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Ship recycling practices and the legal risks involved for Swedish shipowners

A case study of the ships ATLANTIC COMPANION, BARBRO and FALSTAFF

Bachelor thesis for International Logistics Program

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Gothenburg, Sweden, 2024

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PREFACE

This bachelor's thesis was written at Chalmers University of Technology as a part of the programme International logistics. The focus of the programme is shipping, logistics, as well as related economics and law. Considering the broad societal focus on sustainability, the authors of this thesis thought that ship recycling was a subject that deserved more attention. The thesis focuses on the legal aspects regarding ship recycling, a central function within the cyclical shipping market, with some attention given to the economic drivers behind the practices.

We want to give special thanks to our supervisor Mats Isaksson for his availability through a sometimes-chaotic writing process, Astrid Liedholm for answering our questions regarding the structure of the thesis, as well as Chalmers Library for their assistance with citations and excellent lectures on thesis writing.

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SAMMANDRAG (in Swedish)

Inom området fartygsåtervinning har många nya regelverk trätt i kraft, och i och med att den internationella konventionen om säker och miljöriktig fartygsåtervinning träder i kraft 2025 står redarna inför en annan marknad än de gjorde för tio år sedan. I denna fallstudie undersöks hur fartygen ATLANTIC COMPANION, BARBRO och FALSTAFF återvanns för att förstå varför de återvanns som de gjorde och om dessa rutiner är genomförbara i dagens regelverk och ansvarsmiljö.

Resultaten visar att rutinerna för fartygsåtervinning inte kan fortsätta vara desamma som för de tre undersökta fartygen. Ingen av fartygen uppfyllde kraven i dagens lagstiftning, särskilt inte efterlevnaden av EU:s förordning om återvinning av fartyg. Vad gällande skadeståndsansvar för skador på arbetstagare vid återvinningsanläggningarna eller miljön kan endast redaren för FALSTAFF antas med säkerhet inte vara ansvarig. Dessutom, i linje med tidigare forskning, är observationen i studien att det pris som redaren får för att sälja fartyget för återvinning har en betydande inverkan på rutinerna.

Studien har fokuserat på svenska redare då de generellt uppfattas vara mer engagerade i hållbarhet. När det gäller andra avgränsningar har nationella bestämmelser uteslutits från analysen och branschriktlinjer har inte utvärderats.

Nyckelord: Hong Kong Konventionen, Basel Konventionen, EU:s förordning om återvinning av fartyg, European Waste Shipment Regulation, Fartygsåtervinning, Skeppsskrotning, Juridiska risker, Skadeståndsansvar, Fartygsåtervinning lagstiftning, Redare.

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ABSTRACT

The area of ship recycling has seen the entry into force of many new regulations, and with the entry into force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships in 2025, shipowners face a different market than they did ten years ago. This case study examines the ship recycling practices of ATLANTIC COMPANION, BARBRO, and FALSTAFF, in order to understand why they were recycled as they were and if these practices are feasible in today's regulatory and civil liability environment.

The results show that ship recycling practices cannot remain the same as in with the three ships examined. None of the ships were compliant with the legislation of today, particularly compliance with the European Ship Recycling Regulation falters. Furthermore, on the matter of civil liability, under recent case law only FALSTAFF was recycled in a manner where the shipowner can confidently be assumed not liable for damages to workers at recycling facilities or the environment. Additionally, in line with previous research, the observation of the study is that the price the shipowner receives for selling the ship for recycling has a significant impact on ship recycling practices.

The study has focused on Swedish shipowners as they are generally perceived to be more invested in sustainability. As for other delimitations, national regulations have been excluded from the analysis and industry guidelines have not been evaluated.

Keywords: Hong Kong Convention, Basel Convention, European Ship Recycling Regulation, European Waste Shipment Regulation, Ship Recycling, Shipbreaking, Legal risk, Civil liability, Ship Recycling Regulations, Shipowner.

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ACRONYMS AND TERMINOLOGY

BC	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
DOCH	Document of Compliance Holder
EOL	End of Life
ESRR	European Ship Recycling Regulation
EWSR	European Waste Shipment Regulation
GT	Gross Tonnage
HKC	The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships
ICS	International Chamber of Shipping
IHM	Inventory of Hazardous Materials
IMO	International Maritime Organization
IRRC	International Ready for Recycling Certificate
LDT	Light Displacement Tonnage
OECD	Organization for Economic Cooperation and Development
PIC	Prior Informed Consent
SRF	Ship Recycling Facility

1. INTRODUCTION

The recycling of ships is typically a hazardous process for both the environment and workers involved (Jenssen et al., n.d.). As such, the international community has long sought to regulate and improve the working conditions and reduce the negative impact on the environment (Mikelis, 2019).

Ship recycling has been regulated in some form by the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (BC), since 2004 (De La Rue et al., 2022). However, further regulatory efforts have progressed, spearheaded by the adoption of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC) in 2009. Yet, the ratification process was slow and in the meanwhile the EU adopted their own, more stringent version of the regulation. Now with an entry into force for the HKC in 2025, shipowners have several regulations with different requirements to consider when staying compliant.

Yet, regulatory complexity is not the only obstacle for shipowners. Where the yard is situated geographically correlates both with the sustainability of the ship recycling process, and how much the shipowner is compensated for their ship (Mikelis, 2019). This incentivises the shipowner to meet the bare minimum level of compliance or even attempt to circumvent it entirely. Furthermore, complexity is added with factors such as reputational damages, criminal liability for breach of conventions, and civil liability for negligence. This is a result of legal cases in Europe which may result in an extension of the shipowner's duty of care for the recycling of their vessels (De La Rue et al., 2022). Shipowners could be held liable for suffering and damages to human health of third parties, even after the vessel has been sold.

With the entry into force of new regulations, new legal cases, and society's continuous transformation towards sustainability, it is not obvious previous ship recycling practices can be continued or what risks a shipowner exposes themselves to if they do continue with them.

1.1. Aim of the study

The aim of the report is to study the recycling of the ships ATLANTIC COMPANION, BARBRO, and FALSTAFF, to understand why they were recycled as they were and to examine if these practices would be feasible in today's regulatory and civil liability environment.

1.2. Research questions

1. Are there any regulatory risks from international legislation for a shipowner using the recycling practices employed in these cases?
2. Are there any risks associated with negligence under civil liability for a shipowner using the recycling practices employed in these cases?
3. What are the economic drivers behind these practices?

