



# Report on the European List of Ship Recycling Facilities



## Table of Contents

<b>Introduction</b>	<b>4</b>
<b>Background</b>	<b>5</b>
IMO Hong Kong Convention	5
EU Ship Recycling Regulation	5
<b>EU List: Approval of recycling facilities</b>	<b>6</b>
The EU List	6
EU Member State facilities	6
Facilities located in third countries	6
<b>The influence of offshore decommissioning</b>	<b>8</b>
<b>Analysis of EU List approved facilities</b>	<b>9</b>
Study method	9
Study findings	11
<b>Capacity</b>	<b>14</b>
EU List capacity (EU Member States only)	14
EU List capacity (including facilities located in third countries)	15
EU List (totals)	16
Global capacity	17

## **Introduction**

This report, commissioned by BIMCO, provides information and observations on the establishment of the European List of ship recycling facilities (hereinafter referred to as “the EU List”), relating to Regulation (EU) 1257/2013 of the European Parliament and the Council on ship recycling (hereinafter referred to as “the EU Regulation”).

This report has been prepared based on current knowledge, experience, and relevant maritime media.

This report is not intended to detail economic calculations, environmental impact, or safety assessments.

The report recognises the unique constraints that regional legislation such as the EU Regulation exists under and finds that, overall, the EU List includes many facilities that provide valuable services to the existing market, and that the inclusion of non-European recycling facilities is a major step forward in the maturity of the EU List and its usefulness to shipowners.

Nothing in this report should be construed as a criticism or endorsement of the EU List or the facilities and information recorded therein.

## Background

### IMO Hong Kong Convention

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the “Convention”) is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risks to human health, safety and to the environment. The Convention was adopted in 2009 but is yet to enter into force.

Regulations in the Convention cover: the design, construction, operation and preparation of ships, to facilitate safe and environmentally sound recycling without compromising the safety and operational efficiency of ships; the operation of ship recycling yards (“facilities”) in a safe and environmentally sound manner; and the establishment of an appropriate enforcement mechanism for ship recycling, incorporating certification and reporting requirements.

Once ratified: ship recycling facilities will be expected to prepare a Ship Recycling Facility Plan in accordance with published guidelines <sup>[1]</sup>; and national authorities will be required to take measures to ensure that facilities under their jurisdiction comply with the Convention <sup>[2]</sup>.

Effectively, this means that governments will be responsible for authorising their own facilities, once the Convention enters into force.

### European Ship Recycling Regulation

The EU Regulation entered into force in December 2013. It applies to ships of at least 500GT flying the flag of an EU member state, and to ships visiting the EU flying the flag of a non-EU member state. The EU Regulation is mostly aligned with the IMO Convention but, most notably, it requires the establishment of a list of approved ship recycling facilities (the “EU List”).

Ships flying the flag of an EU member state can only be recycled at a facility on the EU List. Such facilities are required to meet design, construction and operation requirements of the EU and can be located outside of the EU.

Facilities located inside the EU are required to apply to the European Commission (the “EC”) for automatic inclusion on the EU List.

For facilities located in third countries (i.e. those located outside the EU) requirements and procedures for inclusion on the EU List were published by the EC in a Technical Guidance Note <sup>[3]</sup>. By applying for inclusion on the EU List, facilities located in third countries accept that they will be subject to on-site inspections by the EC, or agents acting on its behalf.

<sup>1</sup> IMO Resolution MEPC.210(63) 2012 Guidelines for Safe and Environmentally Sound Ship Recycling

<sup>2</sup> IMO Resolution MEPC.211(63) 2012 Guidelines for the Authorization of Ship Recycling Facilities

<sup>3</sup> EC 2016 Technical Guidance Note under Regulation (EU) No 1257/2013 on Ship Recycling (2016/C 128/01)

## EU List: Approval of recycling facilities

### The EU List

The latest version of the EU List was published in the Official Journal of the EU on 6 December 2018 <sup>[4]</sup>, ahead of the 31 December 2018 deadline. A total of 26 facilities were included. The EU List will continue to be updated, as and when applications are successful.

### EU Member State facilities

23 of the 26 facilities are in the EU. The EU Regulation lays out a process which is that the facility must comply with Article 13 and be authorised as such by the competent authority. Under Article 14, the member states keep a list of authorised facilities and simply communicate this to the EC. Effectively, this means that governments are responsible for authorising their own facilities, similar to the IMO Hong Kong Convention.

