



Report on the European List of Ship Recycling Facilities

Updated report (December 2020)

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Introduction

This is an updated version of the previous report of the same name which was released by BIMCO in early 2019. This new version has also been commissioned by BIMCO and provides updated 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 updates the regulatory developments and status of the IMO Hong Kong Convention.

The report further examines the declared work of the EU List facilities and the influence of Offshore Decommissioning.

This report is based on the latest EU List published in EUR-Lex on 11 November 2020, and therefore entering into force on 2 December 2020. This list adds new yards, tidies the list for defunct yards, updates details and expired certificate dates. It also anticipates the Brexit position when the transition period ends on 31 December 2020.

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.

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

For the purpose of this report, Norway is considered a member state. The UK is not.

Headline updates

Brexit cuts EU List maximum potential capacity by EU member states by almost 600 000 LDT, a highly significant amount. However, it is noted that this is the maximum ship recycling capacity reached by the UK during the preceding 10 years, as provided by IMO statistics, and this capacity is rarely reached in practice.

Overall, the EU List includes many facilities that provide valuable services to the existing market and the inclusion of non-European ship recycling facilities is a step forward in the maturity of the EU List.

However, most EU member state facilities are not dedicated ship recycling facilities for the International market. EU member state facilities, in general, provide either bespoke local solutions to a niche recycling market, or are focussed on offshore decommissioning.

The market provision shows that recycling in EU member states is an unattractive proposition in the overall international market place, and that facilities would far prefer to dedicate their energy and search for decent profit margins to either repair yard, newbuilding, and military or offshore recycling projects.

This leaves Turkey as the only major ship recycling nation contributing significant capacity to the EU List, with no facilities from India, Bangladesh or Pakistan included.

It appears that 1 facility in India is now acceptable to the EC auditors, although local infrastructure is not.

Industry stakeholders and shipowners continue in their support for China to re-enter international ship recycling, and to ratify the Hong Kong Convention.

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 ^[1]; and national authorities will be required to take measures to ensure that facilities under their jurisdiction comply with the Convention ^[2].

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 ^[3]. 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.

^[1] IMO Resolution MEPC.210(63) 2012 Guidelines for Safe and Environmentally Sound Ship Recycling

^[2] IMO Resolution MEPC.211(63) 2012 Guidelines for the Authorization of Ship Recycling Facilities

^[3] 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 European List was first established on 19 December 2016 and the latest version of the EU List was published in the Official Journal of the EU on 11 November 2020, entering into force 20 days later. A total of 43 facilities are now on the List, which will continue to be updated as and when applications are successful. Some facilities are due to be removed, as explained later in this report.

EU Member State facilities

34 of the 43 facilities are in the EU and UK. 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

9 facilities are outside the EU and UK. 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 an update published July 2020, 39 facilities located in third countries had completed 'Step 2' of the EC graph and submitted application files for inclusion on the EU List ^[4]:

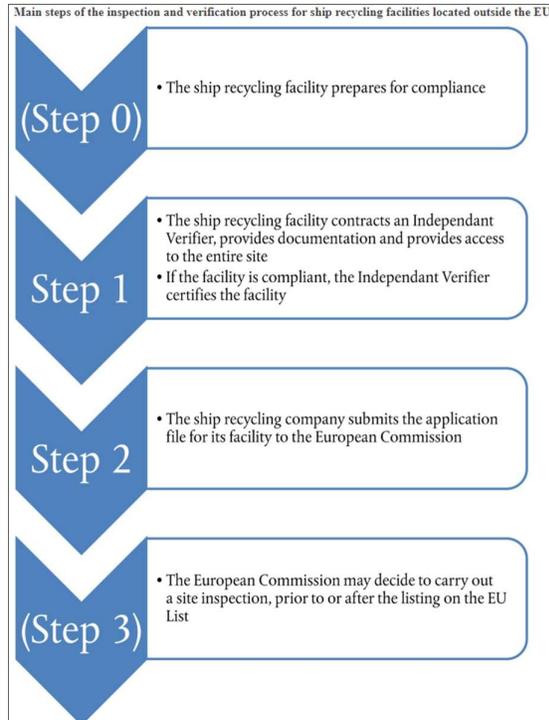
Total applications

China	4 facilities
India	20 facilities
Turkey	13 facilities
USA	2 facilities

Successful applications

China	0 facilities
India	0 facilities
Turkey	8 facilities
USA	1 facility

It is noted that 2 Turkish yards have been accepted since July 2020. This shows an improvement in Step 3 of the process and the time taken to complete the approval process.



^[4] <http://ec.europa.eu/environment/waste/ships/list.htm>

The increase in Indian facility applications is encouraging.

