

**Annex 4**

**Guidance Document to Determine the Application of Charges at Reasonable Costs for the Use of Port Reception Facilities or, when Applicable, Application of the No-Special-Fee System, in the Mediterranean**

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**List of Abbreviations/Acronyms**

<b>EU</b>	European Union
<b>IMO</b>	International Maritime Organization
<b>MAP</b>	Mediterranean Action Plan
<b>MARPOL</b>	International Convention for the Prevention of Pollution from Ships
<b>PoW</b>	Programme of Work
<b>REMPEC</b>	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
<b>UN</b>	United Nations

## 1 INTRODUCTION

### 1.1 Background

1. The 18<sup>th</sup> Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (“the Barcelona Convention”) and its Protocols, which was held in Istanbul, Turkey from 3 to 6 December 2013, adopted Decision IG.21/7 related to the Regional Plan on Marine Litter Management in the Mediterranean in the Framework of Article 15 of the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources and Activities (LBS Protocol) to the Barcelona Convention, hereinafter referred to as the Marine Litter Regional Plan (UNEP(DEPI)/MED IG.21/9).

2. According to Article 9(5) of the Marine Litter Regional Plan, in conformity with the objectives and principles thereof, the Contracting Parties to the Barcelona Convention shall, in accordance with Article 14 of the Protocol concerning Cooperation in Preventing Pollution from Ships and, in Cases of Emergency, Combating Pollution of the Mediterranean Sea (“the 2002 Prevention and Emergency Protocol”) to the Barcelona Convention, explore and implement to the extent possible by 2017, ways and means to charge reasonable cost for the use of Port Reception Facilities (PRF) or when applicable, apply No-Special-Fee System.

3. Moreover, according to Article 10(f) of the Marine Litter Regional Plan, the Contracting Parties to the Barcelona Convention undertake to explore and implement to the extent possible the following measures by the year 2019, [...], (f) Charge reasonable costs for the use of port reception facilities or, when applicable apply No-Special-Fee system, in consultation with competent international and regional organisations, when using port reception facilities for implementing the measures provided for in Article 10.

4. Furthermore, according to Article 14 of the Marine Litter Regional Plan, the MAP-Barcelona Convention Secretariat in cooperation with relevant international and regional organisations, shall prepare specific guidelines taking into account where appropriate existing guidelines, to support and facilitate the implementation of measures provided for in articles 9 and 10 thereof. Subject to availability of external funds these guidelines shall be published in different Mediterranean region languages.

5. The 19<sup>th</sup> Meeting of the Contracting Parties to the Barcelona Convention and its Protocols, which was convened in Athens, Greece from 9 to 12 February 2016, adopted Decision IG.22/4 related to the Regional Strategy for Prevention of and Response to Marine Pollution from Ships (2016-2021), hereinafter referred to as the Regional Strategy (2016-2021) (UNEP(DEPI)/MED IG.22/28).

6. The Regional Strategy (2016-2021), which aims at assisting the Contracting Parties to the Barcelona Convention to implement the 2002 Prevention and Emergency Protocol, addresses the issue of marine litter in Specific Objectives 5 (Provision of reception facilities in ports), 6 (Delivery of ship-generated wastes) and 9 (To reduce the pollution generated by pleasure craft activities). It also addresses the related issue of illicit ship pollution discharges in Specific Objectives 7 (Improved follow-up of pollution events as well as monitoring and surveillance of illicit discharges) and 8 (To improve the level of enforcement and the prosecution of discharge offenders). Therefore, reducing (illegal) discharges of ship generated waste features among the priority areas of work of the Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) established within the framework of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP), also referred to as UNEP/MAP, with a view to coordinating the activities of the Mediterranean coastal States related to the implementation of the 2002 Prevention and Emergency Protocol.

7. The UNEP/MAP Programme of Work (PoW) 2018-2019 adopted by the 20<sup>th</sup> Meeting of the Contracting Parties to the Barcelona Convention and its Protocols, which was held in Tirana, Albania,

from 17 to 20 December 2017, includes several activities addressing marine litter, including the implementation of the EU-funded “Marine Litter-MED” Project that is aimed at supporting the Contracting Parties to the Barcelona Convention from Southern Mediterranean / European Neighbourhood to implement the Marine Litter Regional Plan.

8. The EU-funded “Marine Litter-MED” Project has specific outputs on the development of a set of technical guidelines within the framework of Article 14 of the Marine Litter Regional Plan and one of its components, which is coordinated by REMPEC, focuses on measures related to the better management of marine litter from sea-based sources in ports and marinas in the Mediterranean, in particular the application of charges at reasonable costs for the use of port reception facilities or, when applicable, application of No-Special-Fee System, as well as the provision of reception facilities and the delivery of ship-generated wastes in ports and marinas in the Mediterranean.

9. In this context, REMPEC prepared the present document entitled “Guidance Document to determine the application of charges at reasonable costs for the use of port reception facilities or, when applicable, application of the No-Special-Fee system, in the Mediterranean”, hereinafter referred to as “the Guidance Document”.

## **1.2 Goal and scope of the Guidance Document**

10. The Guidance Document looks in detail at the charging elements for the use of PRF in the different fee systems, including the No-Special-Fee (NSF) system. The different elements that influence the cost for providing and operating PRF are identified, and how they can be implemented in a fee system embracing the “polluter pays” principle without entailing excessive costs for the users of ports and marinas in the Mediterranean is being assessed.

11. It should be noted that also other wastes and residues from ships, such as ballast water sediments and residues from anti-fouling systems, can be relevant when assessing the application of cost recovery systems for the use of PRF. However, as these types of wastes do not fall within the scope of MARPOL, wastes and residues regulated by the Ballast Water Management Convention, the Anti-Fouling Systems Convention and the London Protocol/London Convention are not covered in the present document.

## **1.3 Marine litter from sea-based sources**

12. Marine litter in the oceans exerts numerous harmful effects on marine life and biodiversity, as well as negative impacts on human health. In addition, marine litter negatively impacts on activities such as tourism, fisheries and shipping, and material that has the potential to be brought back into the economy by means of reuse or recycling is lost once littered. There are several different categories of marine litter, with plastics being the most challenging due to its low degradability and likelihood to enter the human food chain.

13. Litter enters the marine environment through various means and from numerous different origins, including land-based and sea-based sources. The main land-based sources of marine litter include municipal landfills, riverine transport of waste from landfills and urban areas or other sources along rivers and other waterways, discharge of untreated municipal sewage, industrial facilities and tourism, particularly recreational visitors to the coast/beach.

14. The primary ocean-based sources of marine litter are merchant shipping, ferries and cruise liners, fishing vessels, particularly with respect to lost or abandoned fishing gear, military fleets and research vessels, pleasure craft, offshore oil and gas platforms, and aquaculture farms.

15. It is frequently cited that globally 80% of marine debris originates from land-based sources, and 20% from ocean-based sources, however the origins of this ratio are unclear (NOAA, 2009). Besides, the importance of these sources in terms of their contribution to the marine litter problem

varies significantly regionally and locally depending on the scale of these activities in the area, as well as the policies regulating them. This means that there is significant variation in the amounts and types of debris arising from these sources regionally and locally, and indeed, seasonally<sup>45</sup>.

16. The assessment of the trends in marine litter levels and its sources is crucial for identifying and adopting targeted measures for the different sources. In this respect, the monitoring actions in regional sea conventions, such as the OSPAR Convention, the Helsinki Convention and the Barcelona Convention, are very valuable. Monitoring is applied on uniform marine litter indicators and methods (like beach monitoring and fulmar and/or turtle stomach monitoring), which provide information on the trends in marine litter accumulation and effectiveness of measures. Furthermore, proper source identification is a key element in the monitoring programmes.

17. Although land-based sources are dominant in generating marine litter, sea-based sources actively contribute to the problem. Recent studies have shown that, although the majority of marine litter originates from land-based sources, a significant part comes from sea-based sources. This is notwithstanding the fact that garbage from ships, as listed in Annex V of MARPOL, is subject to strict rules and may not be discharged into the sea, with only few exceptions (e.g. food waste and non-harmful to the marine environment (HME) cargo residues). There is a strict ban on discharges of any plastic into the sea. Furthermore, Annex V requires that the loss of fishing gear is reported to the vessel's flag State and to the coastal State in whose waters the loss occurred.

18. Studies have indicated that in EU-waters sea-based activities, in particular shipping (e.g. lost containers) including fishing and yachting, but also offshore activities, are relevant sources of marine litter as they are responsible for an estimated EU average of 32% and values up to 50% for some sea basins<sup>46</sup>. Recent studies have also indicated that among the sea-based contributors to the problem of marine litter, the fishing sector features quite dominantly, with the recreational sector also taking a significant share<sup>47</sup>. And although garbage delivered in ports has increased since the introduction of Directive 2000/59/EC, a significant delivery gap remains, estimated between 60,000 and 300,000 tons, i.e. 7% to 34% of the total to be delivered annually.

19. In some areas, such as in certain parts of the Pacific and the North Sea, sea-based sources even prevail over land-based sources. Mismanaged garbage, and old and derelict fishing gear, are among the most prevalent items of (plastic) marine litter from ships.

## **2 REGULATORY FRAMEWORKS RELATED TO COST RECOVERY SYSTEMS**

### **2.1 International regulatory framework: the MARPOL Convention**

20. The International Convention for the Prevention of Pollution from Ships (1973 as modified by the 1978 and 1997 Protocols), MARPOL, is one of the most important international conventions regulating the marine environment. It was developed by the International Maritime Organization (IMO) aiming to preserve the marine environment by fully eliminating pollution by operational discharges of oil and other harmful substances from ships, and to minimize accidental spillage of such substances.

