



MONASH University

**To Basel or Not to Basel: Holding Ship Owners Liable Under
Current International Law for Harm Caused by Exposure to
Asbestos During Ship Recycling**

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A thesis submitted for the degree of Doctor of Philosophy at
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Abstract

This thesis examines whether shipowners can be held liable under current international law for harm caused by exposure to asbestos during ship recycling. Ships transport over 90 per cent of the world's goods and are vital to transboundary trade and commerce. However, ships contain a wide variety of hazardous substances, including asbestos, which cause harm to workers when the ships are dismantled for recycling on the beaches of India, Pakistan and Bangladesh. There is a 90 per cent incidence of asbestos illnesses amongst the approximately one million workers employed in ship recycling and its associated industries across these three countries. Asbestos related conditions are terminal and incurable.

Under the polluter pays principle, which holds polluters accountable for harm caused by their pollution, three international conventions are proposed as applicable to ship recycling: the International Convention for the Prevention of Pollution from Ships (MARPOL), the Hong Kong convention for the Safe and Environmentally Sound Recycling of Ships, and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention). This thesis examines each in turn, concluding only the Basel Convention could be used to attribute liability to ship owners for harm caused by exposure to asbestos during ship recycling.

Historically there have been a number of difficulties when applying the Basel Convention to ship recycling. These can be summarised as problems identifying the point at which a ship becomes waste and which state is the State of Export. Identifying when a ship becomes waste is important as the Basel Convention only applies to the transboundary movement of hazardous waste and not the transboundary movement of ships. This thesis adopts a novel methodology and proposes a three-part definition of the term 'ship' as a vessel at sea, capable of self-directed self-propulsion and in operation. Under this definition a vessel on its end of life journey cannot be considered a ship. This is supported by a comparative and qualitative analysis of the industry standard contracts for the sale of a second-hand ship and a vessel for recycling which confirms the subject matter of the contract governing the sale of a vessel for recycling

is not a ship. The thesis then addresses the various terms of the Basel Convention in relation to ship recycling and provides three options for determining the State of Export. Identifying the State of Export is critical because the remedy for moving waste in breach of the Basel Convention is to return the waste to the State of Export and if it cannot be identified then the Basel Convention cannot be applied, as there would be no effective remedy. The options provided include the physical location of the vessel at the moment it no longer satisfies the criteria of the definition of ship; the Party within whose jurisdiction the end of life journey is planned to be initiated; and the flag state. The analyses in this thesis enable successful application of the Basel Convention to ship recycling and attribution of liability to ship owners.

Declaration

This thesis is an original work of my research and contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

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Date: 16 January 2020

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Most importantly, this work began because of my mother's faith in me and was completed, always under her watchful eye, in remembrance of her.

Introduction

This thesis examines whether ship owners can be held liable under current international law for harm caused by exposure to asbestos during ship recycling. The thesis has not only legal relevance but also environmental, political and social importance. With this in mind, it has been necessary to provide both industry and legal contexts. Chapter 1 introduces the structure of the thesis and the methodologies used when analysing each issue. It begins with an explanation of why the answer to this question is important and then introduces the material covered in each subsequent chapter with a brief explanation of how each fits into the overall progression of the thesis' argument to its conclusion. Chapter 2 sets out the history and structure of the shipping industry, explaining how it came to be the industry it is today and the context in which the Basel Convention is to be applied to ship recycling. This chapter also explains what asbestos is, where it occurs in ships and how it causes harm to those exposed to it during ship recycling. Chapter 3 explains the principle that justifies attributing liability to ship owners, the polluter pays principle, examining the principle and its origin and then its application to the ship recycling process. The polluter pays principle underpins many international environmental law conventions and three in particular are viewed as potentially relevant to ship recycling. They are the International Convention for the Prevention of Pollution from Ships (MARPOL), the Hong Kong convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention).

Chapter 4 provides an analysis of MARPOL and its applicability to ship recycling and concludes it is not the appropriate convention to govern ship recycling. Chapter 5 reviews the Hong Kong Convention, which is not yet in force, and examines it in detail to determine how practically feasible it is for the primary ship recycling countries, namely India, Pakistan and Bangladesh, to fully satisfy the Convention's requirements to the standards expected by international parties, such as the European Union. The analysis in this chapter demonstrates that this level of compliance with the Hong Kong Convention will be extremely difficult and expensive to achieve. In relation to the question asked by this thesis, this chapter also concludes that while the Hong Kong

Convention is applicable to ship recycling, it places the primary burden for safe recycling and reduction of harm caused during ship recycling on the ship yard and not the ship owner. Chapter 6 begins the review of the Basel Convention's application to ship recycling which is the focus of the remainder of the thesis.

There are disputes over more than one aspect of the application of the Basel Convention to ship recycling. The first is whether the Basel Convention can even apply to a ship on its end of life journey, in other words its last voyage, to being recycled. The Basel Convention applies to the transboundary movement of hazardous waste and the dispute is whether a ship on that journey is classed as waste or a ship. If it is a ship, then there is an argument that the Basel Convention cannot apply. One of the stumbling blocks to resolving this dispute has been that there is no universally accepted definition of the term 'ship' in international law. Chapter 6 provides an analysis of the currently in force international conventions that contain a definition of the term 'ship' and concludes with a three-part definition, under which a vessel on its end of life journey cannot be considered a ship. However, even though a vessel on its end of life journey may not meet the definition of ship, if the parties to the sale transaction of the ship for recycling intend for the subject matter of that transaction to be a ship, that intention may take priority over the definition and still identify the vessel as a ship. Chapter 7 thus undertakes a comparative and qualitative analysis of the industry standard contracts that govern the sale of second-hand ships and the sale of a ship for recycling to determine the subject matter of the sale of a vessel for recycling. Chapter 7 concludes that the subject matter of such a transaction is not a ship.

Lastly, Chapter 8 applies the terms of the Basel Convention to ship recycling in two parts. The first part, Chapter 8A, considers the general application of the process contemplated by the Basel Convention to the ship recycling process. After identifying how the two processes operate together, the key terms of the Convention are applied to the elements of ship recycling. For example, the Convention terms 'Generator' and 'Disposer' are applied to the ship owner and the ship yard respectively. The second part, Chapter 8B, addresses the term in the Basel convention that has posed one of the biggest stumbling blocks to enforcing the Convention to ship recycling, namely identification of the State of Export. The chapter concludes that this can be the state in which the vessel is physically located when it begins its end of life journey. If that

state is not readily identifiable, then the State of Export can be the flag state of the ship at the time the end of life journey is planned to be initiated or at the moment the ship becomes waste when it is sold for recycling under a contract. The conclusion of this thesis is that ship owners can be held liable under current international law, specifically the Basel Convention, for harm caused by exposure to asbestos during ship recycling.

Chapter 1: Thesis Outline

1.1 The Background: Why This Matters

Ships transport over 90 per cent of the world's goods¹ and are vital to transboundary trade and commerce, as evidenced by the fact they carried an estimated 10.7 billion tons of trade in 2017.² Ships contain a wide variety of hazardous substances in large quantities, including up to 7.5 tonnes of various types of asbestos,³ and are recycled primarily in India, Pakistan and Bangladesh using low skilled manual labour. The European Commission estimates up to 1.3 million tonnes of toxins are exported annually to South Asia onboard ships being sent for recycling.⁴ At full capacity, over 60,000 workers are employed in the ship yards in India and over 100,000 in immediate downstream industries.⁵ In Bangladesh the industry directly employs approximately 30,000 people, with almost 200,000 workers employed along the supply chain.⁶ Overall the industry employs approximately one million workers between Pakistan, Bangladesh and India and it is worth billions.⁷ Despite studies showing significantly higher numbers statistically of asbestos-exposed workers suffering from cancers at a much lower age,⁸ proving the link between high rates of cancer and the ship yard workers exposure to toxins from the ships, it has been difficult to determine who bears liability for bearing the cost of the environmental harm caused by ship recycling.⁹

The first chapter in this thesis is entitled 'Ships, Ship Recycling and Asbestos' and begins with providing a general context to the issue by explaining the shipping industry

¹ Kenneth A Reinert and Ramkishan S Rajan (eds), *The Princeton Encyclopedia* (Princeton University Press, 2008) vol 2, 997.

² UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018).

³ K Krause, 'End of life Ships: Linking European Maritime Safety to Occupational Safety on Asian Scrap Yards' in R Allsop, J Beckmann and G M Mackay (eds), *ETSC Yearbook 2005, Safety and Sustainability* (European Transport Safety Council, 2005) 76-80.

⁴ NGO Platform on Shipbreaking, *NGO Shipbreaking Platform – Annual Report 2011* (Annual Report, NGO Ship-breaking Platform, 2011) 4.

⁵ IMF-FNV project in India, *A Survey on Working and Socio-Economic Conditions of Shipbreaking Workers in India* (Report, International Metalworkers Federation, 2004-2007).

⁶ Warwick, 'Ship Recycling in Bangladesh: A Look at the Economic Impact of the Industry' (Conference Paper, International Conference on Ship Recycling SHIPREC, 7-9 April 2013).

⁷ Costa Paris and Biman Mukherji, 'EU and South Asia Scrap Over Recycling Ships', *Wall Street Journal* (online, 8 June 2013)

<<http://online.wsj.com/article/SB10001424127887324423904578522982568438250.html>>.

⁸ Wei-Te Wu et al, 'Cancer Attributable to Asbestos Exposure in Shipbreaking Workers: A Matched-Cohort Study' (2015) 10(7) *Plos One* 1 <<https://doi.org/10.1371/journal.pone.0133128>>.

⁹ Suman Barua et al, 'Environmental Hazards Associated with Open-beach Breaking of End of life Ships: A Review' (2018) 25 *Environmental Science and Pollution Research* 30880, 30888.

and its role and scale in today's society. There are currently 50,732 ships in the world fleet,¹⁰ and the top ten ship owning nations are Greece, Japan, China, Singapore, Norway, USA, Germany, South Korea, United Kingdom and Denmark.¹¹ Asia carries the largest percentage share of world tonnage as the origin of 41 per cent and destination of 61 per cent of world maritime trade, closely followed by Europe and the Americas.¹²

As shipping has developed so has the technology used in building ships. Unfortunately, these technological advances have also brought with them new and hazardous substances. Alongside the toxic paints, fuel and PCBs¹³ found on ships, there is also widespread use of asbestos in ship construction. Asbestos is a naturally occurring fibre that comes in three main forms: Chrysotile (white), Amosite (brown) and Crocidolite (blue). Asbestos is an inert substance and its strengthening, heat resistance and fireproofing properties make it extremely useful onboard ships for lining boilers, hot water pipes and other areas where there is risk of heat or flame. Asbestos is found in almost all ships built from the 1920s and 1930s onward. Its use peaked in the 1960s and 1970s but even an aircraft carrier made in the early 1980s can contain up to one thousand tons of asbestos.¹⁴ Efforts to reduce the asbestos content in ships have resulted in mixed levels of success.

The European Union is amongst the most strict in its legislation concerning asbestos and it is illegal to manufacture,¹⁵ import or export waste products containing asbestos across European borders without express permission. Ships that are built for

¹⁰ UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018).

¹¹ VesselsValue, 'Top 10 Ship Owning Nations 2019' (February 2019).

¹² Ibid.

¹³ Polychlorinated Biphenyls (PCBs) are found in solid and liquid forms in equipment and materials on obsolete ships. When burned, they create the hazardous substances dioxins and furans. While it is relatively easy to remove liquid PCBs prior to export, the use of solid PCBs in old ships is extensive. Ships can contain many hundreds of tonnes of PCB contaminated materials including: insulation, paints, decking, gasketry, wires and cables.

¹⁴ Stephanie Kidd, 'About US Navy Aircraft Carriers', *Mesothelioma Justice Network* (Web Page, 22 May 2019) <asbestos.net/veterans/navy/ships/aircraft-carriers/>.

¹⁵ *Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 199/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC* OJ L 136/3.

European companies are supposed to be asbestos free.¹⁶ Out of the 190 nations and member states belonging to the World Health Organisation, only 66 nations have banned asbestos as at March 2019.¹⁷ These include all European member states and Organisation for Economic Co-operation and Development (OECD) countries except Canada, Mexico and the USA. Amongst those that do recognise the term ‘asbestos free’ in their legislation, there is no consensus of terminology. In the USA, for instance, asbestos free is defined as up to 1.0 per cent content while in Australia it is 0 per cent. The European requirement that a ship be asbestos free means that it must contain less than 0.1 per cent asbestos. Many ships for European companies are built in China and, according to their contracts, must be built asbestos free but there is no official standard defining what level of asbestos content satisfies the term ‘asbestos free’ in China.¹⁸ There is no testing and certification of materials by manufacturers for new parts and many ships use recycled or reconditioned parts where, often, the asbestos content of such recycled parts is not known. Items such as fire-fighting equipment, boilers and engine parts can contain hidden asbestos anywhere from pipe linings to gaskets and hoses. Without taking the equipment apart completely it is impossible to know whether it contains asbestos when it is installed.

A 2013 study by a German company found that the amount of asbestos in ships from developing countries was increasing and not decreasing, despite the legislative attempts to keep asbestos out of ships.¹⁹ Recent asbestos surveys of ships declared asbestos free by the ship yards that built them found that out of twenty-five samples taken on a Japanese ship built in May 2002, sixteen were positive for asbestos and nine of those had asbestos content of between 15 per cent and 50 per cent.²⁰ Tests on a 2008 Norwegian ship found asbestos in the incinerator, even though the incinerator was built in Norway which was one of the first countries to ban asbestos,

¹⁶ See e.g., *Directive 2009/45/EC of the European Parliament and of the Council of 6 May 2009 on safety rules and standards for passenger ships* OJ L 163/1 Annex I, as regards the safety requirements for passenger ships engaged on domestic voyages Regulation II-1/A-1/1: New installation of materials containing asbestos (R 3-5), Brussels 3 December 2019.

¹⁷ Commonwealth, Asbestos Safety and Eradication Agency, ‘Countries with Asbestos Bans’.

¹⁸ John Chillingworth, ‘Clear Definitions Needed When Purchasing Asbestos-Free Products’, *Maritime Executive* (online, 26 November 2017) <<https://www.maritime-executive.com/editorials/clear-definitions-needed-when-purchasing-asbestos-free-products>>.

¹⁹ Rogge, ‘Inventory of Hazardous Materials: The Hazmart Expert – Criteria and Acceptance’ (Conference Paper, International Conference on Ship Recycling SHIPREC, 7-9 April 2013).

²⁰ John Chillingworth, ‘Why Most Ships Still Contain Asbestos’, *International Ban Asbestos Secretariat* (Article, 22 August 2016).

and asbestos was found on a new build in Chile in 2019.²¹ This demonstrates that the problem of asbestos in ships is not going away.

Asbestos is only harmful to human beings when it is airborne and can be inhaled.²² While it is wet, held in position or a constituent of an object, such as plasterboard, it is not dangerous. However, once released there is no safe limit of exposure to asbestos. One exposure to even a small amount can lead to mesothelioma, a cancer caused by asbestos which has an average time frame of seven to seventeen months from diagnosis to death.²³ Other illnesses caused by exposure to asbestos include pleuritis and asbestosis. All asbestos related conditions are terminal and incurable, with only symptomatic or palliative treatment available. Although asbestos present in ships poses a risk to those working and travelling onboard, it has been found the mere presence of undisturbed asbestos-containing insulation did not significantly increase seamen's exposure to airborne asbestos unless they were working directly with insulation.²⁴ The most prominent danger is to those who break the ship up for recycling and release the asbestos fibres from previously safe, confined spaces.²⁵

22,916 ships were sold for demolition in 2017, seventy per cent of which were recycled in ship yards on beaches in India, Pakistan or Bangladesh.²⁶ All three countries use beaching as their method of recycling²⁷ as each of these countries has a long, exceptionally flat area of shoreline where vessels are driven at high speed onto the beach at high tide where they then are broken down through primarily manual labour.²⁸ Alang is the largest area of ship recycling in India and employs between 40,000 and

²¹ Ibid.

²² J Corbett McDonald, 'An Epidemiological View of Asbestos In Buildings' (1991) 7 (5-6) *Toxicology and Industrial Health* 187.

²³ Maxine A Papadakis, Stephen J McPhee and Jennifer Bernstein, *Quick Medical Diagnosis and Treatment 2019* (McGraw Hill Education, 2019).

²⁴ Dana M Murbach et al, 'Airborne Concentrations of Asbestos Onboard Maritime Shipping Vessels (1978–1992)' (2008) 52(4) *Annals of Occupational Hygiene* 267–279.

²⁵ Marianthi Iliopoulou et al, 'Asbestos and the Lung: Highlights of a Detrimental Relationship' (2017) 13 *Breathe* 235-237.

²⁶ UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018) 38.

²⁷ Shreya Mishra, 'Non-entry into Force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009: An Analysis from the Perspective of India, Pakistan and Bangladesh' (2018) 2(1) *Journal Of International Maritime Safety, Environmental Affairs, And Shipping* 22–30.

²⁸ 'High by the Beach; Ship Recycling', *The Economist* (9 Mar 2019) 60(US) <<https://link.gale.com/apps/doc/A577449188/AONE?u=monash&sid=AONE&xid=c52ca210>>.

60,000 workers at any given time.²⁹ Some workers are now being issued with hard hats, boots, gloves or goggles. However, this does not apply to the majority of workers in India³⁰ or Bangladesh³¹ who do not have any safety equipment at all. The workers are itinerant labourers from rural areas all over the country where even the higher paid, more skilled labourers, such as gas cutters, only earn up to US \$5 per day.³²

The workers remove everything they can from the interior of the vessel and then break down its frame using welding torches and other equipment.³³ The pieces of metal are dropped into the water and dragged up on to the beach to be broken down further³⁴ while recovered items which can be used or repaired and resold are distributed through local roadside sellers, markets and shops.³⁵ Ships' furniture, lamps and fittings all have value for use in households and machinery and equipment is repaired and recycled to be used in new builds or the maintenance of operating ships.³⁶ The incidence of accidents and fatalities is high with three hundred and ninety deaths across the three regions since 2009³⁷ and twenty fatalities in Bangladesh alone in 2018.³⁸ The associated industries which on sell, repair and recycle all of the items broken down from the ships increase the total number of people employed in the Alang recycling area to 100,000. The incidence of asbestos illnesses amongst workers on

²⁹ Sefer A Gunbeyaz, Rafet E Kurt and Raphael Baumler, 'A Study on Evaluating the Status of Current Occupational Training in the Ship Recycling Industry in Bangladesh' (2019) 18(1) *WMU Journal of Maritime Affairs* March 41–59.

³⁰ G Cairns, 'A Critical Scenario Analysis of End of life Ship Disposal' (2014) 10(3) *Critical Perspectives on International Business* 172.

³¹ Samira Nadkani, 'Fire breaks out at Chittagong Ship Breaking Yard', *Safety at Sea* (online, 22 May 2019) <<https://safetyatsea.net/news/2019/fire-breaks-out-at-chittagong-ship-breaking-yard/>>.

³² Malini Goyal, 'At Alang Shipbreaking Yard, Worker Safety Remains a Dusty Dream', *Economic Times* (online, 23 October 2016).

<http://economictimes.indiatimes.com/articleshow/55002097.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst>.

³³ 'High by the beach; Ship recycling', *The Economist* (9 March 2019) 60(US) <<https://link.gale.com/apps/doc/A577449188/AONE?u=monash&sid=AONE&xid=c52ca210>>.

³⁴ Anand M Hiremath, Atit K Tilwankar, Shyam R Asolekar, 'Significant Steps in Ship Recycling Vis-a-vis Wastes Generated in a Cluster of Yards in Alang: A Case Study' (2015) 87(15) *Journal of Cleaner Production* 520-532.

³⁵ Bhavya Dore, 'A Unique Bric-a-Brac Market Sells Salvaged Goods From Broken Ships', *Atlas Obscura* (Article, 10 June 2019) <<https://www.atlasobscura.com/articles/alang-ship-yard-market>>.

³⁶ Khandakar Akhter Hossain, 'Ship Recycling Practice and Annual Reusable Material Output from Bangladesh Ship Recycling Industry' (2017) 7(5) *Journal of Fundamentals of Renewable Energy Applications* 6.

³⁷ 'Shipbreaking: A Dirty and Dangerous industry', *NGO Shipbreaking Platform*.

³⁸ Muhammed Ali Shahin, 'Worker Dies at Kabir Steel's Shipbreaking Yard in Bangladesh', *NGO Shipbreaking Platform* (Press Release, 24 July 2019).

the ships and associated industries is 90 per cent.³⁹ Asbestos illnesses can take thirty to forty years to become visible and by that point, many of the workers have already returned to their home villages where they have limited access to medical facilities and, in any event, no money to pay for them.⁴⁰

The ship yards do not provide medical insurance and even if they did, the workers do not work for one individual ship yard.⁴¹ During their time on the beaches, workers may move from one yard to another on a day to day basis depending on who is offering better pay. They also return home for family emergencies, seasonal farming and various other reasons.⁴² It would be impossible to determine which ship yard would be liable for providing medical insurance for any given worker in that environment, given worker mobility and record keeping problems.⁴³ The only way to address this problem is to make ship recycling safer as an industry and to provide compensatory funding for the workers on a general basis, as opposed to trying to trace liability back to the individual ship yard owners.

1.2 The Polluter Pays Principle, MARPOL and the Hong Kong Convention

After exploring the context to shipping, ship recycling and asbestos, Chapter 3 explains the polluter pays principle which provides justification for bringing liability back to ship owners and the legal options available under the Law of the Sea to do so. Maritime law is one of the oldest forms of international law dating back to AD533, as successful trading across national borders has always required rules with universal understanding and acceptance.⁴⁴ The maritime industry, due to its international nature, is regulated by many international conventions, most of which are instituted

³⁹ DF Merlo et al, 'Mortality Among Workers Exposed to Asbestos at the Ship yard of Genoa, Italy: A 55 Years Follow-up' (2018) 17(1) *Environ Health* 94.

⁴⁰ William S Beckett, 'Ship yard Workers and Asbestos: A Persistent and International Problem' (2007) 64(1) *Occupational and Environmental Medicine* 639.

⁴¹ Derek Elias, 'Impacts and Challenges of a Large Coastal Industry: Alang-Sosiya Ship-Breaking Yard, Gujarat, India' (Coastal Region and Small Island Papers 17, UNESCO, 2004) 65.

⁴² Derek Elias, 'Impacts and Challenges of a Large Coastal Industry: Alang-Sosiya Ship-Breaking Yard, Gujarat, India' (Coastal Region and Small Island Papers 17, UNESCO, 2004) 65.

⁴³ Derek Elias, 'Impacts and Challenges of a Large Coastal Industry: Alang-Sosiya Ship-Breaking Yard, Gujarat, India' (Coastal Region and Small Island Papers 17, UNESCO, 2004) 65.

⁴⁴ Nicholas Joseph Healy, 'Maritime Law', *Encyclopaedia Britannica* (1998).

and/or overseen by the International Maritime Organisation (IMO).⁴⁵ Maritime law, the term generally applied to private shipping law,⁴⁶ and the 'law of the sea', usually prefaced by 'international' and referring to public international law, govern most industry matters.

One possible justification within the Law of the Sea for holding ship owners liable for harm caused by exposure to pollutants in ships during ship recycling is found in the polluter pays principle. Chapter 3 explores the policy rationale behind this principle and then goes on to look at its legal application. This principle underpins many international environmental conventions and emphasises that it is up to the polluter that is the source of pollution to provide compensation or redress to innocent parties unwittingly affected by that pollution.⁴⁷ Three conventions embodying some form of the polluter pays principle are specifically identified as potentially applicable to ship recycling. They are: the International Convention for the Prevention of Pollution from Ships (MARPOL), the Hong Kong convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention). Chapter 3 explains how these three conventions have been put forward and presented by the shipping industry and organisations associated with the shipping industry as those most applicable to the issue of ship recycling. After exploring the background to the polluter pays principle, the next two chapters assess the applicability of MARPOL and the Hong Kong Convention to ship recycling in detail.

The conclusion reached is that MARPOL is not applicable to ship recycling. This is so for several reasons, including the fact that asbestos contained within the construction of a ship does not meet the definition of pollution discharged from a ship during normal operations which is a fundamental requirement for MARPOL to apply.⁴⁸ Some in the

⁴⁵ IMO – the International Maritime Organization – is the United Nations specialized agency with responsibility for the safety and security of shipping and the prevention of marine and atmospheric pollution by ships. IMO's work supports the UN SDGs. See <<http://www.imo.org/en/About/Pages/Default.aspx>>.

⁴⁶ William Senior, 'The History Of Maritime Law' (1952) 38(4) *Mariner's Mirror* 260- 275.

⁴⁷ Daniel C Esty, 'Rethinking Global Environmental Governance to Deal with Climate Change: The Multiple Logics of Global Collective Action' (2008) 98(2) *American Economic Review* 116, 119 para IV A. Core Principles.

⁴⁸ Jeff B Curtis, 'Vessel-Source Oil Pollution And Marpol 73/78: An International Success Story?' (1985) 15(4) *Environmental Law* 679-710.

shipping industry argue that ship recycling is a method of managing shipping-related waste which brings it within the ambit of MARPOL.⁴⁹ Conveniently for the industry, if accepted, this would place liability for managing that waste specifically upon the ship recycler, in other words the ship yards in India, Bangladesh and Pakistan and not upon the ship owner. Chapter 5 analyses the Hong Kong Convention and it is also found wanting. Not only is the Hong Kong Convention not yet in force (and still far from being so) and therefore not available, the primary burden of compliance under the Convention also rests with the ship yard and its working and safety procedures. The only obligation the Hong Kong Convention imposes on the ship owner is to have the ship compliant with the Hong Kong Convention requirements prior to recycling⁵⁰ under Regulation 8(3) which entails, broadly speaking: prepping areas for hot work such as the interior of holds etc; removing remaining oil and waste; and preparing an Inventory of Hazardous Materials (IHM) prior to delivery to the recycling yard. The Hong Kong Convention also requires that the ship owner request and approve a ship recycling plan from the ship yard. Again, the burden lies primarily with the ship yard and there is no liability upon the ship owner for the pollution that will be released from the ship during recycling.

Ultimately, the difficulty with holding the ship yard liable is that the ship yard is not the source of the pollution. Rather, the ship yard's activities release the pollution from the vessel during the recycling process but the actual source of the pollution is the vessel provided by the ship owner. The polluter pays principle supports tracing liability for the pollution back to the source of the pollution, as that is where the ability and opportunity to control the pollution is found. There is nothing a ship yard can do to reduce the amount of pollution released from a vessel; the best the yard can do is try and find more effective methods to contain the pollution and minimise the harm caused by its release. However, the source of the pollution, the ship owner, is in a position to reduce the amount of pollution in the vessel in the first place and therefore reduce the number of people unwittingly affected by the pollution contained therein. That is why the focus

⁴⁹ See *Defence* in (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) ('*Seatrade* judgment').

⁵⁰ Kanu Priya Jain, JFJ Pruyn and Hans J.J Hopman, 'Critical Analysis of the Hong Kong International Convention on Ship Recycling' (2013) 7(10) *World Academy of Science, Engineering and Technology International Journal of Environmental, Ecological, Geological and Mining Engineering* 683, 689, Part VI E Unfair Advantage to Ship Owners.

of this thesis is to determine whether it is possible to hold ship owners liable rather than ship yards.

1.3 The Basel Convention

This leaves the Basel Convention. The second half of this thesis is an in-depth analysis of the potential application of the Basel Convention to ship recycling which has long been a source of controversy. The Basel Convention controls the transboundary movement of hazardous waste or items comprising or containing hazardous waste. It is not in dispute that a vessel on its way to be recycled contains hazardous substances and meets the definition of an object that can be covered by the Basel Convention.⁵¹ The dispute lies in the definition of the term 'ship'. According to the Basel Secretariat and the Basel Action Network,⁵² a vessel on its way to recycling meets the definition of waste because it is an object that is being sent for disposal⁵³ and that vessel may be waste and simultaneously a ship under other legislation.⁵⁴ However, according to some in the shipping industry, a ship that is underway and under its own steam to be recycled is a ship and cannot simultaneously be both a functioning ship and waste.⁵⁵ Unless a vessel on its way to being recycled can be identified only as waste and not simultaneously a ship, successful application of the Basel Convention will remain a source of dispute. The reason this argument has not been resolved yet is that there has not been an accepted international legal definition of the word ship. Unless it is possible to define ship, it is not possible to identify whether a vessel at any given moment or for any given purpose is a ship or waste.⁵⁶

⁵¹ Decision VII/26. Environmentally sound management of ship dismantling at the seventh meeting of the Conference of the Parties in 2004.

⁵² Basel Action Network is a not-for profit advocate for three toxic waste streams covered by the Basel Convention: Electronic waste (e-waste), End-of-life ships and Plastic pollution. <<https://www.ban.org/about-us>>.

⁵³ Basel Action Network ensures ships are recycled properly instead of being dismantled on beaches or sunk in the oceans, see <<https://www.ban.org/green-ship-recycling>>.

⁵⁴ See *Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste* OJ L 190/1, Recital 35: "... Furthermore, it should be noted that a ship may become waste as defined in Article 2 of the Basel Convention and that at the same time it may be defined as a ship under other international rule ..."

⁵⁵ Michael Galley, *Shipbreaking: Hazards and Liabilities* (Springer, 2014) 63.

⁵⁶ Michael Galley, *Shipbreaking: Hazards and Liabilities* (Springer, 2014) 71.

1.4 Definition of Ship

This thesis begins its analysis of the Basel Convention in Chapter 6 by defining the term 'ship' as a vessel at sea, capable of self-directed self-propulsion and in operation. This definition is achieved by analysing definitions in conventions already in force that contain a definition of the word ship. The methodology adopted excludes elements of the definitions that are specific to individual conventions and retains only the elements that apply globally across the surveyed conventions. The terms 'at sea' and 'self-directed navigation' are clarified using the meanings given in both the conventions in force and case law. The phrase 'in operation' is given certainty by attaching it to a ship's in Class status, an internationally recognised system for determining a ship's purpose and function. These three characteristics can be applied successfully to everything from a jet ski, which was the subject of a United Kingdom High Court decision to determine whether a jet ski was a ship,⁵⁷ to oil tankers, floating platforms and buoys and gliders, whose status as ships has also been the subject of scholarly debate and court decisions.

Once the definition of ship is resolved, it is apparent the vessel on its way to recycling cannot be a ship. When a vessel begins its end of life journey, which is its last journey to the recycling yard, it is not in operation as it is not in Class or carrying out a Class related function. However, this is not the only stumbling block to applying the Basel Convention to ship recycling. Other issues addressed are the identification of the State of Export,⁵⁸ where the flag State is determined as an option when the physical location of the vessel at the start of the end of life journey cannot be confirmed, and clarification of the terms 'Generator' (the ship owner) and 'Disposer' (the ship yard) in the context of the ship recycling process.⁵⁹

1.5 When Ships Become Waste: the contract argument

Chapter 7 examines the contract that governs the sale of a ship for recycling. This is necessary in order to confirm that when a ship owner sells a vessel to a cash broker (or directly to a ship yard) to be recycled, the subject matter of that transaction is conclusively no longer a ship but rather is waste. By confirming the subject matter of

⁵⁷ *Steedman v Scofield* [1992] 2 Lloyd's Rep. 163.

⁵⁸ See Chapter 8B.

⁵⁹ See Chapter 8A.

the transaction is not a ship, Chapter 7 also confirms that the sale of the vessel for recycling is the point at which the ship becomes waste. This identifies the ship owner as the source of the end of life journey and the last owner of the ship. Therefore, the vessel on its end of life journey is waste, not only because the vessel no longer meets the provided definition of ship but also because the parties completing the contract do not intend the subject matter of their transaction to be a ship. This further supports the position that the State with jurisdiction over the ship owner (if the owner can be clearly identified) and/or the flag State, at the time of the sale transaction of the vessel for recycling, define the State of Export. The subject matter of that transaction is identified through a comparative and qualitative contractual analysis.

The industry standard contract governing the sale of a ship for recycling is called RECYCLECON. The analysis in Chapter 7 compares the elements of that contract with the contract that governs the sale of a second hand ship, SALEFORM 2012. There is no doubt that SALEFORM 2012 is a contract the subject matter of which is definitively, conclusively and undeniably, a ship. A qualitative comparison of the terms of the two contracts demonstrates that if SALEFORM 2012 is a contract for the sale of a ship then RECYCLECON is not a contract for the sale of a ship. The two contracts do not share the same criteria, characteristics, rights or obligations or terms and can in no way be said to govern the same subject matter. The conclusion of this qualitative analysis is further supplemented with a brief commentary exploring how the value of a vessel for recycling is linked to and based on scrap metal prices,⁶⁰ in contrast to the value of a second-hand ship which is linked to and based on container rates that reflect the state of the industry. Prices paid for vessels for recycling fluctuate in relation to the scrap metal market,⁶¹ while higher container rates reflecting more freight volume being transported increase the potential profit a ship can make and increase the resale value of a second hand ship.⁶² The result is one must conclude that not only do the terms of the contract demonstrate that the two contracts have different subject matters but also that the value of the subject matter is determined by reference to completely different

⁶⁰ Metin Taylan, 'An Insight into Ship Recycling: Facts and Figures' (2013) 63(3-4) *Journal of Economics and Business* 5-14.

⁶¹ Nikos D. Kagkarakis, Andreas G Merikas and Anna Merika, *Modelling and forecasting the demolition market in shipping*, Maritime Policy & Management Volume 43, 2016 - Issue 8, 1021 – 1035.

⁶² Jeroen Frederik Josef Pruyn, Eddy van de Voordeb and Hilde Meersman, 'Second Hand Vessel Value Estimation in Maritime Economics: A Review of the Past 20 Years and the Proposal of an Elementary Method (3022) 24(3) *Maritime Economics and Logistics* 213-236.

factors. Therefore, if the subject matter of SALEFORM 2012 is a ship then the subject matter of RECYCLECON definitely is not a ship.

1.6 Application of the Basel Convention: key terms and the role of the State of Export

Once it is recognised that a vessel being sent for recycling is not a ship and can be identified only as waste undergoing a transboundary movement, the Basel Convention must be examined in detail to determine if it can be applied to the ship recycling process. Chapter 8 applies the Basel Convention to the ship recycling process in two parts. The first part, Chapter 8A, examines the structure of the type of transboundary movements contemplated under the Convention and aligns it with the ship recycling process to ensure ship recycling is a process that can fit within the Convention's scope. Once it is shown that the ship recycling process is compatible with the Convention, the definitions of the key terms of the Basel Convention are applied to the process of ship recycling and the primary parties are identified within the framework of the Convention. The majority of the terms transpose clearly but some discussion is had on the definitions of the terms 'Waste', 'Transboundary Movement', 'Generator' and 'Disposer'. For example, the ship owner is identified as the Generator, the ship yard as the Disposer and so on. Chapter 8B considers the next critical stumbling block to successful application of the Basel Convention: identifying the State of Export.

Identifying the State of Export is crucial because the primary remedy under the Basel Convention is to return waste that is being disposed of in breach of the Convention's requirements to the State of Export, the State where the transboundary movement began and the State responsible for policing the transboundary movement. If it is not possible to return the hazardous waste or waste containing hazardous materials to the State of Export, then, under the Convention, liability lies with the State of Export to ensure safe disposal of those materials wherever they may be. Historically, one of the issues with applying the Basel Convention to ship recycling is that it has been difficult to identify the State of Export. Traditionally the debate has centred on identifying when the decision was taken to send a ship for recycling because the assumption has been that is the moment the ship becomes waste. Therefore, that is the assumed point at which the end of life journey begins and the physical location of the ship when that

occurs must be the State of Export. Applying the definition of ship to a vessel will successfully identify whether the vessel is or is not a ship at any given point and thus resolve when a ship becomes waste, regardless of when the decision to recycle the ship occurred. However, simply identifying *when* a ship becomes waste does not automatically resolve the question of *where* the end of life journey begins. As discussed in Chapter 8, there are circumstances where a ship has begun its end of life journey but will not become waste until a later point in that journey. There are other circumstances where a ship becomes waste while it is located in the high seas where it is not physically within any State's territory, or where the end of life journey begins from a foreign port in a State with no link to the vessel. For these reasons, it is important not only to be able to identify when a vessel is or is not a ship but also to be able to identify the State that is the starting point of an end of life journey under the Basel Convention.

Ship ownership can be a complicated business. Companies that own ships can be consortiums or large corporations, many of whom have offices in Europe or Asia but those are not the offices from where the ships' operations are managed. Instead, they are often operated by other, related, companies in locations closer to ports and trade routes such as Greece, Italy or the Philippines. Added to this is the complication of the flag state structure. The flag flown by a ship represents the state that holds sole jurisdiction over the oceangoing vessel, which is required only to comply with globally agreed upon standards subject to enforcement by the flag state.⁶³ In an effort to avoid domestic legislative restrictions such as the European Waste Shipment Regulations (EWSR), shipping companies may send a ship on its final commercial voyage to a destination outside Europe after which the ship is sold to a cash buyer, reflagged and sent for recycling under a non-European flag. Technically, the location of the vessel when the cash buyer takes ownership would then be considered the start of the end of life journey and the State of Export. However, if the ship is being sent for recycling in breach of European legislation enforcing the Basel Convention, identifying the State of Export for the purpose of such legal instruments becomes a problem.

⁶³ *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) arts 92, 94 and 217; *Michael Galley, Shipbreaking: Hazards and Liabilities* (Springer, 2014) 67.

The physical location of the start of the end of life journey in such cases is either on the high seas (beyond the territorial jurisdiction of any state) or a foreign port that has no link with the ship, other than being its last destination prior to being sent for recycling. It would not be reasonable to identify the last port State as the State of Export, liable for the safe disposal of the vessel. That would be akin to making the last airport from which a plane departed liable for all consequences of any crash of the plane subsequent to its departure. Generally, law only allocates liability to those who are in a position to control the risk⁶⁴ and the last port attended by a ship is not in any position to control the destination of that ship for recycling.

In order to hold liable a ship owner who sells to a cash buyer, it is necessary to identify the start of the end of life journey by analysing the State of Export definition in the Basel Convention, which focuses specifically on the initiation of the end of life journey or the planning of the initiation of that journey. This enables liability to be brought back to the ship owner at the time that arrangements for the end of life journey are initiated. Such arrangements can include planning and booking a final charter to get the ship as close to the eventual recycling destination as possible; removing any items that can be resold or reused by the ship owner; making arrangements for crew; flushing tanks and holds in preparation for recycling and so on.

Chapter 8B analyses the term 'State of Export' in the Basel Convention and applies it to ship recycling, demonstrating that the flag state can be held to be the State of Export, with reference to a recent decision from the Rotterdam Criminal Court⁶⁵ which applied the domestic legislation giving effect to the Basel Convention. The ships in question, the Spring series, had a highly complicated ownership structure with companies owning shares in other companies and management companies in multiple locations. This made it impossible to trace back ownership to a specific company and therefore identify a specific state with national jurisdiction over that entity to be held as the State of Export. (This is similar to the problem currently faced by the United Kingdom in relation to establishing the entity with ownership responsibility for the *North*

⁶⁴ Erin Flaherty, 'Risk Allocation: Issues Arising in the Allocation of Risk as Between Operator and Non-operators for Breach of Statutory Obligation' [1994] *AMPLA Yearbook* 180.

⁶⁵ *Seatrade* [2018] ECLI:NL:RBROT:2018:2108.

Sea Producer FPSO,⁶⁶ discussed in Chapter 5 and Chapter 8B.) The court in Rotterdam based its decision to hold the owners liable under Dutch law on the grounds that the decision to send the ships for recycling was taken while the ships were in Dutch waters and therefore they became waste within Dutch jurisdiction, making the Netherlands the State of Export. In fact, neither the European legislation nor the Basel Convention reference the decision to send a ship for recycling in any way. Further, the Spring ships still met the provided definition of ship when they left Dutch waters and did so for the duration of their final commercial voyages, highlighting possible flaws in the reasoning used in the Dutch decision. In such a case, the only remaining option is to recognise the flag state as the State of Export. Once the State of Export is established, the Basel Convention can be applied to ship recycling as it is already a convention in force.

1.7 Conclusion

In summary, this thesis argues that the polluter pays principle provides a justification for holding ship owners liable for harm caused by exposure to asbestos during ship recycling. The thesis examines MARPOL, the Basel Convention and the Hong Kong Convention as possible international conventions available to enforce liability. The conclusion of the analysis is that the only potential applicable convention is the Basel Convention. This thesis then identifies and resolves the key stumbling blocks preventing successful application of the Basel Convention to ship recycling, namely the definition of ship, identifying at what point a ship becomes waste and identification of the State of Export. The definition of ship is supported by analysis of all the definitions provided in entered into force conventions. The status of a vessel being sent for recycling is confirmed as waste and not a ship through a comparative and qualitative analysis of the contracts governing the sale of second-hand ships and ships for recycling. The analysis confirms that the subject matter of that sale is not a ship and therefore the owner of the vessel at the time of that sale is the last owner of the vessel as a ship before it becomes waste. The State of Export definition is analysed and its identity as the flag state is supported through case law. The flag state of the vessel when the end of life journey begins or when the end of life journey is planned to begin or at the time of contract, when the vessel ceases to be a ship, is the State of

⁶⁶ Maersk's response to UN on alleged transboundary movement of end-of-life ship (24 May 2018).

Export. The flag state holds liable the ship owner as the true source of the pollution and the appropriate party to be held liable under the Basel Convention for harm caused by exposure to asbestos during the ship recycling process.

Chapter 2: Ships, Ship Recycling And Asbestos

2.1 Overview of the Shipping Industry

The aim of this thesis is to demonstrate that it is possible to hold ship owners liable for harm caused by exposure to asbestos during ship recycling. This is accomplished by examining various international conventions to determine if any can be successfully applied to enforce liability. In order to understand the scale and influence of the shipping industry and the difficulties faced when trying to enforce liabilities not previously applied to ship recycling, it is necessary to understand the history of the shipping industry and how it developed into the complex, unique structure it is today.

2.1.1 The History of Shipping

Shipping is not only one of the oldest forms of transport, it is also one of the oldest forms of trade and law.⁶⁷ An examination of the industry's history demonstrates how it forms the foundation to much of modern trade and modern law.⁶⁸ The first part of this chapter examines the history of the industry and its impact on modern trade and modern law. It shows how concepts that are relevant to applying liability in modern ship recycling were developed centuries ago and how the industry has grown to have the power and influence that it does today. This background is important as it frames the context for issues and discussions raised later.

Historically, settlements were separated from each other by great tracts of land and crossing them to get from one society to another involved traversing treacherous terrain, from mountains to forests and swamps such that 5,000 years ago, mobility was estimated to be about 72km per century.⁶⁹ This made expansion of each society difficult and, even when it was achieved, interaction between the widespread settlements was still extremely irregular because of the terrain between them. The waterways of streams, rivers and oceans were quicker, easier and less dangerous paths to travel and allowed regular communication between one area and another,

⁶⁷ Patrick M Alderton, *Reeds Sea Transport: Operation and Economics* (Bloomsbury Publishing, 2010).

⁶⁸ C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934).

⁶⁹ Candice Goucher and Linda Walton, *World History: Journeys from Past to Present* (Routledge, 2012) 18.

facilitating the spread of ideas and knowledge.⁷⁰ It was safer and cheaper to transport commodities, particularly bulky or heavy ones, via water, enabling trade of goods that were necessary for societies to sustain themselves and develop.⁷¹ Each sector of modern society has been affected during its development by its exposure to ideas, knowledge and products from other societies, primarily through those travelling by ships.⁷² Long-distance sea transport, unusual in that it involved regular crossing of territorial boundaries for peaceful purposes, has always required its own 'supraterritorial' rule-making based on the special routines, traditions and needs of those involved in trade across borders.⁷³ Whether a uniform code of common rules governing the sea trades existed prior to the Middle Ages is still a matter of dispute but it is clear there had to be common understandings of some sort between states and these developed through the periods below, forming the foundations of the *Lex Mercatoria*⁷⁴ and maritime law as it is today.

In the early centuries BC, the sea-traders of Egypt, Phoenicia, and Greece linked together Europe and Asia, gradually spreading commerce and civilization throughout the Mediterranean Sea until the western world was united under the single rule of the Roman Empire⁷⁵ around 31BC. The first full compilation of maritime law principles, the Rhodian Sea Law (*Lex Rhodia*), was a body of regulations governing commercial trade and navigation in the Mediterranean Sea dating from 800-600 BC and an early manifestation of self-regulation in cross-border maritime trade. It was adopted into Roman jurisprudence as a collection of practices and customary rules⁷⁶ that has shaped maritime law over centuries and some of its core concepts are still found in modern maritime law. After the Empire's decline and the Dark Ages, Mediterranean

⁷⁰ Candice Goucher and Linda Walton, *World History: Journeys from Past to Present* (Routledge, 2012) 18, Chapter 10.

⁷¹ Lincoln P Paine, *The Sea and Civilization A Maritime History of the World* (Atlantic Books, 2015) 784.

⁷² C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934).

⁷³ Klaus P Berger, 'The *Lex Mercatoria* (Old and New) and the TransLex-Principles', *Trans-Lex.org Law Research* (Online Publication) <https://www.trans-lex.org/the-lex-mercatoria-and-the-translex-principles_ID8>.

⁷⁴ The historical *Lex Mercatoria*, the Law Merchant of the Middle Ages – as much as it existed then - and early modern times is said to have emerged from the customary practices of the traders and merchants of those days, both in the area of maritime trade and in general commercial transactions.

⁷⁵ C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934) 29.

⁷⁶ John W Cairns and Paul J du Plessis, *Beyond Dogmatics: Law and Society in the Roman World* (Edinburgh University Press, 2007) 159. See Title 14.2 of the *Digest* ("de lege Rhodia de iactu").

trade flourished again and many fundamentals of modern shipping were founded under the Venetian Statutes which date back to the first half of the thirteenth century,⁷⁷ such as ship charters, State regulation of shipping, ship classification,⁷⁸ the growth of maritime law, Plimsoll's Mark and regulation of wages and conditions afloat, among others.⁷⁹ Many of these fundamentals, particularly State regulation of shipping and ship classification, are critical to enabling successful attribution of liability for harm under today's conventions in this thesis.

The industry continued to grow due to expanding trade and developments in shipbuilding and navigation until the travels of explorers like Vasco da Gama, Columbus, and Magellan at the end of the fifteenth century led to colonisation, expanded trade routes and Great Britain's emergence as the leader in commerce and shipping from the seventeenth up to the nineteenth century.⁸⁰ During this time of almost perpetual conflict, Britain established the Navigation Acts to control and restrict trading partners, imports and exports to support the then national policy view which held "Profit and Power ought jointly to be considered"⁸¹ – trade was considered a means of managing political power and controlling shipping was a means of controlling trade.⁸² Using trade to manage political power has become a less accepted practice in the modern world as evidenced by the 1947 General Agreement on Tariffs and Trade (GATT 1947), which institutionalised global free trade, and creation of the international World Trade Organisation (WTO) in 1994, as a forum to negotiate and regulate that free trade.⁸³ Harm caused by ship recycling, the topic of this thesis, is primarily an environmental issue. There is a recognised conflict between GATT 1947/WTO and international environmental law in that creating limitations around trade in order to protect the environment has been determined historically by the WTO to be in breach of the principles of global free trade. More than four treaties using trade sanctions to achieve better environmental protection have been found in

⁷⁷ Lillian R Martin, *The Art and Archaeology of Venetian Ships and Boats* (Texas A&M University Press, 2001).

⁷⁸ See *ibid* at 171.

⁷⁹ C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934) 77.

⁸⁰ See *ibid* at 32.

⁸¹ Sir Josiah Child, *A New Discourse of Trade* (T Sowle, 2nd ed, 1694) ch IV 114–5.

⁸² Charles Wilson, *Profit and Power A Study of England and the Dutch Wars* (Springer, 1978) 2.

⁸³ Lakshman Guruswamy, 'The Promise of the United Nations Convention on the Law of the Sea (UNCLOS): Justice in Trade and Environment Disputes' (1998) 25(2) *Ecology Law Quarterly* 189.

breach of the GATT 1947/WTO free trade rules.⁸⁴ While the United Nations Law of the Sea (UNCLOS) sets out general duties regarding protection of the marine environment, it is up to other conventions such as the Basel Convention for the Transboundary Movement of Hazardous Waste (Basel Convention) to try and regulate the cross border movement of environmentally harmful substances. Enforcement ultimately depends on the implementation of supporting domestic legalisation and enforcement by national courts.⁸⁵

The Industrial Revolution and the discovery of gold in America and Australia led to an increased demand for carrying-power, both for trade and emigration, and the combined pressure of new conditions and new economic ideas broke down the restrictions that had been imposed to secure political and national power.⁸⁶ This caused governments to shift their focus from protecting the shipping industry to improving its efficiency and employment conditions, ensuring safety of life and property.⁸⁷ During the nineteenth century Britain remained dominant and British ship owners led the way in changing over from wood and sail to iron (or steel) and steam.⁸⁸ Simultaneously, quicker communications by electric cable, the industry need for the increased capital provided by the limited liability company⁸⁹ and increased volume of trade led to changes in ship ownership. The 'constant trader'⁹⁰ was replaced by regular liner services owned by large companies⁹¹ and the development of a world pool of tonnage, ships tied to no particular trade or route and under many flags on which all nations could draw as need required.⁹²

⁸⁴ See *ibid* at 192.

⁸⁵ Lakshman Guruswamy, 'The Promise of the United Nations Convention on the Law of the Sea (UNCLOS): Justice in Trade and Environment Disputes' (1998) 25(2) *Ecology Law Quarterly* 189.

⁸⁶ C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934) 30.

⁸⁷ See *ibid*.

⁸⁸ *Ibid* 31.

⁸⁹ *Companies (Limited Liability) Act 1862* (United Kingdom) 25 & 26 Vict, c 89.

⁹⁰ An individual ship which usually, but not necessarily always, traded between the same ports.

⁹¹ C Ernest Fayle, *A Short History of the World's Shipping Industry* (George Allen and Unwin, 1933–1934) 253,

'A liner service is a fleet of ships under common ownership or management which provide a fixed service at regular intervals between named ports and offer themselves as common carriers of any goods or passengers requiring transport between those ports and ready for transit by their sailing dates.'

⁹² *Ibid* 269.

Historically, a ship's flag signalled to others to what country the ship belonged and under whose protection it sailed⁹³ and this came to be known as the ship's flag state. Until World War II, nations could maintain or improve their position and maritime trade by offering ships protection if they flew their flags in exchange for which the nation had exclusive control over the ship.⁹⁴ The customary law rights of freedom of navigation⁹⁵ and the right of flag states to sail ships on the high seas⁹⁶ became codified under the 1958 High Seas Convention and UNCLOS.⁹⁷ Under UNCLOS every state is responsible for the ships flying its flag. A flag state is required to effectively exercise its exclusive jurisdiction and control⁹⁸ in administrative, technical and social matters over ships flying its flag⁹⁹ through a competent national maritime administration.¹⁰⁰ A ship follows the regulation of the flag state nation's maritime law in the open sea and can receive flag state benefits such as tax, certification, and security.¹⁰¹ There must be a genuine link between the ship and its flag state¹⁰² and the flag "determines the point of responsibility and how and where a right can be enforced in relation to that ship".¹⁰³ Primary responsibility for enforcement of vessel-source pollution rests with the flag state¹⁰⁴ which is responsible for ensuring compliance with applicable international rules and standards such as MARPOL¹⁰⁵ by vessels registered under its flag. Open registries and the increase of internationalisation in shipping has led to a

⁹³ Laszlo J Kovats, 'How Flag States Lost the Plot over Shipping's Governance: Does a ship need a sovereign?' (2006) 33(1) *Maritime Policy and Management* 75-81.

⁹⁴ Philipp Wendel, *State Responsibility for Interferences with the Freedom of Navigation in Public International Law* (Springer, 2007) 10.

⁹⁵ *Convention on the High Seas*, opened for signature 29 April 1958, 450 UNTS 11 (entered into force 30 September 1962) art 2.

⁹⁶ *Ibid* art 5.

⁹⁷ *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) arts 87, 90.

⁹⁸ *Ibid* art 92(1).

⁹⁹ *Ibid* art 94(1).

¹⁰⁰ *United Nations Convention on Conditions for Registration of Ships*, TD/RS/CONF/23 (13 March 1986, adopted 7 February 1986) art 5.

¹⁰¹ Karan C, 'What are Flag States in the Shipping Industry And What's Their Role?', *Marine Insight* (online, 13 October 2019) <<https://www.marineinsight.com/maritime-law/what-are-flag-states-in-the-shipping-industry-2/>>.

¹⁰² *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) art 91.

¹⁰³ Nivedita M Hosanee, 'A Critical Analysis of Flag State Duties as Laid Down under Article 94 of the 1982 United Nations Convention on the Law of the Sea' (Research Paper, Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, 2009) 9.

¹⁰⁴ *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) art 217.

¹⁰⁵ Nivedita M Hosanee, 'A Critical Analysis of Flag State Duties as Laid Down under Article 94 of the 1982 United Nations Convention on the Law of the Sea' (Research Paper, Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, 2009) 40.

move away from traditional maritime flags - whose registers are available only to nationals of those states - to what are commonly known as flags of convenience, states known for more lax controls over ships carrying their flag.¹⁰⁶ There is some dispute about the genuine link obligation and whether that can be proven where a flag of convenience is in place.¹⁰⁷ Historically it has not been possible to give the concept any precise content and it is often defined solely in terms of effective implementation of flag state duties without regard to the fact that a bond should first and foremost be established¹⁰⁸ between the flag, the ship and its owner(s).¹⁰⁹ Understanding the concept of flag states, their relationship to the ships and the use of flags of convenience is critical when enforcing liability for harm caused by exposure to asbestos during ship recycling in this thesis.

In order to sail and operate legally, a ship must be registered with a country and then fly the flag of that country – its flag state.¹¹⁰ One of the obligations of a flag state is to inspect a ship prior to allowing it to fly its flag and then to carry out surveys at regular intervals by qualified and approved surveyors.¹¹¹ Flag states that do not have the capability to do this delegate these obligations to recognised Classification Societies.¹¹² When a ship is built, it has to be built in accordance with the requirements of its classification, otherwise known as its class. The classification of ships according to their function dates back to the Venetian Statutes which prescribed a ship's number of anchors, buoys and hawsers according to size and length-to-beam ratio based on

¹⁰⁶ Tamo Zwinge, 'Duties of Flag States To Implement And Enforce International Standards And Regulations - And Measures To Counter Their Failure To Do So' (2011) 10(2) *Journal International Business and Law* 297, 299.

¹⁰⁷ Alexander Proeiss, *The United Nations Convention on the Law of the Sea: A Commentary* (Hart Publishing, 2017) 699. See also Douglas Guilfoyle et al, *The High Seas* (Oxford University Press, 1st ed, 2015).

¹⁰⁸ Douglas Guilfoyle et al, *The High Seas* (Oxford University Press, 1st ed, 2015). See also Alexander Proeiss, *The United Nations Convention on the Law of the Sea: A Commentary* (Hart Publishing, 2017) 675–857. Article 94 para 6 p 710.

¹⁰⁹ The *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014, [113].

¹¹⁰ John N K Mansell, *Flag State Responsibility: Historical Development and Contemporary Issues* (Springer, 2009), 269 [1.2].

¹¹¹ Tamo Zwinge, 'Duties of Flag States To Implement And Enforce International Standards And Regulations - And Measures To Counter Their Failure To Do So' (2011) 10(2) *Journal International Business and Law* 297, 310.

¹¹² Nivedita M Hosanee, 'A Critical Analysis of Flag State Duties as Laid Down under Article 94 of the 1982 United Nations Convention on the Law of the Sea' (Research Paper, Division for Ocean Affairs and the Law of the Sea Office of Legal Affairs, 2009) 33.

required speed and purpose.¹¹³ Modern classification is much more regulated and today's Classification Societies establish and maintain technical standards for the construction and operation of marine vessels and offshore structures.¹¹⁴ The thirteen largest Classification Societies belong to the International Association of Classification Societies (IACS) founded in Hamburg, Germany in 1968. The classification standards set by the IACS member societies cover more than 90 per cent of the world's cargo carrying ships' tonnage.¹¹⁵ A ship's function determines its class and the class defines the construction and operational requirements for the ship to be considered seaworthy for its function or prescribed purpose. Throughout its existence, a ship will undergo reviews at regular intervals known as periodical surveys, to check its compliance with its class requirements. If a ship is found to be non-compliant with its class, it can be prevented from sailing and its insurance cover will be void if it sails before it is compliant.¹¹⁶ Understanding Classification Societies, their role and the consequences of being in or out of Class are fundamental to enforcing liability for harm caused by exposure to asbestos in ship recycling under this thesis.

2.1.2 Shipping Today

The history that led to those changes is the history that created the modern shipping industry of today. In clarifying how the industry came to be, the current unique ownership, operating and regulatory structures and regimes, detailed in the discussion below become understandable. Once understood, they become legally navigable. In today's shipping industry, the majority of ships are owned by large companies (family run, family corporatized or just large corporations)¹¹⁷ and almost all operate as part of the world pool of tonnage. Many ships are chartered to travel various trades and routes as needed and most ships can fly the flag of their choice.¹¹⁸ This industry structure

¹¹³ Lillian R Martin, *The Art and Archaeology of Venetian Ships and Boats* (Texas A&M University Press, 2001) 171.

¹¹⁴ 'Classification Society & IACS', *Maritime Connector* (Web Page) <maritime-connector.com/wiki/classification-society/>.

¹¹⁵ 'Classification Society & IACS', *Maritime Connector* (Web Page) <maritime-connector.com/wiki/classification-society/>.

¹¹⁶ See extract from 'Compliance with Class Requirements and Recommendations', *Skuld* (Web Page, 12 April 2017) <skuld.com/topics/cargo/general-cargo/compliance-with-class-requirements-and-recommendations/>: "it is also a condition of cover that all rules, regulations, recommendations and requirements of the classification society are complied with."

¹¹⁷ Tim Soare, 'Who Owns the World's Ships?', *Marine Traffic* (Blog Post, 12 August 2015) <<https://www.marinetraffic.com/blog/who-owns-the-worlds-ships/>>.

¹¹⁸ Tim Soare, 'Who Owns the World's Ships?', *Marine Traffic* (Blog Post, 12 August 2015) <<https://www.marinetraffic.com/blog/who-owns-the-worlds-ships/>>.

evolved and came into being over centuries, long before modern attitudes and views shaped conventions designed to operate across the globe and regulate multiple industries. The unique structure of modern shipping and the way it operates has posed the greatest difficulty in enforcing liability for harm caused by exposure to asbestos during ship recycling. This thesis works through and resolves those issues by analysing how the law can be successfully applied to the ownership and operating structures of the industry and how it can resolve issues concerning flag states.

Today's shipping industry is not only global in scale but also in structure. The top ten ship owning nations of 2018 (in order) are Greece, Japan, China, Germany, Singapore, Hong Kong (China), Republic of Korea, USA, Norway and Bermuda¹¹⁹ and the top five countries account for more than 50 per cent of the world's tonnage.¹²⁰ Ships transport over 90 per cent of the world's goods¹²¹ with global volumes reaching 148 million TEUs¹²² in 2018.¹²³ The ten largest container shipping companies in the world (in no specific order) are APM-MAERSK (Danish), MSC - Mediterranean Shipping Company (Swiss-Italian), COSCO (Chinese), CMA-CGM (French), HAPAG-LLOYD (German), ONE - Ocean Network Express (Japanese), Evergreen Line (Taiwanese), Yang Ming Marine Transport (Taiwanese), Hyundai Merchant Marine (South Korean) and PIL – Pacific International Line (Singaporean).¹²⁴ The top shipbuilding nations responsible for 90 per cent of gross tonnage in 2018 were China (40 per cent), Republic of Korea (25 per cent) and Japan (25 per cent) with the rest of the world making up the remainder.¹²⁵ The top ten flag states of operating ships in 2018 were (in order): Panama, Marshall Islands, Liberia, Hong Kong, Singapore, Malta, Bahamas, China and Greece.¹²⁶ However, ships are often deflagged prior to

¹¹⁹ UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018) 30.

