Free plastic waste disposal in the ports of Rotterdam and Amsterdam[i]

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Brief summary of the case

Since 1 January 2016, sea-going vessels visiting the ports of Rotterdam and Amsterdam can dispose of their plastic waste without paying a fee. This price incentive is only effective for amounts of garbage that exceed 6 m^3, since for smaller amounts the disposal fee is already included in the port dues and is unrelated to the amount of garbage.

The effectiveness of this instrument is not yet known, but it fits well in the framework of the multi-stakeholder 'Green Deal' on ship waste. This Green Deal aims at closing the maritime waste cycle by means of waste prevention and delivering waste in harbours, and at contributing to the closing of the plastic cycle by collecting plastic waste separately and making it suitable for recycling.

The instrument is accepted by all stakeholders and is considered to be suitable for application in other sea ports. Harmonisation of the waste disposal rate structure provisions in the port reception facilities Directive (2000/59/EC) could be helpful to enhance the effectiveness of the instrument. Changes in the Animal by-products Regulation might also be needed to avoid that plastic (kitchen) waste cannot be accepted for recycling.

1 Description of the design, scope and effectiveness of the instrument

1.1 Design of the instrument

EU Directive 2000/59/EC on port reception facilities (PRF) for ship-generated waste and cargo residues obliges Member States to ensure the availability of adequate port reception facilities so as to reduce the discharges of ship-generated waste and cargo residues into the sea. This Directive, together with the MARPOL Convention[1], has been an important factor behind the strong growth in the amount of waste from sea-going vessels that was disposed of in the Dutch seaports over the past few years (Green Deal Scheepsafvalketen, 2014). Between 2005 and 2013, the total amount of waste disposed of in Dutch seaports grew from 100,000 to 260,000 m^3 (Rijksoverheid, 2014). In the port of Amsterdam, the percentage of ships disposing their waste has increased from 15 to 70% after the introduction of the Directive (Green Deals, 2016a).

The costs of PRFs, including the treatment and disposal of the waste, should be covered through the collection of a fee from ships. Although a strictly proportional rate (per kg of waste supplied to a PRF) could be perceived as fair, it might create an incentive for ships to discharge their waste into the sea. Therefore, article 8 of the Directive provides that all ships should contribute significantly[2] to the costs of the PRFs, irrespective of their actual use of the

[1] International Convention for the Prevention of Pollution from Ships.

[2] The European Commission added a 'Statement from the Commission' to the legal text of Directive 2000/59/EC, indicating that it interprets the word "significantly" as a figure of the order of at least 30 % of the costs.

facilities. Fees may be reduced if the ship's environmental management, design, equipment and operation are such that it produces reduced quantities of waste.

Since 1 January 2016, sea-going vessels visiting the ports of Rotterdam and Amsterdam can dispose of their plastic waste without paying a fee and without a quantitative limit, provided that the plastic is clean and adequately separated. The plastic waste should be supplied simultaneously with the other waste from the ship. It should be noted that, in accordance with the PRF Directive, the ports of Rotterdam and Amsterdam apply a fixed fee for the disposal of garbage[3]. This fee is included in the port dues and has to be paid by each ship, independent from the amount of waste disposed, but dependent on the size or engine capacity of the ship (see Table 1). Upon payment of this fee, the ship's agent receives a disposal allowance, giving the right to dispose of 6 m^3 of garbage. Only if the amount of garbage disposed of exceeds 6 m^3 will the ship's agent receive an invoice from the waste collecting company. As a result, the incentive provided by the free plastic disposal is only effective to the extent that the amount of 6 m^3 of garbage is exceeded. Thus, there is an incentive for ships to accumulate separated plastic waste in order to benefit as much as possible from the free disposal.

Table 1: Fee rates for garbage in port dues of Amsterdam and Rotterdam seaports, 2016

Amsterdam		**Rotterdam**	
gross tonnage (GT)	**rate**	**main engine capacity (kW)**	**rate**
≤ 3000	EUR 100 + 0.06 x GT (*)	< 4,000	EUR 225
> 3000	EUR 280 + 0.01 x GT (*) (**)	≥ 4,000	EUR 315

(*) 25% reduction for vessels that use (always and only) gasoil, diesel or LNG as their main propulsion fuel.
(**) With a maximum of EUR 580.