<sup>45</sup> Unger A., Harrison N., 2016, "*Fisheries as a source of marine debris on beaches in the United Kingdom*", Marine Pollution Bulletin

<sup>46</sup> European Commission (DG ENV) study "to support the development of measures to combat a range of marine litter resources" (Eunomia, 2016)

<sup>47</sup> <http://www.fishingforlitter.org.uk/assets/file/Report%20FFL%202011%20-%202014.pdf>; Marine Pollution Bulletin 2016 Unger et al. (2016); UNEP OSPAR (2009); Marine Litter Distribution and Density in European Seas (2014); Eunomia (2016), p.95, 30% estimate share for the fishing sector, and 19% for the recreational sector; the balance of sea-based sources is provided by the merchant sector; Arcadis (2012) has estimated a share of 65% share for the fishing sector alone

21. Together with its six annexes covering pollution by oil, chemicals, harmful substances in packaged form, sewage, garbage and airborne emissions, MARPOL works as a whole: the articles mainly deal with jurisdiction, powers of enforcement and inspection, while more detailed anti-pollution regulations are contained in the annexes.

22. MARPOL contains provisions in order to regulate the availability of adequate Port Reception Facilities (PRF), which types of wastes/residues can (and as a consequence also which cannot) be legally discharged into the sea, onboard waste management, and enforcement and inspections.

23. MARPOL does not contain any explicit requirements to install cost recovery systems. However, reference is being made in section 6.3 of the 2017 “Guidelines for the implementation of MARPOL Annex V” (Resolution MEPC.295(71)) provides references to the use of compliance incentive systems:

“The augmentation of port reception facilities to serve ship traffic without undue delay or inconvenience may call for capital investment from port and terminal operators as well as the garbage management companies serving those ports. Governments are encouraged to evaluate means within their authority to lessen this impact, thereby helping to ensure that garbage delivered to port is actually received and disposed of properly at reasonable cost or without charging special fees to individual ships. Such means could include, but are not limited to:

- .1 Tax incentives
- .2 Loan guarantees;
- .3 Public ship business preference;
- .4 Special funds to assist in problem situations such as remote ports with no land-based garbage management system in which to deliver ships' garbage;
- .5 Government subsidies; and
- .6 Special funds to help defray the cost of a bounty programme for lost, abandoned or discarded fishing gear or other persistent garbage. The programme would make appropriate payments to persons who retrieve such fishing gear, or other persistent garbage other than their own, from marine waters under the jurisdiction of Government.”

24. Although the “tax incentives” as mentioned in section 6.3 of the guidelines are not explicitly implicating the use of cost recovery systems implementing the “polluter pays” principle, the section does encourage governments to explore the use of systems helping to ensure that garbage delivered to port is actually received and disposed of properly. In addition, the reference to the “reasonable cost or without charging special fees to individual ships” could be interpreted as an encouragement to distribute the cost for the provision and/or the use of PRF over all ships calling the port, e.g. by applying a no-special fee system. Still, the current text leaves substantial room for interpretation.

## **2.2 Regional regulatory frameworks**

### *2.2.1 Regional Plan for the Marine Litter Management in the Mediterranean*

25. In 2013 the Regional Plan for the Marine Litter Management in the Mediterranean was adopted. The main objectives of the Regional Plan are to:

- a) Prevent and reduce to the minimum marine litter pollution in the Mediterranean and its impact on ecosystem services, habitats, species in particular the endangered species public health and safety;
- b) Remove to the extent possible already existent marine litter;
- c) Enhance knowledge on marine litter; and
- d) Achieve that the management of marine litter in the Mediterranean is performed in accordance with accepted international standards and approaches as well as those of

relevant regional organizations and as appropriate in harmony with programmes and measures applied in other seas.

26. Several measures were included to address marine litter from sea-based sources, including marine litter from sea-based sources.

27. In its Article 9.5 the plan refers to the fact that the Contracting Parties shall, in conformity with the objectives and principles of the Regional Plan:

*“In accordance with Article 14 of the Prevention and Emergency Protocol explore and implement to the extent possible by 2017, ways and means to charge reasonable cost for the use of port reception facilities or when applicable, apply No-Special-Fee system. The Contracting Parties shall also take the necessary steps to provide ships using their ports with updated information relevant to the obligation arising from Annex V of MARPOL Convention<sup>5</sup> and from their legislation applicable in the field.”*

28. Also, in its Article 10.(f) the Contracting Parties agreed to assess the possibility to:

*“charge reasonable costs for the use of port reception facilities or, when applicable apply No-Special-Fee system, in consultation with competent international and regional organizations, when using port reception facilities for implementing the measures provided for in Article 10.”*

## 2.2.2 Directive (EU) 2019/883 on port reception facilities for the delivery of waste from ships.

### 2.2.2.1 Introduction:

29. A way to promote the use of PRF and achieve a maximal delivery of wastes from ship to shore could be through the application of the “polluter pays<sup>48</sup>” principle. In addition to ensuring the availability of adequate PRF, applying the “polluter pays” principle to ship’s waste can be facilitated by requiring ships to contribute significantly to the costs for the reception and management of ship’s waste. This contribution can be collected by installing a specific cost recovery system using a fee from the ships calling the port, irrespective whether they make use of the reception facilities or not. This fee should cover the costs for the collection, transport and disposal of the ship’s wastes.

30. In 2000 the European Union adopted a specific regulatory tool addressing the issue of preventing pollution of the marine environment by waste from ships. The purpose of Directive 2000/59/EC on port reception facilities for ship-generated waste and cargo residues is to reduce the discharges of ship-generated waste and cargo residues into the sea, especially illegal discharges, from ships using ports in the European Union, by improving the availability and use of port reception facilities for ship-generated waste and cargo residues, thereby enhancing the protection of the marine environment.

31. However, Directive 2000/59/EC left substantial room for interpretation by the individual EU Member States: as a Directive is a legal act of the European Union which requires EU Member States to achieve a particular result without dictating the means of achieving that result<sup>49</sup>, Directives leave EU Member States often with a certain amount of leeway as to the exact rules to be adopted. This was also the case for some of the key elements of Directive 2000/59/EC, including elements<sup>50</sup> that are related the cost recovery systems. Therefore, a new Directive (EU) 2019/883 was adopted on 9<sup>th</sup> of April 2019, which repeals Directive 2000/59/EC, and puts into place important regulatory changes.

<sup>48</sup> The “polluter pays” principle is enacted to make the party responsible for producing pollution responsible for paying for the damage done to the natural environment.

<sup>49</sup> Differing from Regulations, which are self-executing and do not require any implementing measures

<sup>50</sup> Study to support the development of measures to combat a range of marine litter sources, Eunomia report for European Commission (DG ENV), 2016

### 2.2.2.2 *Key elements of Directive (EU) 2019/883:*

32. The Directive (EU) 2019/883 applies to all ships (including fishing vessels and recreational craft but with the exception of any warship, naval auxiliary or other ship owned or operated by a State and used on government non-commercial service only), irrespective of their flag, calling at, or operating within, a port of an EU Member State, and to all ports of the EU Member States normally visited by these ships.

33. Key requirements of Directive (EU) 2019/883 include:

- a) An obligation for the EU Member States to ensure the availability of PRF adequate to meet the needs of ships normally visiting the port, without causing undue delay;
- b) Ports have to develop and implement a Waste Reception and Handling Plan (WRHP), following consultation with all relevant parties, in particular the port users. These plans shall be evaluated and approved by the competent authority in the Member State;
- c) The master of a ship has to complete a waste notification form and forward it in due time (at least 24 hours prior to arrival), informing the port of call about the ship's intentions regarding the delivery of ship-generated waste and cargo residues;
- d) Upon delivery the PRF-operator or the port authority is to issue a waste delivery receipt, the information of which needs to be electronically reported by the master of the ship;
- e) A mandatory delivery for all ship-generated waste. However, there is a possibility for the vessel not to deliver waste if it has sufficient dedicated waste storage capacity till the next port of delivery;
- f) The implementation of a cost recovery system applying the “polluter pays” principle through the application of a waste fee, providing an incentive to ships not to discharge ship-generated waste at sea; and
- g) The establishment of an enforcement scheme, by which EU Member States ensure that any ship may be subject to inspection. A risk-based approach is to be applied for inspections, based on information from the advance waste notification and waste receipt which are electronically reported and exchanged.

### 2.2.2.3 *Cost recovery systems in Directive (EU) 2019/883:*

34. In order to address the ambiguity of Directive 2000/59/EC towards some of the key elements related to cost recovery systems, and to achieve a higher level of harmonization, the Directive (EU) 2019/883 provides additional clarification regarding cost recovery systems, such as:

- fishing vessels and recreational craft are no longer being exempt from the indirect fee system;
- elements that determine the “cost” of a PRF, such as the operational and administrative costs but also the net revenues from EPR<sup>51</sup>-schemes and national/regional funding. Further information regarding cost elements are provided in Annex 4 to Directive (EU) 2019/883;
- more transparency in relation between the indirect fee and costs;
- more harmonized calculation method of significant contribution;
- indirect fee element to apply also to sewage (MARPOL Annex IV) and oily waste (MARPOL Annex I, other than cargo residues);
- mandatory application of the 100% indirect fee for garbage, including fishing gear and passively fished waste;
- the costs for the collection and treatment of passively fished waste shall be covered, where appropriate, by revenues generated by alternative financing systems, including waste management schemes and EU, national or regional funding;

<sup>51</sup> Extended Producer Responsibility

- the criteria regarding the “green ship” concept are to be further defined through an implementing act.

