock-on effects on port stakeholders, shipping and the hinterland, driving decarbonisation and growth all around them.*

*Ports have already shown themselves to be synonyms of constant innovation and agility over the years: adapting to increasing global trade volumes and containerisation; improving transhipment operations and hinterland connections; rethinking their traditional areas of activity to maximise their economic potential and make best use of available space. I believe they are capable of becoming the front runners of Europe's sustainable transition.*

*Already today, the role of ports is evolving. Ports are no longer the maritime services providers of the past. They are multimodal transport and logistics centres, focal points of leisure and tourism, and, increasingly also, hubs for sustainable industry and clean energy. Many have become pilots of integrated electricity systems, supporting the offshore wind industry or hydrogen-powered shipping, or testbeds for waste reuse and circular economy development.*

*These developments offer big opportunities, and the EU is here to support them. Not only in larger, more advanced ports, but throughout the more than 1,400 inland and sea ports that the EU is home to. While each port is unique and must define its own pathway, multimodality, digitalisation and decarbonisation are the common denominators of future success.*

*I am sure this 4th edition of the ESPO Green Guide will provide a valuable practical tool for ports to continue working towards addressing shared environmental issues and gradually transitioning to zero-emission nodes. And with our Sustainable and Smart Mobility Strategy, the European Commission will support port actors in making these bold, transformational steps.*

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# AIM AND APPROACH

## ESPO GREEN GUIDE 2021

Since its creation in 1993, the European Sea Ports Organisation (ESPO) has been a driving force behind significant improvements in the field of environmental port management. The ESPO Environmental Code of Practice (1994) was the first official ESPO policy document and the first achievement of the organisation. The Code was then updated in 2003 and 2012.

**The development of the Green Guide, together with the bottom-up work realised in the EcoPorts Network, provides the cornerstone of ESPO's efforts to assist its members in excelling further in environmental management and performance.**

**The regular updates of the Green Guide** prove that Europe's ports are not resting on their laurels when it comes to environmental management. On the contrary, ESPO members constantly strive to improve and progress in response to changing environmental challenges and priorities.

The Green Guide also reflects the ports' wish to take into account the growing environmental awareness and expectations of their surrounding communities, which is linked to their licence to operate and grow. By updating its Green Guide, ESPO aims to help ports set the environmental bar higher, providing a manual of how to reach environmental ambitions and targets.

Since the publication of the latest ESPO Green Guide in 2012, **both the ports themselves and the environmental context in which ports operate have changed.**

First, **Europe's ports are constantly evolving.** Notwithstanding their diversity, European ports have been moving towards becoming dynamic and commercial developers of the port area. In this new role, they are gaining autonomy whilst continuing to fulfil public tasks and deliver on wider societal responsibilities.

At the same time, many port authorities have widened their scope of activity. On top of being transhipment platforms and trade facilitators, they are increasingly becoming hubs of energy, industry, blue and circular economy. Naturally, these new activities come with new responsibilities and demands, especially in the context of environmental and climate management.

Second, the legislative and environmental context have changed significantly since 2012. New environmental requirements and legislative frameworks have entered into force, turning some of ports' proactive environmental bottom-up engagements into top-down requirements. The Alternative Fuel Infrastructure Directive<sup>1</sup>, the new Port Reception Facilities Directive<sup>2</sup>, and the EU Sulphur Directive<sup>3</sup> are some examples of this.

Last but not least, whereas environmental requirements and expectations have continuously evolved over the last decades, the environmental and climate challenges Europe is currently facing require an accelerated and profound transformation of our **economy, society and daily lives**.

The EU Green Deal calls for a rapid **energy and green transition**, which will present enormous challenges and opportunities for Europe's ports and will require important strategic and investment decisions.

More than ever, ESPO has a significant role to play in encouraging and assisting ports as they embark upon their individual green pathways, bringing them together, sharing knowledge and good practices on successful combinations of environmental management with effective port management.

It is clear that ports can and will benefit from cooperating on strategic environmental and investment decisions. This can be done by sharing tools and good practices, or by taking the lead to demonstrate the way forward. The ESPO Green Guide 2021 shows that ports have already gone, and will continue to go, beyond merely complying with standards on the European and global level.

**The main aim of the ESPO Green Guide 2021 is to guide and support port authorities in their greening ambitions, providing them tools and good practices to help them proactively improve their environmental performance.**

## **The ESPO Green Guide 2021 consists of three parts:**

**Part 1** explains the approach of the ESPO Green Guide 2021 by outlining the competences of port authorities and the scope of the greening activities. Grasping the governance and competence of port authorities is essential when preparing their pathway to a green future, and when outlining which roles they can play with regard to the various sectors and specific activities in the port. It also helps

other port stakeholders and policy makers better understand the port's greening pathway. Understanding the port authorities' competences and the limits thereof, as well as the port stakeholders' own responsibilities, is essential for policy makers to set the legislative conditions for greening the port as a whole.

**Part 2** provides the actual manual for greening the port. The ESPO Green Guide 2021 outlines a common vision of the role of port authorities in contributing to a European green future. It puts forward ambitions on how port authorities will move forward to 2050 and beyond, leaving it up to each individual port authority to define, through a port-specific roadmap, the steps needed to achieve their defined objectives. Finally, Part 2 identifies a series of tools at the disposal of port authorities.

A database of good green practices provided by European ports has been developed together with the 2021 Guide. It is available on the ESPO website. The extensive database relies on the longstanding environmental expertise of the ESPO members when it comes to cooperation and sharing good practices amongst European ports. Through their expertise and know-how, the good green practices show how ports continue to go beyond regulatory requirements when it comes to environmental and climate matters.

**Part 3** showcases how ports engage not only in the mitigation of negative externalities, but also strive to positively contribute to greening the European economy, acting as an important partner in achieving the energy and green transition.

Ports will increasingly be asked to address unfamiliar and novel issues as part of the transition to a greener future. Sharing experiences, identifying good practices, and learning from each other is more important to ports than ever before.

Even if the main and primary goal of the Green Guide is to assist Europe's port authorities in realising their environmental and climate agendas and ambitions, **the Guide also gives policy makers, local communities, and stakeholders unique insights into the ambitions of European ports**. It helps facilitate an understanding of the competences, goals, approaches, and tools of port authorities, and their relation to the Top 10 environmental priorities of European ports. This makes the Green Guide part of the ports' commitment to engage transparently with all stakeholders.

1. Directive 2014/94/EU of the European Parliament and of the Council of 22 October 2014 on the deployment of alternative fuels infrastructure

2. Directive (EU) 2019/883 of the European Parliament and of the Council of 17 April 2019 on port reception facilities for the delivery of waste from ships

3. Directive (EU) 2016/802 of the European Parliament and of the Council of 11 May 2016 relating to a reduction in the sulphur content of certain liquid fuels

## *Grasping the governance and competence of port authorities is essential when preparing their pathway to a green future, and when outlining which roles they can play*

It is important to recognise that **no two ports are the same**. In terms of environmental management, ports do not work in the same way, at the same pace, or depart from the same starting point, nor do they have the same financial, organisational, or governance means. The overriding objective is for each European port to move forward in their greening efforts through continuous self-improvement.

**ESPO's longstanding experience of working with its members to drive environmental progress in ports has shown that every port, big or small, core or peripheral, diversified or specialised, can be a front runner in one or more areas of environmental sustainability.**

In this context, European ports agree on setting ambitious goals, but they also stress that the pathways for reaching these goals are different and depend on many different factors. These include, but are not limited to, competences in the port area, geographical location and circumstances, different traffics, hinterland connections, energy and industrial sectors in the port area.

**This Guide has been adapted to the current needs of ports in terms of environmental management and assistance, whilst building on the successes of its previous editions.**

This ESPO Green Guide 2021:

- Is above all **a manual from ports, for ports**. It is a living, interactive and hands-on document, assisting ports on their greening path, from vision to implementation and good practices;
- **Distinguishes between the port authority, the port area, and the community surrounding the port** and outlines the responsibilities for each of these actors;
- **Explains how ports can positively contribute to**, and be a partner in, achieving the energy and green transition of the larger economy, whilst also addressing how ports can mitigate negative externalities;
- Comes with **an extensive dedicated database of green practices** provided by European ports, featuring over 60<sup>4</sup> good examples.



**FIGURE 1**  
The Top 10 environmental priorities of European ports for 2020



4. At the time of publication of the Guide; available at <https://www.espo.be/practices>

# PORT GOVERNANCE UNDERSTANDING THE PORT

1

**E**uropean Ports are complex entities. They accommodate freight and passengers and link maritime transport with the hinterland through the different land transport modes. In addition, ports are often energy nodes, and clusters of industry and blue economy. The concept of “greening the port” thus requires a differentiated approach between the port authority itself and the various stakeholders in the port area. The same is true for the tools a port authority has at its disposal to influence the various independent, yet interconnected stakeholders present in and around the port. In order to give the term “Green Port” meaning, it is important to define what level the term “port” refers to:

- A The port authority.
- B The port area, where a distinction is made between the transport-related activities inside the port area and all other activities including industries, energy, real estate, etc. inside the port area, or
- C The wider community around the port.

The responsibilities and the abilities of the port authority to reduce the environmental footprint of the port or influence its environmental performance is different for each of these levels.

For the purpose of this guide, the term “**port authority**” is used as an encompassing term for the various forms of port managing bodies. Regardless of ownership and other institutional features, the port authority assumes public and commercial responsibilities. Nowadays, they do more than just administering port land and regulating nautical safety. They have a broader range of tasks that adds value to the wider port community, the logistics chain, business and trade in general and the societal and environmental context in which ports operate.

European legislation, mainly the Port Services Regulation (EU) 2017/352 (PSR)<sup>5</sup>, in force since March 2019, acknowledges the diversity of ports and explicitly accepts different port structures in Member States as well as systems of property ownership. It does not impose a specific model for the governance or management of maritime ports.

5. Regulation (EU) 2017/352 of the European Parliament and of the Council of 15 February 2017 establishing a framework for the provision of port services and common rules on the financial transparency of ports

Article 2(5) of the Port Service Regulation defines “managing body of the port” as “any public or private body which, under national law or instruments, has the objective of carrying out, or is empowered to carry out, at a local level, whether in conjunction with other activities or not, the administration and management of the port infrastructure and one or more of the following tasks in the port concerned: the coordination of port traffic, the management of port traffic, the coordination of the activities of the operators present in the port concerned, and the control of the activities of the operators present in the port concerned”.

## 1.2

This definition demonstrates that European port authorities can have very narrow tasks and competences (infrastructure management) or a much wider focus and numerous tools at their disposal. EU rules on port governance do not assign regulatory competencies to port authorities or task them with the implementation of certain policy goals.

The exact range of duties a port authority has under respective Member States' laws can vary largely. Some entities are organised as rather lean infrastructure management companies, others are comprehensive organisations offering a wide range of services, potentially comprising not only commercial but also public remit and even regulatory functions.

When it comes to the task of “greening” the port, it is important to consider the differences in port governance. The governance of the port will very much impact the tools a port can use to influence green behaviour, where port authorities have more influence over greening efforts within their own remit.