Sources: https://www.portofamsterdam.nl/havenafvaltarieven-en-afgifterecht.html and https://www.portofrotterdam.com/sites/default/files/waste-disposal-fees.pdf (both accessed 27 September 2016).

1.2 Drivers and barriers of the instrument

An important driver of this instrument was the 'Green Deal' on ship waste that was signed in the Netherlands in 2014 between the government, several port authorities, shipping companies, waste companies and an NGO (Rijksoverheid, 2014). This Green Deal aims at closing the maritime waste cycle by means of waste prevention and delivering waste in harbours. Furthermore, it aims to help close the plastic cycle by collecting plastic waste separately and making it suitable for recycling. Within the framework of this Green Deal, the ports of Rotterdam and Amsterdam and the waste collection companies in those ports have agreed that as of 1 January 2016 sea-going vessels can deliver (separated and clean) plastic waste at no cost and in unlimited quantities.

[3] As defined in the MARPOL Convention, Annex V: all kinds of food, domestic and operational waste, all plastics, cargo residues, incinerator ashes, cooking oil, fishing gear, and animal carcasses generated during the normal operation of the ship and liable to be disposed of continuously or periodically. (Source: http://www.imo.org/en/OurWork/Environment/PollutionPrevention/Garbage/Pages/Default.aspx, accessed 16 September 2016).

The introduction of the instrument was also stimulated by the need to implement the 'Chain Agreement on the Plastic Cycle' (Ketenakkoord Kunststofkringloop, 2013). This agreement was signed in 2013 between 65 parties and aims at sustainable production processes, large scale reuse, and environmentally responsible plastic waste collection. Decisive steps toward these goals had to be made within two years. The ports of Rotterdam and Amsterdam are among the signatory parties of this agreement, and in an Annex to the agreement both have expressed their intention to take measures to stimulate the separate supply of plastic waste from ships.

No barriers to the introduction of the instrument have been identified. It seems to be quite uncontroversial. Nevertheless, one may note that the free disposal of (a particular type of) waste contravenes the 'polluter pays principle' (PPP). In this case, the deviation from the PPP is understandable as a pragmatic way to deal with the impossibility of enforcing the ban (under the MARPOL Convention) on waste discharges at sea. However, it also implies that there is no direct incentive to reduce the amount of plastic waste.

1.3 Revenue collection and use

The instrument does not yield any revenue. On the contrary, compared to the previous situation the free disposal implies reduced revenues for the PRFs and waste treatment/recycling companies. These (private) companies will not be able to operate at a structural loss and will therefore compensate the decrease in revenues by the rates charged to the port authorities (for the 6 m^3 'free' waste) and to the ship owners/agents (for other types of waste exceeding the threshold of 6 m^3). In the end, only the ship owners pay, but there is a cross-subsidy to plastic waste from other types of waste.

1.4 Environmental impacts and effectiveness

Marine pollution by plastics and other waste is increasingly recognized as a serious environmental issue (see e.g. Cózar et al., 2014). Even though most of it originates from land-based sources, the contribution from shipping and other sea-based activities is not negligible (about 20% according to Sheavly et al., 2007; in the North Sea even 40% according to Rijksoverheid, 2014). At the same time, resource efficiency and the concept of a circular economy are gaining importance as guiding principles for business and policy makers. Against this background, plastic waste should not end up in the sea but be disposed of properly and preferably be used again.

As noted above, the PRF Directive has led to a significant increase in the supply of ship waste in Dutch seaports. This waste is often separated on board into several fractions. Before the introduction of the 'free plastic waste disposal', about half of the ships visiting the port of Amsterdam already separated their plastic waste. This resulted in a total amount of 3000 m^3 of separated plastic waste per year (Green Deals, 2016a). Cruise ships generally have better waste separation systems than cargo ships. Plastics make up around 20% of the total garbage from ships.

As yet it is not known to what extent the amount of separated plastic waste offered for disposal in the ports of Rotterdam and Amsterdam has increased since the introduction of

the financial incentive on 1/1/2016. In spring 2017, the progress in the implementation of the Green Deal on ship waste will be assessed, and the impact of this incentive will be part of it.

To enhance the effectiveness of the instrument, reinforcing supplementary instruments are applied as well. For example, sea going vessels under the Dutch flag can obtain a tax incentive if they invest in a baler for plastic waste (RVO, 2016). Furthermore, new permits for waste collection companies contain additional quality requirements relating to the collection, sorting and recycling of plastic (Maritiem Nieuws, 2015).