35. The Directive (EU) 2019/883 requires the provision of a cost recovery system through its Article 8:

1. *Member States shall ensure that the costs of operating port reception facilities for the reception and treatment of waste from ships, other than cargo residues, are covered through the collection of a fee from ships. Those costs include the elements listed in Annex 4.*
2. *The cost recovery systems shall provide no incentive for ships to discharge their waste at sea. To this end, the Member States shall apply all of the following principles in the design and operation of the cost recovery systems:*
  - (a) *ships shall pay an indirect fee, irrespective of delivery of waste to a port reception facility;*
  - (b) *the indirect fee shall cover:*
    - (i) *the indirect administrative costs;*
    - (ii) *a significant part of the direct operational costs, as determined in Annex 4, which shall represent at least 30 % of the total direct costs for actual delivery of the waste during the previous year, with the possibility of also taking into account costs related to the traffic volume expected for the coming year;*
  - (c) *in order to provide for a maximum incentive for the delivery of MARPOL Annex V waste other than cargo residues, no direct fee shall be charged for such waste, in order to ensure a right of delivery without any additional charges based on the volume of waste delivered, except where the volume of waste delivered exceeds the maximum dedicated storage capacity mentioned in the form set out in Annex 2 to this Directive; passively fished waste shall be covered by this regime, including the right of delivery;*
  - (d) *in order to avoid that the costs of collection and treatment of passively fished waste are borne exclusively by port users, Member States shall cover, where appropriate, those costs from the revenues generated by alternative financing systems, including by waste management schemes and by Union, national or regional funding available;*
  - (e) *in order to encourage the delivery of residues from tank washing containing high-viscosity persistent floating substances, Member States may provide for appropriate financial incentives for their delivery;*
  - (f) *the indirect fee shall not include the waste from exhaust gas cleaning systems, the costs of which shall be covered on the basis of the types and quantities of waste delivered.*
3. *The part of the costs which is not covered by the indirect fee, if any, shall be covered on the basis of the types and quantities of waste actually delivered by the ship.*
4. *The fees may be differentiated on the following basis:*
  - (a) *the category, type and size of the ship;*
  - (b) *the provision of services to ships outside normal operating hours in the port; or*
  - (c) *the hazardous nature of the waste.*
5. *The fees shall be reduced on the following basis:*
  - (a) *the type of trade the ship is engaged in, in particular when a ship is engaged in short sea shipping trade;*

- (b) *the ship's design, equipment and operation demonstrate that the ship produces reduced quantities of waste and manages its waste in a sustainable and environmentally sound manner.*

*By ... [12 months after the date of entry into force of this Directive], the Commission shall adopt implementing acts to define the criteria for determining that a ship meets the requirements stated in point (b) of the first subparagraph in relation to the ship's on-board waste management. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 20(2).*

6. *In order to ensure that the fees are fair, transparent, easily identifiable, non-discriminatory, and that they reflect the costs of the facilities and services made available, and, where appropriate, used, the amount of the fees and the basis on which they have been calculated shall be made available in an official language of the Member State where the port is located and, where relevant, in a language that is internationally used to the port users in the waste reception and handling plan.*
7. *Member States shall ensure that monitoring data on the volume and quantity of passively fished waste are collected and shall report such monitoring data to the Commission. The Commission shall, on the basis of those monitoring data, publish a report by 31 December 2022 and every two years thereafter.*

*The Commission shall adopt implementing acts to define monitoring data methodologies and the format for reporting. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 20(2).*

36. It should be noted that Directive (EU) 2019/883 does not make a distinction between the types of ships, and fully incorporates requirements regarding cost recovery systems for merchant ships, passenger/cruise ships, fishing vessels as well as recreational craft.

37. Another important element is that for ship's garbage (MARPOL Annex V-waste, other than cargo residues) a 100% indirect fee system is required. In order to provide for a maximum incentive for the delivery of garbage, no direct fee shall be charged for such waste, in order to ensure a right of delivery without any additional charges based on the volume of waste delivered. The only exception is when the volume of waste delivered exceeds the maximum dedicated storage capacity, which is mentioned in the advance notification form: in that case an additional direct fee can be charged in order to ensure that the costs related to receiving this exceptional amount of waste do not cause a disproportionate burden on a port's cost recovery system.

38. It should also be noted that cost recovery systems are not required to cover the collection and treatment of cargo residues. According to Article 8.1 of Directive (EU) 2019/883, which excludes cargo residues from the requirements of cost recovery systems, the cost for delivery of cargo residues is to be paid directly by the user of the reception facility. Also, for waste from exhaust gas cleaning systems (MARPOL Annex VI) a direct fee is to be applied.

39. As Directive (EU) 2019/883 applies to ports within the EU only, today all EU ports have cost recovery systems for ship's wastes in place. However, also several ports outside the EU have established such cost recovery systems.

### 3. TYPES OF COST RECOVERY SYSTEMS

#### 3.1 Introduction to cost recovery systems for ship-generated waste

40. It is fair to state that, due to the lack of strict prescriptive regulations in both MARPOL (as explained in paragraph 18) and Directive 2000/59/EC (as explained in paragraph 28), varying interpretations regarding cost recovery systems resulted in a large variety of cost recovery systems in place in EU ports.

41. Several studies and analyses have looked at the issue of cost recovery systems for waste from ships. In 2010 the European Maritime Safety Agency (EMSA)<sup>52</sup> performed a Horizontal Assessment on PRF in EU ports. The assessment was based upon the reports of visits to 22 EU Member States made by EMSA in the period 2007 – 2010, to gauge the implementation of Directive 2000/59/EC, including the availability of cost recovery systems. The assessment indicated that there was a difference in implementation and application of cost recovery systems between (and sometimes within) EU Member States. The systems could be categorized in three major groups:

- **No special fee systems (NSF):** these charge ships a waste handling fee, irrespective of their use of facilities;
- **Administrative waste fee/contribution systems (ADM):** these charge ships a fee, which is partly based on the amount of waste, delivered, and an additional fixed fee, which is refundable on delivery of waste; and
- **Direct fee only systems:** charge port users based on the volumes of waste discharged, without an additional standard fee.

42. Within these three categories there is a wide variety of specific models used by individual ports and/or EU Member States. To add to the complexity, on top of the variety of cost recovery systems, ports and/or EU Member States sometimes have different cost recovery systems in place for different types of waste.

43. Other studies further built on this categorization of cost recovery systems:

- The 2012 EMSA study on the delivery of ship-generated waste and cargo residues to port reception facilities in EU ports, Ramboll (EMSA/OP/06/2011);
- The 2015 “Ex-post evaluation of Directive 2000/59/EC on PRF” developed by Panteia/PwC for the European Commission (DG MOVE), within the framework of the EC’s Regulatory Fitness and Performance programme (REFIT) for the revision of the Directive 2000/59/EC;
- The 2017 Impact Assessment, accompanying the Proposal for a Directive of the European Parliament and of the Council on port reception facilities for the delivery of waste from ships, repealing Directive 2000/59/EC and amending Directive 2009/16/EC and Directive 2010/65/EU (Ecorys/COWI), SWD(2018) 21 final.

44. Therefore, also in this overview the three categories of cost recovery systems mentioned in the EMSA Horizontal Assessment will be maintained.

45. It should be noted that also the 2016 “study to support the development of measures to combat a range of marine litter sources” (Eunomia, report for the European Commission DG ENV) in principle used these same categories, but added a few more varieties:

- Direct fees;
- Indirect fees (and reverse fee systems);

<sup>52</sup> EMSA is the EU Agency that provides technical assistance and support to the European Commission and EU Member States in the development and implementation of EU legislation on maritime safety, pollution by ships and maritime security ([www.emsa.europa.eu](http://www.emsa.europa.eu)).

- Partial indirect fees;
- Deposit refund systems;
- Penalties; and
- Voucher systems.

46. The three main categories are presented below and explained more in detail, based on the analysis done in the ex-post evaluation of Directive 2000/59/EC (Panteia/PwC, 2015).

### **3.2 No-special-fee systems (NSF)**

47. Among cost recovery systems without special fees (no-special fee) in place in European ports, several do not provide limits to the amounts of waste landed (referred to as 100% NSF). In this system, no fee is charged in addition to the common waste handling fee, which the port authority charges to all ships. This handling fee does not depend on the quantity of the delivered waste, and is also charged if a vessel does not use the port reception facilities at all. The fee is normally based on ship size and sometimes also on ship type, and the waste handling fee can be included in the port dues or charged separately.

48. There are also ports applying a variety of this no special fee system, where they accept waste up to a certain (reasonable) amount (referred to as NSF with reasonable amounts), meaning that a specified amount of waste is covered by the common waste handling fee charged to all ships. All quantities of waste that are considered “excessive” are charged separately, and may be charged by either the port authority or by waste operating companies. The amounts covered by the common waste fee are defined by the port authority. Any additional waste is charged separately, based on the volume of delivered quantities.

49. In order to provide for a maximal incentive for the delivery of garbage, it should be noted that according to Directive (EU) 2019/883 volume limitations are no longer allowed for the delivery of garbage. The only exception allowed is where the volume of the garbage delivered exceeds the maximum dedicated storage capacity mentioned in the advance waste notification form (Annex 2 of the Directive (EU) 2019/883).

50. Many EU ports have implemented a variation of the NSF system. In most cases, this system can apply to both MARPOL Annex I (oil) and Annex V (garbage). In a few cases sewage is included as well. Some ports have implemented a cost recovery system in which a no special fee is only charged for garbage (referred to as the “garbage-only” NSF system). In these cases, the indirect fee covers all garbage reception costs, while all other costs are charged based on the volumes of waste delivered.

### **3.3 Administrative waste fee/contribution systems (ADM)**

51. Administrative waste contribution systems generally consist of two separate parts, being the common administrative fee and a fee that is directly related to the volumes of waste delivered.

52. One variation of this system is an administrative waste fee deposit (referred to as ADM/deposit system). In this system a significant part of the costs of PRF is covered by a fee from ships.

53. An important difference in how the ADM/deposit system can be found in EU Member State ports is whether or not ships get a refund of their deposit after discharging waste at a port reception facility. In some ports, a non-refundable administrative waste fee is charged to ships. However, in several cases, ships receive a full or partial refund if they discharge waste. In this system, all ships pay a waste fee to the port authority. All waste reception costs are directly charged by waste operators, and are based on the volumes of waste discharged. Subsequently, a refund can be reclaimed from the port authority when evidence can be submitted of the waste handling transaction in the port.

54. It should be noted that for EU ports Directive (EU) 2019/883 requires that this indirect fee is to cover the indirect administrative costs plus a significant part of the direct operational costs (30% of total direct costs for the actual delivery of the waste during the previous year).

55. Another cost recovery system type including an administrative fee that is applied in EU ports is the ADM/opposite fee system. In this case, all ships are charged a penalty fee unless they can submit proof of having discharged waste in that or another EU port.

### **3.4 Direct fee only systems**

56. In addition to NSF and ADM cost recovery systems, one additional model was found. This system covers all waste reception costs with a fee that is directly related to the amounts of waste landed only, so there are no charges if the user delivers no waste. By only charging vessels that deliver waste, fully based on the volume of waste delivered, these systems do not provide incentives to discharge waste in ports, and therefore are not in line with Directive (EU) 2019/883, which requires that such incentives are in place.

