

Europe Economics

"Impact assessment for the review of the
2000/59/EC Directive on port reception facilities
for ship-generated waste and cargo residues"
Under the Service Framework Contract N°
TREN/A2/143-2007 LOT 2 TRANSPORT

Rue De Mot 24, meeting room N° 03/47

Workshop, 10 May 2012

Dermot Glynn, Jonathan Todd, Helen
Gardner

**Introduction: study objectives and process
(1.20pm – 1.30pm)**

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Introduction: study objectives and process (1) – Terms of reference

- Motivations for study:
 - Broad evaluation of implementation of Directive from 2005 by EMSA
 - Showed significant shortcomings in implementation of Directive but also best practices
 - Variety of interpretation of provisions and calls for guidance from stakeholders confirmed need to evaluate and review Directive
 - Available information also indicates that the EU objective of zero waste discharges into the sea by ships calling at EU ports has not been achieved

Introduction: study objectives and process (2) – Terms of reference

- Tasks:
 - Problem definition
 - Objectives
 - Identification of policy options
 - Analysis of impacts
 - Stakeholder consultation and organisation of workshop
- More detail on next slide

Introduction: study objectives and process (3) – Terms of reference

- Current weaknesses to be assessed:
 - Definitions (Article 2)
 - Adequacies of facilities (Article 4)
 - Waste Reception and Handling Plans (Article 5)
 - Notification and enforcement (Article 6 and 11)
 - Delivery requirement (Article 7 and 10)
 - Cost recovery system (Article 8)
 - Exemptions (Article 9)
 - Information and monitoring (Article 12.3)
 - Awareness

Introduction: study objectives and process (4) – Terms of reference

- Policy measures and options should:
 - Seek consistency with other EU policy
 - Reduce administrative burdens on industry
 - Internalise external costs
 - Respect subsidiarity and proportionality principles

Introduction: study objectives and process (3)

- Our work has involved:
 - Role of sub-contractors (Lloyds' Register; Dr Angela Carpenter)
 - Study of publicly available statistics and policy papers
 - Public consultation
 - Modelling
 - Port visits and other information gathering (including by DG MOVE through meetings with stakeholders)
- Reporting to DG MOVE: Final report submitted yesterday

Study results (1): stakeholder consultation (1.30pm – 2.00pm)

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Study Results (1): Stakeholder consultation

- 4 forms of consultation:
 - Responses to online consultation
 - Case studies (port visits)
 - Bilateral meetings by DG MOVE
 - Additional submissions following online consultation

Online consultation – Overview

- Ran from 14 July 2011 to 16 September 2011
- Commission's interactive policymaking tool (IPM)
- 59 responses
- http://ec.europa.eu/transport/maritime/consultations/2011_09_16_prf_en.htm

Online consultation – Objective

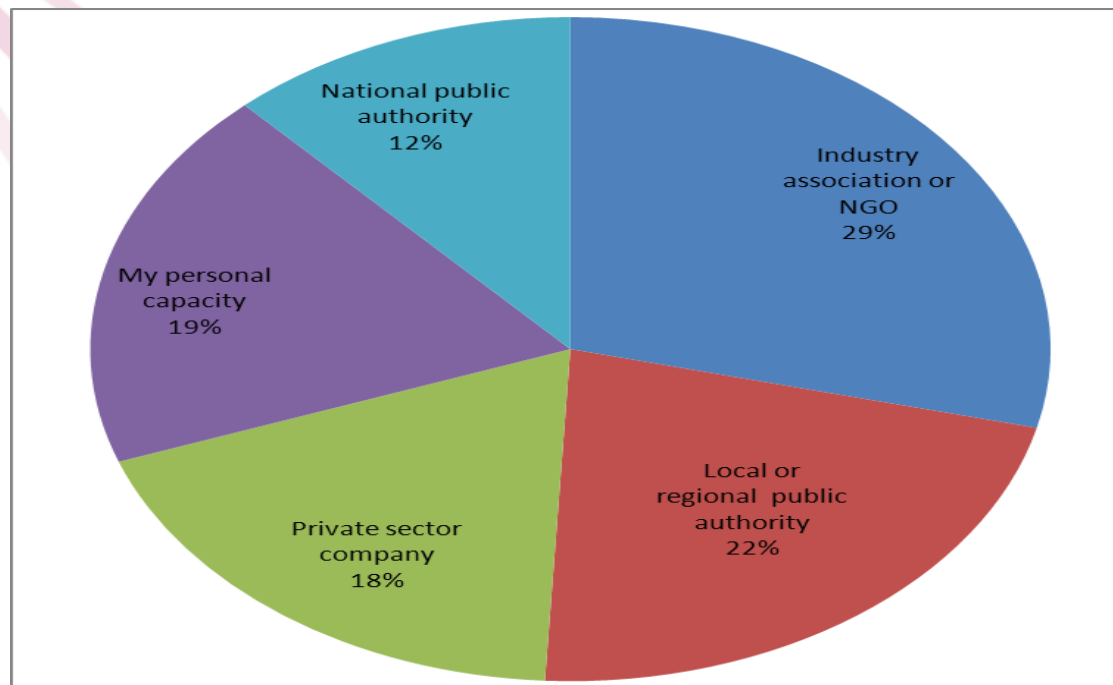
- Objective as stated in introduction to consultation:
 - *To collect the views of stakeholders in order to ascertain the critical areas for improvements and to collect information and data that are necessary for assessing the impacts (environmental, economic, and social) of the measures envisaged*

Online consultation – Structure

- Part I: Respondent information
- Part II: The current functioning of the EU system of port reception facilities
- Part III: Options for possible revision of Directive 2000/59/EC
- Part IV: Statistical background
- Part V: Final considerations

Online consultation – Respondent information

- Q1: In what capacity are you answering questionnaire?

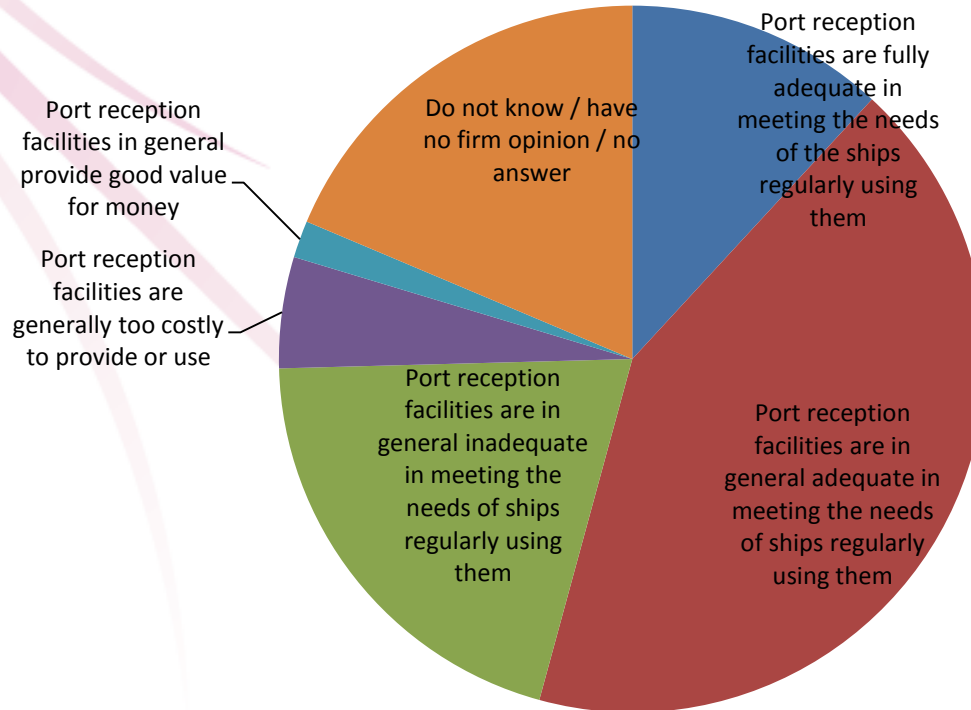


Online consultation – Respondent information

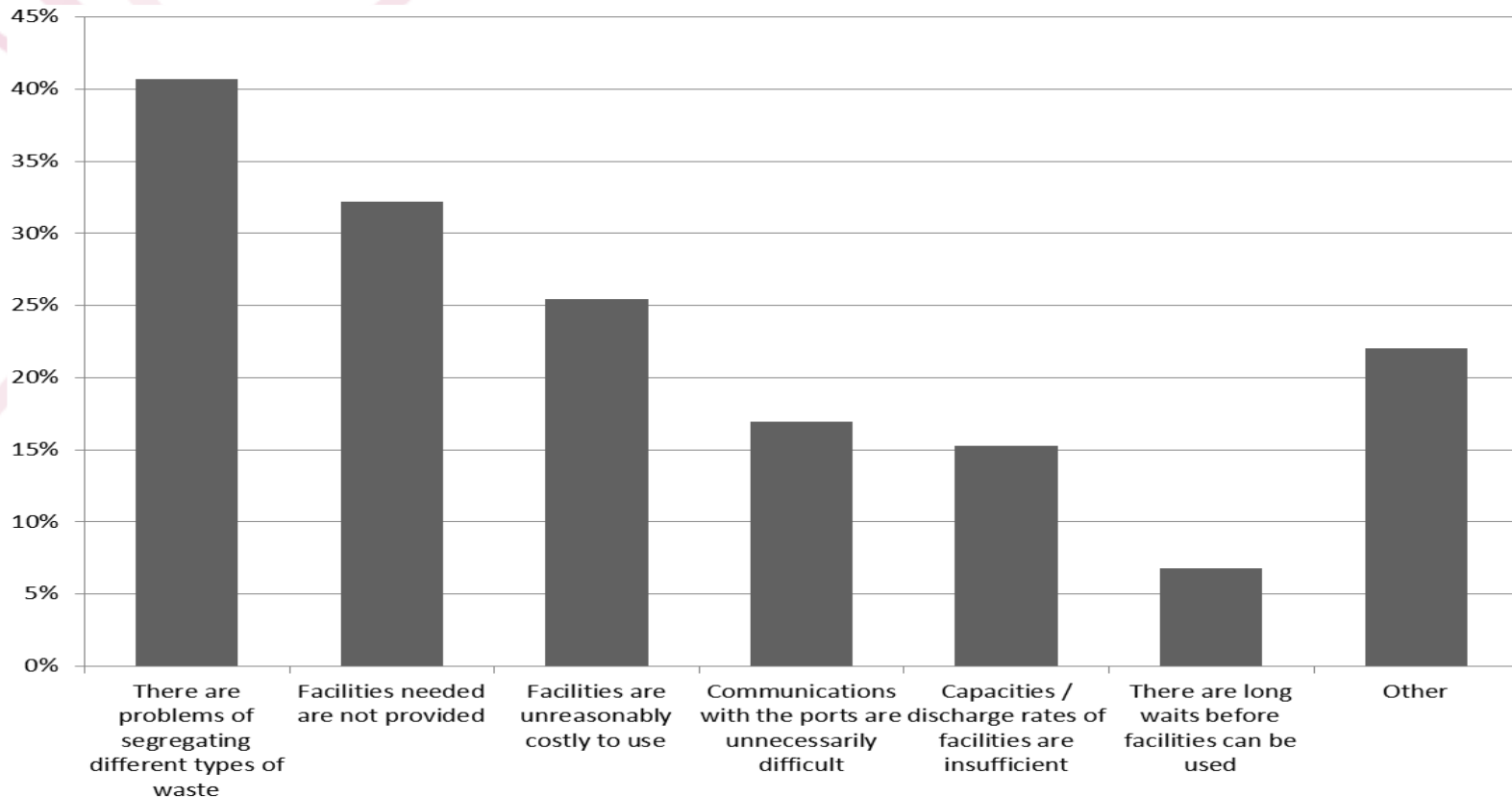
- Q5: Country or region in which you are based:
 - France: 24%
 - Sweden: 14%
 - Belgium: 12%
 - UK: 12%
 - Netherlands: 10%
 - Africa, Denmark, Finland, Germany, Greece, Italy, Malta, Spain, USA: <10%

General view on EU PRF

- Q14: In general, what is your view on EU port reception facilities?