### Facilities located in third countries

3 of the 26 facilities are outside the EU. In their Technical Guidance Note, the EC included a graph detailing the main steps for the inspection and verification process for facilities located outside the EU (reproduced below).

As of December 2018, 27 facilities located in third countries had completed 'Step 2' of the EC graph and submitted application files for inclusion on the EU List <sup>[5]</sup>:

#### Total applications

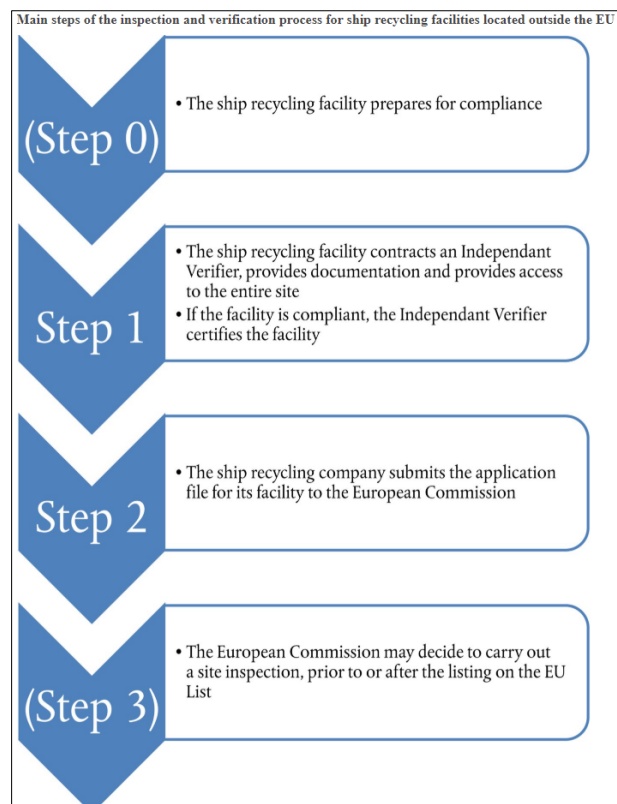
China	4 facilities
India	13 facilities
Turkey	8 facilities
USA	2 facility

#### EC inspections held / underway

China	0 facilities
India	2 facilities
Turkey	6 facilities
USA	1 facility

#### Successful applications

China	0 facilities
India	0 facilities
Turkey	2 facilities
USA	1 facility



<sup>4</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L\\_.2018.310.01.0029.01.ENG&toc=OJ:L:2018:310:TOC](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.310.01.0029.01.ENG&toc=OJ:L:2018:310:TOC)

<sup>5</sup> <http://ec.europa.eu/environment/waste/ships/list.htm>

EU List approval of one of the Turkish facilities took place between 2016 and 2018 <sup>[6]</sup>, as follows:

2014 – 2016 (EC graph Step 0)	Facility prepares for compliance with support from specialist ship recycling management company
January 2016 – June 2016 (EC graph Step 1)	Independent Verifier (IV) conducts desktop reviews and on-site inspections; certification issued
June 2016	Facility submits certification and IV compliance report as part of application file to the EC
September 2016	EC confirms receipt of application file
March 2017	EC requests clarification on items following Agent’s initial desktop assessment
March 2018	EC Agent desktop assessment complete
June 2018	EC Agent on-site inspections (EC graph Step 3)
November 2018	Member State Ship Recycling Committee decision and corresponding Implementation Decision adopted
December 2018	Facility included on EU List

As of December 2018, no Indian facilities have been included, or officially rejected, by the EC. Until the Agents’ technical reasons for non-inclusion on the EU List are known shipowners, facilities, cash buyers, and other stakeholders will not know what is required.

Chinese facilities are known to have applied for inclusion on the EU List. However, following Beijing’s announcement that the import of foreign-flag ships for recycling was to be banned <sup>[7]</sup> it is understood that EC Agent on-site inspections have been suspended.

<sup>6</sup> <https://www.tradewindsnews.com/weekly/765526/leyal-ship-works-with-lloyds-register-to-gain-compliance>

<sup>7</sup> <https://www.tradewindsnews.com/casualties/1500669/china-urged-to-reconsider-scrap-ship-import-ban>

## The influence of offshore decommissioning

Decommissioning is the process the operator of an offshore oil and gas installation goes through to plan, gain government approval and implement the shutting down, decontamination, removal, environmentally sound disposal or re-use of a structure when it is no longer needed for its current purpose <sup>[8]</sup>.