Where a port authority's main task is to administer and manage the port infrastructure, it cannot oblige other stakeholders in the port to become greener by means of regulation. Instead, it has to rely on the instruments at its disposal, such as setting conditions in land lease and concession contracts, or implementing incentive systems in the infrastructure charges, which only have a limited impact when it comes to changing the investment decisions of shipowners. Port infrastructure charges make up a small part of the total port call for ships and an even smaller part of the total cost of a ship's journey.

## 1.1

### The different roles of the port authority

Generally, as landlords, port authorities manage the port land and infrastructure and are responsible for port development. The operation of the main services to ships, in particular the cargo handling, is left to private operators.

Cargo handling services are usually in the hands of private operators who are often granted the use of port land through lease agreements or public domain concessions. In a limited number of cases, port authorities act as operators. In some cases, they provide services of general economic interest and/or commercial services (including cargo handling). However, integrated ports where port authorities provide a full range of services themselves constitute an exception.

Under the regulator function, port authorities ensure the application and enforcement of rules and regulations set by local, regional, national or other agencies.

## 1.3

### Greening the port authority

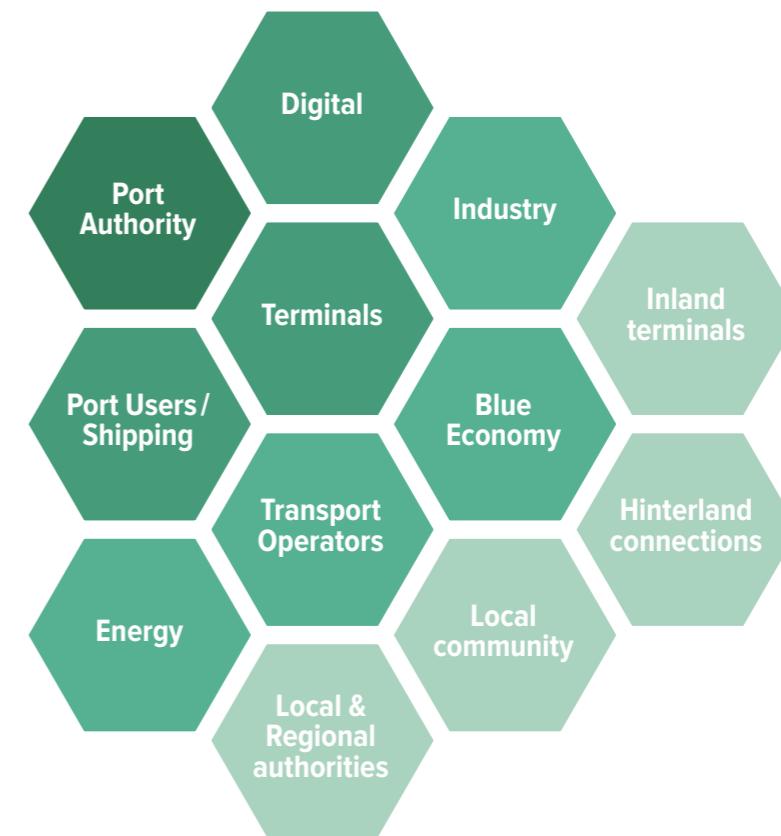
The port authority is fully responsible and in charge of reaching the emissions reduction goals and reducing its environmental footprint for all activities falling within its own remit. Since most European ports are landlord ports, this is limited to their own management, the office and port building(s) they manage, the transportation means (fleet), and/or any services the port authority offers (e.g., technical nautical services that are still operated in-house).

### Greening the port area

The port area comprises all actors within the port area. These include terminal and transport operators, but also industries, the energy sector and other stakeholders present in the port. The port authority's role is to coordinate all actors, wherever necessary, in order to enable smooth and efficient port operations in complex logistics chains.

The graph below shows how much influence a port authority has over greening efforts in the port area. The port authority has direct influence on greening activities within its remit, which is shown in dark green ■. Outside its own remit, the port authority exerts less direct influence on greening, which is shown as fading shades of green ■ ■ ■. The further away we move from the remit of the port authority, the less influence it has on greening efforts.

→  
**FIGURE 2**  
Illustration of the influence and role of port authorities in the port area and beyond



Greening the port area involves all actors in the port area. Beyond greening the activities and operations under the direct responsibility of the port authority, it includes the wide range of activities the different stakeholders undertake in the port area. European port authorities can act as catalysts by including tools to facilitate, promote, raise awareness and encourage the decarbonisation and greening of their stakeholders in their port strategies and roadmaps. The port authorities can use tools such as green discounts on charges, modal split targets, specific provisions in lease contracts or concessions, or a bilateral memorandum of understanding/letter of intent. However, they are often bound to use soft tools in order to influence the various independent stakeholders and to facilitate the greening of the port area.

### 1.3.1

#### **Transport activities**

Transport-related activities in ports concern maritime shipping, including related activities such as cargo handling, passenger services, towage, etc., as well as hinterland transport and their related infrastructure and operations. Measures and initiatives to reduce the negative externalities of transport can include technical and operational measures, as well as modal shift ambitions and efficiency measures. The port authority can play a significant role in increasing the efficiency and smooth connectivity of the overall port operations, but also depends on all transport stakeholders to closely cooperate and to fulfil their responsibilities with regard to their own operations.

### 1.3.2

#### **Industry, energy and other economic activities**

Many ports have developed into industry and energy hubs, and some port authorities are involved in other sectors, such as blue or circular economy or real estate. Whereas the environmental footprint of the port authority itself is often limited, being the location for many economic sectors, ports are often seen as an area of considerable negative externalities. The environmental footprint of the industries and actors in the port cannot be attributed to the port authority and they have their own greening requirements, strategies and ambitions. The role and ability of the port authority to influence the actions and sustainability objectives of the non-transport-related stakeholders is often rather limited to setting priorities and targets when leasing port land or by pursuing an active strategy to attract more sustainable businesses. However, clustering industry in the port area positively contributes to the decarbonisation agenda by avoiding unnecessary transport. In the field of energy, ports play an increasingly active role in the production, supply and distribution of renewable energy.

## 1.4

### **Greening the community around the port**

European ports are at the crossroads of supply chains and different sectors, adding great value to Europe's economy and society. Many European ports are located near urban centres and are at the service of and closely linked to the city, their citizens and local communities. In addition, port authorities are closely interlinked with local and regional authorities and hinterland transport infrastructure and operations.

Ports have a restricted role in the mitigation of negative externalities beyond the port area. Nonetheless, ports contribute significantly to addressing the challenge of climate change through positive actions related to their roles as hubs of energy, transport, and innovation.

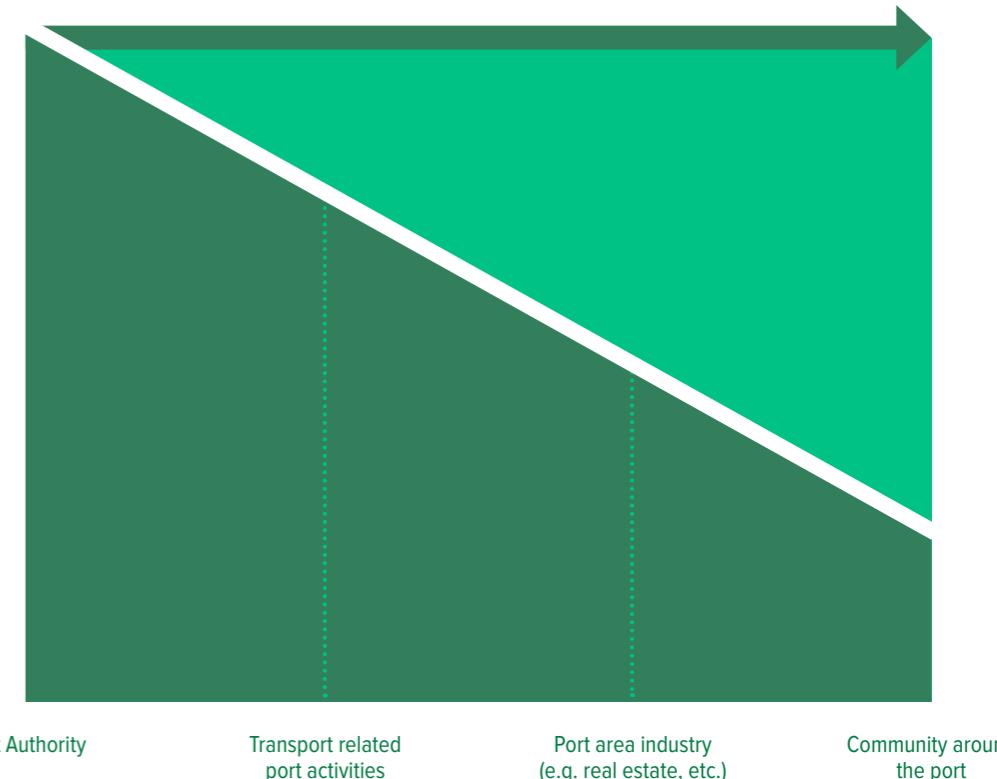
Ports can be a partner in achieving the energy transition in the wider region or country they are located in and thus positively contribute to the decarbonisation of Europe's economy. Ports can be important locations for the facilitation, production and supply of clean energy solutions. They can create synergies between the industries in and around the port, and avoid unnecessary transport by bringing production and labour closer to the urban agglomerations and centres of consumption.

*When speaking of "greening the port", it is therefore important to be aware of the different stakeholders active in the port and to recognise the possibilities and the limitations of the role of the port authority. The chart below demonstrates the port authorities' competence and ability to green the port and meet the Green Deal environmental and climate objectives. The port authority is in control of its own management and activities, but cannot realise the greening of the port area and the community around the port without substantial stakeholder engagement.*

The figure below shows how the Green Deal ambitions can be realised in ports. The port authority has the full ability and responsibility to steer change for all activities under its remit. For all other port activities, for which the port authority has only a limited or no competence, greening efforts will imply the engagement of the stakeholders. The greening of the port area can only be realised by working together.

→  
**FIGURE 3**  
 Port authorities must work together with all port stakeholders to deliver the Green Deal objectives in the whole port area

- Port authorities' responsibility and ability
- Engagement of other stakeholders
- ➔ Green Deal ambitions



Port Authority

Transport related port activities

Port area industry (e.g. real estate, etc.)

Community around the port

# GREEN GUIDE

## A HANDBOOK FOR GREENING

2

→

### FIGURE 4

Illustration of the different components of the Green Guide as a manual for greening

VISION



AMBITION



ROADMAP



TOOLS

GREEN  
GOOD  
PRACTICES

## Vision: Port authorities as partners for a green future

In this section, European port authorities outline their **vision of the port authorities' role in contributing to a green future**. It sets out how they will move forward to 2050 and beyond, leaving it up to each individual port authority to define their port-specific steps to achieve the defined objectives.