¹²⁰ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 36.

¹²¹ Pablo Kaluza et al, 'The Complex Network of Global Cargo Ship Movements' (2010) 7(48) *Journal of the Royal Society* 1093-103.

¹²² TEUs is 20-foot equivalent units, a measuring unit representing the number of 20-foot containers transported.

¹²³ UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018) 13.

¹²⁴ MI News Network, '10 Largest Container Shipping Companies in the World', *Marine Insight* (Web Page, 20 October 2019) <marineinsight.com/know-more/10-largest-container-shipping-companies-in-the-world/>.

¹²⁵ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019).

¹²⁶ Lloyd's List, 'Top 10 Flag States 2018' (Analysis, 10 December 2018) <lloydlist.maritimeintelligence.informa.com/LL1125024/Top-10-flag-states-2018>.

being sent for recycling and the most common flags to which they are changed are: Palau, Comoros, Saint Kitts and Nevis and Cook Islands.¹²⁷

The top countries responsible for ship dismantling in 2018 (by gross tonnage)¹²⁸ were Bangladesh (42 per cent), India (26 per cent), Pakistan (22.5 per cent) and Turkey (0.05 per cent), leaving Europe, China and the rest of the world responsible for the remaining 9 per cent.¹²⁹ Since 31 December 2018, China has restricted its ship recycling activities to domestic vessels only¹³⁰ and there are concerns about the capacity of European Union approved yards, both in terms of the quantity of ships they can recycle and the size.¹³¹ Due to their locations, most European approved yards are limited to small to medium ships and cannot recycle vessels such as the large oil tankers or cargo carriers. European yard limitations and China's removal from the global ship recycling industry put further pressure on India, Pakistan and Bangladesh to provide facilities for the remainder of the ships that need recycling.

It is clear from these statistics that not only do the top ship building states not own the ships; the top ship owning states do not operate them; neither the top building, owning, nor operating states recycle them; the top operating flag states are neither builders, owners, operators nor recyclers; and the top flag states under which ships sail on their end of life journey to be recycled are none of the above. This structure of the industry is most easily seen in the visual below: ¹³²

¹²⁷ See 'Shipbreaking - Bulletin of Information and Analysis on End-of-Life Ships', *Robin Des Bois* (Bulletin, 25 October 2014) #50, #51 and #54.

¹²⁸ DWT: The unit dead-weight tons (DWT) is used to indicate the cargo carrying capacity of a ship, while gross tons/tonnage (GT) reflect its size (UNCTAD Handbook of Statistics 2019).

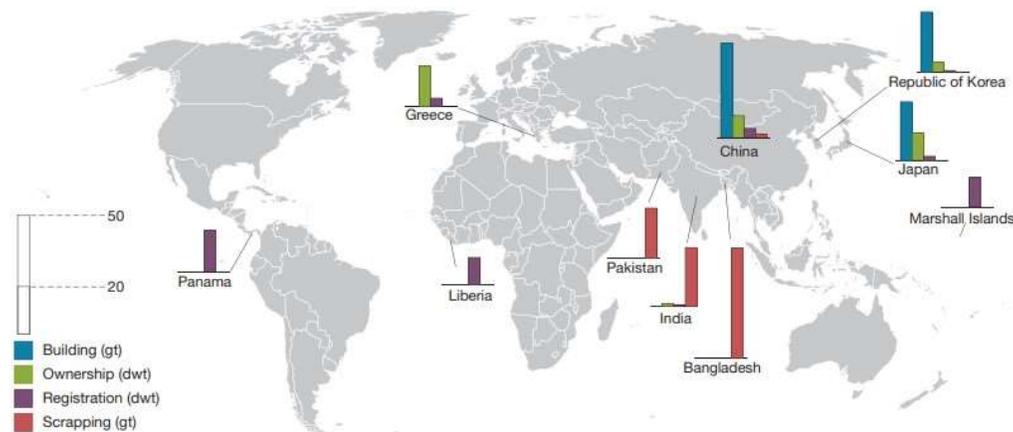
¹²⁹ UNCTAD, 'Merchant Fleet', *2019 e-Handbook of Statistics* (e-Handbook, 2019) 'Ship scrapping by country of demolition'.

¹³⁰ Zhong Nan, 'Scrapping Scrap, Saving Earth' (*China Daily*, 24 December 2018).

¹³¹ 'ECSA Asks For More Capacity On The EU Ship Recycling List', European Community Ship owners' Associations (Press Release, 26 September 2018) <<https://www.ecsa.eu/press-releases/ecsa-asks-more-capacity-eu-ship-recycling-list>>.

¹³² UNCTAD, *2019 Handbook of Statistics* (e-Handbook, 2019) 76 <https://unctad.org/en/PublicationsLibrary/tdstat44_en.pdf>.

Map 5.2 Building, ownership, registration and scrapping of ships, 2018
(Percentage of world total)



Sources: UNCTADstat (UNCTAD, 2019a), Clarksons Research.

Note: Top three countries in each segment are shown; building and scrapping are estimated deliveries and demolitions during 2018; registration and ownership are end-of-year figures.

Centuries of history have developed this multi-national structure of shipping and it is why imposing liability for the end of a ship's life to parties responsible for the rest of its lifecycle has been such a complex and unsuccessful task. There has been one successful prosecution of a shipping company for exporting ships to be beached for dismantling. In the 2018 *Seatrade* judgment in the Rotterdam Criminal Court,¹³³ the Dutch shipping company and two of its directors were held criminally liable for breaches of the European Waste Shipment Regulations (EWSR), the European ratification of the Basel Convention, when four ships were exported from Europe to India, Bangladesh and Turkey for recycling. This judgment, which is analysed in detail in Chapter 8B, is currently under appeal to the Appellate Court in the Hague.

Building of ships, ship operations and shipping activities on the oceans are governed by international regulations under the auspices of the International Maritime Organisation (IMO).¹³⁴ These regulations are in the form of international conventions that are agreed to by party states who ratify them into their domestic legislation in their own time and way. However, ship recycling is not the subject of a specific international convention and EU Regulation No. 1257/2013, which stipulates that all EU-flagged vessels have to be dismantled according to strict guidelines in one of the approved

¹³³ (District Court of Rotterdam, C-10/994550-15, ECLI: NL: RBROT:2018:2108, 15 March 2018).

¹³⁴ Will Kenton, 'International Maritime Organization (IMO)', *Investopedia* (online, 24 September 2019) <<https://www.investopedia.com/terms/i/international-maritime-organization.asp>>.

European List ship yards, is the only legally binding and comprehensive instrument on ship recycling in force in the world today.¹³⁵ Historically, ship recycling has always been left to the domestic legislation of the state in which the ship recycling yard is located.¹³⁶

Over time, global attitudes have shifted towards a stronger cradle to grave philosophy which follows the view that the manufacturer and user of the product are responsible for the safe disposal of the product or, at the very least, responsible for ensuring that during the product's manufacture and use its level of potential environmental hazard is kept as low as possible.¹³⁷ This cradle to grave philosophy suggests that ship owners, who commission the building of ships and manage the ships during their operational lives, also have a responsibility to ensure their ships not only do the least amount of environmental damage possible during their life span but also to limit any environmental damage when they are finally disposed of and sent for recycling.¹³⁸

This approach has not been supported by the shipping industry as a whole.¹³⁹ Generally, the industry's view is liability for safe recycling 'must rest with the yards themselves'¹⁴⁰ and falls within the domain of domestic legislation governing the ship recycling yards.¹⁴¹ There have been efforts by those who are part of the Basel Action

¹³⁵ Jean-Pie Gauci-Maistre and Despoina Xynou, 'European Union: The Shipping Industry is Increasingly Embracing Environmental Sustainability', *Mondaq* (online, 11 November 2019) <mondaq.com/x/862572/Marine+Shipping/The+Shipping+Industry+Is+Increasingly+Embracing+Environmental+Sustainability>.

¹³⁶ Aage Bjørn Andersen, 'Worker Safety in the Ship-breaking Industries' (Working Paper No 167, International Labour Office, February 2001).

¹³⁷ Michael D LaGrega, Phillip L Buckingham, Jeffrey C Evans, *Hazardous Waste Management* (Waveland Press, 2nd ed, 2010) 374.

¹³⁸ 'About Ship Recycling', *Ship Recycling Transparency Initiative* (2018) <<https://www.shiprecyclingtransparency.org/about-ship-recycling/>>.

¹³⁹ In comments submitted to the Open-ended Working Group, the shipping industry argued that the Basel Convention's scope does not extend to ships because "a ship never 'becomes waste' [...]. Some 'waste' is created when an owner of a ship dismantles it for the purpose of recycling its components" (OEWG, 3rd session, 2004, OEWG/3/INF/5 p. 94). Under this view, end of life ships remain ships to the moment of dismantling and are not waste at the time of export. In comments submitted pursuant to the Decision VIII/11 adopted by the Conference of the Parties (8th meeting, 2006) and to the Decision VII/17 adopted by the Open-ended Working Group (6th session, 2007), India agreed that "[a] ship destined for recycling should not be considered as waste. Therefore, prior consent of exporting and importing countries before a ship is sent for recycling may not be necessary" <<http://archive.basel.int/ships/commentsOEWG6/oweg6.html>>.

¹⁴⁰ International Chamber of Shipping, 'Shipping Industry Guidelines on Transitional Measures for Ship owners Selling Ships for Recycling' (Guidelines, 2nd ed, 2016) 3.

¹⁴¹ International Chamber of Shipping, 'Shipping Industry Guidelines on Transitional Measures for Ship owners Selling Ships for Recycling' (Guidelines, 2nd ed, 2016).

Network¹⁴² to bring ship recycling within the ambit of the Basel Convention but the shipping industry is “strongly opposed”.¹⁴³ The industry would prefer an interpretation of the Basel Convention that considers ships be viewed as wastes which derive from the normal operations of a ship and are excluded from the scope of the Basel Convention as covered by another international instrument.¹⁴⁴ The industry’s position is that ship recycling is a method of managing shipping-related waste and therefore MARPOL should be applied.¹⁴⁵ If MARPOL applies then under Article 4(1) the Basel Convention cannot apply,¹⁴⁶ and the industry proposes the argument that by specifically contemplating wastes from ships but not ships as waste, the Basel Convention was never intended to address ship recycling.¹⁴⁷

This conflict of views is discussed below after an analysis of the polluter pays principle and its application to ship recycling. However, in response to pressure from NGOs and environmental groups, the shipping industry created the Hong Kong Convention for the Safe Recycling of Ships (Hong Kong Convention) in 2009. This convention places the burden primarily on ship yards to better manage disposal of the hazardous substances found in ships sent for recycling. While there are some requirements for ship owners to better prepare their ships before they are sent for recycling and to ensure that they can provide a list of all the items that comprise the vessel and any hazardous substances contained therein, widely known as an inventory of hazardous material (IHM), the Hong Kong Convention places little burden on the ship owners themselves.¹⁴⁸

¹⁴² Basel ACTION Network is a not-for profit advocate for three toxic waste streams covered by the Basel Convention: Electronic waste (e-waste), End-of-life ships and Plastic pollution. <<https://www.ban.org/about-us>>.

¹⁴³ Amy E Moen, ‘Breaking Basel: The Elements of the Basel Convention and its Application to Toxic Ships’ (2008) 32 *Marine Policy* 1053, 1057.

¹⁴⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 1(4).

¹⁴⁵ (District Court of Rotterdam, C-10/994550-15, ECLI: NL: RBROT:2018:2108, 15 March 2018).

¹⁴⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 1(4).

¹⁴⁷ Amy E Moen, ‘Breaking Basel: The Elements of the Basel Convention and its Application to Toxic Ships’ (2008) 32 *Marine Policy* 1053, 1057.

¹⁴⁸ ‘Special Rapporteur on the Adverse Effects of the Movement and Dumping of Toxic and Dangerous Products and Wastes on the Enjoyment of Human Rights’, Para 16(b).

Before discussing in detail whether, if and how ship owners could or should carry a greater liability for the safe recycling of their disposed ships, it is important to understand not only the history and structure of the shipping industry (as has been discussed here) but also the scale of the industry and the impact of the hazardous substances contained in ships which is discussed below.

2.1.3 Overview of Ship Recycling

More than 90 per cent of the world's trade is carried by the international shipping industry¹⁴⁹ and where those ships come from, how they are made and what happens to them afterwards are matters of global interest and responsibility. The ship recycling industry has slowed down slightly after undergoing a boom period over the last decade against a background of continued oversupply in ship-carrying capacity.¹⁵⁰ In 2012, the world fleet was a recorded total tonnage of 1,53 billion dead-weight tons (DWT)¹⁵¹ across 104,305 seagoing commercial ships in service.¹⁵² In early 2019, the world fleet comprised 95,402 ships representing a total of 1.97 billion DWT of capacity, a growth of 2.6 per cent compared with the beginning of 2018¹⁵³ but an overall drop of almost 8 per cent over seven years. Vessels totalling an estimated 18.3 million gross tons (GT) were scrapped in 2019 compared with 22.9 million GT in 2018, 36.29 million GT in 2013 and 26.5 million GT in 2011. However, ship scrapping of older, less fuel-efficient vessels is expected to increase again when the IMO 2020 regulation¹⁵⁴ enters into force on 1 January 2020. The estimated projection is 26 million DWT equivalent in 2019 and 44 million DWT equivalent in 2020 will be sent for recycling, reducing the growth in the world fleet by 0.8 per cent by 2020.¹⁵⁵ In 2019, Bangladesh led the way, recycling 47.2 per cent of the tonnage sold for demolition in 2018 compared with India (25.6 per cent), Pakistan (21.5 per cent), Turkey (2.3 per cent) and China (2 per

¹⁴⁹ Kenneth A Reinert et al (eds), *Princeton Encyclopedia of the World Economy* (Princeton University Press, 2009).

¹⁵⁰ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 29.

¹⁵¹ DWT: The unit dead-weight tons (DWT) is used to indicate the cargo carrying capacity of a ship, while gross tons/tonnage (GT) reflect its size (UNCTAD Handbook of Statistics 2019).

¹⁵² UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012) 34.

¹⁵³ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 29.

¹⁵⁴ IMO 2020 limits the amount of sulphur for marine fuel oil to 0.50 per cent ('The 2020 Global Sulphur Limit', *IMO* (FAQ, 2019).

<imo.org/en/MediaCentre/HotTopics/GHG/Documents/2020%20sulphur%20limit%20FAQ%202019.pdf>.

¹⁵⁵ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 30.

cent).¹⁵⁶ An estimated 83 per cent of new builds delivered in 2011 were registered abroad, while an estimated 71.5 per cent of world tonnage was operating under a different flag to that of the owner's nationality and that figure remains unchanged in 2019.

The shipping industry should be one of the world's greenest industries in relation to recycling. In terms of dead weight, 95 per cent to 98 per cent of a ship is reused, making shipping one of the most efficient recycling industries globally.¹⁵⁷ "Ship-scraping is truly a sustainable activity from a resource utilisation point-of-view."¹⁵⁸ Five countries carry out 97.5 per cent of the world's ship recycling: India, China, Pakistan, Bangladesh and Turkey.¹⁵⁹ In India there are over forty thousand workers¹⁶⁰ employed in the ship yards and over one hundred thousand in immediate downstream industries¹⁶¹ while in Bangladesh, the industry directly employs approximately thirty thousand people, with almost two hundred thousand workers employed along the supply chain.¹⁶² Overall, the industry employs approximately one million workers between Pakistan, Bangladesh and India and it is worth billions.¹⁶³ For example, while a ship can be sold to a regulated facility for US \$14 million, a ship owner can earn an extra US \$1 million to US \$2 million by selling it to India or Bangladesh¹⁶⁴ and still the estimated profit for a sample ship in Bangladesh is US \$921,400,¹⁶⁵ a 16 per cent profit

¹⁵⁶ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 35.

¹⁵⁷ Lloyd's Register, *Ship Recycling Practice and Regulation Today* (Report, Lloyd's Register, June 2011) 5.

¹⁵⁸ IL&FS Ecosmart Limited, 'Technical EIA Guidance Manual for Ship Breaking Yards' (Manual, The Ministry of Environment and Forests Government India, August 2010) 3-3.

¹⁵⁹ *Calculation of Recycling Capacity for Meeting the Entry into Force Conditions of the Hong Kong Convention*, Marine Environment Protection Committee, 67th sess, Agenda Item 3, MEPC 67/INF.2/Rev.1 (15 July 2014) 3.

¹⁶⁰ 'India', *NGO Shipbreaking Platform* (Web Page) <shipbreakingplatform.org/our-work/the-problem/india/>.

¹⁶¹ IMF-FNV project in India, *A Survey on Working and Socio-Economic Conditions of Shipbreaking Workers in India* (Report, International Metalworkers Federation, 2004 – 2007).

¹⁶² Warwick, 'Ship Recycling in Bangladesh: a Look at the Economic Impact of the Industry' (Conference Paper, International Conference on Ship Recycling SHIPREC, 7-9 April 2013).

¹⁶³ Costa Paris and Biman Mukherji, 'EU and South Asia Scrap Over Recycling Ships', *Wall Street Journal* (online, 8 June 2013) <<http://online.wsj.com/article/SB10001424127887324423904578522982568438250.html>>.

¹⁶⁴ Chris White, *Two Years since Pakistan's Gadani Ship-breaking Disaster, Why are Workers Still Dying?*, *South China Morning Post* (28 October 2018).

¹⁶⁵ Warwick, 'Ship Recycling in Bangladesh: a Look at the Economic Impact of the Industry' (Conference Paper, International Conference on Ship Recycling SHIPREC, 7-9 April 2013).

margin,¹⁶⁶ and the turnover in Alang ship yards alone is estimated at US \$2 billion.¹⁶⁷ There is no doubt the industry provides both employment and income in the major participating countries.

Around 70 per cent of the world's steel is made from iron ore, while the rest is produced from steel scrap.¹⁶⁸ Old steel scrap, produced from obsolete products, represents between 40 per cent and 44 per cent of the steel used by the global steel making industry and 79 per cent to 90 per cent of a ship's metal content can be recycled,¹⁶⁹ producing "an annual average of 5.8 million tonnes of steel scrap".¹⁷⁰ The key determining factor of the price of a vessel sold for recycling is its scrap metal weight¹⁷¹ and in Bangladesh, for example, 50 per cent to 60 per cent of the recovered steel is re-used in re-rolling mills.¹⁷² Of the five major recycling countries, three of them are in the top four global importers of steel scrap: Turkey, China and India, but demand greatly outstrips their production. The reuse of the steel produced from ship recycling is a major factor for the industry's presence in Pakistan and Bangladesh. Both are countries with very large populations and a continuously expanding urbanization process.¹⁷³ Steel scrap produced by ship recycling represents 73 per cent of the steel used in Bangladesh and 27 per cent of the steel used in Pakistan. For countries with a high demand for steel and where labour costs are low, ship recycling is an effective economic solution that provides cost-effective, much needed raw materials.

However, scrap steel is not the only product produced through the ship recycling process. Ship recycling is also an industry associated with hazards to both human

¹⁶⁶ Maria Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, World Bank, December 2010).

¹⁶⁷ Piyush Pandey, 'Alang Ship Breakers Cruise Along Amid Slowdown', *The Times of India* (online, 30 March 2013) <http://articles.timesofindia.indiatimes.com/2013-03-30/mumbai/38145277_1_alang-ship-recycling-industries-association-ship-breakers>.

¹⁶⁸ Nikos, Mikelis, 'Ship Recycling Markets and the Impact of the Hong Kong Convention' (Conference Paper, International Conference on Ship Recycling, 7-9 April 2013).

¹⁶⁹ Ron Hess et al, *Disposal Options for Ships* (RAND, 2001).

¹⁷⁰ Nikos, Mikelis, 'Ship Recycling Markets and the Impact of the Hong Kong Convention' (Conference Paper, International Conference on Ship Recycling, 7-9 April 2013).

¹⁷¹ Sabine Knapp, Shashi N Kumar and Anna Bobo Remijn, 'Econometric Analysis of the Ship Demolition Market' (2008) 32(6) *Marine Policy* 1023-1036.

¹⁷² Sefer A Gunbeyaz, Rafet E Kurt and Raphael Baumler, 'A Study on Evaluating the Status of Current Occupational Training in the Ship Recycling Industry in Bangladesh' (2019) 18(1) *WMU Journal of Maritime Affairs* 41-59.

¹⁷³ Maria Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, World Bank, December 2010).

workers and the environment. The European Commission estimates up to 1.3 million tonnes of toxins are exported annually to South Asia onboard ships being sent for recycling.¹⁷⁴ The primary hazardous materials in ships are: asbestos; PCBs (organic compounds in electrical installations and recognised as pollutants under the Stockholm Convention 2001); TBTs (organotin compounds that acted as biocides in antifouling systems and prohibited from use under the International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001); ODS (ozone depleting substances); and microbiological contaminants. All of these are found on older ships and some on new ships, to varying degrees.

2.1.4 Asbestos in Ship Recycling

Asbestos is a group of naturally-occurring silicate minerals made up of fine, fibrous crystals. The three most common types are crocidolite (blue asbestos), amosite (brown or grey asbestos) and chrysotile (white asbestos).¹⁷⁵ The use of asbestos in ships peaked between 1940 and 1980 and it was typically found in the concrete and tiling on the floor, the wall and ceiling panels and the fire insulation behind them, heat insulation and lagging and anywhere heat resistance or protection from fire was needed¹⁷⁶ such as engine rooms, boilers, electrical and pipe systems, gaskets, packing, and as tape. Figures provided by the World Bank Study provide an estimate of 510 tons of asbestos per million GT¹⁷⁷ of a typical merchant vessel.¹⁷⁸ Asbestos fibres are microscopic and become hazardous to human health when asbestos products become friable and the fibres become loose and airborne and are inhaled. Inhalation can lead to one of multiple asbestos-related illnesses, all of which are incurable and range in severity from pleuritis, an inflammation and irritation of the outer lining of the lung which can restrict breathing over extended periods of time, to mesothelioma, a cancer of the pleura which has an average survival time of seven to seventeen months after diagnosis and has a latency period of between twenty and forty years.¹⁷⁹ Workers stripping ships by hand during the ship recycling process, generally with no or minimal safety equipment or protective clothing, are commonly exposed to the asbestos found in ships whistles, gaskets, pipe hangers, incinerators,

¹⁷⁴ NGO Platform on Shipbreaking, *NGO Shipbreaking Platform – Annual Report 2011* (Annual Report, 2011) 4.

¹⁷⁵ See *Asbestos-related Diseases Indicators* (Report, Safe Work Australia, August 2010).

¹⁷⁶ 'Is Your Ship Final Free of Asbestos?', *Royal Institution of Naval Architects (Web Page, April 2018)*.

¹⁷⁷ GT: The unit GT is used to reflect the size of a ship while dead-weight tons (DWT) indicates its cargo carrying capacity (UNCTAD Handbook of Statistics 2019).

¹⁷⁸ Maria Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, World Bank, December 2010).

¹⁷⁹ See *Asbestos-related Diseases Indicators* (Report, Safe Work Australia, August 2010) 3.

boilers, decks and gasket material in ships' stores.¹⁸⁰ A radiological study in 2009 by the Directorate General, Factory Advice Service and Labour Institute (DGFASLI), found of the 237 workers from 21 ship recycling yards examined, 13 per cent of the workers were identified as being affected by asbestosis or an asbestos-related disorder. Most of the workers were forty years of age and had been working less than ten years. "The study observed a 3½ times prevalence rate of asbestosis disease and related disorders as compared to asbestos cement processing workers."¹⁸¹

Aside from exposure to asbestos, the ship recycling industry in Pakistan, Bangladesh and India is woefully short on general protective equipment, health and safety procedures, and workplace protections for its workers. A 2006 report to the Indian Supreme Court notes that "the average annual incidence of fatal accidents in the ship breaking industry is 2.0 per 1000 workers while the all India incidence of fatal accidents during the same period in the mining industry, which is considered to be the most accident-prone industry, is 0.34 per 1000 workers."¹⁸² In 2019, fifteen workers have died in Bangladesh while working in ship recycling¹⁸³ and between July and September alone, eleven workers lost their lives and twenty were severely injured when breaking ships in Bangladesh and India.¹⁸⁴ Worker injury and death statistics are very hard to come by, but the industry's status as hazardous for workers is not in doubt. The range of incidents reported include a toxic gas leak on a tanker in Bangladesh causing the deaths of three workers and injuring six.¹⁸⁵ In wrecking yards in India there are fifty to seventy deaths annually,¹⁸⁶ including two in 2019 at yards that have received Indian certification as Hong Kong Convention compliant and have

¹⁸⁰ John Chillingworth, 'Why Most Ships Still Contain Asbestos', *International Ban Asbestos Secretariat* (Article, 22 August 2016).

¹⁸¹ *Standard Reference Note 2009* (Report, Directorate General of Factory Advice Service and Labour Institute, April 2010) <http://www.dgfasli.nic.in/std_ref/std_ref09.pdf>.

¹⁸² Federico Demaria, 'Shipbreaking at Alang–Sosiya (India): An Ecological Distribution Conflict' (2010) 70(2) *Ecological Economics* 250.

¹⁸³ Anastassios Adamopoulos, 'Two Workers Die and 13 Injured at Bangladeshi Ship Recycling Yard', *Lloyds List* (online, 3 September 2019).

¹⁸⁴ 'Shipbreaking - A Dirty and Dangerous Industry', *Dry Cargo International* (online, October 2019) <drycargomag.com/shipbreaking-a-dirty-and-dangerous-industry/>.

¹⁸⁵ World Maritime News Staff, 'Three Dead, Several Injured at Chittagong Shipbreaking Yard', *World Maritime News* (online) <worldmaritimenews.com/archives/280979/three-dead-several-injured-at-chittagong-shipbreaking-yard/>.

¹⁸⁶ Shantanu Guha Ray, 'Alang's Death Yard Breaking News Again', *Tehelka* (online, 30 October 2010) <<http://tehelka.com/alangs-death-yard-breaking-news-again/>>.

applied for recognition under the EU Ship Recycling Regulation.¹⁸⁷ There are still no medical facilities at the Gadani yards despite four workers dying at the Gadani shipbreaking yard over four days in 2013¹⁸⁸ and, in the worst ship-breaking accident on record, up to thirty-nine workers (the exact number is unknown) perishing in an explosion onboard an oil tanker there in November 2016.¹⁸⁹

In all, the ship recycling industry is extremely hazardous for all workers on a day-to-day basis and in the long-term, the probability is that those who survive will face further health issues from exposure to toxins on the ships, particularly asbestos given its latency period. The solution is two-pronged. First, to reduce the quantity of toxic substances in ships and second, to improve the conditions at ship recycling yards. While efforts are being made to reduce hazardous substances in ships, the safety conditions at the recycling yards have undergone, at best, minor and extremely slow change. The ship yards generally face economic loss if they try and implement safety procedures that increase costs so there is little to no incentive to change.¹⁹⁰ This issue, the factors causing and affecting it and possible solutions are discussed further in this thesis in an analysis of the polluter pays principle and how it can be applied to ship recycling as an industry. The discussion here makes it clear why responsibility for harm to ship workers during ship recycling, such as that caused by exposure to asbestos, is a critical issue that needs resolution.

2.1.5 Ship Recycling as an Industry

Shipping is integral to the world economy and, as over 90 per cent of the world's goods are transported by ship,¹⁹¹ there are always new ships being built and old ones being scrapped. Scrapping ships is an industry worth US \$5 billion annually,¹⁹² whose scale is only set to grow. The largest growth in shipbuilding occurred in the 1970s and those

¹⁸⁷ Maritime Executive, 'Report: Two Workers Killed at HKC-Certified Shipbreaking Yards', *Maritime Executive* (online, 11 September 2019).

¹⁸⁸ Qadeer Tanoli, 'Four Workers Die at Gadani Ship-breaking Yard in Two Days', *International News* (online, 5 July 2013).

¹⁸⁹ Chris White, *Two Years since Pakistan's Gadani Ship-breaking Disaster, Why are Workers Still Dying?*, *South China Morning Post* (28 October 2018).

¹⁹⁰ Tony George Puthucherril, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2010) 145-190.

¹⁹¹ Kenneth A Reinert et al (eds), *Princeton Encyclopedia of the World Economy* (Princeton University Press, 2009) Vol 1, 997.

¹⁹² Chris White, *Two Years since Pakistan's Gadani Ship-breaking Disaster, Why are Workers Still Dying?*, *South China Morning Post* (28 October 2018).

are primarily the ships being scrapped now.¹⁹³ Since then the shipbuilding industry has only increased in volume and scrapping logically will follow suit. The average age of ships scrapped in 2018 was twenty-one years but the current over-supply and incoming IMO 2020 regulations are likely to cause younger ships to be scrapped over the next two years.¹⁹⁴ The increasing use of the cradle to grave lifecycle approach to shipping by the industry¹⁹⁵ has turned the spotlight on to the issue of hazardous materials in ships and their effects at disposal, which has been led both by economic and environmental reasons: a ship's operating costs often will have exceeded its purchase price by its twentieth year.

As the environmental impact of materials removed during the recycling process is better known there is greater emphasis on the products going in at the building stage. Ship owners have become aware of the view that their responsibilities extend past the operation of a ship to selection of its components at the building stage and their environmental effects at the scrapping stage.¹⁹⁶ This is evidenced by the implementation of regulations banning or limiting asbestos and other hazardous substances in new builds.

The operational activities of ships have long been reasonably well regulated and now numerous attempts have been made more recently to formalise requirements for environmentally friendly components and control of either end of the life cycle.¹⁹⁷ The IMO's Safety of Life at Sea (SOLAS) Convention introduced the first major ban on asbestos for ships built before 1 July 2002, prohibiting the new installation of asbestos containing material on all ships except for certain specified instances. From 1 January 2011, under SOLAS Ch. II-1, Regulation 3.5.2, any installation of materials that contain asbestos is prohibited in all ships without exceptions. The European Regulation on Ship Recycling (ESRR) was adopted and entered into force on 20 November 2013, requiring EU flagged ships to have an Inventory of Hazardous Materials (IHM); be

¹⁹³ UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012) 92.

¹⁹⁴ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 28.

¹⁹⁵ *Guidelines on Transitional Measures for Ship owners Selling Ships for Recycling* (Guidelines, Maritime International Secretariat Services, October 2009).

¹⁹⁶ *Guidelines on Transitional Measures for Ship owners Selling Ships for Recycling* (Guidelines, Maritime International Secretariat Services, October 2009).

¹⁹⁷ Nancy Isarin, *IMPEL-TFS Conference 2012 Report* (Report No 2012/13, IMPEL, 29 – 31 May 2012) 22.

surveyed; be certified; and be recycled in accordance with the new Regulations. From 31 December 2018, large commercial seagoing vessels flying the flag of an EU Member State may be recycled only in ship recycling facilities included in the European List of Ship Recycling Facilities and on 7 November 2019, the EU Commission published the latest (6th) version of the European List of Ship Recycling Facilities and no beaching yards were included, even those that have received Hong Kong Convention certification from their local authorities.

However, despite ship owners recognising their responsibility for reducing the pollution content of ships at the source – the building phase, the polluter pays principle has so far failed dismally to make an impact on ship owners sending their ships for recycling. This is because the regulatory link between ship owners and the damage caused by harmful substances released during the recycling process has been, at best, unclear. This link is analysed and successfully identified in the polluter pays principle discussion in this thesis.

2.1.6 Why Ship Recycling is an Issue Now

Ship scrapping, otherwise known as ship breaking or recycling, expanded into its current form in the mid-1980s.¹⁹⁸ Shipping industry and trade growth closely matches global economic growth as increased ties and trade between countries translates to increases in transfers of goods which equates to more trade for the shipping industry: “As the interrelationship of national and regional economies deepens, so the need for efficient and productive shipping increases”.¹⁹⁹ The peaks and troughs of the annual global container trade are a clear reflection of the global economy. In 1985 the annual global container trade was just over 1.2 billion tonnes and by 2000 that amount was over 1.4 billion tonnes with a peak of over 1.5 billion tonnes in 2004.²⁰⁰ 2009, during the maximum impact of the global financial crisis, saw a dip to just over 200 million tonnes annually with 2010’s rebound to over 1.4 billion tonnes and then a return over

¹⁹⁸ Lloyd’s Register, *Ship Recycling Practice and Regulation Today* (Report, Lloyd’s Register, June 2011).

¹⁹⁹ Jeremy Penn, ‘Shipping – the Global Economy’s Enabler’, *Businessworks* (online) <http://www.biz-works.net/index.php5?SID&fl=yPHPSESSID=43557e6fbc2f5b777e1945d78ab8640&pgid=ar&art=0802_02#top>.

²⁰⁰ Trade Logistics Branch of the Division on Technology and Logistics, *Review of Maritime Transport 2012*, UNCTAD/RMT/2012 (November 2012), 92.

the next three years to the 1980s level of 1.2 billion tonnes.²⁰¹ In 2017 the global seaborne container trade reached 1.6 billion tonnes²⁰² which increased by 2.6 per cent as of 1 January 2019 to an estimated total volume of 152 million TEUs and reached the milestone of 11 billion tons of total global trade.²⁰³

The fluctuations caused by the global financial crisis are also reflected in the drop in the Baltic Dry Index (the record of the average earnings for bulk carriers) from 11,793 on 20 May 2008 to 663 on 5 December 2008, a drop of 94 per cent.²⁰⁴ As global trade decreases so the container rates (price per container as cargo) drop but as demand for cargo space increases, so do container rates. The global financial crisis saw a sharp decline in global trade and this was reflected in the correspondingly sharp drop in container rates. A similar event occurred between January and March 2019 when the Baltic Dry Index dropped to 750 due to a slowdown in the Chinese economy and an overcapacity of bulk vessels and mismatches of vessel sizes²⁰⁵ before rising to a peak of 2500 in August 2019 on the back of an increase in demand for iron ore shipping²⁰⁶ from which it has been slowly dropping again.

The global financial crisis led to a perfect storm for the ship scrapping industry.²⁰⁷ The increase in demand in the global economy leading to the shipping industry boom in the early 2000s resulted in an order book peak for new ships in 2008 that had decreased by 43 per cent by the end of 2011.²⁰⁸ Those ships on order in 2008 reached their delivery dates around 2013 but without continued economic growth in the intervening period, many of them are now surplus to requirement and there has been

²⁰¹ Maria Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, World Bank, December 2010) 3.

²⁰² I Wagner, 'Container Shipping - Statistics & Facts', *Statista* (online, 10 October 2018) <statista.com/topics/1367/container-shipping/>.

²⁰³ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019) 41.

²⁰⁴ 'A Perfect Storm Hits the Shipping Industry: Falling Revenue, Increasing Capacity', *Idarat Maritime* (online, 3 August 2010)

<<http://www.idaratmaritime.com/wordpress/?s=A+Perfect+Storm+hits+the+Shipping+Industry+++falling+revenue%2C+increasing+capacity&submit=Find>>.

²⁰⁵ Stockco Agrifinance, 'The Baltic Dry Index has Capsized', *StockCo* (online, 13 February 2019) <stockco.com.au/the-baltic-dry-index-has-capsized/>.

²⁰⁶ Reuters, 'Baltic Dry Index Hits 5-1/2 Year High', *gCaptain* (online, 15 July 2019) <gcaptain.com/Baltic-dry-index-hits-5-1-2-year-high/>.

²⁰⁷ Reuters, 'Baltic Dry Index Hits 5-1/2 Year High', *gCaptain* (online, 15 July 2019) <gcaptain.com/Baltic-dry-index-hits-5-1-2-year-high/>.

²⁰⁸ UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012) 49-50.

a subsequent drop in orders for new builds.²⁰⁹ Added to that are relatively new regulatory factors such as the ECAs (Emission Control Areas) defined under MARPOL Annex VI which currently limit the amount of permissible sulphur oxide and nitrogen oxide emissions from ship engines.²¹⁰ The levels of permissible emissions in ECAs are further decreasing in coming years, forcing older ships that operate in those areas to either retrofit expensive emission-reducing equipment, such as scrubbers, or to be scrapped in favour of newer, regulation-compliant vessels.²¹¹ The cheapest scrubber for a small vessel costs approximately US \$1.3 million and many ships need at least two, while larger vessels face proportionately greater costs.²¹² The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) which entered into force on 8 September 2017 posed similar problems, with owners facing estimated costs of at least US \$1 million per ship to be outfitted for ballast water treatment.²¹³ These changes and the coming into force of IMO 2020 on 1 January 2020, limiting sulphur emissions from fuel, again resulting in ship owners having to invest in scrubbers and/or purchase more expensive fuel,²¹⁴ combined with the current overcapacity foreshadow a further increase in ships to be recycled in the coming short term. The decrease in business for shipping has also reduced the price of new builds making them more attractive when compared with the maintenance, upkeep, and retrofitting costs of older ships. Although the European Union has listed an increased number of approved recycling facilities, the majority of the facilities can only recycle smaller or a limited number of vessels (Annexure 5). There is still not enough capacity for all ships to be scrapped in approved recycling facilities²¹⁵ and the coming increase in ships requiring scrapping will simply push more vessels onto the beaches.

²⁰⁹ HIS Markit, *Shipping and Shipbuilding 2019 Outlook* (Report, March 2019).

²¹⁰ *International Convention for the Prevention of Pollution from Ships (MARPOL)*, adopted on 2 November 1973, 1340 UNTS 184 (entered into force 2 October 1983) Annex VI Regulations for the Prevention of Air Pollution from Ships.

²¹¹ 'What is IMO 2020 and How Does it Impact Refiners?', *Hellenic Shipping News* (online, 6 October 2019) <<https://www.hellenicshippingnews.com/what-is-imo-2020-and-how-does-it-impact-refiners/>>.

²¹² Janina Pfalzer, 'Ship-Scrubbing Order Boom for Alfa, Waertsilae on Rules', *Bloomberg* (online, 19 March 2013).

²¹³ Rob Almeida, 'Ship owners and Crew Alike Find the Regulatory "Tsunami" a Big Problem', *gCaptain* (online, 21 May 2013) <<http://gcaptain.com/ship-owners-crew-alike-find-regulatory/>>.

²¹⁴ Wood McKenzie, 'Shippers Change Course As Fuel Rules Target Sulphur Emissions', *Forbes* (online, 18 October 2019).

²¹⁵ European Community Shipowners' Association, 'ECSA Asks For More Capacity On The EU Ship Recycling List' (Press Release, 26 September 2018) <https://www.ecsa.eu/press-releases/ecsa-asks-more-capacity-eu-ship-recycling-list>>.

These factors have combined to lead many owners to conclude it is more cost effective to buy a new ship at current lower prices and scrap the older ships – for which they get paid - than undertake the maintenance and retrofitting costs of keeping older ships in service. This is particularly the case if the economic climate is such that the older ship would have to be laid up for a period offering no or little income with increased expense. For example, more ships were laid up in 2010 than for the past twenty years,²¹⁶ although signs of cautious optimism have seen the number of laid up ships reduced from approximately 850 vessels in early 2018 to about 800 in March 2019.²¹⁷ In 2011 the total tonnage sold for recycling increased by 31 per cent as against 2010²¹⁸ and there was a further 75 per cent increase on that number in 2012.²¹⁹ The total annual gross tonnage sent for recycling increased from 16.3 million in 2002 to 25 million in 2011,²²⁰ peaking at 26 million in 2012²²¹ after the global financial crisis. The cautious optimism of the last two years mentioned above is also reflected in slowly dropping recycling numbers from 22.9 million GT in 2017 to 18.3 million in 2018. This declining trend must be viewed in light of the regulatory changes and current overcapacity that are expected to lead to increase ship recycling over the next few years.

All of this means that the shipping industry, which had already begun to turn its attention to the ship recycling sector in the late 1990s and early 2000s, has been pushed to confront the issue more quickly, as the scale of ship scrapping has grown and the associated environmental issues thereafter increase exponentially. However, this increased focus has occurred at a time of fiscal difficulty for the industry.²²² While attention is increasing currently, the money is not available to make change now and

²¹⁶ Maria Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, World Bank, December 2010).

²¹⁷ Maritime Cyprus Admin, 'Loss Prevention – Lay-up and Re-commissioning of Ships and Mobile Offshore Units', *Maritime Cyprus* (online, 21 March 2019) <maritimecyprus.com/2019/03/21/loss-prevention0pay-up-and-re-commissioning-of-ships-and-mobile-offshore-units/>.

²¹⁸ UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012) 49.

²¹⁹ *2012 List of European Shipping Companies that Sent Ships to South Asia* (Report, NGO Shipbreaking Platform, 2012) 1.

²²⁰ *Calculation of Recycling Capacity for Meeting the Entry into Force Conditions of the Hong Kong Convention*, Marine Environment Protection Committee, 67th sess, Agenda Item 3, MEPC 67/INF.2/Rev.1 (15 July 2014) 3.

²²¹ UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012).

²²² Funmi Afonja, *Global Ship Operators Scramble For Liquidity To Stay Afloat* (Report, Standard & Poor's Rating Services, 3 April 2013).

the industry has responded with future plans rather than current action. An example of this is the Hong Kong Convention, adopted in 2009 which currently only has five signatories and thirteen contracting states.²²³ Their combined merchant fleets constitute approximately 29.42 per cent of the gross tonnage of the world's merchant fleet and their recycling facilities' combined maximum annual ship recycling volume during the preceding ten years is a mere 0.44 per cent of their combined merchant shipping tonnage. The entry into force requirements are not less than fifteen contracting states whose combined merchant fleets constitute not less than forty per cent of the gross tonnage of the world's merchant shipping and whose combined maximum annual ship recycling volume during the preceding ten years constitutes not less than three per cent of their combined merchant shipping tonnage.²²⁴ Such slow ratification is a clear signal that an industry in financial distress will not voluntarily put itself under more pressure by acceding to more regulations or responsibility that will incur financial costs. Even the attempts to bring in safer ship scrapping for European ships have been met negatively by large flag state nations.²²⁵

2.1.7 Will the Problem Go Away in Future Ships?

Ship owners are also already under pressure concerning new builds. The enactment of ECAs has forced owners to consider emissions and prospective routes for ships when building. Import restrictions such as those into Europe mean only asbestos free ships can be imported, so ship owners now have to focus on each individual component of the build and check its composition. Regulations governing Inventories of Hazardous Materials (IHM) are in force and companies are creating systems enabling ship builders and owners to have at their fingertips the details of every component on their ship from the build, throughout its operating life until the day it is scrapped so that they can be compliant. The systems managing IHM are expensive to design, implement and maintain. "Collection/document analysis of the ship's information, preparation of visual/sampling check plan, onboard inspection, and preparation of the Inventory" alone can cost US \$30,000 - \$50,000 or more, plus

²²³ 'Status of Conventions', *International Maritime Organisation* (online, 31 October 2019) <<http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx>>.

²²⁴ *The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships*, opened for signature 15 May 2009 (not yet in force) art 17.

²²⁵ Katrine Gronvald Raun, 'They Said No to More Responsible Scrapping', *Shippingwatch* (online, 5 July 2013) <<http://shippingwatch.com/carriers/article5696692.ece>>.

sampling analysis costs,²²⁶ and must be conducted at least annually. Under the IHM requirements, asbestos is listed as a prohibited/restricted material.

While this method sounds as if it will keep future ships asbestos free, only 67 countries worldwide have banned the use of asbestos outright.²²⁷ Others have regulations requiring reporting of asbestos only if the asbestos content is over a certain percentage and still others have no reporting requirements at all.²²⁸ Ensuring a ship is asbestos free often means purchasing new components rather than recycled or reconditioned items, adding to the cost of the build. Even then, depending on where a ship is being built, the ship owner may think they are getting an asbestos free ship but that may not be the case. A study of eighty-one certified reports by HazMat Experts from Germanischer Lloyd comparing sample results of hazardous materials between new ships and ships in operation, showed a higher content of asbestos in new builds than that found in ships in operation.²²⁹ Clemens Smits of Netherlands-based asbestos specialist Ingenieursbureau Oesterbaai attended a Turkish ship yard and found asbestos in fifteen out of eighteen different types of gasket checked.²³⁰ This diagram from a Lloyds Register report on safely managing asbestos in ships demonstrates how difficult it is to be sure even a relatively recent new build is asbestos-free.²³¹

²²⁶ 'ClassNK Solution on Ship Recycling Convention', ClassNK (Publication)

<http://www.classnk.or.jp/hp/pdf/activities/statutory/shiprecycle/classnksolutionsr_e.pdf>.3.

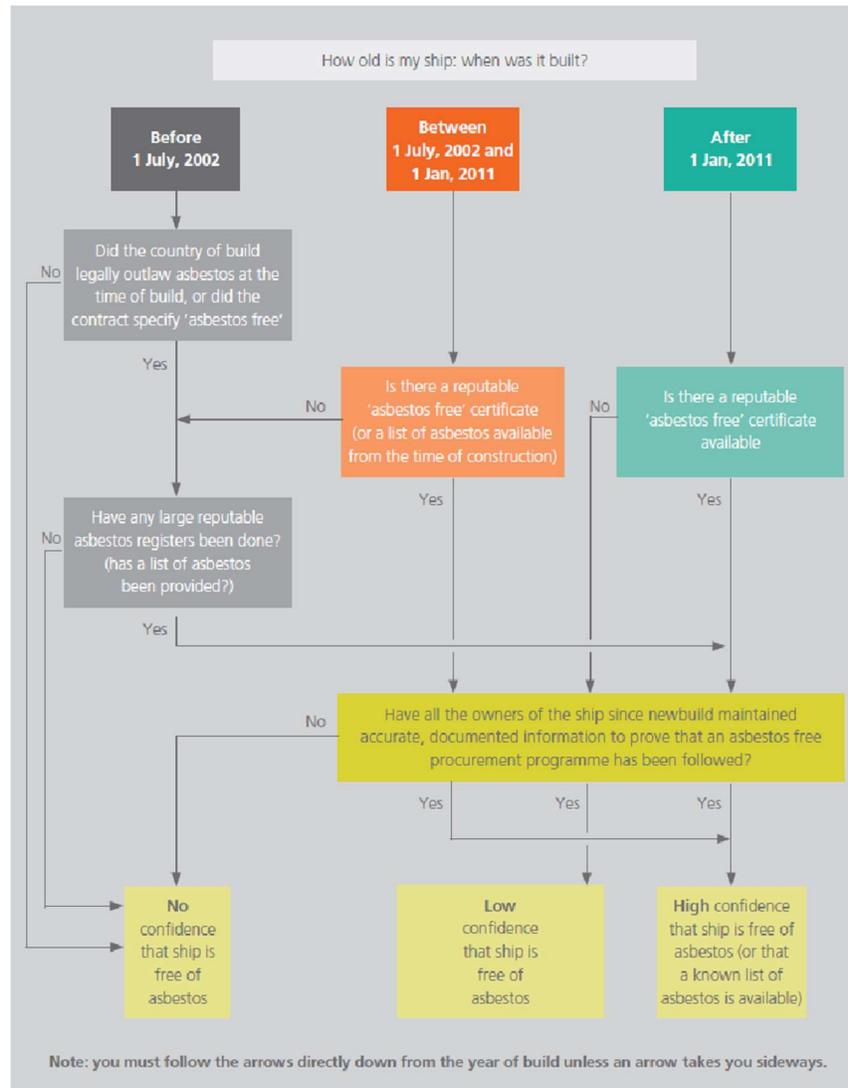
²²⁷ Laurie Kazan-Allan, 'Current Asbestos Bans', *International Ban Asbestos Secretariat* (Web Page, 15 July 2019).

²²⁸ Wendy Laursen, 'Asbestos-Free? Despite a Global Ban, Asbestos is Found on Ships of All Ages', *Maritime Executive* (online, 28 February 2013).

²²⁹ Rogge, 'Inventory of Hazardous Materials the Hazmat Expert Criteria and Acceptance' (Conference Paper, International Conference on Ship Recycling SHIPREC, 7-9 April 2013).

²³⁰ David Osler, 'DNV Surveyors Find Asbestos on More Newbuildings', *Lloyd's List* (online, 12 July 2010).

²³¹ Lloyd's Register, *Asbestos on Ships How to Manage it Safely* (Report, Lloyd's Register, 26 March 2013).



It is apparent that asbestos content is not disappearing from the shipping industry, even in new builds. It is also apparent that ship scrapping is occurring on a larger scale than ever before, and one unlikely to decrease in the immediate or medium-term future. Ship owners are forced to focus on and implement the asbestos content requirements in new builds. As they are set by current and enforceable regulations, breaches of these requirements can result in ship owners incurring penalties such as fines for importing asbestos products into Europe or lawsuits from workers exposed to asbestos. This is a clear example of how the most efficient method to effect cost-incurring changes in the industry is to put pressure on ship owners using mechanisms already in place and which cannot be avoided or put off: the use of current regulations

by which the ship owners and operators are already bound. Why then, is the industry not acting on ship scrapping and making changes there?

2.1.8 What Pollution Control Measures are in Place Around Ship Recycling?

The first practical guidance on ship recycling was only delivered in 2001 by the International Chamber of Shipping,²³² an industry trade association representing all sectors and trades and approximately eighty per cent of the world merchant fleet. At the IMO's 43rd Marine Environmental Protection Committee (MEPC) in 1999, Norway proposed a new work item on ship scrapping. At MEPC 44 a correspondence group was set up under the chairmanship of Bangladesh and at MEPC 46 in April 2001 a Working Group was established. In 2003 the Basel Convention parties published 'Technical Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships'. In December 2003, the IMO published 'Guidelines on Ship Recycling' based on the Industry Code of Practice and introduced the Green Passport concept while the International Labour Organisation (ILO) published 'Safety and Health in Shipbreaking: Guidelines for Asian Countries and Turkey' in 2004. The world's first 'Green Passport' was issued for the Shell LNG *Tanker Granatina* in 2004 and finally, the Hong Kong Convention was adopted in May 2009.

It is important to note that the Guidelines and Conventions explained above are either voluntary and not enforceable or not yet in force and not enforceable, therefore they have no authority to be binding and no consequences if not followed. They are also all focused on what the ship yard should do during the ship recycling process and do not impose obligations or liability on the ship owners. The expected entry into force date for the Hong Kong Convention, the latest regulatory attempt, was 2020 but at the end of 2019 this is looking extremely unlikely.

This thesis examines whether ship owners can be held accountable under current international law for harm caused by exposure to asbestos during ship recycling. Chapter 3 examines the legal principle supporting the idea that ship owners might have some accountability under the polluter pays principle, which holds polluters accountable for harm caused by their pollution. The chapter examines the polluter

²³² 'Industry Code of Practice On Ship Recycling', *International Chamber of Shipping* (Code of Practice, August 2001).

pays principle, which underpins many of today's international environmental law conventions and, particularly in relation to this thesis, the Basel Convention. The background to the polluter pays principle is explored through the philosophical and economic theories on which it is based, followed by an examination of its implementation in law. This leads to the role the polluter pays principle plays in international law and finally the discussion narrows to focus on the polluter pays principle and its relationship with ship recycling.

The application of the polluter pays principle to the process of ship recycling explores, in detail, both options of the ship yard and the ship owner in the role of polluter. The conclusion is that the polluter pays principle in its basic form, which requires enforcement by the state authority domestically, is not suitable for ship recycling. The detailed review of the polluter pays principle does show that, when the principle is extended as recommended by its proponents, the polluter pays principle would allow for liability to be drawn back to the original source of the pollution, in this case the ship owner. Various sectors of the shipping industry have proposed three international conventions based on the polluter pays principle as applicable to ship recycling: MARPOL,²³³ the Hong Kong Convention²³⁴ and the Basel Convention.²³⁵ The ship owners' convention of choice, MARPOL, is explored in Chapter 4 which examines its history and application and its suitability as a method of enforcing the polluter pays principle in ship recycling. It concludes that MARPOL is not the appropriate convention. Chapter 5 reviews the Hong Kong Convention before Chapter 6 begins the in-depth analysis of the Basel Convention and the second half of this thesis.

²³³ Argued by the Defence in the (District Court of Rotterdam, C-10/994550-15, ECLI: NL: RBROT:2018:2108, 15 March 2018).

²³⁴ *The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships*, opened for signature 15 May 2009 (not yet in force).

²³⁵ *Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 7th mtg, UNEP/CHW.7/33 (25-29 October 2004).

Chapter 3: The Polluter Pays Principle

3.1 Introduction

This thesis identifies whether ship owners can be held accountable under current international law for harm caused by exposure to asbestos during ship recycling. The legal principle supporting the idea that ship owners might have some accountability is the principle which holds polluters accountable for harm caused by their pollution: the polluter pays principle. This chapter examines the polluter pays principle which underpins many of today's international environmental law conventions, particularly the Basel Convention in the context of this thesis, exploring the philosophical and economic theories behind it and its implementation in law. This leads to the role of the polluter pays principle in international law specifically and finally the discussion narrows to focus on the polluter pays principle and its relationship to ship recycling. The polluter pays principle is applied to the process of ship recycling firstly, when the ship yard is viewed as polluter, and secondly, when the ship owner is viewed as polluter. The conclusion is that while the polluter pays principle in its basic form, which requires enforcement by the state authority domestically, is not suitable for ship recycling, the de Sadeleer extended view of the polluter pays principle does allow for liability to be attributed to the ship owner. The extended view supports defining the source of the pollution as the entity which has the most control over the creation of the pollution and therefore the entity best able to reduce the effect of the pollution. In this context there are three international conventions that have been proposed as applicable to ship recycling: MARPOL, the Basel Convention and the Hong Kong Convention.

Chapter 4 examines MARPOL, its history and application and suitability as a method of enforcing the polluter pays principle in ship recycling, ultimately determining that MARPOL is not the appropriate convention. It concludes with an analysis of the shipping industry's perspective of MARPOL and the Basel Convention in relation to ship recycling and demonstrates how the industry justifies preferring MARPOL as the applicable convention. Identifying the correct convention is critical as MARPOL attributes liability for the proper management of the ship as a harmful substance discharged during normal operations to the ship yard, while the Basel Convention holds the ship owner liable for the safe disposal of the harmful substances as the entity

responsible for the delivery of hazardous waste to the recycling yard. Chapter 5 goes on to explore the Hong Kong Convention, its purpose and the prospects of and difficulties with achieving ratification, concluding it is not an appropriate mechanism to achieve allocation and enforcement of liability against ship owners. The remainder of this thesis addresses the application of the Basel Convention as the only viable option. As indicated, however, this discussion first requires a detailed examination of the polluter pays principle.

3.2 The History Behind the Polluter Pays Principle

From a philosophical perspective, the community has an expectation that it is entitled to hold a person accountable for the consequences of their behaviour.²³⁶ This is based on the relationship between a subject who is responsible (the actor of the behaviour), an object for which that subject is responsible (the behaviour), and a body to whom that subject is responsible for that object (society).²³⁷ When the subject's behaviour is unlawful, accountability for the consequences of that behaviour is known as liability which carries with it a legal obligation for redress.²³⁸ If the behaviour has resulted in harmful consequences then redress can include compensation for damages caused, punishment for the infringement or both.²³⁹ Being held accountable for harm caused to others by one's actions is a long established, well enforced legal principle of both criminal²⁴⁰ and torts law.²⁴¹ This principle is also the foundation of the polluter pays principle which states that whoever is responsible for damage to the environment should bear the costs associated with it.²⁴² Many of the international conventions discussed below that implement the polluter pays principle are encoded into domestic criminal or torts legislation and impose criminal penalties.

²³⁶ Ronald Dworkin, *Justice for Hedgehogs* (Harvard University Press, 1st ed, 2011) 102–3.

²³⁷ Robin A Duff, 'Who's Responsible, for What, to Whom?' (2005) *Ohio State Journal of Criminal Law* 411, 442.

²³⁸ Renee S B Kool, '(Crime) Victims' Compensation: The Emergence of Convergence' (2014) 10(3) *Utrecht Law Review* 14, 16 [3.1].

²³⁹ René Lefeber, *Transboundary Environmental Interference and the Origin of State Liability (Developments in International Law)* (Springer, 1st ed, 1996).

²⁴⁰ Richard E Laster, 'Criminal Restitution: A Survey of Its Past History and An Analysis of Its Present Usefulness' (1970) 5(1) *University of Richmond Law Review* 71, 71–98.

²⁴¹ *Donoghue v Stevenson* [1932] AC 562.

²⁴² Adam Rogers, *Taking Action: An Environmental Guide for You & Your Community* (United Nations, 1st ed, 1995).

The polluter pays principle is based on environmental economics²⁴³ and application of the welfare theory to maximise sustainability. Pigou's welfare theory examined how externalities (costs or benefits that affect people who did not choose the cost or benefit) can be better allocated by the imposition of welfare taxes such as environmental taxes and subsidies.²⁴⁴ The theory of externalities holds that negative externalities occur when the extent of environmental damage caused by an economic activity is not truly reflected in the price of the economic activity and the result is an unfair benefit to the conductor of the activity.²⁴⁵ Pigou recommended a tax be instituted to redress the unfair benefit.²⁴⁶ In the case of pollution, a Pigovian tax would hold the polluter responsible for the external costs – costs that affect those who did not choose the cost - arising from its pollution and impose responsibility on the polluter for prevention and control of pollution.²⁴⁷ In 1972, the Organisation for Economic Cooperation and Development (OECD) in its Recommendations on Guiding Principles Concerning International Economic Aspects of Environmental Policies,²⁴⁸ melded these environmental and economic themes into the 'Polluter-Pays Principle'. As the OECD succinctly stated: "This Principle means that the polluter should bear the expenses of carrying out the [pollution control] measures decided by public authorities to ensure that the environment is in an acceptable state".²⁴⁹

In a legal context, the polluter pays principle is a principle for the allocation of the cost of pollution prevention and for liability and compensation for environmental damage.²⁵⁰ It declares that the producer of pollution should bear the costs of managing the pollution to reduce or negate the harm caused to society by that pollution. In practice, this has been achieved primarily through legislation which attempts to prevent harm

²⁴³ Daniel W Bromley and Jouni Paavola, *Economics, Ethics, Environmental and Policy Contested Choices* (John Wiley and Sons, 1st ed, 2002).

²⁴⁴ Thomas Aronsson and Karl-Gustaf Löfgren, 'Welfare Theory: History and Modern Results' (Research Paper No 726, Umeå Economic Studies, 2007).

²⁴⁵ Laura Centemeri, 'Environmental Damage as Negative Externality: Uncertainty, Moral Complexity and the Limits of the Market' (2009) 33(1) *As fundações institucionais da economia* 21, [10].

²⁴⁶ Bruce Yandle, 'Much ado about Pigou' (2010) 33(1) *Regulation* 2.

²⁴⁷ Maureen L Cropper and Wallace E Oates, 'Environmental Economics: A Survey' (1992) 30(2) *Journal of Economic Literature* 675, 675–740.

²⁴⁸ Recommendation of the Council on Guiding Principles concerning International Economic Aspects of Environmental Policies, OECD/LEGAL/0102, Annex (1).

²⁴⁹ Moffett J and Bregha F, 'The Role of Law in the Promotion of Sustainable Development' (1996) 6 *Journal of Environmental Law and Practice* 3.