As of 2018, more than 1,300 offshore installations were situated in North Sea waters of the Netherlands, Norway, and United Kingdom. Given the maturity of many fields nearing the end of production, couple with stagnant commodity prices, a vast increase of decommissioning activities is expected. Numerous reports have been published analysing the decommissioning market and presenting forecasts relating to associated expenditures, including removal of offshore installations and subsequent onshore recycling activities. More than 600 offshore installations are likely to be decommissioned in the next 10 years. This amounts to approximately 3.4 million tonnes of North Sea offshore infrastructure (topsides and steel substructures) to be brought onshore for recycling and final disposal, all of which is subject to legislative frameworks <sup>[9]</sup>.

These include international treaties, regional conventions, and national legislation. Considering that so many parties are involved and that the legislative frameworks are routinely followed and enforced, the selection of a suitable recycling facility is paramount. A suitable recycling facility will need to be in a highly industrialised area, with a mature transport network, a robust and certified downstream waste management network, and all necessary regional and national licenses in place.

It is also likely that, due to the cost of equipment required to transport topsides and substructures to shore, the location of onshore recycling facilities relative to offshore structures, as well as the yard's ability to receive the largest offshore lifting vessels, are important factors in developing competitive bids for any onshore recycling projects <sup>[10]</sup>.

Total estimated onshore disposal and ongoing remediation and environmental monitoring costs amount to more than €1.3 billion over the next decade; the onshore recycling cost to the offshore installation operator, or indeed the taxpayer, is estimated to be between €370 and €435 per tonne <sup>[9]</sup>. It is therefore expected that EU List recycling facilities meeting the criteria above will favour offshore decommissioning projects, rather than base their business model on winning commercial ship recycling bids.

<sup>8</sup> The Decommissioning of Offshore Oil & Gas Installations, Graeme Gibson, 2002

<sup>9</sup> Prospects for North Sea Decommissioning, Atlantic Marine & Offshore, September 2017

<sup>10</sup> Oil & Gas UK, Decommissioning Insight 2017



# Analysis of EU List approved facilities

## Study method

A structured investigation was performed on each facility using historical satellite imagery, company website information, and IMO recycling capacity figures. Using this information, a file was created for each facility against its EU List entry, and an assessment made. These files were then summarised against common criteria to get an overall view of all facilities.

It is vital to understand the context of the shipowner for the EU Regulation and the EU List. Shipowners see ships as assets. Shipping is a global business and decisions are made on a legal and commercial basis. To be attractive to a shipowner, the EU List should therefore provide 'economically viable commercial ship recycling'.

This report considers a commercial ship recycling facility to be one where the focussed activity prioritises the demolition of commercial ships as opposed to other activities such as fabrication, ship repair, and offshore decommissioning. As such, for the purpose of this report ship recycling refers to pure ships.

The table below shows that the 3 biggest ship recycling nations (by capacity) are prepared to pay over \$400 per tonne to purchase a ship. Nobody is aware of EU List facilities prepared to pay similar prices to the shipowner. The maximum figure may be similar to the \$240 offered in Turkey, although some sources expect further surcharges for EU flagged ships <sup>[11]</sup>.

Country	Gen Cargo	Tanker (wet)
China	150	160
Turkey	240	250
Pakistan	405	415
India	415	420
Bangladesh	420	430

US Dollar prices per LDT. Prices for China reflect the government decision to stop allowing vessels to be imported for recycling. Source: GMS website (accessed 10 Jan 2019)

On this basis it appears impossible for any EU List facility to meet the economically viable commercial ship recycling criteria, as expecting shipowners to pay a regional penalty to recycle a ship is not sustainable. However, it should be recognised that facilities are operating in the EU and in Turkey, and therefore other considerations must be being taken into account.

The economics of smaller recycling facilities are normally very flexible. There is evidence that many EU List facilities offer a service to a shipowner, and this is seen as economically viable for both the facility and the shipowner but does not represent the needs of large scale economically viable commercial ship recycling.

<sup>11</sup> <https://www.tradewindsnews.com/legal/1636088/scrap-values-of-eu-flagged-ships-could-plummet-50-percent>

There are frequent examples of US and French military recycling being undertaken at a large cost to the taxpayer:

The USS Constellation, a large aircraft carrier is understood to have cost \$3 million to recycle <sup>[12]</sup>.

Two French naval vessels, Jeanne D'Arc (9 000 tonnes) and Colbert (8 500 tonnes) were contracted to Veolia at a cost of €11.5 million <sup>[13]</sup>.