*As mission-driven entities, European port authorities want to be **an active PARTNER in Europe's green future**. In order to remain resilient in the long run, they aim to ensure that **all port activities under their responsibility are as green as possible**.*

*In practice, this means becoming environmentally sustainable and achieving net-zero pollution over time. Port authorities strive, where possible, to be front runners in environmental management and climate efforts.*

*In their capacity as community builders, port authorities will continue to **ENGAGE IN DIALOGUE** with the local community and all port stakeholders to encourage and enable the greening of all operations in the port area and the port ecosystem.*

*At the same time, Europe's port authorities want to **contribute in a positive way to the greening of Europe's economy and society**. Such positive contribution can be done by providing clean fuels or by attracting green investments to the port.*

*As part of these efforts, individual port authorities and coalitions of the willing will continue to lead the way towards greening.*

**For port authorities, the aim is to achieve top environmental performance through COOPERATION, whilst engaging in friendly competition in a collaborative race to the top. Leaving no port behind, European port authorities will share good practices and experiences between Europe's ports and within port clusters. The idea is to compete on business matters, whilst collaborating on sustainability. Europe's port authorities seek to be innovation hubs, using their resources and ingenuity to drive innovation and digital transformation for the benefit of the environment and the global climate.**

**Cutting across all these activities, open communication and TRANSPARENCY are needed to engage with key stakeholders and interested parties active in and outside the port. Port authorities will communicate their policy to all relevant stakeholders in an accessible way, and help disseminate good environmental practices. Such communication holds ports accountable in their greening efforts. More than ever, European port authorities realise that environmental progress needs to go hand in hand with transparent communication about both successes and challenges encountered along the path.**

## European ports' ambitions for a green future

Based on the vision for port authorities as partners for a green future, this section of the Guide provides more concrete ambitions on the European level. These ambitions serve as a declaration of intent, a commitment from ESPO's member ports, which should guide and provide directions to ports when drafting their individual port roadmaps.

*These ambitions serve as a declaration of intent, a commitment from ESPO's member ports, which should guide and provide directions to ports when drafting their individual port roadmaps*

They are based on the Top 10 environmental priorities of European ports, whilst taking the European Green Deal ambitions and the UN Sustainable Development Goals into account. The commitments and engagements outlined in this list already constitute far-reaching ambitions, but do not prevent port authorities from going further.

The first table outlines ambitions set for European port authorities. The second table provides ambitions aimed at the port area.

→  
TABLE 1  
Ambitions for European port authorities

THEMES	TARGET YEAR	AMBITIONS FOR EUROPE'S PORT AUTHORITIES
Setting the course for a green future – mitigating externalities	2025	European port authorities aim to make <b>an inventory of GHG emissions</b> within the remit of the port authority, setting a baseline for monitoring and mitigation efforts.
		European port authorities should compile an <b>inventory of port-relevant legal environmental and climate obligations</b> and means of compliance.
		European port authorities aim to have <b>individual, port-specific roadmaps</b> in place.
2030		Port authorities aim to <b>be net-zero emitters by greening their own activities</b> and operations within their own remit.
Continuous efforts		Port authorities should <b>include energy efficiency and green considerations when making purchases and investments</b> related to port authority infrastructure and operations.
		Port authorities will also <b>consider energy efficiency and green considerations for their own vessels</b> and develop a green plan for the port authority (which could include avoiding single use plastics, incentivising green staff mobility such as biking and car-pooling, and reducing paper use).
		As part of port developments, EU port authorities will <b>apply an active policy for biodiversity</b> in the port waters and in protected habitats located in/near the port areas, within their remit.
		European port authorities will work to <b>improve water and soil quality, and to reduce noise</b> generated by activities within their remit.
		Port authorities will <b>include climate adaptation considerations</b> when modifying existing infrastructure and when planning new infrastructure.

THEMES	TARGET YEAR	AMBITIONS FOR EUROPE'S PORT AUTHORITIES
<b>Strengthening the EcoPorts Network and making a positive contribution to greening</b>	2025	<p>The ESPO EcoPorts Network will <b>cover ports from all EU maritime Member States</b>, as well as ports from neighbouring European countries.</p> <p><b>80% of ports could have an Environmental Management System (EMS) in place</b>, and at least a third of EcoPorts member should have the port-specific environmental certification, PERS (Port Environmental Review System). Verification using other international standards such as ISO14001 should also be encouraged.</p> <p>The <b>EcoPorts Environmental Management Index (EMI</b>, measuring environmental management) will be over 8 (on a scale of 1–10)<sup>6</sup>.</p> <p><b>The EcoPorts Self-Diagnosis Method (SDM) and Port Environmental Review System (PERS) will be periodically reviewed</b> to align their tools with the ambitions set in this Guide and the changing legislative context for environmental and climate issues.</p>
<b>Communicating environmental performance to enhance common understanding and increase transparency</b>	Continuous	<p>European port authorities commit to <b>adopting a strategic plan for their communication, and to step up efforts</b> to address different target groups (stakeholders, local community, visitors). Based on this communication plan, European port authorities undertake to communicate their environmental policy to all relevant stakeholders.</p> <p>Together with port stakeholders, European port authorities <b>commit to having their environmental policy publicly available</b> on the port's website.</p> <p>European port authorities will <b>step up their use of social media as part of a dedicated strategy, and other means of communication</b> (newsletters, physical information points/moments) in order to <b>interact with, engage, and continuously update local communities and stakeholders</b>.</p>

→  
**TABLE 2**  
Ambitions aimed at  
the port area

THEMES	TARGET YEAR	AMBITIONS FOR THE PORT AREA RELATED TO EUROPEAN AND INTERNATIONAL LEGISLATION
<b>Reducing environmental impacts of the port area</b>	2025	<p>European port authorities will <b>develop an overview of the emissions of all stakeholders</b> in the port area in close cooperation with these players.</p> <p>European port authorities seek to <b>encourage, and where possible incentivise, the mitigation of externalities</b> (air pollution, noise) in the port area.</p>
<b>Encouraging the greening of the port area</b>	2030	<p>European port authorities <b>call on shipping companies to lower CO<sub>2</sub> emissions at berth by at least 50%</b>, building on forthcoming European legislation for 2030 and beyond.</p> <p>European port authorities <b>call on operators in the port area to help improve air, water, and soil quality, and to reduce noise</b>.</p> <p>European port authorities will <b>work towards coalitions or framework agreements</b> with shipping companies and other maritime stakeholders.</p>
<b>Positively contributing to a green future</b>	Continuous efforts	<p>Together with port and city stakeholders, European port authorities will <b>strive to encourage efficient and sustainable waste management</b> onboard vessels.</p> <p>Together with port and city stakeholders, European port authorities will <b>seek to reduce waste and the use of plastics in the port area</b>.</p> <p>European port authorities will be a <b>catalyst for greening</b> by encouraging green activities by port stakeholders (offshore, blue growth and circular economy), by facilitating pilot projects, and through attracting green investments.</p> <p>European port authorities pursue an active strategy to <b>facilitate the greening of the whole port area</b>.</p> <p>European port authorities engage to <b>actively contribute to, and facilitate, research</b> in relevant fields.</p> <p>European port authorities will stimulate port stakeholders to <b>deliver an improved modal split</b>.</p> <p>European port authorities will <b>encourage circularity</b> in the port area.</p> <p>European ports authorities <b>commit to being part of renewable energy solutions</b>.</p>

6. The Environmental Management Index (EMI) is a formula developed within the EcoPorts Network that measures the whole environmental performance of the port by compiling ten environmental indicators. The indicators are weighted in accordance to their significance for environmental management. The EMI is calculated by multiplying the weighting of each indicator with the percentage of positive responses. This gives a score on a scale from 1-10, where 1 is very poor environmental performance, and 10 is excellent environmental performance. The EMI score in the 2020 environmental report is 7.8. For more information, see the ESPO Environmental Report 2020, pp. 10 – 11 ([www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf](http://www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf))

## 2.3

## Creating a roadmap for greening activities in ports

ESPO encourages each port authority to develop a port-specific roadmap, which provides a path towards their green future, whilst taking account of the port's resources and circumstances. To assist port authorities in this work, this section of the Green Guide outlines a checklist for ports. Although it is not exhaustive, the checklist provides some key aspects for ports to consider when developing or updating their port-specific and ambitious roadmap for greening.



3

**TABLE 3**  
Steps and suggested activities  
for a port-specific roadmap

TO-DO'S	HOW TO PROCEED?
<b>1. MEASURE</b> <i>Make an inventory of the environmental status of the port</i>	A. Identify the emissions, externalities, and environmental footprint of the port authority activities to the degree possible B. Do the same (or contribute to such an exercise) for the wider port area to the degree possible C. Take stock of existing sources of information D. Identify the main practical and technical challenges
<b>2. PRIORITISE</b> <i>Identify environmental, climate, and sustainability priorities (challenges and opportunities)</i>	A. Discuss outcome of step 1 on the technical level, involving all relevant departments (infrastructure, commercial department, communication/public affairs, harbourmaster, etc.) B. Elevate discussions to the managerial level C. Based on inventory, make choices and prioritise, using the ESPO Top 10 Environmental Priorities as a reference
<b>3. SET YOUR TARGETS</b> <i>Identify what you want to achieve and set targets accordingly</i>	A. For each of your priorities identified in step 2, consider current legal obligations on the international, European, national level and possible forthcoming legislation (see Annex) B. Consider ESPO Green Guide ambitions C. Set ambitious, measurable targets for the identified priorities
<b>4. TOOLS AND TASKS</b> <i>Identify tools, stakeholders and measures</i>	A. Plan a budget and investments (considering cost efficiency and social benefits) B. Consider mitigation and possible positive contributions to greening and business cases for individual projects/investments C. Identify possible tools (see the Green Guide section on greening tools) taking into account budget and available full-time employees/responsibilities
<b>5. SHARE</b> <i>Share your plan and make it part of the DNA of the port</i>	A. Mainstream and explain green priorities and strategy through internal communication across all departments and activities B. Motivate work to introduce, update or improve roadmap
<b>6. TIME IT</b> <i>Develop tangible steps</i>	A. Develop a timeline and milestones for each of the priorities/ targets – when to achieve what B. Map the stakeholders involved and their responsibilities – who should do what
<b>7. MONITOR</b> <i>Monitor implementation, follow up, and communicate results internally</i>	A. Measure progress in relation to milestones and tangible steps, and communicate progress internally B. Identify problems and discuss improvements/solutions C. Communicate shortcomings or obstacles transparently D. Monitor what has been achieved, and use this as a basis to update the roadmap
<b>8. COMMUNICATE</b> <i>Engage in external communication</i>	A. Identify and reach out to stakeholders in the port area, as well as the community around the port, adapting communication means and language to the addressed audience B. Communicate priorities, progress and failures transparently (share good practices and problems, and their background) C. Share positive contributions and green business cases

## 2.4

## Overview of greening tools available to port authorities

This section provides an overview of how port authorities can deliver on their port-specific roadmaps and the ESPO ambitions, and outlines a path for port authorities as part of a European green future. The tools available to port authorities to achieve this include legislation, norms and rules, as well as efforts to promote and encourage greening in the port area and wider port community.

To help gather and promote green port practices between ports on the European level, ESPO has developed a dedicated online database of good green practices provided by European ports available on the ESPO website<sup>7</sup>.