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 ^[5] it is understood that EC Agent on-site inspections have been suspended.

Expired and updated EU List facilities

As noted on the previous report, some facilities didn't exist (they hadn't started operation or completed preparation), one had gone bankrupt and another changed owners.

The new List goes a considerable way to clarify and improve the situation.

Facilities that have changed hands are now included, those that have ceased trading have been removed, and the situation regarding expired certificates has been clarified by either removal or updating for the new authorisation period.

The latest update to the EU List is therefore to be welcomed.

In detail:

- Denmark wishes to recommend a new ship recycling facility
- Norway wishes to recommend a new ship recycling facility
- A Lithuanian facility, whose authorisation expired in March 2020, has reported that it does not continue ship recycling activities and will therefore be removed
- Similarly, a Latvian facility has not had its expired authorisation renewed and will therefore be removed
- 2 facilities in Turkey will be added
- 4 facilities in the UK will essentially be removed – more detail later in this report

Brexit and the EU List

The new List also attempts to clarify the Brexit situation, and do so in a clear, consistent and understandable manner, albeit with clear failings in the achieved procedures.

The draft implementing decision, which was available mid-year, records that in the case of most UK facilities where the authorisation expired during the life of the January 2020 edition of the List, "*...the Commission has not received information from the United Kingdom...*", and therefore the facilities will be removed from the List.

The authors of this report have spoken directly to the majority of UK ship recycling facilities affected by the above decisions and it is clear that this consultation and information 'passed them by', and by inference the relevant authorities. By inference, since the authorisations from the local competent authorities are thought to be in place, the competent authorities should simply have informed the EC at the time of expiry that they should have been reinstated. It is interesting that only one other EU member failed to provide information to the EC.

^[5] <https://www.tradewindsnews.com/casualties/1500669/china-urged-to-reconsider-scrap-ship-import-ban>

Although further investigation shows that communications now in existence were not reported, or did not exist, when the draft was written the question has to be asked: In such a headline situation as Brexit, did the authorities make a full enough effort to support the UK facilities who want to remain on the List?

The new List also makes it clear that at “...the end of the transition period... the entry included in the EU List... will become void... [And] the EU List should be updated accordingly.”

This removes the vast majority of existing potential EU member state capacity from the List, although the facility located in Northern Ireland will remain longer due to an existing protocol.

In this report’s opinion, it is disappointing that the List has seized the opportunity to rid itself of the UK yards at the earliest future opportunity, since it seems more practical to leave these facilities on the List until the future is decided – and act with a simple and separate communication at that time. Clearly it is in everyone’s interest for the UK facilities to stay on the List, similar to Norway, so it is strange that the List makes such decisions for the future of items under review.

Status of Indian facilities

20 Indian ship recycling facilities have applied to the EU List, but none have been accepted.

A further 2 inspections by the Commission have taken place, in India, in October 2019.

The first report of findings states that “...the applicant appears to have a well running facility with a suitable organisation... [But] compliance could not be confirmed for demonstration of the control of leakage in particular in the intertidal zone.” Amongst other items, the report also notes that wastes are sold for re-use without sampling for hazardous materials.

The second report indicates no major failures at the facility itself.

However, both reports indicate that the local infrastructure in terms of hospitals and the downstream waste management outside Gujarat are unsuitable.

It is unclear how these are to be resolved, but the following extract from the second report must be seen as a step forward, from the perspective of Indian facilities:

“The main concerns of the evaluators related to the cutting of the ship’s double bottom in the intertidal zone. In response to this, the [facility] updated the relevant instructions and procedures. During the second inspection, the evaluators verified implementation of the new procedures. It was found that the facility had implemented a good practice and good instructions for the prevention of spills and leakages to the intertidal zone in way of debris control, tank cleaning and slag collection, rendering the topic of protecting the intertidal zone satisfactory to the evaluators.”

It may be concluded therefore that the beaching facility itself is acceptable.

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 ^[6].

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, coupled 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 ^[7].

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.

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 ^[8]. 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.

The above has not substantially changed since written for the first edition. However there have been developments which lend far greater evidence towards the bias of offshore decommissioning:

^[6] The Decommissioning of Offshore Oil & Gas Installations, Graeme Gibson, 2002

^[7] Prospects for North Sea Decommissioning, Atlantic Marine & Offshore, September 2017

^[8] Oil & Gas UK, Decommissioning Insight 2017

- 1) A previously incomplete facility which was on the List, has now reached a mature stage and won large contracts for recycling or, more accurately, land-based decommissioning of offshore units.