²⁵⁰ Jonas Ebbesson and Phoebe Okowa, *Environmental Law and Justice in Context* (Cambridge University Press, 1st ed, 2002) 411.

from pollution both prospectively and retrospectively: prospectively by restricting where, when and how polluters manage their pollution and retrospectively by imposing penalties, both criminal and financial, for polluters that breach the legislation. Initial environmental policy focused on enforcing penalties to repair damage caused by pollution to return the environment to its prior state.²⁵¹ Application of this policy provided permission, albeit impliedly, for the pollution to occur initially and then focused on liability afterwards for the damage caused. Eventually it became clear this approach would not sufficiently protect the environment and the emphasis shifted to preventive measures, leading to a “radical transformation of classical legal systems [where] a duty of care replaces scientific and technical certainties, non-fault liability is transformed into strict liability, environmental taxes aim to encourage certain types of behaviour rather than to achieve a redistributive objective, continuous monitoring replaces long-term authorizations, and end-of-pipe solutions give way to best available technology”.²⁵² The polluter pays principle first entered international law in the *Trail Smelter* arbitral award²⁵³ in 1938 when Canada paid the United States of America \$350,000 for damage caused in the State of Washington by fumes discharged from the smelter of the Consolidated Mining and Smelting Company at Trail, British Columbia.²⁵⁴ Between 1994 and 2006, the polluter pays principle was incorporated by the OECD into the concept of Extended Polluter Responsibility (EPR) which seeks to transfer waste management responsibility from governments (and thus, taxpayers and the society at large) to waste-producing entities.²⁵⁵ The effect is to hold not just polluters responsible for the pollution caused by their activities but also to hold those whose activities produce waste responsible for managing that waste.

As the principles and theories underpinning the foundation of the polluter pays principle emphasise, its aim is to reduce negative externalities to neutral via the imposition of a combination of preventive taxes and subsidies and punitive fines and

²⁵¹ Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) Introduction [2.1].

²⁵² Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) Introduction [3.1].

²⁵³ Sanford E Gaines ‘The Polluter-Pays Principle: From Economic Equity to Environmental Ethos’ (1991) 26(1) *Texas International Journal* 463, 467–8.

²⁵⁴ *Trail Smelter Case (United States v Canada) (Awards)* (1938 and 1941) 3 RIAA 1905.

²⁵⁵ Ondřej Vicha, ‘The Polluter-Pays Principle in OECD Recommendations and Its Application In International And EC/EU Law’ (2011) 2 *Prague: Czech Society of International Law* 57.

compensation charges.²⁵⁶ Neutrality, or internalisation, is only achieved when a polluter bears all the costs arising from its pollution and no costs are being borne by the community.²⁵⁷ The two ways to be certain that prices reflect the true cost of production and consumption are to enforce taxes that correspond to the estimated economic value of the environmental damage and regulatory standards to prohibit or limit the damage associated with the activity creating the pollution.²⁵⁸ The taxes and regulatory standards must, by their nature, be determined and enforced by public authorities under a State jurisdiction. The main function of the polluter pays principle is to return a portion of the profits gained by the polluters to the public authorities who bear responsibility for inspecting, monitoring and controlling the pollution and ameliorating any damage or harm caused to members of the society within their jurisdiction.²⁵⁹ Where a multi-national or global industry is operating in a state of negative externalities, conventions can be agreed between affected nations and agreed taxes and regulatory standards incorporated into State legislation to enable effective enforcement to reach internalisation.

3.3 The Polluter Pays Principle and International Law

There are many examples of the polluter pays principle being implemented in international law. Toxic waste dumping in Africa is prohibited by the 1998 Bamako Convention²⁶⁰ which was actually drafted as a response to and application of Article 11 of the Basel Convention.²⁶¹ The United Nations Rio Declaration on Environment and Development directly addresses the polluter pays principle in Principle 16.²⁶² The polluter pays principle has been incorporated into many of the marine shipping industry

²⁵⁶ Mizan R Khan, 'Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change' (2015) 4(3) *Laws* 638.

²⁵⁷ Mizan R Khan, 'Polluter-Pays-Principle: The Cardinal Instrument for Addressing Climate Change' (2015) 4(3) *Laws* 638.

²⁵⁸ Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) 21.

²⁵⁹ Nicolas de Sadeleer, 'The Polluter-Pays Principle in EU Law – Bold Case Law and Poor Harmonisation' (2012) *Pro Natura: Festschrift Til H. C. Bugge, Oslo, Universitetsforlaget* 405.

²⁶⁰ *Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa*, opened for signature 30 January 1991, 2101 UNTS 177 (entered into force 22 April 1998) art 2.

²⁶¹ Bary Abdouraman, *Explore topics : the Bamako Convention*, United Nations Environmental Program. <<https://www.unenvironment.org/explore-topics/environmental-rights-and-governance/what-we-do/meeting-international-environmental>>.

²⁶² United Nations, *The Rio Declaration on Environment and Development*, United Nations Conference on Environment and Development (1992), principle 16.

conventions, including the London Convention on Dumping in 1996;²⁶³ The International Convention on Oil Pollution Preparedness, Response and Co-operation;²⁶⁴ The International Convention on Civil Liability for Oil Pollution Damage;²⁶⁵ The International Convention on Civil Liability for Bunker Oil Pollution Damage;²⁶⁶ and The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage and The HNS Convention.²⁶⁷ The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (the Basel Convention) is based on the polluter pays principle and the Guidance Document on the Preparation of Technical Guidelines for the Environmentally Sound Management of Wastes Subject to the Basel Convention specifically mentions the polluter pays principle as one of the principles to be considered in the Development of Waste and Hazardous Waste Strategies.²⁶⁸ However, the Basel Convention itself fell short of laying out specific liability provisions and acts “more like a code of conduct”,²⁶⁹ leaving it to individual countries to impose their own liability regimes.

The Basel Convention does provide for waste that is shipped in breach of the Convention to be returned to the state from which it was exported or, in the alternative, holds that state responsible for arranging and ensuring the safe disposal of the

²⁶³ *Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter*, opened for signature 29 December 1972, 1046 UNTS 120 (entered into force 30 August 1975), art 3(2).

²⁶⁴ *International Convention on Oil Pollution Preparedness, Response and Cooperation*, opened for signature London 30 November 1990, 1891 UNTS (entered into force 13 May 1995) “TAKING ACCOUNT of the “polluter pays” principle as a general principle of international environmental law” in Preamble.

²⁶⁵ *International Convention on Civil Liability for Oil Pollution Damage*, opened for signature 29 November 1969, 973 UNTS 3, (entered into force 19 June 1975), “Convinced of the need to ensure that adequate

compensation is available to persons who suffer damage caused by pollution” in Preamble.

²⁶⁶ *The International Convention on Civil Liability for Bunker Oil Pollution Damage*, opened for signature 23 March 2001, 973 UNTS 3 (entered into force 21 November 2008) “NOTING ALSO ... in order to provide adequate, prompt and effective compensation for damage caused by incidents in connection with the carriage by sea of hazardous and noxious substances” in Preamble.

²⁶⁷ International Maritime Organization, *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea*, opened for signature 3 May 1996, 35 ILM 1415 (not yet in force). “The HNS Convention aims to ensure prompt and effective compensation to those who have suffered from damage to person and/or property. This includes cost of clean up and economic losses resulting from the maritime transport of hazardous and noxious substances.”

²⁶⁸ United Nations, *Guidance Document on the Preparation of Technical Guidelines for the Environmentally Sound Management of Wastes Subject to the Basel Convention*, s 10(i).

²⁶⁹ Valentina O Okaru, ‘The Basel Convention: Controlling the Movement of Hazardous Wastes to Developing Countries’ (2011) 4(2) *Fordham Environmental Law Review* 137, 159.

hazardous waste at an appropriate destination. It also makes provision for the exporting state to then claim costs incurred from the commercial entity that was the original source of the hazardous waste material. Under the Basel Convention, a state which has received a shipment of hazardous waste in breach of the Convention can require the hazardous waste be returned to the state from which it came - the State of Export - if both are parties to the Convention. The source of the hazardous material must be an entity within the exporting state's jurisdiction at the time the hazardous waste was transported across the State of Export's boundary in breach of the Convention. The recipient state of the waste transported in breach of the Basel Convention cannot enforce a judgment for the breach against an entity in another jurisdiction so its only available remedy is the return of the waste to the State of Export. The burden then transfers to the exporting state to enforce liability for the breach against the entity that was the source of the pollution, under domestic legislation. It is unusual for the recipient state in ship recycling to declare that it has received a shipment illegally but it has happened where cases have been brought by environmental organisations to the national courts with jurisdiction over the ship recycling yards. Two such examples would be the French warship, *Le Clemenceau*,²⁷⁰ forced to return to France from India and finally recycled in England, and the more recent case of the *North Sea Producer* FPSO where the Bangladesh court declared the vessel had been sent to Bangladesh from the United Kingdom in breach of international law.²⁷¹ The United Kingdom, as the State of Export, is now investigating and is facing difficulty enforcing liability for the breach due to the complex ownership structures found in the shipping industry and the practice of using cash buyers,²⁷² as referenced throughout this thesis.

Different countries have implemented the polluter pays principle into their national legislation in different ways and to varying degrees as exemplified in the different domestic implementations of the Basel Convention obligations. For example, Australia

²⁷⁰ Marcos A Orellana, 'Shipbreaking and Le Clemenceau Row' (2006) 10(4) *American Society of International Law Insights* 1.

²⁷¹ Allister Thomas, 'Beaching of United Kingdom North Sea vessel in Bangladesh ruled as illegal', *Energy Voice* (online, 2019) <energyvoice.com/oilandgas/north-sea/212368/beaching-of-uk-north-sea-vessel-in-bangladesh-ruled-as-illegal/>.

²⁷² 'NGOs Win FPSO North Sea Producer Shipbreaking Case', *Maritime Executive* (online, 20 November 2019) <maritime-executive.com/article/ngos-win-fpso-north-sea-producer-shipbreaking-case>.

implemented the Basel Convention through the Hazardous Waste (Regulation of Exports and Imports) Act 1989 overseen by the Commonwealth Department of the Environment and Energy, breaches of which can incur various penalties including imprisonment and fines. Malaysia has similar punishments for breaches of its Environmental Quality (Scheduled Waste) Regulation 2005, supported by Custom (Prohibition of Export) 1998 and Custom (Prohibition of Import) 1998, overseen by the Royal Custom Department together with the Department of Environment.²⁷³ Europe is an example of effective enforcement of the polluter pays principle where, as early as 1975, the Council of the European Communities mandated Member States implement the polluter pays principle²⁷⁴ using standards and charges, or a possible combination of the two, as the major instruments of action available to public authorities for the avoidance of pollution.²⁷⁵ The charges are to encourage polluters, defined as someone who directly or indirectly damages the environment or who creates conditions leading to such damage,²⁷⁶ to reduce that pollution and to endeavour to find less polluting products or technologies.²⁷⁷

In 1990, Thomas Lindhqvist introduced the concept of Extended Polluter Responsibility (EPR) to Sweden and then into Europe: “Extended Producer Responsibility is an environmental protection strategy to reach an environmental objective of a decreased total environmental impact from a product, by making the manufacturer of the product responsible for the entire life-cycle of the product and especially for the take-back, recycling and final disposal of the product”.²⁷⁸ This is now often referred to as cradle to grave responsibility where companies recognise they are

²⁷³ Hafiz Isa, ‘Implementation of Basel Convention in Malaysia’ (Working Paper, Graduate School of Environmental Studies, February 2012).

²⁷⁴ 75/436/Euratom, ECSC, EEC COUNCIL RECOMMENDATION of 3 March 1975 regarding cost allocation and action by public authorities on environmental matters [1975] OJ L 194/1.

²⁷⁵ See *ibid* para 4.

²⁷⁶ *Ibid* para 3.

²⁷⁷ *Ibid* para 1.

²⁷⁸ Thomas Lindhqvist, ‘Mot ett förlängt producentansvar — analys av erfarenheter samt förslag’ [‘Towards an Extended Producer Responsibility — analysis of experiences and proposals’ in Swedish] (1992) Ds 1992:82, published by the Ministry of the Environment and Natural Resources, ‘Varor som faror — Underlagsrapporter’ [‘Products as Hazardous — background documents’ in Swedish].

The definition was published in English for the first time in: Thomas Lindhqvist, “Extended Producer Responsibility,” in the proceedings of an invitational seminar at Trolleholm Castle, 4-5 May 1992: ‘Extended Responsibility as a Strategy to Promote Cleaner Products’ edited by Thomas Lindhqvist, Department of Industrial Environmental Economics, Lund, June 1992.

ultimately responsible for the cost of recycling and final disposition of their products.²⁷⁹ It should be noted that the USA, fourth in the world's top ten ship owning nations, incorporated the cradle to grave philosophy into its legislation as early as 1976.²⁸⁰ Europe has been at the centre of many of the conventions listed and directives ensure Member States are quick to ratify agreements. Five of the world's top ten ship owning nations are in Europe: Greece, Germany, Norway, United Kingdom and Denmark, and are directly impacted by the various conventions incorporated into European legislation.²⁸¹ In response, the industry is working towards preventing the pollution from occurring altogether. This is evident in measures put in place to try to reduce the amount of hazardous substances in new builds, the enforcement of the requirement to provide inventories of hazardous materials (IHM)²⁸² so that hazardous substances can be disposed of safely where they have had to be incorporated, and the creation of the Hong Kong Convention for the Safe Recycling of Ships. However, while this all points towards an industry making an effort to reduce its hazardous substance content and therefore pollution in the future, it does not change the fact that there is still, as there has been for quite some time, severe damage being caused to both people and the environment by ships and ship recycling.

3.4 The Polluter Pays Principle and Ship Recycling

Currently, the real cost of the environmental damage is not reflected in the cost of ship recycling. When the current practices of ship recycling on the beaches of India, Pakistan and Bangladesh are examined in light of the polluter pays principle, it becomes immediately apparent that the industry generates significant negative externalities. That is, the situation that arises when activities cause environmental damage without that damage being reflected in their cost and the user or consumer of the service benefits from a market price that does not reflect the true cost of the economic activity. In the case of ship recycling, it is the ship owner who is benefiting

²⁷⁹ Marc Epstein, 'Environmentally Responsible Corporations' (1994) 75(10) *Management Accounting* 74.

²⁸⁰ *Resource Conservation and Recovery Act of 1976*, 42 U.S.C. § 6901 et seq (1976). (RCRA) gives EPA the authority to control hazardous waste from the "cradle-to-grave" "Summary of the Resource Conservation and Recovery Act 42 U.S.C. § 6901 et seq (1976) by United States Environmental Protection Agency <<https://www.epa.gov/laws-regulations/summary-resource-conservation-and-recovery-act>>.

²⁸¹ VesselsValue, 'Top 10 Ship Owning Nations 2018' (2018).

²⁸² The Marine Environment Protection Committee, *2015 Guidelines for the Development of the Inventory of Hazardous Materials*, Resolution MEPC.269(68) (adopted on 15 May 2015).

from a market price – the price received when a vessel is sold for recycling - that does not reflect the true cost of the activity, namely ship recycling. The polluter pays principle is designed to hold the polluter accountable for harm caused by its pollution and places the burden on the polluter and the State in whose jurisdiction the pollution occurs. Enforcement under this principle is by the State through domestic legislation to recover costs from the polluter to repair the polluted area and impose standards reducing the polluter's damage. If the elements of the polluter pays principle are applied directly to ship recycling, then "... the polluter [ship yard] should bear the expenses of carrying out the measures [pollution control] decided by public authorities [the State within whose national boundaries are those bearing the cost of the pollution] to ensure that the environment is in an acceptable state".²⁸³ It is true that the activities carried out by the recycling yard emit the hazardous substances that create the pollution so it can be argued that under the polluter pays principle the ship yard is theoretically responsible for taking measures to manage the waste and reduce the pollution caused by its activities. However, ship recycling is itself a waste management activity and the harmful substances that cause the pollution are not a waste product of the activity of ship recycling but rather substances that are released from the waste that is being recycled, the vessel itself.

This means that the ship yard and the process of recycling do not produce the hazardous substances that cause the pollution, they merely release those substances from the waste, namely the vessel, during recycling. While the rationale underlying the polluter pays principle is that those whose activities cause pollution should be responsible for cleaning it up or ensuring that their activities do not cause the pollution in the first place, it does not allow specifically for tracing liability back to the original Generator of the object that is the *source* of the pollution, only to the entity whose current activities are *releasing* the pollution.

However, de Sadeleer argues that "the polluter should be identified by calling on the principles of prevention and of rectification of pollution at source".²⁸⁴ He supports this

²⁸³ Jean-Philippe Barde, 'Economic Instruments in Environmental Policy: Lessons from the OECD Experience and their Relevance to Developing Economies' (OECD Development Centre Working Paper/92, OECD, 1 January 1993) 5.

²⁸⁴ Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) para 4.1.1–45.

view by pointing out that the preferred option is to identify and charge the economic agent at the source of a nuisance, as it is they who have control over the nuisance. He recommends following the product chain as far upstream as possible to identify the economic agent without whose action the nuisance could not have occurred.

The producer of the product containing the harmful substances that cause the pollution is the individual best placed to bear the expense of pollution prevention and control. This is the individual who will make 'the most effective contribution towards improving the environment' when obliged to assume responsibility for prevention and elimination costs: it is not the driver but the manufacturer of the motor vehicle who should pay a charge, to the extent that the latter is the only party able to control the technology that would make possible reductions of polluting emissions to air.²⁸⁵ In the same way, while recycling yards can work to better manage the pollution released from ships, they have no control over the amount of harmful pollution-causing substances that are within the ships they recycle – that can only be controlled by the ship owners. From a preventive viewpoint, holding ship recycling yards to account for something over which they have no control can only be addressing the symptom and not the cause. The best way to apply the polluter pays principle to ship recycling is to declare the ship owner, as polluter, should bear the expenses of carrying out the pollution control measures decided by the State within whose national jurisdiction are those bearing the cost of the pollution, to ensure that the environment is in an acceptable state. This approach is supported by the cradle to grave philosophy of the EPR principle which allocates waste management responsibility to waste-producing entities. In ship recycling the vessel is the waste, the waste-producing entity is the ship owner and the waste management facility is the ship recycling yard.

Regardless of who is identified as responsible for the harmful substances that cause the pollution there still remains one major obstacle in the application of the polluter pays principle to ship recycling. Under the polluter pays principle enforcement powers lie with the State within whose jurisdiction the harm occurs to recover costs from the polluter to repair the polluted area and impose standards reducing the polluter's

²⁸⁵ Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) para 4.1.1–45.

damage through domestic legislation. Whether the polluter is deemed to be the recycling yard or the ship owner, enforcement this way in ship recycling is a problem.

3.5 The Ship Yard as Polluter

Over 70 per cent of the world's ship recycling takes place on the beaches of India, Pakistan and Bangladesh.²⁸⁶ If the polluter is held to be the recycling yard then it will be up to the State authorities of the countries where the ship yards are located to create and enforce domestic legislation to recover costs from the ship recycling yards to: repair the polluted areas around the recycling yards; assist with compensating people who have been harmed by the harmful substances released through the activities in the ship recycling yards; and impose standards upon the yards to change their practices in order to reduce the environmental harm caused by their activities. In 2010 the average profits from recycling a sample ship (a Panamax tanker) were estimated at approximately US \$921,000 in Bangladesh and US \$164,000 in Pakistan. The difference in profits can be traced back to higher taxes, better equipment and training and higher labour costs in Pakistan.²⁸⁷ Although this should make the workers in Pakistan more efficient, it is not enough to counter the effect of the increased costs on profit margins. Ship recycling is a highly competitive industry between the yards in the three major countries²⁸⁸ and this has only increased since China banned recycling of externally flagged vessels at its ship recycling yards from the end of 2018.²⁸⁹ Any effort by state authorities to increase costs to the industry, be it by increasing wages or requiring better working conditions, is met with resistance and has thus far failed.²⁹⁰ On occasions where court orders have been issued to enforce better conditions, failures to comply have had little to no consequence.²⁹¹ Legislating better working

²⁸⁶ UNCTAD, *Review of Maritime Transport 2018* (Review Paper, UNCTAD/RMT/2018) 37.

²⁸⁷ Maria Sarraf et al, *Ship Breaking And Recycling Industry In Bangladesh And Pakistan* (Report No 58275-SAS, International Bank for Reconstruction and Development, December 2010).

²⁸⁸ Yogesh Shah et al, *Ship Breaking Industry - Challenges Ahead* (Report, CARE Ratings Ltd Professional Risk Opinion, 31 July 2018).

²⁸⁹ Economic Times Bureau, 'Ship-breaking Players to Profit due to Pressure on Shipping Industry', *Economic Times* (online, 3 October 2018) <<https://economictimes.indiatimes.com/industry/transportation/shipping-/-transport/ship-breaking-players-to-profit-due-to-pressure-on-shipping-ndustry/articleshow/66058393.cms?from=mdr>>.

²⁹⁰ Shipbuilding News, 'Ship Recycling: 193 Ships Sold For Demolition During Second Quarter', *Hellenic Shipping News* (online, 9 July 2019) <<https://www.hellenicshippingnews.com/ship-recycling-193-ships-sold-for-demolition-during-second-quarter/>>.

²⁹¹ 'Press Release - Bangladesh High Court Issues Contempt Rule Against 14 Government Officials: Ministries and Shipbreakers Asked to Account for Non-compliance with 2009 Judgement', *NGO Shipbreaking Platform* (online, 12 April 2016) <<https://www.shipbreakingplatform.org/press-release->

conditions and practices to reduce harm to both people and the physical environment is a double edged sword for State authorities which receive vast sums in taxes from the industry. For example, "... Bangladesh earns at least US \$24 million annually from tax and duties related to ship scrapping".²⁹² Any effort made to change business practices that reduces profits means a reduction in taxes paid to the State. The ship yards make their profits by selling everything they can recover from the vessel through the recycling process.²⁹³ Anything that increases their costs will reduce their profit margins and any effort to reduce what they pay to the ship owner to purchase a vessel in the first place makes them non-competitive in relation to the other ship yards and simply means they will lose the business.

The economist Pigou argued that those sorts of costs should be integrated into the price of a good or service and therefore paid by the person receiving the benefit which, in the case of ship recycling, would be the ship owner. Maersk has been encouraging Indian ship yards to improve their recycling practices and to achieve this, states that it has accepted reductions of up to 40 per cent on the price it receives for its ships²⁹⁴ but not many ship owners – or their shareholders - would find that acceptable. This means there is little to no incentive to either the ship yards or the State authorities within whose jurisdiction the yards are located to impose taxes or standards, as the ultimate consequence is to place the ship yards within the jurisdiction in a non-competitive position and price them out of the market which further reduces the monies received by the State. This negates the point of the polluter pays principle whose sole aim is to enable the State authority to recoup costs from the polluter to ameliorate the harm caused by the pollution.

If the net effect of the measures taken is to reduce the monies received by the State overall then the result is a failure. The importance of the revenue received by the local area and the State from ship recycling activities has even been formally recognised by

bangladesh-high-court-issues-contempt-rule-against-14-government-officials-ministries-and-shipbreakers-asked-to-account-for-non-compliance-with-2009-judgement/>.

²⁹² Andreas Bargfried, 'The Economics of Ship Breaking & Scrapping', *MarineLink* (online, August 2016) <<https://www.marinelink.com/news/economics-scrapping414382>>.

²⁹³ Maria Sarraf et al, *Ship Breaking And Recycling Industry In Bangladesh And Pakistan* (Report No 58275-SAS, International Bank for Reconstruction and Development, December 2010).

²⁹⁴ 'The World's Biggest Ship-Breaking Town is Under Pressure to Clean Up', *The Economist* (online, 7 March 2019) <<https://www.economist.com/business/2019/03/07/the-worlds-biggest-ship-breaking-town-is-under-pressure-to-clean-up>>.

the courts. One such example is the case of the Norwegian vessel, the *Blue Lady*,²⁹⁵ where the Indian Supreme Court considered the competing claims put forward by NGOs and local villagers concerned by the environmental impact and asbestos content of the ship against the economic concerns of ship yards and owners. The Court recognised the precautionary principle and polluter pays principle are well settled as part of the concept of sustainable development and govern the law in India but concluded:

“It cannot be disputed that no development is possible without some adverse effect on the ecology and the environment, and the projects of public utility cannot be abandoned and it is necessary to adjust the interest of the people as well as the necessity to maintain the environment. A balance has to be struck between the two interests. Where the commercial venture or enterprise would bring in results which are far more useful for the people, difficulty of a small number of people has to be bypassed. The comparative hardships have to be balanced and the convenience and benefit to a larger section of the people has to get primacy over comparatively lesser hardship.”²⁹⁶

It was estimated that dismantling of the vessel would provide seven hundred new jobs and 41,000 tonnes of steel²⁹⁷ which was openly acknowledged as more valuable to the community despite the harm caused, further perpetuating the state of negative externalities.

It is a good example of the Coase theorem²⁹⁸ in that ship recycling is causing pollution that is a cost to the people and the environment around it such that the interests of the

²⁹⁵ *Research Foundation for Science Technology and Natural Resource Policy v Union of India and Others* [2007] 15 SCC 193 (11 September 2007).

²⁹⁶ *Research Foundation for Science Technology and Natural Resource Policy v Union of India and Others* [2007] 15 SCC 193 (11 September 2007), para 35.

²⁹⁷ *Research Foundation for Science Technology and Natural Resource Policy v Union of India and Others* [2007] 15 SCC 193 (11 September 2007), para 7.

²⁹⁸ The Coase Theorem states that "if trade in an externality is possible and there are no transaction costs, bargaining will lead to an efficient outcome regardless of the initial allocation of property rights" i.e. when conflicting property rights occur, bargaining between the parties involved will lead to an

industry and those affected by it are clearly in conflict. If the two parties were forced to bargain, it is likely the industry would find it more efficient to compensate those affected by its pollution than to stop operating but this would only happen if those affected by the pollution could demonstrate they are suffering a cost, have a right to be compensated and could enforce that right. Past efforts to enforce such a right have not been particularly successful as seen in the case of the *Blue Lady*. Both the ship yards and the State have proved reluctant to risk losing income and business by reflecting the true cost of ship recycling in their prices and passing the cost on to the beneficiary of the current unrealistically low price, the ship owner. Unless all the countries participating in ship recycling take the same steps simultaneously, the first country to take such measures will risk giving away its market share to its competitors. This was proven in the past under the effect of the budget announcements in Pakistan, where negative effects were expected to outweigh the positive effects on the ship recycling industry there. The consequences were a reduction in ship recycling to the point of almost complete inactivity in Pakistan, allowing India to reap the benefits of the newly available business.²⁹⁹ Expecting polluter pays principle-oriented regulation in the state of recycling is thus both unrealistic and likely to be ineffective.

3.6 The Ship Owner as Polluter

Can the polluter pays principle be applied directly to the ship owner as polluter? Enforcement against the polluter by State authorities under the polluter pays principle is no less problematic if the ship owner is considered the polluter. National authorities will obviously have difficulty in enforcing their own domestic legislation concerning local environmental damage against non-resident international shipping companies which reside beyond their jurisdiction. The imposition of standards or charges upon vessels being brought into the ship yards for recycling has the same effect as imposing taxes or standards directly upon the ship yards: it simply prices that State's yards out of the market unless its competitors take the same steps. The only way to bring the burden to bear on the ship owners is to have a penalty or incentive that has

efficient outcome regardless of which party is ultimately awarded the property rights, as long as the transaction costs associated with bargaining are negligible.

²⁹⁹ Nikos Roussanoglou, 'Demolition Market Looking for Direction by Potential Duties Levied on Ship Breaking Activity', *Hellenic Shipping News* (online, 21 June 2019) <hellenicshippingnews.com/demolition-market-looking-for-direction-by-potential-duties-levied-on-ship-breaking-activity/>.

international reach. This is an extension of the polluter pays principle, whose purpose is to enable the State to deal with harm caused by activities within its jurisdiction so as to be able to ameliorate the effects of that harm. However, it cannot be denied that the source of the hazardous substances that cause the pollution is the vessel and the source of the vessel is the ship owner, not the ship yard. The various liability conventions in international law attempt to enable enforcement of the polluter pays principle under private law but can fall short of providing full compensation if the liability of the operator cannot be established or has been limited.³⁰⁰ That this might occur is clearly contemplated as a real and even frequent prospect in the guidance manuals provided by the Basel Convention committees for parties implementing the Basel Convention into domestic legislation. In the Guidance manual for provisions dealing with illegal traffic there is an entire section on situations where responsibility for the illegal traffic cannot be assigned due to an inability to allocate responsibility to either the Exporter, Generator, importer or Disposer.³⁰¹ Examples of how this could occur have been provided in Annexure 1 as shown in the Guidance manual. De Sadeleer has proposed that in such cases, the source State could be held liable on a residual basis, as it has the option of seeking redress from the source within its own jurisdiction.³⁰² To do this, one needs an international convention that enables pursuit of the owner of the vessel and identification of the source state in which that owner is located.

3.7 Conclusion

The primary view of the shipping industry is that pollution caused by the release of hazardous substances from vessels during ship recycling processes is the concern of the State in whose jurisdiction the recycling yard is located and that this is a polluter pays principle matter to be addressed through domestic legislation. In light of the above discussion it is clear that such a path will be extremely difficult to implement due to a combination of political, social and economic factors and that this solution does not address the true source of the pollution nor return the state of negative

³⁰⁰ René Lefeber, *Transboundary Environmental Interference and the Origin of State Liability (Developments in International Law)* (Springer, 1st ed, 1996) 299–303.

³⁰¹ Committee Administering the Mechanism for Promoting Implementation and Compliance, *Guidance on the implementation of the Basel Convention provisions dealing with illegal traffic (paragraphs 2, 3 and 4 of Article 9)*, UNEP/CHW.13/9/Add.1/Rev.1 (24 April–5 May 2017) [118].

³⁰² Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* (Oxford University Press, 1st ed, 2002) 25.

externalities to neutral. However, three international conventions have been put forward as appropriate for seeking redress from ship owners with respect to ship recycling: MARPOL,³⁰³ the Hong Kong Convention³⁰⁴ and the Basel Convention.³⁰⁵

The Basel Convention for the Control of Transboundary Movement of Hazardous Substances is the convention of choice for NGOs, environmental activists and others for holding ship owners liable for harm caused by exposure to hazardous substances during the process of ship recycling. The reason the Basel Convention is preferred is that the majority of vessels have to travel across one or more jurisdictions to reach the ship recycling yards in India, Pakistan and Bangladesh which means that they conform with the requirement of a transboundary movement. It has never been in dispute that ships contain a variety of hazardous substances including lead, cadmium, PCBs and asbestos to name but a few. However, there some problems are encountered when applying the Basel Convention to the ship recycling process.

One such issue relates to enforcement of the Basel Convention which requires the State of Export to take back any hazardous substance or waste containing hazardous substance that has been sent for disposal in breach of the Convention. This requirement aligns with de Sadeleer's suggestion that the source state of the hazardous substances that cause the pollution should be held liable under the polluter pays principle in instances where the source polluter cannot be completely identified or from whom full compensation cannot be obtained. Identification of the State of Export under the Basel Convention in relation to ship recycling is a matter of dispute.³⁰⁶ Another disputed issue in relation to applying the Basel Convention to ship recycling is whether a vessel on its way to being recycled, in other words on its end of life journey, is waste or a ship. The shipping industry is generally of the view of that a vessel on its end of life journey is a ship and not waste and, therefore, the Basel

³⁰³ See Defence argument in (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

³⁰⁴ *The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships*, opened for signature 15 May 2009 (not yet in force).

³⁰⁵ Secretariat for the Basel Convention at the seventh meeting of the Conference of the Parties in 2004.

³⁰⁶ Gabriela Argüello Moncayo, International Law on Ship Recycling and its Interface with EU Law (2016) 109 *Marine Pollution Bulletin* 301–309.

Convention does not apply³⁰⁷ and MARPOL is the appropriate convention.³⁰⁸ This excludes the Basel Convention which cannot apply to circumstances where MARPOL is already applicable as it specifically excludes wastes discharged by ships during normal operations.³⁰⁹

Chapter 4 examines the application of MARPOL to ship recycling and concludes with an analysis of the shipping industry's perspective of MARPOL and the Basel Convention, explaining how the industry justifies preferring MARPOL as the applicable convention while providing commentary on the conflict this creates. The argument put forward is that a vessel on its end of life journey cannot be waste while it is a functioning ship. However, in order to make MARPOL applicable to ship recycling, ship recycling must be defined as a method of managing shipping-related waste and, under this logic, the waste in question must be the ship. Thus, in order to apply MARPOL to ship recycling it is necessary to concede that a vessel for recycling *is* waste. Once it is seen, as demonstrated in the Chapter 4 discussion, that MARPOL cannot apply for other reasons, the industry is faced with the conundrum of having conceded that the vessel is waste which brings it firmly back within the ambit of the Basel Convention. This circular and self-destructive argument is explored and explained in Chapter 4. Given MARPOL theoretically attributes liability for the proper management of the ship as a harmful substance discharged during normal operations to the ship yard and the Basel Convention holds the ship owner liable for the safe disposal of the harmful substances, identifying which convention is actually applicable to ship recycling is critical.

The Hong Kong Convention for the Safe Recycling of Ships was created by the shipping industry as a means of achieving environmentally safe recycling of ships but has yet to enter into force and has its own pitfalls. Chapter 4 reviews MARPOL and Chapter 5 examines the Hong Kong Convention to assess their applicability to ship

³⁰⁷ See Tony George Puthucherril, 'Two Decades of the Basel Convention' in Shawkat Alam et al, *Handbook of International Environmental Law* (Routledge, 2012) 308.

³⁰⁸ Tony George Puthucherril, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2010) 113.

³⁰⁹ "Wastes which derive from the normal operations of a ship, the discharge of which is covered by another international instrument, are excluded from the scope of this Convention" *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, opened for signature 5 May 1992, 1673 UNTS 57 (entered into force 5 May 1992) art 1(4).

recycling before concluding neither will assist in restoring the current state of negative externalities to neutral. The remainder of this thesis addresses and resolves the application of the Basel Convention to ship recycling.

Chapter 4: MARPOL

4.1 Introduction

As highlighted in the two previous chapters, the shipping industry has proposed that MARPOL is more applicable to ship recycling than the Basel Convention. This chapter examines whether MARPOL can be applied successfully to the ship recycling process. The chapter begins with a brief overview of the history of MARPOL to identify its original purpose by exploring how and why it came into being. This is followed by a review of the text itself to determine if and how the elements of the ship recycling process, particularly harm caused by exposure to asbestos, fit into the structure of MARPOL. The last section of this chapter reflects on and attempts to reconcile the conflicting perspectives of MARPOL and the Basel Convention put forward by the shipping industry.

4.2 The History of MARPOL

Initially adopted in 1973, the International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships. It comprises regulations aimed at preventing and minimising pollution from ships, both accidental and that discharged during routine operations, and originally included technical Annexes I - V. MARPOL was absorbed by the Protocol of 1978 which was adopted in response to a series of tanker accidents in the United States and the combined instrument, usually referred to as MARPOL 73/78, entered into force in 1983. MARPOL was amended by a further Protocol and a new Annex VI in 1997.

Ships produce various substances during their normal operations that must be either discharged from the ship into the ocean, incinerated or disposed of at port-based reception facilities. These regular discharges include oil, ballast water, bilge water, tank washings (oily water), oily sludge, sewage (black water), garbage and grey water. Bilge water, tank washings and oily sludge all contain waste oil. Oily sludge which accumulates at the bottom of fuel tanks may only be disposed of at port-based facilities but bilge water and tank washings can be discharged into the ocean in

controlled concentrations and amounts.³¹⁰ In 2007 the European Environment Agency estimated between 1 and 3 million tonnes of oil enters the global marine environment annually, of which 24 percent is from marine transport (18 percent from operational ship discharges and 6 percent from accidental spills).³¹¹ Efforts have been made to reduce this but, so far, there is insufficient information to reach a conclusion on the trends and effectiveness of the measures employed.³¹² This danger of oil pollution from routine shipboard operations such as the cleaning of cargo tanks is not new but, in fact, has been an issue of concern for many decades³¹³ and the International Convention for the Prevention of Pollution of the Sea by Oil was instituted in response as early as 1954 (OILPOL 1954). It contained provisions assigning responsibility for certain functions to the IMO which came into being in 1958, just a few months before the OILPOL convention entered into force. OILPOL 1954 was managed through the IMO Maritime Safety Committee and prohibited the dumping of oily wastes within a certain distance from land and in defined special areas where the danger to the environment was deemed especially acute.³¹⁴

Accidental oil spills are not a new phenomenon either and have been occurring since ships started transporting oil. In 1907 the only 7-masted schooner ever built,³¹⁵ the Thomas W. Lawson, was carrying 2 million gallons of oil from Philadelphia to London when she was wrecked near the coast of England after battling three storms across the Atlantic. She lost her entire cargo and is generally viewed as the first recorded large oil spill.³¹⁶ The first more modern major maritime incident involving an oil spill occurred in 1967, when the Torrey Canyon ran aground while entering the English Channel and spilled her entire cargo of 120,000 tons of crude oil into the sea. Oil slicks

³¹⁰ Arctic Council, *Discharges from Ships in the Arctic* (Arctic Marine Shipping Assessment Report, 2009).

³¹¹ European Environment Agency, *Europe's Environment – The Fourth Assessment* (State of the Environment Report, 2007) 232.

³¹² OSPAR Commission, *Assessment of the Impacts of Shipping on the Marine Environment* (Report No 440, 2009) 18.

³¹³ Angela Carpenter, 'Oil pollution in the North Sea: the Impact of Governance Measures on Oil Pollution over Several Decades' (2018) 845(1) *Hydrobiologia* 109.

³¹⁴ International Maritime Organization, 'Background', *IMO* (Web Page, 2019) <<http://www.imo.org/en/OurWork/Environment/PollutionPrevention/OilPollution/Pages/Background.aspx>>.

³¹⁵ Trevor J Kenchington, 'Book Review: Ship: The Epic Story of Maritime Adventure' (2005) 17(1) *International Journal of Maritime History* 291, 291–3.

³¹⁶ Gary Shigenaka, 'The Wreck of the Thomas W. Lawson: The "First" Large Oil Spill' (2017) 18(1) *Oil Industry History* 1, 1-6.

thirty-five miles long, fifteen miles wide and ten inches thick in places threatened the English coast with an environmental disaster on a never before seen scale. Although emulsifier was being sprayed onto the spill and visibly reducing it, gale force winds drove the oil inshore, coating the beaches. Eventually government authorities ordered the Royal Navy to bomb the vessel to burn the remaining oil onboard the wreck. However, the detergents and other emulsifiers proved acutely toxic to many marine mammals and plants, worsening the long-term environmental impact. The enormous growth in the maritime transport of oil and the size of tankers, the increasing amount of chemicals being carried at sea and a growing concern for the world's environment as a whole led to the 1973 conference to adopt a completely new convention which would incorporate the regulations contained in OILPOL 1954 – the 1973 MARPOL Convention.

MARPOL 1973 was primarily focused on harmful substances discharged during normal ship operations and was slow to come into force until a spate of ten tanker accidents³¹⁷ in the United States between 15 December 1976 and 26 February 1977.

	Date	Tanker	Event
1	15 December 1976	Argo Merchant	Ran aground on and later broke apart off Nantucket Island, Massachusetts, spilling 7.6 million gallons of heavy fuel oil
2	17 December 1976	<i>Sansinena</i>	Exploded in Los Angeles Harbor, California, spilling 1.3 million gallons of heavy oil. Nine crew were killed and 46 people were injured
3	24 December 1976	<i>Oswego Peace</i>	Spilled 5,000 gallons of bunker fuel into New London Harbor, Connecticut
4	27 December 1976	<i>Olympic Games</i>	Ran aground in the Delaware River, south of Philadelphia Pennsylvania, spilling 145,000 gallons of crude
	4 January 1977	<i>Universe Leader</i>	Ran aground in the Delaware River, New Jersey loaded with 21 million gallons, but was refloated without a spill
6	4 January 1977	<i>Grand Zenith</i>	Lost with all hands off the coast of New England loaded with 8 million gallons of oil
7	10 January 1977	<i>Chester A. Poling</i>	Broke in half and sank off Gloucester, Massachusetts. It had just discharged its cargo and was only carrying ballast but still spilled 14,000 gallons of diesel and one crew member was killed

³¹⁷ International Maritime Organization, 'International Convention for the Prevention of Pollution from Ships (MARPOL)', *IMO* (Web Page, 2019) <[http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-\(MARPOL\).aspx](http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/International-Convention-for-the-Prevention-of-Pollution-from-Ships-(MARPOL).aspx)>.

	Date	Tanker	Event
8	17 January 1977	<i>Irene's Challenger</i>	Loaded with 9.6 million gallons of crude oil, broke apart and sank near Midway Island in North Pacific Ocean. Three crew were lost
9	2 February 1977	<i>Ethel H</i>	Spilled 480,000 gallons of crude oil into New York Harbor
10	26 February 1977	<i>Hawaiian Patriot</i>	Broke apart and sank off Hawaii, spilling 31 million gallons of crude oil. This is still considered the largest tanker spill in United States waters. ³¹⁸

These incidents led to the National Oceanic and Atmospheric Administration's (NOAA) spill response program and demands for more stringent action to curb accidental as well as operational oil pollution. The United States asked the IMO Council to consider adopting further regulations on tanker safety which led to the Conference on Tanker Safety and Pollution Prevention in February 1978. One month after the 1978 Conference the Amoco Cadiz ran aground off Brittany in France's worst oil spill. All 223,000 tons of crude oil onboard were lost, covering more than one hundred and thirty beaches in oil up to 30 cm thick.

These events propelled governments to action and the MARPOL 73/78 Convention came into force on 2 October 1983, introduced by Parties who recognised the need to protect the marine environment and further improve the prevention and control of marine pollution from ships, particularly the prevention of pollution by oil from oil tankers.³¹⁹ MARPOL 73/78 contains the original OILPOL 1954 convention text with amendments and six technical Annexes. Further, Protocol 1 provides regulations aimed at preventing accidental pollution and pollution from routine operations. These are regularly updated via a simplified amendment procedure,³²⁰ the most recent being Marine Environment Protection Committee (MEPC) amendments to Annex VI, coming

³¹⁸ Doug Helton, '1976: A Winter of Ship Accidents', *Office of Response and Restoration* (Web Page, 10 November 2016) <<https://response.restoration.noaa.gov/oil-and-chemical-spills/significant-incidents/argo-merchant-oil-spill/1976-winter-ship-accidents.htm>>.

³¹⁹ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983).

³²⁰ James Harrison, *Making the Law of the Sea: A Study in the Development of International Law* (Cambridge University Press, 2011) 158-164.

into force January 2019,³²¹ September 2019³²² and March 2020.³²³ In all, MARPOL was created to address pollution of the marine environment by harmful substances, primarily oil, discharged from ships through normal operational practices or accidental spills.

4.3 MARPOL Structure and Application

While a review of MARPOL's history provides insight into the intention behind its creation, it is equally important to examine how that intention has been realised through its text and application. As with any legislation, a good starting point is the Definitions, found in Article 2. The definition of harmful substance limits application of MARPOL to substances that are liable to be hazardous to human health, living resources and marine life when introduced into the sea.³²⁴ Under MARPOL those substances must be introduced into the sea via discharge, which includes any release howsoever caused *from a ship* including escape, disposal, spilling, leaking, pumping, emitting or emptying.³²⁵ MARPOL also provides a definition of ship, limited to a vessel of any type operating in the marine environment.³²⁶ Although the term marine environment is not defined, it can be taken to mean sea and not inland waters such as rivers or lakes, as the definition of harmful substance in MARPOL refers to

³²¹ *Resolution MEPC.286(71)*, adopted on 7 July 2017 (entered into force 1 January 2019).

³²² *Resolution MEPC.301(72)*, adopted on 13 April 2018 (entered into force 1 September 2019): amending Regulation 13 on the control of nitrogen oxide emissions from ships.

³²³ *Resolution MEPC.305(73)*, adopted on 26 October 2018 (not yet in force) amending Regulation 14 on the control of sulphur oxide emissions from ships.

³²⁴ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 2(2).

"Harmful substance" means any substance which, if introduced into the sea, is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea, and includes any substance subject to control by the present Convention.

³²⁵ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 2(3)(a).

"Discharge", in relation to harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying.

³²⁶ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 2(4).

"Ship" means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.

substances introduced into the sea³²⁷ and the incidents governed by MARPOL are described as relevant events of discharge into the sea.³²⁸ This confirms that the application of MARPOL is restricted to substances liable to be harmful when introduced into the sea via discharge from a vessel operating in the sea.

To be operating, the vessel must be performing a specific function in a marine environment and the harmful substance must be accidentally or purposefully discharged from the ship during its performance of the specified function in that environment. Article 5 requires ships under MARPOL to hold a valid certificate which is a certificate issued by a Classification Society or other body under the authority of a party to MARPOL³²⁹ that declares a ship is seaworthy to perform a prescribed set of functions and when a ship is carrying out activities related to its prescribed set of functions, it is in operation, also known as in Class. Article 11 of MARPOL requires parties to the convention to provide a list of "nominated surveyors or recognized organizations which are authorized to act on their behalf in the administration of matters relating to the design, construction, equipment and operation of ships carrying harmful substances": these are Classification Societies.³³⁰ Where such certificate is not available, the ship may not sail until it can proceed without presenting an unreasonable threat of harm to the marine environment or is proceeding no further

³²⁷ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 2(2).

³²⁸ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 2(6).

"Incident" means an event involving the actual or probable discharge into the sea of a harmful substance, or effluents containing such a substance.

³²⁹ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 11(1)(b).

³³⁰ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art III.

"a list of nominated surveyors or recognized organizations which are authorized to act on their behalf in the administration of matters relating to the design, construction, equipment and operation of ships carrying harmful substances in accordance with the provisions of the regulations for circulation to the Parties for information of their officers. The administration shall therefore notify the Organization of the specific responsibilities and conditions of the authority delegated to nominate surveyors or recognized organizations."

than to the nearest appropriate repair yard available,³³¹ which mirrors UNCLOS Art 219.³³²

The definitions of oil tanker,³³³ combination carrier,³³⁴ crude oil tanker³³⁵ and product carrier³³⁶ indicate MARPOL is focused on ships that carry or emit oil or noxious substances and it is not intended to apply to substances incorporated within the structure of a ship as part of its construction. The focus of MARPOL is on ships discharging a harmful substance that is carried onboard the ship, be it inside a bilge tank, in a cargo hold or on the deck in a container. Ships under MARPOL must be carriers of the harmful substances, not be constituted from the harmful substances. This is supported by the construction requirements for ships other than oil tankers that carry oil in cargo spaces³³⁷ and the requirement for any other type of vessel whose construction does not allow it to conform to those regulations to provide equivalent protection against pollution by oil in light of its intended service.³³⁸ This latter requirement again reinforces that MARPOL is focused on the activities of ships in operation.

³³¹ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art 5(1)–(4).

³³² *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) art 219 Measures relating to seaworthiness of vessels to avoid pollution.

³³³ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 1(4). "Oil tanker" means a ship constructed or adapted primarily to carry oil in bulk in its cargo spaces and includes combination carriers and any "chemical tanker" as defined in Annex II of the present Convention when it is carrying a cargo or part cargo of oil in bulk.

³³⁴ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 1(5). "Combination carrier" means a ship designed to carry either oil or solid cargoes in bulk.

³³⁵ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 1(29). "Crude oil tanker" means an oil tanker engaged in the trade of carrying crude oil.

³³⁶ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 1(30). "Product carrier" means an oil tanker engaged in the trade of carrying oil other than crude oil.

³³⁷ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 2(2).

³³⁸ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) annex I reg 2(3)(a).

Article II of the Protocol reaffirms this, imposing an obligation to report an incident when there is a discharge of oil or noxious liquid substance above the permitted level of harmful substances in package form or some form of damage to a ship which affects its safety or impairs its ability to navigate safely.³³⁹ The incidents relate to ships in operation only. It should also be noted that although a ship has to be en route when it discharges harmful substances,³⁴⁰ en route does not necessarily mean it is on a commercial voyage from one port to another.³⁴¹ In its 2014 decision, the Dutch Supreme Court held it was sufficient that the *Sea Wave* was in motion in order to meet the definition of en route, even though the sole purpose of the voyage to and from port was purely to discharge harmful substances.³⁴² However, this does not exempt the ship from meeting the criteria of being in operation given here.

As discussed here, above³⁴³ and in Chapter 5, any activity associated with the function prescribed by a ship's Class places it in operation. This means that the process of discharging harmful substances, washing out tanks and any other duties that are part of a ship's normal operating procedures fall within activities related to its Class in the same way that attending a yard for repairs is still within class. In order to maintain its Class, a ship must carry out appropriate cleaning procedures, maintain appropriate repairs etc. This approach to defining in operation as carrying out activities related to a ship's Class is supported by the industry itself which defines operational under MARPOL as conforming and being compliant with all applicable international instruments under the oversight of flag state and port state authorities.³⁴⁴ A vessel on its end of life journey, its final voyage to the recycling yard, is not compliant with its Class requirements as it is stripped of many of the components, equipment and crew

³³⁹ *Protocol I relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) Article II: Provisions concerning Reports on Incidents Involving Harmful Substances (in accordance with article 8 of the Convention).

³⁴⁰ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) Annex II reg 5.

³⁴¹ *International Convention for the Prevention of Pollution from Ships (MARPOL)*, adopted on 2 November 1973, 1340 UNTS 184 (entered into force 2 October 1983), Unified interpretations of Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk Regulation 1.6.

³⁴² (Supreme Court of Netherlands, C-13/00204, ECLI:NL:HR:2014:3633, 17 December 2014).

³⁴³ See Chapter 2 para 2.1.1.

³⁴⁴ International Chamber of Shipping (ICS) on behalf of the Industry Working Party, *Recycling of Ships*, Marine Environment Protection Committee, 52nd sess, Agenda Item 3, MEPC 52/INF.12 (5 August 2004).

required to make it compliant with its Class. This is one reason the Classification Society has to be notified the vessel is being sent for recycling, as upcoming classification requirements may be waived for the duration of the journey and the insurance policy is changed from that used for the ship when it is operating normally.³⁴⁵ This is for the simple reason that it is no longer a vessel carrying out many of the activities that are part of normal operations and, in many instances, is no longer actually capable of doing so, particularly once it is stripped of anything not being sent for disposal with the ship and is sailing with a reduced crew as usually occurs on end of life journeys.³⁴⁶ Given that MARPOL is specifically written to regulate the discharge of waste during normal shipping operations, it cannot be applied to a vessel that is not carrying out normal operations, is not capable of carrying out normal operations and will not be carrying out normal operations ever again.

4.4 Enforcement of MARPOL

MARPOL is used to regulate shipping practices to reduce the amount of pollution discharged into the marine environment during normal ship operations. For example, MARPOL restricts the amount of oil (15 parts per million) that may be in water discharged from the ship,³⁴⁷ such as bilge water or oily water from cleaned cargo tanks. MARPOL also provides for particular areas, such as the North Sea, to be granted Special Area status,³⁴⁸ restricting levels of discharge to even lower levels in those areas and granting them higher protection than other sea areas. Other areas can be granted Particularly Sensitive Sea Area (PSSA) status with even greater restrictions on discharge of pollutants, such as the Wadden Sea in 2002,³⁴⁹ located between Denmark, Germany and the Netherlands, which contains the world's largest

³⁴⁵ David Plato, 'Risks and Rites of Passage: The World of Ship Recycling, *Miller Insurance Latest Insights* (online, 18 June 2019) <<https://www.miller-insurance.com/News-and-insights/Latest-insights/Risks-and-rites-of-passage---the-world-of-ship-recycling>>.

³⁴⁶ *Seatrade* (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1].

³⁴⁷ *International Convention for the Prevention of Pollution from Ships (MARPOL)*, adopted on 2 November 1973, 1340 UNTS 184 (entered into force 2 October 1983) Annex I- Regulations for the Prevention of Pollution by Oil, Chapter 3 - Requirements for machinery spaces of all ships, Part C - Control of operational discharge of oil. Regulation 15 - Control of discharge of oil.

³⁴⁸ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) Annex I Prevention of pollution by oil; Annex II Control of pollution by noxious liquid substances; Annex IV Prevention of pollution by sewage from ships; and Annex V Prevention of pollution by garbage from ships.

³⁴⁹ International Maritime Organization, *Particularly Sensitive Sea Areas* (IMO, 2017).

tidal flats system, large areas of coastal salt marshes, accommodates over 5,000 species of flora and fauna, and attracts over 10 million migratory seabirds annually.³⁵⁰

MARPOL has only been used to enforce breaches of its pollution restrictions against ships in operation for discharging harmful substances or posing an environmental risk. The *Sea Wave* judgment³⁵¹ from the Dutch Supreme Court and *Bosphorus Queen Shipping Ltd Corp. v Rajavartiolaitos*³⁵² are but two examples in Europe. There are many examples (Annexure 2) in the United States where whistle blowers have received rewards and shipping companies been fined and even had their ships banned from operating in American ports for breaches of MARPOL regulations. In Australia, decisions such as *Australian Maritime Safety Authority v Livestock Transport & Trading*³⁵³ and *Re Teekay Shipping (Aust) Pty Ltd v Australian Maritime Safety Authority*³⁵⁴ are further examples of enforcement of the provisions of MARPOL, primarily Annex IV, against foreign-flagged vessels in operation. All of these judgments are against ships in Class and in operation. They have no obvious application to cases where ships are being sent for recycling.

4.5 MARPOL, Asbestos and Ship Recycling

The above discussion of the text of the Convention demonstrates that MARPOL relates to oil and other substances that are *harmful when discharged into the marine environment* from ships operational in the sea. The first important point to note is that asbestos is not recognised as a harmful substance when it is within a marine environment. Asbestos is a naturally occurring, inert substance which is highly toxic and dangerous to the environment and humans when it is dry, on land and the fibres are separated, broken, become airborne and are inhaled.³⁵⁵ According to the World Health Organisation, even the presence of asbestos in drinking water is not hazardous

³⁵⁰ UNESCO World Heritage List 2017.

³⁵¹ (Supreme Court of Netherlands, C-13/00204, ECLI:NL:HR:2014:3633, 17 December 2014).

³⁵² *Bosphorus Queen Shipping Ltd Corp v Rajavartiolaitos* [2018] EUECJ C-15/17 (ECLI:EU:C:2018:123, 28 February 2018).

³⁵³ (2009) 174 FCR 74.

³⁵⁴ [2012] AATA 519.

³⁵⁵ Ronald F Dodson and Samuel P Hammar, *Asbestos: Risk Assessment, Epidemiology, and Health Effects* (CRC Press, 2nd ed, 2005).

to health.³⁵⁶ There is no evidence that asbestos is harmful to marine life or the marine ecosystem. Therefore, asbestos falls outside the scope of Article 2(2), the MARPOL definition of harmful substance. In fact, the only reference to asbestos under MARPOL is the definition of harmful substances in Protocol 1: Provisions concerning Reports on Incidents Involving Harmful Substances³⁵⁷ which refers to harmful substances in package form, defined in the International Maritime Dangerous Goods Code (IMDG Code). The IMDG Code is aligned with the United Nations list of dangerous goods³⁵⁸ which includes asbestos but only when transported as a packaged good or as an element of another transported product. Asbestos is not recognised or contemplated under MARPOL as a harmful substance to be discharged or emitted from a ship. Even if ship recycling is found to fall within the definition of discharge as a means by which harmful substances can be emitted from a ship, any discharge of asbestos during ship recycling would not fall under MARPOL.

The judgments discussed above are all decisions for breaches of MARPOL by ships in operation and make it clear that MARPOL has not been applied to ship recycling nor is there anything in either the text of MARPOL or the decisions applying it to suggest MARPOL would be applicable to the process of ship recycling. It is apparent from the analysis above that MARPOL does not recognise ship recycling as a method of discharge or emission of harmful substances from a ship. There are two reasons for this. Firstly, MARPOL is consistent in its requirement that a ship be in operation in order for it to fall within the scope. A ship is in operation when it is carrying out an activity related to its prescribed function and the prescribed functions are determined by its classification: ship recycling is not a recognised activity under the classification system.

Secondly, MARPOL cannot apply to a harmful substance which is a constituent of the ship and not a separate substance to be discharged or emitted from the ship while leaving the ship intact. In order to discharge or emit asbestos from the ship while it is

³⁵⁶ World Health Organization, *Guidelines for Drinking-water Quality* (World Health Organization, 2nd ed, 1996) vol 2.

³⁵⁷ *Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships*, 1973, opened for signature 17 February 1978, 1340/1341 UNTS 61/3 (entered into force 2 October 1983) art II(2)(c).

³⁵⁸ United Nations Model Regulations on the Transport of Dangerous Goods which include the United Nations Dangerous Goods list.

a component of the construction of the ship, it would be necessary to actually break the ship. MARPOL does not contemplate harmful substances released through the purposeful destruction of the ship. While MARPOL does contemplate the accidental release of harmful substances should the ship sustain damage, it only relates to substances being transported by and separate from the ship, not those incorporated into its construction.

However, that has not stopped members and associates of the shipping industry from putting forward the suggestion that MARPOL is the more appropriate convention for vessels being sent for ship recycling than the Basel Convention. At the Royal Institution of Naval Architects International Conference on Recycling of Ships and Other Marine Structures in 2005, Brian Parkinson of the International Chamber of Shipping (ICS) stated that “the Basel Convention (Article 1.4) does not apply to items which are covered by another international convention. Ships, while ‘operating in the marine environment’ are covered by the MARPOL Convention. The Basel Convention, therefore, does not apply to ships making their way, under their own power, to a recycling yard”.³⁵⁹ This is based on the premise that, while operating in the marine environment, the vessel is a ship and not waste. If it is a ship then MARPOL does apply and it cannot be waste and if it is not waste, then the Basel Convention cannot apply. (This perspective also does not take into consideration that MARPOL applies only to the discharge of harmful substances into the marine environment while the ship is operating in the marine environment - it does not cover everything about a ship or its activities while it is operating in the marine environment.) A similar view was espoused in the *Seatrade* judgment³⁶⁰ where the defence argued their export of the vessel from the European Union for the purposes of ship recycling was covered by MARPOL and therefore did not fall under the European Waste Shipment Regulations (EWSR), the European implementation of the Basel Convention. The defence proposed that ship recycling is a method of managing shipping-related waste during normal shipping operations and the vessel being sent for recycling satisfies the definition of harmful substances released from the vessel during normal operations

³⁵⁹ Brian Parkinson, ‘Regulatory Matters: International and National Regulations and their Enforcement, Industry Guidelines and Voluntary Codes of Practice’ (Conference Paper, The Royal Institution of Naval Architects, 4–5 May 2005).

³⁶⁰ *Seatrade* (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1].

and is therefore covered by MARPOL.³⁶¹ The court was clear that an entire vessel sent for recycling cannot be deemed waste discharged during the ordinary operation of a ship when the entire vessel itself is being discharged.³⁶² No allegation has been brought for ship recycling in breach of MARPOL because, as discussed above, ship recycling does not satisfy the criteria for inclusion under MARPOL and, in the case of asbestos, the substance does not satisfy the harmful substance definition.