57. According to Directive (EU) 2019/883 direct fee systems can only be applied for cargo residues, washing waters and scrubber wastes (MARPOL Annex VI).

## 4. APPLICATION OF COST RECOVERY SYSTEMS IN PORTS AND MARINAS

### 4.1 Overview of the application of cost recovery systems in EU merchant seaports

58. In 2015 the ex-post evaluation (Panteia/PwC) analysed the application of the type of cost recovery systems (CRS) in EU ports, also considering that ports often use different CRS for different types of waste. Overall the evaluation indicated that most ports either apply an NSF or an ADM system, with the NSF system being more commonly used than ADM systems.

59. Within the ports using the NSF system, most of them were inclined to set maximum limits to the amount of waste covered by the fixed fee, and use a “reasonable amount” more often than the 100% system (unlimited use). Especially for garbage ports often use indirect systems, either through NSF or some form of ADM system. For oily waste (MARPOL Annex I) and particularly sewage (MARPOL Annex IV), more often a direct fee is charged related to the amount of waste delivered.

60. When divided by geographical region, it became clear that especially EU Member States in the Baltic Sea area have adopted NSF systems. The ADM system is mostly found in continental North Sea ports, while fees in direct relation to volumes of waste discharged are found in the Mediterranean region and the Atlantic Ocean region for some types of waste (including the North Sea particularly for sewage).

61. To address the issue of pollution of the marine environment by ship-generated waste, some regions have developed specific strategies, including binding measures. An example of such a regional approach is the Helsinki Commission for the Baltic Sea (HELCOM), which approved the Strategy for Port Reception Facilities for Ship-generated Wastes and Associated Issues, also known as the Baltic Strategy. This strategy comprises a set of measures and regulations aiming to ensure ships' compliance with global and regional discharge regulations, and to eliminate illegal discharges into the sea of all wastes from all ships. In 2007 HELCOM approved its Recommendation 28/1 on the “Application of the no-special-fee system to ship-generated wastes in the Baltic Sea”. As a result, all ports in the Baltic apply the NSF.

62. In the 2018 “Study based on a literature review on existing best practices in the Mediterranean as well as other European regional seas for the application of charges at reasonable costs and of the No-Special-Fee system for the use of port reception facilities” (REMPEC) a limited internet survey has been performed to look at the application of CRS in the following merchant seaports:

Port	Type of CRS
Antwerp	ADM with partial reimbursement
Lisbon	ADM
Gdansk	NSF for reasonable amounts
Patras	NSF
Marseille	ADM opposite fee system

### 4.2 Application of cost recovery systems in cruise/passenger ports

63. The 2015 ex-post evaluation (Panteia/PwC) did not make a distinction between merchant seaports and cruise/passenger ports.

64. In the 2018 “Study based on a literature review on existing best practices in the Mediterranean as well as other European regional seas for the application of charges at reasonable costs and of the No-Special-Fee system for the use of port reception facilities” (REMPEC) a limited internet survey has been performed to look at the application of CRS in the following cruise/passenger ports:

Port	Type of CRS
Barcelona	100% NSF
Dubrovnik	NSF for garbage, direct charge for other wastes
Kusadasi	NSF for reasonable amounts
Skagen	NSF for reasonable amounts
Stockholm	100% NSF

#### 4.3 Application of cost recovery systems in fishing ports

65. For EU ports it can be noted that in Directive 2000/59/EC fishing vessels were exempt from the principles set out in the article 8 on cost recovery systems. In effect this meant that there was no obligation to charge these vessels a separate standard waste fee, and contribution to the cost of PRF could be fully incorporated in the port dues. In Directive (EU) 2019/883 also fishing vessels are to meet all requirements related to cost recovery systems, including the 100% indirect fee for the delivery of garbage (incl. fishing gear).

66. In the 2018 “Study based on a literature review on existing best practices in the Mediterranean as well as other European regional seas for the application of charges at reasonable costs and of the No-Special-Fee system for the use of port reception facilities” (REMPEC), it was found that for fishing ports only limited information regarding CRS was available on the internet. A reason for this could be that, differing from the collection of waste from merchant ships and other vessels operating internationally, in many cases fishing vessels have a “home port” (or at least a limited number of ports they visit in order to market the fish) to which they return to after their fishing activities. As a consequence, this allows a more direct communication (in the native language) regarding regulations and waste collection schemes in the home port, and there might not be a real need for port authorities and fishing communities to make waste fees and tariffs publicly available on their website. Still, some information regarding CRS could be found for the following fishing ports:

Port	Type of CRS
Den Helder	NSF for oily waste and small hazardous wastes
Gamla Höfnin (Reykjavik)	NSF
Peterhead	NSF
Zeebrugge	100% NSF for garbage

#### 4.4 Application of cost recovery systems in marinas

67. For EU ports it should be noted that in Directive 2000/59/EC recreational craft were exempt from the principles set out in the article 8 on cost recovery systems. In effect this meant that there was no obligation to charge these vessels a separate standard waste fee, and contribution to the cost of PRF could be fully incorporated in the port dues. In Directive (EU) 2019/883 also recreational craft are to meet all requirements related to cost recovery systems, including the 100% indirect fee for the delivery of garbage.

68. Under the old PRF regime recreational craft were excluded from the indirect fee system. As a consequence, the majority of marinas assessed in the 2018 “Study based on a literature review on existing best practices in the Mediterranean as well as other European regional seas for the application of charges at reasonable costs and of the No-Special-Fee system for the use of port reception facilities” (REMPEC) indicated on their website that “garbage/waste delivery is included” (or similar language). Also in 4 of the 5 marinas that were subject of the internet survey, a NSF was applied.

## 5. ELEMENTS DETERMINING THE “COST” OF PRF

### 5.1 The “cost” of PRF

69. There are several cost elements associated with the provision and operation of PRF, as the total cost of a PRF is not only linked to the cost for the collection from the wastes from the ship, but also depends on the cost for recycling, treatment and final disposal. In addition, there is also a cost for personnel, administration, etc.

70. In compliance with Article 8.1 of Directive (EU) 2019/883, where the costs of PRF are to be covered by a fee from ships, EU port authorities or port administrators (can be municipalities, yacht clubs, etc.) transfer these costs in differing ways to the port users by applying CRS. To this end, according to Article 8.2 of Directive (EU) 2019/883, all ships shall pay an indirect fee, irrespective of delivery of waste to a PRF.

71. When taking a closer look at the cost elements, each CRS tends to segregate costs into:

- a) Direct costs, which are the operational costs arising from the actual delivery (collection, treatment and final disposal) of the ship-generated wastes, including infrastructural costs (investments). The direct costs can originate from the waste operators or the port authority, depending on the local PRF arrangements; and
- b) Indirect costs, which relate to the administrative costs of the port arising from the management of information such as the advance waste notification, the development of the waste reception and handling plan (including consultation, communication, licensing waste contractors, tendering procedures etc.) and the cost recovery system itself (invoicing, reimbursements for waste operators, financial follow-up).

72. Furthermore, the costs of PRF are also influenced by possible revenues from selling the treated ship-generated waste, and/or recycling or reuse.

73. These terms were used nor defined in Directive 2000/59/EC, leading to different interpretations of what is the “cost of PRF”. Therefore, it is acknowledged that by identifying the different cost elements as administrative indirect costs and operational direct costs, it would facilitate clarifying the CRS and make them more transparent for port users. The relation between fees and costs has been further clarified in the Annex 4 of Directive (EU) 2019/883.

74. It should also be noted that the term “indirect costs” should not be confused with the term “indirect fee” which refers to the waste fee that provides a financial incentive for a vessel to deliver its ship-generated waste and which has to be paid by all vessels visiting an EU port irrespective of the use of the PRF (significant contribution). The indirect fee covers both the indirect costs, as well as a significant part of the direct operational costs.

75. In EU there are clear differences how ports organize and provide PRF services. Some ports provide all PRF services for ship-generated waste under their own control (normally waste contractors selected through public tender procedure) as some ports own the PRF infrastructure, while others provide all PRF service through waste contractors in an open market system. It is clear that cost elements depend on the manner in which the PRF are operated and the degree of the port authorities’ involvement (e.g. in some small ports not all indirect administrative costs will be taken into account in CRS). Furthermore, the costs are not the same in all ports, as direct costs in one port may be considered as indirect in other ports (temporary storage, loading/unloading etc.).

76. As a regulatory framework for CRS currently only exists in the EU, also the practices and experiences with CRS and cost elements of PRF are very much based on expertise available in the EU. The following sections provide an overview of the different cost elements that have been identified

during the Impact Assessment supporting the revision of Directive 2000/59/EC, and which have been included in Annex 4 of Directive (EU) 2019/883.

77. The combination of these direct and indirect cost elements together with the net revenues will result in the net total cost for the collection, storage, treatment and final disposal of the ship-generated wastes and/or cargo residues.

#### *5.1.1 Direct costs*

78. Direct costs are operational costs that arise from the actual delivery of waste from ships, including:

- The provision of PRF infrastructure, including skips, containers, tanks, processing tools, barges, trucks, waste reception, treatment installations;
- Concessions due to site leasing, if applicable, or for leasing the equipment necessary for the operation of PRF;
- The actual operation of the PRF: collection of the wastes from the ship, transport of waste from the PRF for final treatment, maintenance and cleaning of PRF, costs for staff, including overtime, provision of electricity, waste analysis and insurance;
- Pre-treatment of the ship-generated waste: preparing for re-use, recycling or disposal of the waste, including separate collection and/or additional segregation of the waste;
- Costs for administration: invoicing, issuing of waste receipts to the ship, reporting, etc.

79. Direct costs can be influenced by the availability of existing waste treatment infrastructure: ports that are in the vicinity of large industrial clusters may have better access to land-based waste treatment facilities (e.g. incineration plants and/or landfill sites), which may entail lower costs for the treatment of ship-generated waste because of larger volumes can be handled, and reduced transport costs.

