

For the submission of tenders in the framework of the open tender (Ted 089/2022) for the Collection and management services for ship-generated solid waste and cargo residues generated of vessels calling at the maritime area under the jurisdiction of ThPA SA, the breakdown of already existing fees/tariffs of services per category of vessel between liquid and solid waste and cargo residues is as follows:

	Liquid	Waste
B.1.1 Merchant Cargo Ships, Tankers, Tugboats flying flags of non-EU countries and cruise ships	60%	40%
B.1.2. Passenger ships	60%	40%
B.1.3. High-speed Ferries	60%	40%
B.1.4. Recreational crafts (with license to carry up to 12 passengers)	There is already a breakdown in the existing tariff	There is already a breakdown in the existing tariff
B.1.5. Urban sea transportation	22%	78%
B.1.6. Tugs with non-EU flag	69%	31%
B.1.7. Launches for the transfer or people or supplies	60%	40%

The methodology for the extraction of the above percentages is described and analyzed below.

Analysis of methodology for breaking down charges for ship-generated liquid and solid waste

The current tariff of ThPA SA, which is publicly posted on its website and in particular in the file "Charges on Vessels", p. 9/14, Chapter B "FEES FOR RECEPTION OF SHIP-GENERATED WASTE AND RESIDUES" includes the following table:

"Tariff of Charges on vessels of ThPA SA. FEES FOR RECEPTION OF SHIP-GENERATED WASTE AND RESIDUES

Euro (€) Fixed charge per arrival

GRT Categories	Merchant Cargo Ships, Tankers, Tugboats flying flags of non-EU countries	Cruise ships
(i) GRT: 1 – 4.999	242.25	236.11
(ii) GRT: 5.000 – 9.999	484.50	472.22
(iii) GRT: 10.000 – 19.999	726.75	708.33
(iv) GRT: 20.000 – 29.999	969.00	944.44
(v) GRT: >30,000	1,211.25	1,180.56

Any vessel that calls at the port of Thessaloniki and is subject to the provisions of the waste and residue management plan of ThPA shall pay the fixed fee regardless of whether it delivers petroleum waste and/or garbage
 The fixed charge includes:

- (i) Reception of petroleum waste up to seven cubic meters (7m³) and delivery time up to two (2) hours
- (ii) Reception of garbage up to five cubic meters (5m³) and delivery time up to (1) hour.

Breakdown of Charges on vessels of ThPA SA. Liquid and Solid Waste

The above table includes the main categories of charges of the waste tariff of ThPA SA. It follows from this table that every vessel, depending on its category (G.R.T.), which calls at the port of Thessaloniki, shall pay fees, regardless of whether it delivers waste or not.

The above fee per category includes the provision of waste reception services and more specifically up to 7m³ of petroleum waste and up to 5m³ of garbage regardless of the Gross Registered Tonnage. Therefore, generally, each category of fee (G.R.T.) includes the provision of waste reception services of a total quantity of 12m³.

Step 1 - Breakdown according to the ratio of services provided

Therefore, the fees of the above table should be broken down according to the ratio of the quantities of services offered - provided. That is, the percentage that results based on the ratio of the service provided - quantity per waste category to the total service provided – quantity as a whole.

Liquid Waste = 7m³ (quantity of service provided)/ 12m³ (quantity of total service provided) = **0,58**

Solid Waste = 5m³ (quantity of service provided)/ 12m³ (quantity of total service provided) = **0,42**

Step 2 - Breakdown based on the ratio of the cost of services provided

A more rational approach should - in the above breakdown - include the cost of the services provided per cubic metre, as they are different types of waste and require different management and therefore have different cost. The charges should therefore be broken down on the basis of the ratio of the cost of the service provided per waste category to the cost of the service provided as a whole for both waste categories.

However, according to the Issue: "CHARGES ON VESSELS" of ThPA SA and more specifically Chapter B "FEES FOR THE RECEPTION OF SHIP-GENERATED WASTE AND RESIDUES" it comes out that the charge per m³ irrespective of waste type is the same. More specifically:

Euros per m³

	<i>Merchant Cargo Ships, Tankers, Tugboats flying flags of non-EU countries</i>	<i>Cruise ships</i>
<i>Extra m³</i>	<i>64.97</i>	<i>63.32</i>

In this case, the ratio of the cost of the services provided would take the following form:

Liquid waste: (7m³ x 64,97€) cost of quantity of service provided/ (12m³ x 64,97€) total cost of services provided = €454,79/ 779,64€ = **0,58**

Solid waste: (5m³ x 64,97€) cost of quantity of service provided/ (12m³ x 64,97€) total cost of services provided = €324,85/ 779,64€ = **0,42**

The above result shows that the ratio of the fee, based on the ratio of the cost of liquid and solid waste services, does not change and therefore the fees are still broken down by **0.58** and **0.42** respectively.

Step 3 Breakdown based on the ratio of the cost of the services provided and the hours of use of the collectors

It is noted that the time of use of waste collectors varies depending on the category (liquids – solids). This arises from the different composition of the type of waste, as in the case of reception of liquid waste, it is necessary to connect the collector with the vessel's connector via flexible pipes in accordance with the requirements and specifications of MARPOL and to extract the waste by means of the ship served, while in the case of reception of solid waste and in particular residues, the requirement concerns only the sorting of the residues to be delivered.