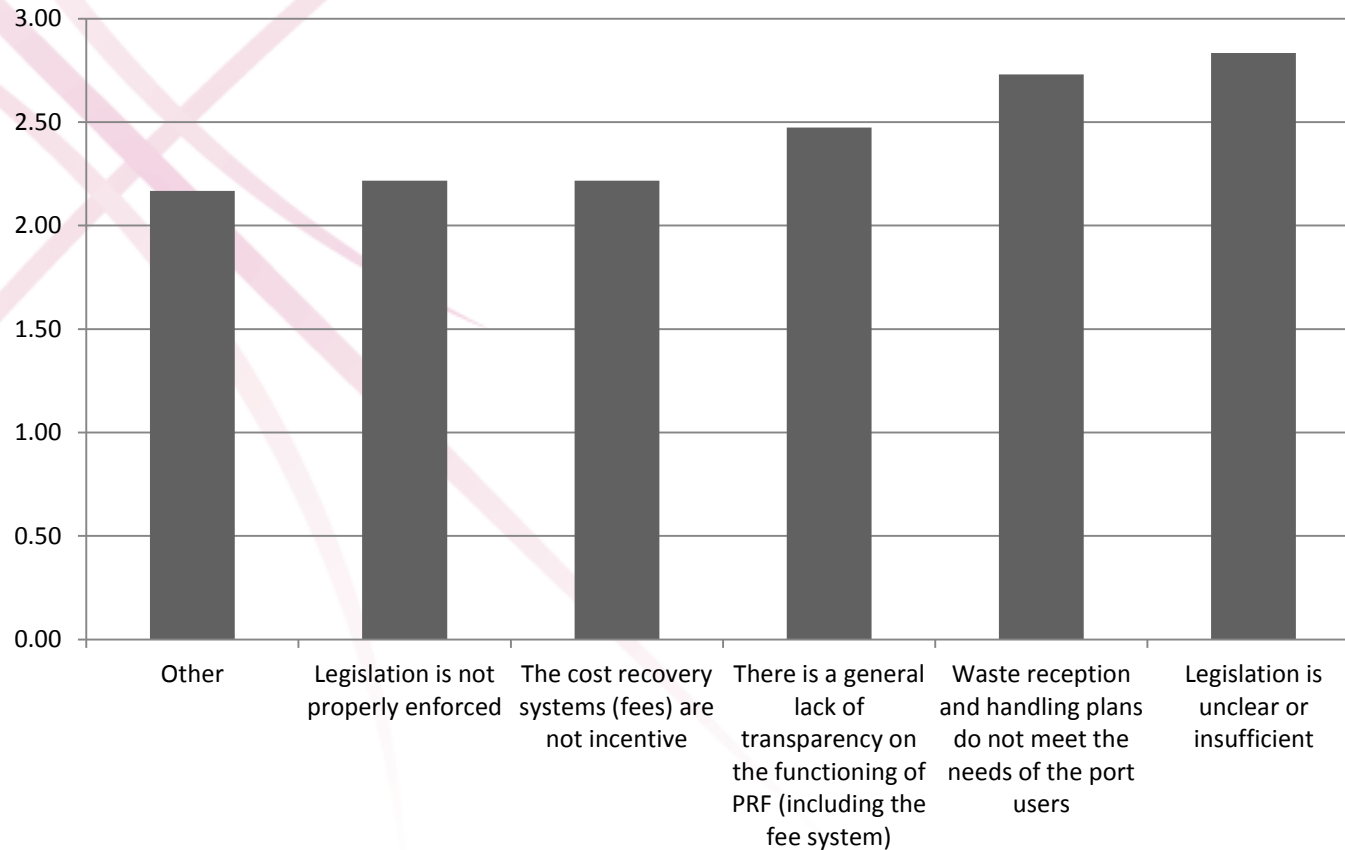
Q15. Where port reception facilities are inadequate, what are the problems?



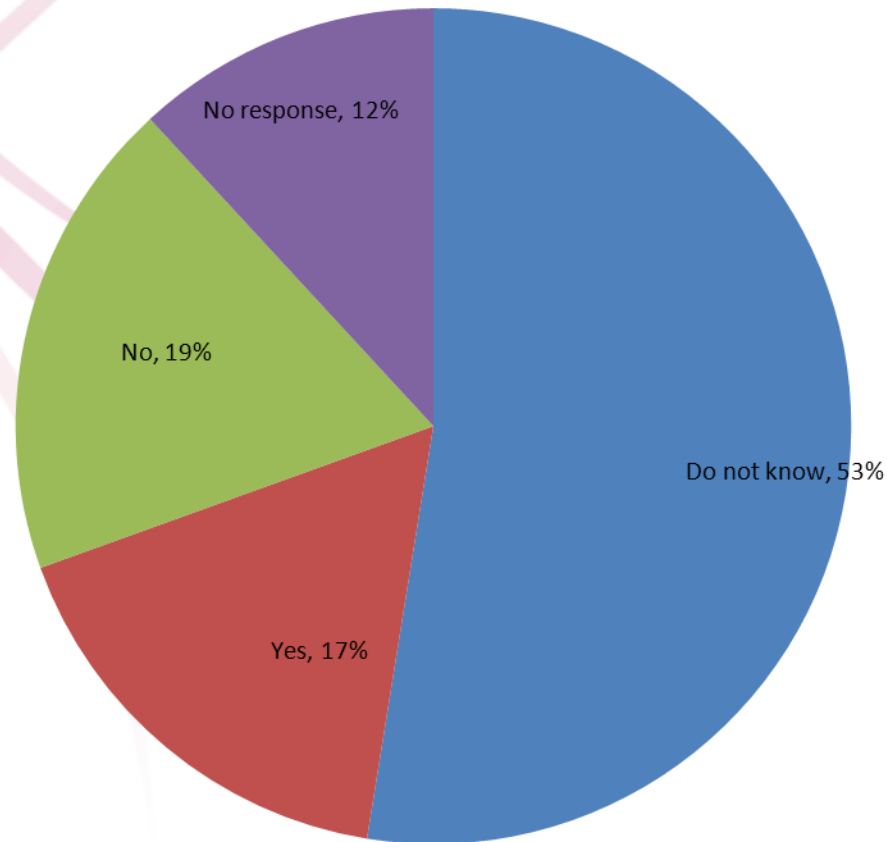
Q15. Where port reception facilities are inadequate, what are the problems?

	PRF	Gov	Env	Ship	Port	Av
Segregation	0	33	100	72	17	41
No facilities	11	44	40	61	6	32
Costly	0	22	60	44	11	25
Communications	33	0	40	28	0	17
Capacities	0	11	40	33	0	15
Wait times	0	0	60	6	0	7
Other	56	33	0	11	17	22

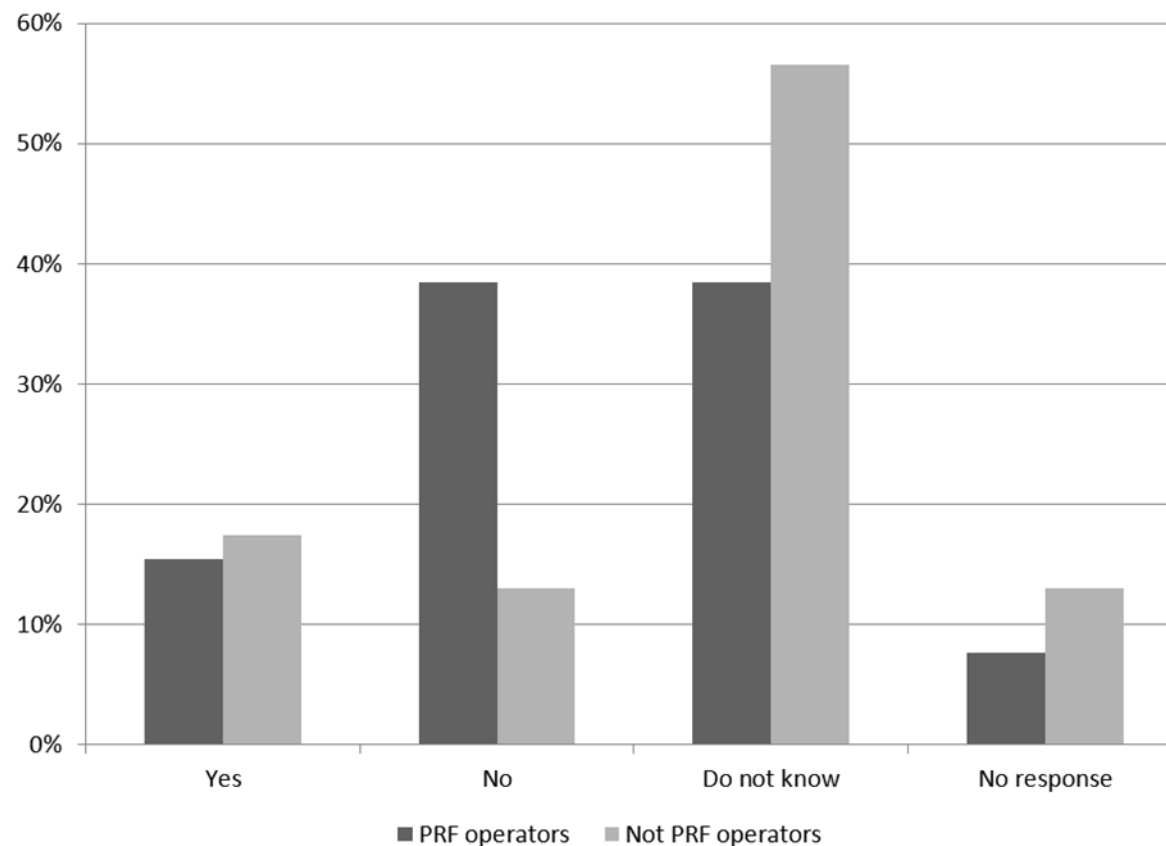
Q16. Where port reception facilities are inadequate, what in your view are the underlying reasons for this? (Scale 1 to 5)