#### *5.1.2 Indirect costs*

80. Indirect costs are administrative costs that arise from the management of the collection system for ship-generated waste in the port, including:

- Development and approval of the port's waste reception and handling plan, including all (financial) audits of the plan and its implementation;
- Updating the port's waste reception and handling plan, including labour costs and consultancy fees, where applicable;
- Organizing the consultation procedures for the (re-)evaluation of the port's waste reception and handling plan;
- Management of the advance waste notification and cost recovery systems, including the application of reduced fees for "green ships", the provision of ICT-systems at port level, statistical analysis and associated labour costs;
- Organisation of public procurement procedures for the provision of PRF, as well as the issuing of the necessary authorisations for the provision of PRF;
- Communication of information to port users through the distribution of flyers, putting up signs and posters in the port, or publication of the information on the port's website, and electronic reporting of the information as required in Article 5 of Directive (EU) 2019/883 (information that is to be made available to all port users);
- Management of waste management schemes: extended producer responsibility (EPR) schemes, recycling and application for and implementing of national/regional funds; and
- Other administrative costs: monitoring exemptions and electronic reporting of this information as required in Article 9 of Directive (EU) 2019/883 (exemptions for ships that frequently and regularly call a port and have arranged for the delivery of the ship-generated waste).

## 5.2 Revenues

81. Revenues are net proceeds from waste management schemes and national/regional funding available, including the following revenue elements:

- Net financial benefits provided by extended producer responsibility (EPR) schemes;
- Other net revenues from waste management such as recycling schemes;
- Funding under the European Maritime and Fisheries Fund (EMFF); and
- Other funding or subsidies available to ports for waste management and fisheries.

82. Net revenues not only depend on the availability of a market for the use of recycled waste or secondary materials (which can be stimulated and supported by a regulatory framework facilitating the circular economy), but also on the application of EPR schemes and national/international funding.

## 5.3 The “reasonable cost” aspect

83. According to Article 10(f) of the Marine Litter Regional Plan for the Mediterranean Sea, the Contracting Parties to the Barcelona Convention undertake to explore and implement to the extent possible the measures to charge “*reasonable costs*” for the use of PRF or, when applicable apply a No-Special-Fee system.

84. The wording “reasonable cost” is also being used in IMO guidelines:

- a) In section 6.3 of the IMO 2017 “Guidelines for the implementation of MARPOL Annex V” (resolution MEPC.295(71)): “Governments are encouraged to evaluate means within their authority to lessen this impact, thereby helping to ensure that garbage delivered to port is actually received and disposed of properly at *reasonable cost* or without charging special fees to individual ships”;
- b) In section 5.2 of the IMO 2000 “Guidelines for ensuring the adequacy of Port Waste Reception Facilities” (resolution MEPC.83(44)) it is mentioned that “the mere provision of facilities, which are then not fully utilized, does not necessarily mean they are adequate. Poor location, complicated procedures, restricted availability and *unreasonably* high cost for the service provided, are all factors which may deter the use of reception facilities.”

85. The Marine Litter Regional Plan for the Mediterranean Sea nor the IMO MARPOL Annex V implementation guidelines further provide additional guidance on what is to be understood under this “reasonable cost”.

86. “Reasonable cost” as such is a very subjective term as there are many angles to it, for example:

- a) It depends on the point of view: a cost that can be perceived as very “reasonable” for a port authority or a PRF, may be experienced as “unreasonable” for the ship owner, the ship operator or the agent;
- b) Differing practices in the waste management industry may have an impact: e.g. implementation of higher standards for the recycling or treatment of certain types of waste can lead to higher costs, which on its turn may change the perception of what is “reasonable” or not. In some countries higher waste management standards may be the rule, leading to higher costs for the delivery of ship-generated waste in port. This may be perceived as “unreasonable” compared with lower standards in other ports/countries;
- c) The number of ships calling and consequently also the amount of waste delivered can have an impact on the perception of “reasonable cost”, even within the same port: in some countries port terminals are also required to perform as a PRF for the ships calling the terminal. A terminal/PRF with a limited number of ships calling (that as a consequence deliver less waste) may have the same indirect (and partly also direct) costs as a terminal/PRF with many ships

delivering. If a similar cost for the collection and treatment of ship-generated waste is to be covered by a waste fee from a limited number of ships, this waste fee will be higher which can be perceived as unreasonable.

87. As a consequence, it is impossible to put an absolute figure to “reasonable cost”, not in terms of money nor in terms of X% of the total cost for a ship to call a port.

88. There are however a few important elements for further consideration:

- a) As the cost for the delivery of the ship-generated waste to a PRF in general is only a fraction of the total cost for a ship (incl. pilots, tugboats, loading/unloading, port dues, etc.) a division of the cost for PRF over all the ships calling the port/terminal, irrespective whether they use the PRF or not (i.e. application of a fee system with an indirect fee, irrespective of delivery of waste to a PRF, such as required by Directive (EU) 2019/883), will only have a limited impact on the total cost for the ship. Dividing the total cost for PRF in a port over all port users, will reduce the cost for the individual ship and will reduce the perception of “unreasonable”;
- b) In order to avoid discussions and misunderstandings on what is perceived as a “reasonable cost” or not, a key element is transparency. There are cases where the ship operator or agent does not have a good understanding of what is included in the payment of the waste fee: they are required to pay the fee, but then have no information regarding the consequences, e.g. they are not aware that payment of the fee gives them the right to deliver a certain amount of ship-generated waste without extra charges (NSF system), or they do not know that there is a full or partial reimbursement for the cost when they deliver their waste to a PRF. Also, if there are other (direct) charges, this should be made transparent and well communicated. It can be noted that in its Article 8.6 the Directive (EU) 2019/883 explicitly refers to the transparency issue, and that the fees and the basis on which they have been calculated on is to be made available to the port users;
- c) Maximum transparency regarding how the collected waste is treated is important: a higher treatment level (e.g. better recycling) may lead to a higher cost but which may be fully acceptable by the shipowner or operator, and might therefore not necessarily not to be perceived as “unreasonable”;
- d) The collection and treatment of certain types of waste, e.g. hazardous wastes, can entail higher costs, and can therefore lead to higher waste fees. This should also be properly communicated to the port users;
- e) For specific types of traffic, such as Short Sea Shipping (SSS) or cruise vessels, a differentiated fee can be taken into consideration, where the specificities of the traffic can be fully addressed:
  - in case of SSS the ship makes relatively shorter voyages with frequent port calls, so in principle there should be plenty of opportunities to deliver the ship’s waste to a PRF. It is therefore acceptable that the ship carries small amounts of waste, and as a consequence is not requested to pay a “full” waste fee;
  - cruise vessels generate large amounts of garbage leading to higher costs for collection and treatment, which can be reflected in the waste fee;
- f) In case of “green ships” (where the ships’ design, equipment and operation demonstrate that the ship produces reduced quantities of waste and manages its waste in a sustainable and environmentally sound manner) ports may install a rebate scheme.

## **6. RECOMMENDATIONS FOR THE APPLICATION OF COST RECOVERY SYSTEMS IN PORTS AND MARINAS IN THE MEDITERRANEAN**

89. Based on the elements addressed and the conclusions of the studies, analyses and assessments that have been the subject of the 2018 “Study based on a literature review on existing best practices in the Mediterranean as well as other European regional seas for the application of charges at reasonable costs and of the No-Special-Fee system for the use of port reception facilities” (REMPEC), taking into account the good practices of fee systems in ports that are available on the internet and considering the

requirements of Directive (EU) 2019/883, some recommendations on cost recovery systems can be distilled. These recommendations are presented below per port type and MARPOL waste type.

90. For EU ports the following requirements of Directive (EU) 2019/883 are to be put forward:

- Application of an indirect fee system for garbage (MARPOL Annex V, other than cargo residues), either 100% or for reasonable amounts;
- For other wastes types that are being delivered by the ships normally calling the port: application of an indirect fee, irrespective of actual use of the PRF, that covers all indirect administrative costs plus a significant part of the direct operational costs (as determined in Annex 4 of Directive (EU) 2019/883), which shall represent at least 30% of the total direct costs for actual delivery of the waste during the previous year;
- Maximum transparency regarding the right to deliver or reimbursement;
- Maximum transparency regarding the downstream waste treatment.

For non-EU ports these elements can be put forward as general recommendations.

91. Still, it should be borne in mind that incentivizing the delivery of waste from ships to a PRF consists of a combination of different elements, such as:

- Availability and accessibility of the PRF;
- Adequacy of the PRF, including price and service level;
- Size of the port;
- Types of traffic, including seasonal traffic;
- Volumes of waste normally delivered by the ships;
- Downstream waste management and recycling options.

92. Therefore, it is possible that, beside the following recommendations, also other types of cost recovery systems might be both effective and cost-efficient in a port. It can also be noted that adequate enforcement schemes will contribute positively to the use of PRF.

## **6.1 Recommendations for cost recovery systems in merchant seaports**

### **6.1.1 MARPOL Annex I wastes**

93. Considering the specificities of MARPOL Annex I wastes:

- a) Liquid oily wastes such as sludge and oily bilge water can be stored onboard relatively easy in designated holding tanks. As the storage capacity of these tanks can be quite large, ships can sail long distances before the holding tanks are full and delivery to a PRF is necessary.
- b) When the ship is equipped with bilge water separation technology such as an oil-water separator (OWS), which can reduce the quantity of bilge water by 65–85%, the time for delivery to a PRF can even be prolonged.
- c) Delivery of liquid oily wastes is a complex operation requiring designated equipment (tanks and piping) and extensive pumping capacity. As the delivery of oily bilge water and/or sludge therefore can take some time, ship operators will not be keen on delivering small amounts in every single port of call, but only:
  - a. When the remaining storage tanks' capacity is limited in order to cover the amount of oily waste that will be generated during the following voyage; or
  - b. When state-of-the-art service levels for collection can be provided by a PRF in a specific port.
- d) Shipping companies appear to optimize their waste delivery in order to reduce the cost of waste management. According to information from PRF operators oily waste, which sometimes has a commercial value, is typically kept on board in order to be delivered to a PRF in a port where market conditions are most favorable (relating to oil prices, demand for oily waste, etc.). Such conditions may be found within but possibly also outside the EU.

- e) Cargo residues in general remain the property of the cargo owner after unloading the cargo to the terminal, as they often have an economic value. For this reason, the cargo residues in most cases are not included in the cost recovery systems and the application of an indirect fee. Charges for the delivery of cargo residues are being paid directly by the user of the PRF, as specified in the contractual arrangements between the parties involved or in other local arrangements.