4.6 Reconciliation of the MARPOL and the Basel Convention Perspectives

The shipping industry presents itself in an almost Janus-like manner with two diametrically opposed positions. On the one hand, there are those associated with the industry who say that domestic legislation representing the implementation of the Basel Convention, such as the EWSR,³⁶³ cannot apply to ship recycling. The reason given is that ship recycling is already accounted for under MARPOL and the Basel Convention, which underpins the EWSR, specifically excludes circumstances that are covered by other conventions. MARPOL governs the discharge of shipping-related waste that contains harmful substances into the sea during a ship's normal operations. The industry's argument is that sending a vessel for recycling outside Europe is not a breach of EWSR because sending it for recycling is simply one method of managing shipping-related waste. This reasoning is based on the premise that the ship is a form of discharge derived from normal shipping operations and ship recycling is a method of managing that waste, therefore it is governed by MARPOL.³⁶⁴ The industry supports this with reference to the Basel Convention which declares that wastes which are derived from the normal operations of a ship and whose discharge is covered by another international instrument are outside the scope of the Basel Convention.³⁶⁵

In the *Seatrade* judgment, the Rotterdam Criminal Court declared that ship recycling cannot be viewed as a discharge of shipping-related waste when it is the entire vessel

³⁶¹ Ibid.

³⁶² Ibid [4.3.4.1].

³⁶³ Colin De La Rue and Charles B Anderson, *Shipping and the Environment* (CRC Press, 2015).

³⁶⁴ Urs Daniel Engels, 'European Ship Recycling Regulation: Entry-Into-Force Implications of the Hong Kong Convention' (2013) *Springer Science & Business Media* 131.

³⁶⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, opened for signature 5 May 1992, 1673 UNTS 57 (entered into force 5 May 1992) art 1(4).

which is being discharged.³⁶⁶ To support the industry's argument would be to support the view that the vessel itself is waste derived from the normal operations of a ship and that ship recycling is an exercise wherein a ship in operation discharges itself as its own waste. This can only be viewed as illogical. Not only can something not discharge itself, there is also the issue that a ship cannot produce itself as waste from its normal operations. Any ship discharging waste as part of its normal operations must still exist as a ship at the end of the discharge of the waste. It cannot be argued that a ship's normal operations turn the ship itself into waste or that the purposeful destruction of the ship is either a form of discharge or part of its normal operation.

However, regardless of whether this initial argument can stand, it must also be viewed in light of the industry's stance against the application of the Basel Convention to ship recycling. Here the industry actually presents an argument in opposition to its own MARPOL position. Some in the shipping industry say that a "ship sailing under its own power cannot be considered 'waste' "³⁶⁷ and any waste is only created once the vessel reaches the recycling facility. In this argument the industry takes the position that the act of sending a ship for recycling does not only *not* make it waste but while it is in operation and travelling under its own steam to the recycling yard, it is and can only ever be a ship and cannot be waste. This directly contradicts the argument the industry uses to bring a ship being sent for recycling within MARPOL which is that ship recycling is a method of discharge for shipping-related waste and the ship itself is the waste being discharged.³⁶⁸ According to the industry proponents of this reasoning, a ship sent for recycling is waste discharged under normal operations which brings it under MARPOL but since a ship sent for recycling cannot be waste while it is sailing it is excluded from the Basel Convention.

This second argument contradicts the first position and the two cannot coexist. If ship recycling is a method of managing shipping-related waste produced by normal operations and the waste in question being discharged via the method of recycling is

³⁶⁶ *Seatrade* (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.4.1].

³⁶⁷ A Damodaran, *Encircling the Seamless: India, Climate Change, and the Global Commons* (Oxford University Press, 2010) 144.

³⁶⁸ Urs Daniel Engels, 'European Ship Recycling Regulation: Entry-Into-Force Implications of the Hong Kong Convention' (2013) *Springer Science & Business Media* 131.

the ship itself, then it stands to reason that the waste is the ship and the ship is the waste. This is the argument used to exclude a ship being sent for recycling from the EWSR – and the Basel Convention - and to bring it under the regulatory authority of MARPOL. However, according to this argument a ship being recycled *is waste* and this would bring it within the Basel Convention as soon as MARPOL is shown to be not applicable to ship recycling for other reasons.

4.7 Conclusion

This chapter examined MARPOL, the first of the three international conventions based on the polluter pays principle: MARPOL, the Hong Kong Convention and the Basel Convention. The debate has been framed as either MARPOL or the Basel Convention apply to ship recycling and MARPOL was reviewed as the convention proposed as preferred by some in the shipping industry. According to the presented reasoning, ship recycling is a method of managing shipping-related waste and the vessel being sent for recycling is the harmful substance, in other words, the waste. The waste (the vessel) is discharged from a ship during normal operations and such discharge is an operational activity within the scope of MARPOL. Therefore, the burden of managing the hazardous substances within the discharged waste – the vessel - during its recycling can be allocated to the recycling yard. On the other hand, that same industry excludes the applicability of the Basel Convention to ship recycling by arguing that although a ship on its way to recycling is an object being sent for disposal and contains harmful substances, it cannot be waste because it is still a ship that is travelling under its own steam. However, if a vessel being sent for recycling is already waste then its journey to the recycling yard as hazardous waste is governed by the Basel Convention and responsibility for safe disposal of the hazardous substances within the vessel lies with the ship owner. These two positions appear mutually exclusive. If a vessel on its way to being recycled is brought within MARPOL because it is waste produced by a ship during normal operations being sent for waste management, then it cannot simultaneously be excluded from the Basel Convention on the basis that it is not waste because it is travelling under its own steam.

Regardless of whether asbestos contained within a ship's structure as opposed to being transported as or in cargo by the ship even satisfies the definition of a discharged

harmful substance under MARPOL, the reality is that a vessel on its way to recycling and the process of recycling must fall under either MARPOL or under the Basel Convention. As explored in this section, the act of ship recycling itself – as physically undertaken at its final destination - cannot fall under MARPOL for the simple reason that breaking up a vessel on the shore or on land does not generate pollution in maritime zones originating from a ship in service. This chapter has addressed and dismissed MARPOL as a suitable mechanism for applying and enforcing liability against ship owners for harm caused by exposure to asbestos during ship recycling. The next chapter examines the Hong Kong Convention, issues and hurdles faced in achieving compliance, progress made so far by beaching states in terms of achieving compliance and then assesses whether the Hong Kong Convention would be a suitable mechanism to attribute liability to ship owners. The conclusion is that the Hong Kong Convention is not an appropriate option and the rest of this thesis is devoted to addressing and resolving the issues of applying the Basel Convention to ship recycling.

Chapter 5: The Hong Kong Convention

5.1 Introduction

In order to enforce liability for harm caused by exposure to asbestos during ship recycling, it is necessary to have an accepted and recognised statutory or regulatory regime. As discussed previously in Chapter 2, there is no international regulation or convention directly applicable to ship recycling. The shipping industry has proposed MARPOL largely (it would seem) in order to prevent the conclusion that the Basel Convention is not applicable. The above analysis of MARPOL has demonstrated that it is not the appropriate mechanism to cover harm caused by ship recycling. The Basel Convention, which is generally put forward as the preferred alternative to MARPOL, is discussed in detail in chapters below. However, the shipping industry has also proposed its own solution to make ship recycling safer and deal with the harm caused by the process.

This thesis seeks to determine whether ship owners can be held liable under current international law for harm caused by exposure to asbestos during ship recycling. In order for that to happen two things need to be present: an enforceable regulatory regime must exist and it must be able to attribute liability to ship owners and not ship yards. This chapter provides a detailed analysis of the Hong Kong Convention with a view to determining whether it can be an enforceable regulatory regime and hold ship owners accountable. This is determined by first examining the entry into force requirements of the Hong Kong Convention to assess if they are achievable. Then the chapter reviews the requirements that a ship recycling country must satisfy in order to be Hong Kong Convention compliant and also looks at recent measures implemented by some beaching states and how that progress has been viewed internationally. The conclusion is that entry into force is still quite some time away. Regardless, despite measurable efforts and improvements, the structure and culture of the ship recycling yards in beaching states makes it extremely difficult for them to achieve Hong Kong Convention compliance as envisioned by those parties, such as the European Union, who are using the Basel Convention to set the bar for acceptable standards in ship recycling. This leads to the overall conclusion that even if the Hong Kong Convention were to enter into force, the only option remaining for holding ship owners liable for harm caused by exposure to asbestos during ship recycling is the Basel Convention.

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (the Hong Kong Convention) was put forward as the industry solution to the problem of ship recycling and the associated environmental damage. It was adopted at a diplomatic conference in 2009 and proposed as a cradle to grave regulatory regime covering the building, operating and breaking of ships. The Hong Kong Convention places the burden for improving ship recycling on the ship yard to improve its facilities, workplace environment and pollution management. While it would potentially reduce the harm caused to workers by exposure to asbestos through ship recycling, it does not place any part of that solution in the hands of the ship owners other than better preparation of the ship prior to recycling and mandating the provision of an Inventory of Hazardous Materials (IHM),³⁶⁹ nor does it attribute liability for harm that has already been caused. Not only that but the entry into force requirements pose significant hurdles which are discussed in detail below.

The Hong Kong Convention has not been viewed yet as the solution it was supposed to be: “[T]here are several gaps, ambiguities, contradictions, overlaps, and open-ended issues in the current applicable international regimes including the as yet in force Ship Recycling Convention rendering them [it] insufficient to ensure sustainable shipbreaking” leading to the conclusion that the Hong Kong Convention is “a political compromise and ... not the final solution”.³⁷⁰ Notwithstanding such criticism some organisations, such as the International Association of Ports and Harbours³⁷¹ and the NGO Shipbreaking Platform, have shifted their focus from the Basel Convention to the Hong Kong Convention, perhaps in the hope that a solution proposed by the maritime industry has a better prospect of successful implementation than one proposed by external voices. The Hong Kong Convention was “developed with input from IMO Member States and non-governmental organizations, and in co-operation with the International Labour Organization and the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal”.³⁷² In the meantime, the European Commission has shifted to the European Union Ship

³⁶⁹ An IHM is a document in which all potentially hazardous material onboard a vessel that can pose a risk to the health and safety of people or to the environment is located, identified and quantified.

³⁷⁰ Puthucherril, Tony George, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2010) 195.

³⁷¹ International Association of Ports and Harbors (IAPH), 2012.

³⁷² International Maritime Organisation, 2009.

Recycling Regulation (EU Regulation) implementing the elements of the Hong Kong Convention and away from the Basel Convention.

The Hong Kong Convention currently has only five signatories and thirteen contracting states.³⁷³ Their combined merchant fleets constitute approximately 29.42 per cent of the gross tonnage (GT) of the world's merchant fleet and their combined maximum annual ship recycling volume during the preceding ten years is 0.44 per cent of their combined merchant shipping GT (Annexure 3). The entry into force requirements require not less than fifteen contracting states whose combined merchant fleets must constitute not less than forty per cent of the gross tonnage of the world's merchant shipping and whose combined maximum annual ship recycling volume during the preceding ten years must constitute not less than three per cent of their combined merchant shipping GT.³⁷⁴ The current contracting states fall short of the required percentage of the gross tonnage of the world's merchant fleet by 11.5 per cent and their combined maximum annual ship recycling volume during the preceding ten years is 2.56 per cent less than that required for the Hong Kong Convention to be entered into force. Given the significant hurdles posed by the entry into force requirements and the slow sign up to the Hong Kong Convention, there is little likelihood of it achieving the required status to enter into force in the short term.

In examining what is required for the Hong Kong Convention to become an effective, active international regulatory regime, this chapter will explore the reality of the key entry into force requirements with reference to the most recent Notes by the Secretariat of the MEPC regarding the entry into force requirements of the Hong Kong Convention³⁷⁵ and extracts from UNCTAD data³⁷⁶ to identify what it will take to achieve the entry into force requirements. This is followed by an overview of some of

³⁷³ International Maritime Organisation, *Summary of Status of Conventions* (Web Page, 31 October 2019) <<http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx>>.

³⁷⁴ *The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships*, opened for signature 15 May 2009 (not yet in force) art 17.

³⁷⁵ International Maritime Organisation, *Maritime Environment Protection Committee Resolution*, MEPC 59/24/Add.1 and document MEPC 67/INF.2/Rev.1

³⁷⁶ UNCTAD, *Review of Maritime Transport 2012* (Report, UNCTAD/RMT/2012, November 2012), UNCTAD, *Review of Maritime Transport 2013* (Report, UNCTAD/RMT/2013, 2013), UNCTAD, *Review of Maritime Transport 2014* (Report, UNCTAD/RMT/2014, 2014), UNCTAD, *Review of Maritime Transport* (Report, UNCTAD/RMT/2015, 2015), UNCTAD, *Review of Maritime Transport* (Report, UNCTAD/RMT/2016, 2016), UNCTAD, *Review of Maritime Transport* (Report, UNCTAD/RMT/2017, 2017), UNCTAD, *Review of Maritime Transport 2018* (Report, UNCTAD/RMT/2018, 2018), UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019).

the key elements of the Hong Kong Convention with reference to any related recommendations from the 2012 Guidelines for Safe and Environmentally Sound Ship Recycling³⁷⁷ (Guidelines) with a view to assessing how realistic it is for those states that practice beaching as a ship breaking method to practically achieve compliance with the Hong Kong Convention and thus enable meaningful ratification. In assessing what is required to achieve ratification, this chapter will review what steps have already been taken by the recycling states and how those are regarded internationally. The chapter includes commentary on the status of the Hong Kong Convention within Europe's ship recycling practices and legislation and the possible impact on the rest of the shipping industry of the recycling states undertaking the complete transition process. This chapter does not attempt to provide a thorough analysis of what steps the recycling yards must take to become fully compliant but rather seeks to provide some insight into the current position and the scale of the task still to be undertaken, bearing in mind the associated costs, time scales and impact on the local industry in those states as well as on the global ship scrapping industry.

Article 17 of the Convention

The convention enters into force 24 months after the following requirements are met:

- .1 not less than 15 States have either signed it without reservation as to ratification, acceptance or approval, or have deposited the requisite instrument of ratification, acceptance, approval or accession in accordance with Article 16;
- .2 the combined merchant fleets of the States mentioned in paragraph 1.1 constitute not less than 40 per cent of the gross tonnage of the world's merchant shipping; and
- .3 the combined maximum annual ship recycling volume of the States mentioned in paragraph 1.1 during the preceding 10 years constitutes not less than 3 per cent of the gross tonnage of the combined merchant shipping of the same States.

³⁷⁷ International Maritime Organisation, 2012.

5.2 Articles 17.1 and 17.2

Not less than fifteen states representing 40 per cent of the gross tonnage of the world's merchant shipping fleet

As mentioned at the start of this chapter, the Hong Kong Convention currently has thirteen contracting states, two less than the fifteen states required under Article 17.1. Achieving fifteen contracting states is not necessarily a difficult goal in the short term but those fifteen contracting states also have to meet the requirements of Articles 17.2 and 17.3. Under Article 17.2 the combined merchant fleets GT of the contracting states must total forty per cent or more of the world fleet GT. The most recent Note by the Secretariat of the MEPC³⁷⁸ includes the total gross tonnage of the world fleet for each of the preceding ten years but only up to 2013. While this demonstrates the growth of the world fleet and its impact on the entry into force criteria, only the most recent year's total gross tonnage of the world fleet is relevant under the entry into force requirements. The size of the world fleet in 2013 was 1,122,649,460 GT.³⁷⁹ Comparatively, the world fleet in 2016 was 1,257,900,000 GT and in 2017 was 1,299,900,000 GT.³⁸⁰ Forty per cent of the 2017 figure, as required under Article 17.2, is 519,960,000 GT. The combined merchant fleet of the current thirteen contracting states represents 29.42 per cent of the current world fleet gross tonnage. The gross tonnage figures for 2018 and 2019 are not available yet but some conclusions can still be drawn using the 2017 world fleet figures. The top five ship owning countries (by GT) in 2017³⁸¹ were :

Greece	216.1 million GT	16.6 per cent
Japan	164.9 million GT	12.7 per cent
China	152.9 million GT	11.8 per cent
Germany	80.7 million GT	6.2 per cent
United States	65.2 million GT	5 per cent

³⁷⁸ International Maritime Organisation, *Maritime Environment Protection Committee*, Doc MEPC 67/INF.2/Rev.1.

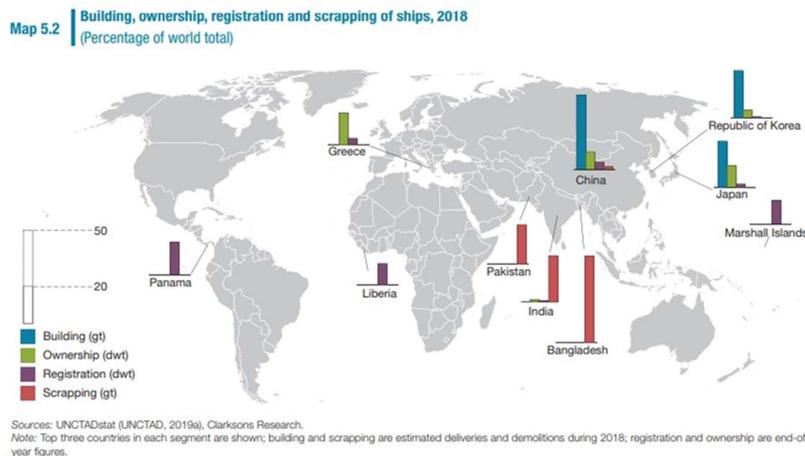
³⁷⁹ *Ibid.*

³⁸⁰ International Shipping News, 'The World Fleet In 2017: Keeping An Eye On The Trends' (31 January 2018).

³⁸¹ Hellenic Shipping News, 'The World Fleet In 2017: Keeping An Eye On The Trends' (31 January 2018).

Only two of these countries, Germany and Japan, are contracting states to the Hong Kong Convention. Their combined merchant fleet represents 18.9 per cent of the contracting states total combined 29.42 per cent of the world merchant fleet gross tonnage. This means the remaining eleven contracting states provide the other 10.5 per cent between them – an average of less than 1 per cent each. The entirety of Europe (excluding Germany) represents 37.2 per cent (of which Greece is 16.6 per cent) of the world fleet while the entirety of the Asia/Pacific represents 40.2 per cent of the world fleet. In order for the combined merchant fleet GT of the contracting states to equal forty per cent or more of the world fleet GT, either Greece or China must become a contracting state. If neither does, then it would require the United States and at least four other states to contract. If the United States does not become a contracting state then at the very least a further six or seven states would need to contract. Not only would it require one of the largest ship owning states or multiple other states to contract in order for the Hong Kong Convention to meet its entry into force requirements, the combined maximum annual ship recycling volume of the countries that have ratified or acceded to the Convention must also be at least three per cent of the gross tonnage of their combined fleets.

As was described earlier in Chapter 2 and is clearly apparent on the repeated image below,³⁸² the states with the largest world fleet GT are not the states with the largest ship recycling volume.



³⁸² UNCTAD, 'Merchant Fleet', *2019 e-Handbook of Statistics (e-Handbook, 2019)* <https://unctad.org/en/PublicationsLibrary/tdstat44_en.pdf>.

This means that the states needed to reach forty per cent of the world merchant fleet GT and the states needed to attain a ship recycling volume of three per cent of forty per cent of the world merchant fleet GT are different states. There is no individual state whose accession to the Hong Kong Convention would contribute significantly to meeting the requirements of both Article 17.2 and Article 17.3, which is one of the difficulties faced in meeting the Hong Kong Convention entry into force requirements. In order for the Hong Kong Convention to become active and applicable, it requires contracting states from two different sectors of the industry with completely different goals and requirements. This is much harder to achieve than procuring sign up from contracting states who all have a mutual and like interest in the aims of a convention and are more likely to work together with their shared interest to bring a convention into force. The next section of this chapter identifies which states are needed to meet the recycling volume entry into force requirements.

5.3 Article 17.3

The combined maximum annual ship recycling volume of the contracting States must constitute not less than 3 per cent of the gross tonnage of their combined merchant shipping during the preceding 10 years

The requirement under Article 17.3 is that the combined recycling capacity of the contracting states must constitute not less than three per cent of the combined merchant shipping GT of those states. Given their combined gross tonnage must represent forty per cent of gross tonnage of the world fleet for the Hong Kong Convention to enter into force which is calculated above as 519,960,000 GT, the requirement is that their combined recycling capacity must constitute at least three per cent of that figure, in other words 15,598,800 GT.

In 2017, the world's top five recycling states recycled a combined volume of 24,391,525 GT, broken down as:

India	6,938,028 GT
Bangladesh	6,869,287 GT
Pakistan	3,795,033 GT
China	3,445,145 GT

Turkey 1,257,082 GT

The combined total of the rest of the world's recycling volume in 2017 was 610,944 GT. Together, the top five states plus the rest of the world's recycling volume totals 22,915,519 GT. The top five states represent 97.3 per cent of the world's total recycling volume.

The 2017 combined recycling volume of the thirteen states that have ratified the Hong Kong Convention was 1,304,91 GT and in 2018 was 838,502 GT.³⁸³ In order for the ratified states to reach the required recycling volume of 15,598,800 GT in 2017 as explained above, additional contracting states with a recycling volume of 14,760,298 GT or more are needed. Whether the combinations of contracting States are India and China,³⁸⁴ India and Bangladesh³⁸⁵ or China, Bangladesh and Pakistan³⁸⁶ no combination of states' ratification meets the criteria using 2017 figures and 2018 figures recycling volumes are even lower. However, Article 17.3 does allow for the maximum recycling volume over the preceding 10 years to be taken into consideration and ship recycling volumes peaked in 2016 at:

India 9,477,130 GT
 Bangladesh 9,530,264 GT
 Pakistan 5,480,340 GT
 China 3,331,546 GT
 Turkey 980,662 GT

Using 2016 figures, the combination of India and China³⁸⁷ both ratifying is insufficient but the combined totals of either India and Bangladesh³⁸⁸ or China, Bangladesh and Pakistan³⁸⁹ surpass the required level of recycling volume. It should be noted when reviewing these figures that, as the world fleet GT is increasing annually, the

³⁸³ Annexure 3.

³⁸⁴ India (6,938,028 GT) and China (3,445,145 GT) Total: 10,383,173 GT.

³⁸⁵ India (6,938,028 GT) and Bangladesh (6,869,287 GT) Total: 13,807,315 GT.

³⁸⁶ China (3,445,145 GT), Bangladesh (6,869,287 GT) and Pakistan (3,795,033 GT) Total: 14,109,465 GT.

³⁸⁷ India (9,477,130 GT) and China (3,331,546 GT) Total: 12,808,676 GT.

³⁸⁸ India (9,477,130 GT) and Bangladesh (9,530,264 GT) Total: 19,007,394 GT.

³⁸⁹ China (3,331,546 GT), Bangladesh (9,530,264 GT) and Pakistan (5,480,340 GT) Total: 18,342,150 GT.

requirements to meet the Hong Kong Convention increase accordingly. Between 2014 and 2018 world tonnage increased by 14 per cent.³⁹⁰ However, annual recycling volume is not necessarily following the same pattern:

Year	2014	2015	2016	2017	2018
Recycling volume	22,431,039	23,339,989	29,134,953	22,915,519	18,930,402

As the size of the world fleet increases and recycling volume decreases, the possibility that the recycling volume of the contracting states will match three per cent of forty per cent of the world fleet GT and that the Hong Kong Convention will enter into force becomes ever more remote.

When Germany became a contracting state in July 2019, it was said that if any two of the four major ship recycling countries, India, Bangladesh, China or Pakistan, were to accede to the Hong Kong Convention then the condition of Article 17.3 would be met.³⁹¹ In fact, it requires any two of India, Bangladesh and Pakistan as China does not recycle enough and its recycling volume will only decrease while the world fleet GT increases, now that China will no longer recycle international vessels.³⁹² After Germany's accession to the Hong Kong Convention Dr. Nikos Mikelis, non-executive director of GMS³⁹³ and former head of the IMO's Ship Recycling section, said that India "most of whose recycling yards have invested in infrastructure, training, and working procedures and have been certificated by IACS Classification Societies as compliant with Hong Kong Convention, now holds the key to the Convention's entry into force."³⁹⁴ India's dominance in the industry makes it clearly apparent why their ability to comply with and ratify the Hong Kong Convention is so critical. When India announced its decision to accede to the Hong Kong Convention on 20 November 2019,³⁹⁵ Dr Mikelis affirmed "India was always the key to unlocking Hong Kong Convention's entry into force and ... it is now most rewarding to receive news that

³⁹⁰ Roberts, Top 15 shipowning countries (2014 – 2018), *Infomartime* (1 August 2018).

³⁹¹ The Maritime Executive, 'Germany Accedes to Ship Recycling Convention' (17 July 2019).

³⁹² World Maritime News, 'China to Ban Recycling of International Ships' (8 May 2018).

³⁹³ GMS is 'the world's LARGEST Buyer of ships and floating offshore assets for recycling' see <http://www.gmsinc.net/gms_new/index.php/about>.

³⁹⁴ The Maritime Executive, 'Germany Accedes to Ship Recycling Convention' (17 July 2019).

³⁹⁵ Nishtha Saluja, 'India Accedes to Honk Kong Convention for Ship Recycling', *The Economic Times* (20 November 2019).

India's Cabinet has adopted the Convention as India's own standard.³⁹⁶ Yet, despite India's best efforts to obtain formal recognition of Hong Kong Convention compliance for many of its ship yards, no Indian ship yards were listed on the latest European list of acceptable ship recycling facilities³⁹⁷ which lists only seven ship yards not located in Europe: six in Turkey and one in the United States, although twenty-eight yards outside Europe had applied for inclusion.³⁹⁸

5.4 What Does Ratification Mean for a Beaching State, Such as India or Bangladesh?

5.4.1 Ratification

Treaties are public, legal mechanisms by which states demonstrate their commitment to address common problems and which usually progress through four crucial stages: the negotiation process, signature, ratification, and implementation.³⁹⁹ Like other treaties, the Hong Kong Convention will enter into force once it has obtained the required number of signatories and ratifications as outlined above. For the purposes of this thesis, the focus is on ratification which is defined as the final, legal confirmation by a government of a treaty and “an expression of consent whereby the state assumes the rights and duties imposed by the instrument ratified”⁴⁰⁰ and the ensuing compliance requirements. In order to determine what India must do to implement the Hong Kong Convention upon ratification now that it has signalled it will accede, this chapter identifies some of the key rights and duties imposed by the Convention and examines them to assess the scale of action required before ratification with realistic prospects of compliance could occur, recognising India as a key signatory to satisfying the entry into force conditions.

³⁹⁶ World Maritime News, 'Indian Government Approves Proposal for Hong Kong Convention Accession' (21 November 2019).

³⁹⁷ EU Commission amending *Implementing Decision (EU) 2016/2323 establishing the European List of ship recycling facilities pursuant to Regulation (EU) No 1257/2013 of the European Parliament and of the Council*, Annex: The European List of ship recycling facilities referred to in Article 16 of Regulation (EU) No 1257/2013, 7 November 2019.

³⁹⁸ European Commission, Shipbreaking: Updated list of European ship recycling facilities to include eight new yards (Press Release, 18 June 2019).

³⁹⁹ J S Lantis, *The Life and Death of International Treaties: Double-Edged Diplomacy and the Politics of Ratification in Comparative Perspective* (Oxford University Press, 2008) 2.

⁴⁰⁰ J S Lantis, *The Life and Death of International Treaties: Double-Edged Diplomacy and the Politics of Ratification in Comparative Perspective* (Oxford University Press, 2008) 2.

It is also important to recognise that under Article 13 on technical assistance and co-operation, parties to the Hong Kong Convention undertake, in respect of the safe and environmentally sound recycling of ships, to: provide support to train personnel; ensure the availability of relevant technology, equipment and facilities; initiate joint research and development programmes; undertake other actions aimed at the effective implementation of this Convention and Guidelines; co-operate actively in the transfer of management systems and technology. This means that not only does India have to be able to fulfil its obligations under the duties identified but that the other parties to the Hong Kong Convention are obligated to provide assistance to help India meet its obligations. Thus the scale of work enumerated here is not only a measure of what India must achieve but also a measure of the scale of support and assistance the other parties to the Hong Kong Convention are obligated to provide to India after it accedes, ratifies and works to achieve meaningful compliance. This was acknowledged in comments by the Indian Finance Minister of the Cabinet Committee on Economic Affairs, Nirmala Sitharaman, when she announced India's accession and said "By this accession, we hope to get better assistance from these international agencies which are wanting to fund (ship recycling centres)."⁴⁰¹

The duties and obligations imposed by the Hong Kong Convention should be read and are discussed in conjunction with the 2012 Guidelines for safe and environmentally sound ship recycling adopted on 2 March 2012 under MEPC.210(63) ('Guidelines').

5.4.2 Workplace Health & Safety

5.4.2.1 Management systems

Under Regulation 17.1 of the Hong Kong Convention, the ship recycling facility must establish management systems, procedures and techniques that do not pose health risks to the workers or those in the vicinity of the ship recycling facility and which will prevent, reduce, minimise or eradicate adverse environmental effects. These should include the application of any formally recognised international standards for

⁴⁰¹ Nishtha Saluja, 'India accedes to Honk Kong Convention for Ship Recycling' *The Economic Times* (20 November 2019).

environmental management systems (EMS) such as ISO 14001,⁴⁰² and occupational health and safety management systems, such as OHSAS 18001.⁴⁰³ For example, Leyal, a leading ship dismantling company in Turkey, has had accreditation under ISO 9001,⁴⁰⁴ ISO 14001 and OHSAS 18001 since 2006. To meet ISO 14001 standards, top management must document and approve an environmental policy demonstrating the company's vision and commitment to being environmentally responsible. This policy must be communicated to all employees by any method chosen by the company, such as through training sessions, video, print displays, signs etc. This policy must be reviewed at planned intervals to ensure its continued suitability and adequacy.⁴⁰⁵

The Indian ship recycling industry is not known for its environmentally friendly practices as seen in the Indian Supreme Court *Blue Lady*⁴⁰⁶ discussed earlier, where the commercial value of the project was held to outweigh the hardships of the few. At the time, given the economic global situation and a booming ship recycling industry, persuading Indian ship yard management to take on policies such as those required under ISO 14001 seemed unlikely. However, the EU Regulation which came into force on the 31st of December 2018 has put pressure on India and other recycling facilities to move towards the Hong Kong Convention requirements. The EU Regulation requires all ships carrying a European flag to be recycled in a European approved ship recycling facility and mandates an inventory of hazardous materials (IHM) for both ships flying the flag of a Member State (EU flagged ships) and ships of a third country

⁴⁰² The ISO 14001 standard governs environmental management systems and allows organisations to set their own goals, based on whatever considerations they wish to include, by providing a framework within which to develop plans to meet those targets and to produce information about whether or not the targets are met. (International Institute for Sustainable Development's Business and Sustainable Development: A Global Guide)

⁴⁰³ OHSAS 18001 was a British Standard that provided the requirements for an Occupational Health and Safety management system which has now been withdrawn and replaced by ISO 45001.

⁴⁰⁴ ISO 9001:2015 specifies requirements for a quality management system when an organization needs to demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements and aims to enhance customer satisfaction through the effective application of that system. (The International Organisation for Standardisation).

⁴⁰⁵ N Sadiq and A H Khan, *ISO14001 Step by Step a Practical Guide* (IT Governance Publishing, 1st ed, 2011) 12.

⁴⁰⁶ See Chapter 3.4, pge 57 - *Research Foundation for Science Technology and Natural Resource Policy v Union of India and Others* (Supreme Court of India, 11 September 2007).

calling at a port or anchorage of a Member State (non-EU flagged ships) from 31 December 2020.⁴⁰⁷

Europe has used the Hong Kong Convention requirements as the foundation for approving ship recycling facilities for European flag bearing ships and the EU Regulation is the only dedicated legally binding framework regulating these activities.⁴⁰⁸ Whereas before there were no accredited ship recycling yards in India, this is no longer the case. In 2014 the Maritime Executive reported that out of 175 yards in Alang, at least one hundred and twenty yards were ISO 14001/9001 and OHSAS 18001 certified and at least fifty-five yards had ISO 30000⁴⁰⁹ certification.⁴¹⁰ In April 2016, the Royal Institute of Naval Architects announced that it had awarded its first green ship recycling certificate to an Indian ship yard when it gave Shubh Arya Steel a Hong Kong Convention certificate of compliance.⁴¹¹ In May 2018 it was claimed that sixty-one yards, almost half the active yards in Alang, held valid Hong Kong Convention Statements of Compliance.⁴¹² ClassNK, a Japanese Classification Society that issues Statements of Compliance to ship recycling yards that meet the Hong Kong Convention requirements, says that as of June 2019 it had issued Hong Kong Convention statements of compliance to thirty Indian ship recycling yards and one Chinese and two Turkish recycling yards.⁴¹³ At least two of those Indian yards, Priya Blue Industries Pvt. Ltd and Shree Ram Vessel Scrap Pvt. Ltd, applied for inclusion in the latest list of European Union Regulation acceptable ship recycling yards but were rejected after site inspections and technical assessments by the Classification Society

⁴⁰⁷ European Commission, *New EU regime for Safer and Greener Ship Recycling Enters into Force* (8 January 2019).

⁴⁰⁸ European Commission, *New EU regime for Safer and Greener Ship Recycling Enters into Force* (8 January 2019).

⁴⁰⁹ ISO 30000:2009 specifies requirements for a management system to enable a ship recycling facility to develop and implement procedures, policies and objectives in order to be able to undertake safe and environmentally sound ship recycling operations in accordance with national and international standards. (The International Organisation for Standardisation)

⁴¹⁰ Shashank Agrawal, 'Indian Ship Recycling 'Extremely Regulated'', *The Maritime Executive* (7 August 2014).

⁴¹¹ Marine Insight News Network, 'First Green Ship Recycling Certificate Awarded by RINA in India', *Shipping News* (13 June 2016).

⁴¹² Kanu Priya Jain and Anand Hiremath, 'Managing HSE at Alang Ship Recycling Yards', *The Maritime Executive* (27 May 2018).

⁴¹³ ClassNK List of verified ship recycling facilities by ClassNK (as of end of June 2019).

DNV GL, identified several areas where the yards do not meet the requirements for clean and safe ship recycling.⁴¹⁴

5.4.2.2 Equipment

At full capacity over 60,000 workers are employed in the ship yards in India, and over 100,000 in downstream industries.⁴¹⁵ The ship yard owners claim there is some protective safety equipment in the yards, alleging gloves, boots and hard hats are distributed but this position is argued by NGOs and labour organisations on the ground: “[F]requent accidents find their causes in fire and explosion, falling objects, trapping or compression, snapping of cables, falls from heights, and lack of personal protective equipment, housekeeping standards, and safety signs”.⁴¹⁶ A senior industry person has been quoted as saying “[A]ll personnel protective equipment has to be provided as per Supreme Court guidelines. But not a single worker has been given a mask to shield himself against the toxic fumes which come out in the gas cutting process”.⁴¹⁷

The provision of personal protective equipment and training is now mandatory in India⁴¹⁸ and to achieve Hong Kong Convention compliance under Regulation 22.1.1, the ship recycling facility must ensure workers have availability, maintenance and use of personal protective equipment and clothing. Regulation 22.2 states that compulsory personal protective equipment must include: head; face and eye; hand and foot; respiratory; hearing; protectors against radioactive contamination; appropriate clothing and protection from falls⁴¹⁹ yet, in 2018, two workers died when a piece of hull broke off unexpectedly at a ship yard in Gujarat, India, where none of the workers was wearing a safety harness. They were not required to as they were inside the ship and

⁴¹⁴ NGO Shipbreaking Platform, ‘Platform News – Norwegian pension funds turn their attention towards Indian shipbreaking practices’ (20 March 2019).

⁴¹⁵ V V Rane (Conference on Safe, Sustainable and Green Jobs in Shipbuilding-Shipbreaking, 2011).

⁴¹⁶ International Labour Office, 2003.

⁴¹⁷ R Chitravanshi, ‘As Ships Come in to Die, Alang Breathes New Life: Ship Breaking Biz Booms in GUJ Due to Slump in Global Trade’, *Business Standard* (online, 29 December 2011) <http://business-standard.com/article/economy-policy/as-ships-come-in-to-die-alang-breathes-new-life-111122900031_1.html>.

⁴¹⁸ Ramapati Kumar, ‘Ship Dismantling: A status report on South Asia’ (Report, 2012).

⁴¹⁹ R Chitravanshi, ‘As Ships Come in to Die, Alang Breathes New Life: Ship Breaking Biz Booms in GUJ Due to Slump in Global Trade’, *Business Standard* (online, 29 December 2011) <http://business-standard.com/article/economy-policy/as-ships-come-in-to-die-alang-breathes-new-life-111122900031_1.html>.

only cutters working on the ship's exterior must wear safety belts.⁴²⁰ In all, fourteen workers' fatalities were recorded between September 2017 and October 2018.⁴²¹ Vidyadhar Rane⁴²² says that although it is mandatory and accepted, in principle, that employers should ensure all workers get all the protective personal gear prescribed "[T]here is much distance to be covered before all that is compulsory today will also be provided".⁴²³

In 2011 Bangladesh passed the Ship Breaking and Recycling Rules (SBRR),⁴²⁴ based on the Hong Kong Convention requirements to address OHS and environmental issues related to ship recycling activities. The timed implementation of worker registration and outfitting with personal protective equipment (goggles, overalls, hard hat, gloves, boots); on-site pollution and safety control equipment; and the preparation of various plans (EHS management, ship recycling action plans), was expected to take one to two years at an estimated cost of US \$3.5 million for approximately 22,000 workers. Despite concerted efforts, an estimated 53 workers were killed and a further 78 injured within the first four years after the SBRR came into being. As recently as May 2019, video footage of a fire at a Bangladesh ship recycling yard showed barefoot workers with no protective equipment carrying the injured and no emergency response equipment available.⁴²⁵ Extrapolating this to 60,000 workers across four locations in India gives a glimpse into the scale – and cost - of the task at hand. Since 2016 Maersk Group have been working alongside selected Indian recycling yards to improve standards and conditions, after they made the decision to scrap their decommissioned vessels in India to save US\$ 150 million over five years.⁴²⁶ While there has been improvement at yards associated with Maersk such as the Shree Ram Group, years on Indian yards still lag behind their European counterparts.

⁴²⁰ Ebe Daems and Gie Goris, 'Who is Behind?', (Report, 2018) 16.

⁴²¹ Ebe Daems and Gie Goris, 'Who is Behind?', (Report, 2018) 20.

⁴²² Secretary General of the Alang-Sosiya Ship Recycling & General Workers' Association (ASSRGWA).

⁴²³ Ebe Daems and Gie Goris, 'Who is Behind?', (Report, 2018) 19.

⁴²⁴ "The Ship Breaking and Recycling Rules, 2011" herein after referred to as 'Rule' has been formulated in pursuance of the Hon'ble High Court Division of Supreme Court, in writ petition No. 7260 of 2008 dated 07th March 2011 taking into consideration the directions contained in the Order and also under the power of Act 13, 87 of The Factories Act, 1965.'

⁴²⁵ Hellenic Shipping News, 'Major Explosion at Bangladesh Shipbreaking Yard Kills Two Shipbreaking Workers and Severely Injures Five' (16 May 2019).

⁴²⁶ A.P.Moller – 'Maersk A/S 2015 Integrated Sustainability Report' (Report, 2015) 15.



Fig. 1 : Workers in protective clothing in Turkey (Scorpecci, 2011)



Fig 2: Shree Ram Group workers in 2016⁴²⁷



Fig. 3 : Other workers in Alang India⁴²⁸

Picture taken May 29, 2018 ©REUTERS/Amit Dave

5.4.2.3 Ability of emergency personnel and vehicles to reach accident sites
Regulation 21.1 requires the ship recycling facility to have an emergency preparedness and response plan with the necessary equipment, and regular drills for the workers. Communication and co-ordination with internal and external agencies

⁴²⁷ Malini Goyal, 'At Alang shipbreaking yard, worker safety remains a dusty dream', *Economic Times Bureau* (23 October 2016).

⁴²⁸ gCaptain, 'Photos: Shipbreaking on the Beaches of Alang', *gCaptain* (Web Page, 31 May 2018) <gcaptain.com/photos-shipbreaking-in-alang-india/>.

must be set up with provision for first aid and medical assistance, fire fighting, evacuation and pollution prevention.

The Gujarat Maritime Board has instituted a rigid 10km four lane service road running along the ship scrapping yards and connected to the two main highways. There is one hospital in Alang that can accommodate up to 20 patients and is equipped with rudimentary services and facilities. The closest hospital and an additional Red Cross facility are located in Bhavnagar, one hour away by road.⁴²⁹ The need to provide a larger hospital has been raised but the State Employees Insurance fund under the Employees Insurance Act 1948 requires 25,000 or more employees to be registered under the scheme to justify a 100 bed hospital while in Alang-Sosiya, only a total of 16,067 workers have registered.⁴³⁰ Regardless, any implementation of the hospital or enrolment of workers is on hold pending a High Court judgement for an action brought by the Ship Recyclers Association⁴³¹ who are not happy with the State fund enrolment requirement and are seeking to have it waived for the recycling yards as a special case. The Gujarat Maritime Board website says that Alang-Sosiya Ship Recycling Yard emergency response services comprise four multi-purpose fire tenders, one high pressure mini tender, two water tankers and one ambulance. These are staffed by one Station Officer, two pump operators/drivers, two military fire officers and thirteen firemen. While these measures represent steps in the right direction, they are "insufficient ... for an area that spans almost 160 yards and a population of between 15,000 to 30,000 people who are dismantling giant ships in dangerous circumstances".⁴³²

5.4.2.4 Living conditions

Compliance with the Hong Kong Convention and Guidelines requires reasonable living conditions for workers.⁴³³ Without permanent structures available, most workers live in shacks made from plastic or plywood housing anywhere from ten or fifteen people

⁴²⁹ European Community Ship owners' Association, *ECSA Fact-finding Visit India* (Technical Report, 29-30 April 2016) 25.

⁴³⁰ Geetanjoy Sahu, 'Workers of Alang-Sosiya: A Survey of Working Conditions in a Ship-Breaking Yard, 1983-2013' (2 December 2014).

⁴³¹ Inter-Ministerial Committee on Ship breaking, 2012.

⁴³² Gie Goris, 'Every day on the shipbreaking yard can be your last', *MO* (5 March 2019).

⁴³³ O Ibeanu, *Report of the Special Rapporteur on the Adverse Effects of the Movement and Dumping of Toxins and Dangerous Products and Wastes on the Enjoyment of Human Rights* (Report, UN Human Rights Council, 2009).

up to 120 people, only separated from the recycling yards by the main road running along the beach and most with no running water or sanitation or electricity.⁴³⁴ As a consequence, workers are exposed to many toxins leading to higher predicted disease rates such as a 25 per cent incidence of cancer in shipbreaking workers.⁴³⁵ The Gujarat Maritime Board has now installed seven sanitation units and instituted running water to provide approximately 5,000l daily to each ship yard and provides standposts with potable water to the workers.⁴³⁶ However, this supply is for the work of the yard as well as the workers and does not cater to the accommodations outside the yard. Street lights and high mast towers have been installed by the Gujarat Maritime Board.⁴³⁷

A Regulation issued by the Gujarat Maritime Board in 2006 required the Ship Recyclers Association to commence, immediately upon the regulations coming into force, construction of a housing colony for workers to be completed within one year, failing which the Gujarat Maritime Board would construct it themselves under a levying fee.⁴³⁸ The Ship Recyclers Association produced a written response stating "... the future of ship recyclers is insecure; in that case, the ship recyclers cannot adopt capital investment without their security. If the board is prepared to grant permission for 25 to 30 years with all conditions specified, then the ship recyclers would look forward to long time planning and go ahead with such programmes. Again, the land and infrastructure for the same should be provided by the board, free of cost".⁴³⁹ In 2011 at the Inter-Ministerial Committee Meeting on ship breaking, the Chairman of the Committee observed that progress so far in Alang was far from being satisfactory⁴⁴⁰ and proposed steps to provide dormitory-type accommodation with adequate sanitation facilities for at least 1,000 workers should be carried out simultaneously. The Gujarat Maritime Board put in place a development plan to build a Labour

⁴³⁴ FIDH, *Where do the "Floating Dustbins" End Up? Labour Rights in Shipbreaking Yards in South Asia: The Cases of Chittagong (Bangladesh) and Alang (India)* (Report, 2005).

⁴³⁵ Dr Frank Hittman, Occupational and Industrial physician cited in Environment-India_ Shipbreaking Indefensible, Says Greenpeace _ Inter Press Service.

⁴³⁶ Gujarat Maritime Board, 'Alang Ship Recycling Yard', *Gujarat Maritime Board* (2012).

⁴³⁷ Gujarat Maritime Board, 'Alang Ship Recycling Yard', *Gujarat Maritime Board* (2012).

⁴³⁸ Gujarat Maritime Board, *The Gujarat Maritime Board (Conditions and Procedures for Granting Permission for Utilising Ship Recycling Plots)* (Report, 2006).

⁴³⁹ Ship Recycling Industries Association (India), 2006.

⁴⁴⁰ Inter-Ministerial Committee on Ship-breaking, *Minutes of the 13th Meeting of the Inter Ministerial Committee (IMC) on Ship Breaking Held on 08.07.11 at Gandhinagar, Gujarat* (Ministry of Steel, 8 July 2011).

Housing Complex, comprising a compound wall, roads, a water tank and supply system, electricity, shopping centres, landscaping and garden areas and accommodation for 4,464 labourers⁴⁴¹ on land of about 242,813m² at two locations at Alang, and 51,190m² at Sosiya. Phase 1 of a labour colony was constructed by the Gujarat Maritime Board in late 2015 for 1,008 labours and five years on from the Supreme Court order that safe and affordable housing be provided, not one dormitory has actually opened and those planned will only accommodate 1,000 workers at most, of an average workforce of 30,000.⁴⁴²

What is clear from this information is that implementing building or infrastructure in the ship yards is a lengthy, expensive process, requiring financial and information input from multiple agencies and although the progress is there, it is slow and small – while the size of the task to attain compliance upon ratification is urgent and large. However, until workers have proper accommodation, running water and the ability to wash clothes and keep their living environments free from toxins from the ship yards, the incidence of asbestos and other toxin related health conditions will remain high. These are costs that should be borne by the source of the pollution, the ship owner, to achieve neutrality so that the true cost of ship recycling activity is reflected in the price.

5.4.2.5 Training and reporting requirements

General reporting requirements of the ship recycling facility under the Hong Kong Convention require policies and procedures to retain records including: laboratory results; manifests; shipping documents; truck receipts; waste shipment records; records of training and exercises; worker accidents, injuries and occupational health diseases, and it is recommended such records are kept for five years.⁴⁴³ Regulation 22.1.2 says training programmes must be provided to enable workers to safely undertake all tasked recycling operations. Workers must have had appropriate training and familiarisation prior to commencing work under Regulation 22.1.3, while Regulation 22.3 requires that training programmes cover all workers, including contractor personnel and employees; are conducted by competent persons; provide

⁴⁴¹ Gujarat Maritime Board, 'Alang Ship Recycling Yard', *Gujarat Maritime Board* (2012).

⁴⁴² Ebe Daems and Gie Goris, 'Who is Behind?' (Report, 2018) 17.

⁴⁴³ International Maritime Organisation, *Guidelines for Safe and Environmentally Sound Ship Recycling* (Guidelines, 2 March 2012).

for initial and refresher training at appropriate intervals; include evaluation by participants of their comprehension and retention; be periodically reviewed, and be documented.

Appropriate training must also include safety training for Regulations 1.6 and 19.2 which discuss safe-for-entry requirements⁴⁴⁴ and Regulations 1.7 and 19.1 which require safe, non-explosive conditions with all adjacent spaces treated to avoid spread of fire and safe conditions as per Regulation 1.6. Lastly Regulation 20.1 requires the safe and environmentally sound removal of hazardous materials.

Workers must be familiar with the requirements of the Hong Kong Convention relevant to their tasks and must actively use the Inventory of Hazardous Materials and the recycling plan, prior to and during removal of hazardous substances. Regulation 20.2 states that hazardous materials in the inventory must be identified, labeled, packaged and removed to the maximum extent possible prior to cutting by properly trained and equipped workers. The ship recycling plan should include a dismantling sequence that is ship-specific and takes into account the location of hazardous substances and the cutting operations.⁴⁴⁵ Under the Guidelines,⁴⁴⁶ the ship recycling facility is supposed to provide detailed information on the general workforce, job functions, and training procedures. Training should include: awareness and communication concerning hazardous materials; job hazard awareness, including handling hazardous materials; personal protective equipment; fire protection and prevention; emergency response and evacuation; safety and health training; environmental and first aid awareness.

In India achieving these requirements must be considered against the backdrop of the number of workers, their literacy levels and ages, the availability of trainers and training facilities and the migrant nature of the work force. Many of the workers are migrant from poorer, less industrialized areas such as Uttar Pradesh, Orissa and Bihar

⁴⁴⁴ A space where the oxygen content of the atmosphere and concentration of flammable vapours are within safe limits; toxic materials within the atmosphere are within safe limits; residues or materials associated with the planned work will not produce uncontrolled release of toxic materials and confined and enclosed spaces are monitored for dangerous atmospheres and unsafe conditions.

⁴⁴⁵ International Maritime Organisation, *Guidelines for the Development of the Ship Recycling Plan* (Guidelines, 15 July 2011).

⁴⁴⁶ International Maritime Organisation, *Guidelines For Safe And Environmentally Sound Ship Recycling*, MEPC Resolution 210(63) 2012.

and return home to their villages for three to four months a year, usually during the monsoon season to work in agriculture,⁴⁴⁷ resulting in the presence of a high quantity of inexperienced workers at any given time.⁴⁴⁸ The Ship Recyclers Industries Association (India) confirms "[T]he training of workers is an ongoing process and not an overnight job. Moreover, the inflow of new workers and migration of trained workers is a common phenomenon".⁴⁴⁹

Added to the difficulties posed by such a mobile workforce is the sheer number of workers. A Safety Training Institute built by the Gujarat Maritime Board Port Authority at Alang reports training between 600 and 2,400 workers per month.⁴⁵⁰ When this is viewed against the current number of workers at Alang, estimated at capacity as 40,000, the vast scale of the training programme quickly becomes apparent. The growth in Alang-Sosiya and the associated growth in workforce and infrastructure requirements can be easily seen by comparing the statistics: towards the end of 2003 when the training programme was first instituted, there were approximately 15,000 workers in approximately 80 working plots⁴⁵¹ recycling 300 ships, while in 2012 there were 171 plots⁴⁵² recycling 415 ships (approximately 38.6 million tonnes LDT)⁴⁵³ and employing 50,000 people.⁴⁵⁴ In November 2016, the Indian Ministry of Shipping announced it would invest US \$4,48 million over three years in improving conditions, the majority of the funding to be allocated to workforce training⁴⁵⁵ under a flagship programme Sagarmala, after at least 16 workers were killed and 58 wounded in an explosion at the Gadani shipbreaking yard near Karachi, Pakistan.⁴⁵⁶ By that point, the Gujarat Maritime Board was said to have trained approximately 110,000 workers over the previous twelve years through its Indigenous Safety Training and Labour Welfare

⁴⁴⁷ NGO Shipbreaking Platform, 'India' (21 March 2019).

⁴⁴⁸ Adam Halliday, 'Alang workers to get dormitory by end of next year', *Indian Express* (10 October 2012)

⁴⁴⁹ Ship Recycling Industries Association (India), 2006.

⁴⁵⁰ International Metalworkers Federation, *Alang-Sosiya at a Glance* (Report, 2011).

⁴⁵¹ UNESCO, 'Impacts and Challenges of a Large Coastal Industry. Alang-Sosiya Ship-Breaking Yard, Gujarat India (Report, 2004) 2.

⁴⁵² Gujarat Maritime Board, 'Alang Ship Recycling Yard', *Gujarat Maritime Board* (2012).

⁴⁵³ Editorial Staff, 'Alang Yard Sets New Ship Dismantling Record', *Recycling International* (13 April 2012).

⁴⁵⁴ A Bhonsle, 'CNN-IBN – Gujarat Yatra; Health and Pollution Woes in Alang Ignored by Politicians', *NGO Shipbreaking Platform* (online, 5 December 2012) <<http://www.shipbreakingplatform.org/cnn-ibn-gujarat-yatra-health-and-pollution-woes-in-alang-ignored-by-politicians/>>.

⁴⁵⁵ Kirstin Linnenkoper, 'India investing heavily in safety at Alang shipbreaking yard', *Recycling International* (8 November 2016).

⁴⁵⁶ Safety4Sea, 'India sponsors training for workers in ship recycling yards' (3 November 2016).

Institute at Alang, an average of 9,166 workers annually. In May 2018, after it was made mandatory under Sagarmala for a worker to undergo a 12-day skills training program before beginning work in any ship yard, the total number trained since 2003 was reported as 120,000 with 4,036 workers trained in the preceding fifteen months⁴⁵⁷ in an area which employs between 10,000 and 40,000 workers at any given time.⁴⁵⁸ When these numbers are combined with the migratory nature of the workforce, it becomes clear that the goal of all workers in the yards at any given time having undergone minimum mandatory training is extremely difficult to achieve practically.

To even achieve basic training under these circumstances is difficult, but the ship recycling facility must also provide the training required to deal with the hazardous substances so prevalent in ships whose output “represents between 0.5% to 10% of the ship's total weight”.⁴⁵⁹ This higher level of training and skills requires more specialised training, bearing in mind that “[A]pproximately 80% of the migrant workers are illiterate”,⁴⁶⁰ they come from different rural areas and speak different languages (Hindi 42 per cent, Oriya 31 per cent, and Bhojpuri 21 per cent, with five other languages making up the remaining 6 per cent),⁴⁶¹ and work an average of ten hours per day, six days per week,⁴⁶² so training does not fit easily into their schedule. Bangladesh faces similar problems and even with a complex optimised training schedule at ten training facilities could only train 12,600 workers annually⁴⁶³ (Annexure 4). This is another instance where putting in measures to achieve Hong Kong Convention compliance represents further additional costs for the yards. To achieve neutrality where the community is not bearing the cost of the harm caused by the

⁴⁵⁷ Kanu Priya Jain and Anand Hiremath, ‘Training in Alang's Ship Recycling Industry’, *The Maritime Executive* (2 May 2018).

⁴⁵⁸ NGO Shipbreaking Platform, ‘India’.

⁴⁵⁹ F Demaria, ‘Shipbreaking at Alang-Sosiya (India): An Ecological Distribution Conflict’, *Ecological Economics* (2010) 11.

⁴⁶⁰ UNESCO, *Impacts and Challenges of a Large Coastal Industry. Alang-Sosiya Ship-Breaking Yard, Gujarat, India* (Report, 2004) 20.

⁴⁶¹ International Metalworkers' Federation, *Status of Shipbreaking Workers in India – A Survey* (Report, 2004-2007) 15.

⁴⁶² International Metalworkers' Federation, *Status of Shipbreaking Workers in India – A Survey* (Report, 2004-2007) 12.

⁴⁶³ Stuart A Mckenna, Raphael Baumler and Rafet E Kurt, *Strategy For Sustainable Training For The Ship Recycling Industry* (Report, Safe and Environmentally Sound Ship Recycling SENSREC) WP4, Part 2, <<http://www.imo.org/en/OurWork/Environment/MajorProjects/Documents/Ship%20recycling/WP4b%20Strategy%20for%20Sustainable%20Training.pdf>>.

pollution, it should be up to the polluter (the ship owner) to reduce the pollution at source (the vessel) or bear the costs to protect the affected community.

5.4.2.6 Reporting: injuries, certification, refreshers etc

Chapter 2 discussed the 2006 Final Report of the Technical Experts Committee⁴⁶⁴ which found the average annual incidence of fatal accidents in the ship breaking industry to be 2.0 per 1000 workers, almost six times higher than the mining industry which is considered to be the most accident-prone industry.⁴⁶⁵ Two workers died in recent incidents (July and September 2019) at Hong Kong Convention certified ship yards⁴⁶⁶ and NGO Shipbreaking Platform reported at least thirty-four deaths and nearly forty severe injuries in 2018: fourteen fatalities at Alang, twenty in Bangladesh and one in Pakistan.⁴⁶⁷ The transitory and migratory nature of the workforce makes regular emergency drills and familiarity with procedures difficult because not only are the workers transient at the ship yards generally, they also move between ship yards while they are there, following availability of work and pay differences. Thus a ship yard could run an emergency drill in June but there is no guarantee the workers who participated in the drill would be the same workers present at the yard when an emergency occurs in October.

Beyond immediate on-site injuries through accident, exposure to harmful substances – particularly asbestos - is also a significant problem, as previously noted in the results of the 2003 DGFASLI radiological study⁴⁶⁸ which reported a three and a half times prevalence rate of asbestosis disease and related disorders as compared to asbestos cement processing workers.⁴⁶⁹ In July 2011, the IMC Chairman observed⁴⁷⁰ that the actionable issues contained in the DGFASLI report were still pending for

⁴⁶⁴ See Chapter 2.1.4 pge 33.

⁴⁶⁵ F Demaria, 'Shipbreaking at Alang-Sosiya (India): An Ecological Distribution Conflict', *Ecological Economics* (2010) 11.

⁴⁶⁶ The Maritime Executive, *Two Workers Killed at Hong KongC-Certified Shipbreaking Yards* (11 September 2019).

⁴⁶⁷ The Maritime Executive, *Two Workers Killed at Hong KongC-Certified Shipbreaking Yards* (11 September 2019).

⁴⁶⁸ See Chapter 2.1.4 pge 33.

⁴⁶⁹ Directorate General of Factory Advice Service and Labour Institutes, *Standard Reference Note of 2009* (Standard Reference Note, April 2010).

⁴⁷⁰ Minutes of the 13th meeting of the Inter-Ministerial Committee (IMC) on Ship breaking held on 08.07.11 at Gandhinagar, Gujarat.

implementation by Gujarat Maritime Board and SRIA.⁴⁷¹ Despite Regulation 21.5 declaring all workers at all levels must be trained at their level of competency for emergency procedures, first aid, evacuation and pollution prevention and Regulation 23.1 requiring any incident, occupational disease, chronic effect causing or potentially causing health or environmental risks be reported, it is clear that bringing about change will be no easy matter, given the living conditions and lack of training discussed earlier in this chapter.

5.4.2.7 Environmental issues

Under Regulation 19.4 the ship recycling facility must develop procedures or policies to prevent spills or emissions which may harm human health or the environment. The facilities also have to be careful of pollution or hazardous substances leaching into the ground, hence the preferred use in Turkey of concrete surfaces for ships being recycled using the slipway method, where the ship is partly on shore and partly on land.



Fig. 3 : The 'Landing' method used in Turkey, on concrete surface (Scorpecci, 2011)

In India all recycling historically occurs directly on the beach and any spill or emission of hazardous materials goes directly onto the sand. In 2017, India negotiated a loan of 8,520 million Japanese Yen (approximately US\$ 77,855,760) for 'Upgradation of Environmental Management for Ship Recycling in Gujarat' of both onshore and off-shore facilities of 70 yards. These are to include upgrading ship recycling yards with impermeable floors as well as drain ditch and pits to prevent ground water pollution; providing crawler cranes to directly carry the cut off parts of a ship to avoid dropping the polluted parts of a ship in the intertidal zone; an off-shore tank cleaning barge to

⁴⁷¹ Inter-Ministerial Committee on Ship-breaking, *Minutes of the 13th Meeting of the Inter Ministerial Committee (IMC) on Ship Breaking Held on 08.07.11 at Gandhinagar, Gujarat* (Ministry of Steel, 2011).

clean tankers before beaching and a mobile decontamination system to remove all sludge from a vessel.⁴⁷² In 2017, the Indian Ministry of Shipping declared that all ship recycling facilities that wish to continue operating beyond July 2018 will have to upgrade their infrastructure through the provision of impermeable floors for secondary cutting⁴⁷³ but there is no indication this deadline has been met or enforced. In the Gujarat Maritime Board Report to Japan on the ship recycling yard improvement project, eleven out of one hundred and thirty-one yards were declared to have concrete impermeable floors and sixteen to have concrete floors under construction.⁴⁷⁴ By August 2019, twenty-seven sites had been issued certificates of compliance⁴⁷⁵ and a visit to Indian ship recycling yards by the ECSA in 2019, whose Members had previous experience of Alang recycling facilities, did identify general progress mainly through the mechanisation of the ship recycling process (use of more cranes with additionally higher lifting capacities), the further expansion and use of impermeable floors and intensified training courses and social improvements for the workers.⁴⁷⁶



Fig. 4 : Oil spills leaching onto the sand in India (2012)⁴⁷⁷



Fig 5: Impermeable floors in India (2019)⁴⁷⁸

⁴⁷² Japan International Co-operation Agency, 'World's Biggest Ship Recycling Yard Receives Major Enhancement through JICA Cooperation Modernising Ship Recycling Industry in India to Enhance its Global Share' (15 September 2017).