Certain facilities are known to have undertaken funded projects in yards which typically focus on ship repair, maintenance, or other service activities. For example, Costa Concordia was scrapped at San Georgio Del Porto. Figures vary wildly but at the time estimated costs were at €100 million post salvage <sup>[14]</sup>.

Facilities with imbalanced economics are not considered to be able to provide competitive prices. Where this is further supported by lack of advertising, activity, or other evidence of economically viable commercial ship recycling, and if the facility is clearly focussed on other forms of income, then this has been highlighted in the summary table that follows (overleaf).

<sup>12</sup> <https://navaltoday.com/2014/06/18/international-shipbreaking-to-dismantle-uss-constellation/>

<sup>13</sup> [www.veolia.com/en/veolia-group/media/press-releases/veolia-starts-operations-dismantle-former-jeanne-d-arc-cruiser-atlantic-port-bordeaux](http://www.veolia.com/en/veolia-group/media/press-releases/veolia-starts-operations-dismantle-former-jeanne-d-arc-cruiser-atlantic-port-bordeaux)

<sup>14</sup> <https://maritime-executive.com/article/costa-concordias-million-dollar-recycling-plan>

## Study findings

The findings of the detailed analysis have been broken down into several headings in order to best display conclusions:

*Yard ID* All facilities have been anonymised and allocated an ID. Since there are 26 facilities, alphabetical descriptors have been used.

*Active?* Does the facility presently provide ship recycling services, or is it capable of doing so? Facilities that can demonstrate reasonable capability i.e. repair yard, can be accepted, but facilities which are incomplete, not open for business at end of December 2018, insolvent, sold to new owners with different business priorities, etc. are not considered to be active.

*Panamax Test* This is a test as to whether the facility has the physical capacity for such a size of ship and has any historical evidence for recycling this size of ship. Satellite imagery can be very useful here, since if a facility regularly recycles panamaxes it would be expected to show up on the satellite imagery. Turkish facilities are an excellent example, as are images from Alang, Gadani, and Chittagong.

*Size* This is a relative assessment of the facilities on the EU List:

Small: Ships of less than 100m length and an annual throughput of less than 25 000 LDT

Medium: Ship length from 100 to 200m and an annual throughput of less than 75 000 LDT

Large: Ship length over 200m and an annual throughput over 75 000 LDT per year.

It should be noted that the industry changes units depending on priority, from Length, to gross tonnage, displacement, lightship, etc. There are no consistent conversion factors since the relations change for ship type, size and design.

*Market Priority* Is ship recycling a high priority for the facility, or seen as a possible business add on? Since any ship repair yard can recycle a ship (the fundamental functions are the same) then any ship repair yard could be on the EU List. Ship repair is generally accepted as far more lucrative than ship recycling. Where satellite imagery and website information, such as company policies and history, shows bias towards ship repair functions, and an absence of significant ship recycling activities, ship recycling is not considered to be a priority.

*Main Function* The actual function of the facility, easily derived from their own description on the website. Further evidence of case histories is useful.

*Primary Business* This is important because it hints at the ability to change or be flexible. If a facility is a busy repair yard, or construction yard, is it not likely to change to ship recycling activities. Counterintuitively, it may be that offshore recycling and ship recycling are not compatible. For example, military ship recycling is almost indistinguishable from commercial ship recycling, but offshore recycling can be quite different. Offshore recycling of fixed platforms relies on lifting the entire structures from barges alongside and conducting recycling onshore; such facilities concentrate on quayside, cranes, and hard standing rather than slipways and drydocks. This is a physical reason why offshore recycling facilities yards are unlikely to compete for commercial ships.