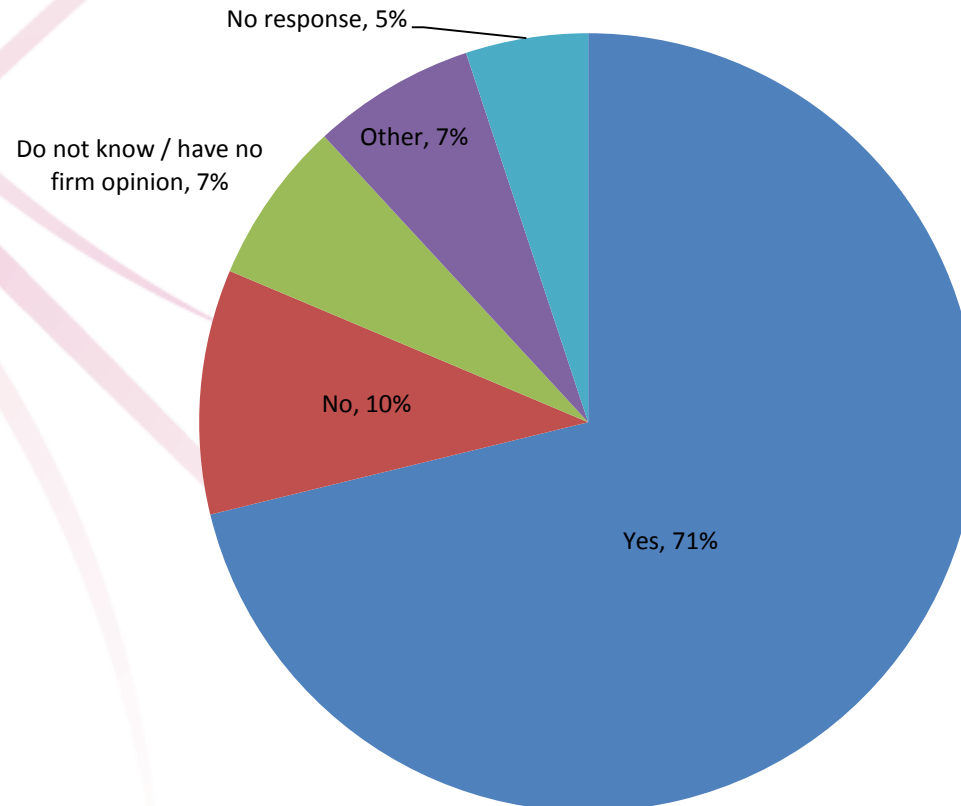
Q17. In EU ports in general, do the fees charged to ships cover the costs of providing port reception facilities for ship-generated waste?



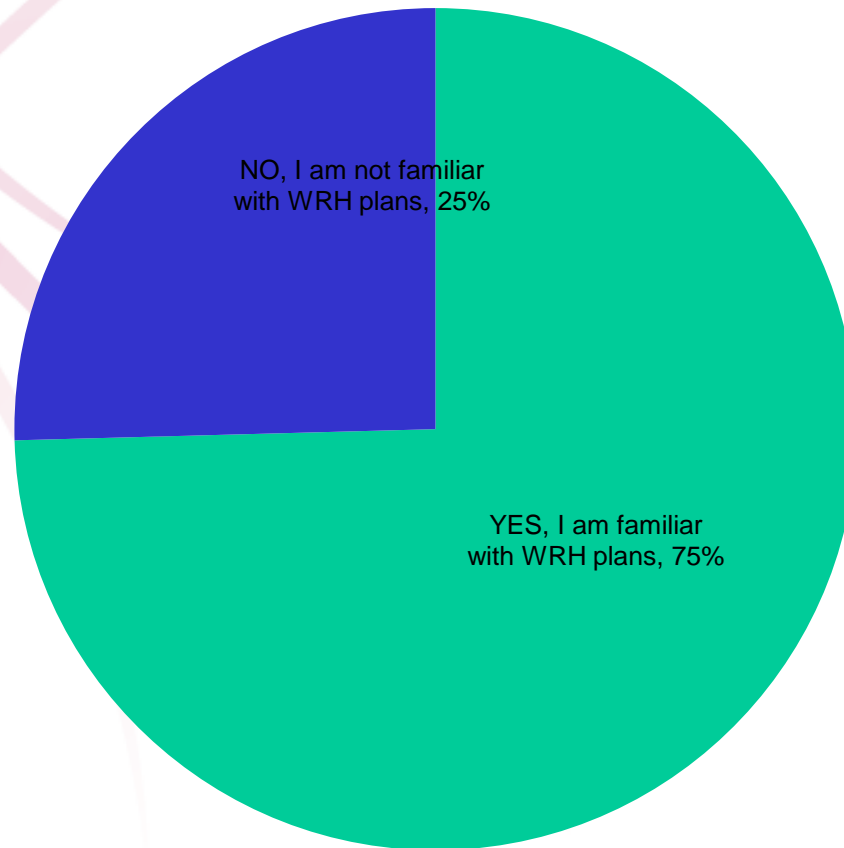
Q17. In EU ports in general, do the fees charged to ships cover the costs of providing port reception facilities for ship-generated waste?



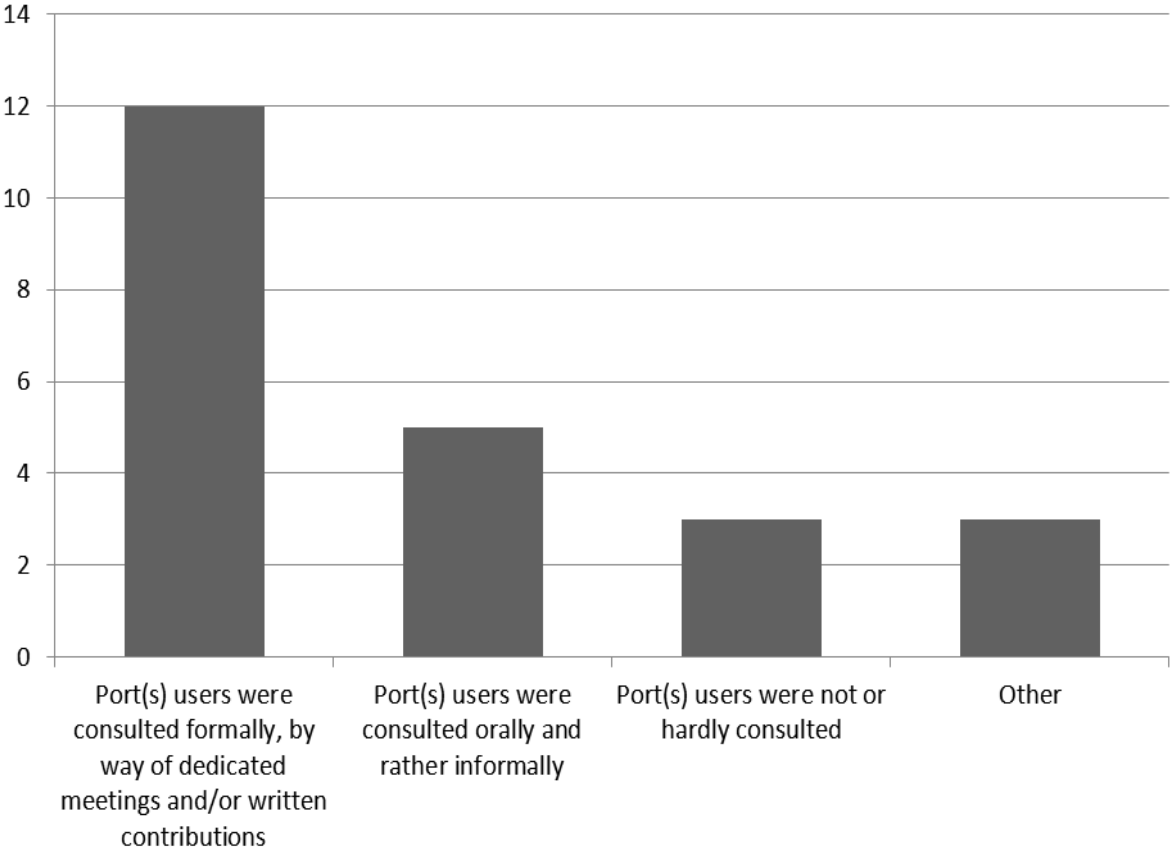
Q20. Do you think that fee systems for using port reception facilities should be harmonised at EU level?



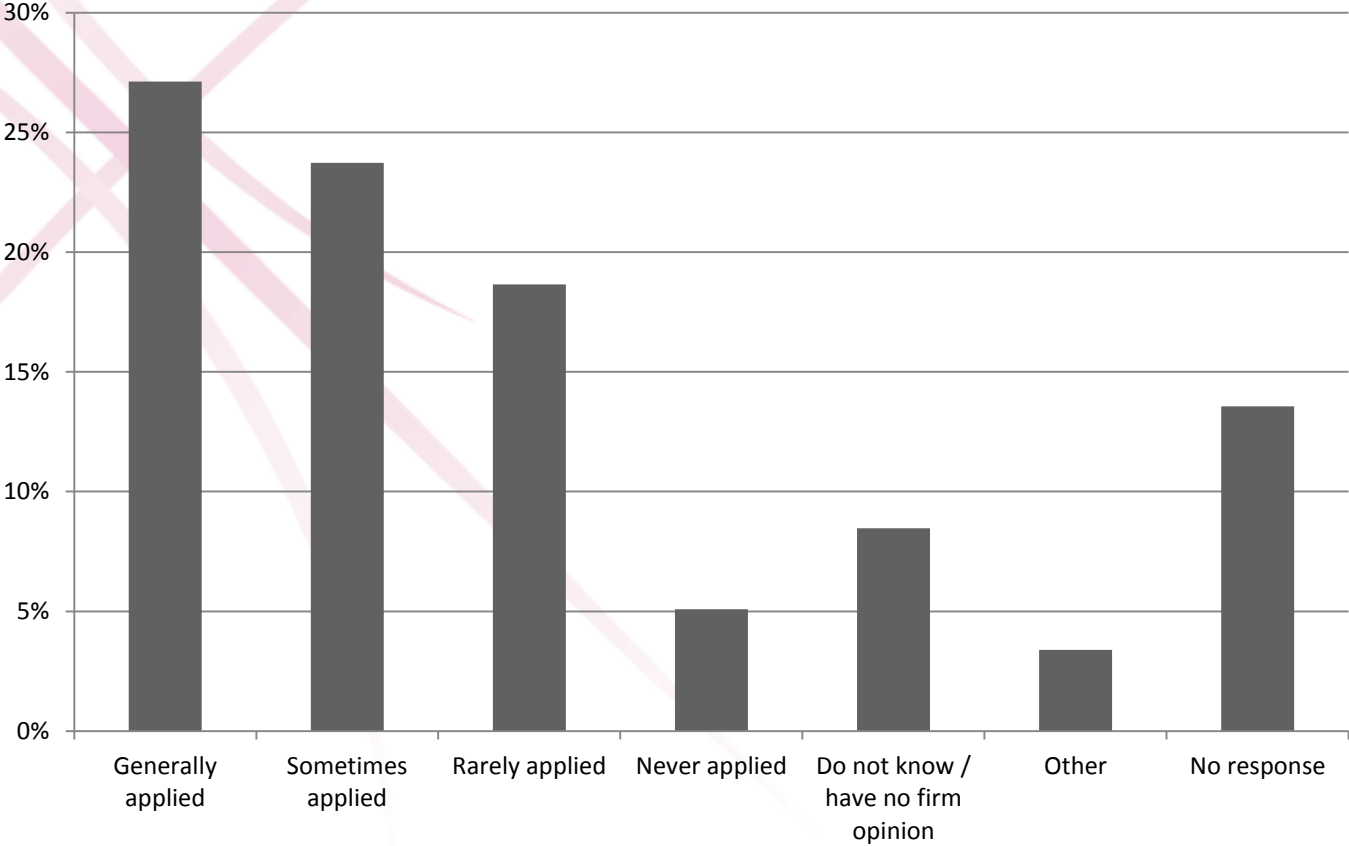
Q22. Waste reception and handling (WRH) plans in ports: are you familiar with such plans?