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**TABLE 4**  
Tools available for the greening of port authorities

CATEGORY OF TOOLS	TOOLS
<b>ENFORCING</b> <i>Ways in which port authorities have the competence to execute legal environmental and climate requirements</i>	<b>Port authority rules and policy</b> <i>Examples: HR policy and staff mobility</i>
	<b>Port authority monitoring and/or data collection</b> <i>Example: an inventory of emissions from one or several port stakeholders (industry, shipping, land-based transport) used to monitor their development, demonstrating compliance with applicable legislation/rules</i>
	<b>Norms within the port authority</b> <i>Example: encouraging recycling and other sustainable behaviours to create a green working environment</i>
<b>INVESTING</b> <i>Various ways that port authorities can dedicate financial resources for encouraging green activities</i>	<b>Procurement and concessions policy</b> <i>Example: green clauses in contracts and tendering of services</i>
	<b>Port infrastructure</b> <i>Examples: climate adaptation of infrastructure, improving energy efficiency of port authority buildings</i>
	<b>Port equipment</b> <i>Example: greening of port authority vessels</i>
	<b>Greening services</b> <i>Examples: installing alternative fuels bunkering infrastructure, facilitating green mobility</i>
	<b>Avoid and reduce impact on local environment and biodiversity</b> <i>Examples: consider infrastructure solutions such as patterned concrete and biodegradable ladders that minimise impact on, or enable, biodiversity, (as a final resort) use compensation schemes which are local or effective within the EU, if possible</i>

7. Available at: [www.espo.be/practices](http://www.espo.be/practices)

<b>THINKING STRATEGICALLY</b> <i>Ways for port authorities to integrate greening in their strategy</i>	<p><b>Infrastructure development</b> <b>Climate mainstreaming</b> <i>Example: evaluating climate and environmental impact of all port authority activities, and considering this as an important factor in strategic decisions</i></p> <p><b>Active business strategy to attract green investments</b> <i>Example: regularly arranging meetings and workshops for green businesses and different relevant port stakeholders</i></p> <p><b>“Green” accounting</b> <i>Example: introducing systematic monitoring and quantification of environmental and climate impact of port authority activities</i></p>	<b>INVESTING</b> <i>Various ways for port authorities to dedicate financial resources for encouraging green activities</i>	<p><b>Provide and/or (co-)invest in green infrastructure or superstructure for the benefit of port stakeholders</b> <i>Examples: infrastructure for clean and low-emission fuels, circular economy projects, port dues</i></p> <p><b>Infrastructure enabling sustainable alternatives to road transport</b> <i>Examples: IWT and rail infrastructure in the port</i></p> <p><b>Digitalisation and ITS integration in port infrastructures where it can enhance greening efforts</b> <i>Examples: introducing intelligent traffic lights, sensors and a port traffic control centre</i></p> <p><b>Sustainability mainstreaming</b> <i>Examples: setting rules for all new infrastructure investments in the port area</i></p>
<b>INCENTIVISING AND STIMULATING</b> <i>Other non-financial ways for port authorities to encourage greening</i>	<p><b>Staff benefits</b> <i>Example: competitions or rewards for green working behaviour and environment</i></p>	<b>INCENTIVISING AND STIMULATING</b> <i>Other non-financial ways for port authorities to encourage greening</i>	<p><b>Certifications and advantages for green front runners/adaptors</b> <i>Examples: advantageous treatment in ports, certification via Environmental Port Index, ISO, ESI, GreenMarine, BlueAngel</i></p> <p><b>Facilitating and encouraging synergies and symbiosis</b> <i>Examples: port services provided for sustainability-conscious customers, providing expertise in various expert groups and fora</i></p>
<b>MOTIVATING</b> <i>Ways for port authorities to encourage greening, and provide opportunities for greening activities</i>	<p><b>Communication (transparent engagement by the port authority)</b> <i>Examples: organising stakeholder meetings, social media outreach</i></p> <p><b>Promotion and rewarding of front runners, and leading by example</b> <i>Examples: EcoPorts (SDM and PERS), having a low temperature in port authority offices, avoiding standby mode on electronics</i></p> <p><b>Training of staff</b> <i>Example: workshop on how to minimise carbon footprint in daily working life</i></p>	<b>COOPERATING/PARTNERING</b> <i>Ways to collaborate with, and involve other port authorities and stakeholders in greening the port area</i>	<p><b>Port/stakeholder coalitions and framework agreements</b> <i>Example: OPS coalitions</i></p> <p><b>Port-port “co-opetition” by setting similar rules for stakeholders (amongst several ports)</b> <i>Examples: standards for fuel bunkering, risk-sharing, voluntary speed/emission reduction zones for ships, exchange of experiences and good practices in European or international organisations</i></p> <p><b>Participation in relevant EU/international sustainability and innovation projects</b> <i>Examples: EcoPorts, Horizon, Interreg</i></p> <p><b>Structured dialogues with port stakeholders</b> <i>Examples: optimisation, coordination and planning with hinterland actors and supply chain interlocutors</i></p>
Table 5 below concerns the port area, where port authorities have certain tools at their disposal when attempting to green the port area as part of interactions with port stakeholders and clients.		<b>MOTIVATING</b> <i>Ways for port authorities to encourage greening, and to provide opportunities for greening</i>	<p><b>Communication and promotion of good practices of port stakeholders</b> <i>Examples: prizes for best environmental performance port stakeholder, promotion through port authority's communication tools (social media, port newsletter)</i></p> <p><b>Organisation/hosting of conferences and webinars</b> <i>Examples: port conferences and events linked to relevant themes such as the World Oceans Day, topical meetings</i></p> <p><b>Coaching/training of port stakeholders</b> <i>Example: workshop on environmental management with key stakeholders</i></p>



## TABLE 5

Tools available to port authorities to promote the greening the port area

<b>PORT AREA (INTERACTIONS OF PORT AUTHORITY, PORT STAKEHOLDERS AND CLIENTS)</b>	
<b>CATEGORY OF TOOLS</b>	<b>TOOLS</b>
<b>ENFORCING</b> <i>Ways for port authorities to live up to legal environmental and climate requirements</i>	<p><b>Port environmental formal standards/rules</b> <i>Examples: introduction of port-specific environmental rules for the port area, safety rules for bunkering</i></p> <p><b>Norms</b> – expectations that are socially enforced and encourage certain behaviours <i>Example: expectation that vessels communicate schedule and planning in advance to facilitate an optimal port call by the vessel</i></p> <p><b>Contracts and tenders</b> <i>Examples: green clauses such as modal split obligations, and environmental clauses in land leases/concessions</i></p>

Table 6 below provides the tools available to port authorities to engage in helping green the community around the port, and in regional, national or transnational efforts. Indeed, port authorities have less influence over the community around the port compared to their own activities, and fewer effective tools at their disposal. When port authorities address the port community, enforcement is generally not an available category of tools.



**TABLE 6**

Tools available to port authorities to help green the community around the port and to help them engage in relevant regional, national, or transnational initiatives

COMMUNITY AROUND THE PORT	
CATEGORY OF TOOLS	TOOLS
<b>INVESTING</b> <i>Various ways for port authorities to dedicate financial resources for encouraging green activities</i>	<b>Co-financing of green projects which are benefit the port and the city</b> <i>Examples:</i> <ul style="list-style-type: none"> <li>- Enhancing the resilience of the city against operational threats related to climate change by adapting infrastructure</li> <li>- Projects promoting biodiversity</li> <li>- Developing nature areas in port and making these more available to the general public</li> <li>- Joint open domain pipeline projects for gases, liquids, warmth, electricity</li> <li>- 5G areas, high-speed data connection via cable</li> <li>- Circular economy initiatives</li> <li>- Carbon offsetting or equivalent initiatives</li> </ul>
<b>INCENTIVISING AND STIMULATING</b> <i>Other non-financial ways for port authorities to encourage greening</i>	<b>Facilitating and encouraging synergies and symbiosis</b> <i>Examples: involve regional local authorities, local community, hinterland transport stakeholders, and local industry</i>
<b>COOPERATING/ PARTNERING</b> <i>Ways to collaborate with, and involve other port authorities and stakeholders in greening the port area</i>	<b>Participation in relevant EU/international sustainability projects</b> <i>Example: Navigating a Changing Climate Platform, European Green Leaf</i> <b>Collaborating and developing green ambitions with local community</b> <i>Example: Ports of Helsinki and Oslo aligning their own climate efforts with the zero emission targets of their respective cities</i> <b>Supporting and participating in relevant research initiatives</b> <i>Example: Horizon</i> <b>Mixed use of infrastructure</b> <i>Example: use of port authority buildings or areas for city events</i> <b>Look for common solutions for how to alleviate city congestion</b> <i>Example: encourage multimodal ticketing and facilitate public transport connections in the port area</i> <b>Engage in (transnational) energy initiatives</b> <i>Example: European Clean Hydrogen Alliance</i>

## 2.5

### Digital database of good green practices

An important part of the 2021 Green Guide is the digital database of good green practices which accompanies the publication of this Guide and provides a continuously updated source of good green practices from European ports.

The practices are aligned with the Top 10 environmental priorities of European ports, and cover the following five categories:

- **Energy & Fuels** concerns the various initiatives taken by ports as hubs of clean energy and alternative fuels through the supply, production, export and import of renewables;
- **Climate & Air** captures long-standing efforts by European ports to address the challenge posed by climate change and air pollution through emission reduction commitments, cooperation, innovative projects, and continuous monitoring efforts;
- **Port & City** includes good practices for port-city interaction and relations in urban ports, showing how ports can successfully engage with wider communities and encourage greening;
- **Waste & Circular** shows that many European ports actively reduce waste and encourage circularity through innovative green practices and projects;
- **Environment & Biodiversity** illustrates that port authorities are committed to preserving their local environment and precious habitats through protection and conservation efforts.

The good green practices database can be accessed via the ESPO website<sup>8</sup>.

**MOTIVATING**  
*Ways for port authorities to encourage greening, and to provide opportunities for greening*

**Port authority rules and policy (indirectly)**  
*Examples: sustainable staff mobility initiatives, rules for protection and development of protected nature areas/habitats/biodiversity*