1.5 Other impacts

N.a.

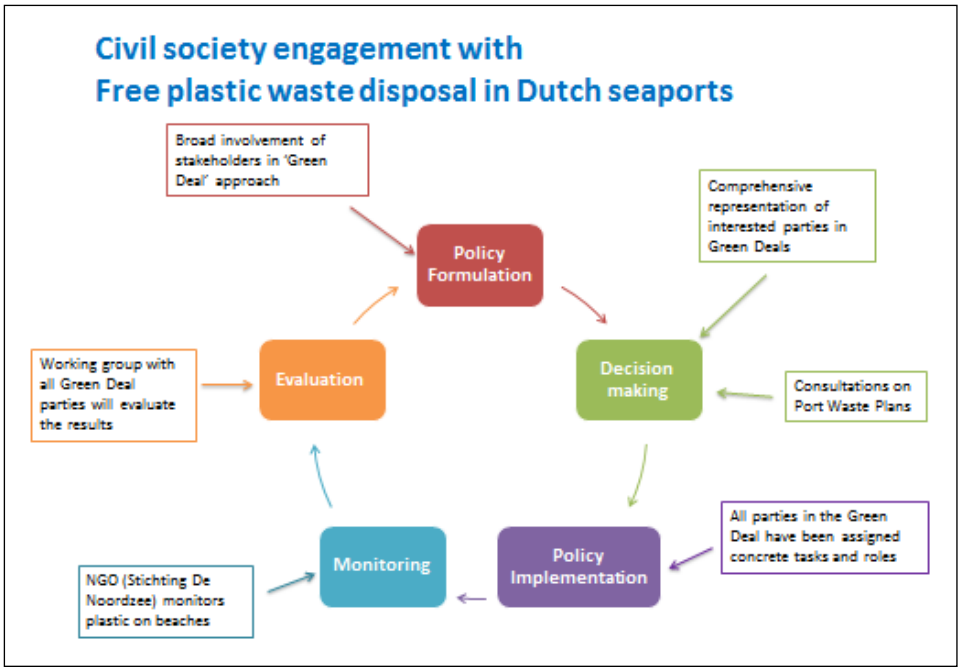
2 Stakeholder engagement

The 'Green Deal' on ship waste, from which the instrument emerged, is rooted in a policy approach which started in 2011 with the aim to contribute to 'green growth' in the Netherlands. The approach emphasizes the joint responsibility of all stakeholders, with the government in a facilitating role. A Green Deal is a mutual agreement or covenant under private law between a coalition of companies, civil society organizations and local and regional government. The deal defines the innovative initiative and the actions involved as clearly as possible (in quantitative aims or output, if possible) and it defines the input by the participants involved as clearly as possible (Green Deals, 2016b).

In the period between 2011 and 2016, 201 Green Deals were agreed upon in the Netherlands, involving a total of more than 1,300 participants. Green Deals cover nine themes: energy, the bio-based economy, mobility, water, food, biodiversity, resources, construction and the climate (Gooskens et al., 2016).

By their nature the Green Deals ensure the involvement of multiple stakeholders. As indicated above, the partners in the Green Deal on ship waste are the government, port authorities, shipping companies, waste companies and one NGO.