1.3. Delimitations

The foremost delimitation is regarding the population researched. The study focuses on Swedish shipowners as they are generally perceived as being heavily invested within sustainability. Consequently, the findings may not represent the larger shipping industry as recycling practices can differ.

Furthermore, material published before 2009 is excluded as the HKC was adopted in May 2009. Notably, the convention was not ratified for many years, but any material published before the adoption may have less relevant conclusions as the convention or its contents may not have been known.

Another delimitation is the exclusion of national regulations, in either flag state or port state, when evaluating the legality of the ship recycling. Additionally, the industry's guidelines have not been evaluated or taken into consideration as they are only recommendations.

Finally, the study does not utilize interviews or surveys with shipowners or their ship recycling partners.

2. THEORY

The theory presents the problems associated with ship recycling, how it is carried out from the perspective of a shipowner, and the international legal framework regulating the practice. Lastly, it also contains case law that has become relevant within civil liability.

2.1. The consequences of unsustainable ship recycling

The beaching method is the most prevalent method for ship recycling, with almost 80% of all End of Life (EoL) ships being recycled using this process (Tola et al., 2023). Ship recycling facilities (SRF) in India, Pakistan, and Bangladesh use this method due to the configuration of their coasts, which feature wide stretches of mud and large tidal distances. The practice involves the clearing of the vessel from cargo and ballast, and then being pushed close to shore during the high tide. Once the ship is on shore, workers with the use of blowtorches cut the ship into smaller pieces which are transported away with the help of vehicles. This method of ship recycling is very economical, but at the same time is seen as unsustainable, as environmental damage and worker safety is widely ignored. Consequently, it is a method that developed countries believe should not be tolerated (De La Rue et al., 2022).

EoL ships often contain hazardous substances such as asbestos, oil residues, and heavy metals, posing significant risks to human health and the environment if not recycled sustainably (Jenssen et al., n.d.). In addition to these toxic substances, workers face constant health and life risks due to unsafe working conditions, including lack of proper training and protective gear. Suffocation, explosions, falls from great heights, and collapse of heavy steel plates are some examples of the 400 recorded deaths among workers since 2009 (Jenssen et al., n.d.). Moreover, a shocking 13% of workers are under the age of 18, often offered to work night shifts to avoid inspections.

Beyond the labour-related problems, unsustainable ship recycling practices like beaching, impact the surrounding ecosystems and public health (Hossain, 2021). Fish are highly affected as the contaminated water poses lethal risks to the fish and makes it unfit for human consumption. Additionally, birds are vulnerable to oil exposure in polluted waters leading to various outcomes such as drowning, poisoning, and organ damage. The balance of aquatic ecosystems can also be further disrupted by the contamination of marine vegetation such as sea grass, mangroves, marsh grass, and kelp. Lastly, the contamination of fresh water is one of the main concerns, as public health is at risk.

2.2. The process of selling a ship for recycling

The vast majority of sold and purchased ships intended for recycling are quoted in USD per lightship (long) ton (Mikelis, 2019). Lightship or light displacement tonnage (LDT) excludes crew, stores, fuel, ballast, paint etcetera and is meant to indicate the quantity of steel and other commercially viable materials that can be extracted during recycling. South Asian countries currently dominate the ship recycling market and offer the highest prices to shipowners (Mikelis, 2019). The higher price is derived from lower labour and compliance costs as well as a higher domestic demand for scrap steel and large markets for second-hand equipment.

The price a shipowner receives for their vessel plays a major role in the selection of SRF (Schøyen et al., 2017). A study by Schøyen et al. (2017) highlighted that even a small variation in price per LDT can have a great impact on profits and is the main contributor to

the market dominance of beaching. Furthermore, ship recycling increases during a market trough, where freight rates are low (Schøyen et al., 2017). This puts financial pressure on shipowners in the form of tight credit and negative cashflow.

Typically, a shipowner utilizes the service of a specialized ship broker when selling a ship for recycling (Mikelis, 2019). The broker represents and advises their client during sale negotiations with a “cash buyer”, companies specializing in trading EoL ships. Most merchant ships are sold via cash buyers as they possess market expertise, reduce the shipowner’s risk, and pay cash in advance once a sale contract has been made with the shipowner. Contrarily, the SRF usually pays the cash buyer with a letter of credit.

Also of note is that the cash buyer briefly takes legal ownership of the ship as it is delivered to the SRF (Mikelis, 2019). Depending on where the sale and transfer of ownership happens the cash buyer may need to crew, insure, and reregister the ship with a flag state for the final voyage. The shipowner always deregisters the ship with the flag state upon sale. However, if the ship has already been delivered to the anchorage of the SRF, the ship does not need to be reregistered as the transport is brief and within domestic waters.

2.3. International Legal Frameworks within ship recycling

The study has identified four main regulations within ship recycling, two of which originate from the United Nations and the others from the EU. The intent of this chapter is to describe the conventions within the scope of the study and is not a complete explanation of their requirements or scope.

2.3.1. The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

The Basel Convention on the Transboundary Movements of Hazardous Wastes and Their Disposal (BC) was adopted in 1989 and entered into force in 1992 (Mikelis, 2019). The convention provides controls for the international transport of wastes, which since 2004 may include EoL ships, by requiring consent from authorities in both the exporting and importing country, as well as keeping transited countries involved. This procedure is referred to as Prior Informed Consent (PIC). The aim being to prevent exports of wastes to countries which are unable to dispose of them in an environmentally sound manner. However, the ambiguous term of “may” in relation to the inclusion of EoL ships has led to varying interpretation between countries as to if BC covers EoL ships (Mikelis, 2019).

Furthermore, there are some peculiarities which makes the BC unsuitable for regulating ship recycling (Mikelis, 2019). Firstly, convention does not contain any relevant requirements for neither ships nor SRFs. Secondly, the convention does not utilize flag state like other maritime conventions. This results in the exporting country being the country which the ship departed from for its final journey. Additionally, not all countries are willing to recognize that the convention should regulate EoL ships which can further complicate the process of obtaining consent (Mikelis, 2019).