It has always been clear from the media and website information that this facility was aiming for offshore projects, and the actual order now proves it. There is no harm in this; it evidences the usefulness of all the work done by the IMO and the supportive EU Regulation. But it adds evidence that dedicated large scale ship recycling is comparably unattractive.

- 2) A country now has many new facilities on the list, for a total of 8. It will come as no surprise to readers that this country has a huge need for offshore decommissioning. Furthermore, the websites and satellite images consistently show offshore units in the facilities. Some of the facilities have clues in their names; they say 'offshore'. Again, there is no harm in this; it is a good thing for offshore.

It remains that offshore decommissioning is a lucrative market and it is positive that the List is being used to facilitate this activity.

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 construction, 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 \$300 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 price offered in Turkey, although some sources expect further surcharges for EU flagged ships ^[9].

Statements made by some cash buyers and shipowners indicate a general market expectation that 'green ship recycling' offered, for example, in some facilities in India, may lead to a price reduction of around \$50 per LDT. However, there is no substantiation of these figures nor a common acceptance of what 'green' ship recycling actually is.

Country	Dry Bulk	Tankers	Containers
Pakistan	370	380	390
Bangladesh	360	370	380
India	350	360	370
Turkey	200	210	220

US Dollar prices per LDT. Source: GMS Weekly, 20 November 2020, Volume 219, Issue 955, Week 47.

China is no longer included in the above figures as it has decided that it will no longer handle any foreign waste and so ship recycling for internationally trading foreign flag ships has ceased. This is disappointing since the facilities were well known and recognised as not only of extremely high standard, but also of exceptional capacity. Since the decision was made, many high level interventions have been made to accommodate ship recycling, but no progress has been seen.

^[9] <https://www.tradewindsnews.com/legal/1636088/scrap-values-of-eu-flagged-ships-could-plummet-50-percent>

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 that is seen as economically viable for both the facility and the shipowner, but this does not represent the needs of large scale economically viable commercial ship recycling.

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 ^[10].

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 ^[11].

Certain facilities are known to have undertaken funded projects in facilities which typically focus on ship repair, maintenance, or other activities. For example, Costa Concordia was scrapped at San Georgio Del Porto. Figures vary but at the time estimated costs were at €100 million post salvage ^[12].

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.

How does the EU List do in practice?

There has now been almost two years for the full force of the EU list to be felt. How has it impacted EU shipping?

A list of correspondence by the International Ship Recycling Association (ISRA), which includes the European Ship Recycling Association of several major EU List facilities, has released some information regarding compliance. This is in the form of an open letter to The European Commissioner for Environment, Oceans and Fisheries, Mr. Virginijus Sinkevičius.

It provides the following headline information, although its definitions and timescales are not provided:

EU Owned, Compliant	691 188 GT	(15%)
EU Owned, non-compliant	3 959 654 GT	(85%)

^[10] <https://navaltoday.com/2014/06/18/international-shipbreaking-to-dismantle-uss-constellation/>

^[11] www.veolia.com/en/veolia-group/media/press-releases/veolia-starts-operations-dismantle-former-jeanne-d-arc-cruiser-atlantic-port-bordeaux

^[12] <https://maritime-executive.com/article/costa-concordias-million-dollar-recycling-plan>

Clearly grim reading, but who is to blame? Such low compliance should be a great concern to both parties – legislators and shipowners. All stakeholders will need to get together to understand the problem and provide solutions.

COVID 19, Passenger Ships, and Turkey

COVID 19 had its largest shipping impact on passenger ships. Many EU flagged or member state owned cruise ships are being sold or are going for recycling. Most of these large ships are going to Turkey. It can be deduced that the Turkish facilities successfully tendering for these ships are full already; satellite imagery and news reports show ships clearly vying for position. It is also known that ships are slated for demolition in Turkey but are having to await a slot elsewhere.

Interestingly, the yard that recycled Costa Concordia is back in the recycling business, with another ship from that company. Although accepted as a subsidiary of the Italian facility on the EU List, the yard actually named in the media is not known on the List. Furthermore, there are unsubstantiated but plausible reports of ships in EU ports being stripped of interiors etc. in preparation for recycling. If such measures are indeed preparation for recycling, then presumably this would be considered a pre-cleaning activity and would need to be carried out at a facility on the EU List? Is the EU List already showing weaknesses due to lower demand for cruise ships during the pandemic? The number of ships concerned is highly significant for the cruise industry, but is a mere blip for global ship recycling.

EU List ship recycling facility questionnaire

A brief questionnaire was sent to all the facilities on the EU List. This asked simple questions regarding their operations, the impact of the EU List on their existing and future business, and the relative importance of ship recycling and related activities to their business.