⁴⁷³ Dr Nikos Mikelis, 'What Will 2018 Bring to the Ship Recycling Industry?', *The Maritime Executive* (7 January 2018).

⁴⁷⁴ Gujarat Maritime Board, *Preparatory Survey On The Ship Recycling Yard Improvement Project In India Final Report (Draft)* (Draft Report, July 2017).

⁴⁷⁵ Robin des Bois, *Shipbreaking Bulletin of information and analysis on ship demolition# 56, from April 1 to June 30, 2019* (Bulletin, 2 August 2019).

⁴⁷⁶ European Community Ship owners' Association, *ECSA Report - ECSA Visit to Indian Ship Recycling Facilities* (Report, 25 – 27 February 2019) 10.

⁴⁷⁷ © 'Dealing with an Oily Ghost of the Past', *Musings from the Crow's Nest* (5 August 2012) <<http://scotmarineinst.blogspot.com.au/2012/08/a-huge-dark-rust-scarred-ship-with-23.html>>.

⁴⁷⁸ European Community Ship owners' Association, *ECSA Report - ECSA Visit to Indian Ship Recycling Facilities* (Report, 25 – 27 February 2019) 11.

5.4.2.8 Hazardous materials: disposal and recycling

Under the Guidelines⁴⁷⁹ to implement Regulation 20.3, the ship recycling facility must include procedures to assess hazards and their minimisation or elimination and details of procedures that will be used to process or dispose of wastes and hazardous materials, such as asbestos, removed from the ship recycling facility. Regulation 20.4 says wastes must be kept separate from recyclable materials and equipment, labelled, stored in appropriate conditions that do not pose risks to workers, human health or the environment, and only transferred to waste management facilities authorised to deal with them in a safe and environmentally sound manner.

An exact figure for hazardous wastes to be disposed of at each facility is difficult to come by, as records have not been kept by the yards and ships carrying green passports are still in the minority. However, figures provided by the World Bank Study provide an estimate, for example, of 510 tons of asbestos per million GT typical merchant vessel.⁴⁸⁰ The Ship Recyclers Association published information says a landfill site has been constructed next to the yard in Alang and is already working, operated by GEPIL. "All the hazardous and non-hazardous waste generated by the industry is collected and sent to the TSD site and is handled efficiently".⁴⁸¹ Unfortunately, when the facility was examined in June 2011 "although what appeared to be a state-of-the-art landfill had been provided, it was obvious that the day-to-day operations fell far short of proper standards. Bags of waste were just dumped on the outside of the pit, broken and leaking everywhere".⁴⁸² However, in 2019 GEPIL was described as providing expert services to sellers and buyers of ships destined for recycling including safe Removal of Asbestos Containing Materials (ACM) from ship structures before and during recycling and operating a secured landfill dedicated to burying asbestos, glass wool and other hazardous wastes, an effluent treatment plant

⁴⁷⁹ 3.2.6 of Annex 4 to MEPC 210(63), International Maritime Organisation, *2012 Guidelines For Safe And Environmentally Sound Ship Recycling*, International Maritime Organisation.

⁴⁸⁰ Stuer-Lauridsen Sarraf et al, *Ship Breaking and Recycling Industry in Bangladesh and Pakistan* (Report No 58275-SAS, 2010).

⁴⁸¹ Ship Recycling Industries Association (India), *Infrastructure* (Web Page, 2012).

⁴⁸² Lloyd's Register, *Ship Recycling Practice and Regulation Today* (Report, 2011) 13.

(bilge and waste water) and incineration facilities,⁴⁸³ all of which suggests strong progress has been made in this area.

5.4.3 Other implications

5.4.3.1 Location

The Guidelines require the ship recycling facility describe procedures for securing the vessel upon arrival, such as mooring, security against inclement weather, stability during recycling, and flooding or sinking prevention methods. Currently Indian facilities are located on beaches and none of these apply to beaching. The accepted recycling methods on the European List of ship recycling facilities⁴⁸⁴ include alongside, dismantling by quay and on impermeable floors, slipway and wet/dry dock. One of the biggest challenges for Indian ship yards is that the Hong Kong Convention theoretically allows for beaching while the EU Regulation formally does not, so even yards that do attain a valid Hong Kong Convention Statement of Compliance will still not be eligible to be included on the EU Regulation list of approved recycling facilities.⁴⁸⁵

Recycling alongside, that is recycling from a dock and/or boat alongside, is problematic for India, as the ship recycling work area is some distance inland due to the almost 10m tidal area. The slipway method is also difficult for similar reasons, as it requires the ship be partly in the water and partly on shore simultaneously. To comply with the requirements of the Guidelines and the Hong Kong Convention, India will need to create concrete areas to prevent seepage from spills or emissions into the sand, or relocate the industry to somewhere recycling can take place closer to the waterline to allow for landing or afloat recycling practices. Even in areas with impermeable floors, Indian yards still use the gravity method where cut-off steel slabs fall to the ground rather than being picked up by cranes and deposited on a hard and impermeable floor where they can be cut up further into transportable pieces. This is primarily because, even in the most improved yard, the impermeable floors do not reach far enough across the dry beach area into the tidal zone.⁴⁸⁶

⁴⁸³ European Community Ship owners' Association, *ECSA Report - ECSA Visit to Indian Ship Recycling Facilities* (Report, 25 – 27 February 2019) 12.

⁴⁸⁴ See Annexure 5.

⁴⁸⁵ Gie Goris, 'Mendeleev beaches: shipbreaking and the spilling of copper, cobalt, manganese, lead, cadmium, nickel, zinc and mercury', *Mondiaal News* (5 March 2019).

⁴⁸⁶ DNV-GL, *Inspection Of A Ship Recycling Facility In India - Site Inspection Report for Application 006 to European Commission Directorate-General for the Environment* (Report, 21 January 2019) 33

Of the global volume of ships recycled in 2017, Turkey recycled 1,257,082 GT (0.05 per cent) while India, recycling in Gujarat, Maharashtra and West Bengal, recycled 6,938,028 GT (28 per cent).⁴⁸⁷ The cost and scale of relocating or resurfacing the Indian ship yards would be tremendous – “Alang–Sosiya Ship Breaking Yard (ASSBY), which occupies 10 Km of coastline, became in the 1990s the world’s largest shipbreaking yard”⁴⁸⁸ - but currently no acceptable method of recycling for beaching has been determined that would comply with the Hong Kong Convention and Guidelines. This means upon ratification of the Hong Kong Convention, an environmentally safe method of shipbreaking using the beaching method needs to be determined and defined. If this cannot be done, India will either lose its ability to scrap ships, will have to relocate its entire ship scrapping industry to some other area, or simply accept it can never achieve ratification and thereby lose the majority of its market share should the Hong Kong Convention ever enter into force. India did try to open a non-beaching recycling facility in 1999, the Pipapav yard, which was just 100km away from Alang but the ships never came⁴⁸⁹ and it is now a shipbuilding yard, not a ship recycling yard.⁴⁹⁰

Prior to the current loan agreement with Japan undertaken by the Gujarat Maritime Board , there was discussion of a US\$ 22-million assistance plan from Japan to upgrade the Alang Recycling Yard with a dry dock, improvements to current yards and other facilities, but it was reported this offer was not welcomed by the Ship Recyclers Association. Although it was thought the plan would bring a projected extra thirty ships a year to Alang, the Ship Recyclers Association said they were unwilling to take on the extra debt and the new facilities would also mean the enforcement of other rules and regulations across the yards.⁴⁹¹ It is also worth noting that both deals with Japan were for physical improvements to assist Alang attain compliance, but neither included

⁴⁸⁷ International Maritime Organisation, *Recycling of Ships: Calculation of Recycling Capacity for Meeting the Entry into Force Conditions of the Hong Kong Convention Note by the Secretariat* (Report, 24 April 2012).

⁴⁸⁸ F Demaria, ‘Shipbreaking at Alang-Sosiya (India): An Ecological Distribution Conflict’, *Ecological Economics* (2010),

⁴⁸⁹ Gie Goris, ‘Mendeleev beaches: shipbreaking and the spilling of copper, cobalt, manganese, lead, cadmium, nickel, zinc and mercury’, *Mondiaal News* (5 March 2019).

⁴⁹⁰ Dev Chatterjee, ‘Punj Lloyd to exit Pipavav Ship yard’, *The Economic Times* (27 March 2010).

⁴⁹¹ H Dave, ‘Shipbreakers shy of Upgrade Plan for Alang on Japan Nudge’, *Indian Express* (online, 1 June 2012) <<http://www.indianexpress.com/news/shipbreakers-shy-of-upgrade-plan-for-alang-on-japan-nudge/956451#>>.

assistance with the increased operational costs of compliance: training, equipment, administrative costs to maintain reporting requirements, implementation of new environmental management systems, and so on. The loan undertaken by the Gujarat Maritime Board currently has relied on support provided by the yards themselves or the Gujarat Maritime Board which may go some way to explaining why the physical improvements have not been sufficient, despite the Hong Kong Convention Statements of Compliance that have been issued, for the yards to be included on the recent EU Regulation list of approved recycling sites.

5.4.3.2 Indian ship yards would have to temporarily stop or reduce recycling

It has been argued that there is not enough capacity in European ship yards to cope with the European ship recycling demands under the EU Regulation.⁴⁹² However, this is disputed by the NGO Shipbreaking Platform which says that the ship recycling facilities included on the EU Regulation List of Approved Recycling Facilities as at September 2018 could have recycled all the EU-flagged vessels, both in terms of LDT and size, which went for breaking since 2015.⁴⁹³

The biggest disincentive to successful and full implementation of the Hong Kong Convention requirements in India is the drop in profits it would cause to the ship owners⁴⁹⁴ and to the recycling yards. The difference between environmentally safe ship recycling with fully implemented workplace health and safety and environmental procedures can be seen in the different prices paid for vessels by the different yards operating under different conditions. It is estimated that a container ship of 25,000 LDT would sell for more than US \$11 million in India, US \$7 million in Turkey and a little over US \$5 million in China.⁴⁹⁵

⁴⁹² European Community Ship owners' Association, 'ECSA Asks For More Capacity On The EU Ship Recycling List' (Press Release, 26 September 2018) <https://www.ecsa.eu/press-releases/ecsa-asks-more-capacity-eu-ship-recycling-list>.

⁴⁹³ NGO Shipbreaking Platform, 'EU-listed yards can handle the recycling demand of EU-flagged ships: Implementation of the EU Ship Recycling Regulation No 1257/2013 (EU SRR)' (September 2018).

⁴⁹⁴ European Economic and Social Committee, 'The EU needs to tackle the issue of ship-breaking and pave the way for Europe's recycling industry' (online, 30 June 2017) <https://www.eesc.europa.eu/en/news-media/news/eu-needs-tackle-issue-ship-breaking-and-pave-way-europes-recycling-industry>.

⁴⁹⁵ Gie Goris, 'Why beaching is so hard for companies to resist', *Mondiaal Nieuws* (5 March 2019).

Losing their share of the current business boom would also severely economically disadvantage the Indian ship yards. The effect of a temporary reduction in scrapping can be clearly seen in the impact of a one year ban on ship recycling imposed in Bangladesh in 2009 to force the industry to improve its environmental procedures.⁴⁹⁶ India took away a large part of the Bangladesh market at the time and emerged as the alternative leading ship breaking destination⁴⁹⁷ and Bangladesh has yet to fully recover its position.

5.5 Analysis

The burdens of the Hong Kong Convention do not align with Indian ship yard business or social structures. For example, the administrative tasks needed to meet the reporting requirements of the Hong Kong Convention, in terms of recording and reporting hazardous materials, incidents, staff training, environmental management systems and so on, do not take into account the practical reality of an office in an Indian ship breaking yard: "[T]he most marginal yards could afford only flimsy shacks or open-sided shelters. The more successful yards had invested in more solid structures, some of concrete, with raised verandahs and overhead fans."⁴⁹⁸ For such offices to take on the administrative tasks specified in the Hong Kong Convention would mean in some instances building entire new offices and in almost all instances, hiring new staff, installing new equipment and setting up new administrative systems, all on a scale unparalleled in the local industry.

The training requirements, while understandably present in the Hong Kong Convention, take on new ramifications when they have to be applied to a largely illiterate, migrant workforce of 40,000 people across 170 ship yards, who speak at least five different languages between them. The workforce is highly mobile: workers are frequently present intermittently for short periods and are employed on a casual only basis, often moving from yard to yard for financial and other reasons. The scale of the practical task becomes logistically challenging when trying to provide

⁴⁹⁶ Hortonedea, 'Environmentally Sound Ship Dismantling' (Webinar, 2012).

⁴⁹⁷ K Ravichandran, P Jain and R Sanklecha, *Shipbreaking Industry: Key Trends and Credit Implications: ICRA Rating Feature* (ICRA, 2012)

⁴⁹⁸ W Langewiesche, 'The Shipbreakers', *Wes Jones* (2012).

meaningful, valuable training to such a workforce. The additional obligations under the Hong Kong Convention of recording and monitoring currency of qualifications and implementing refreshers, and then requiring the workers' participation in the assessment, simply add to the issues.

Protective equipment is indeed necessary for the work but again, providing equipment to that number of workers and then ensuring adequate facilities for the equipment to be cleaned and maintained, is a complex logistical task. Workers change yards frequently then return home without notice, and providing and keeping track of the equipment is not only difficult, but almost guaranteed to result in large losses to the yards. Implementing safety procedures when dealing with hazardous materials, such as the safe removal of overalls worn in asbestos areas prior to workers leaving the yards so that fibres are not transported from the work environment to the home environment and other such precautions, becomes complicated and expensive when there is a workforce of 200 to 500 people working on a ship at a time. Changing facilities and storage areas are required, along with facilities to receive, wash and reallocate the clothing after cleaning.

Hiring fewer but better qualified or more skilled workers who could remain in a position for longer could be a solution but this would likely lead to displacement of the less skilled workers who they replace and the families relying on their income would also suffer. The displacement of so many workers already in the lower levels of poverty with little chance of finding alternate work would no doubt have far-reaching socio-economic implications on Indian society in general.

In addition, there are the environmental concerns. Beaching as a breaking method is not in accordance with the Hong Kong Convention or Guidelines without major changes in practice, but the cost of changing 170 ship breaking yards along a 10km stretch of shore line to facilitate either dry dock, slipway or alongside ship breaking is extremely high and given the physical layout of the area, extremely impractical. Further, none of the currently preferred breaking methods is practically performable on the Indian coastline. That said, the environmental damage caused by the release of the various toxins and fuels into the environment and air is not making a positive contribution to either the health of the land or the workers. While the beaching States

are attempting change, they are still falling below the required international standards and will incur even greater costs to implement less efficient and workable methods for their conditions in trying to meet those standards. However, until a practical solution can be found to make beaching environmentally safe, these States face relocating their yards or forfeiting large sectors of the market.

Lastly, any major infrastructure changes to the ship recycling yards themselves, as opposed to the facilities around them, must force a temporary reduction or halt to their ship recycling activities. In the current economic climate where the workers cannot afford to go without pay, where ship yards would be extremely reluctant to incur more costs only to lose market share in the process, it would seem that neither now nor the immediate future is a good or likely time for India to ratify the Hong Kong Convention and successfully achieve meaningful compliance under the Guidelines.

5.6 Conclusion

It is clear from the above discussion that the Hong Kong Convention entry into force requirements are extremely unlikely to be achieved despite India's accession. This is because there are still multiple states required to contract to achieve the entry into force requirements of forty per cent of the world fleet GT and then at least one other major recycling country is needed to manage a recycling volume of three per cent of the contracting States combined merchant fleet GT. Beyond that, once the Hong Kong Convention does enter into force, there is still a long way to go for India and other beaching countries, which currently lag behind India in progress, to achieve true Hong Kong Convention compliance. In the meantime, the continued operation of the beaching recycling facilities is critical for the world's ship recycling demand to be met. From the perspective of this thesis, the goal is to hold ship owners liable for harm caused by exposure to asbestos during the ship recycling process. The Hong Kong Convention does not enable allocation of liability to ship owners. As evidenced in the discussion above, it imposes obligations first and foremost on the yards themselves to improve their facilities, their workplace health and safety conditions and management of pollutants. This does not place liability on the ship owners whose responsibility is limited to providing an inventory of hazardous material (IHM) to the ship yard, receiving a ship recycling plan from the ship yard and approving said plan.

There is no incentive for ship owners to push for compliance with the Hong Kong Convention as the costs of achieving compliance will simply cut into the profits they make for selling their vessels. However, there is a push created by measures such as the EU Regulation or the actions of large industry players such as Norway's \$1 trillion Oil Fund, a leader in ethical investing, which has sold its stake in four firms because they scrap on the beaches.⁴⁹⁹

While there are profits to be made, ship owners will continue to try and find ways around regulations unless legal penalties can be brought to bear. The only way that will be successful is if the practice of sending ships to be recycled can be brought under the Basel Convention which is designed to control the movement and safe disposal of waste materials containing hazardous substances. A recent example of this is the United Kingdom vessel, the *North Sea Producer* FPSO, which was discovered pending recycling on a beach in Chittagong, Bangladesh in 2016. Legal action was brought by the NGO Shipbreaking Platform and the Bangladesh Environmental Lawyers Association. The Bangladesh Supreme Court delivered its judgment in November 2019 and declared that the vessel had arrived in Bangladesh illegally in breach of international shipbreaking laws⁵⁰⁰ and there is now demand for the United Kingdom authorities to hold the original ship owner, the North Sea Production Company, to account. The North Sea Production Company reportedly informed authorities in the United Kingdom that the vessel was being purchased by a Saint Kitts and Nevis based company. Maersk, a member of the joint venture that owned the North Sea Production Company and who were asked by the United Nations⁵⁰¹ to respond to the sale allegations, declared that the North Sea Production Company was a completely separate sole entity, that the United Kingdom authorities had full knowledge of the buyer's identity and that they understood the ship was to be used for work in Nigeria and that the buyer had lied to them.⁵⁰² The United Kingdom is investigating.

⁴⁹⁹ Jonathan Saul and Simon Jessop, 'Shipping's financiers turning the tide on shipbreaking practices', *Reuters Business News* (15 May 2018).

⁵⁰⁰ Allister Thomas, 'Beaching of United Kingdom North Sea vessel in Bangladesh ruled as illegal', *Energy Voice* (20 November 2019).

⁵⁰¹ United Nations Human Rights Special Procedures Letter to Maersk (27 February 2018).

⁵⁰² Maersk's response to UN on alleged transboundary movement of end of life ship (24 May 2018).

This is a prime example of an alleged breach of the Basel Convention which has run into the difficulties of identifying ownership and States of export. In this instance, the recycling was only stopped because the Bangladesh Supreme Court, within the same jurisdiction as the recycling venue, made a decision that the act of sending of the vessel to Bangladesh for recycling was illegal. This is not a usual occurrence as the jurisdictions where the ship recycling occurs are seldom prepared to declare vessels brought to them as illegal. It is generally the country from which the vessel was exported that attempts to enforce a breach of the Basel Convention and this exact situation is explored in the chapters below. The second half of this thesis addresses and proposes solutions to this and other problems faced when applying the Basel Convention to ship recycling.

The first issue to be addressed is one that is frequently raised in the debate about the application of the Basel Convention to ship recycling: that the Basel convention only applies to the transport of hazardous waste and a ship on its end of life journey, in other words on its way to being recycled, is a ship and therefore cannot be waste. The current position adopted by the Basel Parties⁵⁰³ is that a ship may be waste and may be a ship simultaneously.⁵⁰⁴ Unfortunately, the flexibility of this definition means that, while the shipping industry can claim a vessel going for recycling is a ship and not waste, application of the Basel Convention to ship recycling is still in dispute. In order to resolve this issue, the next chapter of this thesis makes a distinctive contribution to the literature through adopting a novel methodology to resolve the vexed question of how to define a ship in international law. The definition put forward makes it clear that a vessel on its end of life journey is not and cannot be a ship.

Subsequently, Chapter 7 conducts a comparative and qualitative analysis of the contracts used for the sale of second-hand ships and for the sale of vessels for recycling in order to identify whether the subject matter of both contracts is the same. The subject matter of a contract for the sale of a second-hand ship is undeniably a ship. Therefore, if the subject matter of a contract for the sale of a vessel for recycling is not the same subject matter, then the subject matter of a contract for the sale of a

⁵⁰³ Conference of the Parties, 7th mtg, 2004.

⁵⁰⁴ Amy E Moen, 'Breaking Basel: The elements of the Basel Convention and its application to toxic ships' (2008) 32 *Marine Policy* 1053, 1057.

vessel for recycling cannot be a ship. Based on the conclusion of Chapters 6 and 7 (that a vessel on its end of life journey to be recycled is not a ship and thus can be identified as waste) the thesis goes on to apply the terms of the Basel Convention directly to the ship recycling process and propose solutions to the issues around State of Export and other terms.

Chapter 6: When is a Ship a Ship?

6.1 Introduction

In establishing whether ship owners can be held liable for harm caused by exposure to asbestos during ship recycling, this thesis has so far examined the justification supporting the attribution of liability to ship owners under the polluter pays principle, followed by analyses of MARPOL and the Hong Kong Convention as possible legal mechanisms. The conclusion thus far has been that ship owners are the appropriate entities to whom liability should be attributed but that neither MARPOL nor the Hong Kong Convention will achieve this. This leaves only the third option - the Basel Convention – as a possible solution.

One of the difficulties of applying the Basel Convention to ship recycling has been the debate about whether a vessel on its end of life journey is a ship or waste. The Basel Convention covers the transboundary movement of hazardous waste on its way to disposal. While there is no dispute that a vessel on its end of life journey is being sent for recycling, there are opposing views as to how that vessel should be identified. The Basel Action Network⁵⁰⁵ (BAN) group⁵⁰⁶ and other NGOs, such as Shipbreaking Platform and Greenpeace,⁵⁰⁷ put forward the view that the vessel on its end of life journey is hazardous waste. However, “the shipping industry has consistently held the view”⁵⁰⁸ that a vessel on its end of life journey is a ship and while it is a ship it cannot be identified as waste.⁵⁰⁹ This has resulted in the current indeterminate position that a vessel may be waste and a ship simultaneously.⁵¹⁰ This state of affairs was referred to earlier in the discussion of MARPOL where the shipping industry’s simultaneously

⁵⁰⁵ Basel ACTION Network is a not-for profit advocate for three toxic waste streams covered by the Basel Convention: Electronic waste (e-waste), End of life ships and Plastic pollution. <<https://www.ban.org/about-us>>.

⁵⁰⁶ Basel Action Network, ‘Global Ban on Exporting Hazardous Waste to Developing Countries Becomes Law’ (8 September 2019).

⁵⁰⁷ Greenpeace International, *Statement: decommissioning the Rongdhonu (ex Rainbow Warrior (II))* (15 November 2018).

⁵⁰⁸ Tony George Puthucherril, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2008) 113.

⁵⁰⁹ Communication from The European Commission To The Council, *An assessment of the link between the IMO Hong Kong Convention for the safe and environmentally sound recycling of ships, the Basel Convention and the EU waste shipment regulation*, [2.2.5].

⁵¹⁰ COP to the Basel Convention VII/26. Environmentally sound management of ship dismantling Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal on Its Seventh Meeting (UNEP/CHW.7/33), Geneva (2004) (October).

held mutually opposing positions were highlighted: firstly, that ship recycling is a method of managing shipping-related waste where the waste is the ship and therefore ship recycling is governed by MARPOL⁵¹¹ and thus excluded from the Basel Convention; and secondly, that a vessel on its end of life journey is a ship and therefore it cannot be waste so it falls outside the scope of the Basel Convention.⁵¹² Logically, the same vessel cannot be identified as waste to include it within the ambit of MARPOL and simultaneously be declared not waste to exclude it from the ambit of the Basel Convention. Perhaps surprisingly, the crux of this issue is not the definition of waste, it is actually the definition of ship. The shipping industry's argument is that the vessel cannot be a waste while it is a ship – there must be a moment when the ship becomes waste⁵¹³ and the industry proposed view is that this occurs when the ship reaches the recycling destination at the end of its end of life journey.⁵¹⁴ If the vessel on its end of life journey can be conclusively identified as a ship for the duration of that journey then it is clear that the Basel Convention will not apply and the need to try and pull the vessel under the scope of MARPOL to avoid the Basel Convention would no longer be there. If it can be conclusively demonstrated that the vessel on its end of life journey is not a ship then it must be concluded that it is waste for the duration of the journey and therefore it will fall within the scope of the Basel Convention. So the question becomes - is a vessel on its end of life journey a ship?

6.2 The Definition

What is a ship? Surprisingly, there is no universal legal definition. Historically, this has long been an accepted state of affairs. However, as globalisation increases the number of international and multi-national transactions, it has become critical to have a single universal definition that applies across international law regimes as opposed to multiple definitions, each specific only to individual instruments. From the United Kingdom Admiralty Courts to the Netherlands Criminal Courts and in unsuccessful attempts to apply the Basel Convention, the judiciary are faced with increasing

⁵¹¹ See *Seatrade* (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1] and [4.3.4.1].

⁵¹² Gabriela Argüello Moncayo, 'International law on ship recycling and its interface with EU law' (2016) 109 *Marine Pollution Bulletin* 301.

⁵¹³ European Commission, *Ship Recycling: EU Policy* (8 August 2019).

⁵¹⁴ 'Industry Code of Practice On Ship Recycling', *International Chamber of Shipping* (Code of Practice, August 2001).

complications in addressing this simple question. This chapter analyses the twenty-six international conventions in force containing definitions of the word ship. In doing so, it aims to strip away those characteristics related to specific conventions and isolate the core attributes that apply across the board to create a universal definition of ship. The definition breaks down into three parts. To meet the definition of ship the object must be capable of self-directed self-propulsion; travel at sea; and be in operation. This definition applies successfully across all situations from jet skis, gliders and houseboats to offshore platforms, floating storage units, submersibles and hydrofoils.

6.3 Background

Is a Waverunner or jet ski a ship?⁵¹⁵ Are floats and gliders ships?⁵¹⁶ Is a houseboat a ship?⁵¹⁷ The answers to the first two questions probably seem obvious (they are not ships) but if the last question gives pause it is not surprising (although it is also not a ship). Each of these questions has been the subject of much debate, both academic and judicial, because there is no standard definition of the term 'ship'. Even though maritime law has been developing over centuries⁵¹⁸ and ships are a central component of the industry, the term itself has never been absolutely defined.⁵¹⁹ Domestic legislation and international conventions and regulations frequently use the term ship interchangeably with the term vessel and ascribe both those terms characteristics without actually defining the terms themselves.

In the United States, for example, the legislation only defines the term 'vessel' which "includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on water".⁵²⁰ The definition's emphasis on the ability to transport⁵²¹ with the associated perils of navigation⁵²² might seem straight

⁵¹⁵ *R v Goodwin* [2006] 1 Lloyd's Rep. 432.

⁵¹⁶ Katharina Bork et al, 'The Legal Regulation of Floats and Gliders—In Quest of a New Regime?' (2008) 39 *Ocean Development and International Law* 307.

⁵¹⁷ *The Environment Agency v Gibbs & Anor* [2016] 2 Lloyd's Rep. 69.

⁵¹⁸ Robert S Smith, 'Recent Criticism of the Book of the Sea Consulate' (1934) 14 *The Hispanic American Historical Review* 359.

⁵¹⁹ Gotthard Mark Gauci, 'Is It a Vessel, a Ship or a Boat, Is It Just a Craft, Or Is It Merely a Contrivance?' (2016) 47 *Journal of Maritime Law & Commerce* 479.

⁵²⁰ *Revised Statutes of 1873*, 1 U.S.C. § 3.

⁵²¹ *Stewart v Dutra* 543 US 481 (2005).

⁵²² *Evansville & Bowling Green Packet Co. v. Chero Cola Co.*, 271 U.S. 19 (1926).

forward but it still had to be further clarified and defined as recently as 2013 in *Lozman* where a houseboat was determined not to be a vessel as it had no rudder or steering mechanism.⁵²³ In the United Kingdom there are multiple sections of legislation that refer to boats, vessels or ships but there is no actual definition of the terms ‘ship’ or ‘vessel’ themselves, hence the need for cases such as *R v Goodwin* to go all the way to the High Court to determine whether a jet ski is a ship.⁵²⁴ Australian legislation falls into the trap of the circular definition by defining ship as “any kind of vessel capable of navigating the high seas”⁵²⁵ and as “a vessel of any kind used or constructed for use in navigation by water, however it is propelled or moved”,⁵²⁶ then defining vessel as a craft “for use, or that is capable of being used, in navigation by water, however propelled or moved”.⁵²⁷ This is very similar to the domestic definition in the United States and focuses on something that can be used and navigated in water but lacks the United States’ narrowing of the term by reference to transport. Defining a ship as a vessel and then defining a vessel as a craft does not clarify any of the three terms. The European Union Ship Recycling Regulations are also circular, defining ship as “a vessel of any type whatsoever operating or having operated in the marine environment, and includes submersibles, floating craft, floating platforms, self-elevating platforms, Floating Storage Units (FSUs), and Floating Production Storage and Offloading Units (FPSOs), as well as a vessel stripped of equipment or being towed”.⁵²⁸

Lacking a clear definition of the term ship is clearly problematic, even when applying the characteristics of a given definition within a defined context, such as applying the United States definition to a houseboat. However, not having a widely accepted definition causes greater problems when applying the term ‘ship’ using international instruments without any definition or characteristics. For example, the ongoing disputes about whether the Basel Convention applies to ship recycling. The Basel Convention does not mention the term ‘ship’ but it clearly defines the term ‘waste’ and there has been no dispute that a vessel on its way to being recycled does satisfy the

⁵²³ *Lozman v. City of Riviera Beach, Fla.*, (2013) 133 S. Ct. 735.

⁵²⁴ *R v Goodwin* [2006] 1 Lloyd’s Rep. 432.

⁵²⁵ *Shipping Registration Act 1981* (Cth) s 3.

⁵²⁶ *Admiralty Act 1988* (Cth) s 3.

⁵²⁷ *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* (Cth) s 8.

⁵²⁸ *Regulation (EU) No 1257/2013 Of The European Parliament And Of The Council of 20 November 2013 on Ship Recycling And Amending Regulation (EC) No 1013/2006 art 3 and Directive 2009/16/EC.*

definition of waste. As mentioned briefly in the introduction to this chapter, the key opposing arguments have been either that a vessel on its way to being recycled meets the definition of ship and while it is a ship it cannot be deemed waste⁵²⁹ or, alternatively, the vessel may be simultaneously both waste and a ship.⁵³⁰ Ultimately, either of those situations prevents successful application of the Basel Convention because while it may be a ship, a vessel can arguably be excluded from the Basel Convention. The primary obstacle is the lack of a clear definition of the term 'ship'. If it could be determined that a vessel on its way to recycling is not a ship then the vessel would be solely waste and the Basel Convention would apply without dispute.

6.4 Methodology

This chapter analyses the term 'ship' in twenty-six international conventions in force using a common denominator approach, removing all elements of the definitions that are specific to only particular conventions. This leaves only those elements that apply broadly across the conventions and therefore represent the core characteristics of the term 'ship', applicable to all conventions, creating an international definition of ship from already agreed and accepted terms. Only conventions in force have been analysed as these are the only ones where the terminology used can be said to have already received widespread agreement and acceptance. This definition breaks down into three parts and to meet the definition of ship, the object must be: capable of self-directed self-propulsion, at sea, and in operation. This definition applies successfully across all situations from jet skis, gliders and houseboats to offshore platforms, floating storage units and submersibles. This chapter demonstrates that if a vessel is a ship, then it has the properties of being a ship and if it does not have the properties of a ship, then it cannot be a ship.

6.5 Fundamentals

The methodology adopted throughout this thesis has been one of doctrinal or black letter positivism, of the type applied by courts in judicial decision-making. This is because this thesis seeks to explore the ways in which certain regulatory standards

⁵²⁹ *Seatrade* (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

⁵³⁰ Council of the European Union, Submission No 16995/12, [8] (2012).

can be applied to ship recycling, an exercise which in the final analysis will be conducted by a national court. To quote George Bernard Shaw: "Britain and America are two nations divided by a common language". Without a common understanding of language, meaningful communication is impossible and nowhere does this apply more than in law. In common law, and to a lesser extent civil law, lawyers rely on jurisprudence, comparing and contrasting the structural characteristics (relevant legal facts and context) of one case with another in order to check or substantiate argumentation.⁵³¹ In Toulmin's scheme,⁵³² lawyers must first distinguish and extract the legally relevant facts (grounds) from the case information, then identify applicable sources of law, for example, rules of law and statutes (warrants) alongside other relevant information such as a reference to generally accepted knowledge, norms or jurisprudence which can provide support for the warrant (backings). These warrants and backings have to be compared to the grounds to test whether the rules are indeed applicable to the facts in question.⁵³³ It is critical that every case judgement be defined as precisely as possible in order that others engaged in the legal process can infer the judgement and law therein as exactly as possible.⁵³⁴ It is this that allows lawyers to draw something-from-nothing entailments creating *a priori* conceptual knowledge that enables certainty, for example "if Lassie is a dog, then Lassie has the property of being a dog"⁵³⁵ or in a more legal example, if this is a lease then it can be safely inferred it has the properties of a lease and, vice versa, if it has the properties of a lease then it can be enforced as a lease.⁵³⁶ This chapter demonstrates that if an object is a ship then it has the properties of being a ship and if it does not have the properties of a ship then it cannot be a ship, regardless of nomenclature. However, this only provides assistance to the lawyer identifying the grounds and applying warrants and backings to argumentation if all parties agree what is a ship - and can therefore recognise the associated properties. Otherwise calling Lassie a dog, or a document a lease and not a licence, or a vessel a ship has no meaning. The definition is all.

⁵³¹ Fleurie Nievelstein et al, 'Effects of conceptual knowledge and availability of information sources on law students' legal reasoning' (2008) 38 *Instructional Science* 23.

⁵³² Bart Verheij, 'Evaluating Arguments Based on Toulmin's Scheme' (2005) 19 *Argumentation* 347-371.

⁵³³ Bart Verheij, 'Evaluating Arguments Based on Toulmin's Scheme' (2005) 19 *Argumentation* 347-371.

⁵³⁴ Fleurie Nievelstein et al, 'Effects of conceptual knowledge and availability of information sources on law students' legal reasoning' (2008) 38 *Instructional Science* 23.

⁵³⁵ Stephen Schiffer, *The Things We Mean* (Oxford University Press, 2003) 3.

⁵³⁶ *Radaich v Smith* [1959] HCA 45.

Every law student learns within their own national system that no legislation, precedent, regulation or contract can be enforced until the definitions of the relevant terms have been identified and agreed. Without agreement and accepted definitions there can be no analysis and enforcement of rights, obligations or performance. Within each national law system, there are accepted rules in place to deal with conflicting terms and definitions within a single jurisdiction such as priority, industry standards, previous course of dealings etc. However, globalisation has extended the scope of everyday transactions to the point where multi-jurisdictional transactions are now commonplace. This introduces obvious complexities to commercial legal practice, especially in shipping.

Transportation has been called one of the four cornerstones of globalisation and shipping has been a critical component of international and interregional trade.⁵³⁷ The consequences of globalisation are many, not least of which is the difficult task of reconciling often contradictory, or not complementary, legal and regulatory regimes to oversee multi-jurisdictional transactions. Much has been made of regulatory gaps, overlaps and competition and the increasing rise of arbitration as a solution to these problems.⁵³⁸ “As the favored method of addressing transnational regulatory concerns, internationalists look to international-level solutions such as international treaties, institutions, or cooperation dedicated to the particular regulatory concern”.⁵³⁹ However, in order for these to be enforceable there must be a clear first-best solution supported by a multilateral agreement into which all parties have entered.⁵⁴⁰ This requires relative uniformity and a shared understanding of warrants and backings in order to be universally applicable and enforceable against any grounds.

For any maritime regulation to have any enforceability one would expect the most basic of terms in maritime law to have a longstanding, agreed and well-settled definition – the term ‘ship’. Unfortunately, “[T]here is no generally applicable definition

⁵³⁷ James Corbett and James Winebrake, *The Impacts of Globalisation on International Maritime Transport Activity: Past Trends and Future Perspectives* (Report, OECD/ITF Global Forum on Transport and Environment in a Globalising World, 2019) 4.

⁵³⁸ Robert Wai, ‘Transnational Liff-off and Juridicial Touchdown: The Regulatory Function of Private International Law in an Era of Globalization’ (2002) 40 *Columbia Journal of Transnational Law* 209.

⁵³⁹ See *ibid* at 250.

⁵⁴⁰ *Ibid*.

of what constitutes a ‘ship’ in international law”.⁵⁴¹ This chapter addresses that lack and ultimately defines the term using three criteria: whether the object in question is deployed at sea; in operation (i.e. engaged in a specific function or purposeful activity); and capable of self-directed self-propulsion. These criteria have been derived from the definitions of the term ‘ship’ found in international conventions already in force, on the basis that entry into force indicates a broad degree of acceptance by multiple affected parties who have ratified and agreed to observe the terms of the conventions.

6.5.1 History

“The law of the sea is one of the oldest branches of international law”⁵⁴² but “from the early seventeenth century up to the end of the nineteenth century the seas were largely subject to a *laissez-faire* regime ... [which] reflected the interests of the dominant European powers of the period”.⁵⁴³ International trade has since developed to a point where “over 90 per cent of the world’s trade is carried by sea”⁵⁴⁴ giving rise to complex international business transactions with “consequent conflicts between the respective domestic laws which could not be solved by adopting common principles of private international laws”.⁵⁴⁵ At the international level the need for uniform rules has been addressed to some extent by a process of unification and harmonisation through treaty law, requiring that relatively common standards be adopted in national legislation. In this sense, unification means supplanting multiple provisions with a single provision or system; and harmonisation means reconciling different legal provisions and systems to eliminate major differences, creating minimum requirements or standards.⁵⁴⁶

6.5.2 Enforcement

Individual treaties and conventions are varied in purpose, structure and enforceability and the “use of a treaty form does not of itself ensure a hard obligation ... If a treaty is to be regarded as ‘hard’, it must be precisely worded and specify the exact obligations

⁵⁴¹ Peter Cane, Joanne Conaghan and David M Walker, *The New Oxford Companion to Law* (Oxford University Press, 2009).

⁵⁴² Philip C Jessup, ‘The Geneva Conference on the Law of the Sea; a Study in International Law-Making’ (1958) 52 *The American Journal of International Law* 730.

⁵⁴³ R R Churchill and A V Lowe, *The Law of the Sea* (Juris Publishing, 2nd ed, 2008).

⁵⁴⁴ ‘IMO Profile’ (Web Page) <<https://business.un.org/en/entities/13>>.

⁵⁴⁵ Plinio Manca, *International Maritime Law* (Antwerpen, 1970) Vol 1, Preface.

⁵⁴⁶ W J Kamba, ‘Comparative Law: A Theoretical Framework’ (1974) 23 *International and Comparative Law Quarterly* 501.

undertaken or the rights granted”.⁵⁴⁷ When international business disputes require resolution, they require the ability to apply hard law with certainty so that “certain legal consequences follow from its performance and its breach”.⁵⁴⁸ The present process of globalisation has resulted in an international economy in which maritime law is relevant to the majority of transactions involving the transport of goods. For such transactions to function smoothly, there needs to be an effective underlying system of treaty law. As a formal matter, these treaties function through the deliberate consent of state parties to be bound.⁵⁴⁹ However, in international maritime law, as in international economic law, “it is the activities of individuals and corporations that are crucial to the creation of expectations as to the observance of the regulating instruments ... the behaviour of these entities cannot constitute State practice”.⁵⁵⁰ Enforcing international hard law against individual entities requires jurisdiction or some level of international administration by an entity exercising functions equivalent to those of States. The functions assigned to the International Maritime Organisation (IMO) have not quite reached this level although it and other organisations at a similar level of authority do prescribe binding rules, at least *de facto*.⁵⁵¹ However, as they lack the jurisdiction to enforce such rules directly, they are relying on States acting in different capacities such as flag States or port States to enforce such rules.⁵⁵²

Enforcing those rules is a form of legalisation which can be defined using three criteria: “the degree to which rules are obligatory, the precision of those rules, and the delegation of some functions of interpretation, monitoring, and implementation to a third party”.⁵⁵³ Ratified international maritime treaties and conventions can be considered analogous to legalisation as their terminology is precise, their rules are binding and confer jurisdiction on authoritative third-party dispute resolution.⁵⁵⁴

⁵⁴⁷ C M Chinkin, ‘The Challenge of Soft Law: Development and Change in International Law’ (1989) 38 *International and Comparative Law Quarterly* 851.

⁵⁴⁸ See *ibid* 859.

⁵⁴⁹ *Ibid* 850-866.

⁵⁵⁰ See Chinkin (above n 546) 857.

⁵⁵¹ R R Churchill and A V Lowe, *The Law of the Sea* (Juris Publishing, 2nd ed, 2008).

⁵⁵² Rudiger Wolfrum, ‘Legitimacy of International Law and the Exercise of Administrative Functions: The Example of the International Seabed Authority, the International Maritime Organization (IMO) and International Fisheries Organizations’ in Armin Bogdandy et al (eds), *The Exercise of Public Authority by International Institutions* (Springer, 2010) 917.

⁵⁵³ Judith Goldstein et al, ‘Introduction: Legalization and World Politics’ (2000) 54 *International Organization* 387.

⁵⁵⁴ *Ibid* 385-399.

Growing reliance on the sea as the major form of transport of goods in a global trade landscape leads to increasing numbers of international trade and maritime disputes⁵⁵⁵ concerning trade at sea. These are governed by a body of international maritime conventions whose effectiveness is reliant on the degree of precision of their rules and access to a third-party dispute settlement mechanism with recognised jurisdiction.⁵⁵⁶ The widespread application of these rules should, logically, require widespread agreement on the definition of key terms in those rules. And yet, one common term used throughout various maritime treaties and conventions, including those with a long history of being successfully enforced, lacks a widespread recognised definition and, where a definition is provided within those rules, it lacks any precision: that is the term ‘ship’. No universally accepted definition can be found, from well-known and long-established agreements such as the 1982 United Nations Convention on the Law of the Sea (UNCLOS) 1958, to recent agreements such as The Nairobi International Convention on the Removal of Wrecks that entered into force in April 2015. This lack of a clear definition can only become more problematic as the number of entities and disputes to whom these rules apply increases.

6.6 Definitions of Ship under Current International Law

The “lack of a precise definition of ‘ship’ in both UNCLOS and international law in general”⁵⁵⁷ is widely recognised. Often when judges apply statutory interpretation, their initial emphasis is on the plain and ordinary meaning of the words in the statute.⁵⁵⁸ Dictionaries often define ship as meaning vessel⁵⁵⁹ and/or boat.⁵⁶⁰ When perused further, those same dictionaries define a boat as a vessel⁵⁶¹ and define a vessel as a ship or boat.⁵⁶² Clearly, in this instance, resorting to the ordinary meaning provides little or no clarity. Some definitions can be found within the relevant instruments

⁵⁵⁵ Robert Wai, ‘Transnational Liftoff and Juridicial Touchdown: The Regulatory Function of Private International Law in an Era of Globalization’ (2002) 40 *Columbia Journal of Transnational Law* 209.

⁵⁵⁶ Joseph E Vorbach, ‘The Vital Role of Non-Flag State Actors in the Pursuit of Safer Shipping’ (2001) 32 *Ocean Development and International Law* 29.

⁵⁵⁷ Katharina Bork et al, The Legal Regulation of Floats and Gliders—In Quest of a New Regime? (2008) 39 *Ocean Development and International Law* 307.

⁵⁵⁸ C. F. Huws, ‘Is Meaning Plain and Ordinary? Are You Sure About That?’ (2012) 33 *Statute Law Review* 230, 231.

⁵⁵⁹ Merriam-Webster, ‘Ship’ <<https://www.merriam-webster.com/dictionary/ship>>.

⁵⁶⁰ Cambridge Dictionary, ‘Ship’ <<https://dictionary.cambridge.org/dictionary/english/ship>>.

⁵⁶¹ Merriam-Webster, ‘Boat’ <<https://www.merriam-webster.com/dictionary/boat>>.

⁵⁶² Cambridge Dictionary, ‘Vessel’ <<https://dictionary.cambridge.org/dictionary/english/vessel>>.

themselves.⁵⁶³ There exist two key authorities from which one might source the definition of ship: the various international instruments and their specific definitions as listed in Annexure 6. In addition, one can look to the industry standard whose terms are recognised and accepted by the entire maritime industry: the Classification Societies. A broad selection of international instruments is explored here that includes UNCLOS and the four pillars of Maritime Legislation: Standards of Certification, Training and Watchkeeping Code (STCW Code), SOLAS, MARPOL, and the ILO Maritime Labour Convention (ILO MLC), as well as twenty-two other conventions. Only conventions in force or adopted guidelines are referred to as these have already achieved international acceptance on a widespread scale, evidencing that they represent a common agreed understanding of their rules and terms. Other treaties have been reviewed but either do not contain any definition of the term 'ship' or are not yet in force and cannot be said to have received widespread acceptance.⁵⁶⁴

Using the definitions supplied in multiple treaties to derive a single definition is a complex exercise. In 2010 the International Oil Pollution Compensation Funds (IOPC) requested Professor Vaughan Lowe QC provide a legal opinion on two issues: to determine firstly "whether the term 'ship' in the 1992 Conventions on (i) Civil Liability for Oil Pollution Damage 1992 (the Civil Liability Convention or CLC) and (ii) the Establishment of an International Fund for Compensation for Oil Pollution Damage 1992 (the Fund Convention) includes vessels that are for the time being used for the

⁵⁶³ Michael Kirby, 'Statutory Interpretation: The Meaning of Meaning' (2011) 35 *Melbourne University Law Review* 113.

⁵⁶⁴ *International Convention on Load Lines 1966*, opened for signature April 5 1966, 134 UNTS 9159 (entered into force 21 July 1968); *1946 International Convention For The Regulation Of Whaling*, opened for signature December 2 1946, 161 UNTS 72 (entered into force 10 November 1948); *United Nations Convention on Conditions for Registration of Ships*, opened for signature February 7 1986, GE.86-50392 UNTS 1912E (not yet in force); *International Convention on Tonnage Measurement of Ships*, opened for signature June 23 1969, 1291 UNTS I-21264 (entered into force 18 July 1982); *International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS)*, opened for signature May 3 1996, 35 ILM 1406 (not yet in force); *1971 Special Trade Passenger Ships Agreement*, opened for signature October 6 1971, 910 UNTS 61 (entered into force 2 January 1974); *Cape Town Agreement Of 2012 On The Implementation Of The Provisions Of The Torremolinos Protocol Of 1993 Relating To The Torremolinos International Convention For The Safety Of Fishing Vessels 1977*, opened for signature October 11 2012; *Hong Kong International Convention For The Safe And Environmentally Sound Recycling Of Ships 2009*, opened for signature May 15 2009 (not yet in force); *Convention On The Prevention Of Marine Pollution By Dumping Of Wastes And Other Matter*, opened for signature November 7 1996, 1046 UNTS 120 (entered into force 24 March 2006).

storage of oil”⁵⁶⁵ and secondly, what constitutes receipt of oil under other parts of the Conventions. The latter purpose is of no concern here but the former comprehensively demonstrates the difficulty in determining an understanding of the word ‘ship’. Professor Lowe determined that “the term ‘ship’ in the 1992 Conventions was not intended to apply and does not apply to”⁵⁶⁶ FSOs: floating, storage and offloading units for oil.⁵⁶⁷ This legal opinion was reported back to the IOPC Funds for their consideration in 2011 and the result was the 1992 Fund seventh intersessional Working Group which was set up with three key terms of reference, the third being “a request to recommend to the Assembly a uniform approach to the interpretation of the definition of ‘ship’ under Article I.1 of the 1992 CLC and Article 10 of the 1992 Fund Convention”.⁵⁶⁸ Over five meetings between April 2012 and April 2015, the Working Group developed an “illustrative list of vessels clearly within or outside the definition of ‘ship’ under Article I(1) of the 1992 CLC”⁵⁶⁹ based on agreed criteria. The list distinguished barges being towed, or navigable vessels with independent power and steering capabilities and transporting oil.⁵⁷⁰ There are multiple types of vessels not included in this list, either because they are not relevant to the CLC as they do not transport oil or where their compliance with the definition of ship under Article I(1) of the 1992 CLC still remains unclear: “these cases will be decided by the 1992 Fund governing bodies on a case-by-case basis, using the maritime transport chain test ...as an interpretive tool”.⁵⁷¹ This, therefore, is a definition of sorts but only within a narrow set of circumstances and, even within those confines, one incapable of certain application.

⁵⁶⁵ Vaughan Lowe, *Report On The Interpretation Of The Term ‘Ship’ In The 1992 Civil Liability Convention* (Report, 2011) <<http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/>> [1].

⁵⁶⁶ See *Ibid* [7].

⁵⁶⁷ See *Ibid* [1].

⁵⁶⁸ The Secretariat, *Report On The First Meeting Of The Seventh Intersessional Working Group Consideration Of The Definition Of ‘Ship’* (Report, 2011) [3.1(c)] <http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/>.

⁵⁶⁹ See *Ibid* [16(1)(a)].

⁵⁷⁰ The Secretariat, *Final Report Of The Seventh Intersessional Working Group Consideration Of The Definition Of ‘Ship’* (Report, 2015) [12.2.2(1)(a)-(c)] <<http://documentservices.iopcfunds.org/meeting-documents/download/docs/3973/lang/en/>>.

⁵⁷¹ The Secretariat, *Final Report Of The Seventh Intersessional Working Group Consideration Of The Definition Of ‘Ship’* (Report, 2015) <<http://documentservices.iopcfunds.org/meeting-documents/download/docs/3973/lang/en/>> Annex II ‘Grey areas’ to be decided on a case by case basis”.

Nonetheless a conclusive definition is required because if a key term identifying whether a rule applies to a particular party is not defined then neither obligation nor liability can be determined or enforced. For example, the Basel Convention⁵⁷² only applies to waste, but the current position adopted by Basel Conference of the Parties (COP) by Decision VII/26 of October 2004 holds that a ship may be waste under Article 2 of the Basel Convention while simultaneously defined as a ship under other international rules.⁵⁷³ Without first having a definition of terms such as waste and ship it is not possible to determine whether it is either, neither or both and what obligation and liability there may be. As a result, the Basel Convention cannot be effectively enforced. As mentioned in the introduction, cases such as *R v Goodwin*⁵⁷⁴ and *Steedman v Scofield*⁵⁷⁵ had to battle all the way to the appellate courts in cases brought under torts and criminal law decisions to determine whether a jet ski and a Waverunner could be ships under the vague definitions of the term 'ship' given in the British legislation. American legislators are still clarifying their definition as recently as 2013.⁵⁷⁶

This is an analysis of conventions in force that contain definitions of the word ship, as these instruments can be said to have already received widespread agreement and acceptance. Twenty-one of the twenty-six conventions referenced have definitions for the word 'ship' and of the remaining five conventions, three have definitions for the word 'vessel'. The remaining two conventions do not define either ship or vessel. The generally⁵⁷⁷ accepted method of interpreting conventions or treaties is laid out in Articles 31-33 of the 1969 Vienna Convention on the Law of Treaties ('VCLT')⁵⁷⁸ and that same approach is applied here.

⁵⁷² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal* (1989) 28 ILM 657, 22 March 1989.

⁵⁷³ Council of the European Union, Submission No 16995/12 (2012) [8].

⁵⁷⁴ [2006] 1 *Lloyd's Report* 432.

⁵⁷⁵ [1992] 2 *Lloyd's Report* 163.

⁵⁷⁶ *Lozman v City of Riviera Beach, Fla.*, (2013) 133 S. Ct. 735.

⁵⁷⁷ "It is something of an international law myth that there is one unified approach to interpretation that is embodied in the Vienna Convention on the Law of Treaties and shared among all tribunals." Benedict Kingsbury, *International Courts* (2011).

⁵⁷⁸ Richard Gardiner, *Treaty Interpretation* (Oxford International Law Library, 2nd Edition, 2015) 161.

These rules guide the analyst to begin with the ordinary meanings of the words in the treaties under Article 31(1). Using the definitions found in the conventions selected, certain key terms can be extracted as common to all or most of the definitions and relating to certain common characteristics. The goal is to identify the core characteristics common or applicable to all the conventions and extract these to form the elements of the final definition. Other considerations can be excluded where they are particular only to an individual convention's purpose and whose inclusion in the final list would result in ambiguity or a result that is manifestly absurd or unreasonable, under Article 32(a) and (b). For example, the Hague-Visby Rules' definition defines a ship as "any vessel used for the carriage of goods"⁵⁷⁹ while the International Convention on Civil Liability for Oil Pollution Damage defines a ship as "constructed or adapted for the carriage of oil in bulk".⁵⁸⁰ Clearly it is not possible to incorporate both into one all-inclusive definition as the latter contemplates the carriage of oil alone and neither makes allowance for passenger ships, military ships or a host of other vessels. Both definitions contain characteristics specific to their particular conventions and would create an absurd or unreasonable result if incorporated wholesale into the final global definition. Such specificities are therefore excluded. The key elements that do not result in absurd, unreasonable or contradictory characteristics for the final definition have been extracted and categorised below, using their ordinary meanings.

6.6.1 Terms from Treaty Law Definitions

The most commonly occurring elements which can be extracted from the conventions in force are: vessel, seagoing, operate, movement and types.⁵⁸¹ These represent the core characteristics common to the ratified conventions and thus can be viewed as denoting widely-held acceptance, agreement and understanding. Each is discussed in turn below.

6.6.1.1 Vessel

This word appears in twenty of the twenty-six definitions. In its ordinary meaning the Oxford English dictionary defines a vessel as "a ship or large boat" while a ship is

⁵⁷⁹ *International Convention for the Unification of Certain Rules of Law relating to Bills of Lading and Protocol of Signature*, adopted on 25 August 1924, 120 LNTS 155.

⁵⁸⁰ *International Convention on Civil Liability for Oil Pollution Damage 1992*, adopted on November 27 1992, 1956 UNTS 255 (entered into force 30 May 1996) art I.

⁵⁸¹ See Annexure 7.

defined as “a large sea-going vessel”. The circularity of the definitions of vessel and ship simply make the words interchangeable as used in UNCLOS, which does not aid in identifying the characteristics required to define a ship.

6.6.1.2 Seagoing

This word appears in nine of the twenty-six definitions. In its ordinary meaning the dictionary defines seagoing as an adjective of a ship, “suitable or designed for voyages on the sea; and characterised by or relating to travelling by sea, especially habitually.”⁵⁸² Before determining that the object must be seagoing to be deemed a ship, it is necessary to check whether other terms found in the definitions of the in force conventions agree with or contradict this characteristic. A further six of the twenty-six definitions reference the words ‘marine environment’ and marine (adjective) is defined by the dictionary as “Relating to or found in the sea; relating to shipping or naval matters; and (of artists or painting) depicting scenes at sea”.⁵⁸³

There are two treaty definitions that define a ship as “other than those which navigate exclusively in inland waters or in waters within, or closely adjacent to, sheltered waters or areas where port regulations apply”,⁵⁸⁴ effectively excluding vessels on any water other than open seas. One further definition uses the term ‘on water’,⁵⁸⁵ another ‘aquatic’⁵⁸⁶ without specifying a type of water and one other requires the ship be on a sea voyage⁵⁸⁷ while a fourth refers to ship as including ‘seaborne craft’⁵⁸⁸ and two others limit the term to ‘vessels catching resources of the sea’.⁵⁸⁹ The former two do

⁵⁸² Oxford English Dictionaries, ‘Seagoing’ (2015).

⁵⁸³ Oxford English Dictionaries, ‘Marine’ (2015).

⁵⁸⁴ 1978 *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, signed on 7 July 1978, 1361 UNTS (entered into force 28 April 1984) art 1(i); and 2006 *Maritime Labour Convention*, adopted on 23 February 2006, [2006] MLC (entered into force 20 August 2013) art II(i).

⁵⁸⁵ *Convention on the International Regulations for Preventing Collisions at Sea*, opened for signature on 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977) r 3.

⁵⁸⁶ *International Convention for the Control and Management of Ships’ Ballast Water and Sediments*, adopted on 13 February 2004, (entered into force 8 September 2017) art 1(12).

⁵⁸⁷ *International Convention for the Prevention of Pollution of the Sea by Oil*, art 1(1), opened for signature on 12 May 1954, 4714 UNTS 1 (entered into force 26 July 1958) (*subsumed by the International Convention for the Prevention of Pollution from Ships (MARPOL) in 1973*) art 1(1).

⁵⁸⁸ *International Convention on Civil Liability for Oil Pollution Damage*, opened for signature on 29 November 1969, 973 UNTS 1 (entered into force 19 June 1975) art I.

⁵⁸⁹ *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, opened for signature July 7 1978, 1361 UNTS (entered into force 28 April 1984) and *International Convention’ Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties*, opened for signature on 29 November 1969, UNTS 14049 (entered into force 6 May 1975) art 1(i).

not exclude seagoing craft while the other four require the object to be at sea. Lastly, the Guidelines for Ships Operating in Polar Waters are clearly only applicable to a marine environment. Overall, UNCLOS, SOLAS, the Geneva Convention on the High Seas, the International Convention on Salvage, the SUA Convention and the Special Purpose Ship Code are the only conventions that do not expressly contain at least one requirement that the object traverse marine water or water more generally. The other twenty conventions all contain such an express requirement. The emphasis is on whether an object traverses the sea and allows for the fact that it may sometimes *also* traverse inland waterways on its journeys, as was decided by the Executive Committee of the International Oil Pollution Compensation Fund 1992 when assessing the *Victoriya*.⁵⁹⁰ It was held the 1992 Convention's⁵⁹¹ term 'seagoing' applied because records showed "that the vessel had not been adapted or appropriated for trading exclusively in rivers and that it still operated regularly as a sea-going vessel".⁵⁹² The Executive Committee also recognised that a vessel primarily used in inland waters would similarly be viewed as seagoing when operating at sea.⁵⁹³ "The question is not whether a ship *could go to sea* but whether she *did go to sea*".⁵⁹⁴ Thus it can be held that these definitions (twenty-two in all) overwhelmingly support the view that a recognised and accepted characteristic of a ship is that it travels **at sea**, which must be away from inland waters or waters within, or closely adjacent to, sheltered areas or areas where port regulations apply.