2.3.2. The Basel Ban Amendment and European Waste Shipment Regulation

In response to many states not believing that the BC was sufficient, an agreement was made between the Organization for Economic Cooperation and Development (OECD) members in 1995 that eventually became the Basel Ban Amendment (De La Rue et al., 2022). The amendment prohibited the transfer of wastes from OECD members to non-OECD members and entered into force in 2019.

However, the amendment has effectively been enforced unilaterally through the European Waste Shipment Regulation (EWSR) in the EU since 2006 (Mikelis, 2019). Nonetheless, the EU has experienced issues including significant evasion, 91% of ships according to a 2011 study by the European Commission (Mikelis, 2019), when attempting to enforce the EWSR. In accordance with PIC, shipowners are required to request consent from authorities when exporting waste.

European courts have fined and even imprisoned shipowners in breach of the EWSR (De La Rue et al., 2022). Courts have concluded that ships that are seaworthy and operational can be considered waste if the intent of the shipowner is to dispose of them. As such, utilizing intermediaries, changing flag state, or employing the ship with cargo for the final voyage may not protect the shipowner.

2.3.3. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships

That the BC was unsuited for regulating ship recycling had been known for many years among the parties to the convention (De La Rue et al., 2022). Therefore, after many years the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC) was adopted in 2009. However, it would not be until 2023 that ratification requirements were met for an entry into force of 26 June 2025 (Rob Willmington, 2023).

The convention aims to create a regime which monitors the presence of hazardous materials in ships throughout their life and regulate the disposal of such materials at authorized SRFs (De La Rue et al., 2022). The definition of “shipowner” in the convention includes the registered owner, manager, bareboat charterer, or any other organization who have assumed responsibility over the ship’s operation. This also includes short term ownership in relation to the sale of the ship or transfer to SRF.

The presence of hazardous materials in the ship’s structure is recorded in the Inventory of Hazardous Materials (IHM) and is updated as necessary (De La Rue et al., 2022). The IHM is a central part of the convention, and all new ships must have one onboard while existing ships are given five years after entry into force of the convention. However, existing ships headed for recycling within these five years must also have one. Additionally, the HKC also mandates that an International Ready for Recycling Certificate (IRRC) be prepared prior to recycling which shall contain not only hazardous materials in the ship’s structure but also those generated through the ship’s operation or contained in the ship’s stores (De La Rue et al., 2022). Following a final survey, the IRRC is issued by the ship’s flag state and confirms the validity of the IHM as well as the suitability of the chosen SRF (Mikelis, 2019).

Enforcement to ensure SRFs are built and operated in a safe and an environmentally sound manner is up to the contracting state in which the SRF is located (De La Rue et al., 2022). Consequently, ships flying the flag of a state party to the HKC must be recycled in a SRF located in a state also party to the HKC (Mikelis, 2019). SRFs which have implemented the management systems and procedures required by the convention are issued with a Document of Authorization to conduct Ship Recycling by the state authorities (De La Rue et al., 2022). A part of these procedures is the Ship Recycling Facility Plan which includes among other things, training and safety of workers, and systems for reporting incidents, accidents, and cases of occupational diseases. Additionally, the Ship Recycling Facility Plan requires all hazardous materials in the ship, as listed in the IHM, to be identified, packaged, and removed “to the maximum extent possible” by properly trained and equipped personnel before the ship is recycled (De La Rue et al., 2022).

While the HKC has not entered into force yet, some SRFs have sought to receive a certification of compliance through Classification Societies (De La Rue et al., 2022). However, these “Statements of Compliance” have no formal legal status under the convention and are only an assessment from the Classification Society as to whether the SRFs are compliant.

2.3.4. European Ship Recycling Regulation

The European Ship Recycling Regulation (ESRR) implements the main features of the HKC but with significant additional safety and environmental requirements (De La Rue et al., 2022). It was intended to promote the ratification of the HKC and was adopted by the EU in 2013 and entered into force in 2018.

The most notable of these additional requirements is the control of SRFs (De La Rue et al., 2022). Ships under the ESRR must be recycled at a SRF included in the European List of approved facilities. A list which is periodically updated with facilities added or removed as to whether they comply with the regulation. Compliance for SRFs located outside the EU is assessed by the European Commission, unlike in the HKC where the assessment is done by the national authorities. While the convention does not contain any geographical restrictions, one of the criteria for facility approval is that they “operate from built structures” and so far, no SRFs which utilize the beaching method have been approved. As a result, the list contains no SRFs located in South Asia (European Commission, 2023), a region which in 2017 was responsible for 77% of the world’s recycled tonnage (Mikelis, 2019).

A point of differentiation with the EWSR is ship applicability (De La Rue et al., 2022). While the EWSR applies to non-EU flagged ships in EU waters, the ESRR only applies to EU flagged ships but wherever they are in the world.

2.3.5. Overlapping Regulations within ship recycling

There are legal inconsistencies between the two United Nations conventions as highlighted in a document (BIMCO et al., 2024) to the Marine Environment Protection Committee within the International Maritime Organization (IMO). The document was submitted by the Danish shipowner trade association BIMCO, together with Bangladesh, India, Norway, and the International Chamber of Shipping (ICS). To illustrate these inconsistencies the document (BIMCO et al., 2024) contains three case scenarios:

Case 1 – Location of the ship: Panama, to be recycled in Pakistan. Panama is a Party to the BC and to the Ban amendment but is a non-OECD State. After the ship has obtained its IRRC, it may be considered as hazardous waste under the BC and therefore Panama may apply the PIC procedure to the transboundary movement of the ship. The same thing can also happen in any non-OECD transit State such as Singapore, even if the only intention of that port call is to conduct operations to minimize the amount of cargo residues, remaining fuel oil, and wastes remaining on board, in accordance with regulation 8 of the HKC.

Case 2 – Location of the ship: Chile, to be recycled in India. A ship in a Chilean port heading for recycling is prohibited from going to India and can be arrested in Chile, because Chile is an OECD State and Party to the BC including the Basel Ban amendment.

Case 3 – Location of the ship: France, to be recycled in Bangladesh. A ship in a European port heading for recycling is prohibited from going to Bangladesh and can be arrested because France, along with all European Union Member States, is a Party to the BC including the Basel Ban amendment.

Furthermore, the document notes that even in Case 1 where the movement is legal, the PIC procedure can take up to 60 days and the ship needs to remain idle until cleared for export (BIMCO et al., 2024).