Information for 7 facilities was received and this is considered to be a reasonable response considering that, as is being identified in this report, ship recycling is not necessarily the major activity of the majority of yards on the List.

The majority of replies were from Turkey. These were overall positive about the impact of the EU List on their business and reported 42% of their business as being EU Flag, having completed a healthy number of EU-flagged ship recycling projects since requirements came into force.

The evidence showed, as expected, that Turkish yards pass the 'Panamax test' and that 100% of their business is dedicated to ship recycling. Indeed, large internationally trading EU ships are the main business focus, with non-EU ships a close second. Considering relative fleet sizes, the statistics show a success in attracting EU flag ships. The Turkish facilities, in general, have little or no interest in ship repair, ship conversion or general engineering. They would be happy to do offshore decommissioning.

Specialist, dedicated EU ship recycling yards appeared to present a healthy total tonnage but not for the larger size of ships, despite being capable. Smaller ships are in some ways more attractive to the EU yards. It was also, however, reported that a lack of enforcement and the ease with which an owner can simply reflag to a non EU flag state and recycle elsewhere means the EU Regulation can negatively impact business.

Non-dedicated EU facilities do not target the Panamax and above size ships, preferring smaller regional EU flagged ships. However, their main business is normally repair, conversion, or other engineering projects and only about 10% of income is reported as derived from ship recycling.

The EU List is reported as having a positive effect – possibly through raising awareness for a non-core business model.

In summary, the limited number of replies probably does more to validate the finding elsewhere in the report, than to provide robust statistical evidence. But it does reinforce the critical contribution of Turkey to the volume, large size ship market; the niche ability of the dedicated ship recycling facilities; and the flexibility of the repair yards.

EU List ship recycling facility interviews

In addition to the questionnaire, telephone interviews were held with the following recycling facilities:

Dales Marine Services Ltd., UNITED KINGDOM

Mr. Brian Robertson, Decommissioning Operations Manager

Presently on the List and keen to remain.

Dales is a very good example of a repair yard that profits from undertaking specialist ship recycling, which they see as another service to offer clients. At present they are dismantling a dredger of 1,200 Lightship tonnes. The ship has been alongside for a few weeks undergoing preparatory work, but will now enter the dry dock which is normally used for repairs. Dales expect that the entire ship should be dismantled, processed, and out of the facility completely within a further 2 weeks using 1 shear crane and 8 workers.

This is clearly a long way from the ‘Panamax test’ operations, but this is competent work for a local market in full dry dock conditions with regular and robust engagement with the local Environmental Protection Agency.

Dales are in the process of applying for re-inclusion on the EU List. As an existing EU List facility, it would be great if they didn’t have to do this, but it appears that even if the UK left with a deal, an application would still be necessary. Dales are even more concerned about the uncertainties of ‘no deal’.

Dales see their continued presence on the EU List as critical to their success in the ship recycling market. As a recycling facility in a third country, they are well aware of the various methods to avoid the EU SRR but do not want to have any involvement in such practices.

From their perspective, non-EU ships would already be in a non-EU country and therefore they would be competing with all the facilities in the world, and they cannot compete on price with other ship recycling locations. Therefore, the EU List is the only practical option.

Dales are unclear when they think the Hong Kong Convention will enter into force and in any case are unclear how it will affect them; they see the EU requirements as higher than IMO, and therefore EU List facilities should be automatically accepted. Dales believe that any issues between the EU

Regulation and the IMO Convention need to be resolved, or Hong Kong will always be seen as the lower standard.

NV Galloo Recycling Ghent, BELGIUM

Mr. Peter Wyntin, CEO

Galloo is a very good example of a dedicated ship recycling facility in North Europe.

Around 15% -25% of Galloo's ships are EU flag, with the rest being non-EU flag at end of life in EU ports – as envisaged by the EU Regulation.

From their point of view there are two major issues in the market today; impact of COVID and non-compliance with the EU Regulation.

At present the market is high because owners are wishing to get rid of small to medium size cargo vessels due to the impact of COVID. The number of requests for tender is very large, and a significant increase from normal operations.

And many ships which should be in the EU List market are being lost. A soon to be published report, which Galloo have been involved with, indicates that approximately 20% of ships simply ignore EU Regulation, and a further 40% reflag to non-EU flags and then head for recycling at non-EU List yards.

Galloo stated that “...as long as the EC and the member states do nothing to enforce the EU SRR then it will continue to be business as usual.”