Yard	Active?	Panamax Test	Size	Market Priority	Main Function	Primary Business
A		No	M	Ship recycling	Ship recycling	Ship recycling
B		No	M	Ship recycling	Ship recycling	Ship recycling
C	No		L	Offshore	Recycling	Offshore recycling
D		No	M	Ship recycling	Ship recycling	Ship recycling
E		No	S	Port / repair	Port / repair	Port / repair
F		No	M	Ship recycling	Ship recycling	Ship recycling
G		No	M	Ship recycling	Ship recycling	Ship recycling
H			M	Military	Ship recycling	Military
I			M	Repair	Repair	Repair
J			M	Repair	Repair	Repair
K			L	Repair	Repair	Repair
L	No	No	S	No	No	No
M		No	S	Ship recycling	Ship recycling	Ship recycling
N		No	S	Recycling	Recycling	Recycling
O			M	Recycling	Recycling	Recycling
P	No	No	L	No	No	No
Q			M	Ship recycling	Ship recycling	Ship recycling
R		No	S	No	Construction	Construction
S	No	No	M	Ship recycling	Ship recycling	Ship recycling
T			L	Ship recycling	Ship recycling	Ship recycling
U			L	Ship recycling	Ship recycling	Ship recycling
V			L	Offshore	Offshore	Offshore recycling
W		No	S	Repair	Repair	Repair
X			L	Repair	Repair	Repair
Y		No	M	Repair	Multi-purpose	Repair
Z			L	Repair	Ship recycling	Military

The table highlights elements not directly compatible with being a specialised ship recycling facility that is open for business. A commercial ship recycling facility would be expected to be active and have ship recycling as its market priority, main function and its primary business.

9 facilities (in green text) display these requirements:

These yards show a variety of sizes and capabilities and demonstrate themselves to be viable concerns through their existing activity. Of these 9, the Panamax test shows whether they are likely to be attractive to an internationally trading shipowner with a fleet of ships, who has a regular demand to dispose of larger vessels.

17 facilities (in red text) do not display the requirements and are therefore considered to be disqualified:

4 are not considered active (2 not complete, 1 insolvent, 1 sold / no longer advertising services).

13 are repair or other multi-function facilities with ship recycling as a low priority, or are normally funded for ship recycling via military, special projects, offshore, or other sensitive items where the yard is paid to dispose of ship, i.e. not economically viable commercial ship recycling facilities.

Overall, the findings show that there is a good stock of existing, and even planned, ship recycling facilities providing a high standard of service to the European market. Such services are provided by large, medium and small yards, as befits the existing and ongoing demands in the region.

In addition, there are plenty of other facilities whose primary business may not be ship recycling but can extend their services in this direction if necessary. These facilities are well placed for 'one-off' high profile recycling projects or for military work.

There are also facilities in Europe, some of them very large, which cater to the demands of the offshore industry, although the economics of this business appear to be very different. The same can be said of the military market.

The EU List facilities can respond to the likely demands of the European market with high quality yards, but, with the exception of Turkey, not to the global International demand for similar ship recycling for the world fleet.

Finally, the EU List yards give excellent geographical spread for the local market of EU countries as shown in the indicative map below. However, it also shows the lack of global provision.