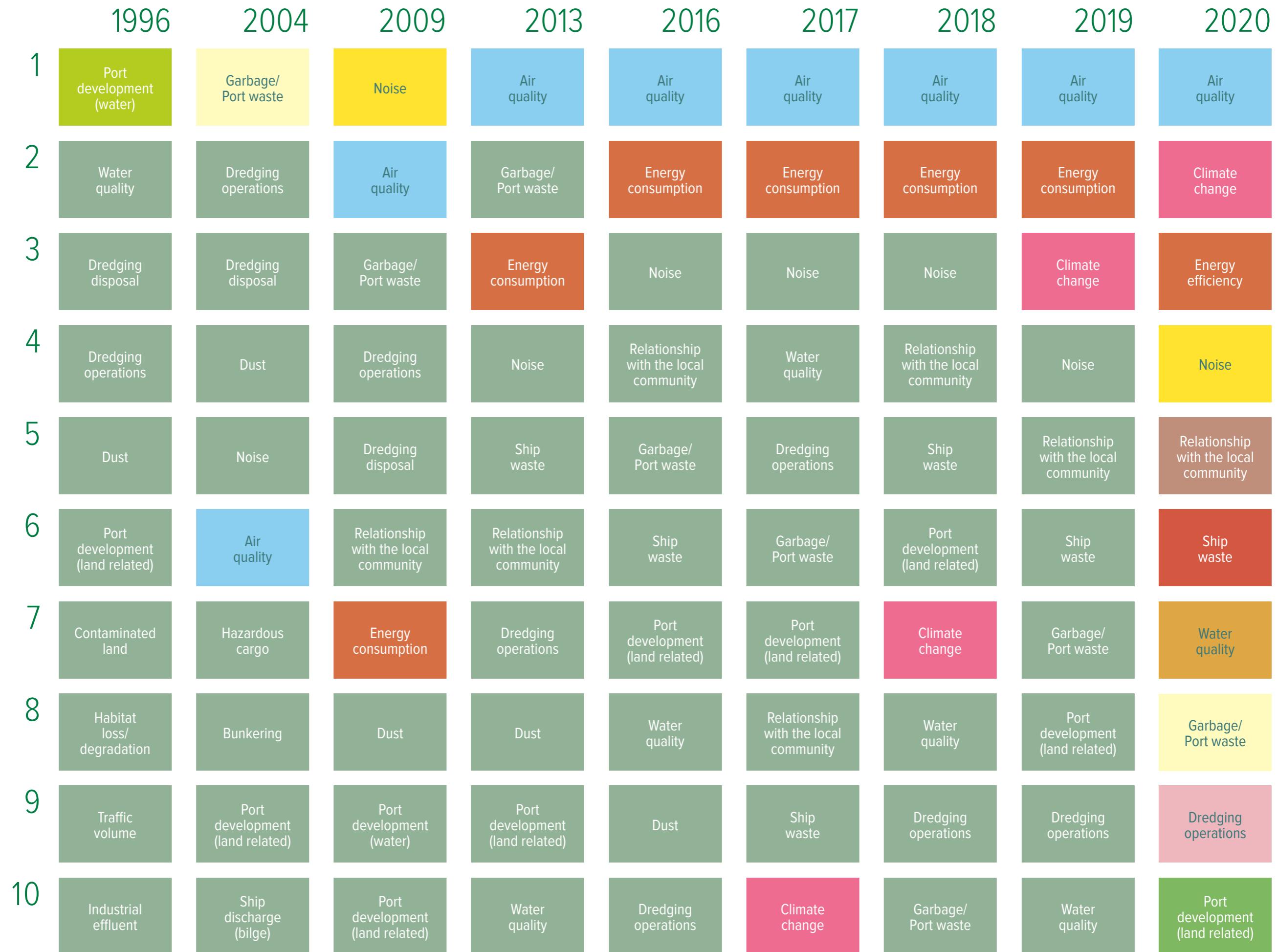
**Communication efforts**  
*Example: structured dialogues with port communities*

**Promotion of front runners and leading by example**  
*Example: launching a competition or award for “green port initiative of the month”*

**Education and training**  
*Examples: guided tours and “open port” days related to sustainability and greening efforts*

→  
**FIGURE 5**

Evolution of environmental top priorities of the port sector since 2013



# GREENING EUROPE'S PORTS TWO PILLARS

3

Port authorities generally have small environmental footprints of their own, but ports are nonetheless the place where a lot of emissions and pollution come together. Therefore, greening “the port” includes reducing negative environmental externalities generated by both the port authority itself, as well as all transport and industry players in the port area. While the port authority is fully responsible for the reduction of emissions and other externalities related to its own infrastructure, equipment and activities, transport and industry players in the port must set their own agendas, goals and plans for greening. Port authorities will support and encourage these efforts, creating a joint pathway to a more sustainable future.

However, ports are more than consumers of energy and focal points of pollution. They are also well-placed to become important producers and providers of clean energy solutions for a transitioning economy, providing the location for green businesses and sustainable solutions for the surrounding community or city. In these ways, ports contribute in a positive way to greening Europe's economy and society as a whole.

This section divides the extensive greening efforts of ports into **two pillars**.

**The first pillar on reducing pollution and other externalities** summarises the environmental challenges facing Europe's ports, based on the ESPO Top 10 Environmental Priorities. It explains the progress made by ports in addressing these challenges and reducing negative environmental externalities, and includes some relevant European policy for each challenge.

**The second pillar on ports as partners in finding green solutions** shows the various ways in which ports can be engines of transition, enabling sustainable energy and transport solutions and thus be active partners in delivering the green transition of Europe's economy and society.

### 3.1

## REDUCING POLLUTION AND OTHER EXTERNALITIES

The following overview of mitigation efforts of port authorities is provided in their order of importance to European ports, based on the ESPO 2020 Top 10 Environmental Priorities.

### 3.1.1

#### Air quality management (SO<sub>x</sub>, NO<sub>x</sub>, Particulate Matter – PM)

Air pollution is the biggest environmental health threat in Europe. Overall, the air quality in Europe remains poor in many areas, despite reductions in emissions and ambient concentrations. Air quality has been the highest environmental priority for ports since 2013. European ports cannot ignore the call for cleaner air, regardless of who is responsible for the pollution source. Air quality has become a key determinant of public “acceptance” of port activity. Shipping is a major source of air emissions in ports.

Nonetheless, the exposure of urban populations in the EU28 to sulphur dioxide (SO<sub>2</sub>) has decreased over the past few decades<sup>9</sup>. Since 2007, the exposure of the urban population to concentrations above the EU daily limit value has remained under 0.5%<sup>10</sup>.

The impact of the implementation of the SECA 0.1 SO<sub>x</sub> limit for ships shows that measures to reduce air emissions from ships can be effective: since the limit has been introduced, the air quality in the Baltics has improved by 70%<sup>11</sup>.

*Air quality has been the highest environmental priority for ports since 2013*

Port authorities are doing their part to improve air quality in the port area. According to the **2020 ESPO Environmental Report**, monitoring of air quality in ports has increased by 15% since 2013, and around two-thirds of European ports are currently monitoring air pollution as part of their environmental management. Port authorities are also involved in mitigating air pollution in port areas, with a growing number of port authorities providing incentives for ships that go beyond regulatory standards via differentiated port fees. Another way to reduce SO<sub>x</sub> and NO<sub>x</sub> emissions in ports is through supporting the deployment and use of alternative fuels such as onshore power supply or other alternative equivalent solutions. Use of Liquefied Natural Gas (LNG) as a fuel for ships can also reduce SO<sub>x</sub> and NO<sub>x</sub> emissions and air pollution in port areas. According to the ESPO 2020 Environmental Report, one third of surveyed European ports have made LNG bunkering available<sup>12</sup>.

On top of the measures to mitigate air pollution from ships, the online good practices database shows how port authorities are also taking initiatives to reduce air pollution from their own operations, as well as to stimulate other stakeholders to deliver.

### EU LEGISLATION AT A GLANCE

The European Union aims to achieve levels of air quality that do not give rise to significant negative impacts on, and risks to, human health and the environment. The European Commission adopted in 2013 a Clean Air Policy Package, including a Clean Air Programme for Europe setting objectives for 2020 and 2030, and accompanying legislative measures.

In 2018, The Commission adopted the Communication “A Europe that protects: Clean air for all” that provides national, regional and local actors with practical help to improve air quality in Europe. More recently, the zero-pollution ambition, for a toxic-free environment was put forward as one of the main pillars of the European Green Deal. To reach this ambition, the Commission adopted a Zero-pollution action plan for air, water and soil in 2021.

### 3.1.2

#### Climate change – Greenhouse gases (energy efficiency, CO<sub>2</sub> emissions reductions)

Climate change is a global challenge, which will require significant efforts from all sectors (including shipping) to reduce emissions and avoid further global warming. Shipping is a significant source of greenhouse gas emissions, both on the global and European level. Furthermore, projections show that CO<sub>2</sub> emissions from maritime transport are likely to grow in the future. According to the fourth IMO Greenhouse Gas Study<sup>13</sup>, the greenhouse gas emissions of total shipping (international, domestic and fishing) increased by 9.6% between 2012 and 2018. The share of shipping in global emissions has increased from 2.76% to 2.89% in the same time span. The 2019 Annual Report on CO<sub>2</sub> emissions from maritime transport finds that on the European level, CO<sub>2</sub> emissions reported in the EU MRV system represent 15% of the total CO<sub>2</sub> emissions from international and domestic shipping. Shipping accounts for over 3% of total EU CO<sub>2</sub> emissions<sup>14</sup>.

In 2020, European ports placed climate change as the top second priority, rising from tenth to second highest priority in three years. This prioritisation amongst European ports is in line with the increasing social sense of urgency, as the issue of climate change continues to attract growing political and social attention and concern. This makes compliance with climate legislation, the reduction of carbon emissions and climate-proofing port infrastructure very important priorities for European ports.

Mitigating climate change through reducing emissions of greenhouse gases (primarily CO<sub>2</sub>) in the port area requires the involvement of all stakeholders present in the port. Shipping is usually the largest source of CO<sub>2</sub> emissions in the port. According to a study by the Wuppertal Institut, maritime transport in the Port of Rotterdam accounts for 87% of total transport emissions in the port. In addition, berthed ships account for another 2% of total transport emissions in Rotterdam<sup>15</sup>. A similar pattern emerges in the Port of Helsinki, where shipping accounted for 78% of CO<sub>2</sub> emissions in the Port of Helsinki in 2020, including emissions at berth and navigation within the port. Reducing air pollution can also help reduce emissions of CO<sub>2</sub>, including through the use of Onshore Power Supply (OPS) and alternative equivalent solutions, and Liquefied Natural Gas (LNG).

9. This is highly relevant, since 90% of European ports are urban ports (Trends in port governance, ESPO, 2016, available at: [www.espo.be/media/Trends\\_in\\_EU\\_ports\\_governance\\_2016\\_FINAL\\_VERSION.pdf](http://www.espo.be/media/Trends_in_EU_ports_governance_2016_FINAL_VERSION.pdf))

10. EEA, 2020 annual report air quality

11. Helcom Policy Brief, October 2017

12. ESPO Environmental Report 2020, available at: [www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf](http://www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf)

13. Fourth IMO GHG Study 2020 – Executive Summary, available at: [www.cdn.imo.org/localresources/en/OurWork/Environment/Documents/Fourth%20IMO%20GHG%20Study%202020%20Executive-Summary.pdf](http://www.cdn.imo.org/localresources/en/OurWork/Environment/Documents/Fourth%20IMO%20GHG%20Study%202020%20Executive-Summary.pdf)

14. European Commission (2020): 2019 Annual Report on CO<sub>2</sub> emissions from maritime transport, available at: [https://ec.europa.eu/clima/sites/clima/files/transport/shipping/docs/swd\\_2020\\_82\\_en.pdf](https://ec.europa.eu/clima/sites/clima/files/transport/shipping/docs/swd_2020_82_en.pdf)

15. Wuppertal Institut (2018): Deep Decarbonisation Pathways for Transport and Logistics Related to the Port of Rotterdam, pp. 8, available at: [pub.wupperinst.org/frontdoor/deliver/index/docId/7140/file/7140\\_Rotterdam.pdf](http://pub.wupperinst.org/frontdoor/deliver/index/docId/7140/file/7140_Rotterdam.pdf)

The European Green Deal provides the impetus for the greening efforts of European ports. In addition to the ambitions outlined by ESPO on the European level, many European ports have their own targets for achieving net-zero emissions. The first step to reduce CO<sub>2</sub> emissions is to monitor the emissions. According to the ESPO 2020 Environmental Report, 81% of the surveyed ports have systems in place whereby they monitor environmental management, which could include measuring emissions in the port area and finding ways to reduce emissions. Over half of the surveyed ports also measure their carbon footprint.