The bigger ships of over 3000 -5000 LDT in the EU tend to go to Turkey since the smaller ships cannot justify the travel costs and so need to be done locally. The present demand means that the yards are full and so the offered prices (\$/LDT to shipowner) are low. Galloo also benefit from military ships, where the government owners need to be assured of high standards of safety and environmental protection.

Peter reports pragmatic efforts by all involved to meet the complicated process of inspection and documentation required by the EU Regulation: “*The large shipowners know what to do and have everything in order. For the smaller owner the ship can be delivered and held pending all the checks and documentation, including the class surveyor attending onboard to issue all the necessary certificates on behalf of the flag state.*” Galloo reports that in these circumstances the EU Regulation procedures and facilitation is much better than the European Waste Shipment Regulation.

As for the future, the order book is full but the EU Regulation must be effectively enforced; Galloo does not expect that the Hong Kong Convention will enter into force any time soon.

Interviews with ship recycling facilities in Turkey

Turkish yards were not willing to have comments attributed to them, however the following common themes may be recognised by the authors over many years of communications, visits and relationships with many of the yards and people involved.

Turkey is the only dedicated, volume ship recycling country on the EU list. Whilst the proportion of offshore recycling is increasing, it is considered by the facilities to be a more dangerous and risky endeavour due to, for example, the relative height and complexity of the structures.

Since all the Turkish yards pass the Panamax test, being on the EU List is mutually beneficial and the recent acceleration of Turkish yards on the list is evidence of that. However on that same observation it may be alternatively noted that it is a little disappointing that not more Turkish yards are on the list.

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 were originally 26 facilities, alphabetical descriptors were used, and now double letters are used for new ones (such as AA, BB etc.). Yards in strikethrough have been removed from the List, or are intended to be removed.

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 yards) 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 test is to ascertain 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 useful here, since if a facility regularly recycles Panamax it would be expected to show up on the satellite imagery.

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

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

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

Large: Ship length over 200m and 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 similar) 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.

For this updated report, two new categories have been added for facilities on the new List and the draft; Waste and Scrap. This is where a facility mainly deals in waste handling or demolition (priority). It is common that port facilities import and export waste. Often this is primarily metal scrap (primary business). Such facilities are clearly identifiable from satellite images and websites. Often such companies offer demolition services as well and, since most of their money clearly comes from metals, they can use their dock facilities and their skilled demolition workforce to cut up the occasional ship.

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 decommissioning and ship recycling are not compatible. For example, military ship recycling is almost indistinguishable from commercial ship recycling, but offshore decommissioning can be quite different.

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 dry docks. This is a physical reason why offshore decommissioning facilities are unlikely to compete for commercial ships.

The table that follows shows that 17 facilities on the EU List (in green text) display a variety of sizes and capabilities and demonstrate themselves to be viable concerns through their existing ship recycling activity. Of these, the Panamax test shows that 8 of these facilities, all located in Turkey, 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.

The table indicates that the remainder of the facilities (in red text) do not display the necessary requirements, and further indicates that with the removal of UK yards the List has lost a considerable amount of ship recycling capacity. This potential capacity has been questioned before of course.

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. It also appears that the proportion of offshore yards to recycling yards in member states and in the UK is increasing.

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

Yard	Active?	Panamax?	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
D		No	M	Ship recycling	Ship recycling	Ship recycling
F		No	M	Ship recycling	Ship recycling	Ship recycling
G		No	M	Ship recycling	Ship recycling	Ship recycling
M		No	S	Ship recycling	Ship recycling	Ship recycling
Q		No	M	Ship recycling	Ship recycling	Ship recycling
S		No	M	Ship recycling	Ship recycling	Ship recycling
T			L	Ship recycling	Ship recycling	Ship recycling
U			L	Ship recycling	Ship recycling	Ship recycling
AJ		No	S	Ship recycling	Ship recycling	Ship recycling
AN			L	Ship recycling	Ship recycling	Ship recycling
AO			L	Ship recycling	Ship recycling	Ship recycling
AP			L	Ship recycling	Ship recycling	Ship recycling
AQ			L	Ship recycling	Ship recycling	Ship recycling
AR			L	Ship recycling	Ship recycling	Ship recycling
AS			L	Ship recycling	Ship recycling	Ship recycling
C			L	Offshore	Recycling	Offshore recycling
E		No	S	Port / repair	Port / repair	Port / repair
H			M	Military	Ship recycling	Military
I			M	Repair	Repair	Repair
J			M	Repair	Repair	Repair
K			L	Repair	Repair	Repair
O			M	Recycling	Recycling	Recycling
P			L	Repair	Repair	Offshore
R		No	S	No	Construction	Construction
Z			L	Repair	Ship recycling	Military
AA			L	Repair	Repair	Repair
AB		No	S	Repair	Repair	Repair
AC			M	Waste	Recycling	Scrap
AD			S	Waste	Recycling	Scrap
AE			S	Recycling	Recycling	Recycling
AF		No	M	Repair	Repair	Repair
AG	No		L	Offshore	recycling	Offshore recycling
AH			L	Offshore	recycling	Offshore recycling
AI			M	Offshore	repair	repair
AK			L	Offshore	Recycling	Offshore Recycling
AL	No		L	Offshore	Recycling	Offshore Recycling
AM			L	Offshore	Recycling	Offshore Recycling
L	No		S	No	No	No
N			S	Recycling	Recycling	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