2.4. Civil liability risk for a shipowner within ship recycling

Beyond penalties for breach of convention requirements, shipowners and associated companies may end up being liable for negligence (De La Rue et al., 2022). This is illustrated in the following *Begum v. Maran (UK) Ltd* case (De La Rue et al., 2022):

Centaurus Special Maritime Enterprise, a company incorporated in Liberia was the registered owner of the oil tanker Maran Centaurus from 2004 until the vessel had come to the end of its useful life in the summer of 2017. Maran (UK) Ltd (“Maran”) was contracted to provide agency and shipbroking services.

Maran carried out negotiations for the sale of the vessel and on 24 August 2017 a contract was concluded for the sale of the vessel by the registered owners to a Nevis-registered company, Hsejar Maritime Inc, at a price in excess of US\$16m. Hsejar’s obligations under the contact were guaranteed by Wirana Shipping Corp Pte Ltd, a company incorporated in Singapore. Hsejar agreed that the sale was for demolition purposes only and that it would only sell the vessel to a “ship breaker’s yard that is competent and will perform the demolition and recycling of the vessel in an environmentally sound manner and in accordance with good health and safety working practices”.

On 5 September 2017, Hsejar took delivery of the vessel which was reflagged from Greece to Palau, its name was changed to Ekta, and a new crew was installed; from that moment the shipowning group ceased to have any direct involvement with the vessel.

On 30 March 2018 Mohammed Khalil, a worker at the yard, fell to his death while working on the demolition of the tanker at the Zuma Enterprise Shipyard in Chattogram, Bangladesh. His widow commenced proceedings for damages for negligence against Maran under two UK statutes, alternatively, under Bangladeshi law. The defendants applied to strike out the claim.

Evidence was submitted on behalf of the claimant that over the past 10 years more than 70 per cent of the approximately 800 vessels that reach the end of their operating lives annually representing 80 to 90 per cent in terms of tonnage – are broken up using the “beaching” method. Reference was made to an UNCTAD Review published in 2019 which showed that, the tonnage of oil tankers demolished in 2018 amounted in total to nearly 11m gt [Gross Tonnage], of which only 80,000 gt were broken up in yards in China and Turkey, where safe working practices were followed. The extent of Maran’s control over the terms of the sale agreement was disputed but it was submitted on behalf of the claimant that Maran was able to set the price and agree to dismantling in Chittagong.

It was accepted by the defendants, solely for the purpose of the striking out application, that the defendants were aware of the ultimate destination of the vessel. The sale price of nearly US\$17m was consistent with dismantling by a yard in Chittagong, rather than the lower price for yards such as those in China and Turkey which did not use beaching.

The Court of first instance *held* that it would not be appropriate to strike out the claim. The claimant had real prospects of establishing that Maran owed a duty of care and succeeding in her claim in negligence.

An appeal by Maran was dismissed by the Court of Appeal which *held* that the existence of a duty of care did not sit comfortably with traditional principles but was not so fanciful that it should be struck out. Further, it was arguable that by sending the ship to be scrapped, the defendant had been responsible for creating a state of danger resulting in the shipyard causing injury to the claimant, a well-established exception from the general principle under which the defendant would not be liable for harm caused by the acts of a third party. The Court acknowledged that although this was an unusual argument, this was a rapidly developing area of law and the claim should not be struck out.

Central in this case was the duty of care and how far it extends (De La Rue et al., 2022). Seeing as the court held that a duty of care could not be struck out, shipowners may face similar claims in the future. De La Rue et al. (2022) highlights three key points and likely developments because of them. Firstly, generic contractual clauses stipulating safe and environmentally sound recycling may not be sufficient. Shipowners are therefore likely to explore more complete clauses with stipulations to location and method of recycling. Secondly, companies associated with the ship-owning group may be liable if they have significant degree of control over the ship’s terms of recycling, even if they are not party to the sales contract. Thirdly, shipowners may need to consider a more active involvement post-sale. Additionally, as highlighted by Glinski (2022), the purchase price must allow for safe recycling.

Glinski (2022) further highlights the SRFs that the court in this case considered safe. The court only took Chinese and Turkish SRFs into consideration, in line with the EWSR and ESRR. Any other SRF would require the shipowner to show comparable safety standards to those included in the European List (Glinski, 2022).

3. METHODS

A case study was conducted as it was deemed suitable in accordance with the qualities of a case study as described by Martyn Denscombe (2018). The study is based on a naturally occurring phenomenon, using a small sample size, and focuses on depth and complex relationships. A sample size of three ships improved the study's ability to gain insight while decreasing the risk of drawing flawed conclusions from outlier events if a smaller sample size was chosen.

The study begins with data collection, specifically a documentary search, and a database search to find suitable ships to sample. The ships and their recycling process were then qualitatively analysed based on the international regulations and case law to form the results.

3.1. Documentary search

The first step of the process was data collection. This was in the form of a documentary search to answer which rules apply and what shipowners are doing. The material consulted was industry journal Lloyd's List, peer-reviewed articles from academic journals, and books.

3.1.1. Search words and criteria for academic journals

The following search words and criteria were used on the Chalmers Library website:

- “Hong Kong Convention” AND “Ship Recycling Regulation” AND “Basel Convention” AND shipbreaking OR “ship recycling”
- Peer-reviewed full text
- Available in Library Collection
- Publication date: From 2009 – 2024

These search criteria yielded 720 results which were then selected based on their titles and inspected for relevancy. Titles which contained mentions of the international regulations or implied a shipowner's perspective were of special interest. Oppositely, titles mentioning specific substances or countries outside of Scandinavia were not examined. Neither were studies which seemed to focus on the SRFs and their processes.

Additionally, two books were identified as being of interest for this thesis. They were found by checking cited sources of the results mentioned above, a process referred to as “snowballing”.

3.1.2. Search words and criteria for industry journals

The following search words and criteria were used on the website of industry journal Lloyd's List:

- Shipbreaking OR “ship recycling” NOT “week in charts” NOT shipbuilding NOT MSC NOT Coronavirus
- Date From: 2020-01-01 To: 2024-03-03
- Sectors: Ship Recycling

Articles were then selected according to a relevancy evaluation based on terms included in the headline. Terms of interest were “EU”, “HKC” or “Hong Kong Convention”, and “Basel”. Articles which seemed to report on the ship recycling market in terms of prices or trends were not examined.