### 3.1.3

#### Climate change – Climate adaptation

Ports experience the negative effects of global warming first-hand, from rising sea levels and extreme weather conditions to erosion. For the first time in 2020, over half of the surveyed European ports reported that they experience operational challenges that could be related to climate change, such as more frequent storms, flooding, changes in wind or wave conditions. Additionally, standstills in operation and heat stress caused by extreme conditions have far-reaching human and financial costs.

*Mitigating climate change through reducing emissions of greenhouse gases (primarily CO<sub>2</sub>) in the port area requires the involvement of all stakeholders present in the port*

#### EU LEGISLATION AT A GLANCE

By 2050, Europe aims to become the world's first climate-neutral continent. Europe's Green Deal has put forward a plan to further cut emissions by at least 55% by 2030. Alongside reducing greenhouse gas emissions, the EU is also taking action to adapt to the impacts of climate change. By 2050, Europe aims to be a climate-resilient society. Climate action initiatives include:

- European Climate Law enshrining the 2050 climate-neutrality objective into EU law;
- 2030 Climate Target Plan to further reduce net greenhouse gas emissions by at least 55% by 2030;
- New EU Strategy on Climate Adaptation to make Europe a climate-resilient society by 2050;
- Revision of all relevant policy instruments where necessary to deliver additional greenhouse gas emissions reductions. This includes a number of files relevant to ports, where the Alternative Fuels Infrastructure Directive, the Emission Trading System, the recast Renewable Energy Directive and the Energy Taxation Directive are some of the files being reviewed (see Annex for a legislative overview).

### 3.1.4

#### Noise management

It is no secret that port areas can be noisy environments. Noise levels are under various pressures from everyday port and logistic operations, industrial activity, and port development projects, which all require managing by the port authority and port stakeholders. Noise management is therefore an important priority for ports in their relationship with the cities they are placed in, which is reflected in the fact that noise is the fourth environmental priority of European ports.

Ports are in many countries subject to strict rules on noise, especially if they are urban ports located close to housing. Ports are taking steps to reduce noise, which also has positive impacts for port employees and other actors operating in the port area. Monitoring noise levels and identifying sources of noise is the key first step.

Compared to when the first **ESPO Environmental Report** was published in 2013, a greater number of ports (54%) actively monitor noise levels<sup>17</sup>. Ports also consider noise mitigation when investing in equipment, opting for electric machinery and installations, which are generally less noisy. As part of optimising activities in ports, noisy activities during night-time are avoided and the duration and intensity of noise are reduced. The ESPO 2020 Environmental Report shows that close to a sixth of surveyed European ports use differentiated dues to reward quieter vessels. Underwater noise is also gaining increasing attention as a negative effect of port activities.

#### EU LEGISLATION AT A GLANCE

The Environmental Noise Directive (END, 2002/49/EC) sets out the legislation for the assessment and management of environmental noise. It is the main legislation designed to identify noise pollution levels, and also sets out ways to encourage action by Member States and the EU.

According to the Commission, such action "will require, in particular, implementing an updated Union noise policy aligned with the latest scientific knowledge, measures to reduce noise at source, and improvements in city design." Along with the Zero Pollution Action Plan, the ongoing review of the Marine Strategy Framework Directive (2008/56/EC) will also consider noise as part of national marine strategies in order to achieve, or maintain where it exists, 'good environmental status'.

### 3.1.5

#### Relationship between the port and local communities

91% of European ports are located in, or very close to, an urban area<sup>18</sup>. European ports are very often situated next to or in big urban agglomerations, and tend to be perceived as representatives of the larger maritime sector by the local population. Port authorities fully understand that citizens are closely following their activities, both when things are going well and when things are going wrong.

Port authorities increasingly respond by heightening transparency, reaching out to schools and young citizens, by involving the local community in their initiatives to lower negative externalities, and by improving their environmental performance. Importantly, ports' communication should not only be defensive and reactive: ports need to explain their role and, more particularly, their contribution to addressing today's environmental challenges in a proactive way.

16. ESPO Environmental Report 2020, available at: [www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf](http://www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf)

17. Ibid

18. Ibid

As part of these communication efforts, port authorities need to show that a port is not only about loading and unloading goods. As nodes of transport and industry, ports cluster different parts of the production and distribution chain and avoid 'unnecessary additional transport'. As logistics nodes, ports are service providers to the internet shopper. As nodes of energy, they must show to what extent they have a role to play in the transition to a world without carbon, by facilitating the production, supply and trade of new sources of energy.

*European ports are very often situated next to or in big urban agglomerations, and tend to be perceived as representatives of the larger maritime sector by the local population*

Since 2009, ESPO has been proactively working on improving the social integration of ports.

The ESPO Code of Practice on Societal Integration of Ports<sup>19</sup> was developed in 2010 with the aim of raising awareness among port authorities of social integration, giving insight into the tools to gain public support and providing recommendations on how to respond proactively to this challenge. The Code defines three different target groups: the general public, people who work or could work in a port, and finally people living in and around ports. The ESPO Code of Practice has also developed ten concrete recommendations, and is available in English and Spanish.

To promote the efforts made by different European ports to enhance the port-city relations through innovative projects, ESPO decided to hand out an annual ESPO Award on Social Integration of Ports in 2009. The themes addressed so far are: Creative Strategies to Communicate the Port to the Wider Public (2011), Youth (2012), Heritage (2013), Innovative Environmental Projects (2014), Relationship with Schools and Universities (2015), Nature in Ports (2016), Art and Cultural involvement of the port (2017), Ports as a good work environment for everyone (2018), Transparency and the role of social media in reaching out to the local community (2019), and Enhancing the port-city relationship by encouraging innovators and local start-ups to be part of the port ecosystem (2020). More than 180 projects have been submitted over the last 12 years. They all serve as good port practices and can be used as a source of inspiration moving forward.

### 3.1.6

#### Sediment management

Most ports need to dredge maritime access lanes, canals, and port areas regularly. The sediment generated in this process needs to be placed somewhere. Many ports reuse sediment in their infrastructure projects to save energy and natural resources.

With dredging as a Top 10 priority for European ports, a growing number of European ports monitor sediment quality (59%) and marine ecosystems (46%). Around 40% of European ports also monitor soil quality<sup>20</sup>.

#### EU LEGISLATION AT A GLANCE

EU soil protection policy is shaped by the EU Soil Thematic Strategy. The Commission has put forward a proposal for a new Soil Strategy to be published by the summer of 2021. Other legislation relevant to sediment management are the Industrial Emissions Directive, the Environmental Liability Directive, the EU Biodiversity Strategy, and the Common Agricultural Policy. The Zero Pollution Action Plan also touches on the issue of soil quality.

The EU has various legislation in place relating to sediment management. The REACH legislation requires that all substances are registered (with some exceptions). For sediments, this is only mandatory above 100 (fate data) and 1000 tonnes/year (ecotoxicity data).

The Water Framework Directive has the objective to achieve the good ecological and chemical status of waters. As part of this Directive, sediment assessment is part of the "Surface water" protection. Depending on the context, the Habitats Directive may use assessments of sediments as part of introducing protections for important habitats near the port area.

### 3.1.7

#### 3.1.7.1

#### Waste management (port and ship)

There are two main sources of waste in Europe's ports: the waste generated by port-based activities, and the waste delivered by ships calling at the port.

##### Waste from port-based activities

Preventing waste from being created, and avoiding it spreading, are key to addressing waste from port-based activities. The more waste that can be reused and recycled, the better. Therefore, waste management is a key component of the positive contribution of ports to climate and environmental management, as will be discussed further in the second pillar.

According to the ESPO 2020 Environmental Report, port waste and garbage is the most monitored indicator by surveyed ports (79%), and ports increasingly monitor the issue<sup>21</sup>. Together with the monitoring of water quality by ports, which relates to issues of marine litter (especially plastics), European ports address waste both on the land side and in the water in the port.

#### EU LEGISLATION AT A GLANCE

The Waste Framework Directive (2008/98/EC) sets the legal framework for treating and managing waste in the EU, and introduces a system of waste management called the "waste hierarchy". Together with the Circular Economy Action Plan presented by the Commission in 2020, the emphasis is on preventing, reusing, and minimising waste to the greatest degree possible. The Port Reception Facilities Directive (PRF) 2019/883 addresses waste from ships. As part of the European Green Deal, many EU waste laws are also being reviewed.

Certain categories of waste require specific approaches, where EU legislation applies the waste categories provided in the relevant MARPOL Annexes. In addition to the overarching legal framework, the EU has many laws to address different types of waste and waste in different sectors.

19. ESPO Code of Practice on Societal Integration of Ports (2010), available at: [www.espo.be/media/espopublications/ESPOCodeofPracticeonSocietalIntegrationofPorts2010.pdf](http://www.espo.be/media/espopublications/ESPOCodeofPracticeonSocietalIntegrationofPorts2010.pdf)

20. ESPO Environmental Report 2020, available at: [www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf](http://www.espo.be/media/Environmental%20Report-WEB-FINAL.pdf)

21. Ibid

### 3.1.7.2

#### **Waste management onboard ships**

Waste from ships is addressed in the Port Reception Facilities (PRF) Directive, which requires that all ships pay a flat fee to ports, irrespective of the waste they generate under the system. The Directive also includes rebates for ships that engage in sustainable waste management onboard, and produce reduced quantities of waste.

Reflecting the priority that European ports place on waste management, the ESPO secretariat is Vice-Chair of the European Sustainable Shipping Forum subgroup on Waste from Ships. This subgroup is responsible for the implementation of the PRF Directive. As part of this work, ESPO is responsible for developing criteria for the sustainable management and reduction of waste generated onboard vessels.

#### **EU LEGISLATION AT A GLANCE**

The Port Reception Facilities Directive (2019/883) was introduced in 2000 and aims to protect the marine environment against the negative effects from discharges of waste from ships using ports located in the EU. It also serves to ensure the smooth operation of maritime traffic, by improving the availability and use of adequate port reception facilities and the delivery of waste to those facilities. To incentivise the delivery at port, ships pay a flat (indirect) fee when calling at ports, irrespective of the delivery of waste and the amounts delivered. The revised Directive 2019/883 strengthens this system and obliges ports to give green rebates for ships which demonstrate to produce less waste, and manage their waste in a sustainable and environmentally sound manner.

Entering into force in 2019, Member States are currently implementing the Directive. The European Commission European Sustainable Shipping Forum set up a specific subgroup on Waste from Ships to aid in the implementation. The experts and stakeholders in this subgroup are working to develop implementing acts for passively fished waste, sufficient storage capacity onboard vessels, a risk-based targeting mechanism, and criteria for sustainable waste management and reduction of waste onboard ships.

Taken together, this means that port authorities are likely to contribute more to the overall cost of delivering waste from ships, since they will have to cover the difference between the real cost for the port reception facilities for the quantities actually delivered, and the flat fee received by the ship operator. Additionally, the flat fee can in some cases be subject to a green rebate on the basis of waste reduction and sustainable waste management carried out by individual ships.

### 3.1.8

#### **Water quality and biodiversity**

Ports are intrinsically linked and dependent on water, making water management and water quality fundamental to their operations, environmental responsibility, and licence to operate.

Water quality is the 7th priority of the top 10 environmental priorities for European ports<sup>22</sup>. The recent rise of water quality from the tenth to the seventh place demonstrates the growing importance of the issue for local communities and the port area, as well as for the protection of terrestrial and marine habitats and ecosystems.