According to the Issue: "CHARGES ON VESSELS" of ThPA SA and specifically in Chapter B "FEES FOR RECEPTION OF SHIP-GENERATED WASTE & RESIDUES" the charge for each additional hour of use of the collectors is:

	Euros per hour	
	Merchant Cargo Ships, Tankers, Tugboats flying flags of non-EU countries	Cruise ships
Extra hour	64.97	63.32

If the cost of services provided per waste category and the hours of use of the collectors is added to the calculation of the cost of services provided, the ratio of the total cost of the services provided (quantities + hours) to the total cost of the services provided (quantities + hours) cumulatively shall be as follows:

Liquid waste: $(7\text{m}^3 \times 64,97\text{€}) + (2 \text{ hours} \times 64,97\text{€})$ total cost of service provided per type of waste/ $(12\text{m}^3 \times 64,97\text{€}) + (3 \text{ hours} \times 64,97\text{€})$ total cost of services provided cumulatively = $584,37\text{€} / 974,55\text{€} = \mathbf{0,60}$

Solid waste: $(5\text{m}^3 \times 64,97\text{€}) + (1 \text{ hour} \times 64,97\text{€})$ total cost of service provided per type of waste/ $(12\text{m}^3 \times 64,97\text{€}) + (3 \text{ hours} \times 64,97\text{€})$ total cost of services provided cumulatively = $\text{€}389,82 / 974,55\text{€} = \mathbf{0,40}$

Result:

From all the above, it comes out that if all the data of the services provided are taken into account (quantity in m³, cost of quantity per type of waste and hours of use of collectors), including the special and different management required in liquid petroleum waste, which is managed at a higher cost than solid waste, then the appropriate breakdown of the fees, per type of waste, should be **60% and 40% respectively for liquid and solid waste.**

The above reasoning and, by extension, the charges breakdown ratio also applies to **cruise ships** as the measurable elements such as waste quantities, extra m³ price, extra hour price and time of use of collectors, may have a different price from merchant ships but the individual prices are the same per type of waste. The charge breakdown ratio for cruise ships should therefore be **60% and 40% respectively for liquid and solid waste.**

Regarding the categories of vessels whose fees refer to the Fixed Fees of Table B.1.1., the breakdown of the fees follows the above reasoning and must be **60% and 40% respectively for liquid and solid waste.** In particular, these categories are **B.1.2. Passenger ships and B.1.3. High-speed ships.**

In the category of Article **B.1.4. Recreational craft (licence to carry up to 12 passengers)** it is not necessary to break down the fees as they are already sorted by type of waste.

In the category of Article **B.1.5. Maritime urban transport**, where there is a fee for both categories of waste but there is a different provision of services and a different frequency of delivery, (3m³/quarter for liquid waste & 2m³/fortnight for solid waste), following the above reasoning and with reference to the period of the quarter in order for the services to be comparable, the breakdown of fees is as follows:

Liquid waste: $(3\text{m}^3 \times \text{€}63,32) + (2 \text{ hours} \times \text{€}63,32)$ total cost of service provided per type of waste/ $(15\text{m}^3 \times \text{€}63,32) + (8 \text{ hours} \times \text{€}63,32)$ total cost of services provided cumulatively = $316,6\text{€} / 1.456,36\text{€} = \mathbf{0,22}$

Solid waste: $(12\text{m}^3 \times \text{€}63,32) + (6 \text{ hours} \times \text{€}63,32)$ total cost of service provided per type of waste/ $(15\text{m}^3 \times \text{€}63,32) + (8 \text{ hours} \times \text{€}63,32)$ total cost of services provided cumulatively = $\text{€}1,139,76 / 1.456,36\text{€} = \mathbf{0,78}$

In the category of Article **B.1.6. Tugboats flying the flag of an EU country**, where there is a fee for both categories of waste but there is a provision about a different service (7m³/month for liquid waste & 3m³/month for solid waste), following the same reasoning, the breakdown of fees is as follows:

Liquid waste: $(7\text{m}^3 \times \text{€}64,97) + (2 \text{ hours} \times \text{€}64,97)$ total cost of service provided per type of waste/ $(10\text{m}^3 \times \text{€}64,97) + (3 \text{ hours} \times \text{€}64,97)$ total cost of services provided cumulatively = $\text{€}584,73/\text{€}844,61 = \underline{\underline{0,69}}$

Solid waste: $(3\text{m}^3 \times \text{€}64,97) + (1 \text{ hour} \times \text{€}64,97)$ total cost of service provided per type of waste/ $(10\text{m}^3 \times \text{€}64,97) + (3 \text{ hours} \times \text{€}64,97)$ total cost of services provided cumulatively = $\text{€}259,88/\text{€}844,61 = \underline{\underline{0,31}}$

In the category of Article **B.1.7. Tenders for the transport of persons or supplies**, where there is a fee for both categories of waste and there is no specific provision as to the provision of reception services, it is proposed that the breakdown of charges should follow the percentage of the main categories, i.e., **60% for liquid waste and 40% for solid waste.**