94. Considering the outcome of the assessments of cost recovery systems:

- a) It has been noted that consistently increasing levels of oily waste are delivered to ADM/deposit fee systems. This indicated that in ports with these systems, a similar number of vessels deliver on average more MARPOL Annex I waste than before.
- b) Other cost recovery systems did not show a similar rising trend.

**Recommendation:**

- For ship-generated oily waste (bilge water, sludge, waste oil): application of an ADM system, containing a fixed indirect fee supplemented with a refundable (deposit) part or penalty (in case of no delivery)
- For MARPOL Annex I cargo residues and washing waters: in general, the delivery of cargo residues and washing waters is charged directly, linked to the amount of waste delivered

6.1.2 *MARPOL Annex II wastes*

95. Considering the specificities of MARPOL Annex II waste:

- a) In general cargo residues remain the property of the cargo owner after unloading the cargo to the terminal, as they often have an economic value. For this reason, cargo residues in most cases are not included in cost recovery systems and the application of an indirect fee.
- b) The charges for the delivery of cargo residues are being paid directly by the user of the PRF, as specified in the contractual arrangements between the parties involved or in other local arrangements.
- c) Cargo residues also include the remnants of noxious liquid cargo after cleaning operations to which the discharge norms of MARPOL apply, and which under certain conditions, as set out in the MARPOL Annexes, do not need to be delivered in port to avoid unnecessary operational costs for ships and congestion in ports.
- d) In principle only, bulk (dry and liquid) ships can generate cargo residues or washing water containing cargo residues. Therefore, it does not seem fair to apply an indirect fee system for this type of waste and distribute the cost for collection and treatment over all port users (also the ones that do not generate cargo residues).

96. Considering the outcome of the assessments of cost recovery systems:

- Indirect fee systems including cargo residues have only been applied in very few and specific cases (e.g. in smaller ports with only a few dedicated terminals);
- It can be noted that, according to Directive (EU) 2019/883, EU Member States may encourage the delivery of residues from tank washings containing high-viscosity persistent floating substances by providing appropriate financial incentives.

**Recommendation:** application of a direct fee system, linked to the amounts of waste delivered to the PRF

### 6.1.3 MARPOL Annex IV wastes

#### 97. Considering the specificities of MARPOL Annex IV waste:

- a) Most merchant ships have sewage holding tanks. The size of these tank covers the necessary capacity for the retention of all sewage generated during the operation of the ship, and the number of persons onboard. Depending on the storage capacity of these tanks, it might not always be necessary for the ship to deliver sewage to a PRF.
- b) Some ships are equipped with type approved sewage treatment plants. In those cases ships are only required to deliver the generated effluent when the ship is in port (where ships are often prohibited to discharge), as while it is on the route all sewage (when it is well treated) can be continuously legally discharged at sea. Therefore, not every ship delivers sewage to a PRF, and yearly volumes of sewage delivered to PRF in a port can be rather low.

#### 98. Considering the outcome of the assessments of cost recovery systems:

- a) Ports with a NSF/unlimited system received comparatively higher amounts of sewage than ports with other cost recovery systems.
- b) It was concluded that the type of cost recovery system is not the key factor influencing the level of delivery of sewage, but that it is more related to the regional circumstances (such as e.g. the efforts of HELCOM in the Baltic Sea, which is a special area under MARPOL Annex IV).

**Recommendation:** Depending of the normal and expected traffic in the port (amounts of sewage normally delivered), application of a NSF system with unlimited or reasonable amounts.

### 6.1.4 MARPOL Annex V wastes

#### 6.1.4.1 Garbage (MARPOL Annex V other than cargo residues)

#### 99. Considering the specificities of MARPOL Annex V waste:

- a) The generation of garbage is inseparably linked with the amount of people onboard a ship. And as every ship has crew and/or passengers on board, every ship generates garbage.
- b) After a while garbage, especially when contaminated with galley waste and food packaging, can be quite smelly. As it is not allowed to discharge any garbage at sea (except for food waste, under specific conditions), for hygienic reasons the ship's crew in general is not keen on keeping the garbage onboard the ship and, especially after long travels, are therefore happy to deliver their garbage when calling a port.
- c) Garbage from ships is relatively similar to municipal waste, which is generated in every city and port. Therefore, means for collection (garbage trucks, skips, waste containers) of this type of waste are relatively inexpensive (especially when compared with specific chemical wastes) and easily available.
- d) Although appendix II to MARPOL Annex V provides different categories<sup>53</sup> of garbage to be grouped in the Garbage Record Book, it does not require onboard segregation of these waste types. In addition, MARPOL Annex V does not contain a requirement to segregate hazardous garbage from non-hazardous garbage. As a consequence, the cost for collection and treatment of mixed garbage is not only determined by the volume of the garbage delivered, but also by the amount of hazardous wastes (as the cost for handling and treatment of this type of waste is significantly higher).

<sup>53</sup> Plastics (category A), Food wastes (B), Domestic wastes (C), Cooking oil (D), Incinerator ashes (E), Operational wastes (F), Animal carcasses (G), Fishing gear (H) and E-waste (I)

100. Considering the outcome of the assessments of cost recovery systems:

- a) It was found that lower amounts of waste are delivered to ports that charge in relation to the volumes of waste delivered, when compared with ports with indirect fee systems in place.
- b) Whereas these levels were relatively low until 2008, in recent years a clear rising trend has been observed in ports with NSF systems. This finding is in line with how a NSF cost recovery system provides incentives to deliver in the port.
- c) Directive (EU) 2019/883 contains the requirement to implement a 100% indirect cost recovery system for MARPOL Annex V wastes, other than cargo residues. This 100% indirect fee will ensure a right of delivery without any additional charges based on volume of waste delivered, except when this volume of waste delivered exceeds the maximum dedicated storage capacity as mentioned in the form set out in Annex 2<sup>54</sup> to Directive (EU) 2019/883.
- d) Although it is generally perceived that the 100% NSF system, apart from being transparent and relatively simple to manage, has the advantage to provide a significant incentive not to discharge garbage at sea, it is sometimes also mentioned<sup>55</sup> that this system does not provide a clear incentive for ships to reduce waste generation on board. This can be addressed by introducing:
  - a. For non-EU ports: limited volumes included in the NSF (reasonable amounts); or
  - b. Reduced waste fees for ships generating less amounts of waste

**Recommendation:**

- for EU ports: 100% NSF system
- for non-EU ports: 100% NSF system, or NSF for reasonable amounts

6.1.4.2 *MARPOL Annex V cargo residues*

101. Considering the specificities of MARPOL Annex V cargo residues:

- a) Cargo residues often remain the property of the cargo owner after unloading the cargo to the terminal. Therefore, in most cases cargo residues are not included in cost recovery systems and the application of an indirect fee.
- b) The charges for the delivery of cargo residues are being paid directly by the user of the PRF, as specified in the contractual arrangements between the parties involved or in other local arrangements.
- c) Outside special areas MARPOL Annex V cargo residues that are not considered harmful to the marine environment (non-HME) can, under certain conditions, be legally discharged at sea. However, as the Mediterranean Sea is a special area under MARPOL Annex V, non-HME cargo residues (also contained in wash water) can only be discharged at sea if:
  - a. both the port of departure and the next port of destination are within the special area and the ship will not transit outside the special area between these ports (regulation 6.1.2.2 of MARPOL Annex V); and
  - b. if no adequate reception facilities are available at those ports (regulation 6.1.2.3 of MARPOL Annex V).
- d) As according to MARPOL Annex V non-HME cargo residues (also contained in wash water after cleaning operations) are not needed to be delivered in port, in order to avoid unnecessary operational costs for ships and congestion in ports.
- e) In principle only, bulk (dry and liquid) ships can generate cargo residues or washing water containing cargo residues. Therefore, it does not seem fair to apply an indirect fee system for this type of waste and distribute the cost for collection and treatment over all port users (also the ones that do not generate cargo residues).

<sup>54</sup> Standard format of the advance notification form for waste delivery to port reception facilities

<sup>55</sup> Mr. Jordi Vila (Barcelona Port Authority) in his presentation on the NSF in the port of Barcelona, given during a meeting of the PRF sub-group of the European Sustainable Shipping Forum (ESSF), 30/09/2015 in Brussels

102. Considering the outcome of the assessments of cost recovery systems:

- Indirect fee systems including cargo residues have only been applied in very few and specific cases (e.g. in smaller ports with only a few dedicated terminals).

**Recommendation:** application of a direct fee system, linked to the amounts of waste delivered to the PRF

6.1.5 *MARPOL Annex VI wastes*

103. Considering the specificities of MARPOL Annex VI:

- MARPOL Annex VI includes waste from exhaust gas cleaning systems (scrubber sludge) and ozone depleting substances (ODS). As ODS are mainly handled through repair yards, they are not being included in fee systems.
- As MARPOL Annex VI does not require the use of scrubbers, not every ship generates it. And although it is expected that there will be a growth of this type of waste in the future, scrubber sludge is currently generated in limited volumes only, due to the fact that the number of ships with onboard scrubbers is still relatively small.

104. Considering the outcome of the assessments of cost recovery systems:

- Only in very few cases fee systems are being applied for scrubber waste. Due to the limited volumes of scrubber waste generated, in most of these cases direct fee systems were applied.

**Recommendation:** application of a direct fee system, linked to the amounts of waste delivered to the PRF

6.2 *Cruise/passenger ports*

6.2.1 *MARPOL Annex I wastes*

105. Considering the specificities of MARPOL Annex I wastes:

- Liquid oily wastes such as sludge and oily bilge water can be stored onboard relatively easy in designated holding tanks. As the storage capacity of these tanks can be quite large, ships can sail long distances before the holding tanks are full and delivery to a PRF is necessary.
- When the ship is equipped with bilge water separation technology such as an oil-water separator (OWS), which can reduce the quantity of bilge water by 65–85%, the time for delivery to a PRF can even be prolonged.
- Delivery of liquid oily wastes is a complex operation requiring designated equipment (tanks and piping) and extensive pumping capacity. As the delivery of oily bilge water and/or sludge therefore can take some time, ship operators will not be keen on delivering small amounts in every single port of call, but only:
  - when the remaining storage tanks' capacity is limited in order to cover the amount of oily waste that will be generated during the following voyage; or
  - when state-of-the-art service levels for collection can be provided by a PRF in a specific port.
- Shipping companies appear to optimize their waste delivery in order to reduce the cost of waste management. According to information from PRF operators oily waste, which sometimes has a commercial value, is typically kept on board in order to be delivered to a PRF in a port where market conditions are most favourable (relating to oil prices, demand for oily waste, etc.). Such conditions may be found within but possibly also outside the EU.