For industry journals the study used a narrower timespan of from 2020 to today. Using the time span of 2009-2024 gave results of 199 articles, and with industry journals being sources of lesser quality compared to articles published in academic journals it was not practical to sift through so much material. 2020 coincides with the full application of the ESRR and yielded a result of 85 articles.

3.1.3. NGO Shipbreaking Platform

The latest annual report from the non-governmental organization NGO Shipbreaking Platform was also utilized in the data collection, specifically for data on the consequences of unsustainable ship recycling. The organization describes itself as “coalition of environmental, human and labour rights organisations working to promote safe and environmentally sound ship recycling globally” (Jenssen et al., n.d.).

3.2. Identifying population and selection of ships

The database Sea-web Ships by S&P Global was utilized for identifying ships for the study and contained information as to where and for what price they were recycled. Access was obtained through Chalmers Library.

The following search criteria were used on Sea-web Ships:

- DWT: From 9 000
- Registered Owner: Domicile Sweden
- Status: Broken Up Status Effective: From 200912
- Display Fields:
 - Built
 - Deadweight
 - Flag
 - Shipmanager
 - Technical manager
 - Registered Owner
 - Ship Type
 - Recycling Arrival
 - Recycling Commenced
 - Recycling Location
 - Recycling Yard
 - Recycling LDT Price

Results were then filtered to only show ships where Recycling LDT Price was greater than \$0 and Registered Owner name contained “AB”. These criteria resulted in three results, FALSTAFF (IMO 8320767), BARBRO (IMO 8307686), and ATLANTIC COMPANION (IMO 8214152).

3.3. Analysis of ship recycling practices

The selected ships and their recycling practices were then analysed and compared to the regulatory framework and legal cases outlined in the theory.

Regarding regulatory risks, Sea-web contained information on flag state, last departure before heading to SRF, as well as location and name of the SRF. This information was then

compared to the rules in the theory. First, the last departure and location of the SRF was compared with the rules for the Ban Amendment and EWSR. Both these regulations have restrictions on the export of EoL ships from OECD countries to non-OECD countries. As such, if the country of export was an EU member or OCED member party to the Ban Amendment, the location of the SRF should not be a non-OECD member. Secondly, if the flag state was a member of the EU, the name of the SRF was compared with European List in accordance with the ESRR. Lastly, if the flag state was not a member of the EU, the flag state and location of the SRF was compared with the rules of the HKC. Specifically, if both flag state and the country in which the SRF is in has ratified the convention. This analysis was done in the context of if the ship was recycled today, and if the ship was recycled when all regulations have entered into force.

Regarding risk under civil liability, Sea-web contained information on the location and name of the SRF, as well as the scrap price. This information was complemented by a price history graph per country and the most common ship recycling method per country as described by Tola et al. (2023). This sum of information was then compared with the key factors highlighted in the Begum v. Maran case. The factors being whether the price allowed for safe recycling, and the location of the SRF. For the former, the scrap price of the ship was compared with the price history, and whether the price obtained for the ship was significantly higher than the market price in Turkey or China at the time. For the latter, the location was compared with the countries deemed suitable by the court. Additionally, certificates possessed by the SRFs were obtained through a web search of their name when available. Certificates could be relevant for showing comparable standards with SRFs on the European List, a requirement set by the court.

With regards to the economic drivers, the observations of the case study were compared with previous research obtained through the documentary search.

4. RESULTS

The results are structured by research question with each containing a summary. The first two research questions are also divided per ship. Furthermore, foundational facts regarding ownership structure, chain of events, and information on the SRFs is presented in the first section for each ship.

4.1. Are there any regulatory risks from international legislation for a shipowner using the recycling practices employed in these cases?

The ships were recycled prior to the entry into force of many of the regulations highlighted in this study. The chapter examines the legality, or regulatory risk, of the ships' recycling practices. This analysis is done both in context of repeating the practices today, and when all the regulations have entered into force.

4.1.1. ATLANTIC COMPANION (IMO 8214152)

The ATLANTIC COMPANION was a Container/Ro-Ro Cargo Ship, built in 1984 for Atlantic Container Line AB with a deadweight of 51,648 tons (S&P Global, 2024a). It had Sweden as flag state and was classed with Lloyd's Register. As for ownership structure, at the time of recycling the group owner was Grimaldi Group SpA based in Italy. The registered owner, and operator, was Atlantic Container Line AB based in Sweden. The shipmanager BSM Sweden AB is also based in Sweden. Finally, the Document of Compliance Holder (DOCH) and technical manager V Ships Liverpool Ltd is based in the United Kingdom. The DOCH is the company who has assumed responsibility for the technical operation of the ship, as well as responsibility under the ISM Code, on behalf of the shipowner (S&P Global, 2024d).

The last visible movement on Sea-web shows the ship sailing from the US East Coast to India (S&P Global, 2024a). On the 4th of September 2015 it arrived in Alang, India. Following, it was declassified on the 7th and recycling commenced on the 12th of September at Rajendra Shipbreakers Pvt Ltd. Listed scrap price was 320 USD per LTD for a 9,254,080 USD total. Regarding the SRF, it is an active facility located in Alang, India. The typical method employed by Indian SRFs is beaching (Tola et al., 2023). Furthermore, India is a country that has ratified the HKC and therefore the facility must comply with the HKC.

If ATLANTIC COMPANION was recycled in the same way today, it would not fall under EWSR jurisdiction. The reason is that, even though it was recycled in a non-OECD country, it started its last trip outside EU waters. The USA, which the vessel departed from, is not a party to the BC or Ban Amendment (De La Rue et al., 2022) so, with regards to EWSR and BC, the move was legal. Considering that ATLANTIC COMPANION had a Swedish flag during its last voyage toward the SRF, it would be subject to the ESRR regulation. However, since the chosen SRF is not included in the European List, the recycling of the ATLANTIC COMPANION would be considered unlawful.

Exploring a situation where all the regulations have entered into force, the focus for ATLANTIC COMPANION should be the ESRR. The ESRR is more stringent than the HKC, and the EWSR only applies to non-EU flagged ships. The first option to ensure compliance with the ESRR would be to recycle in an SRF included in the European List. By doing so, not

only is the shipowner complying with the regulation, but also reduces its negative environmental-social impact. The downside of this option is that the company will receive less money from the SRF than it would have received by recycling the vessel illegally in a South Asian country. The second option is to change the vessel's flag to a non-EU flag before sending it for recycling. This would result in the ESRR not being applicable and the ship could therefore be recycled in HKC-compliant SRFs in South Asia. However, if the decision to recycle in South Asia is made while the ship is in EU-waters the shipowner risks going to court for breach of EWSR (De La Rue et al., 2022). Notably, the critical factor is not where the ship was when the flag state was changed but where the ship was when the decision to recycle in South Asia was made (De La Rue et al., 2022).