Biodiversity and water quality are especially important since ports are located where land and sea meet. Improving water quality requires joint efforts by port authorities, shipping operators, waste treatment facilities, individual terminals, as well as European and national authorities. European port authorities can help promote biodiversity and protect the environment in port waters, and can also contribute to more biodiversity and better water quality by building infrastructure where fish, mussels and plants thrive.

#### **EU LEGISLATION AT A GLANCE**

The Waste Framework Directive (2008/98/EC) sets the legal framework for treating and managing waste in the EU, and introduces a system of waste management called the "waste hierarchy". Together with the Circular Economy Action Plan presented by the Commission in 2020, the emphasis is on preventing, reusing, and minimising waste to the greatest degree possible. The Port Reception Facilities Directive (PRF) 2019/883 addresses waste from ships. As part of the European Green Deal, many EU waste laws are also being reviewed.

Certain categories of waste require specific approaches, where EU legislation applies the waste categories provided in the relevant MARPOL Annexes. In addition to the overarching legal framework, the EU has many laws to address different types of waste and waste in different sectors.

## 3.2 PORTS AS PARTNERS IN FINDING GREEN SOLUTIONS

Ports are not only areas where the emissions from various maritime and industrial activities come together, they also have a pivotal role in bringing Europe closer to its decarbonisation and zero pollution targets. As hubs where different sectors come together, Europe's ports are dynamic hotspots for innovation, green business opportunities and unleashing the potential of sector coupling. Being at the intersection between sea and land, they are the landing point for green off-shore solutions. Since 90% of Europe's port are urban ports, they are ideally placed to engage in a positive interaction between port and city and provide green solutions for the latter. This second pillar therefore elaborates on areas where ports make positive contributions to the greening of the wider European economy.

### 3.2.1

#### Energy transition: The continued importance of Europe's ports as crucial partners

Ports have traditionally been important hubs for the supply, production, export and import of conventional energy. Around 40% of commodities passing through ports in the EU are related to energy<sup>23</sup>. In the ongoing transition towards alternative fuels, ports are already indispensable for the supply and demand of fuels, and are gearing up to contribute even more to a net-zero economy. In their capacity as

hubs of clean energy, ports play several different roles as they supply, produce, store, import and export renewable electricity and renewables.

Ports provide important bunkering and fuelling infrastructure for shipping and other transport modes converging in the port area. They also help meet the energy needs of industries located in the port area.

Increasingly, ports provide the link to the supply of offshore renewable energy generated by wind and wave power and play a similar role for onshore renewable energy generated by biomass, wind or solar power in port areas. Ports are also strategically placed to act as key hubs for the production, deployment and trade of renewable energy.

*Ports are not only areas where the emissions from various maritime and industrial activities come together, they also have a pivotal role in bringing Europe closer to its decarbonisation and zero pollution targets*

Such renewable energy production in the port area could be fed back into the grid, with ports acting as important gateways for imports of renewable energy and sustainable fuels to Europe. That makes them crucial to the import and export of hydrogen and renewable energy from outside the EU. Furthermore, ports provide the site for the production of hydrogen or hydrogen-derived fuels such as ammonia, with a large number of ports currently considering the introduction of Power-to-X solutions in ports, using electricity to produce hydrogen, methane and ammonia.

### 3.2.2

#### Nature and blue biodiversity: Ports as stewards of the precious nature ecosystems in ports

European ports are by definition situated in very precious coastal areas and are developing in the middle of very rich ecosystems, both on the land and on the waterside. Many ports are surrounded by Natura 2000 areas or are located in such areas. This means that port authorities are used to working closely with European nature protection legislation.

*Ports are also strategically placed to act as key hubs for the production, deployment and trade of renewable energy*

Many ports in Europe have developed active strategies that go beyond compensating habitat loss, promoting further improvement of the quality of the nature, enhancing the biodiversity in the port, and sharing these precious nature spots with port workers and the wider surrounding community.

In 2016 the ESPO Award theme "Nature in ports" brought together eleven high quality port projects which are going beyond what is needed in the framework of the Natura legislation, with a view to further developing the nature and biodiversity in the port and sharing this nature with the citizens. The category for Environment & Biodiversity for the good green practices showcase the different ways that European port authorities contribute to the protection of habitats and wildlife<sup>24</sup>. Good green practices in this category include cleaning beaches and coastlines, encouraging the repopulation of endangered species, and supporting more nature-inclusive agriculture.

### 3.2.3

#### Circular economy: Port authorities as matchmakers for circularity players

Ports are ideal places to develop circular economy, and European ports have long-standing experience with circularity. As previously explained, European ports are often situated in or near metropolitan areas, where huge amounts of end-of-life products are available. Ports are also crossing-points of all types of waste and industrial flows, logistical hubs for the export and import of waste materials, active promoters of innovation, and the sites for waste management industries. In a unique interaction between port and city, the waste for one becomes the resource for the other, and vice versa.

Many circular initiatives are ongoing in ports – and have been for a long time. This means that many good examples of circularity projects can be found in the good green practices, where the category for Waste & Circular showcases various ways in which ports are reducing waste, recycling heat and garbage, and reusing resources in new ways.

23. ESPO (2016): Trends in EU Ports Governance, available at: [www.espo.be/media/Trends\\_in\\_EU\\_ports\\_governance\\_2016\\_FINAL\\_VERSION.pdf](http://www.espo.be/media/Trends_in_EU_ports_governance_2016_FINAL_VERSION.pdf)

24. ESPO database of good green practices, available at: <https://www.espo.be/practices>

## EU LEGISLATION AT A GLANCE

The Commission's circular economy action plan, adopted in March 2020, aims to move Europe towards a circular economy which will reduce pressure on natural resources and create sustainable growth and jobs. It is also a prerequisite to achieve the EU's 2050 climate neutrality target and to halt biodiversity loss. The new action plan announces initiatives along the entire life cycle of products. It targets how products are designed, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

### 3.2.4

#### Blue Economy: Where port authorities can drive growth

The **economic value of our oceans and their resources is growing**. While our seas remain of major importance as enablers of maritime transport, food, energy, raw materials and tourism increasingly depend on them. As the competition for these resources rises, it will become increasingly challenging to manage the marine space in a strategic way and use its resources in a sustainable way.

**As the unique interface between land and sea**, seaports are fundamental to the blue economy. Europe's ports are essential nodes in the development and operations of different blue economy sectors, from maritime transport to coastal and maritime tourism and will thus also be a partner in the transition to sustainable blue economy, as outlined in the Commission Sustainable Blue Economy Strategy<sup>25</sup>.

*As the unique interface between land and sea, seaports are fundamental to the blue economy*

**European ports can facilitate, enhance and reinforce** those blue economy sectors that by definition contribute to delivering the green deal ambitions (such as offshore energy, maritime circular economy, and carbon capture and storage – CCS).

The blue economy and the aim to move towards a sustainable blue economy offer the ports several opportunities to add value, taking into consideration their geographical, climatological and demographic location. Ports can also be directly involved as investors and drivers of the blue economy. Within the port, diverse marine competences are gathered. Port authorities are therefore important knowledge hubs for the blue economy which can be shared and used to deliver blue growth.

25. Communication from the Commission on a new approach for a sustainable blue economy in the EU – Transforming the EU's Blue Economy for a Sustainable Future (2021), available at: [www.espo.be/media/Communication%20on%20a%20new%20approach%20for%20a%20sustainable%20blue%20economy%20in%20the%20EU.pdf](http://www.espo.be/media/Communication%20on%20a%20new%20approach%20for%20a%20sustainable%20blue%20economy%20in%20the%20EU.pdf)

## About ESPO

The European Sea Ports Organisation (ESPO) is the principal interface between European seaports and the European institutions and its policy makers. Founded in 1993, ESPO represents the port authorities, port associations and port administrations of the seaports of 22 Member States of the European Union and Norway at EU political level. ESPO also has observer members in Albania, Iceland, Israel, Ukraine and United Kingdom. Serving as the first port of call for European transport policy makers in Brussels, ESPO is a knowledge network that drives ports to perform better.

[www.espo.be](http://www.espo.be)

## About EcoPorts

EcoPorts is the main environmental initiative of the European port sector. It was initiated by a number of proactive ports in 1997 and has been fully integrated into the European Sea Ports Organisation (ESPO) since 2011. The overarching principle of EcoPorts is to raise awareness on environmental protection through cooperation and sharing of knowledge between ports and improve environmental management. The EcoPorts Network is the flagship initiative of the European port sector developed by ports, for ports seeking to self-monitor their environmental management and improvement over time, and encouraging the free exchange of experience on environmental issues among its members. In this way, EcoPorts seeks to increase awareness about environmental challenges, deliver compliance with legislation and demonstrate a high standard of environmental management amongst its 116 members from 26 countries.

Specifically, EcoPorts helps European ports to be at the frontline of environmental management, to take initiatives to protect the environment, to improve public health, and to address the challenges of climate change. The environmental report is an important tool of the ESPO EcoPorts Network, together with the Self-Diagnosis Method (SDM) and the Port Environmental Review System (PERS). SDM is a concise checklist against which port managers can self-assess the environmental management programme of the port in relation to the performance of both the sector and international standards. Aggregated data from the SDM forms the basis of the annual environmental reports. Developed by ports themselves, PERS has firmly established its reputation as the only port sector specific environmental management standard. PERS certification is voluntary, and provides evidence of compliance that is independently audited by Lloyd's Register. PERS is an EU research initiative connecting the ESPO Network, port professionals, academia, and the maritime industry. Over a quarter of EcoPorts members are PERS-certified ports. ESPO actively encourages the exchange of environmental knowledge and experience throughout the international port sector as the significance of climate change and associated considerations of sustainability impact on the globalised, interconnected world.

Information regarding membership of EcoPorts and its global network may be accessed as follows: For ports in Europe, EU Member States and countries neighbouring Europe: [www.ecoports.com](http://www.ecoports.com); For ports outside Europe: [www.ecoslc.eu](http://www.ecoslc.eu).



# ANNEX: OVERVIEW OF ESPO POSITIONS AND RELEVANT LEGISLATION

The table below connects the ESPO goals and ambitions with relevant policy documents and commitments. The list of relevant ESPO positions and legislation on European and international level is not intended to be exhaustive. Rather, it provides a starting point for ports seeking to get an overview or understanding of a particular issue, or of the legislative landscape for ports. As such, the list should be seen as an overview of relevant documents to be updated and reviewed.

The tables outline the party targeted or responsible for the legislation in accordance with the explanatory section on port governance, and groups the legislation under the relevant ESPO ambition theme provided in Part 2. The legislative overview also provides links to the documents, to facilitate their use.