6.6.1.3 Operate

This word is used in seven of the twenty-six definitions. In its ordinary meaning the dictionary defines operate when used of a machine, process or system, as "function in a specified manner"⁵⁹⁵ and function is defined as to "work or operate in a proper or particular way".⁵⁹⁶ Both these terms then require the ship to somehow be active or involved in some form of purposeful prescribed activity. In other words, undertaking activities with reference to a formally recognised specific purpose. This is further

⁵⁹⁰ IOPC Fund Documentation: 92Fund/EXC.22/14 24, 24th October 2003, at §3.8.8.

⁵⁹¹ *International Convention on Civil Liability for Oil Pollution Damage*, opened for signature on 29 November 1969, 973 UNTS 1, (entered into force 19 June 1975) art I.

⁵⁹² Gotthard Mark Gauci, 'Is It a Vessel, a Ship or a Boat, Is It Just a Craft, Or Is It Merely a Contrivance?' (2016) 47(4) *Journal of Maritime Law & Commerce* 493.

⁵⁹³ IOPC Fund Documentation: 92Fund/EXC.8/8, 6th July 2000, at §4.2.5.

⁵⁹⁴ R Coles and F Lorenzon. *The Law of Yachts & Yachting* (Taylor & Francis, 2018) [12-061].

⁵⁹⁵ Oxford English Dictionaries, 'Operate' (2015).

⁵⁹⁶ Oxford English Dictionaries, 'Function' (2015).

supported by two terms which require the ship be participating in specified activities: transport of goods or passengers in four definitions,⁵⁹⁷ general transportation on water in one definition,⁵⁹⁸ carriage of oil as a cargo in two definitions⁵⁹⁹ and fishing for living resources of the sea in one other.⁶⁰⁰ Overall seventeen of the twenty-six conventions that have provided definitions require the object to be engaged in a prescribed or specified activity or purpose for it to be classed as a ship. The other definitions do not specify any purpose but two exclude vessels participating in “exploration, exploitation or production of seabed mineral resources”⁶⁰¹ and in excluding specific purposes they, by default, require the ship to be engaged in a non-excluded purpose. The idea that purpose is critical to determining the status of an object as a ship has long been judicially supported, from *Polpen v Commercial Union*⁶⁰² to *R v Goodwin*,⁶⁰³ *Steedman v Scofield*⁶⁰⁴ and *Lozman*.⁶⁰⁵ All of this is sufficient to strongly suggest that in order to be classed as a ship, the object needs to be **in operation** i.e. engaged in a prescribed specific function or purposeful activity.

⁵⁹⁷ *Accommodation of Crews Convention (Revised) (No 92)*, adopted on 18 June 1949 (entered into force January 29 1953) art 2(a) and *International Convention for the Unification of Certain Rules of Law relating to Bills of Lading and Protocol of Signature*, opened for signature on 25 August 25 1924, 120 LNTS 155 (entered into force 2 June 1931).

⁵⁹⁸ *Convention on the International Regulations for Preventing Collisions at Sea*, opened for signature on 20 October 1972, 1050 UNTS 16 (entered into force 15 July 1977) r 3.

⁵⁹⁹ *International Convention on Civil Liability for Oil Pollution Damage*, opened for signature on 29 November 1969, 973 UNTS 1, (entered into force 19 June 1975) art 1(1) and *International Convention for the Prevention of Pollution of the Sea by Oil*, opened for signature on 12 May 1954, 4714 UNTS (entered into force 26 July 1958) art 1(1).

⁶⁰⁰ *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, opened for signature on 7 July 1978, 1361 UNTS. (entered into force 28 April 1984) art 1(i).

⁶⁰¹ *The Nairobi International Convention on the Removal of Wrecks*, opened for signature on 18 May 2007 (entered into force 14 April 2015) s 2 and *International Convention' Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties*, opened for signature on 29 November 1969, UNTS 14049 (entered into force 6 May 1975).

⁶⁰² [1943] KB 161: Whether a flying boat was a "ship or vessel" in determining a right to indemnity in respect of collision "with any other ship or vessel". Held: a ship or vessel must be capable of free and ordered movement and must be intended to do its real work upon the seas.

⁶⁰³ [2006] 1 Lloyd's Rep 432: whether a Waverunner jet ski could be considered a ship or a vessel capable of navigation. Held: the Waverunner possessed the required element of carriageability but was constructed as a pleasure craft designed for the 'exhilaration of high speed movement over the surface of the water' rather than ordered travel or navigation.

⁶⁰⁴ [1992] 2 Lloyd's Rep 163: whether a Kawasaki jet ski could be considered a ship or a vessel capable of navigation. Held: it lacked the essential element of being capable of carrying goods or persons.

⁶⁰⁵ *Lozman v. City of Riviera Beach, Fla.*, (2013) 133 S. Ct. 735: whether a floating home was a ship. Held: not a vessel because a reasonable observer, looking to its physical characteristics and activities, would not consider it designed to a practical degree for carrying people or things over water.

6.6.1.4 Movement

A number of terms relate to the object's capacity for self-directed movement in order for it to qualify as a ship. Two definitions use the word 'navigate'⁶⁰⁶ which has the relevant ordinary dictionary meaning to plan and direct the course of a ship, aircraft, or other form of "transport, especially by using instruments or maps" or to travel on a desired course after planning a route. This is expanded to proceed or guide a vessel/vehicle/ship/boat over a specified route or terrain.⁶⁰⁷

The root of the word is from the Latin *navigare*, from *navis* meaning ship and *agere* meaning drive. The key criterion to be drawn from these meanings is the ability to purposefully direct (drive) the ship using its own controls. This definition is further supported by an examination of instances where it has been deemed a ship is used in navigation or suitable to be used in navigation if it is either actually employed in movement in water,⁶⁰⁸ conducting a ship from one place to another,⁶⁰⁹ or has the abstract ability of such movement.⁶¹⁰

The requirement that the object must be able to move is further supported by four definitions of ship that require it be self-propelled⁶¹¹ and two definitions that confirm the term 'ship' only applies to platforms not permanently moored.⁶¹² There has been discussion as to whether carriage of goods on a barge in tow would suffice, particularly

⁶⁰⁶ *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, opened for signature on 7 July 1978, 1361 UNTS (entered into force 28 April 1984) art 1(i) and *Maritime Labour Convention*, adopted on 23 February 2006, [2006] MLC (entered into force 20 August 2013) art II(i).

⁶⁰⁷ Oxford English Dictionaries, 'Navigate' (2015).

⁶⁰⁸ *Passage through the Great Belt (Finland v Denmark) (Provisional Measures)* 1991 ICJ 12, 62 [358].

⁶⁰⁹ *Steedman v Scofield* (1992) 2 Lloyd's Rep 163, 166, n74.

⁶¹⁰ *Passage through the Great Belt (Finland v Denmark) (Provisional Measures)* 1991 ICJ 12, 62 [358].

⁶¹¹ *International Convention for the Unification of Certain Rules of Law relating to Bills of Lading and Protocol of Signature*, opened for signature on 25 August 1924, 120 LNTS 155 (entered into force 2 June 1931); *International Convention for the Prevention of Pollution of the Sea by Oil*, opened for signature on 12 May 1954, 4714 UNTS. 1 (entered into force 26 July 1958) (subsumed by the International Convention for the Prevention of Pollution from Ships (MARPOL) in 1973) art 1(1); Maritime Safety Committee, *Code Of Safety For Special Purpose Ships 2008*, Resolution MSC.266(84), MSC 84/24/Add.2, Annex 17 ¶ 1.3.12; *Accommodation of Crews Convention (Revised) (No 92)*, adopted on 18 June 1949, (entered into force 29 January 1953) art 2(a).

⁶¹² *Convention on the International Maritime Satellite Organization (INMARSAT)*, opened for signature on 3 September 1976, 1143 UNTS I-17948 (entered into force 16 July 1979) art 1 and *Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf*, opened for signature on 10 March 1988, 1678 UNTS I-29004 (entered into force 1 March 1992) art 2.1(a).

if the barge is unmanned, but “if the tug and the tow may be considered a unit, the answer would be affirmative, for the propulsion is supplied by the tug and its crew may be deemed to care also for the goods onboard the tow”.⁶¹³ This analysis suggests that the tow and barge are only viewed as a unit because the barge itself cannot self-propel and is not manned so it can adopt those characteristics from being towed. An object normally capable of self-propulsion and being manned would not take on the characteristics of a tow and become one unit, since it already has those characteristics itself and would be judged on its own ability to meet the criteria. Navigation and the ability to navigate are judicially recognised requirements to meet the definition of a ship and past decisions clarify that a temporary inability to navigate⁶¹⁴ is not sufficient to change an object’s status. It is clear that in order to be defined as a ship at any given time, the object in question must be **capable of self-directed self-propulsion**.

6.6.1.5 Types

The last key terms that occur frequently in the definitions and can be categorised are the various examples of ships, vessels or crafts provided in open ended lists offering guidance to what may be included under a particular convention. They comprise hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, FSUs⁶¹⁵ and FPSOs.⁶¹⁶

6.6.2 The Definition

“There is no single internationally-accepted definition of the term ‘ship’. This is not a deficiency in international law. What counts as a ship may vary from one context to another.”⁶¹⁷

While Lowe’s comment is broadly correct, what counts as a ship actually can be clarified a great deal further by identifying the contexts to which he refers. All the

⁶¹³ Francesco Berlingieri, *International Maritime Conventions: Volume 1: The Carriage of Goods and Passengers by Sea* (Taylor and Francis, 1st ed, 2014) 13.

⁶¹⁴ E.g., *The St Machar* (1939) 65 LL. L. Rep. 119.

⁶¹⁵ Floating Storage Unit see for example: International Association of Oil & Gas Producers, *Guideline for managing marine risks associated with FPSOs* (Report No 377, 2006) 2.

⁶¹⁶ Floating Production Storage and Offloading system see for example: International Association of Oil & Gas Producers, *Guideline for managing marine risks associated with FPSOs* (Report No 377, 2006) 2.

⁶¹⁷ Vaughan Lowe, *Report On The Interpretation Of The Term ‘Ship’ In The 1992 Civil Liability Convention* (Report, 2011) <<http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/>> 3.

different types of vessel listed here from the various definitions can comply with the key characteristics identified. The context in which each type is or is not a ship can also be drawn from those characteristics. In order to be a ship at any given time, the object must travel **at sea**, it must be **in operation** i.e. engaged in a specific function or purposeful activity, and it must be capable of **self-directed self-propulsion**. That hydrofoil boats, air-cushion vehicles and submersibles will satisfy all these criteria when they are engaged in a specific function at sea and not on inland waterways is clear. Fixed or floating platforms, FSUs and FPSOs might appear to be more problematic but once the relevant criteria are applied it becomes a straightforward task to determine whether they are ships at any given time. When any of these are anchored in position they cannot be ships, for they are not capable of self-directed self-propulsion. This is borne out by the fact that when these are anchored in place as installations, they fall under national domestic law and not international because they become part of the land to which they are attached – fixtures for the duration.⁶¹⁸ The reasoning is similar to that in *The Environment Agency v Gibbs*⁶¹⁹ where, although the structures rose and fell with the water level, they were fixed in position and therefore could not be vessels. FSUs and FPSOs are generally located within the exclusive economic zone and once anchored fall under the sovereign state's jurisdiction.⁶²⁰

Lowe confirms this in his analysis with particular emphasis on the fact that for an object to be a ship under the conventions which he analysed, the definition requires the vessel or unit shall be “regarded as a ship only when it is actually carrying oil in bulk as cargo and during any voyage following such carriage unless it is proved that it has no residues of such carriage of oil in bulk aboard”.⁶²¹ Not only must the object be capable of directed self-propulsion but it will also only qualify as a ship when on a voyage carrying out a particular prescribed function, that of transporting oil as cargo. This is an example of where the application of the three criteria from this definition to

⁶¹⁸ *United Nations Convention on the Law of the Sea*, opened for signature on 10 December 1982, 1833 U.N.T.S. I-31363 (entered into force 16 November 1994) art 60(2).

⁶¹⁹ [2016] EWHC 843 (Admin).

⁶²⁰ '[F]or a vessel intended to be permanently moored on location ... the Society may accept decisions by the national administration with jurisdiction over the waters in which the vessel shall operate (the shelf state) as basis for assigning class.' Det Norske Veritas AS, *Rules for Classification of Ships* (July 2014) Pt.1 Ch.1 Sec.2 A 307.

⁶²¹ Vaughan Lowe, *Report On The Interpretation Of The Term 'Ship' In The 1992 Civil Liability Convention* (Report, 2011) <<http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/>> Annex, 15.

an object successfully identify whether that object is a ship at any given time, without a result that is ambiguous or manifestly absurd or unreasonable.

6.7 In Operation

Therefore, analysis of the definitions of the term ‘ship’ as provided by the ratified and in force conventions confirms that a vessel or craft or boat or object is a ship when it satisfies the following three characteristics:

1. it is deployed **at sea**; and
2. it is **in operation** i.e. engaged in a specific function or purposeful activity; and
3. it is capable of **self-directed self-propulsion**.

However, while the first and third characteristics are self-explanatory, the second characteristic is still unclear. How can it be determined if an activity the vessel is undertaking is a prescribed specific function or purposeful activity, satisfying the criteria of ‘in operation’? Under Article 32(a) of the VCLT, when the ordinary meaning of the words in the treaty results in a meaning that is unclear or obscure, recourse may be had to supplementary materials.

“The prerequisites for using supplementary means to ‘determine’ the meaning are ambiguity, obscurity, absurdity, or unreasonableness”.⁶²² Whilst it is undeniably proper to examine “the preparatory work of any treaty whose interpretation is in issue”,⁶²³ *travaux préparatoires* of individual treaties do not necessarily assist when using unification and harmonisation to create a single definition spanning multiple treaties. The starting point of interpretation is the ordinary meaning⁶²⁴ which can be sourced from dictionaries,⁶²⁵ but “the Vienna rules look to ambiguity that remains after the application of the general rule. Nevertheless, it can be dictionary definitions that point strongly to ambiguity”.⁶²⁶ The Oxford English Dictionary defines in operation as “the condition of functioning, or being operative or active”. Operative is defined as “functioning or having effect” and active is defined as “in operation or working”. Function is defined as “an activity that is natural to or the purpose of a person or thing”

⁶²² Richard K Gardiner, *Treaty Interpretation* (2010) 302.

⁶²³ Ibid 308.

⁶²⁴ Ibid 166.

⁶²⁵ Richard K Gardiner, *Treaty Interpretation* (2010) 166.

⁶²⁶ Ibid 328.

and active is reiterated in this definition as an activity. Operative and active are circular definitions which fall back to the terms ‘function’ and ‘in operation’ and create ambiguity. However, the definition of function provides some elucidation by expanding on the type of operation or activity required: that which “is natural to or the purpose of a person or thing”. Logically an activity cannot be natural to a thing but a thing can have a purpose, therefore determining if a ship is functioning or in operation requires identification of the ship’s purpose. The role of a Classification Society is to confirm the “ship has been designed to a prescribed standard that reflects the operational requirement”,⁶²⁷ i.e. that reflects what it needs to operate or what it will be used for - its *purpose*. “Marine vessels and structures are classified according to the soundness of their structure and design for the purpose of the vessel”.⁶²⁸ Therefore a ship’s classification provides the definition of its purpose and if the ship is functioning in the type of operation or activity that is prescribed as *its purpose*, it can be said to be **in operation**.

6.8 Classification Societies

Classification societies have long been a part of the maritime industry. The system of classification dates from the 1700s and was originally brought in as a means of establishing standards of safety for ships travelling between ports to ensure countries and flag states and insurers could have some measure of confidence in the condition of ships with which they had dealings.⁶²⁹ The nomenclature used by the various Classification Societies is well established, globally recognised and uniformly applied making it ideal as an objective reference or standard. IACS, the International Association of Classification Societies, is the central registration body for the Societies, describing their purpose as “to provide classification and statutory services and assistance to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention, based on the accumulation of maritime knowledge and technology”.⁶³⁰ Throughout their literature they refer to the Societies as providing

⁶²⁷ Daniel Watson, ‘Western Economic Diversification Canada: The Role of Classification Societies’ (Web Page, 2012) <<http://www.wd.gc.ca/eng/13791.asp>>.

⁶²⁸ Alain Bernard, Louis Rivest and Debasish Dutta, ‘Product Lifecycle Management for Society’ (Conference Paper, IFIP WG 5.1 International Conference, 2013) 196.

⁶²⁹ International Association of Classification Societies, *Classification Societies – What, Why and How?* (Report, 2011).

⁶³⁰ International Association of Classification Societies, *Classification Societies – What, Why and How?* (Report, 2011) 4.

classification for ships and vessels, defining ships as any ships subject to SOLAS safety certification (referenced in the discussion above) and capable of unrestricted navigation⁶³¹ (again confirming the third required characteristic: that a vessel be capable of self-directed self-propulsion).

IACS, although non-State actors, develop and apply standards and are “the primary means by which the shipping industry regulates itself”⁶³² and, in addition to these rules, government administrations codify safety standards based on IMO international conventions. The Classification Societies, as the only organisations with the relevant expertise and authority, undertake statutory surveys on the flag administrations’ behalf, thus creating partnerships between the port state and private sector components of the safety regime.⁶³³ “Because the IACS classification societies represent 90% of the world’s cargo-carrying tonnage their involvement in industry self-regulation efforts influences virtually all of global shipping.”⁶³⁴ The twelve IACS member societies perform “a critical standard-setting role with the tacit approval of all the member nations of the IMO”.⁶³⁵ Given the shipping industry’s acceptance and status of Classification Societies’ standards, the discussions below refer to DNV’s classification rules as exemplars, as Lloyd’s List of Top 10 Classification Societies 2018⁶³⁶ ranks DNV GL Group as the Number One Classification Society. All Classification Societies use the same rules and notations to enable global recognition and understanding of the classification system and to enable vessels to transfer between Classification Societies with ease, therefore DNV’s classification rules will apply globally.

6.8.1 The Goal of Classification

Whereas historically the goal of classification was to certify the quality of a ship, the aim of the societies now is to create a system for safeguarding the environment and life and property at sea due to operational consequences. This means verifying that a ship complies with the structural and equipment standards and procedures relevant to

⁶³¹ Ibid Appendix 1 FN 2.

⁶³² Myer Kutz, *Handbook of Environmental Degradation of Materials* (William Andrew, 2005) 540.

⁶³³ Joseph E Vorbach, ‘The Vital Role of Non-Flag State Actors in the Pursuit of Safer Shipping’ (2001) 32 *Ocean Development & International Law* 30.

⁶³⁴ Ibid 33.

⁶³⁵ Ibid .

⁶³⁶ Lloyd’s List, ‘Top 10 classification societies 2018’ (Web Page, 7 December 2018).

its purpose against rules which are established by the Classification Society.⁶³⁷ The ship is inspected for compliance with those rules through a number of surveys which begin during construction and occur at regular intervals for the duration of the ship's operational life. The results of those surveys determine whether a ship remains in Class, in other words viewed as satisfactorily meeting the requirements of the Classification Societies' rules, and the resulting certificates are provided to a number of parties with interests in the ship: national authorities; insurance underwriters; owners; building yards and sub-contractors; financial institutions; and Charterers or cargo owners.⁶³⁸ Determination of what will be an appropriate Class for a new build begins at the planning stage when the builder submits plans, specifications, related technical descriptions and data to the Classification Society.⁶³⁹ Upon review of those plans the Classification Society will determine whether the submitted plans comply with the rules laid down for the type of ship the Owner seeks to build.⁶⁴⁰ The applicable rules are determined by the way the ship is intended to be used – its *purpose* - which determines what Class notification it will need. The Documentation Requirements to achieve approval by the Classification Society make frequent reference to the need for plans to be appropriate for the *proposed purpose* of the vessel. For example, under Discipline G – Safety, G020 – Emergency and preparedness analysis requires a systematic procedure be provided, for the purpose of adapting the emergency preparedness of the activities to the defined situations of hazard and accident, in accordance with the specific emergency preparedness requirements *for the activity in question*.⁶⁴¹ The Guidance Note for G020 begins “This is a systematic process in order to establish an emergency preparedness designed for the characteristics and the identified requirements *for the activity concerned*.”⁶⁴² Discipline H – Hull and Structure

⁶³⁷ Det Norske Veritas, 'Rules for Classification of Ships: Introduction to Ship Classification' (January 2003) Part B 100 The classification process and its limitations.

⁶³⁸ Det Norske Veritas AS, *Rules for Classification of Ships* (July 2014) Pt.0 Ch.2 B100.

⁶³⁹ Det Norske Veritas, 'Rules for Classification of Ships: Introduction to Ship Classification' (January 2003) Part B 100 The classification process and its limitations.

⁶⁴⁰ Det Norske Veritas, 'Rules for Classification of Ships: Introduction to Ship Classification' (January 2003) Part B 100 The classification process and its limitations.

⁶⁴¹ Det Norske Veritas, 'ShipHSLC Rules Pt.0 Ch.3 - Plan Approval Documentation Types – Definitions'.

⁶⁴² Det Norske Veritas, 'ShipHSLC Rules Pt.0 Ch.3 - Plan Approval Documentation Types – Definitions' 12.

includes: H080 – Design Analysis which shall document that the structure fulfils the *different design conditions* and should include *objective; scope and design basis*.⁶⁴³

Classification requirements when converting ships also emphasise the purpose of the ship: “Scope of the Classification Note includes changes to main functions, ship purpose and class notations of the vessel”⁶⁴⁴ and “[C]hange of ship type is regarded as a major conversion ... The ship shall comply with the rule and statutory requirements currently in force for new ships (no exceptions)”.⁶⁴⁵ It is clear that the ship type or purpose is fundamental to determination of Class and the associated applicable rules.

6.8.1.1 The Classes

Vessels are given a main (mandatory) Class and also can be given an optional Class⁶⁴⁶ which specifies additional requirements for particular types of vessels, features or systems. The main ship types are passenger ships, cargo ships or ships with the ability to execute special operations.⁶⁴⁷ Each of these is then assigned a Class Notation which is determined by the purpose for which the ship has been primarily designed. For example, a ship with a main Class type of Passenger ship⁶⁴⁸ could be assigned the Class Notation ‘Ferry B’,⁶⁴⁹ with one or more definitions of RO/RO Cargo⁶⁵⁰ applicable,⁶⁵¹ while a ship with a main Class type of Cargo ship could be assigned the Class Notation ‘Bulk Carrier’ with the associated Purpose ‘Carriage of dry bulk cargo’.⁶⁵² Further Notations can be added to identify specialised service areas, such as ships that can operate in ice or polar regions or to identify specialist equipment such as fire or emergency services equipment.

⁶⁴³ Det Norske Veritas, ‘ShipHSLC Rules Pt.0 Ch.3 - Plan Approval Documentation Types – Definitions’ 15.

⁶⁴⁴ Det Norske Veritas, ‘DNV Classification Notes 2015 – 7 with amendments 2015 – 08’ Pt 8 1.1.2.1.

⁶⁴⁵ Det Norske Veritas, ‘DNV Classification Notes 2015 – 7 with amendments 2015 – 08’ Pt 8 5.3.1.

⁶⁴⁶ Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2019) Pt.1 Ch.2 Sec.3 1.1.3.

⁶⁴⁷ Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2019) Pt.1 Ch.2 Sec.3 1.1.3.

⁶⁴⁸ Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2015) Pt.5 Ch.2 Sec.1 1.1.1.

⁶⁴⁹ Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2015) Pt.5 Ch.2 Sec.1 1.1.3.

⁶⁵⁰ Raunek, ‘What are Ro-Ro Ships?’, *Marine Insight* (online, 4 October 2019) <https://www.marineinsight.com/types-of-ships/what-are-ro-ro-ships/> “Ro-Ro is an acronym for Roll-on/roll-off. Roll-on/roll-off ships are vessels that are used to carry wheeled cargo.”

⁶⁵¹ Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2015) Pt.5 Ch.2 Sec.1 1.2.2 – 1.2.4.

⁶⁵² Det Norske Veritas, ‘Rules for Classification of Ships’ (July 2015) Pt.1 Ch.2 Sec.3 2.

6.8.1.2 Function and Purpose

As can be seen, the technical specifications, safety requirements, rules for the safe operation of the ship and all the requirements to obtain a Class and remain in it, centre around the criteria solely determined by the function or purpose of the ship. It is this function which provides the already widely agreed objective standard needed to conclusively determine the second characteristic of a ship as defined above, that it is **in operation**: i.e. engaged in a specific function or purposeful activity. The function in which the ship must be engaged to qualify as in operation is the function prescribed in the Description associated with the ship's ship type Class Notation. For example, if a ship's Main ship type Class Notation is Chemical Tankers,⁶⁵³ with the further Class Notation 'Tanker for C' and the associated Purpose 'Carriage of specific type of liquid chemical. C denotes the type of cargo for which the ship is classed', that ship would be deemed in operation if it were: on a voyage to collect a cargo of liquid chemicals; currently transporting a cargo of liquid chemicals; or on its way into port for repairs to regain or a periodic survey to maintain its Class as a carrier of liquid chemical cargoes because all of those activities directly relate to its function or purpose as a cargo ship designed to transport liquid chemicals.

6.8.1.3 MODUs and FSUs and FPSOs

The same process applies equally to determine whether a Mobile Offshore Drilling Unit, or Floating Storage Unit, or Floating Production, Storage and Offloading facility is **in operation**. For example, an offshore unit is given a Class designation consisting of various factors⁶⁵⁴ including first, the construction symbol that denotes whether a unit was built under the supervision of DNV or another society. Second, the main character of Class which defines what notation is given to demonstrate a unit's level of compliance with the rules, for example the notation 1A1 signifies full compliance.⁶⁵⁵ Third, the structural design notation which has four options under basic design notation, each with a description as shown in the table below.⁶⁵⁶

⁶⁵³ Det Norske Veritas, 'Rules for Classification of Ships' (July 2019) Pt.1 Ch.2 Sec.3 7.

⁶⁵⁴ Det Norske Veritas, 'Offshore Service Specification DNVGL-RU-OU-0101' (January 2018) Ch.1 Sec.3 2.2.

⁶⁵⁵ Det Norske Veritas, 'Offshore Service Specification DNVGL-RU-OU-0101' (January 2018) Ch.1 Sec.3 2.3.

⁶⁵⁶ Det Norske Veritas, 'Offshore Service Specification DNVGL-RU-OU-0101' (January 2018) Ch.1 Sec.3 2.4.

Table 3 Class notations related to structural design⁶⁵⁷

<i>Class notation</i>	<i>Description</i>	<i>Design requirements</i>
Column-stabilised	A structure dependent on the buoyancy of widely spaced columns for floatation and stability in all modes of operation	Ch.2 Sec.1
Ship-shaped	Monohull ship and barge structures having displacement hulls with or without propulsion machinery	Ch.2 Sec.1
Cylindrical	A cylindrical shaped displacement hull with or without machinery	Ch.2 Sec.1
Mobile offshore	A structure not properly characterised by the above notations	Ch.2 Sec.1

Finally, the offshore unit is allocated one of the six categories of service notation which describe the purpose of the unit:

Table 4 Class notations related to service⁶⁵⁸

<i>Class notation</i>	<i>Description</i>	<i>Design requirements</i>
Accommodation	Units purpose accommodation	Ch.2 Sec.4
Crane	Units purpose crane operation	Ch.2 Sec.5
Drilling	Units purpose drilling	Ch.2 Sec.2
Offshore support	Units purpose offshore support	N/A
Well intervention	Units purpose well intervention, defined with qualifier 1 or 2	Ch.2 Sec.3
Wind turbine installation	Units purpose installation of fixed and floating wind power equipment	Ch.2 Sec.6

Therefore it is no more difficult to use the classifications under the Offshore Service Specifications to determine the purpose or function of an offshore installation than it is to use the Classification Rules for Ships to determine the function or purpose of a vessel. Like a vessel, craft or any other object, the offshore unit has to meet the three characteristics of a ship in order to be identified as a ship, so even if it is performing

⁶⁵⁷ Det Norske Veritas, 'Offshore Service Specification DNVGL-RU-OU-0101' (January 2018) Ch.1 Sec.3 2.4.

⁶⁵⁸ Det Norske Veritas, 'Offshore Service Specification DNVGL-RU-OU-0101' (January 2018) Ch.1 Sec.3 2.5.2.

its Class designated purpose or function, it will not qualify unless it is also capable of **self-directed self-propulsion** and is located **at sea**. On the other hand, we could consider units such as wind turbines. That is, if a unit has a Class notation of self-elevating, a service notation Wind Turbine Installation and the unit is self-propelling into position where it will be jacked up into a permanent position, it will be classed as a ship during that sea voyage *en route* to its final position: it is undertaking **self-directed self-propulsion** to reach its position, the voyage is an activity directly related to its prescribed purpose or function so it is **in operation** and it is **at sea**. However, once it is in position and permanently attached to the sea bed it will no longer be classed as a ship as it is no longer capable of **self-directed self-propulsion**, even though it is still at sea and operating within its classified purpose. Whether an activity is directly related to an object's core function or purpose can be determined using long established legal principles. Using the Classification Societies' notation system to determine if an activity being undertaken by a vessel or unit means it is **in operation** as defined within the scope of its core function does not create an unclear or ambiguous result under Article 32(a) of the VTLC: indeed, it avoids such a result.

6.9 Conclusion

To summarise, a vessel, craft, boat, MODU, FSU, FPSO or any other object, can and will be a ship when it satisfies the following three characteristics: it is deployed at sea; it is in operation i.e. engaged in a specific function or purposeful activity; and it is capable of self-directed self-propulsion. If necessary, the first characteristic at sea can be further clarified to determine whether the object under discussion travels at sea using the exclusions defined in the ratified conventions (being waters within, or closely adjacent to, sheltered areas or areas where port regulations apply). The second characteristic, in operation, can be determined using the Classification Society notations as the standard to identify the prescribed function or purpose of a unit or vessel. If it is unclear whether an activity is within the prescribed function, rules of interpretation may be applied to determine if the activity is within or related to the ambit of the described function. The third characteristic can be objectively determined as necessary with reference to accepted case law which definitively states a ship is used in navigation which is the planned or ordered movement of conducting a ship

from one place to another,⁶⁵⁹ or suitable to be used in navigation if it is either actually employed in movement in water⁶⁶⁰ or has the abstract ability of such movement.⁶⁶¹

Cases such *R v Goodwin* and *Steedman v Scofield*, which had to discuss in depth the physical characteristics and ordinary use of Waverunners and Kawasaki jet skis, would have been much simpler to determine – or never come about in the first place - had the parties been able to reference an accepted international definition of ship. An examination of the United States,⁶⁶² Australian⁶⁶³ and European⁶⁶⁴ domestic definitions of vessel or ship demonstrates that they do not conflict but rather are in accordance with the international definition of ship provided here. The United States definition requires a vessel be deployed on water, in operation (capable of the purposeful activity of transportation) and able to self-direct. The various Australian definitions combine to define a vessel/ship/craft as something that must be capable of navigation for use in water. The European Union definition defines a vessel as anything that has operated or is operating in the marine environment.

Of primary importance to this thesis' goal of holding ship owners liable for harm caused by exposure to asbestos during ship recycling is that a vessel on its way to being recycled would not be a ship under this definition. While the vessel is generally at sea during its end of life journey and while it may or may not be capable of directed self-navigation depending on its condition, it is no longer in operation. It is no longer in operation because it is no longer carrying out any Class related activity. Once the decision is taken to send a ship for recycling the Classification Societies are notified and certification dates and requirements may be extended or waived in light of the decision to recycle the ship, confirming that a vessel is not in Class or engaged in any Class related activity when sent for recycling. The only

⁶⁵⁹ *Steedman v Scofield* (1992) 2 Lloyd's Rep 163, 166 cited in Yvonne Baatz (ed), *Maritime Law* (Taylor and Francis, 4th ed, 2017) 280.

⁶⁶⁰ *Passage through the Great Belt (Finland v Denmark) (Provisional Measures)* 1991 ICJ 12, 62 [358].

⁶⁶¹ *Ibid*

⁶⁶² *Revised Statutes of 1873* 1 USC s 3.

⁶⁶³ *Shipping Registration Act 1981* (Cth) s 3 ; *Admiralty Act 1988* (Cth) s 3; *Marine Safety (Domestic Commercial Vessel) National Law Act 2012* (Cth) s 8.

⁶⁶⁴ *Regulation (EU) No 1257/2013 Of The European Parliament And Of The Council of 20 November 2013 on Ship Recycling And Amending Regulation (EC) No 1013/2006, art 3 and Directive 2009/16/EC.*

related Class notation is Recyclable.⁶⁶⁵ The objective of this notation is to facilitate the correct documentation of hazardous materials used onboard for all vessels regardless size, age, type, ownership or flag for the purpose⁶⁶⁶ of creating and maintaining an Inventory of Hazardous Materials.⁶⁶⁷ This Class notation does not serve the purpose of including an end of life journey (for the purposes of recycling) within the ordinary operation of the ship in Class.

It is important to note that the requirements for the Class Notation: Recyclable stop at the point of issuance of an Inventory of Hazardous Materials. The Classification Society's Rules represent their application of the 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials⁶⁶⁸ which break down the inventory into three parts. Part I, which lists materials contained in the ship structure or equipment, is to be appropriately maintained and updated during operations.⁶⁶⁹ Parts II⁶⁷⁰ and III⁶⁷¹ only apply after the decision to recycle has been taken.⁶⁷² The Classification Society's Rules only support Part I while Parts II and III, which are part of the preparation of the ship recycling plan, are excluded from the scope of the rules. The only documentary requirements shown that are part of the recycling plan and related to the actual activity of recycling are M140 - Ship recycling plan⁶⁷³ and Z300 – Declaration.⁶⁷⁴ These are specifically excluded from the society's Rules for Classification and are marked 'Not applicable for Class notation Recyclable'.⁶⁷⁵ It is clear that the Classification Society's Rules end at the point of preparation of

⁶⁶⁵ Det Norske Veritas, 'Rules for Classification of Ships' (July 2019) Pt.6 Ch.7 Sec.4.

⁶⁶⁶ Det Norske Veritas, 'Rules for Classification of Ships' (July 2019) Pt.6 Ch.7 Sec.4 1.5.

⁶⁶⁷ Det Norske Veritas, 'Statutory Interpretations' (July 2019) DNVGL-SI-0289.

⁶⁶⁸ Marine Environment Protection Committee, *Annex 17: 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials*, Res MEPC.269(68), adopted on 15 May 2015.

⁶⁶⁹ Marine Environment Protection Committee, *Annex 17: 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials*, Res MEPC.269(68), adopted on 15 May 2015, paras 4.3 and 5.2.

⁶⁷⁰ Marine Environment Protection Committee, *Annex 17: 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials*, Res MEPC.269(68), adopted on 15 May 2015, Part II: Operationally generated wastes.

⁶⁷¹ Marine Environment Protection Committee, *Annex 17: 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials*, Res MEPC.269(68), adopted on 15 May 2015, Part III: Stores.

⁶⁷² Marine Environment Protection Committee, *Annex 17: 2015 Guidelines For The Development Of The Inventory Of Hazardous Materials*, Res MEPC.269(68), adopted on 15 May 2015, paras 4.4 and 4.5.

⁶⁷³ M140 - Ship recycling plan: Developed in accordance with SRP guidelines and approved by the competent authority of the ship recycling facility.

⁶⁷⁴ Z300 – Declaration: Document of authorization to conduct ship recycling (DASR) issued by the competent authority of the ship recycling facility.

⁶⁷⁵ Det Norske Veritas, 'Statutory Interpretations' (July 2019) DNVGL-SI-0289, Sec.2.1.

the Inventory of Hazardous Material (IHM). The Classification Society's role is to regulate the safe operation of ships and the end of the Classification Society's responsibilities marks the end of the ship's operational activities. If an activity falls outside the scope of the Classification Society's responsibilities then that activity is, by definition, not part of a ship's operations. This confirms that a vessel on its way to being recycled is not in operation as ship recycling and all preparation for ship recycling beyond the operational elements of the IHM are activities outside the scope of the Classification Society's rules and responsibilities and therefore not part of the ship's operations.

This robustly rebuts the current position under the Basel Convention where a ship may be waste under Article 2 of the Basel Convention while simultaneously defined as a ship under other international rules. A vessel sent for recycling is either a ship or waste, it can no longer be both at the same time. If an object is a ship then it has the properties of being a ship and if it does not have the properties of a ship then it cannot be a ship – under the definition of ship a vessel sent for recycling is not a ship because it is not in operation and does not meet the definition of a ship in the sense explained here. .

However, it is not sufficient to conclusively define the term ship. It is also necessary to be certain that the parties contracting to send a vessel for recycling are not intending the subject matter of that contract be a ship. Regardless of definition, if the contracting parties intend for the subject matter of the contract for the sale of a vessel for recycling to be a ship and not waste, then under the substance over form doctrine the law generally recognises that the substantive effect of the contract can take priority over the wording and terms used.⁶⁷⁶

In order to confirm a vessel sent for recycling is not a ship, the next chapter of this thesis examines the subject matter of the contract governing the sale of a vessel for recycling. This is to determine that the intention of the parties selling the vessel for recycling is to sell the vessel as waste and not to sell the vessel as a ship. The

⁶⁷⁶ Avery Wiener Katz, 'The Economics of Form and Substance in Contract Interpretation' (2004) 104 *Columbia Law Review* 496.

true subject matter of the transaction is identified through a comparative and qualitative contractual analysis of the industry standard contract that governs the sale of a second-hand ship (SALEFORM 2012) with the industry standard contract that governs the sale of a vessel for recycling (RECYCLECON). The comparative and qualitative contractual analysis compares the terms of the two contracts to identify their substantive effect and confirms that if the subject matter of SALEFORM 2012 is a ship, then the subject matter of RECYCLECON is not a ship.

Chapter 7: Comparative and Qualitative Contractual Analysis

The previous chapters of this thesis have established that the polluter pays principle provides the necessary justification for attributing liability to ship owners for harm caused by exposure to asbestos during ship recycling. MARPOL and the Hong Kong Convention were analysed to determine if they were appropriate conventions under which to attribute liability to ship owners. It was concluded neither of them achieve this objective. This left the Basel Convention as the only applicable option. The remaining sections of the thesis address issues related to successful application of the Basel Convention to ship recycling.

A key stumbling block at the entry point into application of the Basel Convention was determining whether a vessel on its end of life journey should be identified as a ship or as waste. There is no dispute from any of the parties involved in the ship recycling process that a vessel on its way to be recycled can be classified as waste. The definition of ship provided in the previous chapter confirms the vessel on its end of life journey to be recycled does not meet the definition of ship. This is important because under the terms of the Basel Convention, if an object which could be considered waste under the Convention can be classified as something else under a different international agreement then the Basel Convention no longer applies. The next issue, addressed in this chapter, is the nature of the transaction that governs the vessel on its end of life journey to be recycled.

The objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes by restricting, and subjecting to a regulatory system, transboundary movements of hazardous waste. This regulatory system controls the legal transboundary movement of hazardous waste and, in the case of illegal movements, attributes responsibility and imposes the duty of safe disposal to the party or parties deemed liable. The regulatory system also identifies specific roles in the transboundary movement process, namely: the Generator, the Exporter, the Carrier, the importer and the Disposer. It also identifies two relevant locations: the State of Export and the State of Import. The regulatory system presumes that there are, at the least, two parties involved in the transaction: the Generator and Exporter could be one and the same (within the State of Export) and the importer and

Disposer could be one and the same (within the State of Import), while the Carrier, the person who carries out the transport of hazardous wastes, could be either the Importer or Exporter and not necessarily a separate third party. The transaction between the parties for the transboundary movement of the hazardous waste will be governed by an agreement with terms defining the roles and obligations of the parties. This agreement, in whatever form it takes, is deemed a contract under s3(a) of the Convention which states the Generator/Exporter cannot commence the movement of the waste until the State of Import has confirmed the existence of a contract between the Exporter and the Disposer, specifying environmentally sound management of the wastes in question. The subject matter of that contract identifies whether the parties are moving hazardous waste.

7.1 Substance over Form

However, identifying the subject matter of a contract is not always as simple as reading the words of a contract and taking them at their face-value, literal meaning. Obviously, the starting point of contract interpretation is the plain and ordinary meaning of the words used.⁶⁷⁷ When this does not provide sufficient clarity, there are rules for interpreting ambiguous terms and rules for implying terms where parties have failed to define terms necessary to make the contract effective.⁶⁷⁸ However, sometimes the issue is not ambiguous or forgotten terms but rather whether the words used, in other words the form, truly illuminate the intention of the parties and represent the intended substantive effect, that is the substance, of the contract. “Almost all applications of legal doctrine turn on questions of interpretation: and almost all questions of interpretation implicate the tension between form and substance”.⁶⁷⁹ To determine whether the presented form and the intended substance represent the same thing requires interpretation of the contract. Interpretation involves “endeavoring to ascertain the meaning or meanings of symbolic expressions used by the parties to a contract”.⁶⁸⁰ The aim is to discern what the parties truly intended by exposing the

⁶⁷⁷ Edwin W Patterson, ‘The Interpretation and Construction of Contracts’ (1964) 64(5) *Columbia Law Review* 833.

⁶⁷⁸ Edwin W. Patterson, ‘The Interpretation and Construction of Contracts’ (1964) 64(5) *Columbia Law Review* 833.

⁶⁷⁹ Avery W Katz, ‘The Economics of Form and Substance in Contract Interpretation’ (2004) 104(2) *Columbia Law Review* 496.

⁶⁸⁰ Edwin W Patterson, ‘The Interpretation and Construction of Contracts’ (1964) 64(5) *Columbia Law Review* 833, 833.

substantive effect of the words and terms as opposed to their face-value meaning. This is at the heart of the substance over form doctrine.

The substance over form doctrine has an established history in accounting, equity and law. “It is a well-established principle of financial accounting that the economic substance of transactions rather than their legal form should be reflected in published accounts”.⁶⁸¹ In equity “it is reassuring to have a court dedicated to doing equity ... favoring substance over form, and imputing an intent to fulfil an obligation.”⁶⁸² In a classic formulation of the substance over form doctrine in law:

“The doctrine means no more than that the language that the parties use is not necessarily to be adopted as conclusive proof of what the legal relationship is. That is indeed a common principle of construction. To take one example, where parties enter into a contract, they describe it as a licence, but the contract according to its true interpretation creates the relationship of landlord and tenant, the parties can call it a licence as much as they like but it will be a lease . . . Similarly, here, if the parties have entered into a contract the legal result of which on its true construction is to create an annuity, the parties could not avoid the legal consequences by referring to the payments as loans.”⁶⁸³

This section of the thesis uses a comparative and qualitative analysis of the words and terms of two standard shipping contracts focusing on both their plain and substantive meanings. It uses a comparative analysis to determine whether the contract terms and expressions, though similar in form, have the same substantive effect and demonstrate the same subject matter and the same intention of the parties. The

⁶⁸¹ Rick S Hayes and Charles R Baker, ‘Using a folk story to generate discussion about substance over form’ (2004) 13(2) *Accounting Education: An International Journal*, 267.

⁶⁸² William T Quillen, ‘Constitutional Equity and the Innovative Tradition’ (1993) 56 *Law and Contemporary Problems* 29.

⁶⁸³ *Commissioners of Inland Revenue v Wesleyan And General Assurance Society(1)* (1943-1949) 30 TC 11, 5.

objective of this exercise is to confirm the object being sent for recycling is not, in law, a ship.

7.2 The Contracts to be Analysed

The contracts analysed for comparison, SALEFORM 2012 (Annexure 8) and RECYCLECON (Annexure 9), are boiler plate documents issued by the Baltic and International Maritime Council (BIMCO) and widely used as the base for contracts in shipping. SALEFORM 2012 is an industry standard contract used when selling second-hand ships from ship owner to ship owner and contains the key required terms for the sale and purchase of a ship. There is no dispute that this contract imposes the relationship of buyer and seller of a ship and that it confers the rights and obligations of transference of ownership and possession of a ship. RECYCLECON is an industry standard contract used when selling vessels from ship owner to recycling yard or, more commonly, ship owner to cash buyer (sometimes via broker) to recycling yard and contains the key required contractual terms for the sale of vessels for recycling. The overall aim of the qualitative and comparative analysis is to determine whether the subject matter of RECYCLECON is legally a ship or something else, by comparing the key contractual terms and criteria of the two contracts. If both contracts reference the same critical terms and substantive criteria, then the subject matter can be considered the same. However, if the two contracts reference completely different terms and criteria, reflecting substantially different substantive effects, then the subject matter cannot be the same.

If the ship owner (or broker) and the ship recycling yard have entered into a contract the legal result of which on its true construction is to transfer ownership of waste, including hazardous waste, and transport it across international boundaries for disposal, the parties cannot avoid the legal consequences under the Basel Convention by simply referring to the subject matter of the contract as a ship. This comparative and qualitative contractual analysis of the contract governing a vessel's end of life journey – the journey to the recycling yard - using the substance over form doctrine will determine whether: first, the intention of the contracting parties is to transfer ownership and possession of a ship or waste material; second, the substantive effect of the contract is to impose obligations and rights upon the parties consistent with the

transfer of ownership and possession of a ship or waste material; and third, the subject matter of the contract is a ship or waste material. Each of these points is addressed in turn below.

7.3 Methodology

The first step in this analysis is doctrinal. Doctrinal analysis, broadly speaking, is the process of legal reasoning used to research, explain and support legal conclusions or analyses.⁶⁸⁴ Generally doctrinal analysis would enable application of the substance over form doctrine to a contract by identifying the elements within and legal effects of the contract and then matching them against those of a recognised legal relationship, enabling the contract's true construction to be determined and the correct legal consequences to be applied.⁶⁸⁵ Using the example in *Antoniades v Villiers*⁶⁸⁶ (*Antoniades*) of a licence and lease, the process is simply demonstrated. The relationships between contracting parties to a licence agreement and contracting parties to a lease agreement are well developed, their rights and obligations towards each other well defined legally and the legal effect of their relationship well established. To determine whether the subject matter of a particular contract is a licence or a lease, the construction of the contract is evaluated using doctrinal analysis to determine its substance and identify the rights and obligations and relationship imposed by that contract. Once identified the task is one of matching those in the contract against the known rights and obligations imposed by leases and licences to determine which is applicable to the contract in question, thus determining the true subject matter of the contract – either licence or lease.

This process requires the rights and obligations in all the possible applicable legal relationships to be known, in order that those conferred by the contract in question can be matched against them to identify its true nature. Herein lies the difficulty in assessing RECYCLECON, the contract between the ship owner and the recycling yard, to determine whether its true construction transfers ownership and possession of a ship or waste material. The rights and obligations and legal relationships conferred

⁶⁸⁴ Terry Hutchinson and Nigel Duncan, 'Defining and describing what we do: doctrinal legal research' (2012) 17(1) *Deakin Law Review* 83.

⁶⁸⁵ *Andrews v Australia and New Zealand Banking Group Ltd* (2012) 247 CLR 205.

⁶⁸⁶ [1988] 3 WLR 139 House of Lords.

by a contract for the sale of a ship as opposed to waste are not historically recognised or defined. However, the rights and obligations and legal relationships conferred by a contract for the sale of a ship, while not necessarily well established in terms of legal precedent, can be ascertained from analysis of a contract whose subject matter and true construction indisputably transfer ownership and possession of a ship. There are indeed such universally, or at least generally, agreed standard form contracts for the sale of ships. Therefore if it is found that a contract purporting to transfer ownership and possession of a ship does not create the same rights and obligations or relationship as those conferred by a contract accepted irrefutably as transferring ownership and possession of a ship, then there is a good argument that the contract in question is not a contract whose subject matter is a ship.

The rights and obligations and relationship conferred by a widely used, standard form contract recognised indisputably as transferring ownership and possession of a ship, SALEFORM 2012, will be assessed against those of a contract purporting to transfer ownership and possession of a vessel for recycling, RECYCLECON. If the characteristics of the sale contract for a ship do not match those of the contract of sale of a vessel for recycling, then it can be argued that the latter contract does not transfer ownership and possession of a ship. The rights and obligations and relationship conferred by the contract for sale of a vessel for recycling can then be further assessed using doctrinal analysis to determine if what they do transfer is ownership and possession of the vessel as waste.

7.4 SALEFORM 2012

The words and terms of SALEFORM 2012 will be analysed first, to identify the rights and obligations and relationship conferred by a contract for the sale of a ship. In the first instance, this must proceed as a matter of textual analysis as there are no relevant judicial decisions. The qualitative content analysis will focus on the contractual terms, identifying their manifest and latent meaning to determine the rights and obligations and relationship conferred. For the purposes of this analysis, the manifest meaning of the words used in the contract terms is taken to be their everyday definitions to determine what common-sense rights and obligations they impose on the contracting parties and how they impact the parties' relationship. The latent meaning of the words

used in the contract terms is taken to be the underlying legal meaning or effect of the contract terms where the legal meaning or effect is different to the everyday definition.

The analysis will provide a list of common-sense and legal rights and obligations imposed on the purchaser and seller by the contract terms. As this contract definitively transfers ownership and possession of a ship, these rights and obligations will form the benchmark against which RECYCLECON can be assessed, to determine if it too transfers ownership and possession of a ship and imposes the relationship of buyer and seller of a ship.

It is predicted that a content analysis of the contractual terms of a RECYCLECON contract will not impose the same or similar rights and obligations on the purchaser and seller. If that is the case, it will confirm that if the construction of the SALEFORM 2012 contract creates a buyer and seller relationship the subject of which is indisputably the transfer of ownership and possession of a ship, then whatever it is that RECYCLECON transfers ownership and possession of, it is not a ship, nor does it impose the relationship of buyer and seller of a ship. The next step is then to identify whether the vessel being sent for recycling can be legally deemed waste. Whether the subject matter of RECYCLECON is waste will require further doctrinal analysis of the identified rights and obligations conferred and the subject matter.

In summary, establishing that the subject matter of RECYCLECON – or a contract for the sale of a vessel for recycling - is not a ship closes down the legal loophole used by ship owners trying to avoid application of the Basel Convention to their contracts governing the sale of vessels to recycling yards. While the words ship and waste may apply simultaneously as pure descriptors of a vessel on its end of life journey, analysis of the construction of the contract will clearly demonstrate that the substantive effect of the contract is not the transfer of ownership and possession of a ship. Legally, this will allow definitive exclusion of the term 'ship' as a descriptor for the subject matter of a contract governing the sale of a vessel for recycling. If the vessel does not satisfy the definition of ship in the preceding chapter and it is the subject of a transaction whose subject matter is definitively not a ship, then the vessel in question will unarguably fall within the ambit of the Basel Convention, as long as it meets the definition of hazardous waste.

7.5 SALEFORM 2012 Analysis

The underlying logic of the following discussion is that in modern legal theory no issue of substance can be resolved merely by reference to one concept. “This applies to liberty, free will, property, fault, proximate cause, the ‘subject matter of the contract,’ ... and a host of others.”⁶⁸⁷ In other words, no one point will clearly identify the subject matter of the contract, rather it is the cumulative effect of all the elements under consideration. In analysing the elements of the SALEFORM 2012 and RECYCLECON agreements, everything from the title and stated subject matter to the words’ literal meaning and obligations and rights imposed by the terms will be identified and discussed, in order to identify the subject matter of the agreement. No analysis is given of clauses where the contract requires no more than identifying information of the buyer and seller, imposes no obligations, or provides no clarity to the issue at hand.

An analysis of each line and clause of SALEFORM 2012 is found in Annexure 8. It explains the meaning, effect, application or relevance of each contract term, whichever is most applicable. The contract clearly outlines the rights and obligations conferred and imposed on buyer and seller and defines the relationship between them. It also makes clear certain underlying key criteria in the contract that distinguish this buyer/seller relationship.

7.5.1 The Buyer’s Rights and Obligations

Under this Contract the buyer has seven key rights. The first three relate to the identity, condition and delivery of the ship. First, to expect the seller will provide a specific ship as identified by its IMO number and other markings. Second, to inspect that ship⁶⁸⁸ and accept its condition as satisfactory and to expect it to be in a particular condition upon delivery, namely compliant with the Class requirements of its Classification Society,⁶⁸⁹ safely afloat⁶⁹⁰ and in the same condition as when inspected, subject to fair wear and tear. Should it not be in acceptable condition the

⁶⁸⁷ Duncan Kennedy, ‘Form and substance in private law adjudication’ (1976) 89(8) *Harvard Law Review* 1685, 1732.

⁶⁸⁸ SALEFORM 2012 Clause 4 and Clause 6.

⁶⁸⁹ SALEFORM 2012 Classification Society identified in line 6, confirmed and detailed in Clause 8 and Clause 11.

⁶⁹⁰ SALEFORM 2012 Clause 5.

buyer has the right to expect the seller to bear the costs of repairing the ship prior to delivery to either bring it in line with its Class requirements or to restore it to its condition as at inspection if that condition has deteriorated.⁶⁹¹ Third, to expect the ship be delivered by a certain date, to be updated on the ship's progress prior to that date, to be advised of any delays in delivery, to specify the place of delivery and to expect the seller to bear the costs of getting the ship to the agreed place.⁶⁹²

The buyer's fourth right relates to compensation.⁶⁹³ The buyer has the right to be compensated by the seller for any expenses and losses incurred due to delay in delivery, any required repairs and the seller's inability to deliver the ship. The buyer also has a fifth right, to place two representatives on the ship to familiarise themselves with the ship prior to delivery. The buyer's last two rights are an entitlement to cancel the contract⁶⁹⁴ should the seller fail to meet its obligations and to take possession and ownership of all spare parts for the ship and any unused stores and provisions at no cost.⁶⁹⁵

All of these rights make it clear that there is an expectation the buyer will be using the ship for commercial purposes upon completion of the transaction. Requiring the ship to be in the accepted condition and in Class demonstrates the buyer's right to receive a ship in seaworthy condition. The clauses focusing on delay and entitling the buyer to compensation recognise there is an expectation that the buyer will have commercial commitments after delivery and foreshadow the prospects of a damages claim should the seller fail to deliver in time.

The buyer has an obligation to change the ship's name and funnel markings upon delivery⁶⁹⁶ and also has a number of financial obligations, to: pay the deposit and purchase price;⁶⁹⁷ bear the cost of divers for the underwater inspection and bear the cost of any losses and expenses suffered by the seller due to any delay caused by

⁶⁹¹ SALEFORM 2012 Clause 6 and clause 11.

⁶⁹² SALEFDORM 2012 Clause 5, Clause 11 and Clause 14.

⁶⁹³ SALEFORM 2012 Clause 5, Clause 6, Clause 11 and Clause 15.

⁶⁹⁴ SALEFORM 2012 Clause 5 and Clause 14.

⁶⁹⁵ SALEFORM 2012 Clause 7.

⁶⁹⁶ SALEFORM 2012 Clause 12.

⁶⁹⁷ SALEFORM 2012 Clause 1, Clause 2 and Clause 3.

the buyer's inspection;⁶⁹⁸ pay for any remaining bunkers and unused lubricating and hydraulic oils and greases in storage tanks and unopened drums;⁶⁹⁹ and pay for all taxes and costs associated with registration of the ship in the buyer's state.⁷⁰⁰ These obligations clarify that there is an expectation under the contract at the buyer will take on title and all responsibility for activities of the ship upon completion of the transaction as the obligations require the buyer to erase any visible markings on the ship that would suggest connections with the seller.

7.5.2 The Seller's Rights and Obligations

Under this contract the seller has primarily financial rights, to be paid the purchase price and deposit⁷⁰¹ and to claim any losses and expenses incurred due to the buyer's failure to make payments⁷⁰² or delays caused by the buyer's inspection.⁷⁰³

The seller has five key obligations under the contract. The first three relate to the identity, condition and delivery of the ship, partly mirroring the buyer's rights. The seller's first obligation is to deliver the ship as identified⁷⁰⁴ and the second is to: provide a ship that meets its Class requirements;⁷⁰⁵ maintain the ship to Class standards until delivery;⁷⁰⁶ make the ship available for the Buyer's inspection;⁷⁰⁷ repair any damage or make good any deterioration in the ship's condition between inspection and delivery;⁷⁰⁸ deliver the ship with a valid Class certificate dated no earlier than three (3) days before delivery;⁷⁰⁹ and deliver the ship safely afloat.⁷¹⁰ The third set of obligations concern delivery and the seller is to: deliver the ship by the agreed date;⁷¹¹ deliver the ship to the agreed place and to bear the costs of delivery;⁷¹² notify the buyer of the ship's itinerary between the date of the agreement

⁶⁹⁸ SALEFORM 2012 Clause 4.

⁶⁹⁹ SALEFORM 2012 Clause 7.

⁷⁰⁰ SALEFORM 2012 Clause 10.

⁷⁰¹ SALEFORM 2012 Clause 1, Clause 2 and Clause 3.

⁷⁰² SALEFORM 2012 Clause 13.

⁷⁰³ SALEFORM 2012 Clause 4.

⁷⁰⁴ SALEFORM Lines 4 -10.

⁷⁰⁵ SALEFORM 2012 Clause 8 and Clause 11.

⁷⁰⁶ SALEFORM 2012 Clause 11.

⁷⁰⁷ SALEFORM 2012 Clause 6.

⁷⁰⁸ SALEFORM 2012 Clause 11.

⁷⁰⁹ SALEFORM 2012 Clause 8.

⁷¹⁰ SALEFORM 2012 Clause 5.

⁷¹¹ SALEFORM 2012 Clause 5.

⁷¹² SALEFORM 2012 Clause 5.

and delivery;⁷¹³ and provide a Notice of Readiness within the specified timeframe or to give advance notice to the buyer of any delay.⁷¹⁴

The seller's fourth obligation is financial, namely to pay all costs and taxes to enable closing of registration in the seller's state upon delivery⁷¹⁵ and to compensate the buyer for any expenses and losses incurred due to delay in or failure of delivery caused by the seller.⁷¹⁶ The seller's final obligations concern documentation and require the seller to: warrant the ship is free of all encumbrances;⁷¹⁷ provide all documentation associated with the ship;⁷¹⁸ provide invoices or costs for remaining bunkers and unused lubricating and hydraulic oils and greases in storage tanks and unopened drums;⁷¹⁹ and close the ship's registration in the seller's state upon delivery to the buyer.⁷²⁰

7.5.3 Critical Factors Identified in the Contract

It can be seen from the rights and obligations listed above that certain critical factors are represented in the contract and underlie the agreement between the buyer and seller.

7.5.3.1 Condition of the Ship

This agreement is founded on the basis that the ship which is the subject matter of the contract is in working, functioning order and in operational condition. That the ship is in working order and operational is demonstrated by it being in Class – if it is not in Class it cannot sail, operate commercially or be insured as an operational vessel. This conclusion is based on the seller's obligations to provide and the buyer's rights to expect delivery of a ship that is certified as being in Class without any conditions or recommendations. This conclusion is further supported by the obligation imposed on the seller to either carry out work required to meet Class certification standards prior to delivery or reduce the purchase price by cost of same. Further, these repairs may

⁷¹³ SALEFORM 2012 Clause 5.

⁷¹⁴ SALEFORM 2012 Clause 5.

⁷¹⁵ SALEFORM 2012 Clause 8.

⁷¹⁶ SALEFORM 2012 Clause 14.

⁷¹⁷ SALEFORM 2012 Clause 9.

⁷¹⁸ SALEFORM 2012 Clause 8.

⁷¹⁹ SALEFORM 2012 Clause 7.

⁷²⁰ SALEFORM 2012 Clause 10.

only be delayed until after delivery if allowed by the Class standards, as the ship must be delivered with a current Class certificate dated no earlier than three (3) days before delivery. All these factors support the conclusion that at the point of delivery, the subject matter of this agreement is presumed to be an operationally viable ship in Class.