4.1.2. BARBRO (IMO 8307686)

The BARBRO was a Bulk Carrier vessel, built in 1985 for Onassis Group with a deadweight of 29,223 tons (S&P Global, 2024b). It had a Greek flag which later changed to Malaysian and finally to Malta, as the owner of the ship changed. The vessel was classed by American Bureau of Shipping. As for ownership structure, at the time of recycling the registered owner was Broalam AB based in Sweden. As for group owner, operator, shipmanager, technical manager, and DOCH, was the Greece based Franco Naviera Co SA.

On the 13th of March 2013 it arrived in Alang, India where recycling commenced on the 19th of March at Shri Gautam Shipbreaking Industries Pvt Ltd (S&P Global, 2024b). Listed scrap price was 412 USD per LTD for a 2,708,900 USD total. Located in Alang, India, and despite utilizing the beaching method for recycling, the facility holds a Statement of Compliance with regards to the HKC and is also certified by ISO 14001, ISO 9001, ISO 30000, and ISO 45001 (Shri Gautam Shipbreaking Industries Pvt Ltd, 2024).

Examining the recycling process of BARBRO in context of today's regulations. The relevance of the Ban Amendment and EWSR remains uncertain as it is unknown from where BARBRO departed to the SRF. Furthermore, it is hard to make an educated guess as bulk carriers are typically not confined to any geographical market or route. Concerning the HKC, BARBRO would be subject to its regulations as its flag state has ratified the convention. And since BARBRO is recycled in a HKC approved SRF, its recycling practice adheres to the HKC. Regarding the ESRR, BARBRO would have to comply with the regulation as the vessel had a Maltese flag during its last trip towards the SRF. The location of departure is of no consequence with regards to the ESRR as it extends its jurisdiction to all vessels having an EU flag, regardless of their location in the world. Since the ship recycling is taking place in an Indian SRF that is not included in the European List, the ship recycling practice used for BARBRO would be deemed unlawful.

In the context of all regulations being in force, the most relevant regulation for BARBRO is the ESRR. Since all SRFs approved by the ESRR are also approved by the HKC but not vice versa, it would be sufficient for the shipowner to select a SRF listed in the European List. Another option the shipowner could pursue would be changing the vessel's flag as mentioned before with ATLANTIC COMPANION. The applicability of the Ban Amendment and EWSR is dependent on where the vessel is located during its departure towards the SRF. Hypothetically, if the ship was in an OECD country that was a part of the Ban Amendment or EWSR, the shipowner would need to recycle in an OECD country. Moreover, at the time of writing, all facilities on the European List are in OECD countries.

4.1.3. FALSTAFF (IMO 8320767)

The FALSTAFF was a Pure Car Carrier/Pure Car Truck Carrier Cargo Ship, built in 1985 for Wallenius Lines AB with a deadweight of 28,070 tons and a capacity for 5430 cars (S&P Global, 2024c). It had Sweden as its flag state and was classed with Lloyd's register. As for ownership structure, at the time of recycling the group owner, and registered owner was Wallenius Lines AB based in Sweden. The shipmanager, technical manager and DOCH was Wallenius Marine AB based in Sweden. Finally, the operator was Wallenius Wilhelmsen Logistics based in Norway.

The last visible movement on Sea-web shows the ship sailing from Genoa, Italy to China (S&P Global, 2024c). On the 5th of October 2016, it arrived in Jiangyin, China. Subsequently, it was declassified on the 10th of October 2016 and recycling commenced at Jiangyin Xiangang Changjiang Shipbreaking Co., Limited. Listed scrap price was 215 USD per LTD for 3,627,050 USD total. Regarding the SRF, it is an active facility which is in Jiangyin, China. The typical method employed by Chinese SRFs is “alongside”, also called “pier-breaking” (Tola et al., 2023). This technique involves the ship being dismantled from the top down with a crane while blocked on a quay or pier (Tola et al., 2023). The hull is then lifted out and as such pollution is minimized compared to beaching.

If FALSTAFF was recycled today in the same way it would have to be compliant with the ESRR. If the EWSR was applicable, FALSTAFF would violate it as China is not a member of the OECD. However, since the flag state was an EU country, the relevant regulation to comply with is the ESRR. And since the SRF in China is not included in the European List, the ship recycling practice used for the FALSTAFF would be deemed unlawful. Regarding the HKC, FALSTAFF's flag state has not ratified the convention, meaning that the vessel is not bound to its jurisdiction. Therefore, the recycling of the vessel in a non-HKC approved facility would not violate the convention.

In the context of all regulations being in force, the relevant regulation for FALSTAFF is the ESRR. To ensure the legal recycling of FALSTAFF the shipowner should select a facility from the European List. However, as mentioned with the other ships, changing the flag of the vessel remains an option with some risk.

4.1.4. Summary of results under regulatory risks

In summary, the introduction of new regulatory frameworks has altered the ship recycling industry. None of the ships examined would have been compliant if recycled today. The analysis sheds light on the complexities and challenges faced by shipowners in ensuring compliance.

Compliance with regulations such as the EWSR, the HKC, and the ESRR requires careful consideration of various factors (see table 1). In EWSR, the geographical location of both the vessel and the SRF plays a crucial role in determining compliance. On the other hand, the HKC focuses on ensuring that vessels and SRFs adhere to international guidelines through the ratification of flag state and the country in which the SRF is located. Lastly, the ESRR is linked to the flag state of the vessel and if the SRF is on the European List. The flag state's ratification ensures the enforcement of the regulation's requirements upon its vessels. Notably, the European List in particular was a requirement where the ships examined faltered in compliance.

Factors including the locations of the SRF and vessel, the vessel’s flag state, and the SRF's approval status by international conventions, play important roles in determining the legality and feasibility of ship recycling practices (see table 1). Furthermore, the potential legal risks associated with non-compliance highlight the importance of navigating the regulatory landscape with cautiousness and strategic planning.