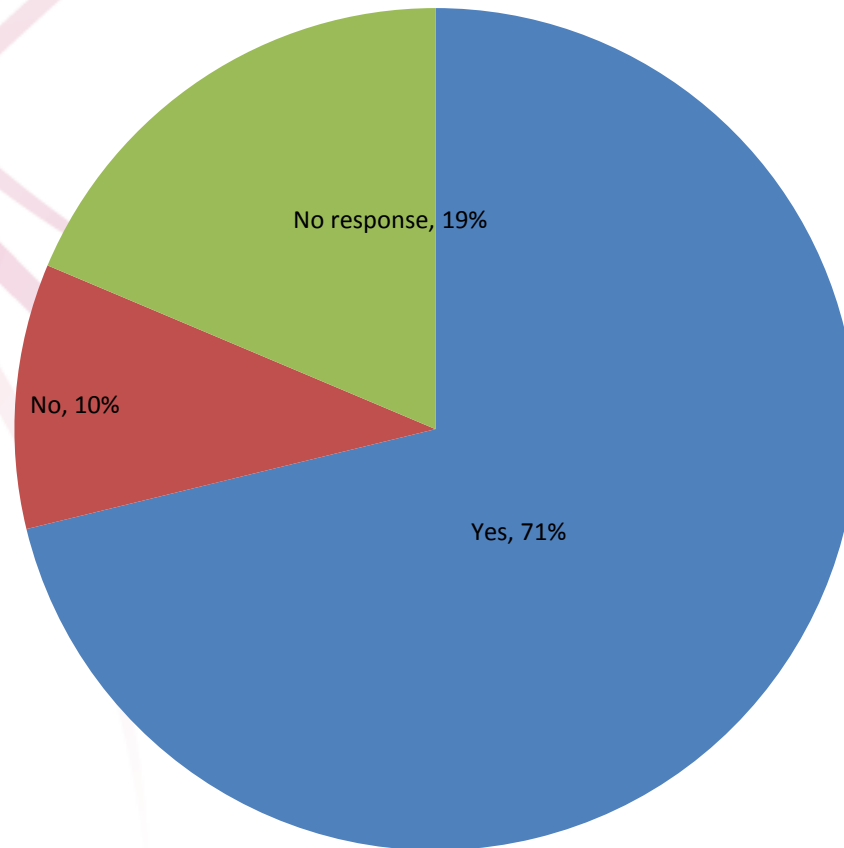
Q24. In the port(s) with which you are familiar with, which of the following statements in your view best describes the consultation process?



Q25. Article 7.2: According to your experience, how is the provision applied in the day-to-day operations of EU ports providing PRF services?



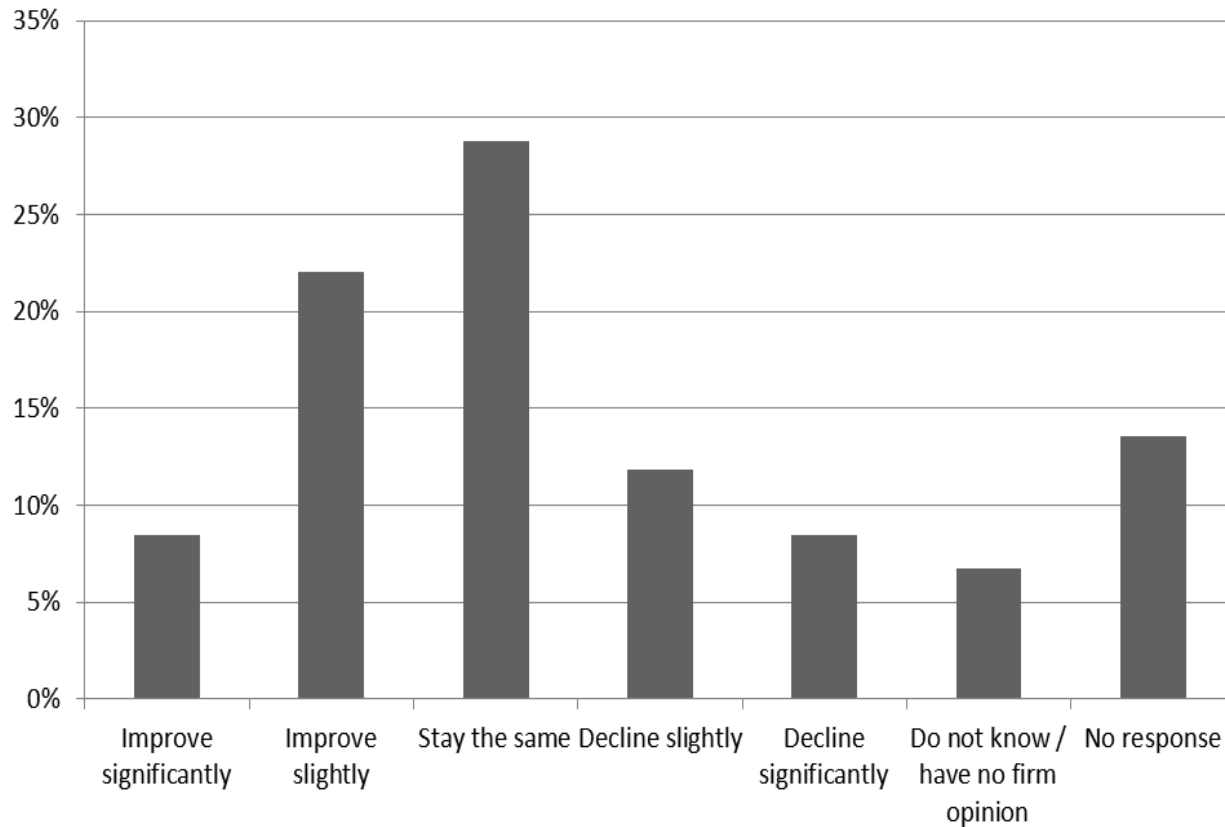
Q. 26: Do you think that an integrated information and monitoring system at EU level would contribute to implement this provision (Article 7.2) more systematically?



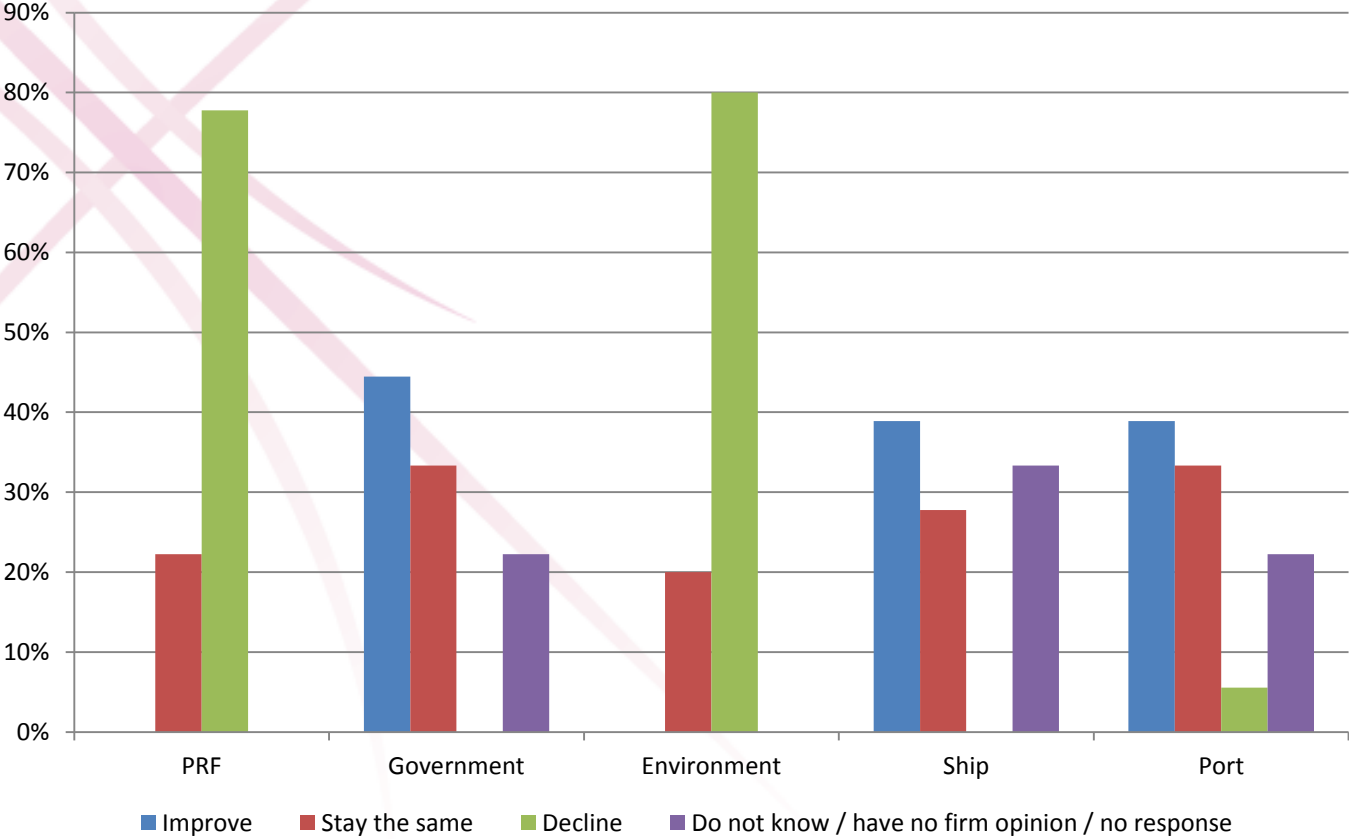
Policy options

- **Option 1:** Continuation of present policies
 - *Including planned changes, such as revisions to MARPOL Annexes*
- **Option 2:** Abrogation of Directive
 - *All other EU policy remains in place*
- **Option 3:** Better implementation
 - *Guidance on Directive*
- **Option 4:** Legislative reform
 - *Update, clarify, reinforce and modify requirements*