- e) Cruise/passenger ports are heavily affected by seasonal traffic (many ships in high season), which also impacts volumes of waste delivered.

106. Considering the outcome of the assessments of cost recovery systems:

- a) It has been noted that consistently increasing levels of oily waste are delivered to ADM/deposit fee systems. This indicated that in ports with these systems, a similar number of vessels deliver on average more MARPOL Annex I waste than before.
- b) Other cost recovery systems did not show a similar rising trend.

**Recommendation:** For ship-generated oily waste (bilge water, sludge, waste oil): application of an ADM system, containing a fixed indirect fee supplemented with a refundable (deposit) part or penalty (in case of no delivery).

As cruise/passenger ports are heavily affected by seasonal traffic (many ships in high season), also NSF can be applied during these periods.

6.2.2 *MARPOL Annex II wastes*

107. Not applicable to cruise/passenger ships.

6.2.3 *MARPOL Annex IV wastes*

108. Considering the specificities of MARPOL Annex IV waste:

- a) Most cruise ships have sewage holding tanks. The size of these tank covers the necessary capacity for the retention of all sewage generated during the operation of the ship, and the number of persons onboard. Depending on the storage capacity of these tanks, it might not always be necessary for the ship to deliver sewage to a PRF.
- b) Most cruise ships are equipped with type approved sewage treatment plants. In those cases, ships are only required to deliver the generated effluent when the ship is in port (where ships are often prohibited to discharge), as while it is on the route all sewage treatment effluent can be continuously legally discharged at sea. Therefore, not every ship delivers sewage to a PRF, and yearly volumes of sewage delivered to PRF in a port can be rather low.
- c) Cruise/passenger ports are heavily affected by seasonal traffic (many ships in high season), which also impacts volumes of sewage delivered.

109. Considering the outcome of the assessments of cost recovery systems:

- a) Ports with a NSF system received comparatively higher amounts of sewage than ports with other cost recovery systems.
- b) It was concluded that the type of cost recovery system is not the key factor influencing the level of delivery of sewage, but that it is more related to the regional circumstances (such as e.g. the efforts of HELCOM in the Baltic Sea, which is a special area under MARPOL Annex IV).

**Recommendation:** Depending of the normal and expected (high season) cruise and passenger traffic in the port, application of a NSF system

6.2.4 *MARPOL Annex V wastes*

110. Considering the specificities of MARPOL Annex V waste:

- a) The generation of garbage is inseparably linked with the amount of people onboard a ship. And cruise/passenger ships per definition have large crew and passengers on board, every cruise/passenger ship generates substantial amounts of garbage.

- b) As it is not allowed to discharge any garbage at sea (except for food waste, under specific conditions), for hygienic reasons the ship's crew in general is not keen on keeping the garbage onboard the ship and, especially after long travels, are therefore happy to deliver their garbage to a PRF.
- c) Garbage from ships is relatively similar to municipal waste, which is generated in every city and port. Therefore, means for collection (garbage trucks, skips, waste containers) of this type of waste are relatively inexpensive (especially when compared with specific chemical wastes) and easily available.
- d) Although appendix II to MARPOL Annex V provides different categories<sup>56</sup> of garbage to be grouped in the Garbage Record Book, it does not require onboard segregation of these waste types. In addition, MARPOL Annex V does not contain a requirement to segregate hazardous garbage from non-hazardous garbage. As a consequence, the cost for collection and treatment of mixed garbage is not only determined by the volume of the garbage delivered, but also by the amount of hazardous wastes (as the cost for handling and treatment of this type of waste is significantly higher).
- e) Cruise ship operators often maintain high environmental standards and implement some of the most advanced waste management schemes in the maritime industry, including the segregation of several hazardous and non-hazardous waste streams.

111. Considering the outcome of the assessments of cost recovery systems:

- a) It was found that lower amounts of waste are delivered to ports that charge in relation to the volumes of waste delivered, when compared with ports with indirect fee systems in place.
- b) Whereas these levels were relatively low until 2008, in recent years a clear rising trend has been observed in ports with NSF systems. This finding is in line with how a NSF cost recovery system provides incentives to deliver in the port.
- c) Directive (EU) 2019/883 contains the requirement to implement a 100% indirect cost recovery system for MARPOL Annex V other than cargo residues. This 100% indirect fee will ensure a right of delivery without any additional charges based on volume of waste delivered, except when this volume of waste delivered exceeds the maximum dedicated storage capacity as mentioned in the form set out in Annex 2<sup>57</sup> to Directive (EU) 2019/883.
- d) Although it is generally perceived that the 100% NSF system, apart from being transparent and relatively simple to manage, has the advantage to provide a significant incentive not to discharge garbage at sea, it is sometimes also mentioned<sup>58</sup> that this system does not provide a clear incentive for ships to reduce waste generation on board. This can be addressed by introducing:
  - a. for non-EU ports: limited volumes included in the NSF (reasonable amounts); or
  - b. reduced waste fees for ships generating less amounts of waste

**Recommendation:**

- for EU ports: 100% NSF system
- for non-EU ports: 100% NSF system, or NSF system with reasonable amounts

6.2.5 *MARPOL Annex VI wastes*

112. Considering the specificities of MARPOL Annex VI:

<sup>56</sup> Plastics (category A), Food wastes (B), Domestic wastes (C), Cooking oil (D), Incinerator ashes (E), Operational wastes (F), Animal carcasses (G), Fishing gear (H) and E-waste (I)

<sup>57</sup> Standard format of the advance notification form for waste delivery to port reception facilities

<sup>58</sup> Mr. Jordi Vila (Barcelona Port Authority) in his presentation on the NSF in the port of Barcelona, given during a meeting of the PRF sub-group of the European Sustainable Shipping Forum (ESSF), 30/09/2015 in Brussels

- a) MARPOL Annex VI includes waste from exhaust gas cleaning systems (scrubbers sludge) and ozone depleting substances (ODS). As ODS are mainly handled through repair yards, they are not being included in fee systems.
- b) As MARPOL Annex VI does not require the use of scrubbers, not every ship generates it. And although it is expected that there will be a growth of this type of waste in the future, scrubber sludge is currently generated in limited volumes only, due to the fact that the number of ships with onboard scrubbers is still relatively small.

113. Considering the outcome of the assessments of cost recovery systems:

- Only in very few cases fee systems are being applied for scrubber waste. Due to the limited volumes of scrubber waste generated, in most of these cases direct fee systems were applied.

**Recommendation:** application of a direct fee system, linked to the amount of waste delivered to the PRF

### 6.3 *Fishing ports*

#### 6.3.1 *MARPOL Annex I wastes*

114. Considering the specificities of MARPOL Annex I wastes:

- a) As fishing vessels most likely use lighter fuels such as diesel, these types of ships do not generate sludge.
- b) Liquid oily wastes such as oily bilge water can be stored onboard in designated holding tanks. Delivery to a PRF will depend on the storage capacity of these tanks.
- c) When the ship is equipped with bilge water separation technology such as an oil-water separator (OWS), which can reduce the quantity of bilge water by 65–85%, the time for delivery to a PRF can even be prolonged.

115. Considering the outcome of the assessments of cost recovery systems:

- a) It has been noted that consistently increasing levels of oily waste are delivered to ADM/deposit fee systems. This indicated that in ports with these systems, a similar number of vessels deliver on average more MARPOL Annex I waste than before.
- b) However, some of the practices related to cost recovery systems in fishing ports also include NSF systems for oily waste. This will depend on whether the fishing port more or less always the same ships has calling with which a specific agreement can be arranged, or it is often visited by other ships.

**Recommendation:**

- For fishing ports generally visited by the same ships and with which a specific agreement can be arranged: NSF
- Visitors to the port:
  - for EU ports: ADM system
  - for non- EU ports: ADM or direct fee system, linked to the amount of waste delivered

#### 6.3.2 *MARPOL Annex II wastes*

116. Not applicable to fishing vessels.

### 6.3.3 MARPOL Annex IV wastes

#### 117. Considering the specificities of MARPOL Annex IV waste:

When fishing vessels are equipped with sewage holding tanks, delivery of sewage to a PRF depends on the size of these tanks in combination with the length of the journey.

#### 118. Considering the outcome of the assessments of cost recovery systems:

- a) Ports with a NSF system received comparatively higher amounts of sewage than ports with other cost recovery systems.
- b) It was concluded that the type of cost recovery system is not the key factor influencing the level of delivery of sewage, but that it is more related to the regional circumstances (such as e.g. the efforts of HELCOM in the Baltic Sea, which is a special area under MARPOL Annex IV).
- c) None of the practices on cost recovery systems assessed during the internet survey included a NSF for sewage.

#### **Recommendation:**

- for EU ports: ADM system
- for non-EU ports: ADM or direct fee system, linked to the amount of waste delivered

### 6.3.4 MARPOL Annex V wastes

#### 119. Considering the specificities of MARPOL Annex V waste:

- a) The generation of garbage is inseparably linked with the amount of people onboard a ship. And as every ship has crew and/or passengers on board, every ship generates garbage.
- b) After a while garbage, especially when contaminated with galley waste and food packaging, can be quite smelly. As it is not allowed to discharge any garbage at sea (except for food waste, under specific conditions), for hygienic reasons the ship's crew in general is not keen on keeping the garbage onboard the ship and, especially after long travels, are therefore happy to deliver their garbage when calling a port.
- c) Garbage from ships is relatively similar to municipal waste, which is generated in every city and port. Therefore, means for collection (garbage trucks, skips, waste containers) of this type of waste are relatively inexpensive (especially when compared with specific chemical wastes) and easily available.
- d) Although appendix II to MARPOL Annex V provides different categories<sup>59</sup> of garbage to be grouped in the Garbage Record Book, it does not require onboard segregation of these waste types. In addition, MARPOL Annex V does not contain a requirement to segregate hazardous garbage from non-hazardous garbage. As a consequence, the cost for collection and treatment of mixed garbage is not only determined by the volume of the garbage delivered, but also by the amount of hazardous wastes (as the cost for handling and treatment of this type of waste is significantly higher).
- e) In some regions schemes have been set up to collect "passively fished waste" (waste that has been collected in nets during fishing operations). As this type of waste is in principle similar to garbage, it can be collected in ports.