Table 1: Summary of the most relevant factors and legal status for the recycling practice if all regulations are in force.

Ship name	Location of SRF	Departed from	Flag state	SRF on European List	Legal
ATLANTIC COMPANION	India	USA	Sweden	No	No
BARBRO	India	Unknown	Malta	No	No
FALSTAFF	China	Italy	Sweden	No	No

4.2. Are there any risks associated with negligence under civil liability for a shipowner using the recycling practices employed in these cases?

If a similar event to the Begum v. Maran case would occur with the sampled ships, the ownership structure of the ships would likely place it in a European court. Furthermore, while the terms in the contract of sale is unknown, the price and location of the recycling facility is known. Therefore, the ship recycling method can be assumed with confidence.

4.2.1. ATLANTIC COMPANION (IMO 8214152)

The price per LDT paid for ATLANTIC COMPANION was 320 USD in September of 2015. In the graph below (see figure 1), it is evident that the price was higher than one could expect from a SRF located in China or Turkey at that time. A court would likely in this case conclude that the price did not allow for safe recycling (Glinski, 2022).

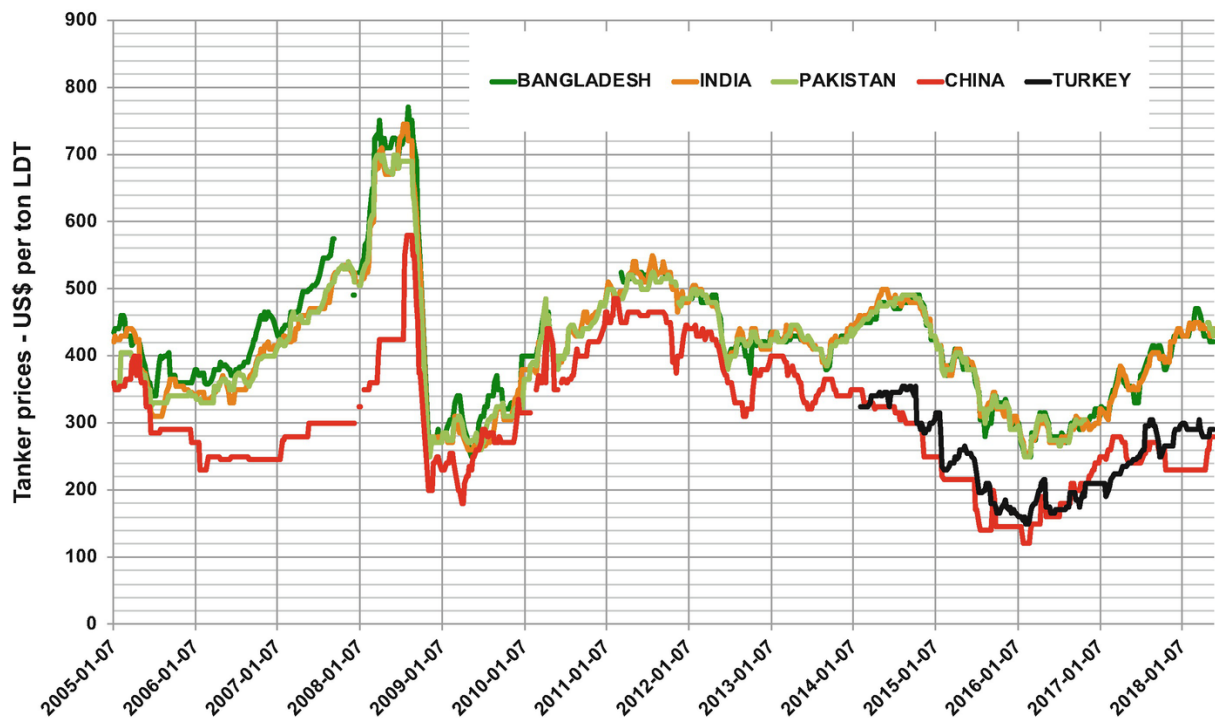


Figure 1: Weekly tanker recycling prices by country of recycling. (Mikelis, 2019). Reprinted with permission.

Regarding the SRF, India is not a member of the OECD and has no SRFs listed in the European List. Therefore, the choice of SRF is not in line with regulations and the shipowner would need to show that the safety standards are comparable to those on the European List. However, this would likely be difficult since the recycling method was likely beaching, a method which many OECD and EU members are opposed to (De La Rue et al., 2022). On this point, it is also likely that a court would conclude that the choice of SRF was not sufficient, and the shipowner could be held liable for damages to workers or the environment (Glinski, 2022).

4.2.2. BARBO (IMO 8307686)

The price per LDT paid for BARBO was 412 USD in March of 2013. Once again consulting the graph (see figure 1), the price seems somewhat higher than one could expect from a SRF in China or Turkey. However, the margin between South Asian countries and China is quite small in the beginning of 2013. Therefore, it is uncertain if a court would conclude the price would not allow for safe recycling.

Shri Gautam Shipbreaking Industries Pvt Ltd is also located in Alang, India. Consequently, the choice of SRF is not in line with regulations (Glinski, 2022). However, this SRF possesses several ISO certifications, including ISO 45001 for Occupational Health and Safety Management System, ISO 14001 for Environmental Management System, and ISO 30000 for Ship Recycling Activities (Shri Gautam Shipbreaking Industries Pvt Ltd, 2024). Additionally, the SRF possesses a Statement of Compliance with regards to the HKC from a Classification Society. These could prove important if the shipowner needs to show comparable safety and environmental standards to SRFs on the European List. Although, the method employed by this SRF is beaching and the HKC is less stringent than the ESRR. Consequently, a court could possibly conclude that the shipowner is liable, even if it is uncertain.

4.2.3. FALSTAFF (IMO 8320767)

The price per LDT paid for FALSTAFF was 215 USD in October 2016. As FALSTAFF was recycled in a Chinese SRF it would be in line with regulations and satisfy the courts’ definition of safe and environmentally sound (Glinski, 2022). As such, a court would not hold the shipowner liable for damage to workers or the environment.