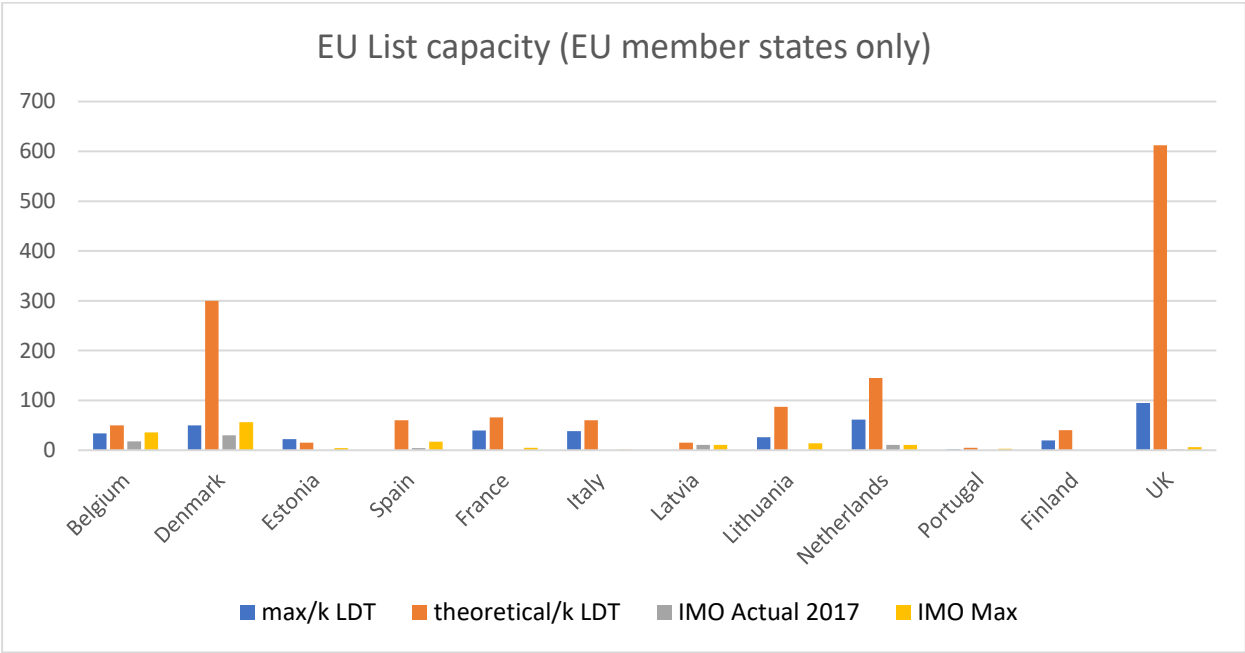
# Capacity

Key to all graphs:

- max/k LDT                    Maximum capacity claimed by the facility in the EU List (1000s of tonnes LDT).
- Theoretical/k LDT        Theoretical maximum capacity included in the footnotes of the EU list
- IMO Actual 2017            Actual ship recycling carried out as recorded by IMO in 2017
- IMO Max                      Maximum ship recycling capacity in any given year, over a 10-year period, recorded by IMO; this is the official IMO Convention calculation figure.

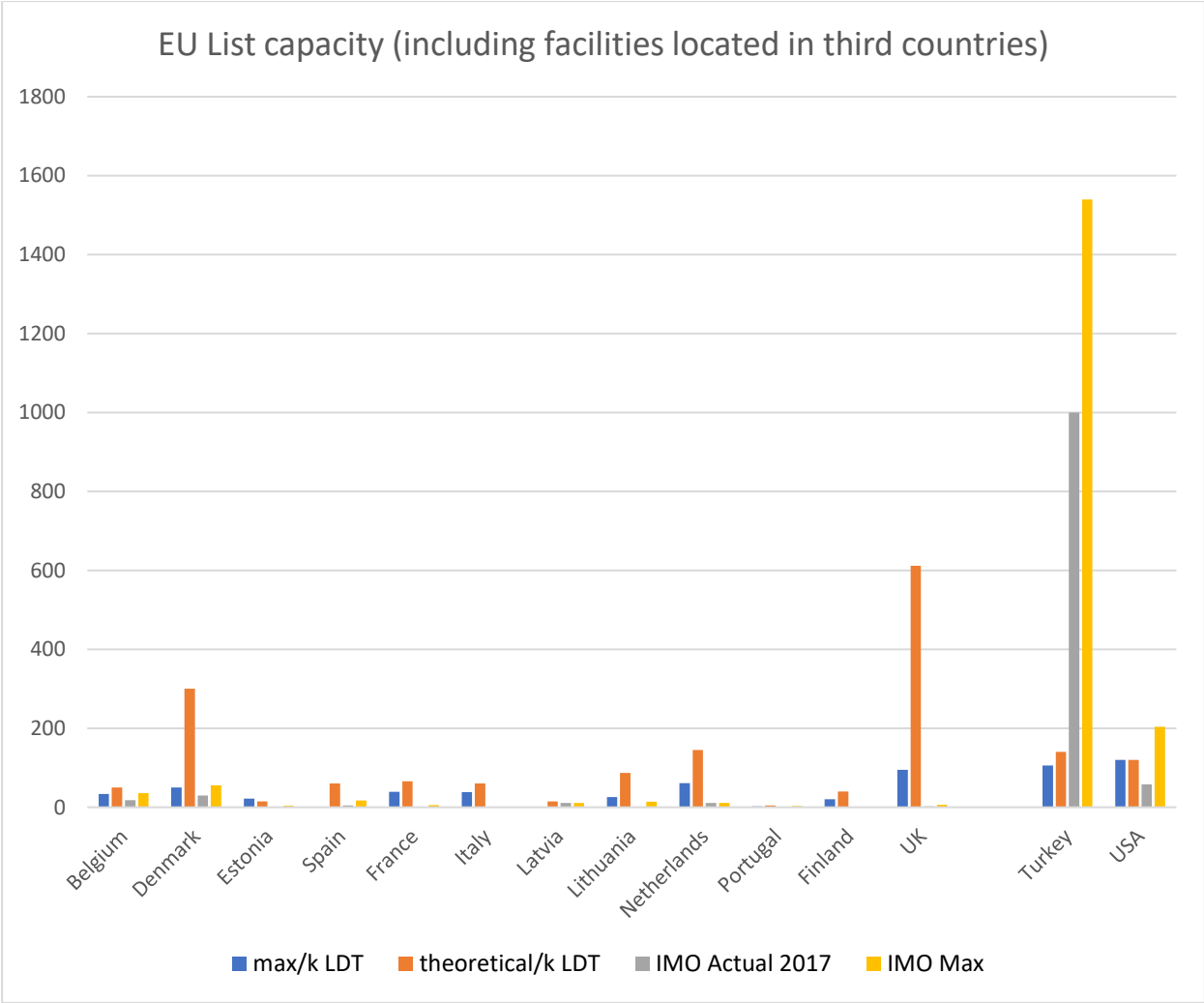
The Vertical axis always shows 1000s of LDT tonnes.