Capacity

Revised figures were to have been included in this updated Report. However, in October 2020 the IMO communicated to the authors that new data was not yet ready, partly due to a cyber-attack.

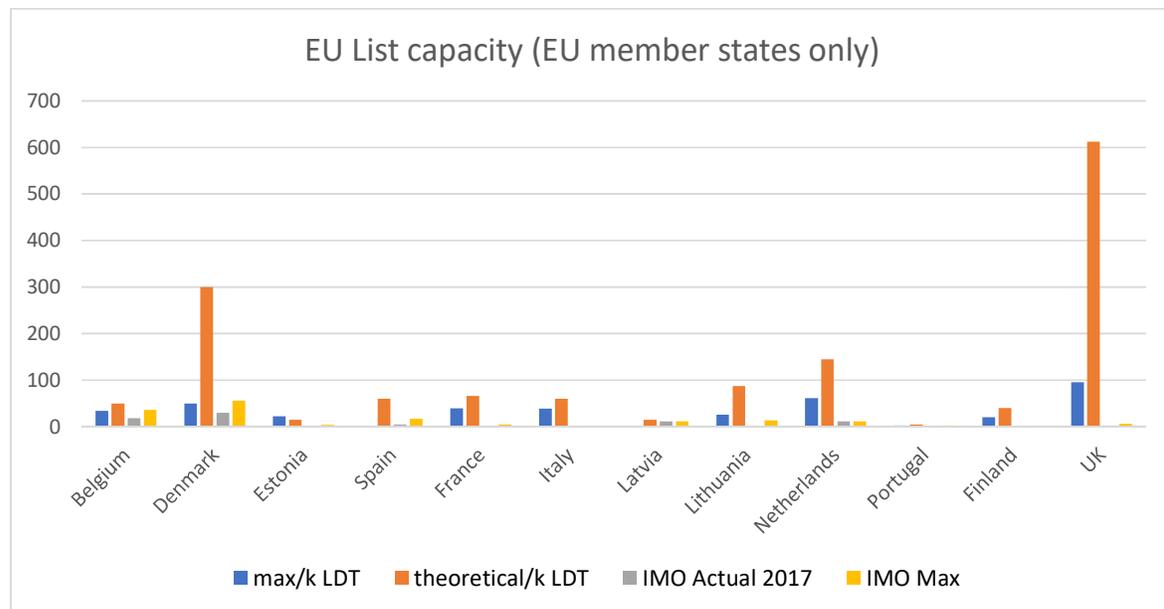
The figures for Norway since 2017 (latest IMO information) will be interesting since some of the facilities are not only carrying out some larger tonnages, but have large potential capacities (100 000 to 200 000 LDT for two of the yards) and it would be interesting to see how IMO have verified this in the past few years.

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.