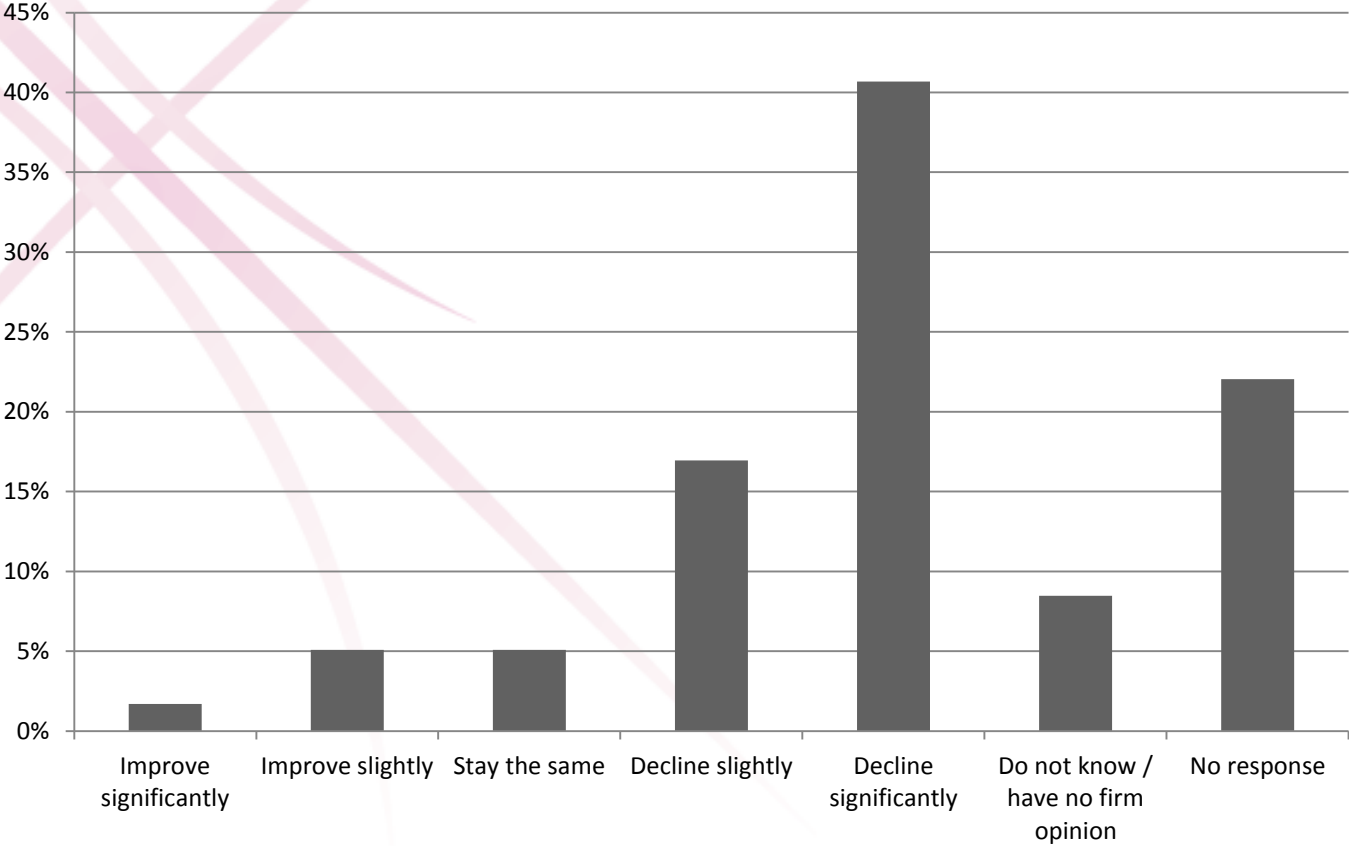
Q27. If present policies are continued, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



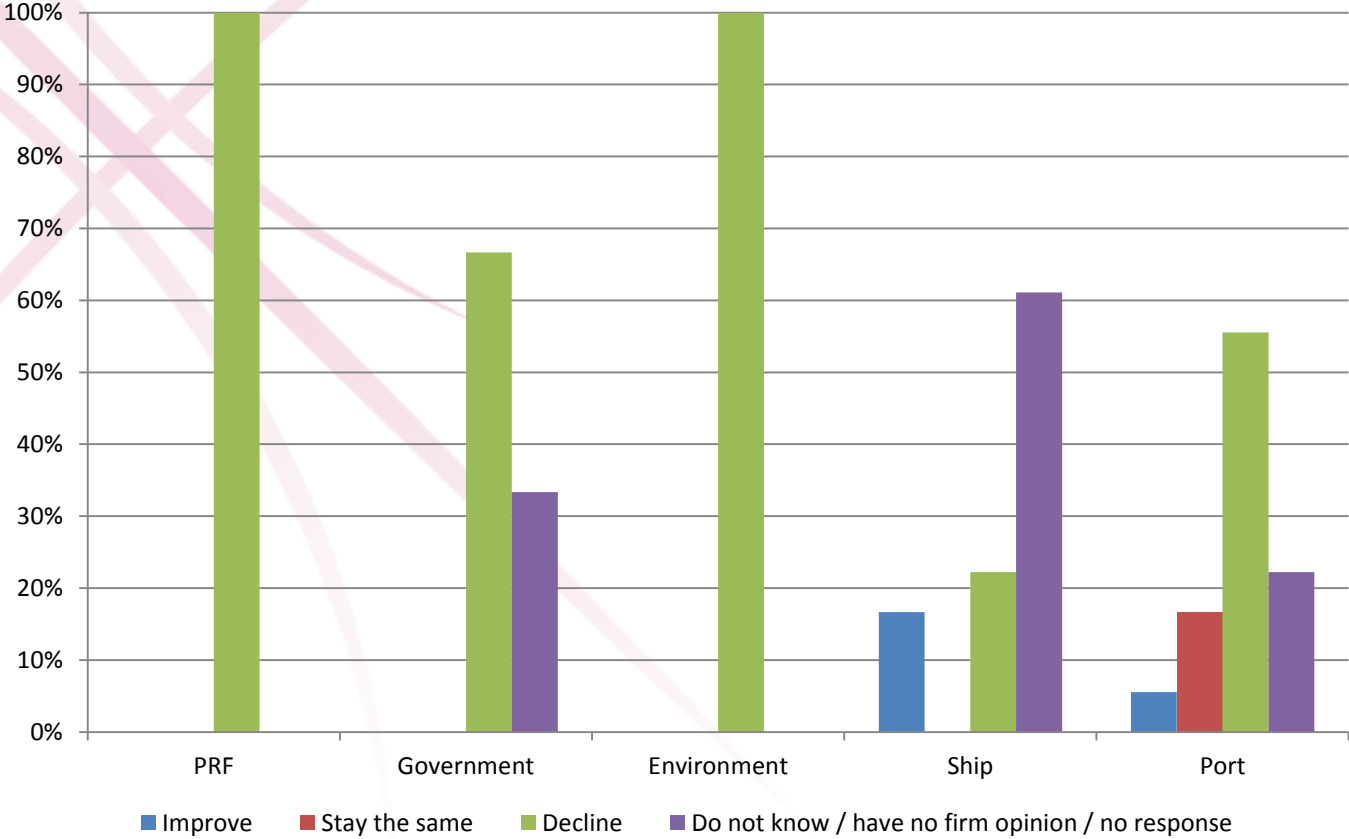
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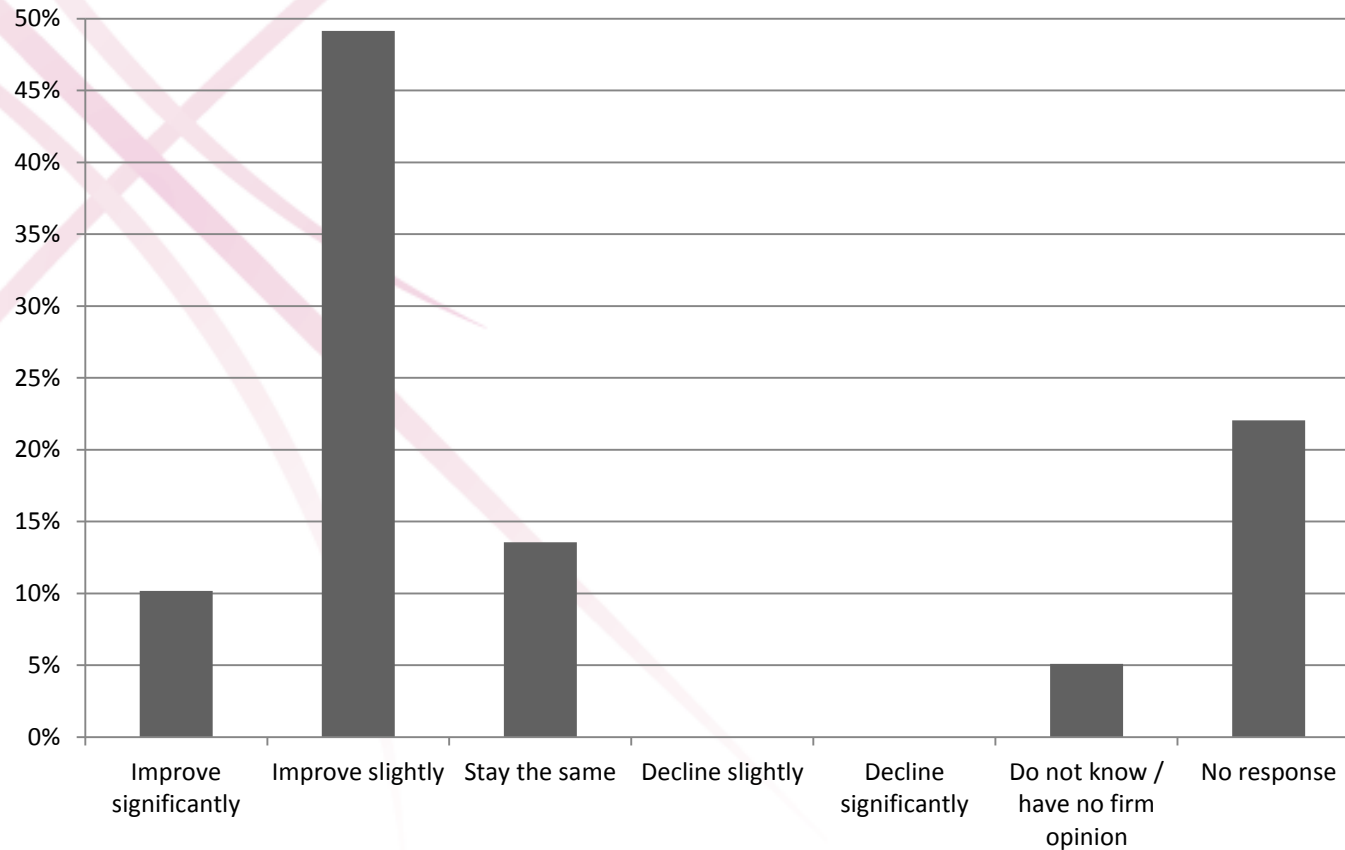
Q27. If the Directive were abrogated, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