Graph 1



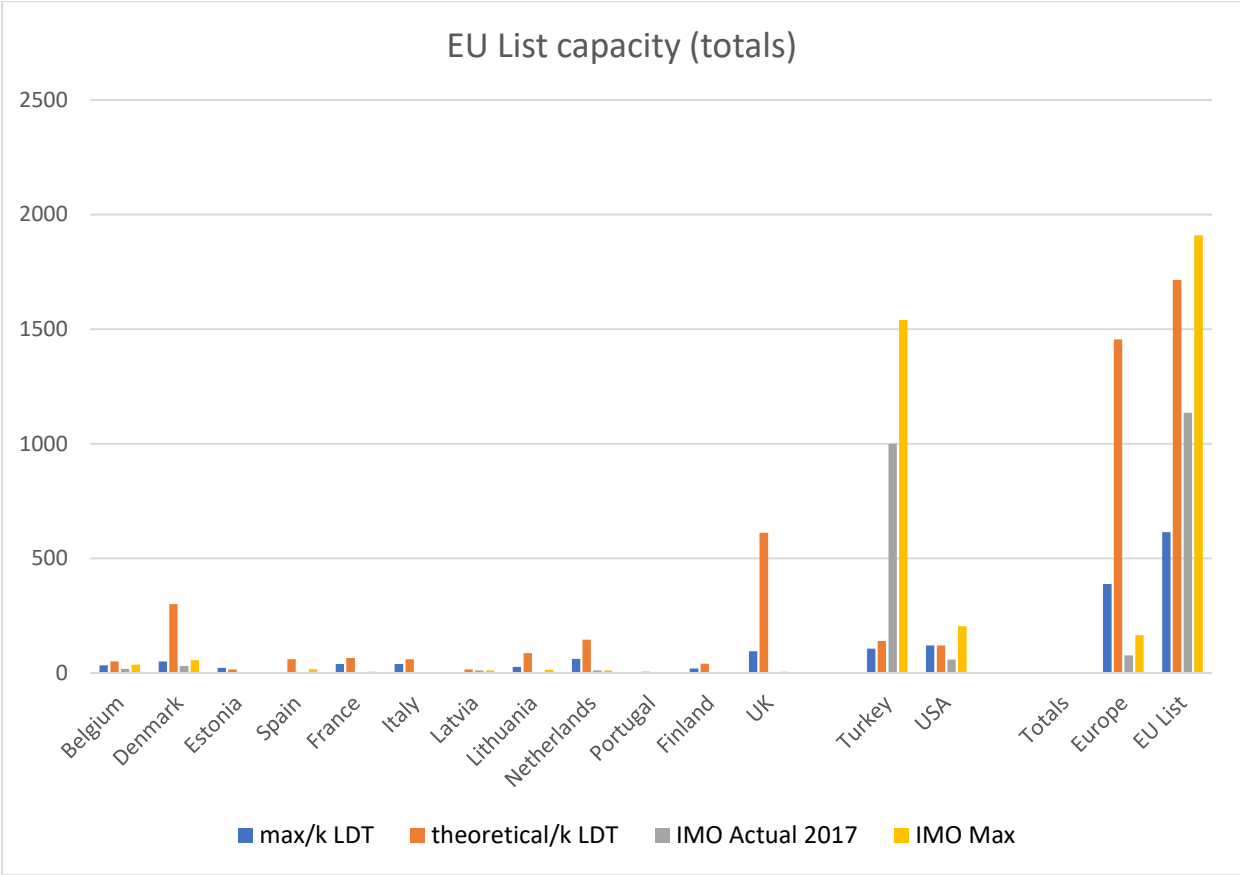
The IMO figures are very small. However, the EU List claimed and theoretical figures are very much higher. For example, the UK theoretical figure is 612 000 tonnes but the IMO Actual for 2017 shows only 2 000 tonnes.