4.2.4. Summary of results under civil liability

To summarise, the most relevant factors identified by the courts were the location of the SRF and if the scrap price allowed for safe recycling (Glinski, 2022). These factors and the likely court outcomes for each ship are visible in the table below (see table 2). Also, the column for scrap price is the result of comparing the scrap price for the vessel and the expected scrap price when recycling in a country practicing safe recycling. Moreover, if the ship is recycled in a country besides those deemed suitable by the courts, the shipowner must show that safety standards are comparable to SRFs included in the European List. Showing certificates held by the SRF could be viable argumentation but it remains to be seen what is specifically required to meet the criteria of comparable standards.

Table 2: Summary of the relevant factors and likely court outcomes for each ship.

Ship name	Location of SRF	Scrap price	Certificates	Court verdict
ATLANTIC COMPANION	India	Too high	Unknown	Liable
BARBRO	India	Somewhat high	Yes	Possibly liable
FALSTAFF	China	Expected	Unknown	Not liable

4.3. What are the economic drivers behind these practices?

Previous research has shown that scrap price is a major deciding factor for the selection of SRF. Moreover, in line with previous research and reasoning of courts, the method of recycling is reflected in the price offered to the shipowner. The FALSTAFF was offered the lowest price but was recycled in a SRF that would be considered safe and environmentally sound by courts. Oppositely, the ATLANTIC COMPANION and BARBRO were paid more per LDT, but the recycling practice would not be considered safe or environmentally sound.

5. DISCUSSION

As the shipping industry is a quite competitive market, it is likely that ship recycling practices will not improve unless the risks outweigh the benefits. It is the hope of the authors that this study will inform shipowners of the possible risks that have emerged with new regulations and legal cases.

5.1. Discussion on the method

During the planning stages of the study, it was intended for the method to include interviews with shipowners. However, due to poor planning, time constraints, and lack of interest from the shipowners approached, interviews were ultimately excluded. Consequently, direct input from shipowners is missing. As such, the understanding of why the ships in the case study were recycled in the way they were is limited to economic analysis. Interviews with the shipowners of the ships in the case study would have significantly improved the validity on this point. However, interviews conducted by Schøyen et al. (2017) on Norwegian shipowners highlighted that economics was a significant factor. Despite the interviews being with Norwegian shipowners, the results were deemed relevant and valid for understanding the ship recycling practices of Swedish shipowners.

Overall, the study came to focus mostly on the risks involved with the practices. On this point the validity is considered satisfactory by the authors. The reliance on academic journals and books is well suited for identifying relevant legislation, case law, and the important factors. Therefore, the method has satisfactory validity in terms of examining the feasibility of the ship recycling practices of the case study.

Regarding the reliability of the method, the access to relevant information is most contentious. Firstly, the price history graph is for tankers and the resolution is somewhat low. This makes it harder to draw accurate conclusions and the results could be different if the price history for tankers differs from the prices for the ship types examined in this study. Furthermore, these price history graphs show a market price and do not account for possible ship specific variations that could increase or reduce the scrap price. Secondly, the lack of access to sales contract. The terms of the sales contract were highlighted in the theory as an important factor in the risk exposure under civil liability. Additionally, the data collection could be improved with more specific search terms like “Begum v. Maran”, “civil liability”, or similar.

However, the opinion of the authors is that the method has satisfactory reliability. The use of books and academic journals to understand the regulations reduces the risk of misinterpretation. The use of the Sea-web database also reduces the risk of biased selection compared to sources backed by the shipowners themselves. Though, many ships were excluded in the selection due to scrap price not being listed on Sea-web. If scrap prices are self-reported by the shipowners, then the risk of bias remains.

5.2. Discussion on the results

The results show that some recycling practices are exposed to significantly more risk than previously. As such, it would not be advised to repeat previous practices because they worked previously. Especially of concern is risk under civil liability as a shipowner can become liable years after the ship has been sold. Notably, despite the ship in the Begum v. Maran case being sold in 2017, the court used the ESRR which entered into force in 2018 as reference for safe

recycling. Effectively, some requirements of upcoming legislation can be enforced retroactively. The ICS has developed guidelines for adherence with the upcoming legislation (Transitional Measures for Shipowners Selling for Recycling, n.d.) but the examination of these guidelines was not in the scope of the study. Therefore, it is unknown how aware and prepared shipowners are from this type of risk.

Overall, the results were in line with expectations. Previous research on the matter had highlighted that ship recycling was primarily a question of money for shipowners. Interestingly, the FALSTAFF having a markedly better recycling practice was in line with a hypothesis of the authors that shipowners with more exposure to private consumers would be more likely to have a better recycling practice. As beaching is considered unethical in many developed countries it was a logical that they avoid it. However, on the point of Swedish shipowners being more sustainability-minded, that was not reflected in the results. Besides FALSTAFF, the other two ships where the registered owner was a Swedish company employed beaching. However, since the study did not include any non-Swedish shipowners, it is possible that they have even worse practices.

During the process of writing the theory, the question of whether the risk exposure of shipowners was accidental because of complexity, or intentional. That shipowners perceive the rules as unreasonable and attempt to circumvent in the hope of not being caught. The results of the study are not conclusive on this point, as input from shipowners was not in the scope of the study. However, there are industry actors who perceive some of the rules unreasonable and are arguing for two changes primarily. The first change being that the BC should not apply to ships after the entry into force of the HKC (BIMCO et al., 2024). And the second change being that the EU should include HKC-compliant recycling facilities in the European List (Hinchliffe, 2021).

6. CONCLUSION

To conclude, by the three ships examined in this study it is clear that previous ship recycling practices are no longer feasible. None of the ship recycling practices in this study would be legal in today's regulatory environment. Furthermore, only one of the ships was recycled in a manner that confidently ensures that the shipowner is not going to end up liable for damages to workers at the SRF or the environment.

As for understanding why shipowners use these practices the study is not conclusive. The study relied on previous research, and the observation of the study reaffirms that economic factors, specifically scrap price, has a significant impact on the ship recycling practices of shipowners. However, greater understanding would be possible by conducting interviews with shipowners or their ship recycling partners, yet this was outside the scope of this study.

7. RECOMMENDATIONS FOR FUTURE RESEARCH

A topic for future research could be examining if and how the guidelines drawn up by the ICS ensure minimal risk exposure. This is important if the industry as a whole is to be ready for the new regulations. Larger shipowners may have the legal expertise to develop their own policies, but smaller shipowners may need to rely on public information or the legal expertise of third parties. Additionally, another research topic could be the prevalence of the ICS guidelines among shipowners or if they have sought to develop their own policies.

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