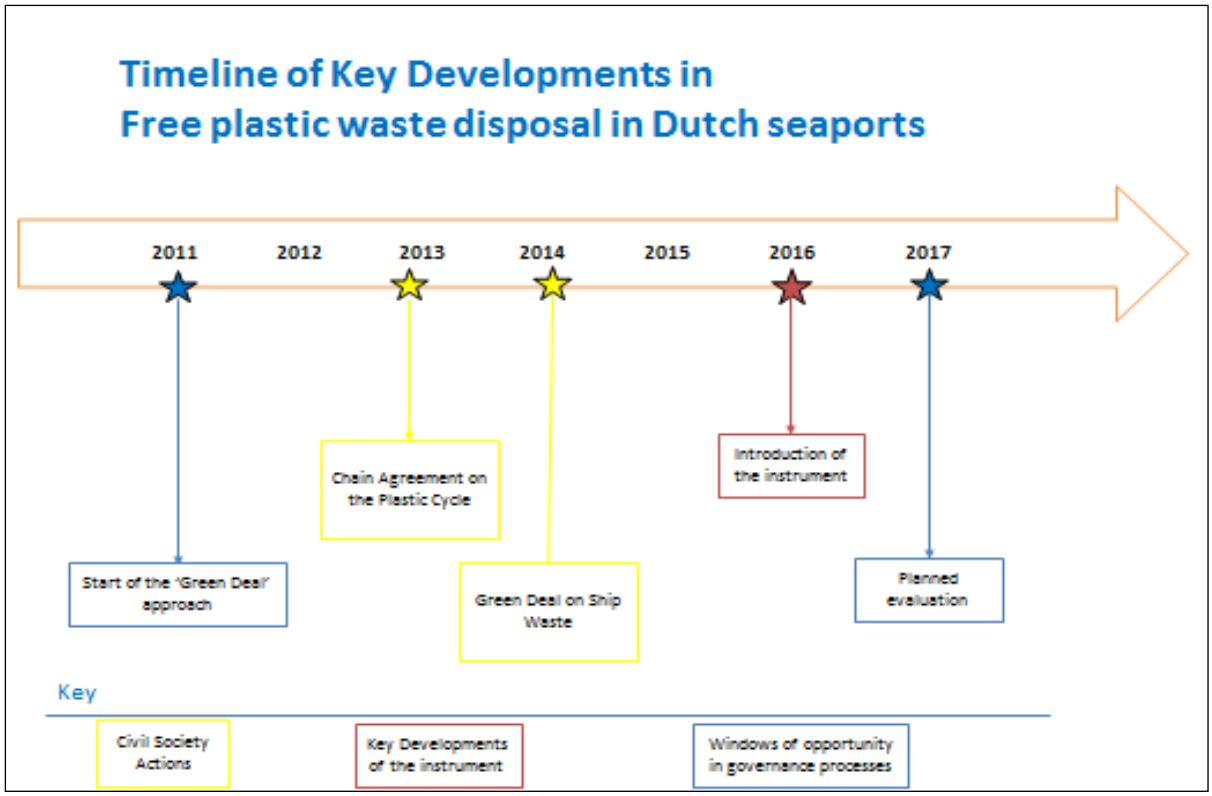
Stakeholders are also consulted in the process of drawing up the Port Waste Plans of both ports. The figure below gives an impression of stakeholder involvement along the policy process.



3 Windows of opportunity

The price incentive fitted very well within the framework of the Green Deals mentioned above. Even though the incentive itself is considered not the most important element in the entire package of measures to prevent and recycle ship waste, it is a concrete and clear action, enabling the Green Deal partners to show that actions are really being taken.

The figure below shows the timeline of key events relating to the instrument, including the main windows of opportunity.



4 Insights into future potential/reform

4.1 Actual planned reforms and stakeholder engagement

There are currently no changes planned for the instrument.

4.2 Suggestions for future reforms – instrument design and civil society engagement

In one of the interviews it was suggested that the effectiveness of the instrument (and of other instruments applied to stimulate the recycling of plastic waste from ships) could be improved by reforms in EU legislation. In particular the Animal by-products Regulation (1069/2009/EC) is an obstacle, since plastic waste from kitchens is often considered not to be 'clean' due to this Regulation, and can therefore not be accepted for recycling. Furthermore, the PRF Directive (which is currently under revision) was said to need improvement on issues such as:

- Harmonisation of the systems of waste disposal rates (including guidance by the Commission on the criteria for reduced rates for 'green' ships);
- Clear criteria for exemptions from the obligation to dispose of waste.

4.3 Suggestions for replicability

At the signing of the Green Deal on ship waste, the Dutch Minister of Infrastructure and Environment announced that she will pursue the separation of plastic waste in the marine shipping sector at the international level (Rijksoverheid, 2014). A harmonized approach is considered important because of the international character of the sector. The Green Deal specifically states that the ports and authorities in Flanders would be consulted with a view to a possible common introduction of the incentive.

The 'Green Deal' approach, from which the instrument 'free disposal of clean plastic waste' derives, is being presented as 'best practice' at the International Association of Ports and Harbors (IAPH) (Green Deals, 2016a). According to one interviewee, discussions are ongoing on a possible international Green Deal on port waste. Shipping companies are said to be in favour of international harmonisation and want to be sure that the waste collection and waste treatment companies are involved, so as to avoid that the waste that their ships have carefully separated are subsequently being mixed again and landfilled or incinerated instead of recycled.

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