**Graph 2**



With the inclusion of EU List facilities located in third countries the effective scale has increased almost tenfold. The contribution of these facilities provide capacity far in excess of the IMO totals for all the EU List Member State facilities combined.

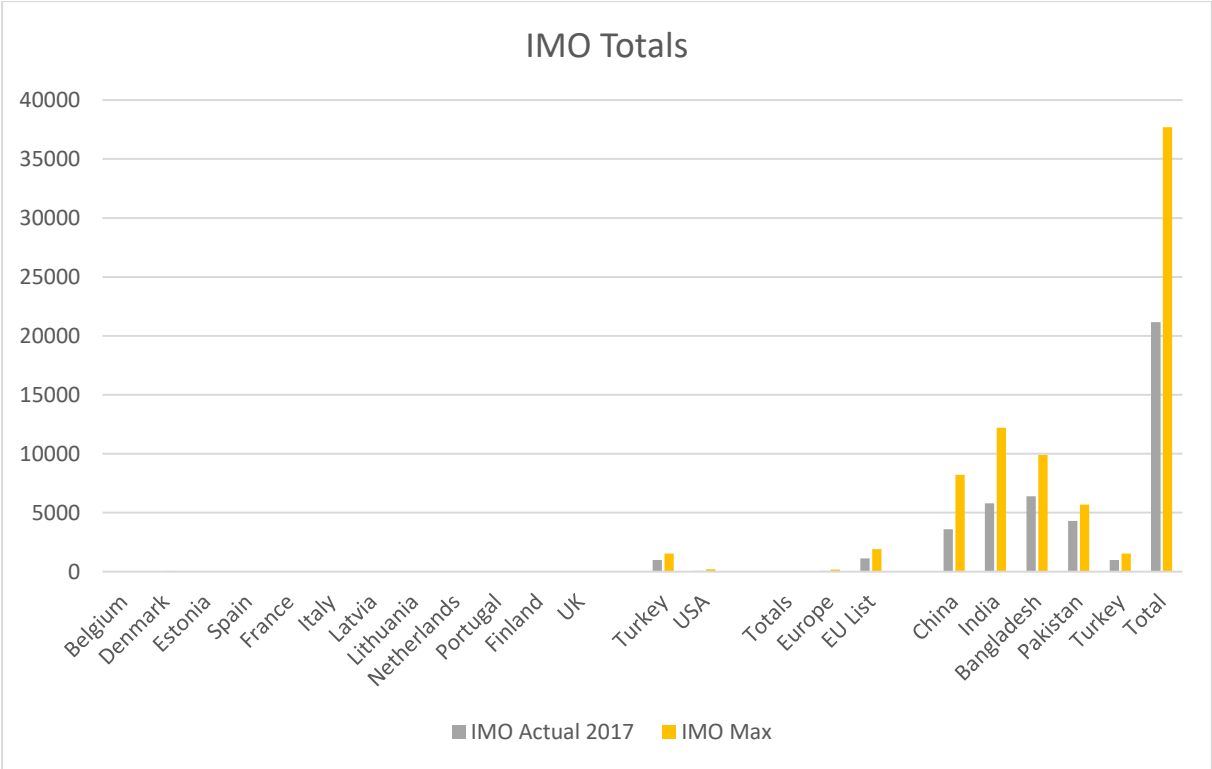
Graph 3



This shows information on Graph 2 with totals added for EU List Member State facilities and for the EU List (including facilities located in a third country) as a whole. This clearly shows a gulf between EU List theoretical capacity and IMO actual capacity.



**Graph 4**



To place the global context of ships recorded by IMO as recycled, this graph shows the IMO actual figures from 2017 and the 10-year maximum for each country.

The total capacity for Turkey, as the world’s fifth largest recycling nation, is still dwarfed by the other four leading nations. However, the purpose of the EU List is not to provide recycling facilities to the entire world fleet; it is to provide for end-of-life EU ships and other ships which have an EU port as their last port of call. In this context, the requirement appears to be met.



### **About Marprof Environmental Ltd.**

Marprof Environmental Ltd. was formed in 2018. With combined marine consultancy experience amounting to almost half a century, both Partners specialise in ship recycling legislation and providing solutions – for shipbuilders, shipowners, recycling facilities, flag states, and the legislators themselves.

### **Get in touch**

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