7.5.3.2 Compensation

Under this agreement the seller is presumed to be using the ship at the time of sale and until delivery. The seller is under an obligation to provide the ship's itinerary between agreement date and delivery and the ship has to be delivered with current Class certification. However, there is also a presumption that the buyer will take delivery of the ship in order to put it straight to use.⁷²¹

This presumption is supported by more than the requirement for a current Class certificate upon delivery. The buyer is also entitled to claim any losses arising from any delay in delivery due to the seller's delay. Legally, losses can only be claimed if there is damage and damage in commercial contracts is generally due to loss of income. The agreement presumes that it is readily foreseeable in the contemplation of both parties that the buyer will suffer loss of income and be entitled to claim damages should there be a delay in delivery of the ship. This presumes that the ship being delivered is operational and that it will be put into service immediately or shortly after delivery and supports the view that the subject matter of this agreement is a working, operational ship.

7.5.3.3 What happens if a ship is not in Class at the time of the Sale?

The industry standard if a ship is not in Class is to make the sale agreement subject to a survey. The buyer conducts the survey at his own expense through a licensed surveyor and the estimated costs of repairs to bring the ship into Class are then negotiated as a deduction from the purchase price. This further supports the

⁷²¹ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 10. "Upon taking delivery of the ship the buyer has to have ready: insurance cover, its Classification Society entry, mobilisation and embarkation of its crew, procuring of bunkers and consumables for its first post-delivery voyage, settlement of post-delivery debts incurred at the port of delivery, preliminary registration of the ship including approval of her new name and allocation of her new call sign and registration of the new mortgage. These are all costly and a buyer would have immediate work scheduled for the newly bought ship to put against these expenses."

presumption that the buyer is purchasing the ship to put into service as an operational ship as whether the work to bring it into Class, whether done pre- or post-delivery, is still factored into the purchase price.⁷²²

7.5.3.4 Middleman

S&P (Sale and Purchase) brokers are independent contractors commonly used as agents to negotiate terms on behalf of the buyer and seller. However, the brokers are rarely authorised to accept the final terms without first obtaining acceptance from the party they represent and when an S&P broker signs a sale contract, it is in the broker's capacity as agent. Brokers do not take ownership of the ship in their own right under SALEFORM 2012, their function is to manage a sale between two ship operators. This is very different to the situation under RECYCLECON where ship owners either negotiate with and sell directly to recycling ship yards (which happens rarely),⁷²³ or sell to a cash buyer who will generally negotiate a price with the ship yards and then take title of the vessel themselves for delivery to the ship yard (95 per cent of sales happen this way).⁷²⁴ The ship owner may retain title until delivery to the cash buyer at the outer anchorage of the yard where the buyer holds possession of the vessel until it is delivered into the ship yard without actually taking over title. In such instances the vessel is beached in a flagless status⁷²⁵ but that is less common. Under SALEFORM 2012 the negotiating middlemen are brokers between owners intending to operate the ships. Under RECYCLECON the negotiating middlemen are cash buyers who negotiate the price and take title and/or delivery themselves but have no ability to operate the vessel as a ship. The choice of middleman and the negotiation process highlight fundamental differences in the operation of these two contracts that assist in identifying the subject matter of the transaction.

⁷²² Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 43. If the ship is not in compliance, the Society may withdraw or suspend Class which could mean: the ship is non-compliant with its flag state requirements (a ship cannot sail if it is not registered with a flag state); the ship's insurance cover is automatically terminated; financiers are entitled to demand immediate repayment of loans secured over the ship; and the ship is rendered ineligible for chartering and other commercial activities.

⁷²³ Maritime International Secretariat Services Limited, *Guidelines on Transitional Measures for Ship owners Selling Ships for Recycling* (Marisec Publications, 1st ed, 2009), "Selling directly to a recycling facility is likely to be an option only for larger shipping companies that have a sizeable amount of obsolete tonnage to be recycled, and sufficient inhouse capacity to deal with the process."

⁷²⁴ Tony George Puthucherril, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2010) 32.

⁷²⁵ Tony George Puthucherril, *From Shipbreaking to Sustainable Ship Recycling: Evolution of a Legal Regime* (Brill, 2010) 32.

7.6 SALEFORM 2012 Conclusions

There is no doubt the subject matter of the SALEFORM 2012 contract is a ship. The analysis above makes it clear that the critical features of the purchase of a second-hand ship revolve around the identity and condition of the ship. It must be in Class with current certification and the buyer is entitled to various opportunities to inspect the ship to confirm its condition and the seller is obligated to compensate the buyer or reduce the price if the ship is not in Class or does not pass inspection upon delivery. The purchase price is calculated with reference to the market value of similar ships and if there is one, the previous sale price of the ship itself. The sale is negotiated by S&P brokers who represent the buyer and seller as agents and negotiate on their behalf but generally may not accept an offer on behalf of their principals, nor do the brokers take ownership of the ships.

These, then, are the key features of a contract of which the subject matter is a ship. The next part of this chapter analyses RECYCLECON, the contract for vessels sent for recycling, to determine if this contract also contains the identified key components of a contract for the sale of a ship or if RECYCLECON contains completely different key components meaning the subject matter of RECYCLECON is not a ship.

7.7 RECYCLECON Analysis

An analysis of each line and clause of RECYCLCON is found in Annexure 9. It explains the meaning, effect, application or relevance of each contract term, whichever is most applicable. The contract clearly outlines the rights and obligations conferred and imposed on buyer and seller and defines the relationship between them. It also makes clear certain underlying key criteria in the contract that distinguish this buyer/seller relationship.

7.7.1 Condition of the Ship

Unlike an agreement under SALEFORM 2012, an agreement under RECYCLECON does not focus on the condition of the vessel at all. There is no requirement the vessel be in functional, working order, or that it be in Class. In fact, Classification Societies and being in Class are not even mentioned once in RECYCLECON. There is no

presumption that the vessel can even self-transport to the recycling yard as provision is specifically made in the contract for a vessel that cannot and has to be transported.

This conclusion is based on the seller's obligations to provide and the buyer's rights to expect delivery, not of a ship that is certified as being in Class without any conditions or recommendations but instead of a vessel that still contains all fixtures and fittings bar those listed under Removals⁷²⁶ and whose Light Displacement Tonnage (LDT)⁷²⁷ has not varied since the signing of the contract and is in accordance with its valid trim and stability booklet.⁷²⁸ Unlike a ship under SALEFORM 2012 where the critical documents are certificates of Class, the most critical document under RECYCLECON is the trim and stability booklet. This demonstrates that the key criteria under RECYCLECON is not a working, operational ship but instead the retention of fixtures and fittings and delivery of a particular weight of steel. This conclusion is further supported by the fact that the purchase price is expressed in terms of the Contract Weight. There is also no obligation imposed on the seller to either carry out work required to meet Class certification standards prior to delivery or reduce the purchase price by cost of same or to carry out any repairs at all. No inspections occur to assess the condition of the vessel at the time of delivery because there is no intention for the buyer to operate it as a ship and the condition of the vessel is irrelevant. The Explanatory Notes to RECYCLECON state "It should be noted that for recycling purposes vessels are accepted on the basis of detailed vessel descriptions – physical inspections are rarely, if ever, conducted prior to the sale".⁷²⁹ The contract states the purpose of the sale is only for recycling and this is reinforced by the fact that the buyer usually uses the seller's own crew to deliver the vessel to the recycling yard.

⁷²⁶ RECYCLECON Clause 12.

⁷²⁷ 'Light displacement', *Dictionary.com* (Web Page, 2019) <<http://www.dictionary.com/browse/light-displacement>> 'Light displacement tonnage: the weight of a ship with all its permanent equipment, excluding the weight of cargo, persons, ballast, dunnage, and fuel, but usually including the weight of permanent ballast and water used to operate steam machinery'.

⁷²⁸ 'Stability Documentation for Approval' (Classification Notes 20.1, Det Norske Veritas AS, May 2011) 2.1.3. A trim and stability booklet 'should contain sufficient information to enable the master to operate the ship in compliance with the stability requirements applicable to the vessel' and contains information on the ship's structure and deadweight.

⁷²⁹ BIMCO, *Explanatory Notes to RECYCLECON: Standard Contract for the Sale of Vessels for Green Recycling* [3].

7.7.2 Seller and Buyer Obligations

Under RECYCLECON the seller's primary obligation is to deliver the vessel to the designated place of delivery at the agreed time with no change in LDT and all fixtures and fittings, as well as various documents confirming no encumbrances and transfer of title. The buyer's key obligation is to take delivery of the vessel, get it to the recycling yard and pay promptly. There is no obligation here to change the vessel's name or funnel markings or disassociate the vessel in any way from its previous owner as it will never be operational again.

7.7.3 Middleman

Under SALEFORM 2012 S&P brokers negotiate terms on behalf of the buyer and seller. However, under RECYCLECON the buyer is usually the scrapyards directly or a cash buyer. Cash buyers are companies which purchase a vessel on an 'as is, where is' basis and then sell the vessel directly on to a recycling yard.⁷³⁰ Cash buyers are often post box companies, sometimes created just for a single transaction, who will pay upfront, transfer ownership to themselves then invite quotations from the ship yards. One of the biggest differences under RECYCLECON is that ownership is usually transferred to the cash buyer whereas under SALEFORM 2012 the brokers act as agents. Under RECYCLECON the cash buyers do not own or operate ships. In fact, they are called intermediate owners because the vessels to which they hold title are not operational.⁷³¹ Cash buyers cannot be viewed as genuine owners and their limited role is critical when it comes to distinguishing between the cash buyer as a ship owner and the owner of the ship during the time that it meets the definition of ship as operational and in Class. This distinguishment is very relevant in the discussion in Chapter 8B below, identifying State of Export.

7.8 RECYCLECON Conclusions

The subject matter of a RECYCLECON contract is not a ship. The key criteria for the sale of a ship revolve around the identity and condition of the ship and that it must be

⁷³⁰ *Draft IMO Guidelines on Ship Recycling*, adopted on December 2003, para 6.4.3 cited in Stephen Drury, *How Does The Future IMO Ship Recycling Convention Address The Issue Of The Cash Buyer?* (Conference Paper, TradeWinds Ship Recycling Forum, 19 January 2009) published by Mondaq Business Briefing (6 March 2009).

⁷³¹ Sivaprasad Kotungallur, 'Development of Best Practices for Ship Recycling Processes' (PhD Thesis, Cochin University of Science and Technology, 2010) 7.

in Class with current certification. By contrast, the subject matter of a RECYCLECON contract is not a ship as the key criteria of a RECYCLECON contract are the LDT of the vessel and its fixtures and fittings, not its condition. The definition of ship discussed earlier in this thesis reinforces that a vessel on its end of life journey is not a ship because it does not meet the three critical requirements: capable of self-directed self-propulsion, deployed at sea and in operation. While a ship on its end of life journey may meet the first two criteria it is not in operation, defined as performing an activity within its prescribed function as defined by its Class. On an end of life journey the vessel has no allocated Class. Further, it is not in Class as the seller is required to notify the Classification Society and remove it from its Class once the RECYCLECON contract is complete and title transferred to the buyer.

When purchasing a ship inspections are critical. A buyer is entitled to various opportunities to inspect the ship to confirm its condition and the seller is obligated to compensate the buyer or reduce the price if the ship is not in Class or does not pass inspection. Under RECYCLECON the buyer only carries out an inspection pre-contract to assess the fixtures and fittings and identify removals, there is no inspection upon delivery as condition is irrelevant. This fundamental difference makes it clear that if the subject matter of SALEFORM 2012 is a ship then the subject matter of RECYCLECON is not a ship.

The purchase price of a ship is calculated with reference to the market value of similar ships capable of carrying out their functions in Class and if there is one, the previous sale price of the ship itself.⁷³² The sale is negotiated by S&P brokers who represent the buyer and seller as agents and negotiate on their behalf, but generally may not accept an offer on behalf of their principals, nor do the brokers take ownership of the ships.⁷³³ The purchase price of a vessel under RECYCLECON is determined by reference to the Contract Weight which is derived from the LDT of the vessel⁷³⁴ and has nothing to do with what type of ship it is or the market value for that type or age of ship. It is determined by the value of any reusable fixtures or fittings, but primarily by

⁷³² Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) Ch 1.2.

⁷³³ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 32.

⁷³⁴ 'RECYCLECON: Standard Contract for the Sale of Vessels for Green Recycling' (Explanatory Notes, BIMCO) 3.

the LDT of the vessel, in other words, its scrap steel content and the value. “Ship recycling is principally a subset of the scrap metal industry ... about 90 per cent of the total value of an old ship in domestic markets is in the metals that can be removed, reduced to mill-grade materials, and sold for remelting and reforming into other metal products.”⁷³⁵ There is a strong causal relationship between international steel-scrap prices and demolition prices and international steel-scrap prices contribute decisively towards prices in the ship recycling industry with a lag of approximately four months between international price shifts and a corresponding price movement in the recycling market.⁷³⁶ The brokers are not agents of the seller under RECYCLECON but instead take ownership of the vessel themselves and negotiate with recycling yards on their own behalf. Last but not least, when a vessel is sent on its end of life journey there is a change in insurance cover from one for the value of the commercially operating ship to a break-up voyage policy, whose value is based on the contractual weight of the vessel as calculated by the Lightweight Displacement Tonnage (less deductions) and any remaining fixtures and fittings.⁷³⁷

This analysis of the words and terms and key criteria of the two contracts clearly demonstrates that if it is accepted that the subject matter of SALEFORM 2012 is a ship then the subject matter of RECYCLECON is definitely not a ship.

⁷³⁵ Ron Hess et al, *Disposal Options for Ships* (Rand, 2001) 115.

⁷³⁶ Nikos D Kagkarakis, Andreas G Merikas and Anna Merika, ‘Modelling and Forecasting the Demolition Market in Shipping’ (2016) 43(8) *Maritime Policy and Management* 1021.

⁷³⁷ RECYCLECON Standard Contract for the Sale of Vessels for Green Recycling’ (Explanatory Notes, BIMCO).

Chapter 8: The Basel Convention Applied to Ship Recycling

8 Part A.1 Introduction

The previous two chapters confirmed that a vessel which is the subject matter of a RECYCLECON contract is not a ship and that under the definition of ship provided, a vessel on its end of life journey is also not a ship. The remainder of this thesis looks at the specific terms of the Basel Convention and their application to the ship recycling process. Having determined that a vessel on its end of life journey is not a ship and knowing that it has already been recognised as waste,⁷³⁸ there are still some stumbling blocks to successful application of the Basel Convention.

The first part of the chapter, Chapter 8 Part A, begins with an examination of the history of the Basel Convention and how the Convention relates to ship recycling. The process of a transboundary movement as contemplated under the Basel Convention is explained with reference to the terms of the Convention and then that process is overlaid on to the ship recycling process. Once it is confirmed the end of life journey of a vessel to be recycled is within the range of processes contemplated by the Basel Convention, the key terms and definitions of the Convention are applied to the parties and elements of the ship recycling process. The majority of the terms apply in a straightforward way but some discussion is had concerning the terms 'Generator' and 'Disposer' and clarifying which parties in the ship recycling process satisfy the Convention definitions.

Last but not least, the second half of this chapter, Chapter 8 Part B, explains and proposes a solution to what has been one of the biggest impediments to applying the Basel Convention to ship recycling: identifying the State of Export. The definition of State of Export is analysed and explored with reference to the recent *Seatrade*⁷³⁹ decision from the Rotterdam Criminal Courts. After a critique of the judicial reasoning in that case, the various circumstances that could complicate identification of the State of Export are explored. In its conclusion, the chapter proposes options for identifying the State of Export, depending on which is most appropriate and relevant in the different circumstances. First, the state in whose jurisdiction the vessel is physically

⁷³⁸ COP to the Basel Convention VII/26. *Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, 7th mtg, UNEP/CHW.7/33 25-9 October 2004).

⁷³⁹ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

located when it becomes waste and the end of life journey is initiated, if there is a genuine link between the vessel and the state. Second, the state in whose jurisdiction the owner of the vessel is located when planning the initiation of the end of life journey and/or when the contract of sale for recycling was concluded and the ship became waste. Third, the flag state under whose jurisdiction the ship was operating when the end of life journey was planned to be initiated or was initiated, or when the contract of sale for recycling was concluded and the ship became waste.

8 Part A.2 History of the Basel Convention

The Basel Convention was created to protect human health and the environment by minimising the transboundary movement of hazardous waste and ensuring that any hazardous waste that is exported across jurisdictions for disposal is dealt with in an environmentally sound manner. The Convention is a regulatory framework that holds liable any State which is a Party to the Convention and exports hazardous waste in a manner that breaches the Convention. It grew from a Working Group mandated in 1987 by the Governing Council of UNEP with the task of drawing from the Cairo Guidelines,⁷⁴⁰ a non-binding legal instrument primarily designed to assist governments in the development and implementation of their national management policies for hazardous wastes, to elaborate a global Convention on the control of transboundary movements of hazardous wastes. The Conference of Plenipotentiaries on the Global Convention on the Control of Transboundary Movements of Hazardous Waste held at Basel in 1989 unanimously approved the final draft of the Convention submitted by the Working Group.⁷⁴¹

The Basel Convention was not designed with ships and ship recycling specifically in mind and, so far, application of the Convention to ship recycling has been haphazard and mostly unsuccessful.⁷⁴² This has been due to difficulties in effectively applying the terms used in the Convention to the ship recycling process. One key issue has been determining whether a vessel on its end of life journey – the journey to a recycling yard

⁷⁴⁰ *Report of the United Nations Working Group*, UNEP/WG.182/L.1 (February 1988).

⁷⁴¹ 'History of the Negotiations of the Basel Convention', *United Nations Environment Program* (Web Page) <basel.int/TheConvention/Overview/History/Overview/tabid/3495/Default.aspx>.

⁷⁴² Amy E Moen, 'Breaking Basel: The elements of the Basel Convention and its application to toxic ships' (2008) 32 *Marine Policy* 1053, 1054.

- is waste.⁷⁴³ Thus far the position has been that a vessel on its end of life journey can be simultaneously both waste and a ship.⁷⁴⁴ The inability to categorically identify the vessel as only waste has prevented successful implementation of the Basel Convention which only applies to the transboundary movement of hazardous waste or waste containing hazardous substances and does not apply to the transboundary movement of ships, even though they may contain hazardous substances. However, with the provided definition of ship it becomes clear when a vessel no longer meets the definition of ship and is classified only as waste.

Another issue that has prevented the application of the Convention has been difficulties in identifying the State of Export.⁷⁴⁵ The remedy for a breach of the Convention is to hold the exporting state accountable for either taking back hazardous waste material for safe disposal, or taking appropriate measures to ensure that the hazardous waste is disposed of in an environmentally sound way in the originating state or some other destination.⁷⁴⁶ However, it is not possible to identify the State of Export until the point at which the vessel becomes waste is determined. Under the provided definition of ship in Chapter 5, a vessel becomes waste when it no longer meets the three-part definition of ship. As discussed earlier, this point can be signalled by a change in ownership, the shift to a break-up voyage insurance policy instead of a commercial policy and, frequently, registration under a new flag state. Identifying when a ship becomes waste does not solve all of the problems of identifying the State of Export and Chapter 8 Part B addresses this issue. However, it is important first to outline the process of the transboundary transport of hazardous waste as laid out in the Basel Convention and then overlay the ship recycling process to assess their correlation.

⁷⁴³ Amy E Moen, 'Breaking Basel: The elements of the Basel Convention and its application to toxic ships' (2008) 32 *Marine Policy* 1053, 1056 [8].

⁷⁴⁴ Council of the European Union, Submission No 16995/12 (2012) [8].

⁷⁴⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

⁷⁴⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 8.

8 Part A.3 The Process Under the Convention

The Convention defines twenty-one terms encompassing: those who participate in the process, steps in the process, objects in the process or entities who govern or have responsibility for the process. Organisations constituted and authorised by States to act on their behalf in relation to the Convention are political and/or economic integration organisations.⁷⁴⁷ The term ‘wastes’ defines the matter for disposal which is the subject of the transboundary movement and is subject to the Convention.⁷⁴⁸ The source of the waste is the Generator,⁷⁴⁹ being either the person whose activity has created the waste or, if that person is not known, the person in possession and/or control of the waste. Person includes any natural or legal person and includes individuals and companies.⁷⁵⁰ The transporter of the waste is the Carrier.⁷⁵¹ The recipient of the waste⁷⁵² and the entity that undertakes all operations which either do⁷⁵³ or may⁷⁵⁴ lead to the possibility of resource recovery, recycling, reclamation, direct re-use or alternative uses is the Disposer.⁷⁵⁵ Both Generator and Disposer are under an obligation to ensure the waste is managed, ie collected, transported and disposed of⁷⁵⁶

⁷⁴⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(20).

⁷⁴⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(1).

⁷⁴⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(18).

⁷⁵⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(14).

⁷⁵¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(17).

⁷⁵² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(4).

⁷⁵³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex IV A.

⁷⁵⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex IV B.

⁷⁵⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(19).

⁷⁵⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(2).

in an environmentally sound manner.⁷⁵⁷ This requires the waste be disposed of at an approved site or facility⁷⁵⁸ whose operation is approved by the relevant authority of the state under whose national jurisdiction it is located. The State of Export is the state under whose jurisdiction the transboundary movement is initiated (or planned to be initiated) and the waste must move from this jurisdiction to or, at the least, through another jurisdiction to the Disposer to satisfy the term 'transboundary movement'. The person who arranges for the waste to leave the State of Export is the Exporter,⁷⁵⁹ who may or may not be the same person as the Generator but must be within the jurisdiction of the State of Export. The Exporter can be the ship owner (the Generator) or a cash buyer but if the cash buyer is outside the jurisdiction of the State of Export then the Exporter must be the ship owner who arranges the sale of the ship to the cash buyer and thus is the person who makes the arrangements for the waste to leave the jurisdiction of the State of Export. The State of import is the state where the waste is received for disposal or, if the Disposer is not under the national jurisdiction of any state, the last state through which the waste passes for the purposes of loading prior to disposal in an area outside any national jurisdiction.⁷⁶⁰ The person who arranges for the waste to enter the State of import is the Importer,⁷⁶¹ who may or may not be the same person as the Disposer. The Importer must be under the jurisdiction of the State of import and if the Disposer is located in an area outside any national jurisdiction then the Importer will be the person responsible for arranging the loading prior to disposal in the last national jurisdiction through which the waste passes, prior to reaching the Disposer. If the Disposer is within a national jurisdiction and is receiving the waste from a party outside that jurisdiction, then the Disposer will be the Importer.

⁷⁵⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(8).

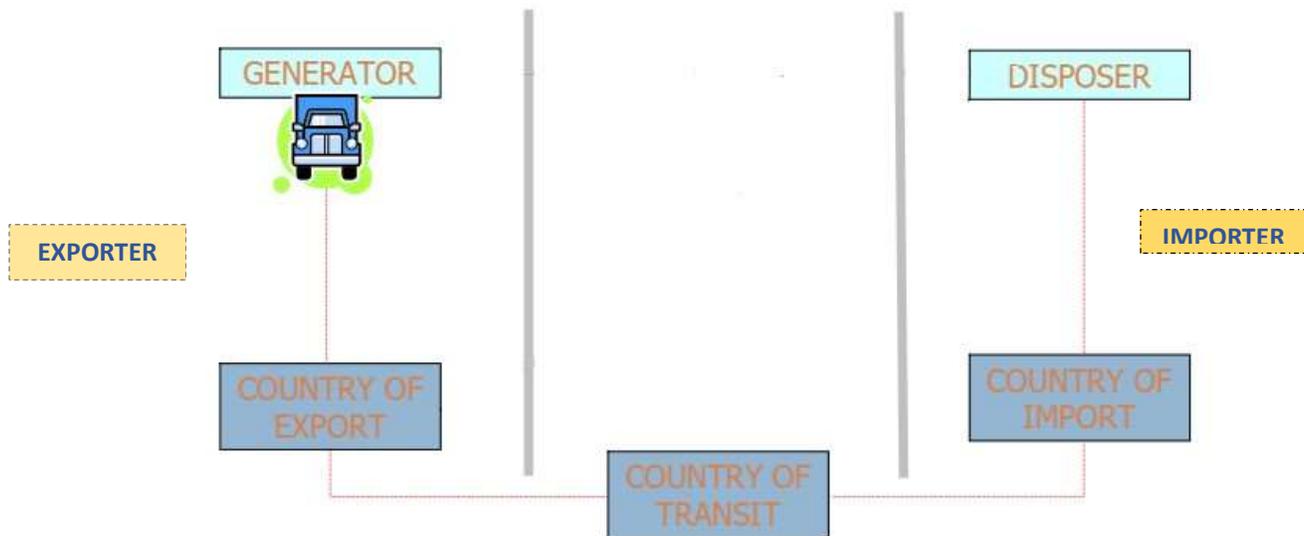
⁷⁵⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(5).

⁷⁵⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(15).

⁷⁶⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(11).

⁷⁶¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(16).

Below is a diagram of the key elements of the process under the Basel Convention. This process and these terms now need to be laid over the ship recycling process.



The Basel Process (adapted from Manual for the Implementation of the Basel Convention)

8 Part A.4 The Basel Process Applied to Ship Recycling

8 Part A.4.1 Waste

As previously noted “Ship recycling is principally a subset of the scrap metal industry”⁷⁶² and approximately ninety per cent of a vessel’s value is in its metal.⁷⁶³ When a vessel is sold for recycling, its value is determined by the value of any fixtures or fittings included in the sale and its LDT, the total weight of the vessel, assessed against the scrap metal price. Before it is sold for recycling, a ship is stripped of everything but the items that add value to the sale or items that have no value to the ship owner and are left onboard for disposal. Such items include soft furnishings and furniture which are auctioned off by the ship yard, removed and transformed by local refurbishers and sellers of electronics and consumer durables.⁷⁶⁴ This stripped vessel which is no longer in operation and does not meet the definition of ship, undertakes a final voyage to the ship recycling yard during which it is covered by a break-up voyage

⁷⁶² Ron Hess et al, *Disposal Options for Ships* (Rand, 2001) 115.

⁷⁶³ Ron Hess et al, *Disposal Options for Ships: Appendix B Estimating the Amount of Recyclable Materials and Wastes in Domestic Ship Recycling* (RAND, 2001).

⁷⁶⁴ N Gregson et al, ‘Following things of rubbish value: End of life ships, ‘chock-chocky’ furniture and the Bangladeshi middle class consumer’ (2010) 41(6) *Geoforum* 846.

policy instead of one for commercial operations, also signalling it is no longer a ship. The sole purpose of this journey is to deliver the vessel to be broken down into scrap metal and other components for resale, recycling or disposal into landfill, all methods of disposal under the Convention.⁷⁶⁵ This qualifies the vessel on this voyage as waste, an object intended to be disposed of.⁷⁶⁶ Not only is the vessel waste it has, as constituents and components, materials classed as hazardous waste under the Convention including PCBs, PVCs, PAHs, TBT, oils, asbestos, heavy metals and others.⁷⁶⁷ This final voyage is called an end of life voyage and it represents the movement of hazardous waste, the subject of the Convention.

8 Part A.4.2 Transboundary movement

For the Basel Convention to apply, the waste must complete a Transboundary movement which means it must undertake a journey from the Generator to the Disposer that passes through areas under the national jurisdiction of at least two states.⁷⁶⁸ Identifying an area under the national jurisdiction of a state⁷⁶⁹ is explored in the State of Export discussion.⁷⁷⁰ The state where the transboundary movement is initiated or is planned to be initiated, is the State of Export.⁷⁷¹ The last area under the national jurisdiction of a state through which the waste passes during its transboundary movement is the State of import, be that where the Disposer is located or, when the Disposer is in an area not under the jurisdiction of any state, the last leg of the journey that is through an area under the national jurisdiction of a state.⁷⁷²

⁷⁶⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex IV A and B.

⁷⁶⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(1).

⁷⁶⁷ Aage Bjørn Andersen, 'Worker safety in the ship-breaking industries' (Working Paper, International Labour Office, February 2001).

⁷⁶⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(3).

⁷⁶⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(9)

⁷⁷⁰ See Chapter 8 Part B.

⁷⁷¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

⁷⁷² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(11).

Any areas under the national jurisdiction of a state through which the transboundary movement passes but are neither the State of import nor the State of Export are defined as States of transit⁷⁷³ and all states involved in a transboundary movement of hazardous waste, whether Parties to the Convention, are collectively termed the states concerned.⁷⁷⁴ The Generator or Exporter must notify any relevant government authorities in the states concerned of a proposed transboundary movement.⁷⁷⁵ Any transboundary movement of waste in breach of this Convention is deemed illegal traffic.⁷⁷⁶

8 Part A.4.3 The Generator and The Disposer

The ship recycling process begins when the decision is taken to send a ship for recycling. A multitude of factors are considered before that decision is taken and they include considerations of the state of the industry, the age of the ship, the value of the ship in the relevant recycling market, the financial condition of the owning company and so on.⁷⁷⁷ None of these considerations is relevant under the Convention. The Convention begins when the transboundary movement – end of life journey - is initiated or when it is planned to be initiated.⁷⁷⁸ This means the only part of the ship recycling process relevant to the Convention is that which occurs after the decision. What is relevant about the decision is identifying the decision-maker. It is the implementation of that decision that turns a ship into waste and the decision-maker is therefore the Generator, the entity who generates a vessel as waste from a vessel that was previously a ship. Since the decision-maker is (generally) the owner of the ship, it must be the ship owner who is the Generator under the Convention.

⁷⁷³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(12).

⁷⁷⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(13).

⁷⁷⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) arts 2(6) and (7).

⁷⁷⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(21).

⁷⁷⁷ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

⁷⁷⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 10.

Once the decision is made to send a ship for recycling, a variety of actions are undertaken by the ship owner in order to ready the ship for its end of life journey. The practical considerations of an end of life journey, such as what items will be removed when and what crew to use, are not relevant under the Convention which is focused on the end of life journey itself and those responsible for deciding the terms of the end of life journey which might put it in breach of the Convention. The first step in the planning is to determine the destination of the journey. The ship owner, or its representatives, must decide which recycling yard will undertake disposal of the vessel. Under the Convention recycling is a disposal activity,⁷⁷⁹ the recycling yard is the approved site or facility⁷⁸⁰ and the owner of the yard is the Disposer.⁷⁸¹

The ship owner has a number of options when negotiating. Owners can negotiate directly with ship yards or negotiate through a broker with a recycling yard (uncommon) or with a cash buyer who will negotiate and transact directly with the recycling yard of their own choice (most common). Each of these options creates a different process. If the ship owner negotiates directly with the ship yard then the ship owner is the Generator and the ship yard is the Disposer. If the ship owner negotiates with the recycling yard through a broker then the end result is the same, the broker merely acts as a negotiating intermediary between ship owner and recycling yard. However, if the broker takes responsibility for more than just negotiating the deal then the broker could be said to be the Exporter but only if the broker is within the State of Export jurisdiction.⁷⁸² This will not negate the ship owner's role as Generator but it may affect who is responsible for notifications to the various competent authorities.⁷⁸³

⁷⁷⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex IV B.

⁷⁸⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(5).

⁷⁸¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(19).

⁷⁸² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(15).

⁷⁸³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(6).

If the ship owner sells the vessel to a cash buyer who takes ownership of the vessel to sell to a recycling yard, the cash buyer does not purchase a ship, it purchases waste. As explained in Chapter 6, the cash buyer does not purchase the vessel to operate it commercially at all. They are predominantly post box companies with no function other than to purchase and sell on vessels from ship owners to recycle yards with none of the structures and processes required to operate a ship and often do no more than administration processes, such as registration to change title and flag state. Cash buyers do not even necessarily provide their own crew for an end of life journey. As seen in the *Spring Bear* example discussed below, the ship owner's crew was reduced to a minimum but remained onboard to deliver the vessel to the recycling yard. Even though their papers had been transferred nominally to the new owner (the cash buyer), the actual management of the crew and their reporting structure did not change, as was verified in correspondence between the ship owner and Captain. Therefore, the Generator of the waste remains the ship owner who converts the ship into waste upon selling it to the cash buyer for disposal, as opposed to selling the vessel to the cash buyer as a ship that the cash buyer then converts and generates into waste later. If the cash buyer is located within the same national jurisdiction as is deemed the State of Export, then the cash buyer may also be viewed as the Exporter as, in negotiating and making the arrangements with the ship yard, they are the persons responsible for arranging the export of the waste from the State of Export.⁷⁸⁴

The Convention does not directly refer to the legal owner of the waste being disposed at the time of its disposal but uses the term Generator⁷⁸⁵ in the Preamble, defined as "any person whose activity produces hazardous wastes or other wastes or, if that person is not known, the person who is in possession and/or control of those wastes". This definition demonstrates the importance of both identifying the Generator of the waste as opposed to the legal owner and that the material in question must be classified as waste and not, in this instance, as a ship. The conclusion of the three

⁷⁸⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(15).

⁷⁸⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2 s 18.

options above is that none of them lets the ship owner off the hook. When the ship owner deals directly with the recycling yard, it is clearly the Generator of and responsible for the waste. When the ship owner deals with the recycling yard through a broker, the ship owner remains the Generator of and responsible for the waste. When the ship owner sells the vessel to a cash buyer it is not selling a ship, it is selling waste that it has already generated and thus the ship owner remains the Generator.

The Convention focuses on where the transboundary movement is initiated or planned to be initiated; the State of Export.⁷⁸⁶ Determining the State of Export is critical to application and enforcement of the Convention. The Generator is responsible for planning the initiation of a transboundary movement to a recycling yard, be it directly with the ship yard, through a broker or to a cash buyer and then on to a ship yard. If the ship owner and the state under whose national jurisdiction it is located can be clearly identified, then that state will be the State of Export and bear responsibility under the Convention. If the ship owner is made up of multiple layers and locations of companies and people who plan the initiation of the transboundary movement, then the next option for consideration is the area in which the vessel itself is physically located when the end of life journey is initiated. If that area falls under the national jurisdiction of a State with a legitimate link to the vessel then that state will be the State of Export. In the case of *Spring Bear*⁷⁸⁷ in Chapter 8 Part B, the end of life journey initiated in the United Arab Emirates (UAE) which had absolutely no ties to the vessel. If the vessel initiates its end of life journey from a location that is not under the national jurisdiction of any state such as the high seas, or that is under the national jurisdiction of a state with which the ship has no connection other than its physical presence, then the State of Export could be considered to be the state having national jurisdiction over the ship – the flag state.⁷⁸⁸ On this reading of the convention, the flag state then bears responsibility for holding the ship owner liable as Generator of the vessel as waste under its domestic implementation of the Convention.

⁷⁸⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

⁷⁸⁷ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

²⁴⁷ See State of Export discussion, Chapter 8 Part B.

There are jurisdictions currently trying to ensure safe disposal of vessels for recycling, such as Europe, by implementing domestic legislation which applies to all vessels flying a European flag at the time a vessel is sent for recycling, restricting the recycling to EU approved facilities only (Annexure 5). However, ship owners avoid the legislation by selling the ships to cash buyers, anonymous post box companies in places such as Panama and Belize, where the new owners change the flag of the vessel and send it to be recycled on a South Asian beach. Thus the challenge here is to distinguish the legal owner of the vessel when it is waste at the time of the end of life journey (the cash buyer), from the Generator of the waste (the owner of the ship during its operational life prior to being sold for recycling). The ship owner during the ship's operational life should be held liable as the Generator for the safe disposal of the vessel, not the cash buyer who is only responsible for possession and control of the vessel as waste for the duration of its end of life journey to the recycling yard. It should be noted that the convention provides for the Generator to be viewed as the person in possession and/or control of the waste *only if* the person who caused the waste to be generated is not known.⁷⁸⁹ Therefore the cash buyer would only be viewed as the Generator should the ship owner who generated the waste not be known for some reason.

This section has outlined how the Basel Convention could be applied to the ship recycling process. Indeed, it is contended that such an application is inevitable once one accepts that a vessel on its end of life journey can only be waste and not a ship (for the reasons outlined in Chapters 6 and 7). As regards who should be considered the Generator for the purposes of the convention, the Generator of the waste is the owner of the ship during its operational life. Once its operational life ceases it becomes waste and, if a cash buyer is involved, the ship owner transfers ownership of the vessel as waste, not as a ship, for the sole purpose of disposal. The discussion also noted the role of companies who act as brokers and examines their purpose and function to clearly identify them as no more than middlemen in the process, managing the contract with the recycling yard and the movement of the vessel to the recycling yard. Cash buyers also have no part in operating any vessel as an operational ship in any way at

⁷⁸⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(18).

any time, but rather limit their involvement to nothing other than collecting the vessel from a given destination and delivering it to the recycling yard.

The Exporter of the waste is the person under the jurisdiction of the State of Export who is responsible for managing the process wherein the vessel leaves the jurisdiction of the State of Export. Depending on the circumstances, this can be the ship owner, the broker or the cash buyer. Nothing other than responsibility for appropriate notifications turns on this as liability for breaches of the Basel Convention are always brought back to the State of Export, which is responsible for enforcement under domestic legislation.

Identifying the Disposer is straight forward under the Convention and has long been hello hello recognised by all as the recycling yard. The primary responsibility here is for responsibility for appropriate notifications and ensuring waste is disposed of in an environmentally sound manner in accordance with the technical guidelines of the Convention.⁷⁹⁰ The last area under the national jurisdiction of a state through which the vessel passes on its end of life journey, be that where the Disposer is located or, when the Disposer is in an area not under the jurisdiction of any state, the last leg of the journey that is through an area under the national jurisdiction of a state, is the State of import.⁷⁹¹ The recycling yard, the broker or the cash buyer can equally be the Importer⁷⁹² but again, this really only impacts the responsibility for notification. Liability for recycling practices that are not environmentally sound will be brought under domestic legislation. The ability to hold the recycling yards liable when necessary has not been an issue preventing enforcement of the Convention, as the remedy under the Convention for illegal traffic is to hold the State of Export liable and not the State of import as the obligation lies with the Generator and the State of Export to verify the State of import has confirmed acceptance of the waste and there is an appropriate disposal plan in place before permitting the waste to leave the State of Export to go to

⁷⁹⁰ 'Basel Convention Technical Guidelines' (Guidelines).

⁷⁹¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(11).

⁷⁹² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(16).

the State of import and the Disposer.⁷⁹³ Thus the burden lies with the Generator - the ship owner - and not the Disposer - the recycling yard.

8 Part A4.4 Other Terms

The terms organisations⁷⁹⁴ and person⁷⁹⁵ as used in the Convention do not change their meaning in relation to ship recycling. The Generator's and Disposer's obligations to manage⁷⁹⁶ the waste in an environmentally sound manner⁷⁹⁷ do not change in the case of ship recycling. Any end of life journey undertaken by a vessel that does not cross international boundaries and pass from an area under the national jurisdiction of one state to an area under the national jurisdiction of another state would fall under domestic legislation and not be governed by the Convention. Any end of life journey that involves the vessel travelling between or through areas under the national jurisdiction of more than one state will meet the definition of a transboundary movement⁷⁹⁸ and be regulated by the Convention. All states involved in the transboundary movement satisfy the definitions of either the State of import, the State of Export, States of transit⁷⁹⁹ or states concerned.⁸⁰⁰ A ship recycling yard, as Disposer, is an approved site or facility⁸⁰¹ governed by an authority under the national

⁷⁹³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 4(3).hello

⁷⁹⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(20).

⁷⁹⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(14).

⁷⁹⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(2).

⁷⁹⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(8).

⁷⁹⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(3).

⁷⁹⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(12).

⁸⁰⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(13).

⁸⁰¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(5).

jurisdiction of the state⁸⁰² in which it is located and carries out activities that satisfy the definition of disposal.⁸⁰³ Illegal traffic is any transboundary movement of a vessel on its end of life journey that breaches the Convention.⁸⁰⁴

The only remaining term is 'Carrier',⁸⁰⁵ any person who carries out the transport of hazardous wastes or other wastes. A vessel on its end of life journey is unlikely to be transported unless it is incapable of sailing, in which case it would be towed or carried onboard a larger ship as cargo. Whatever ship transported the vessel due to be disposed of would be the Carrier.

From the above it can be seen that there is no issue with overlaying the Basel Convention process onto the ship recycling process. The terms of the Convention are easily allocated to the elements of the ship recycling process, making the Basel Convention both applicable and enforceable.⁸⁰⁶

⁸⁰² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(9)

⁸⁰³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(4).

⁸⁰⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(21).

⁸⁰⁵ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(17).

⁸⁰⁶ See Annexure 11.

Chapter 8 Part B: Identifying the State of Export

8 Part B.1 Introduction

Article 2(10) “State of Export” means a Party from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated.

This section of the chapter discusses the definition of State of Export in Article 2(10) of the Basel Convention. It begins by looking at the importance of being able to identify the State of Export in the context of the Basel Convention. The difficulties in identifying the State of Export are demonstrated through the example of the recent *Seatrade*⁸⁰⁷ judgement from Rotterdam. This case turned on identification of the Country of dispatch under s22 of the European Waste Shipment Regulations (EWSR), which is the equivalent term in the domestic legislation implementation of the Basel Convention. For the purposes of analysis, the definition of State of Export under Article 2(10) is then broken down into four elements and each element is discussed separately. Various options for identifying the party that is the State of Export are explored, including: the location of the ship when the decision is made to send it for recycling; the location of the planners that cause or facilitate the end of life journey to be initiated; the location of the ship during implementation of the choices made by the planners; the physical location of the vessel when the end of life journey is initiated; and lastly, using the flag State to identify the State of Export. All of these options are explored referencing the *Seatrade* judgement as an example.

8 Part B.2 Why is the State of Export Important?

It is critical to clarify the meaning of State of Export in Article 2 in order to successfully apply the Basel Convention. The Convention recognises the State of Export as not only the point of initiation of a transboundary movement, but also imposes obligations and restrictions on that State. The State of Export is prohibited from transferring the obligation to ensure hazardous wastes are disposed of in an environmentally sound manner to any other State.⁸⁰⁸ For example, if a cash buyer is not within the State of

⁸⁰⁷ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

⁸⁰⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 4 s 10 See Statutory Annexure 1.

Export's jurisdiction, the obligation to ensure that the vessel and any hazardous substances it contains are disposed of safely cannot be transferred to a jurisdiction associated with the cash buyer, such as the flag state selected by the cash buyer for the end of life journey. Under Article 6 the State of Export is responsible for notification of the transboundary movement to all relevant authorities⁸⁰⁹ and preventing the transboundary movement from commencing until it has received written confirmation from the State of import⁸¹⁰ and the State(s) of transit.⁸¹¹ The person responsible for making the arrangements for the export of the waste, which includes responsibility for all notifications, is the Exporter and the Convention is clear that the Exporter must be under the jurisdiction of the State of Export. If the State of Export is not informed disposal has been completed as per the notification, the State of Export has a duty to notify the State of import accordingly.⁸¹²

However, the most important reason the State of Export must be clearly identified is found under Article 8, the Duty to Re-import. This defines an illegal shipment as a transboundary movement of hazardous waste without the proper notification or where disposal cannot be properly performed. It places the burden on the State of Export to either arrange an alternative environmentally sound disposal of the waste or take the waste back into the State of Export.⁸¹³ This is the sole remedy for a breach of the Convention and without a means of enforcing it, the Basel Convention is meaningless. This obligation attaches liability to the State of Export to enforce the environmentally sound disposal of an illegal shipment and to impose penalties on the individuals within the State of Export that are responsible for the breach.

⁸⁰⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 6 s 1 See Statutory Annexure 1.

⁸¹⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 6 s 3 See Statutory Annexure 1.

⁸¹¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 6 s 4 See Statutory Annexure 1.

⁸¹² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 6 s 9 See Statutory Annexure 1.

⁸¹³ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 6 s 8 See Statutory Annexure 1.

8 Part B.3 The *Seatrade* Judgment

A recent example of how such obligations apply is found in the 2018 *Seatrade*⁸¹⁴ judgment where the reefer operator *Seatrade* and two of its directors were found criminally liable under the Netherlands Environment Management Act⁸¹⁵ in the Rotterdam Criminal Court. They were charged with carrying out illegal shipments of waste from the Netherlands when they sent four vessels for recycling to India, Bangladesh and Turkey. The Environment Management Act is part of the Netherlands' domestic implementation of the European Union Waste Shipment Regulations⁸¹⁶ (EWSR) which are the European Union's implementation of its obligations under the Basel Convention. The penalties against *Seatrade* and its directors for illegal shipments of waste that breached the EWSR, and therefore the Basel Convention, were enforced by the Netherlands Criminal Courts representing the State from which it was held they had initiated the illegal shipments.

However, correctly identifying the State of Export is not always simple and this is acknowledged in a specialised report issued by the EU itself, which stated "Specific challenges for the system are the difficulty to identify in practice when a ship becomes waste, and which country is to be regarded as the 'State of Export' under the Basel Convention in unclear cases".⁸¹⁷ Although *Seatrade* and its directors were found criminally liable, the case clearly demonstrated both the challenges identified by the report's authors. This is the first time a European shipping company has been held criminally liable and the case was brought under Regulation (EC) No 1013/2006 on shipments of waste, the implementation of the Basel Convention within the European Union. The regulation defines Country of Dispatch as "any country from which a shipment of waste is planned to be initiated or is initiated".⁸¹⁸ This precisely mirrors the wording in the Convention defining the State of Export.⁸¹⁹ *Seatrade* and its directors

⁸¹⁴ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

⁸¹⁵ *Environmental Management Act* (Netherlands) s 10.60(2).

⁸¹⁶ *European Union Waste Shipment Regulations* art 2(35).

⁸¹⁷ European Community, *Comparison of the Level of Control and Enforcement Established by the Basel Convention with the Expected Level of Control and Enforcement to be provided by the Draft Ship Recycling Convention in its Entirety – An Assessment by the EU and its Member States* (2008) <www.basel.int/ships/commentsOEWG6/EU.doc>.

⁸¹⁸ *Regulation (EC) No 1013/2006 Of The European Parliament And Of The Council of 14 June 2006 on shipments of waste* OJ L 190/1 Art 2(22).

⁸¹⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

were found criminally liable for illegal shipments of waste under legislation⁸²⁰ that prohibits shipments from the European Community⁸²¹ containing substances, including asbestos,⁸²² for export to non-OECD countries.⁸²³ The provisions breached represent the Netherlands and European Union's implementation of the Convention obligations,⁸²⁴ defining illegal shipments and Country of dispatch obligations.

In its judgment,⁸²⁵ the Court found Seatrade and the directors had transferred four ships from the Netherlands for recycling in contravention of the provisions outlined above. All the ships were sent on similar final commercial voyages from the Netherlands to destinations outside the European Union prior to initiating their end of life journeys to the recycling yards. The *Spring Bear* was sent via Egypt, Iran and the United Arab Emirates (UAE) to Alang, India. The *Spring Bob* went via Fujairah, Sharjah, Khor Fakkan and back to Fujairah within the UAE before being recycled in Chittagong Roads, Bangladesh. The *Spring Deli* and the *Spring Panda* sailed a week apart via Germany, Belgium, Libya and Malta to Aliaga, Turkey.

The Rotterdam Criminal Court had to determine if the vessels had been exported from the Netherlands. This would make the Netherlands the Country of Dispatch under the various provisions (and therefore, the State of Export under the Basel Convention) with the consequent obligation to prosecute breaches of illegal shipments of waste. There was no dispute that the recycling yards to which the vessels had been sold would not recycle the vessels in an environmentally sound manner as prescribed by the various regulations. Given that the EWSR definition of Country of Dispatch⁸²⁶ mirrors and implements the Basel Convention definition of State of Export,⁸²⁷ this thesis will use the *Seatrade* judgment, a “groundbreaking judgment setting a

⁸²⁰ *Environment Management Act* (Netherlands) s 10.60(2)(e).

⁸²¹ *European Waste Shipment Regulations* art 2(35)(f).

⁸²² *European Waste Shipment Regulations* arts 34 and 36.

⁸²³ *European Waste Shipment Regulations* art 36: Exports Prohibition, a list of wastes (including asbestos) prohibited for export to non-OECD countries.

⁸²⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) arts 4, 6 and 9.

⁸²⁵ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018).

⁸²⁶ *European Waste Shipment Regulations* s 22.

⁸²⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

European-wide precedent for holding ship owners accountable”,⁸²⁸ to analyse and define application of State of Export.

8 Part B.4 Analysis of Article 2(10)

For ease of interpretation, the State of Export definition has been broken down into four distinct elements. These are then analysed in relation to ships and ship recycling:

1. a Party from which;
2. a transboundary movement;
3. hazardous wastes or other wastes; and
4. is planned to be initiated; or is initiated.

These elements must be considered within the context of the other Convention provisions to ensure consistency in application of the Convention.

8 Part B.4.1 A Party from which ...

The Basel Convention restricts States of export to those States satisfying the term Party, which refers to States or regional economic integration organisations (e.g the European Union) that have ratified, accepted, approved or acceded to the Convention.⁹ The relevant area of a State’s jurisdiction under the Basel Convention is defined as “any land, marine area or airspace within which a State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment”.⁸²⁹ This then limits not only which States can be Parties but also what areas within those States can be deemed a State of Export, such areas being defined by the administrative and regulatory responsibility exercised therein. The phrase ‘land, marine area or airspace’ can be reasonably interpreted as intended to be all encompassing every area over which a State may exercise authority, and that may reasonably be interpreted to include ships. This interpretation accords with the extra-territorial jurisdiction UNCLOS

⁸²⁸ ‘Seatrade Convicted for Beaching Ships’, *European Union Network for the Implementation and Enforcement of Environmental Law* (Web Page, 19 March 2018) <<https://www.impel.eu/seatrade-convicted-for-beaching-ships/>>.

⁸²⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2 s 9 See Annexure.

confers over ships in port⁸³⁰ or that which a State has over its aircraft even when they are in another State's territory.⁸³¹ Therefore the Party referred to in the State of Export definition is 'any area of a State which is a Party to the Convention, where the State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment'.

In the *Spring Bear* case study, the Netherlands is a member of the United Nations and a party to the Convention under its own authority and as a member of the European Union. Rotterdam, the area identified in the judgment as the ships' location at the time the decision was taken to send the vessels for recycling, is an area of the Netherlands and the European Union where both States exercise administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment. In this instance, they are exercising their responsibilities in accordance with the Convention. Therefore, the Netherlands meets the definition of a Party under State of Export in the Convention⁸³² and a Country of dispatch in the EWSR.⁸³³

8 Part B.4.2 Transboundary movements

A transboundary movement is defined in Article 2 as "any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement".⁸³⁴ The relevant transboundary movement when a ship is sent for recycling is the final voyage to the recycling yard, commonly known as a vessel's end of life journey.

⁸³⁰ R R Churchill and A V Lowe, *The Law of the Sea* (Manchester University Press, 1988) 253. *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994).

⁸³¹ Oliver J Lissitzyn, 'The Treatment of Aerial Intruders in Recent Practice and International Law Author' (1953) 47(4) *The American Journal of International Law* 559.

⁸³² *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10) Annexure.

⁸³³ *Regulation (EC) No 1013/2006* Annexure.

⁸³⁴ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2 s 3, Annex 1.

It is generally taken as self-evident that a vessel on its end of life journey will travel across international boundaries and meet the base definition of transboundary movement. The critical term is the phrase ‘area under the national jurisdiction’. The question is whether its meaning is restricted to the physical space surrounding the vessel or if it recognises the vessel itself as an area under flag State jurisdiction. Judicial (or adjudicative) jurisdiction is “the power of a State to empower one of its governmental instrumentalities to hear a particular controversy and give judgment”.⁸³⁵ The national jurisdiction of a State represents the authority granted by international law to the State to enforce its rules over prescribed areas.⁸³⁶ A flag State “must exercise jurisdiction and control in administrative, technical and social matters over ships flying its flag”.⁸³⁷ Therefore, flag State jurisdiction is the exercise of a State’s national jurisdiction over the prescribed area of a ship flying its flag where that State has judicial jurisdiction with regard to administrative, technical and social matters related to that ship. Flag State jurisdiction will apply over the ship regarding these matters regardless of the ship’s physical location. This makes a ship an area under the national jurisdiction of its flag State.

This is not a novel principle. It is the same principle underlying aircraft registration and why aircraft owners choose countries of registration that are different to their main business location.⁸³⁸ Countries of aircraft registration exercise their judicial jurisdiction over the aircraft⁸³⁹ with regard to crew restrictions, maintenance requirements, licensing, airworthiness, onboard radios,⁸⁴⁰ choice of law rules, offences committed onboard aircraft⁸⁴¹ and a variety of financial and property rights in relation to aircraft.⁸⁴²

⁸³⁵ John R Stevenson, ‘Relationship of Private International Law to Public International Law’ (1952) 52(5) *The Columbia Law Review* 561.

⁸³⁶ W E Beckett, ‘What Is Private International Law’ (1926) 7 *British Year Book of International Law* 73.

⁸³⁷ *Convention on the High Seas*, opened for signature 29 April 1958, 450 UNTS 11 (entered into 30 September 1962) art 5.

⁸³⁸ Rohit Jaggi, ‘What to Consider When Choosing an Aircraft Registry’, *AvBuyer* (online, 1 August 2018) <avbuyer.com/articles/ownership/what-to-consider-when-choosing-an-aircraft-registry-112244>.

⁸³⁹ Thatcher A Stone, ‘In Flight Between Geneva And Rome: Abandoning Choice Of Law Systems For Substantive Legal Principles In International Aircraft Finance’ (1999) 20 *University of Pennsylvania Journal of International Economic Law* 487.

⁸⁴⁰ *Convention on International Civil Aviation – Doc 7300*, open for signature on 7 December 1944, 15 UNTS 295 (entered into force on 4 April 1947) arts 30-33.

⁸⁴¹ *Jurisdiction of Convention on Offences and Certain Other Acts Committed on Board Aircraft*, opened for signature 14 September 1963, 1969 UNTS 222 (entered into 4 December 1969) art 3.

⁸⁴² *Geneva Convention on the International Recognition of Rights in Aircraft*, opened for signature on 19 June 1948, 310 UNTS 151 (entered into force 17 September 1953) art 1 provides that contracting

Aircraft owners choose countries of registration that provide them the most benefit in the same way many ship owners choose to register under the flag States they view as most beneficial to their circumstances.

Therefore, a transboundary movement is any movement of hazardous or other wastes: *from* one prescribed area over which a State is authorised under public international law to enforce the State's rules; *to or through* another prescribed area over which a different State is authorised to enforce that State's rules; or *to or through* an area over which there is no State authority *provided* at least two States are involved in the movement. The definition mandates the starting point of a transboundary movement be from an area over which a State is authorised under public international law to enforce the State's rules. That state represents one of the minimum two States required to mark a transboundary movement. If the meaning of the term 'area' is restricted to the physical area surrounding a vessel, the Basel Convention could not be applied when the end of life journey begins from the high seas,⁸⁴³ an area outside any State's jurisdiction.⁸⁴⁴ Under the Basel Convention a movement can pass through or end in the high seas as long as another State besides the starting State is involved. The starting point of the transboundary movement identifies the Party which is the State in the State of Export definition. This relates back to the importance of the State of Export as the State to whom liability attaches when there is a breach of the Basel Convention. If the transboundary movement does not begin in an area within a State's jurisdiction, there can be no State of Export and the Basel Convention would not be applicable. However, if the term 'area' recognises a ship under the national jurisdiction of flag State, then an end of life journey that begins in the high seas would fall under the Basel Convention because the State of Export would be the flag State.

In the *Spring Bear* example, the starting point of the transboundary movement was held to be Rotterdam, an area over which the Rotterdam Criminal Court is authorised

States recognise rights in aircraft that are regularly recorded in the jurisdiction of the aircraft's national registry under the Chicago Convention, provided that the rights are constituted in accordance with such country's laws.

⁸⁴³ " ... all waters beyond the territorial sea including the exclusive economic zone" D Guilfoyle, 'Counter-piracy law enforcement and human rights' (2010) 59 International and Comparative Law Quarterly 141, 144.

⁸⁴⁴ See Alexander Proelss (ed), *United Nations Convention on the Law of the Sea: A Commentary* (Hart Publishing, 2017) art 89 [1].

by the Netherlands and European Union governments to enforce Dutch and European law. The *Spring Bear* then passed through Egypt's and the United Arab Emirates' (UAE) territorial seas to reach Alang, India. Territorial seas are areas under national State jurisdiction, where each State government has authority to enforce its laws.⁸⁴⁵ During its journey the *Spring Bear* also passed through areas of the high seas which do not fall under the authority of any State. Thus the *Spring Bear's* voyage meets the definition of a transboundary movement. Of course, liability for *Spring Bear's* end of life journey can only be brought back to the Netherlands as the State of Export under the Convention if the journey is held to begin in Rotterdam. The emphasis now moves to where the end of life journey began. Alternatively, the flag State would have to be explored as the State from whose jurisdiction the end of life journey began.

8 Part B.4.3 Hazardous Wastes or Other Wastes

It is not in dispute that once a vessel on its end of life journey to be recycled can be classed as waste and not a ship, it will meet the definitions of waste and hazardous waste under the Basel Convention. A ship can weigh between 5,000 and 40,000 tonnes of which approximately 95 per cent is steel, coated with up to 100 tonnes of paint containing lead, cadmium, organotins, arsenic, zinc and chromium.⁸⁴⁶ There can be several thousand litres of oily waste⁸⁴⁷ from engine fuel, bilge oil, hydraulic and lubrication oils and greases while tankers, in particular, hold up to an additional 1,000 cubic metres of residual oil. Other hazardous substances onboard can include

⁸⁴⁵ State sovereignty is exercised over territorial seas subject to the provisions of the *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) and other rules of international law. *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) art 2 (1)-(3).

⁸⁴⁶ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex I Categories of Wastes to be Controlled: Wastes Having As Constituents.

⁸⁴⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex I Categories of Wastes to be Controlled: Wastes Having as Constituents Y9; Annex VIII List A –A4 Wastes which may Contain Either Inorganic or Organic Constituents A4060.

sealants containing PCBs⁸⁴⁸ and up to 7.5 tonnes of various types of asbestos⁸⁴⁹ in pure and processed form per ship.⁸⁵⁰

Asbestos in ships is not linked only to older ships. As disclosed in evidence in the *Seatrade* judgment and discussed in Chapter 1 of this thesis, asbestos is still found in over 90 per cent of ships including over 80 per cent of new builds which have been declared asbestos free.⁸⁵¹ This is due to the different accepted meanings of the term ‘asbestos free’ in different countries (even though asbestos has been banned from ships since July 2002).⁸⁵² Asbestos content of up to 15 per cent has been found in Chinese materials declared asbestos free⁸⁵³ while a survey for an Australian charterer carried out on a ship built in 2012 with an asbestos free ship yard declaration found asbestos in fourteen locations onboard.⁸⁵⁴

The *Spring Bear* contained many substances identified as hazardous waste under the Basel Convention, including asbestos. A breach of the EWSR or the Basel Convention requires the origin of the end of life journey to be within European jurisdiction and the destination to be a non-approved state outside Europe. In *Seatrade*, the defence argued firstly that EWSR do not apply to ships and secondly, that even if EWSR do apply, the ships in question did not constitute waste. This view that the Basel Convention, and therefore other regulations implementing its terms such as EWSR, do not apply to ships is widely held. Brian Parkinson of the International Chamber of

⁸⁴⁸ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex I Categories Of Wastes To Be Controlled: Waste Streams And Annex VIII List A – A3 Wastes Containing Principally Organic Constituents, Which May Contain Metals And Inorganic Materials A3180.