→  
**TABLE 7**  
Overview of relevant  
ESPO positions

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<b>ESPO AMBITION THEME</b>	<b>RELEVANT ESPO POSITIONS</b>
Setting the course for a green future	<a href="#">ESPO Position Paper on the European Green Deal (page 4 on roadmaps)</a>
Communicating environmental performance to enhance common understanding and increase transparency	<ul style="list-style-type: none"><li><a href="#">ESPO Position Paper on the European Green Deal (page 1 on cooperation, page 4 on roadmaps)</a></li><li><a href="#">ESPO Top 10 Environmental Priorities and ESPO 2020 Environmental Report</a></li></ul>
Managing environmental challenges	<ul style="list-style-type: none"><li><a href="#">ESPO Position Paper on the European Green Deal</a></li><li><a href="#">ESPO Top 10 Environmental Priorities and ESPO 2020 Environmental Report</a></li></ul>
Encouraging the greening of the port area	<a href="#">ESPO Position Paper on the European Green Deal, pp .9-10</a>

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Setting the course for a green future [ESPO Position Paper on the European Green Deal \(page 4 on roadmaps\)](#)

Communicating environmental performance to enhance common understanding and increase transparency 

- [ESPO Position Paper on the European Green Deal \(page 1 on cooperation, page 4 on roadmaps\)](#)
- [ESPO Top 10 Environmental Priorities and ESPO 2020 Environmental Report](#)

Managing environmental challenges 

- [ESPO Position Paper on the European Green Deal](#)
- [ESPO Top 10 Environmental Priorities and ESPO 2020 Environmental Report](#)

Encouraging the greening of the port area [ESPO Position Paper on the European Green Deal, pp .9-10](#)

<b>ESPO AMBITION THEME</b>	<b>RELEVANT EU/INTERNATIONAL LEGISLATION</b>		
Setting the course for a green future – mitigating externalities	<ul style="list-style-type: none"> <li>· European Commission: COM/2019/640 final <a href="#">European Green Deal</a> (page 14: "zero pollution for air, water and soil")</li> <li>· <a href="#">Sustainable Development Goals</a> (SDGs 3, 6-7, 9, 11-15, 17)</li> </ul>		<b>SOIL</b> <ul style="list-style-type: none"> <li>· Directive (EU) 2019/883 Port Reception Facilities Directive</li> <li>· Directive 2008/98/EC <a href="#">Waste Framework Directive</a></li> <li>· European Commission: Soil Strategy – upcoming</li> </ul>
Reducing environmental impacts of the port area	<p><b>HORIZONTAL DOCUMENTS</b></p> <ul style="list-style-type: none"> <li>· European Commission: COM/2020/789 final <a href="#">Sustainable and Smart Mobility Strategy</a></li> <li>· European Commission: COM/2019/640 final <a href="#">European Green Deal</a></li> <li>· <a href="#">Sustainable Development Goals</a> (SDGs 3, 7, 9, 11-15, 17)</li> </ul> <p><b>CO<sub>2</sub> AND GREENHOUSE GASES</b></p> <ul style="list-style-type: none"> <li>· Directive 2014/94/EU <a href="#">Alternative Fuels Infrastructure Directive</a> (AFID) – under revision as part of Fit for 55-package</li> <li>· <a href="#">FuelEU Maritime Initiative</a> – proposal in Fit for 55-package</li> <li>· <a href="#">EU Emission Trading System</a> – extension to maritime sector as part of Fit for 55-package</li> <li>· European Commission COM/2020/562 final <a href="#">2030 Climate Target Plan</a> and Climate Law</li> <li>· IMO: <a href="#">Initial IMO GHG Strategy</a></li> </ul> <p><b>AIR</b></p> <ul style="list-style-type: none"> <li>· Directive 2008/50/EC <a href="#">Ambient Air Quality Directives</a> (see <a href="#">here</a> for arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons Directive 2004/107/EC) – under potential revision</li> <li>· Directive (EU) 2016/802 EU Sulphur Directive – Art. 4, 0,1% Sulphur content fuels at berth</li> <li>· European Commission COM/2021/400 final: <a href="#">Zero Pollution Action Plan</a></li> <li>· IMO: <a href="#">MARPOL Annex VI</a> – ports in NECA/ECA</li> </ul> <p><b>LOCAL COMMUNITY/NATURE</b></p> <ul style="list-style-type: none"> <li>· Council Directive 92/43/EEC <a href="#">Habitats Directive</a></li> <li>· Council Directive 92/43/EEC <a href="#">Natura 2000</a></li> <li>· European Commission: COM/2020/380 final <a href="#">Biodiversity Strategy</a></li> </ul> <p><b>WATER</b></p> <ul style="list-style-type: none"> <li>· Directive 2000/60/EC <a href="#">Water Framework Directive</a></li> <li>· Directive 2008/56/EC <a href="#">Marine Framework Strategy Directive</a></li> <li>· IMO: <a href="#">Ballast Water Management Convention</a></li> <li>· IMO: <a href="#">MARPOL Annex VI</a> – ports in NECA/ECA</li> <li>· IMO: MEPC 71/17/Add.1 Annex 21 <a href="#">MARPOL V</a> on ship waste reception and grey water</li> <li>· Quality of water for conservation of sea resources – protection of marine ecosystems (impact for dredging)</li> <li>· Directive (EU) 2016/802 EU Sulphur Directive – Art. 4, 0,1% Sulphur content fuels at berth, scrubbers for &gt;0,5% sulphur</li> </ul> <p><b>NOISE</b></p> <ul style="list-style-type: none"> <li>· Directive 2002/49/EC relating to the assessment and management of environmental noise (the Environmental Noise Directive – END)</li> <li>· Decision No 1386/2013/EU <a href="#">Environment Action Programme</a> to 2020, 'Living well, within the limits of our planet' – a new programme is being developed</li> <li>· Directive 2008/56/EC: <a href="#">Marine Strategy Framework Directive</a></li> </ul>	<b>WASTE</b> <ul style="list-style-type: none"> <li>· Directive (EU) 2019/883 Port Reception Facilities Directive – implementation ongoing in the European Sustainable Shipping Forum</li> <li>· Directive 2008/98/EC <a href="#">Waste Framework Directive</a></li> </ul>	<b>HORIZONTAL DOCUMENTS</b> <ul style="list-style-type: none"> <li>· Same as for Reducing environmental impacts of port area</li> </ul>
		<b>CO<sub>2</sub> AND GREENHOUSE GASES</b> <ul style="list-style-type: none"> <li>· Directive 2014/94/EU <a href="#">Alternative Fuels Infrastructure Directive</a> (AFID), Articles 4 and 6 – forthcoming proposal Q2 2021</li> <li>· <a href="#">FuelEU Maritime Initiative</a> – forthcoming proposal for regulation Q2 2021</li> <li>· <a href="#">EU Emission Trading System</a> – forthcoming proposal to cover maritime transport Q2 2021</li> <li>· Regulation (EU) 2015/757 EU MRV Regulation – under review</li> <li>· Regulation (EU) 2017/352 <a href="#">Port Services Regulation (352/2017)</a> – Voluntary transparent schemes promoted in article 13.4-5</li> <li>· European Commission Communication: COM/2020/789 final <a href="#">Sustainable and Smart Mobility Strategy</a> – flagship 2, pp. 6-8</li> <li>· IMO: <a href="#">Initial Greenhouse Gas Strategy</a></li> </ul> <p><b>AIR</b></p> <ul style="list-style-type: none"> <li>· Directive (EU) 2016/802 EU Sulphur Directive – Art. 4, 0,1% Sulphur content fuels at berth</li> <li>· European Commission COM/2021/400 final: <a href="#">Zero Pollution Action Plan</a></li> <li>· IMO: <a href="#">MARPOL Annex VI</a> – ports in NECA/ECA</li> <li>· IMO: NOx Tier III requirements for vessels built from 1-1-2021 operating in the North and the Baltic Seas (NECAS)</li> <li>· IMO: <a href="#">Global 0.5% sulphur cap on marine fuels in 2020</a></li> <li>· IMO: ECAs in Mediterranean and Black Seas according to progress in IMO MEPC with dedication of the areas – upcoming</li> </ul> <p><b>WASTE AND CIRCULAR ECONOMY</b></p> <ul style="list-style-type: none"> <li>· Directive (EU) 2019/883 Port Reception Facilities Directive – implementation ongoing in the European Sustainable Shipping Forum</li> <li>· Regulation (EU) 1257/2013 <a href="#">Ship Recycling Regulation (EU 1257/2013)</a> with corresponding EC implementation decisions</li> <li>· European Commission: <a href="#">Circular Economy Action Plan</a></li> </ul> <p><b>NOISE</b></p> <ul style="list-style-type: none"> <li>· Directive 2002/49/EC relating to the assessment and management of environmental noise (the Environmental Noise Directive – END)</li> <li>· Decision No 1386/2013/EU <a href="#">Environment Action Programme</a> to 2020, 'Living well, within the limits of our planet' – a new programme is being developed</li> </ul> <p><b>WATER</b></p> <ul style="list-style-type: none"> <li>· Directive 2005/35/EC on ship-source pollution and on the introduction of penalties for infringements – implementation ongoing in the European Sustainable Shipping Forum</li> </ul>	

#### HORIZONTAL DOCUMENTS

- Same as for Reducing environmental impacts of port area
- Regulation (EU) 2020/852 Sustainable Finance Taxonomy – [delegated acts](#)
- European Commission: COM/2012/494 final [Blue Growth Communication](#)
- European Commission: COM/2020/98 final [Circular Economy Action Plan](#)
- [Sustainable Development Goals](#) (SDGs 3-4, 6-17)

#### WASTE AND CIRCULAR ECONOMY

- Directive (EU) 2019/883 Port Reception Facilities Directive – implementation ongoing in the European Sustainable Shipping Forum
- Regulation (EU) 1257/2013 Ship Recycling Regulation (EU 1257/2013) with corresponding EC implementation decisions
- European Commission COM/2020/98 final: [Circular Economy Action Plan](#)

#### RESEARCH AND FUNDING

- EU Horizon 2020: LC-GD-5-1-2020 [call on Green Airports and Ports](#)
- [EU Horizon Europe](#): forthcoming
- European Commission (DG MOVE) Tender: MOVE/2020/OP/0017 [Study on the Capacity for Greening of European Sea Ports](#)
- EU TEN-T: [CEFII](#)
- EU TEN-E: [CEFII](#)
- [EU Innovation Fund \(EU ETS\)](#)
- Regulation (EU) 2021/241 [Recovery and Resilience Facility](#)
- COM/2020/403 final [InvestEU](#) – sustainable infrastructure window (political agreement reached)
- Regulation (EU) 1293/2013 [LIFE](#) – environment and climate programmes
- Interreg – [transnational cooperation](#)

#### ENERGY

- Directive (EU) 2018/2001 (Recast) [Renewable Energy Directive \(REDII\)](#) – [revised proposal](#) forthcoming Q2 2021
- Council Directive 2003/96/EC [Energy Taxation Directive](#) – [revised proposal](#) forthcoming Q2 2021
- European Commission: COM/2020/301 final [Hydrogen Strategy](#)
- European Commission: COM/2020/741 final [Offshore Strategy](#)
- European Commission: COM(2020) 299 final [Energy System Integration Strategy](#)
- [European Clean Hydrogen Alliance](#)
- [European Battery Alliance](#)
- European Low-Carbon Fuels Value Chain Alliance – proposed in the COM/2020/789 final [Smart and Sustainable Mobility Strategy](#), p. 5
- Strategic Roll-out Plan – proposed in the COM/2020/789 final [Smart and Sustainable Mobility Strategy](#), forthcoming
- European Commission: Regulation (EU) No 347/2013 [TEN-E Regulation](#) – [revision proposal](#)

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