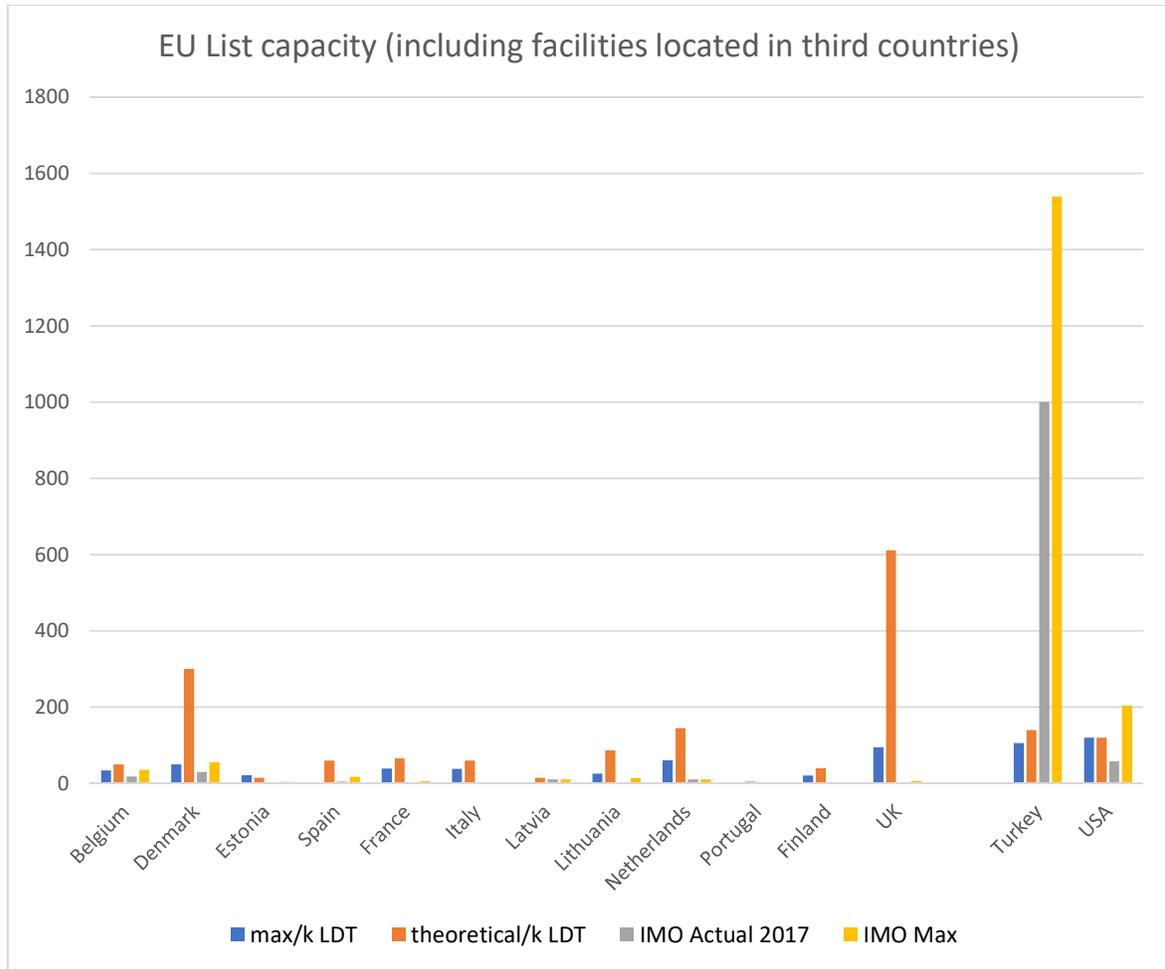
Graph 1



The IMO figures are very small. However, claimed and theoretical EU List 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.

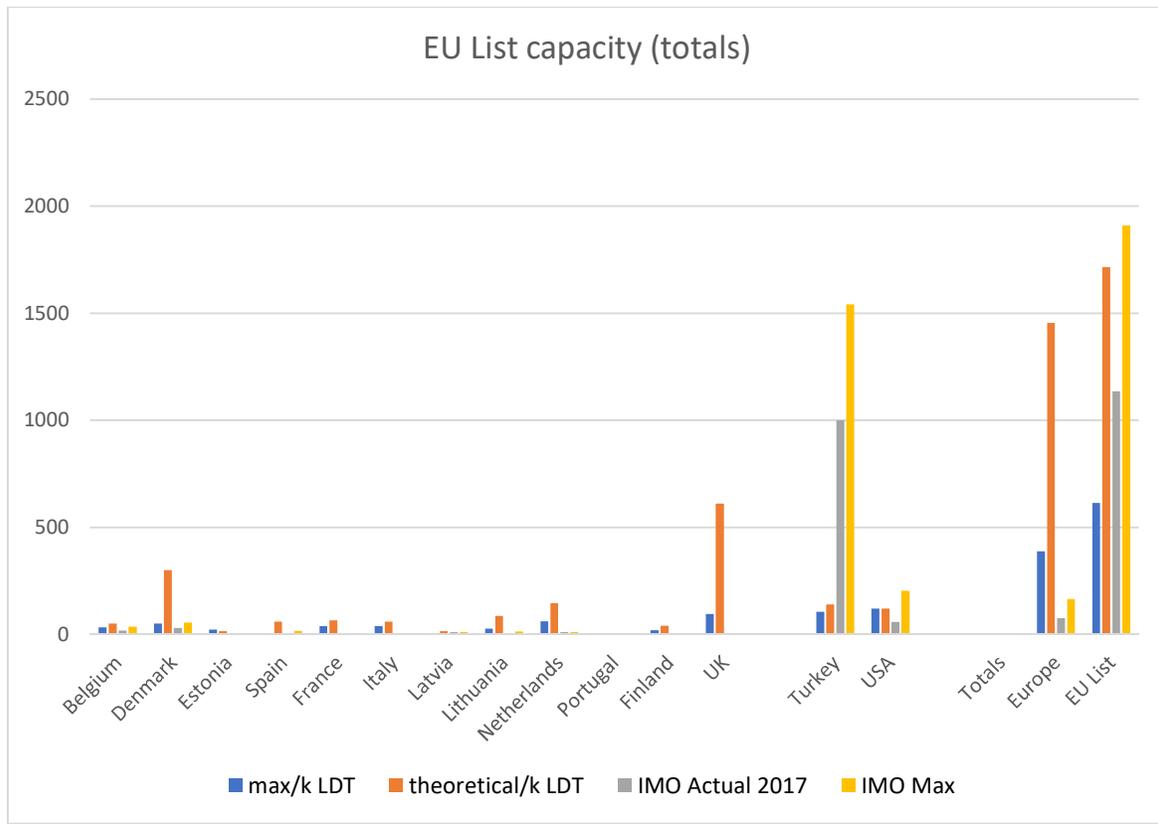
The theoretical loss of capacity due to Brexit is therefore quite high but, in reality, negligible.