#### 120. Considering the outcome of the assessments of cost recovery systems:

- a) It was found that lower amounts of waste are delivered to ports that charge in relation to the volumes of waste delivered, when compared with ports with indirect fee systems in place. In

<sup>59</sup> Plastics (category A), Food wastes (B), Domestic wastes (C), Cooking oil (D), Incinerator ashes (E), Operational wastes (F), Animal carcasses (G), Fishing gear (H) and E-waste (I)

recent years a clear rising trend has been observed in ports with NSF systems. This finding is in line with how a NSF cost recovery system provides incentives to deliver in the port.

- b) Directive (EU) 2019/883 contains the requirement to implement a 100% indirect cost recovery system for MARPOL Annex V other than cargo residues.
- c) Although it is generally perceived that the 100% NSF system, apart from being transparent and relatively simple to manage, has the advantage to provide a significant incentive not to discharge garbage at sea, it is sometimes also mentioned<sup>60</sup> that this system does not provide a clear incentive for ships to reduce waste generation on board. This can be addressed by introducing:
  - a. for non-EU ports: limited volumes included in the NSF (reasonable amounts); or
  - b. reduced waste fees for ships generating less amounts of waste
- d) In some regions schemes have been set up to collect “passively fished waste” (waste that has been collected in nets during fishing operations). As this type of waste is in principle similar to garbage, it can be collected in ports. However, it is not recommended that the cost for collection and treatment of this type of waste is to be covered by a fee from the fishing vessels, in order not create a disincentive for fishing port communities to participate in delivery schemes for passively fished waste. In most cases the cost for the collection and treatment of passively fished waste was covered by national or sub-national financing schemes (subsidies).

**Recommendation:**

- For EU-ports: 100% NSF system, including for fishing gear
- For non-EU ports: 100% NSF system or NSF for reasonable amounts, including fishing gear
- Can be arranged at national or sub-national level
- Cost for collection and treatment of passively fished waste may be covered by alternative financing/subsidies on a national or sub-national level

### 6.3.5 MARPOL Annex VI wastes

121. Not applicable to fishing vessels.

## 6.4 Marinas

### 6.4.1 MARPOL Annex I wastes

122. Considering the specificities of MARPOL Annex I wastes:

- a) As yachts use lighter fuels such as diesel, these types of ships do not generate sludge. Also bilge water is generated in limited amounts, depending on the size of the ship.
- b) Liquid oily wastes such as oily bilge water can be stored onboard in tanks. Delivery to a PRF will depend on the storage capacity of these tanks.

123. Considering the outcome of the assessments of cost recovery systems:

- a) It has been noted that consistently increasing levels of oily waste are delivered to ADM/deposit fee systems. This indicated that in ports with these systems, a similar number of vessels deliver on average more MARPOL Annex I waste than before.
- b) However, some of the practices related to cost recovery systems in marinas also include NSF systems for oily wastes.

<sup>60</sup> Mr. Jordi Vila (Barcelona Port Authority) in his presentation on the NSF in the port of Barcelona, given during a meeting of the PRF sub-group of the European Sustainable Shipping Forum (ESSF), 30/09/2015 in Brussels

**Recommendation:**

- For club members and/or seasonal visitors of the marina: 100% NSF system, or NSF for reasonable amounts
- Daily visitors:
  - for EU ports: ADM system
  - for non-EU ports: ADM or direct fee system, linked to the amount of waste delivered

*6.4.2 MARPOL Annex II wastes*

124. Not applicable to recreational vessels.

*6.4.3 MARPOL Annex IV wastes*

125. Considering the specificities of MARPOL Annex IV waste:

- Delivery of sewage to a PRF depends on the size of the holding tanks in combination with the length of the journey.

126. Considering the outcome of the assessments of cost recovery systems:

- a) Although it was concluded that ports with a NSF system received comparatively higher amounts of sewage than ports with other cost recovery systems, the assessments on cost recovery systems mainly focused on merchant seaports, not at marinas.
- b) However, some of the practices related to cost recovery systems in marinas also included NSF systems for sewage.

**Recommendation:**

- For club members and/or seasonal visitors of the marina: 100% NSF system, or NSF with limited amounts
- Daily visitors:
  - for EU ports: ADM system
  - for non-EU ports: ADM or direct fee system, linked to the amount of waste delivered

*6.4.4 MARPOL Annex V wastes*

127. Considering the specificities of MARPOL Annex V waste:

- a) The generation of garbage is inseparably linked with the amount of people onboard a ship. And as every ship has crew and/or passengers on board, every ship generates garbage.
- b) Garbage from ships is relatively similar to municipal waste, which is generated in every city and port. Therefore, means for collection (garbage trucks, skips, waste containers) of this type of waste are relatively inexpensive (especially when compared with specific chemical wastes) and easily available.

128. Considering the outcome of the assessments of cost recovery systems:

- a) Although it was concluded that ports with a NSF system received comparatively higher amounts of garbage than ports with other cost recovery systems, the assessments on cost recovery systems mainly focused on merchant seaports, not at marinas.
- b) However, all marinas assessed within the framework of this study applied NSF systems for garbage.

**Recommendation:**

- For EU ports: 100% NSF system
- For non-EU ports:
  - 100% NSF system, or NSF for reasonable amounts
  - Daily visitors: ADM or direct fee system, linked to the amount of waste delivered

**6.4.5 MARPOL Annex VI wastes**

129. Not applicable to recreational vessels.

**6.5 Overview of recommendations**

Port/waste type	Recommended cost recovery system
<b>Merchant seaports</b>	
MARPOL Annex I wastes	<ul style="list-style-type: none"> <li>• For ship-generated oily waste (bilge water, sludge, waste oil): application of an ADM system, containing a fixed indirect fee supplemented with a refundable (deposit) part or penalty (in case of no delivery)</li> <li>• For MARPOL Annex I cargo residues and washing waters: in general, the delivery of cargo residues and washing waters is charged directly, linked to the amounts of waste delivered</li> </ul>
MARPOL Annex II wastes	Application of a direct fee system linked to the amounts of waste delivered to the PRF
MARPOL Annex IV wastes	Depending of the normal and expected traffic in the port (amounts of sewage normally delivered), application of a NSF system with unlimited or reasonable amounts.
MARPOL Annex V wastes, other than cargo residues	<ul style="list-style-type: none"> <li>• For EU ports: 100% NSF system</li> <li>• For non-EU ports: 100% NSF system, or NSF for reasonable amounts</li> </ul>
MARPOL Annex V cargo residues	Application of a direct fee system linked to the amounts of waste delivered to the PRF
MARPOL Annex VI wastes	Application of a direct fee system linked to the amounts of waste delivered to the PRF
<b>Cruise/passenger ports</b>	
MARPOL Annex I wastes	<p>For ship-generated oily waste (bilge water, sludge, waste oil): application of an ADM system, containing a fixed indirect fee supplemented with a refundable (deposit) part or penalty (in case of no delivery).</p> <p>As cruise/passenger ports are heavily affected by seasonal traffic (many ships in high season), also NSF can be applied during these periods.</p>
MARPOL Annex II wastes	N/A
MARPOL Annex IV wastes	Depending of the normal and expected (high season) cruise and passenger traffic in the port, application of a 100% NSF system or NSF for reasonable amounts.

MARPOL Annex V wastes	<ul style="list-style-type: none"> <li>• For EU ports: 100% NSF system</li> <li>• For non-EU ports: 100% NSF system, or NSF for reasonable amounts</li> </ul>
MARPOL Annex VI wastes	Application of a direct fee system linked to the amounts of waste delivered to the PRF
<b>Fishing ports</b>	
MARPOL Annex I wastes	<ul style="list-style-type: none"> <li>• For fishing ports generally visited by the same ships and with which a specific agreement can be arranged: NSF</li> <li>• Visitors to the port: ADM or direct fee system, linked to the amount of waste delivered</li> </ul>
MARPOL Annex II wastes	N/A
MARPOL Annex IV wastes	ADM or direct fee system linked to the amount of waste delivered
MARPOL Annex V wastes	<ul style="list-style-type: none"> <li>• For EU ports: 100% NSF system, including fishing gear</li> <li>• For non-EU ports: 100% NSF system, or NSF for reasonable amounts, including fishing gear</li> <li>• Can be arranged at national or sub-national level</li> <li>• Cost for collection and treatment of passively fished waste may be covered by alternative financing/subsidies on a national or sub-national level</li> </ul>
MARPOL Annex VI wastes	N/A
<b>Marinas</b>	
MARPOL Annex I wastes	<ul style="list-style-type: none"> <li>• For club members and/or seasonal visitors of the marina: 100% NSF system, or NSF for reasonable amounts</li> <li>• Daily visitors: ADM or direct fee system, linked to the amount of waste delivered</li> </ul>
MARPOL Annex II wastes	N/A
MARPOL Annex IV wastes	<ul style="list-style-type: none"> <li>• For club members and/or seasonal visitors of the marina: 100% NSF system, or NSF for reasonable amounts</li> <li>• Daily visitors: ADM or direct fee system, linked to the amount of waste delivered</li> </ul>
MARPOL Annex V wastes	<ul style="list-style-type: none"> <li>• For EU ports: 100% NSF system</li> <li>• For non-EU ports: <ul style="list-style-type: none"> <li>○ 100% NSF system, or NSF for reasonable amounts</li> <li>○ Daily visitors: ADM or direct fee system, linked to the amount of waste delivered</li> </ul> </li> </ul>
MARPOL Annex VI wastes	N/A