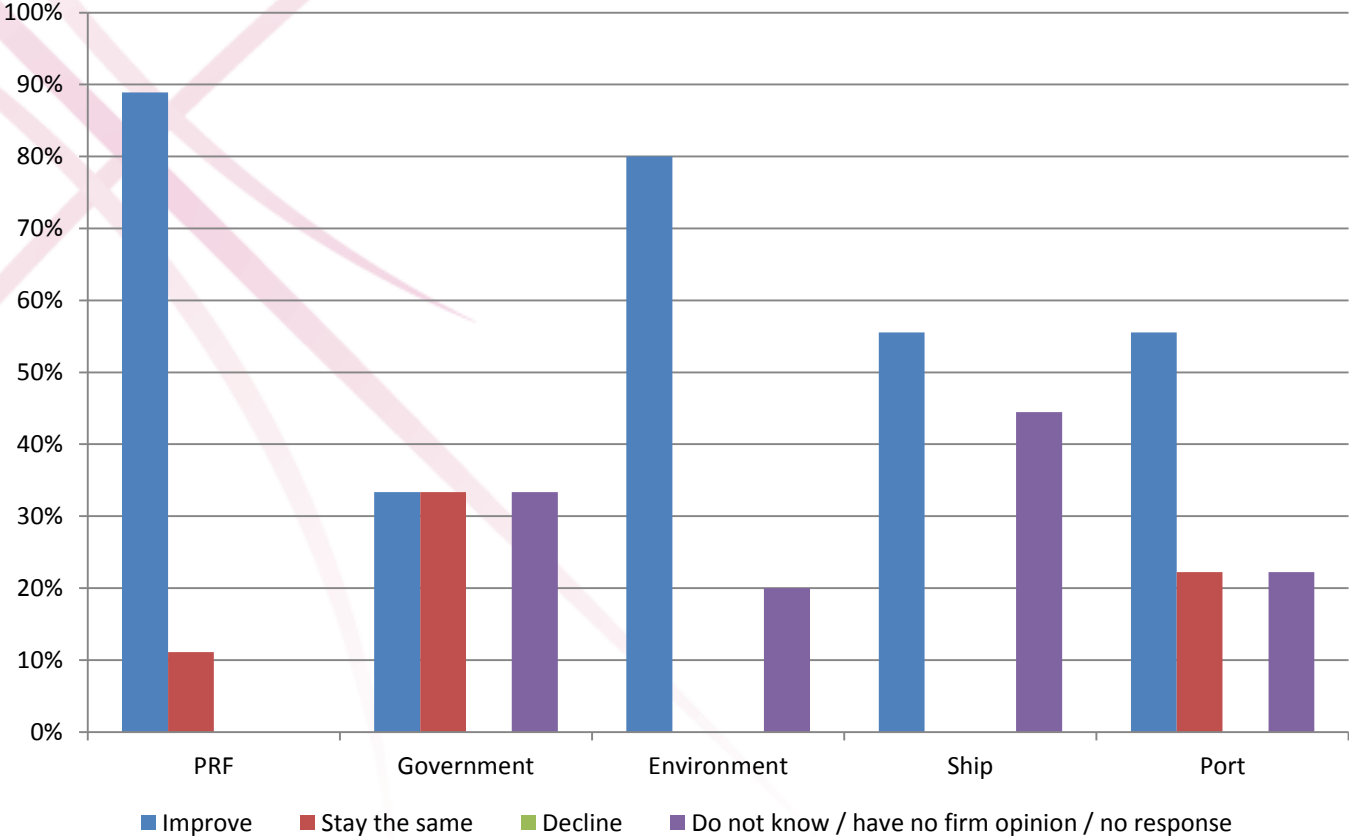
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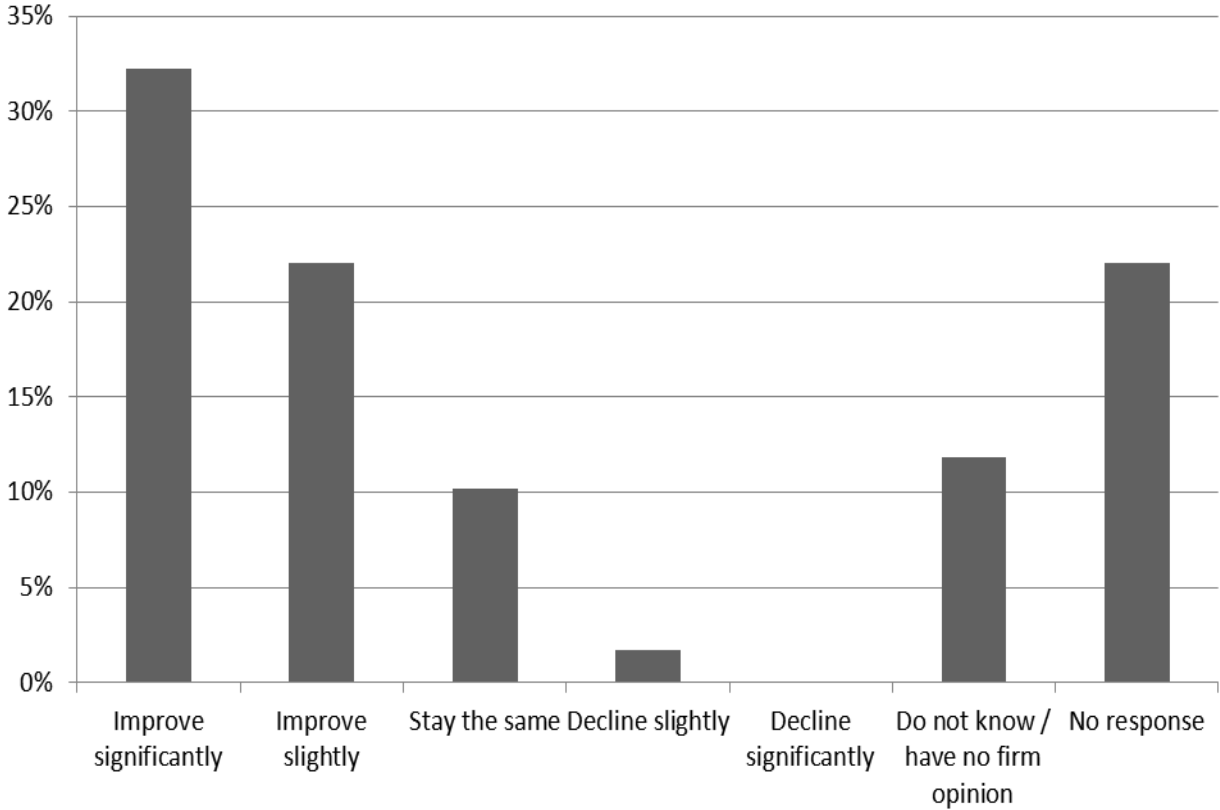
Q36. If guidance were provided on the Directive, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



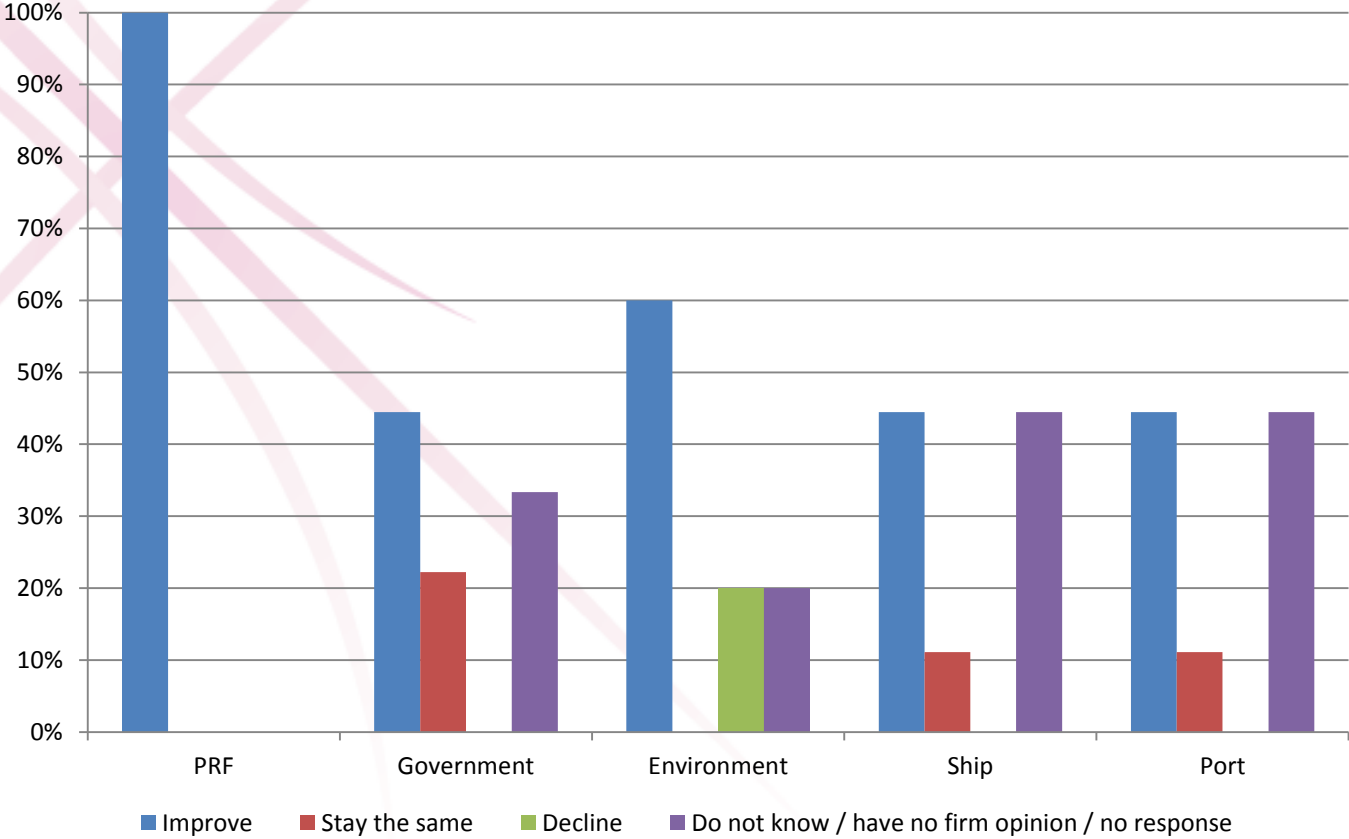
Q36. If guidance were provided on the Directive, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



Q45. If legislative reform occurred, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



Q45. If legislative reform occurred, would you expect the overall adequacy of PRF to improve, decline or stay the same over the next five years?



Consultation: conclusions (1)

- More responses from north than south EU
- Representative spread of stakeholders but differences between stakeholders:
 - *Ships more likely than ports to think that fees cover costs, to think that facilities too expensive, and to think that facilities are not provided*
 - *Environmental groups and ships most concerned about segregation*
 - *Agreement across stakeholders on utility of communications*

Consultation: conclusions (2)

- General perception of adequacy – and would continue to improve on unchanged policies
- Scope for improved consultation on WRH plans
- Support for fee harmonisation
- Inconsistent application of Article 7.2
- No support for view that these problems could be addressed by abrogating Directive
- Both guidance and regulatory change thought able to bring improvement

Case studies

- Algeciras: No special fee and more oily waste collected than any other Spanish port
- Antwerp: Use of IT to improve data
- Kalmar: Consistent segregation improved from 25% (2006) to 60% (2010)
- Lisbon: Concerns about communication, especially between Port Authority and Port State Control
- Sassnitz: No concerns about Directive
- Possible correlation between port size and waste collection per ship, particularly Annex I

Bilateral Meetings

- Concerns about:
 - Lack of data
 - “Waste tourism”
 - Segregation
 - Capacities
 - Delays
 - Lack of clarity on implementation on Directive provisions and enforcement
 - Complaints

Additional submissions

- Concerns about:
 - Delivery requirements
 - Exemptions
 - Diversity of fee systems
 - Transparency of fee systems
 - Notifications
 - Traceability

**Discussion
(2.00pm – 2.15pm)**

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Study results (2): intervention logic (2.15pm – 2.45pm)

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Intervention logic (1)

- Need to link:
 - Problem definition
 - consequences → aspects of the problem → underlying causes “drivers”
 - Objectives
 - general (treaty, legislation) → specific → operational
 - Policy options

Intervention logic (2)

- Commission impact assessments must have clear objectives which are directly related to solving the problems which have been identified
- The “drivers” – or causes – behind the problem needed to be established to ensure policy is aimed at tackling the causes rather than the symptoms of the problem

Intervention logic (3)

- The problem definition, objectives and policy options were arrived at through an **iterative process** as the project developed
- A narrow problem definition was settled on to restrict the analysis to only issues directly arising from Directive
- The objectives selected related to the problems as identified during the project

Problem definition (1) – Sources used

- Some of the main sources used to describe and structure the problem definition:
 - Stakeholder consultation
 - Interviews with ports
 - EMSA Horizontal Assessment report
 - This reported on implementation of the Directive in 22 Member States through visits to ports from 2007 to 2010
 - ECJ case law
 - Input from Dr Angela Carpenter, Lloyds Register