Graph 2



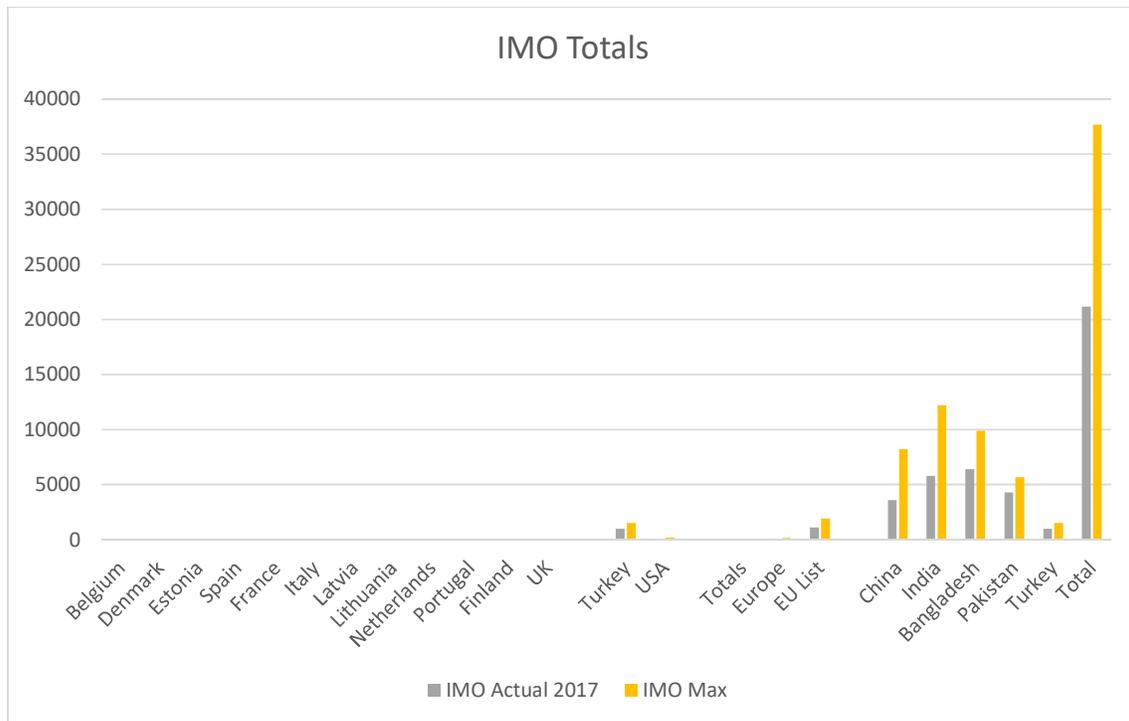
With the inclusion of EU List facilities located in third countries the effective scale has increased almost tenfold. The contribution of these facilities provide capacity far in excess of the IMO totals for all the EU List member state facilities combined.

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 IMO 10-year rolling maximum number has been included as well, since this is the number that the ratification of the Hong Kong treaty will use and gives a relative indication of the country as a ship recycling nation.

The total capacity for Turkey, the world's fifth largest recycling nation if China is considered, 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.

It is unclear, due to outdated information, what impact Norway might have on these figures. As given in the EU list, the actual usage is less than 100 000 LDT per year, and therefore it is extremely unlikely to show up on a graph such as the above, when IMO next releases numbers.



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.

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