Problem definition (2) – Consequences

- The current consequences of the system in place have been found to be:
 - **Sub-optimal use of PRF** = discharges (legal & illegal) into the sea = damage to the environment
 - **Excessive cost and administrative burden** related to PRF service, affecting the competitiveness of European ports and ship operators
 - **Low transparency** of the overall functioning of the European system of PRF

Problem definition (3) – Aspects of the problem

- The following aspects of the problem were identified:
 - Inadequacy of PRF Infrastructure
 - Physical reception facilities and related services may not always satisfy the reasonable needs of users
 - Management and system efficiency
 - The main stakeholders involved do not always cooperate and there is insufficient competition between ports under the PRF framework to ensure the efficient provision of PRF services
 - Monitoring and enforcement
 - The control of delivery requirements and the detection of ships in breach of legislation are not always effective

Problem definition (4) – The 8 problems identified

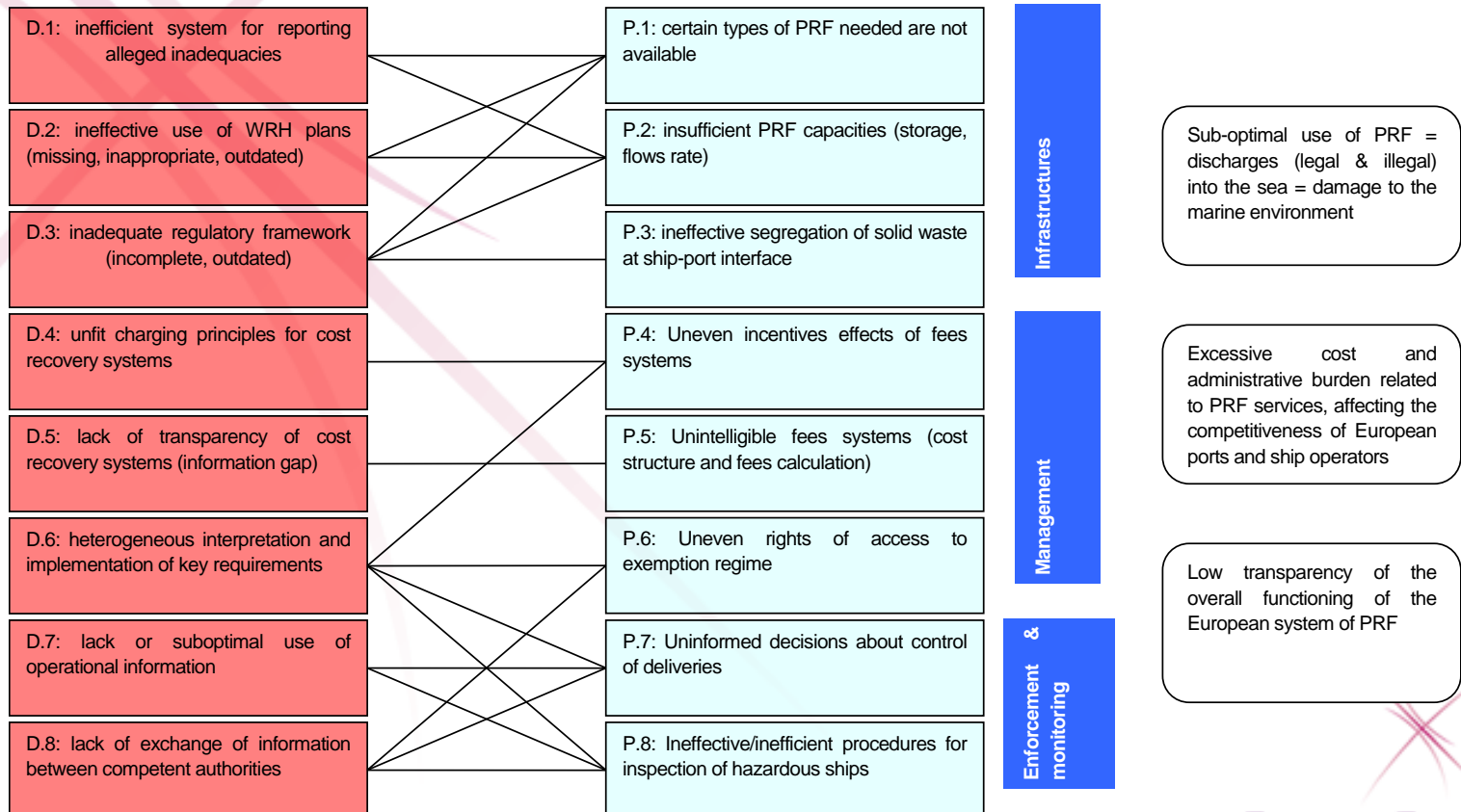
Infrastructure	P.1 Certain types of PRF needed are not available
	P.2 Insufficient PRF capacities
	P.3 Ineffective segregation of solid waste and ship-port interface
Management	P.4 Uneven incentive effects of fees systems
	P.5 Unintelligible fees systems
	P.6 Uneven rights of access to exemption regime
Monitoring and enforcement	P.7 Uninformed decisions about control of deliveries
	P.8 Ineffective/inefficient procedures for inspection of hazardous ships

Problem definition (5) – Sources used to support this rational

- Our own modelling suggests significant volumes of oily waste and sewage discharged to sea
- Evidence discussed above shows perceived practical problems
- No direct evidence of discharges to sea being caused by inadequate PRF or of excessive charges

Problem definition (6) - Structure

Drivers ↔ Problems ↔ Consequences



Objectives (1) – General objective

- General objective:

Achieve better protection for the marine environment by improving the system of PRF for ship-generated waste and cargo residues and increase their use by ships

Objectives (2) – Specific objectives

- Specific objectives:
 - Improve availability and adequacy of PRF services to reduce discharges at sea
 - Improve efficiency of PRF management to minimise operational and administrative costs
 - Improve overall transparency of the EU system of PRF to allow for a better assessment of its effectiveness

Objectives (3) – Operational objectives

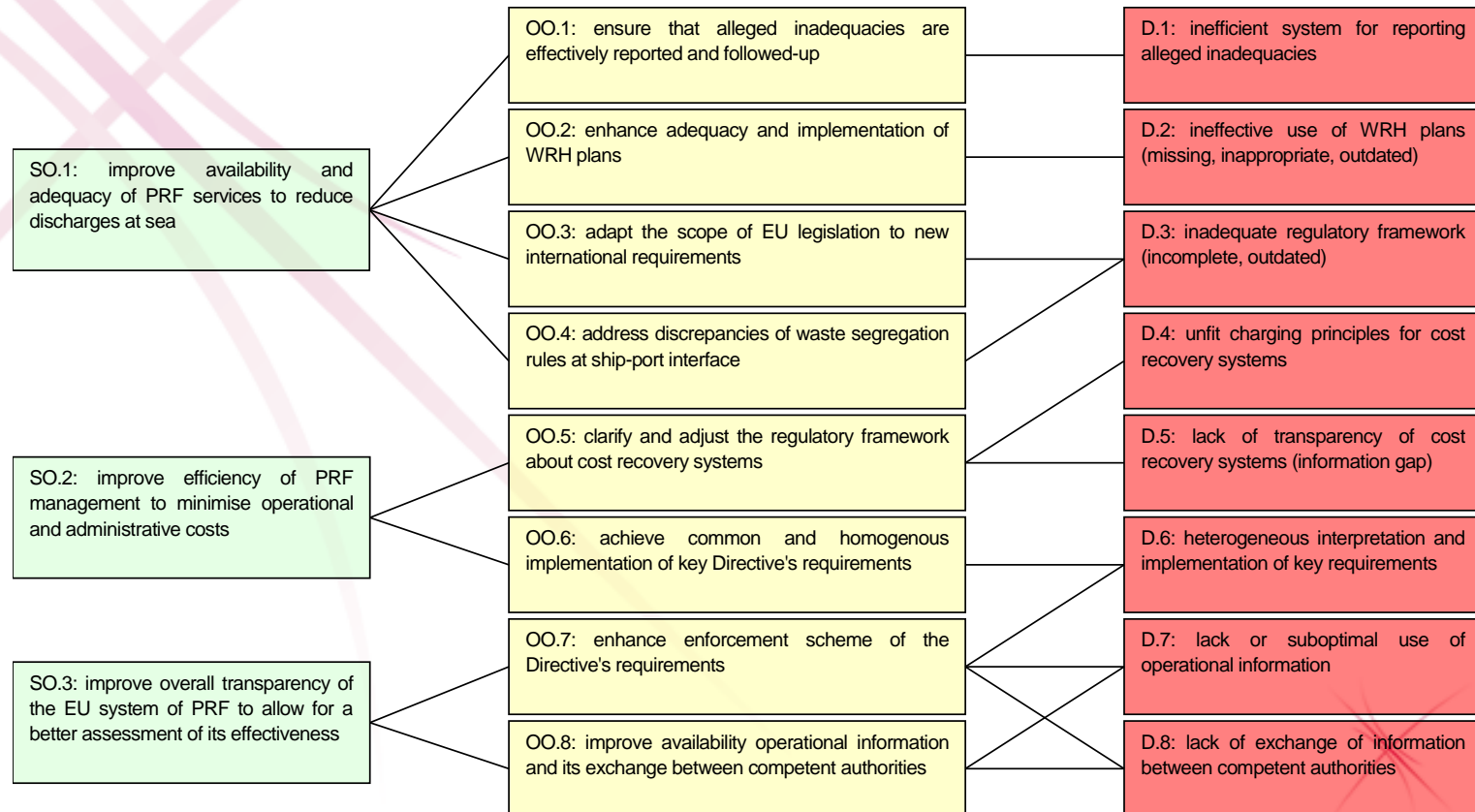
- Series of operational objectives (continued over page):
 - *To ensure that complaints are properly reported and followed up.*
 - *To ensure good quality waste reception handling (WRH) plans, and that these plans are properly implemented.*
 - *To adapt the EU law to new international requirements.*
 - *To address discrepancies of waste segregation rules at ship-port interface.*

Objectives (4) – Operational objectives

- Operational objectives (continued):
 - *To clarify and adjust the regulatory framework concern cost recovery systems*
 - *To achieve common and homogenous implementation of key Directive requirements*
 - *To enhance enforcement of the Directive's requirements*
 - *To improve availability operational information and its exchange between competent authorities*

Objectives (4) – Links

Specific objectives ↔ Operational objectives ↔ Drivers



Policy Measures (1)

- 33 policy measures were investigated to address the operational objectives
- Policy measures were categorised as:
 - Recommendations (REC);
 - Implementation of existing law (IMPL);
 - Legislation (COD); or
 - Comitology (CMTO).
- Please see print-outs of 33 measures

Policy Measures (2)

- Grouped under thematic areas (+ operational objectives):
 - Alleged inadequacies
 - Waste reception and handling plans
 - Scope of EU legislation
 - Solid waste segregation
 - Cost recovery systems
 - Homogenous implementation
 - Enforcement
 - Operational information

Policy measures (3) – Alleged inadequacies

COD.1 - Provide for reinforced and quicker procedures, based on the existing IMO procedures but enhanced

REC.1 - Guidance on how to better implement the IMO procedures for alleged inadequacies

IMPL.1 - Centralised system at EU level to record and treat complaints lodged by PRF users

Policy measures (4) – Waste reception and handling plans

REC.2 - Guidance on WRH plans

REC.3 - Guidance on WRH plans for small ports

CMT0.3 - Provide for (Annex I) a simplified model of WRH plans for small ports

REC.4 - Guidance on optimising the participation of stakeholders in consultations

COD.5 - Harmonised checklist for MS to monitor the implementation of WRH plans

REC.5 - Guidance for MS on monitoring the implementation of WRH plans

Policy measures (5) – Scope of EU legislation

COD.6 - Include MARPOL Annex VI in the definition of ship-generated waste

COD.7 - Include ballast water sediments in the scope of the Directive

Policy measures (6) – Solid waste segregation

COD.8 - Incorporate solid waste segregation requirements in the Directive based on new ISO standards

REC.8 - Recommendations on solid waste segregation requirements with reference to the new ISO standard

Policy measures (7) – Cost recovery systems

COD.9 / REC.9 - One harmonised cost recovery system / guidance on cost recovery systems

COD.10 - 100% indirect costs for garbage

COD.11 / REC.11 - Harmonised definition / guidance of what elements to be included in the costs of PRF and the relationship "fees" vs. "costs"

COD.12 / REC.12 - Establish parameters to be considered about fee discounts for "green" ships / guidance on fee discounts for "green" ships

COD.13 - Provide for a value for "significant contribution"

Policy measures (8) – Homogenous implementation

COD.14 / REC.14 - Legislation/guidance on implementation of Article 9 "exemptions" (1) Clarify the terms (2) Provide for specific typical situations

COD.15 - Include a threshold for remaining sufficient dedicated storage capacity beyond which delivery is mandatory

REC.16 - Guidance on how to calculate "sufficient dedicated storage capacity"

COD.17 - Provide for modulated mandatory delivery requirements of SGW according to defined circumstances

Policy measures (9) – Enforcement

REC.18 - Guidance on inspection and enforcement, including tools (check-list)

REC.19 - Guidance on what minimum control procedures are required for fishing vessels and small recreational craft

Policy measures (10) – Operational information

COD.20 - Include a reporting requirement on waste collected, to be included in MS status reports. Ensure that a waste delivery receipt is collected ex post.

CMTO.21 - Update the waste notification form to account for international developments

IMPL.22 - Implement a dedicated information system to facilitate the exchange of information

IMPL.23 - Create a EU database to provide relevant information to port users and other stakeholders

COD.24 - Specify what type of information should be exchanged

Policy options

- *PO.1: Status quo*
- *PO.2: Revoke Directive*
- *PO.3: Better implementation*
- *PO.4: Extensive legislative reform*
- *PO.4*: Extensive legislative reform with recommendations*
- *PO.5: Limited legislative reform.*
- *PO.5*: Limited legislative reform with recommendations*

**Discussion
(2.45pm – 3.10pm)**

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Questions for discussion

- Do delegates agree with the problem definition?
- Do delegates agree with the specific and operational objectives?
- Do delegates agree with the selected policy options/measures?

**Study results (3): Expected impacts of the selected
policy options
(3.30pm – 4.00pm)**

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Study Results (3): Expected impact of policy options

- Three important questions:
 - Can valuable guidance be given to the Commission at the high level of the six policy options – we will suggest that this is possible
 - Can any of the likely costs and benefits be quantified, and if so how
 - How can the 33 or 34 specific measures under consideration be assessed?

PO. 1: Status quo

- Outlook highly uncertain
- PRF adequacy may continue to improve:
 - Slow growth of most types of shipping
 - Intensified sanctions against discharging at sea
 - New IMO and other international agreements for sensitive areas
 - Support for environmental goals from leading ship owners
 - Technological progress (“green ships” & better ICT)

PO. 1: Status quo – Expected impacts

- On the other hand
 - Eurozone crisis and other economic problems mean resources to maintain or enhance PRF may not be available – nor in Europe Economics' view should shipping and its customers be asked to absorb increased charges unless absolutely essential.
 - Environmental improvements generally may have to be given a lower priority – but this is a matter for the EU's political leaders

PO. 1: Status quo – Assessment

- On balance, an uncertain outlook but
 - Continued improvements seem likely
 - There will be strong pressures to achieve economies wherever possible

PO. 2: Revoke Directive

- Balance of respondents to consultation expected that revocation would lead to a deterioration of PRF
- We see no reason to disagree with this
- No political pressure for such de-regulation
- However in time if externalities of discharges to sea are internalised there may be no continuing justification for this legislation

PO. 3: Better implementation

- An attractive option because:
 - No fundamental flaws in the Directive
 - Some updating can be done through comitology
 - Article 17 requires Member States to provide reports on implementation to the Commission – these could become fuller and more detailed assessments
 - No need for new legislation

PO. 4: Extensive legislative reform

- Some advantages:
 - Extensive legislative reform would reduce or remove discretion from Member States over how the Directive should be implemented
 - Would lead to some additional investment in improved PRF
 - Greater standardisation / harmonisation would have some advantages for shipping

PO. 4: Extensive legislative reform

- But some disadvantages, perhaps decisive:
 - Circumstances vary substantially so that imposing common solutions could lead to inefficiency
 - Eurozone crisis and poor economic outlook for whole EU and particularly for important maritime countries (e.g. in Mediterranean) and Ireland argue strongly against imposing new costs unless absolutely essential.

PO.4*: Extensive legislative reform with recommendations

- Recommendations could be of value, they allow greater flexibility, and should be much less costly to prepare than legislation.
- However this policy option would also include extensive legislation

PO.5: Limited legislative reform

- Limited legislative reform would bring Directive into line with current MARPOL definitions
- This is desirable if not essential (most Member States would in any case be obliged under international agreements to follow the current IMO and other definitions)

PO.5*: Limited legislative reform with recommendations

- This option would include the potentially useful guidance, supplementing that from IMO and elsewhere, and avoid the costs of extensive legislative reform

Quantification

- We need to address:
 - How much waste is being treated in EU PRF?
 - What is the environmental harm caused by discharges to sea?
 - How much would it cost to increase the capacity of PRF to deal with different types of waste?
 - How much would it cost to prepare useful guidance documents?
 - How do the costs and benefits of increasing the capacity of PRF compare?
 - Why are the estimates in such wide bands?

Impacts of policy options (1)

- Costs / benefits:
 - Environmental
 - Social
 - Economic
 - Administrative
- Impacts have been assessed qualitatively and/or quantitatively

Impacts of policy options (2)

- For social, economic and administrative costs, impacts were calculated where possible for each of the 33 individual measures
- For environmental benefits, impacts were calculated at the level of policy options
- Policy options are formulated as a combination of individual measures

Impacts of policy options (3)

- Particular attention was paid to who would bear the possible costs and benefits
- For instance, the investments for upgrading reception facilities would first appear as a cost for ports but eventually would be borne by the users of the facilities through the fees system

Important figures in the calculation of impacts

- Environmental
 - Cost per m³ of each waste type discharged at sea
- Economic
 - Cost per m³ to provide PRF for each waste type
 - Cost to put together guidance documents
 - Various costs of compliance

Environmental cost per m³ of each waste type discharged at sea

- Environmental costs of Annex I waste were derived from the CATS literature
- Environmental costs of Annex IV and Annex V waste were derived from an impact assessment done by the UK Maritime and Coastguard Agency

	Low	Mid	High
Annex I	€7	€113	€491
Annex IV	€0.02	€0.03	€0.18

Costs of adding to PRF

- Investment and operating costs were combined into one annual cost using a 10 year amortisation rate
- Minimum, mean and maximum values were found for the annual cost per unit of capacity for each waste type

Economic cost per m³ to provide PRF for each waste type

- The economic costs of providing additional PRF capacity varied substantially by the size of the facility

	Low	Mid	High
Annex I	4	55	182
Annex IV	2	15	36
Annex V	3	29	60

Environmental (top) v economic (bottom) cost per m³

	Low	Mid	High
Annex I	€7	€113	€491
Annex IV	€0.02	€0.03	€0.18

	Low	Mid	High
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Environmental (top) v economic (bottom) cost per m³

	Low	Mid	High
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Cost of guidance documents

- Topics for guidance classified as simple or complex
- Based on time estimates and wage rates, estimated costs of producing guidance were calculated as around €100,000 (simple) and €1,000,000 (complex)
- Maximum cost of all guidance would therefore come to below €10,000,000

Administrative burdens

- Estimates derived:
 - Total cost to ports of providing evidence of having a WRHP
 - Total cost to ports of providing data on waste and cargo residue discharges
- Calculation made: *Time taken for each port to provide evidence x (weighted by port calls) x number of ports x hourly wage*
- Total administrative burden estimated as €60,000 - €1 million

Compliance costs

- Costs were calculated for:
 - Increased compliance with WRHP requirement (ports)
 - Increased compliance with ship notification requirements (ships and ports)
 - Increased compliance with ship inspection targets (ships and inspection agencies)
 - Increased reporting of PRF inadequacies (ships)

Compliance costs (2)

- Calculation made: *Time taken to comply with requirement x (weighted by port calls) x number of ports or number of port calls x [1/(average port calls annually per ship)] x percentage of ports or port calls not currently in compliance x hourly wage*
- Total compliance cost is estimated as between €1.3 million and €1.5 million
 - Of which: Ships = €600,000, Ports = €300,000-€500,000, Enforcement Bodies = €400,000

Discussion
(4.00pm – 4.30pm)

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**Structured discussion on impacts where additional information and data are needed
(4.30pm – 5.00pm)**

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Structured discussion on impacts where additional information and data are needed (1)

- What real harm would come from a continuation of the status quo?
- Would better enforcement of the existing Directive, plus guidance, be able to deal with most problems?
- Are we right to suggest that extensive legislative reform is unnecessary and might be very costly; and should not be risked at this juncture?

Structured discussion on impacts where additional information and data are needed (2)

- Marpol Annex 1 – oily waste
 - Modelling suggests very large amounts still being discharged; and selective investments in PRF could be justified
 - Likely costs?

Structured discussion on impacts where additional information and data are needed (3)

- Marpol Annex IV - sewage
 - Modelling again suggests large amounts going to sea
 - But cost of added capacity would not in general be justified (exceptions – sensitive areas)
 - Do you agree?

Structured discussion on impacts where additional information and data are needed (4)

- Marpol Annex VI – waste from scrubbers
 - GISIS implies reasonable coverage at present
 - Lack of information on likely costs

Structured discussion on impacts where additional information and data are needed (5)

- Segregation:
 - Wide support for better segregation
 - Costs to ports of achieving new ISO standards on segregation are unknown

Structured discussion on impacts where additional information and data are needed (6)

- Reporting arrangements and IT
 - Our information suggests that modest cost could achieve what improvements are needed; no need for major new system
 - Do you agree? Any significant costs?

Structured discussion on impacts where additional information and data are needed (6)

- Social impacts:
 - Are there any costs/benefits that seem likely to disproportionately fall upon different parts of the EU?

Structured discussion on impacts where additional information and data are needed (7)

- Fees
 - One option – harmonise/standardise, maybe require no special charges
 - Would reduce waste tourism but
 - Could be very inefficient
 - Evidence on impacts?

**Update on next steps
(5.00pm – 5.15pm)**

European Commission

PRF Workshop, 10 May 2012

**Discussion
(5.15pm – 5.30pm)**

All

PRF Workshop, 10 May 2012

Conclusions and wrap-up of the workshop (5.30pm – 5.45pm)

Europe Economics

PRF Workshop, 10 May 2012



Thank you