⁸⁴⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) annex I Categories of Wastes to be Controlled: Wastes Having as Constituents Y36; Annex III List of Hazardous Characteristics UN Class 9, Code H11; Annex VIII: List A - A2 Wastes Containing Principally Inorganic Constituents Item 2050.

⁸⁵⁰ Bode T, ‘Scrapping of Ocean-Going Ships: A Global Environmental, Health and Human Rights Problem’ (Speech, Global Ship Scrapping Summit, June 1999).

⁸⁵¹ John Chillingworth, ‘Why Most Ships Still Contain Asbestos’, *International Ban Asbestos Secretariat* (Article, 22 August 2016).

⁸⁵² *International Convention for the Safety of Life at Sea*, opened for signature on 23 September 1910, United Kingdom TS (1913) Cd 6677 (entered into force 1 March 1913) Ch. II-1, Regulation 3.5.2.

⁸⁵³ John Chillingworth, ‘Why Most Ships Still Contain Asbestos’, *International Ban Asbestos Secretariat* (Article, 22 August 2016).

⁸⁵⁴ ‘85% Of New Ships Still Contain Asbestos’, *The Motorship Insight for Marine Professionals* (online, 1 December 2014) <<https://www.motorship.com/news101/regulation-and-classification/85-of-new-ships-still-contain-asbestos>>.

Shipping, the international trade association representing approximately 80 per cent of the world's fleet, stated:

“ ... as to whether the Basel Convention is applicable to ships as some countries and certain NGOs continue to claim. ... that ships on their way, under their own power ... because they are on their last voyage rather than the one before it, are now not only ‘waste’ but also ‘hazardous waste’. The industry is firmly of the view, following an examination of the Basel Convention, and the application of a little logic, that this view is wrong and that IMO was correct when it reported that ‘IMO would not tend to define the ship delivered for recycling as waste but as a resource containing some contaminants.’ We say this because ... The Basel Convention (Article 1.4) does not apply to items which are covered by another international convention. Ships, while ‘operating in the marine environment’ are covered by the MARPOL Convention. ... A ‘ship’, defined in MARPOL 78 (Article 2.4) as ‘a vessel of any type whatsoever operating in the marine environment’ ...”⁸⁵⁵

This view relies on the vessel on its end of life journey meeting the definition of ship. If the vessel is not a ship then it is not covered by the MARPOL Convention, instead it becomes a waste that has hazardous substances among its constituents. The MARPOL Convention definition of ship was discussed at Chapter 3 and incorporated into the final definition of ship. The critical part of the MARPOL definition which excludes a vessel on its end of life journey from being covered by the MARPOL Convention and is not addressed here by Mr Parkinson, is the word ‘operating’. This is one of the three elements required for a vessel to meet the definition of ship: deployed at sea, in operation and capable of self-directed self-propulsion as discussed in Chapter 5. To be in operation a vessel must be in Class, ie engaged in a specific function or purposeful activity which is determined using the Classification Society notations as the standard to identify the prescribed function or purpose of a unit or vessel. A vessel on its end of life journey does not fall within any Classification Society

⁸⁵⁵ Brian Parkinson, ‘Regulatory Matters, Industry Guidelines and Voluntary Code of Practice’ (Conference Paper, Royal Institution of Naval Architects, 4-5 May 2005).

notations and cannot be deemed as undertaking any prescribed function or purpose. Therefore the vessel is not in operation, it cannot be said to be operating and it no longer falls under the MARPOL definition of ship. *Spring Bear* was waste containing hazardous waste having asbestos as a constituent and not a ship when it began its end of life journey.

8 Part B.4.4 'is planned to be initiated or is initiated'

The dictionary definition of the word initiate is “to cause or facilitate (a process or action) to begin”.⁸⁵⁶ The beginning of a process or action is the initiation. The process or action in this context is the transboundary movement of a vessel being sent for recycling, otherwise known as the end of life journey. Thus s10 of the Convention and s22 of EWSR can be rephrased as the Party, or place, in which planning occurs which causes or facilitates the end of life journey to begin.

Chapter 8 Part B.4.4.1. “is planned to be initiated ...”

The place from which the end of life journey is planned to be initiated can be interpreted three ways. First, it may refer to the *planned* location from which the end of life journey is to be caused or facilitated to begin, as opposed to the *actual* location from which the end of life journey is caused or facilitated to begin. The presence of the wording ‘is planned to be initiated’ in the Convention could be interpreted as a way to differentiate between the planned point of initiation of the end of life journey and the actual point of initiation. However, none of the regulations or obligations turn on the planned location of initiation if that is different to the location from which the transboundary movement in fact begins. This literal interpretation of the wording, to identify the actual point of initiation of a transboundary movement, is illogical in the context of the Basel Convention as all obligations turn only on where the end of life journey did actually begin. Therefore, a planned but unused start location has no legal relevance and an alternative interpretation must be found.

Second, the phrase ‘planned to be initiated’ cannot refer to an end of life journey that is planned but not begun as the Convention (and general legal principle) does not allow liability to be attached to a party for planning something but not actually doing it.

⁸⁵⁶ Oxford Dictionary, ‘initiate’.

In other words, a party cannot be held liable for purely theoretical planning, it must be planning that actually causes or facilitates the end of life journey to begin.

A third interpretation puts the emphasis on the location from which the *planning* takes place that *does* cause or facilitate the end of life journey to begin. It is important to note that neither the Basel Convention nor EWSR mentions the actual decision to initiate an end of life journey, nor the decision-maker nor the route nor destination – they are not relevant when identifying the State of Export or Country of dispatch. The critical element in both regulations is the planning *prior to* the start of the transboundary movement that causes and facilitates the end of life journey to begin– the Party from which the start of the end of life journey is *planned*. This is an important distinction.

Intended or otherwise, the result of this distinction appears to be that the State/s in which the decision maker and vessel are located at the moment the decision is made to send the vessel on its end of life journey are not relevant under either the Basel Convention or EWSR. The decision is distinct from the planning as not all decisions are implemented. A number of factors must be considered before the decision is taken to scrap a ship for recycling. Once the decision is taken, plans must be made to ensure optimised implementation (maximum profit) of that decision. The decision (the what) is not part of the plan (the how), rather it triggers the start of the planning. It is not possible to start planning how until after the decision of what needs to be achieved has been made. Therefore, the word planning implies that it occurs after the decision to send the vessel on its end of life journey has already been taken. This would mean the discussions prior to making the decision to send a ship for recycling are not deemed planning under the Convention or EWSR. Instead such discussions may be taken into account in determining whether the decision to begin the end of life journey will even be made at all. Thus it becomes clear that the *planning* can only commence *after* the decision has been made.

Chapter 8 Part B.4.4.2. The Decision: Considerations versus Planning

It is important to determine *when* the decision was taken only in order to identify which discussions occur after the decision and constitute *planning* as opposed to those discussions occurring prior which constitute *only* considerations. All discussions after the decision to scrap or recycle is made and that plan how the end of life journey is to

be initiated, fall under the definition of planning. Determining the State of Export⁸⁵⁷ or Country of dispatch⁸⁵⁸ requires identifying where those discussions planning the end of life journey took place. Therefore, it is not the State in which the decision is taken to initiate the end of life journey but rather the State in which the planning is undertaken to cause the end of life journey to begin that is relevant under the Basel Convention. This makes legal sense when considered in light of the purpose of the Basel Convention. The decision to scrap a ship and send it for recycling is not relevant under and cannot breach the Convention. The Basel Convention deals with the transboundary movement of hazardous waste after the decision is made to send it for disposal. It is in the planning after the decision that causes or facilitates the end of life journey to begin where choices are made that determine whether the end of life journey will breach the Basel Convention. The Party from which the planning takes place is the State of Export and the Country of dispatch.

Everything for an end of life journey has to be in place before it begins. A contract must be agreed with a recycling yard specifying delivery date and contractual inclusions and exclusions or the journey would commence with no destination. Approximately 96 per cent of a vessel can be reused or recycled⁸⁵⁹ and before the end of life journey starts, the vessel is stripped of any fixtures, fittings and equipment that can be reused or sold individually for greater profit outside the recycling contract. Provision must be made for the removal of these items prior to the start of the end of life journey as the vessel must begin its journey in the deliverable condition specified in the contract. Bunkers are reduced to the minimum required to reach the recycling destination to minimise waste.⁸⁶⁰ Crew is reduced to the minimum needed for delivery to minimise costs. Agreements are put in place for transfer of ownership to a cash buyer or the recycling yard itself. Arrangements are made to settle mortgages over the vessel. The insurance policy for the journey is changed from one for the value of the commercially operating ship to a break-up voyage policy whose value is based on the

⁸⁵⁷ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

⁸⁵⁸ *European Waste Shipment Regulations* s 22.

⁸⁵⁹ Stuart Alexander McKenna, R E Kurtand and O Turan, 'A Methodology for a "Design for Ship Recycling"' in *The Environmentally Friendly Ship* (Royal Institution of Naval Architects, 2012) 37-44.

⁸⁶⁰ Recycling of Ships and other Marine Structures (Conference Paper, The Royal Institution of Naval Architects, 4-5 May 2005).

contractual weight of the vessel as calculated by the Lightweight Displacement Tonnage (less deductions) and any remaining fixtures and fittings.⁸⁶¹ The Classification Societies are notified and certification dates and requirements may be extended or waived in light of the decision to send the ship for recycling.⁸⁶²

In line with the definition of ship, the change of insurance from a commercially operating ship to a vessel insured for the value of the recycling contract and the removal of the obligation to comply with Class certification requirements signal the point at which the ship becomes waste. For all of this to be completed and in place prior to the start of the end of life journey to the recycling yard takes time and, more importantly, planning. The choices made in this planning determine whether the end of life journey breaches the Basel Convention. Examples of planning that cause the end of life journey to begin include seeking, negotiating and entering into a contract of sale; giving notice to crew; changing insurance cover; notifying the Classification societies and making arrangements to settle loans etc. Examples of planning that facilitate the end of life journey to begin include manoeuvring the ship via a commercially profitable voyage to a location close to the selected recycling yard to reduce the length and cost of the end of life journey, identifying items that can be reused elsewhere in the fleet or that can be sold for greater profit outside the recycling contract, reducing bunkers etc.

Once the decision has been taken to scrap a vessel, the planners who cause or facilitate the start of the end of life journey (those implementing that decision), are the persons responsible for making the choices above that determine whether the vessel will be sent on its end of life journey in accordance with or in breach of the regulations. Those choices are made in consultation with and then implemented by the Captain who must have notice of all the elements of the plan so they can be carried out with minimal impact on the final operational activities of the ship. A ship cannot begin its end of life journey instantaneously when the decision to scrap is made. Consideration must be given to how the voyage from the ship's location at the time of the decision to the start of the end of life journey can be structured to ensure profit-making commercial

⁸⁶¹ 'RECYCLECON Standard Contract for the Sale of Vessels for Green Recycling' (Explanatory Notes, BIMCO).

⁸⁶² (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) 28.

activity continues for as much of the voyage as possible, while the duration of the end of life journey is minimised.

Chapter 8 Part B.4.4.3. Spring Bear

The process that begins with considering whether to send a ship for recycling and ends with the start of the end of life journey is clearly evidenced in the *Spring Bear* case study from the *Seatrade* judgment.⁸⁶³ In that dispute the focus was on determining what part each of the accused *Seatrade* directors played in making the decision to send the ships for recycling⁸⁶⁴ and identifying the various moments in time that could stand as *when* that decision was taken.⁸⁶⁵ The Court recognised identifying that moment could be difficult: "... by allowing ships to transport or change ownership during their last voyage, as in the present cases, it is difficult for control authorities to define when a scrapping decision has been taken. The obligations arising from the EVOA⁸⁶⁶ can also be circumvented by only making the intention of scrapping a ship public if that ship is (in the meantime) outside the scope of the EVOA." Pinpointing where the ships were at the moment of decision was held to identify their location at the moment they became waste which then established the Country of dispatch under EWSR, the equivalent of the State of Export under the Basel Convention.⁸⁶⁷ If the ships became waste within the Netherlands, the directors could be criminally liable under Dutch law for illegal shipments of hazardous waste from the Netherlands to locations outside Europe.

The underlying presumption of the reasoning in *Seatrade* was that the decision to send a ship on its end of life journey turns it into waste at the moment the decision is made.⁸⁶⁸ This presumption is incorrect as a ship only becomes waste when it no longer meets the definition of ship, regardless of when the decision to send it for recycling is made. For example, a planned change in corporate direction could lead to a commercial decision in January 2018 to send a ship on charter until January 2020 and

⁸⁶³ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1].

⁸⁶⁴ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.6].

⁸⁶⁵ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [86].

⁸⁶⁶ EVOA is the Dutch equivalent of EWSR – *European Waste Shipment Regulations*.

⁸⁶⁷ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.4].

⁸⁶⁸ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.5.1].

then for recycling at the end of that charter. To classify the ship as waste for the entirety of the last two years of its commercial life would be illogical and unreasonable. The presumption was only reasonable on the specific facts in *Seatrade* because the Court could draw a single line of continuity through the events from the decision to recycle through the final commercial voyage to the end of life journey with no break in the chain. Had the events progressed as a decision to recycle followed by a twenty-four month charter and then a final commercial voyage leading to the end of life journey, the presumption that the decision to send a ship for recycling immediately turns it into waste could not hold. In any event, the focus of the case did not require the Court to engage in such analysis. The judgment states “the initial intention at departure was to sail [the ships] to India ... In the light of the definition of the term ‘shipment’ in the EWSR, which includes the shipment of waste destined for recovery or disposal that is *planned* to take place, there is legal and conclusive evidence that the shipment took place to India.”⁸⁶⁹ The Court regarded the entire journey from the Netherlands to India as a shipment of waste despite the fact the ship was on a commercial voyage until Fujairah, in order to establish the planning took place in, and the shipment originated from, the Netherlands to bring the offence within the Netherlands’ jurisdiction.

The defence in *Seatrade* presented two arguments:⁸⁷⁰ first, it is not possible to precisely identify the moment when the decision is made to send a ship for recycling on its end of life journey, therefore, it is not possible to determine where the ships were at the moment of decision when they became waste and thus impossible to determine that when they became waste they were under European jurisdiction. Second, at the time of the only possible moments that could be deemed the decision, none of the ships in question were within the European Union. It has been established that neither the Convention nor EWSR is concerned with the place from which the decision is made to send a ship for recycling but rather, the place from which the planning takes place that causes or facilitates the start of the end of life journey or the place from which the actual end of life journey is initiated. As planning occurs after the decision, identifying the moment of decision is relevant when determining the State of Export only insofar

⁸⁶⁹ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.5.1].

⁸⁷⁰ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1] Position of the Defence.

as it identifies when the *planning* began. In this context, it is still important to identify the moment of decision. In *Seatrade*, the defence listed a variety of factors whose dynamics affect the phasing out of ships, claiming this complexity made it impossible to identify the moment at which the decision to recycle *Spring Bear* was made. These factors included “supply of freight, price of freight, demand for second-hand ships, prices of second-hand ships, market expectations and developments with regard to steel prices, recycling etc. etc.”⁸⁷¹. As identified at the start of this chapter, these are all considerations *prior* to the decision to determine whether the decision to begin the end of life journey will even be made at all.

A timeline of the events that culminated in the *Spring Bear* beaching at Alang, India is attached as Annexure 12. The course of the conversations between 2 February 2012 and 9 March 2012 discussing the factors that affect phasing out of ships are identified as considerations⁸⁷² prior to the decision to scrap *Spring Bear*. An email on 9 March 2012⁸⁷³ stated a decision had been made the day before to “start the phase out/scraping of the Spring types”⁸⁷⁴ and a communication group had been set up with the name ‘Spring phase out’. The communication group was tasked to make decisions about and preparation for the end of life journey, including finish the last LWT,⁸⁷⁵ prepare a list of all things to be disembarked and determine a possible change of flag for sale. In other words, this group was tasked to undertake the *planning* that caused and facilitated *Spring Bear*’s end of life journey to begin. The choice of when, where and how to change ownership and the choice of State from which to start the actual end of life journey were merely choices made by the planners in the course of causing or facilitating the initiation of the end of life journey. All these choices had to be implemented by the ship in advance of the start of the end of life journey in accordance with the plan. These are the choices that ultimately placed the end of life journey in breach of EWSR and, by extension, the Basel Convention. Once planning began, it became clear a decision had been made as planning occurs after the decision in order to implement the decision.

⁸⁷¹ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1].

⁸⁷² Annexure 12: Steps 1 to 4.

⁸⁷³ Annexure 12: Step 4.

⁸⁷⁴ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.3.4] Timeline events: More specifically about the *Spring Bear*.

⁸⁷⁵ Landing, Warping, Tug.

The defence claimed that there are only three moments when the decision to recycle can be identified:⁸⁷⁶ either when the recycling agreement has been signed and concluded, ownership of the ship has been transferred in accordance with the recycling agreement, or the ship has been delivered for recycling to a ship yard or designated location. On the *Spring Bear* timeline the recycling agreement was concluded on 30 May 2012 and backdated to 24 May 2012, title was transferred on 12 June 2012 and delivery occurred 13 June 2012.⁸⁷⁷ As the *Spring Bear* was on its way from Egypt to Fujairah or arriving at Alang, India on those dates and not inside the European Union, the defence argued the ship became waste outside the European Union and therefore there was no illegal shipment of waste from the European Union. However, these events came at the start, during and at the termination of the end of life journey and are not part of the planning that caused and facilitated the end of life journey to begin. These dates do not mark the decision. It is not clear from the judgment on what date the insurance policy changed to a break-up voyage policy, though it is logical to assume the insurance policy changed when the commercial voyage was complete and the ship changed owner and flag State to begin the end of life journey, probably 1 June 2012.⁸⁷⁸ The date the insurance policy changed can be taken as the date the ship became waste as it was no longer in operation because it was no longer in Class. *Spring Bear* had to be in Class, and therefore was deemed in operation, during the commercial voyage to Fujairah for the voyage insurance policy to be valid, which meant it met the definition of ship on that voyage. However, on its end of life journey it was not in Class and therefore not in operation. A break-up voyage policy would not be void under these circumstances although a commercial voyage insurance policy would be.⁸⁷⁹ The date the insurance policy changed is a strong and reliable indicator of the point at which the vessel is no longer in operation as a ship and is deemed waste. The date the contract to the cash buyer was concluded also signals when the ship became waste as the subject matter of that sale contract has

⁸⁷⁶ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.1] Position of the defence

⁸⁷⁷ Annexure 12: Steps 22, 26 and 27.

⁸⁷⁸ Annexure 12: Step 22.

⁸⁷⁹ Nicola S Pretty, 'Unseaworthiness — Turning A Blind Eye?' (2008) 22(1) *Australian and New Zealand Maritime Law Journal* 42. "Into every voyage policy, whether on cargo, hull, freight or other interest, there is implied a warranty of seaworthiness of the vessel. This is by far the most important of the implied warranties in a contract of marine insurance."

already been shown to be waste and not a ship.⁸⁸⁰ The vessel ceased to be a ship upon conclusion of that transaction.

The Rotterdam Court concluded that the intention to send the ships for recycling had already been formed before each of the Spring ships left the ports of Rotterdam and Hamburg.⁸⁸¹ The Court based its conclusion on the creation of the Communication group and the various steps the group took to put in place the start of the end of life journey. These included setting up a final commercial voyage to place the vessel as close as possible to the recycling yard to minimise the length of the end of life journey; notifying Captain and crew; making arrangements with banks to settle finance; negotiating with buyers to transfer title and making preparations to put the ship into deliverable condition as per the recycling contract. These choices that caused and facilitated the start of the end of life journey and resulted in the regulatory breach are all shown on the timeline and identified as planning choices.⁸⁸²

The Party from which this planning took place is not readily identifiable as the communication group was made up of people taken from the different companies involved in the Seatrade corporate structure across multiple locations. The actions taken by the ship and Captain to implement the planning choices were undertaken at various points along the way during the final commercial voyage and in Fujairah, the final port. In the case of *Spring Bear*, identifying the Country of dispatch (State of Export) by identifying the Party from which the planning took place that caused or facilitated the end of life journey to begin is extremely difficult given the dispersion of the people involved. Had the planning that caused and facilitated the end of life journey to begin taken place in one specific location then the location of the planners could have satisfied the definition but an alternative needs to be found that can satisfy situations such as the *Spring Bear*, which are more common.

⁸⁸⁰ See Chapter 7.

⁸⁸¹ (District Court of Rotterdam, C-10/994550-15, ECLI:NL:RBROT:2018:2108, 15 March 2018) [4.3.4.2]. Are the ships a waste within the meaning of the EVOA?

⁸⁸² Annexure 12: Steps 5 to 21.

Chapter 8 Part B.4.4.4. The Court's Decision

The Court correctly considered the planning steps as evidence that a decision had already been made (that is, they represented the planning to implement the decision). The Court used the date of this decision to identify when the ships became waste and the Netherlands was deemed the Country of dispatch because the ships were in Dutch waters at the time. This decision has since been appealed. Seatrade issued a statement after the verdict: "Seatrade strongly disagrees with the legal interpretation of the Court that a fully certified, seaworthy vessel should be considered waste".⁸⁸³ The Appeal will be closely watched as the Norwegian financial crimes unit has charged the owners of the vessel *Harrier* with similar offences for contributing to the illegal export of hazardous waste in breach of EWSR and the Convention.⁸⁸⁴ The *Harrier*, now the *Tide Carrier* under a Comoros flag, is being held in Norway since running aground en route to Pakistan for recycling after ownership was transferred to a post-box company, Julia Shipping Inc., registered in St Kitts and Nevis.⁸⁸⁵ In a different version of the same situation, the United Kingdom's DEFRA⁸⁸⁶ is now investigating how it could bring charges concerning the export of the *North Sea Producer* FPSO to Bangladesh for recycling, now that Bangladesh has declared the vessel was sent there in breach of international law.⁸⁸⁷ In both instances, the cases turn on whether the vessels were ships or waste at the time they left their respective jurisdictions.

Chapter 8 Part B.4.4.5. Ship or Waste?

The *Spring Bear* satisfied the definition of ship when it left Rotterdam because it was at sea, in operation and capable of self-directed self-navigation. The *Spring Bear* did not satisfy the definition of ship and was classified as waste when it left the port of Fujairah and began its end of life journey to Alang because it was no longer in operation, as evidenced by the change from insurance for commercial operations to break-up voyage insurance⁸⁸⁸ and the fact it was no longer in Class. However, when

⁸⁸³ Daniel Logan Berg-Munch 'Norwegian ship owner charged with illegal scrapping', *Shippingwatch* (online, 10 August 2018) <shippingwatch.com/carriers/article10795755.ece>.

⁸⁸⁴ 'Investigations on the Harrier tighten as it reaches Turkey for recycling' (Press Release, NGO Shipbreaking Platform 29 August 2018).

⁸⁸⁵ The Maritime Executive, 'Scrap Ship Detained in Norway', *The Maritime Executive* (online, 6 April 2017) <<https://www.maritime-executive.com/features/scrap-ship-detained-in-norway>>.

⁸⁸⁶ Department for Environment Food & Rural Affairs.

⁸⁸⁷ Ingvild Jenssen, 'NGOs win FPSO *North Sea Producer* case', (Press Release, NGO Shipbreaking Platform, 19 November 2019).

⁸⁸⁸ Annexure 13: Questionnaire for Break-up Voyage Insurance.

Spring Bear became waste and left Fujairah it was also no longer within the European Union and the European Union could not be declared the Country of dispatch under the EWSR or State of Export under the Basel Convention as the place from which the end of life journey was initiated. Therefore, there was no illegal shipment of hazardous waste from Europe unless the Party under State of Export or Country of dispatch is not limited to the physical location of the vessel when the end of life journey is initiated.

In *Spring Bear's* case, the Party from which the transboundary movement was initiated, in other words the Party from which the end of life journey began, was Fujairah within the United Arab Emirates. The EWSR cannot be applied here. The Party from which the transboundary movement was planned to be initiated could not be clearly identified in the case of the planners or the ship. The *Spring Bear* is a prime example of the problem where a vessel has changed ownership and began, or initiated, its end of life journey from a destination far outside European jurisdiction. These steps are common methods used to circumvent both the EWRS and the Convention. The UAE has no link with the *Spring Bear* other than as the port chosen by the ship owner from which the end of life journey was physically initiated. To hold the UAE accountable under the Basel Convention for the *Spring Bear's* end of life journey would be akin to holding an airport responsible for a plane crash because it was where the aircraft's flight initiated.

In summary, the moment when the decision is taken to send a ship for recycling is not the moment a ship becomes waste under the EWSR or the Basel Convention. Both the EWSR and the Convention only refer to the Party from which the end of life journey is planned to be initiated or is initiated and make no reference made to the moment of decision. Practically, a ship becomes waste when it no longer meets the definition of ship and this moment can be signaled by the change to a break-up voyage insurance policy and the physical location where this occurs marks the Party from which the end of life journey is initiated. This location may have no connection with the ship at all, as was the case for the UAE and *Spring Bear*. Alternatively, this can be on the high seas, an area not under the jurisdiction of any State and which cannot intuitively mark the start of a transboundary movement, ie the end of life journey, under the Basel Convention or EWSR. The planning that causes or facilitates the end of life journey to be initiated takes place over time and involves multiple people and choices. In the

Spring Bear timeline, the planning began while the ship was in Rotterdam and continued until the ship changed owner and became waste in Fujairah, involving people in multiple locations. Identifying one specific location as the Party from which the planning occurred is almost impossible. It becomes necessary to find an alternative way to identify the Party from which the planning took place that caused or facilitated the end of life journey to begin and the Party from which the end of life journey actually began.

Chapter 8 Part B.4.4.6. The Flag State as an Option

The Basel Convention defines the State of Export as a “Party from which a transboundary movement ... is planned to be initiated or is initiated”⁸⁸⁹ and a transboundary movement is defined as the movement of hazardous waste from “an area under the national jurisdiction of one State”.⁸⁹⁰ The State of Export is thus an area under the national jurisdiction of a Party, further defined in Article 2(9) as “... any land, marine area or airspace within which a State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment”.⁸⁹¹ The question is whether a ship is an area under the national jurisdiction of a State and can satisfy Article 2(9).

The phrase ‘land, marine area or airspace’ can be reasonably interpreted to include any area over which a State exercises the relevant authority. As discussed at the start of this chapter, aircraft are considered a space or area under national jurisdiction.⁸⁹² Aircraft take on the nationality and fall under the jurisdiction of the State in which they are registered.⁸⁹³ A ship is not physically part of a State’s territory⁸⁹⁴ but is an object

⁸⁸⁹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(10).

⁸⁹⁰ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(3).

⁸⁹¹ *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, opened for signature 22 March 1989, 1673 UNTS 126 (entered into effect 5 May 1992) art 2(9).

⁸⁹² “Aircraft and ships do not constitute a part of the “entire territory” of a State, even though they consist of a space/an area” Oliver Dörr and Kirsten Schmalenbach (eds), *Vienna Convention on the Law of Treaties: A Commentary* (Springer, 2012) [25].

⁸⁹³ *Convention on International Civil Aviation – Doc 7300*, open for signature on 7 December 1944, 15 UNTS 295 (entered into force on 4 April 1947) art 17.

⁸⁹⁴ Symeon Karagianis, ‘Article 29 (1969)’ in Oliver Corten and Pierre Klein (eds), *The Vienna Conventions on the Law of Treaties* (Oxford University Press, 2011) 731–758, 755 [64].

granted nationality by the State under whose flag it is registered⁸⁹⁵ to ensure the rule of law on the high seas.⁸⁹⁶ Exercise of jurisdiction over aircraft and ships by State of registration is a well-established principle.⁸⁹⁷ This was codified regarding ships in UNCLOS Article 91(1), subjecting ships to the exclusive jurisdiction of the flag State on the high seas (other than the exceptional cases in some treaties which cede law enforcement jurisdiction to other states such as UNCLOS Article 110).⁸⁹⁸ Entities linked to the flag State include and extend to a ship's crew and cargo onboard as well as its owner and every person involved or interested in its operations".⁸⁹⁹ The authority to be exercised by the flag State is clearly mandated in UNCLOS Article 94 and includes assuming "jurisdiction under its internal law over each ship flying its flag and its master, officers and crew in respect of administrative, technical and social matters concerning the ship".⁹⁰⁰

There is much to support the statement that the jurisdictional rights of a flag State are deemed sovereign rights. "Flag state control is derived from the fundamental rule that, except in certain extraordinary situations, a merchant ship on the high seas is subject only to the jurisdiction of the flag State".⁹⁰¹ This principle was reasserted and confirmed recently in the *Norstar* judgment: "*any act which subjects activities of a foreign ship on the high seas to the jurisdiction of States other than the flag State constitutes a breach of the freedom of navigation, save in exceptional cases expressly provided for in the Convention or in other international treaties*".⁹⁰² Historically, the principle can be traced to the start of the flag State which has its roots in the flag as a symbol of nationality

⁸⁹⁵ Alexander Proelss (ed), *United Nations Convention on the Law of the Sea: A Commentary* (Hart Publishing, 2017) 23 [13].

⁸⁹⁶ Symeon Karagianis, 'Article 29 (1969)' in Oliver Corten and Pierre Klein (eds), *The Vienna Conventions on the Law of Treaties* (Oxford University Press, 2011) 731–758, 755 [64].

⁸⁹⁷ "Thus, registration of aircraft, like that of ships, establishes the link of nationality between the aircraft and the registering State. The national State of a ship or aircraft is, of course, entitled under international law to protect, exercise jurisdiction and subject such ship or aircraft to its laws." Shubber S, *Jurisdiction over Crimes on Board Aircraft under International Law. In: Jurisdiction Over Crimes on Board Aircraft* (Springer, 1973) 48.

⁸⁹⁸ Jo Inge Bekkevold and Geoffrey Till (eds), *International Order at Sea: How it is challenged. How it is maintained* (Palgrave MacMillan, 2016) 29.

⁸⁹⁹ *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014 [128].

⁹⁰⁰ *Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 397 (entered into force 16 November 1994) art 94 (2)(b).

⁹⁰¹ Ademuni-Odeke, 'Port State Control and United Kingdom Law' (1997) 28(4) *Journal of Maritime Law and Commerce* 657.

⁹⁰² *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014 [224].

and as a visible symbol of the protection of a sovereign for the ships. The further ships ventured from their home waters the more important these visible symbols of nationality and allegiance became and their development has been inextricably linked with the registration of ships.⁹⁰³

The flag State is the State with which a ship is registered.⁹⁰⁴ There are a number of regulatory and enforcement regimes in shipping designed to implement and enforce the standards provided by the IMO as a specialised agency of the UN.⁹⁰⁵ Governments, represented as flag States, have a duty to implement and enforce those standards and some flag States delegate those duties to other bodies including recognised organisations who, under authority to act on behalf of the flag States, form part of the State's enforcement mechanism.⁹⁰⁶ Under the Basel Convention, the relevant jurisdiction is specifically delimited to the exercise of administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment. The IMO sets and mandates the standards concerning the protection of human health and the environment in relation to shipping through a number of regulations.⁹⁰⁷ These include everything from pollution escaping ships (MARPOL) to restricting the use of substances dangerous to human health when building ships and protection of crew when travelling onboard ships.⁹⁰⁸ The IMO and other shipping standards are enforced through regulations by the flag State exercising its jurisdiction over the ship.⁹⁰⁹ Thus a ship is a marine area over which the flag State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment, satisfying Article 2(9) of the Convention and enabling the flag State to act as the State of Export .

⁹⁰³ John N K Mansell, *Flag State Responsibility* (Springer, 2009).

⁹⁰⁴ See Alexander Proelss (ed), *United Nations Convention on the Law of the Sea: A Commentary* (Hart Publishing, 2017) art 91 paras 3 and 12: small craft can enjoy nationality without registration.

⁹⁰⁵ See List of IMO Conventions

<<http://www.imo.org/en/About/Conventions/ListOfConventions/Pages/Default.aspx>>.

⁹⁰⁶ Sr Barchue, 'Making a case for the Voluntary IMO Member State Audit Scheme' (Research Paper).

⁹⁰⁷ James Harrison, *Making the Law of the Sea: A Case Study in the Development of International Law* (Cambridge University Press, 2011) 154.

⁹⁰⁸ James Harrison, *Making the Law of the Sea: A Case Study in the Development of International Law* (Cambridge University Press, 2011) 159.

⁹⁰⁹ James Harrison, *Making the Law of the Sea: A Case Study in the Development of International Law* (Cambridge University Press, 2011) 171.

The *Spring Bear* is a prime example of when the flag State jurisdiction could be applied in the manner above to identify the State of Export. On such a view, the flag State is the party in which the planning took place that caused or facilitated the end of life journey to be initiated or the party from which the end of life journey is initiated that needs to be identified as the State of Export. It is not the party from which the decision was made to send the ship on an end of life journey or the party where the ship was located when the decision was made to send the ship on an end of life journey. In the case of *Spring Bear*, the ship was in Rotterdam when the decision was made to send it for recycling. That decision signalled the start of the planning that caused and facilitated the end of life journey to begin. That planning took place over the duration of the *Spring Bear's* final commercial voyage from Rotterdam via Egypt to Fujairah in the United Arab Emirates. The ship became waste in Fujairah and began its end of life journey to Alang, India.

It would place an unreasonable burden on the UAE to identify it as the State of Export as it has no credible link to the *Spring Bear* other than being, by chance, the port from which the end of life journey began. It is not possible to identify the location of the planners or of the *Spring Bear* during planning as it covered multiple people in multiple places and the *Spring Bear* was also in multiple locations. However, it is possible to identify the flag State as having jurisdiction over the ship for the duration of the planning that caused and facilitated the end of life journey to begin. Thus the flag State is the most logically considered place where the end of life journey was initiated. Regardless of where the owners and operators and planners were physically located, the ship always falls within flag State jurisdiction. Linking the owners and operators of the ship to the flag State has already been recognised by the International Tribunal of the Law of the Sea ('ITLOS') in *M/V Virginia G*.⁹¹⁰ In that case, the ship was registered under and flying the flag of Panama, owned by a company registered in Panama under an agency commission agreement with a Spanish company and under charter to an Irish company.⁹¹¹ The Tribunal held that all entities, including "its crew and cargo onboard as well as its owner and every person involved or interested in its

⁹¹⁰ *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014).

⁹¹¹ *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014 [55]).

operations”,⁹¹² were linked to the flag State and under the jurisdictional authority exercised by Panama.

8 Part B.5 Conclusion

The end of life journey begins when the ship is converted to waste which occurs when it no longer meets the definition of ship and can be signalled by the change to a break-up voyage insurance policy and change in ownership and flag State. In *Spring Bear's* case, as in many, the break-up voyage insurance began upon the change of ownership and, with it, a change of flag State. The party from which that end of life journey initiated is the flag State exercising jurisdiction over the *Spring Bear* at the point at which those changes were instituted: the ship changing to waste when it no longer met the definition of ship, the insurance policy change, change of ownership under a sale contract and change of flag. That flag State is the same flag State that was exercising jurisdiction over the ship when the planning took place that caused and facilitated the end of life journey to begin and is the flag State that was exercising jurisdiction over the *Spring Bear* in Rotterdam and during its final commercial voyage through Egypt to Fujairah. In all instances that flag State was the Netherlands. Upon change of ownership when the vessel became waste, the flag State put in place over the vessel as waste for the end of life journey was that of Liberia.

Therefore, it is possible to identify the State of Export by identifying which flag State was exercising jurisdiction over the ship when the planning took place that caused or facilitated the end of life journey to begin. It is also possible to identify the State of Export by identifying which flag State was exercising jurisdiction over the ship (including in respect of certain environmental obligations) when the end of life journey was initiated. In the same way the decision to recycle is not part of the planning but triggers the planning, the end of life journey is initiated when all the events that signal conversion of the ship to waste occur, including the vessel no longer meeting the definition of ship and changes to the insurance policy, ownership and flag State, not after those changes have been instituted.

⁹¹² *M/V 'Virginia G' Case (Panama v Guinea-Bissau) (Judgment)* (International Tribunal for the Law of the Sea, Case No 19, 14 April 2014 [127]).

Chapter 9: Conclusion - Putting it all together

This thesis has asked whether ship owners can be held liable under current international law for harm caused by exposure to asbestos during ship recycling. The answer provided is yes, under the Basel Convention. In reaching that conclusion, a number of disparate elements have been analysed and resolved using a variety of methodologies. Those different elements need to be pulled back together and viewed in context. First this chapter summarises everything that has been put forward and presents it as a cohesive whole, then the elements established in the thesis are applied to the *Spring Bear* and *North Sea Producer* FPSO situations as case studies.

9.1 The Problem

The first step is understanding ship recycling and the association with asbestos. Asbestos is a group of six naturally occurring fibrous minerals⁹¹³ with heat resistant and fireproof properties. Generally inert, it is only when the fibres are broken and inhaled that they cause terminal and incurable conditions like asbestosis and mesothelioma.⁹¹⁴ The properties of asbestos made it extremely useful on ships in engine rooms, boiler rooms, between compartment partitions and other places⁹¹⁵ and it was found in large quantities on older ships⁹¹⁶ and is still present in new builds.⁹¹⁷ During ship recycling the asbestos is broken up and the fibres are released into the air where they are inhaled by vulnerable ship recycling workers,⁹¹⁸ amongst whom there is a very high incidence of asbestos related illnesses and cancers.⁹¹⁹ This is the harm for which this thesis seeks to attribute liability.

Asbestos is a pollutant and the justification for attributing liability for harm caused by exposure to this pollutant is found in the polluter pays principle. The basis of this principle is that the source of the pollution is responsible for reducing and/or controlling the amount of pollution produced by the source's activities and negating or

⁹¹³ See page 7.

⁹¹⁴ See page 35.

⁹¹⁵ See page 35.

⁹¹⁶ See page 7.

⁹¹⁷ See page 44.

⁹¹⁸ See page 37.

⁹¹⁹ See page 6.

compensating for the impact of that pollution on others.⁹²⁰ At first glance, this would appear to suggest that the ship recycling yards are the source and are liable for the harm caused by exposure to the asbestos (and other pollutants) released during ship recycling. However, de Sadeleer's extended view of the polluter pays principle proposes that liability should be traced back to the *original* source of the pollution, which is defined as the entity that has control over the amount of pollution present in the first place.⁹²¹ Upon further examination, it becomes apparent that this would be the ship owner and not the ship yard.

It is true that newly built ships are supposed to be asbestos free⁹²² and the responsibility for ensuring that they are lies with the ship owner commissioning the build. While this may hold true for more recently built ships, older ships did not necessarily have the same asbestos ban⁹²³ in place when they were built. Further, the original ship owner who commissioned the build is not necessarily the last ship owner and decision maker who decides the ship will be recycled where it may cause harm. The source of the pollution released during ship recycling is the ship owner that makes the decision to send the ship for recycling as that is the owner who controls what pollutants will remain in the vessel when it is sent for recycling and what method of disposal will be selected, which determines the environmental impact of the hazardous materials extracted during recycling. This is not necessarily the ship owner who commissioned the original build, particularly given the average life span of a ship is twenty-five to thirty years.⁹²⁴

Unlike cars where the manufacturer will design a vehicle and then offer multiple copies of it simultaneously for sale to the world at large, ships are built to order and usually take one to one and a half years from order to delivery, although it can take up to four years.⁹²⁵ Once a ship is built and delivered, it is not necessarily operated by its registered owner as builders and owners of ships are not generally the same entities

⁹²⁰ See page 49.

⁹²¹ See page 48.

⁹²² See page 8.

⁹²³ *International Convention for the Safety of Life at Sea*, opened for signature on 23 September 1910, United Kingdom TS (1913) Cd 6677 (entered into force 1 March 1913) Ch. II-1, Regulation 3.5.2.

⁹²⁴ UNCTAD, *Review of Maritime Transport 2019* (Report, UNCTAD/RMT/2019, 2019).

⁹²⁵ Costas Grammenos, *The Handbook of Maritime Economics and Business*, Taylor & Francis, 4 Jul 2013, 1096 pages, Ch 2.1 p 220.

that operate them.⁹²⁶ Ships are not always flagged under their owners' or operators' national flag and ownership and flag are frequently changed just for the end of life journey to the recycling yard.⁹²⁷ Ship recycling occurs primarily in India, Pakistan and Bangladesh, nations that neither build nor own nor operate nor flag ships.⁹²⁸ This means that drawing a straight line from the release of the asbestos during ship recycling to the owner of the ship as the source of pollution in order to attribute liability is not straight forward.

Upon delivery a newly built ship passes from the hands of the builder to the owner who commissioned it, who may or may not be the same entity that operates the ship, i.e. oversees the ship performing the functions for which it was built.⁹²⁹ During its life a ship may pass through the hands of multiple operators and be sold on as a second hand ship one or more times before it is eventually sold for recycling, at which time ownership often passes to a cash buyer⁹³⁰ who reflags the vessel for its end of life journey to the recycling yard. Having established that the polluter pays principle provides justification for attribution of liability to the ship owner as the source of the pollution, it is important to identify which international legislation enables enforcement of that liability, as the definitions in that legislation will determine which entity in the ship life cycle will be held accountable in law. Three international conventions based on the polluter pays principle were put forward as applicable to ship recycling. They are: the International Convention for the Prevention of Pollution from Ships (MARPOL), the Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships (Hong Kong Convention) and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention).⁹³¹

⁹²⁶ See page 29.

⁹²⁷ See page 18.

⁹²⁸ See page 28.

⁹²⁹ See page 26.

⁹³⁰ See page 15.

⁹³¹ See page 12.

9.2 The Conventions

9.2.1 MARPOL

MARPOL was examined in Chapter 4 but it was concluded that it is not the appropriate convention to attribute liability for ship recycling. This is because the primary purpose of MARPOL is to attribute liability for pollution discharged into the marine environment from a ship accidentally or during its normal operations.⁹³² The analysis showed that when asbestos is a component of the ship's construction, it does not satisfy the definition of pollution⁹³³ or a discharge harmful to the marine environment under MARPOL. Further, while MARPOL recognises asbestos as a pollutant, the Convention only contemplates it as a substance being transported in package form⁹³⁴ and not when it is a component that constitutes part of the ship's construction. The analysis also showed that ship recycling cannot be defined as a method of managing shipping-related waste discharged from a ship during normal operations⁹³⁵ where the waste in question is the ship itself. This is a view that has been put forward by some in the shipping industry but was dismissed by the Rotterdam Criminal Court in the *Seatrade* judgment.⁹³⁶ The court held that a ship cannot discharge itself as waste during normal operations because the implied presumption is that if a ship is undertaking normal operations, then the ship would still exist after any waste has been discharged. It is illogical to argue that a ship can discharge itself as waste during normal operations, as then there would be no ship; and a ship does not disappear or cease to exist during normal operations.⁹³⁷

9.2.2 The Hong Kong Convention

The Hong Kong Convention was analysed next in Chapter 5 and, although the purpose of this Convention is to make ship recycling safer, a review of the Convention showed that it has no means of enforcing liability against the ship owner for harm caused during the ship recycling process.⁹³⁸ The Hong Kong Convention places the primary burden on the shipyard for making the process of ship recycling safer, rather than on the ship owner for reducing or compensating for harm. Further, it was shown that the entry into

⁹³² See page 66.

⁹³³ See page 75.

⁹³⁴ *Ibid.*

⁹³⁵ See page 64.

⁹³⁶ See page 77.

⁹³⁷ *Ibid.*

⁹³⁸ See page 82.

force requirements are quite some way from being met⁹³⁹ and achieving compliance is still an extremely difficult target to attain for the world's primary ship recyclers that use the beaching method of recycling: India, Bangladesh and Pakistan.⁹⁴⁰ Despite the great progress presented and advances in many areas made by the beaching states as seen in the successful attainment of Hong Kong compliance certificates issued to the ship yards, they have still failed to be acceptable under the European standards for ship recycling facilities,⁹⁴¹ which is from where most of the vessels are sourced for recycling. This means that ship owners cannot be held liable for harm caused by exposure to asbestos during ship recycling under the Hong Kong Convention.

9.2.3 The Basel Convention

This leaves the Basel Convention as the only option for attributing liability under current international law. There are two key elements of the application of the Basel Convention to ship recycling that are in dispute and these were addressed individually. The purpose of the Basel Convention is to hold accountable those who are responsible for transboundary movements of hazardous waste and who do not comply with the procedures and restrictions laid out in the Convention. The first element in dispute when applying the Basel Convention to ship recycling is whether a vessel on its end of life journey, i.e. underway under its own steam on its way to be recycled, can be defined as waste. The second element in dispute when applying the Basel Convention to ship recycling is identifying the State of Export, i.e. the state from which the transboundary movement is initiated or is planned to be initiated.

9.3 Resolving the Basel Convention Questions

9.3.1 Ship or Waste?

The issue of whether a vessel on its end of life journey can be defined as waste was addressed in two ways. The first responded to the position put forward by some in the shipping industry, that a ship underway under its own steam is a ship and therefore cannot be defined as waste.⁹⁴² The position of many NGOs and those who are parties to the Basel Convention has been that a vessel on its end of life journey may be waste

⁹³⁹ See page 88.

⁹⁴⁰ See page 112.

⁹⁴¹ See page 29.

⁹⁴² See page 116.

under the Convention and simultaneously be a ship under other conventions.⁹⁴³ Unfortunately, since the Basel Convention only applies to the transboundary movement of hazardous waste, if a vessel on its end of life journey can be classified as anything but waste (ie as a ship) it can arguably be excluded from the scope of the Convention. This issue was resolved by providing a general definition of the term 'ship' under international law, which represents one of the distinct contributions of this thesis. In order to be recognised as a ship, a vessel must be at sea, in operation, and capable of self-directed self-propulsion.⁹⁴⁴ A vessel on its end of life journey and undertaking a transboundary movement is most likely to be at sea. Such a vessel may or may not be capable of self-directed self-propulsion, depending on its condition. However, no vessel on its end of life journey is in operation. To be in operation a vessel must be undertaking an activity that is associated with being in Class, i.e. its function as recognised by the Classification societies.⁹⁴⁵ There is no recognition of recycling as an activity associated with a ship's classification. In fact, the Classification societies stop their recognition of Class associated activities at the point of certification of an inventory of hazardous material (IHM) which is required in advance of sending a vessel for recycling, specifically excluding any activities associated with recycling after that point in the process.⁹⁴⁶ Under this definition, regardless of whether the vessel is underway under its own steam, a vessel on its end of life journey cannot be defined as a ship but can be defined as waste and thus does fall within the ambit of the Basel Convention.

The second way in which the status of a vessel on its end of life journey was addressed was through a comparative and qualitative contractual analysis. A vessel on its end of life journey is en route to a ship recycling yard to which it has been sold and that sale transaction is governed by a contract. Even if a vessel on its end of life journey does not meet the definition of ship, if the intention of the parties to that sale transaction is for the subject matter of the sale to be a ship and the substantive effect of the transaction is to transfer ownership or possession of a ship, then the parties' intention

⁹⁴³ COP to the Basel Convention VII/26. Environmentally sound management of ship dismantling Report of the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal on Its Seventh Meeting (UNEP/CHW.7/33), Geneva (2004) (October).

⁹⁴⁴ See page 143.

⁹⁴⁵ See page 137.

⁹⁴⁶ See page 145.

and the substantive effect of the transaction can take priority.⁹⁴⁷ In order to determine the parties' intention and the substantive effect of the transaction, a comparative and qualitative analysis was undertaken of the industry standard contracts used for the sale of a second hand ship, SALEFORM 2012, and the sale of a vessel to a ship recycling yard, RECYCLECON. The terms and rights and obligations of each contract were analysed and it was found that RECYCLECON imposed completely different rights and obligations upon both buyer and seller to those imposed under SALEFORM 2012. RECYCLECON also used completely different characteristics to identify the subject matter of the contract to those characteristics considered under SALEFORM 2012. The conclusion is that if the subject matter of a transaction under SALEFORM 2012 is a ship (which is not in dispute) and the rights and obligations it imposes relate to the sale of a ship then the subject matter of a transaction under REYCLECON is not a ship and the rights and obligations it imposes do not relate to the sale of a ship.⁹⁴⁸

The application of the proposed definition of ship and the comparative and qualitative contractual analysis of SALEFORM 2012 and RECYCLECON both confirm that a vessel on its end of life journey does not meet the definition of ship but does meet the definition of waste under the Basel Convention. This resolves the initial hurdle of applying the Basel Convention to ship recycling by confirming that the vessel on its end of life journey is waste and not a ship which means the vessel can no longer arguably be excluded from the scope of the Convention. However, it is not the only hurdle. The definitions of the key terms of the Basel Convention must be successfully applied to the ship recycling process in order for the Convention to be enforceable.

9.3.2 Terms of the Basel Convention

When the process contemplated by the Basel Convention is laid over the ship recycling process, it can be seen that the ship recycling process is one covered by the Convention.⁹⁴⁹ The Basel Convention applies to the transboundary movement of hazardous waste and imposes obligations on those responsible for the delivery and receipt of the waste. In order for the movement to qualify as transboundary, the

⁹⁴⁷ Avery Wiener Katz, 'The Economics of Form and Substance in Contract Interpretation' (2004) 104 *Columbia Law Review* 496.

⁹⁴⁸ See page 163.

⁹⁴⁹ See page 169 and Annexure 11.

hazardous waste needs to be transferred from one area of national jurisdiction to or through at least one other area of national jurisdiction.⁹⁵⁰ This is not an issue in the ship recycling process as vessels on their end of life journey generally cross jurisdictional boundaries.⁹⁵¹ Under the Convention the state from which the transboundary movement is initiated or is planned to be initiated is the State of Export and the destination state in which the hazardous waste will be recycled or disposed of is the State of import (unless the Disposer is in an area of no national jurisdiction).⁹⁵² Those responsible for delivery of the waste are identified as the Generator and Exporter. The Generator is the source of the waste and the Exporter is the entity with responsibility for arranging the disposal of the waste and completing any documentary requirements to move the waste out of the State of Export. The Generator and Exporter may be two different entities or one and the same. In ship recycling, the Generator is the ship owner and the Exporter may be the ship owner or the cash buyer, if one is used,⁹⁵³ but the Exporter must be within the State of Export.⁹⁵⁴ The parties responsible for receipt of the waste are the importer who is responsible for making the arrangements to bring the waste into the State of import and compliance with documentary requirements there, and the Disposer who is responsible for recycling or disposing of the hazardous waste. In ship recycling, the Disposer is the ship recycling yard and the importer may be the yard or the cash buyer, if one is used,⁹⁵⁵ but the importer must be within the State of import.⁹⁵⁶

9.3.3 State of Export

The term under the Basel Convention that has caused the most dispute in terms of its application is the term 'State of Export'. Identification of the State of Export is critical under the Convention as the remedy for a breach of the Convention enables the importing state to require the State of Export to take back any hazardous waste that was transported in breach of the Convention⁹⁵⁷ or to arrange for, oversee and pay for the safe disposal of the hazardous waste at a suitable location.

⁹⁵⁰ See page 171.

⁹⁵¹ See page 170.

⁹⁵² See page 113.

⁹⁵³ See page 173.

⁹⁵⁴ See page 109.

⁹⁵⁵ See page 172.

⁹⁵⁶ See page 119.

⁹⁵⁷ See page 179.

The State of Export is defined as the Party within whose jurisdictional area the end of life journey is planned to be initiated or is initiated.⁹⁵⁸ Generally, the debate has been phrased in terms of identifying the moment when a ship becomes waste in an effort to identify the jurisdictional area in which the vessel is physically located when its end of life journey is initiated⁹⁵⁹ but without a definition of ship available, this has been difficult to establish in the past. This approach also becomes a problem when the end of life journey begins on the high seas or in any jurisdiction with which the vessel has no relationship other than its physical presence.⁹⁶⁰ An alternative is to determine the jurisdiction of the physical location of the vessel when the end of life journey is planned to be initiated. The problems with this approach are discussed in the analysis of the *Seatrade* decision.⁹⁶¹ In short, such decisions are often hard to localise in one territorial jurisdiction due to the nature of the shipping industry. Ultimately, three options are identified for determining the State of Export.

The first and most simple option is to identify the state in whose jurisdiction the vessel is physically located when it begins its end of life journey. To do this, the point at which the ship becomes waste must be identified. Using the provided definition of ship, this moment can be established as the moment the vessel no longer satisfies the criteria of the definition of ship in that it is no longer at sea and/or in operation and/or capable of self-directed self-propulsion.⁹⁶² The fact that the vessel is no longer a ship can be confirmed by determining when rights and obligations were transferred from the ship owner to another under a sale contract with substantive effect in accordance with the rights and obligations transferred under RECYCLECON.⁹⁶³ The transferring ship owner is the Generator under the Basel Convention and the transferee will be either a cash buyer (who may be the Exporter)⁹⁶⁴ or ship yard (Disposer).⁹⁶⁵ Alternatively, the point at which the insurance policy over the vessel is changed from one for commercial activities to a break-up voyage policy can be used to indicate when the vessel

⁹⁵⁸ See page 177.

⁹⁵⁹ See page 167.

⁹⁶⁰ See page 174.

⁹⁶¹ See page 179.

⁹⁶² See page 143.

⁹⁶³ See page 164.

⁹⁶⁴ See page 168.

⁹⁶⁵ See page 169.

becomes waste and is no longer a ship.⁹⁶⁶ If these tests conclude that the ship in question has become waste either in an area under no national jurisdiction, such as the high seas, or an area under the jurisdiction of a state with no link to the vessel other than being the location in which the vessel became waste⁹⁶⁷ then the physical location of the vessel when the end of life journey is initiated cannot identify the State of Export.

This leads to the second option: identification of the Party within whose jurisdiction the end of life journey is planned to be initiated.⁹⁶⁸ In order to identify this Party, it is necessary to identify those responsible for making the choices about the end of life journey that place the transboundary movement of the vessel in breach of the Convention. If the ownership structure of the vessel is not complex and those individuals are identifiable and located within the jurisdiction of a single Party to the Convention then that Party will become the State of Export.⁹⁶⁹ As noted, the complex ownership structures which are common in the shipping industry may mean that this option is frequently difficult or impossible to apply in practice.

However, as explained, there are instances where neither of these options is available. This leaves the third alternative which is to identify the flag state under whose jurisdiction the ship is operating at the point at which the ship becomes waste.⁹⁷⁰ This is a viable interpretation because, while a ship is not legally territory, it is a space or object within the jurisdiction of the flag State. It can therefore be considered within the jurisdiction of that state for the purposes of the Convention. As above, the moment the ship becomes waste is identified as the moment at which the vessel no longer meets the definition of ship, usually accompanied by the conclusion of a sale contract of the vessel for recycling and/or a change in insurance cover from a commercial voyage policy to a break-up voyage policy. The relevant flag state is that which has jurisdiction over the ship when it becomes waste and not the flag state of the vessel during its end of life journey. When the vessel is sold to a cash buyer who re-flags it for the end of life voyage to the recycling yard, the ship owner does not sell a ship to the cash buyer:

⁹⁶⁶ See page 170.

⁹⁶⁷ See page 174.

⁹⁶⁸ See page 190.

⁹⁶⁹ See page 191.

⁹⁷⁰ See page 174.

the subject matter of the sale transaction is waste. The ship owner caused the waste to be generated by contracting to sell the vessel for disposal, thereby turning the vessel from a ship into waste. Therefore, any flag put in place by the cash buyer is not relevant when determining the State of Export as the vessel the cash buyer is re-flagging is waste and not a ship. The ship owner converts the ship into waste when it completes the contract of sale of the vessel for recycling and at that point, the vessel is exported from the flag state that it was under as a ship to registration as waste under the new flag state selected by the cash buyer, which will govern the end of life journey. This thesis assumes a change of flag in the scenario because no change of flag would allow a reasonably straight forward identification of the State of Export. That concludes the three options for identifying the State of Export.

9.4 Application

If the steps outlined and the elements identified in this thesis were to be applied, for example, to the *Spring Bear* situation, the result would be as follows. The polluter pays principle justifies attribution of liability to the ship owner as the source of the pollution released during recycling of the *Spring Bear*. The *Spring Bear* met the definition of ship while it was located in the Rotterdam port and for the duration of its final commercial voyage to Fujairah. *Spring Bear* met the definition of ship when the decision was made to send it for recycling by the Seatrade directors. *Spring Bear* met the definition of ship for the entirety of the voyage to Fujairah during which planning for the initiation of the end of life journey took place. This means *Spring Bear* could not be viewed as waste until it began its end of life journey from Fujairah. Since the *Spring Bear* was not waste, there was no transboundary movement of hazardous waste until the end of life journey began and no State of Export could be identified until the ship became waste.

The location of the ship when the decision was taken to recycle is irrelevant. The area of national jurisdiction in which the planners who caused the initiation of the end of life journey were located could not be identified as they were in multiple locations. The journey to Fujairah was a normal commercial journey by a ship and could not qualify as an end of life journey or as a transboundary movement of hazardous waste. The

actual end of life journey departed from Fujairah in the UAE, which had no links to the *Spring Bear* or Seatrade and could not be held accountable as the State of Export.

The ship became waste upon completion of the sale contract to the cash buyer, the initiation of the end of life journey, the (presumed) change of insurance policy and the change of flag state, all of which occurred after its final commercial voyage when the vessel departed (as waste) for the recycling yard in Alang from Fujairah. It was at the end of the final commercial voyage in Fujairah that the ship owners, the Seatrade directors, converted the ship into waste and exported it as waste from the flag state jurisdiction of the Netherlands to the cash buyer who reflagged it under the flag state of Liberia for the end of life journey. Thus the State of Export was the Netherlands (the flag state) from which the hazardous waste (vessel containing hazardous substances including asbestos) began its transboundary movement (from the UAE to India). The Generator was Seatrade and its directors, the State of import was India and the ship recycling yard was the Disposer.

The case of the *North Sea Producer* FPSO is different as it is not in dispute that the United Kingdom is the State of Export. The issue in this instance is identifying the Generator. This is necessary in order to enable the United Kingdom to enforce penalties against the Generator for exporting the *North Sea Producer* FPSO in breach of international law. Maersk has argued that it is a separate commercial entity from that which owned the *North Sea Producer* FPSO and that it understood the sale to the company under the Saint Kitts and Nevis flag was for the *North Sea Producer* FPSO to continue its operational life. This should be able to be clarified through an assessment of the contract of sale in light of the comparative and qualitative analysis provided here. Having established the substantive effect of and rights and obligations imposed by the sale of a ship and the equivalent under a contract of sale of a vessel for recycling, it is now possible to identify the parties' intention under the sale contract to ascertain whether they intended the subject matter of the sale to be waste or an operational FPSO. If the intention was for the subject of the sale to be waste, the party within the State of Export that converted the *North Sea Producer* FPSO to waste by concluding the sale contract would qualify as the Generator. It could be held accountable under the State of Export's domestic legislation (UK law). If the subject

matter of the transaction was an operational FPSO, liability will fall to the buyer in the contract.

9.5 Conclusion

In conclusion, this thesis demonstrates that it is legally possible to successfully apply the Basel Convention to ship recycling and enables attribution of liability to ship owners for harm caused by exposure to asbestos during that process. It provides a justification for attributing liability, provides a generally applicable international law definition of the term 'ship', provides methods to identify when a ship becomes waste in any given scenario, and demonstrates how various key provisions and terms of the Basel Convention are applicable to ship recycling including, most importantly, the State of Export.

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T, Bode, 'Scrapping of Ocean-Going Ships: A Global Environmental, Health and Human Rights Problem' (Speech, Global Ship Scrapping Summit, June 1999).

The Marine Environment Protection Committee, *2015 Guidelines for the Development of the Inventory of Hazardous Materials*, Resolution MEPC.269(68) (adopted on 15 May 2015)

UNESCO World Heritage List 2017

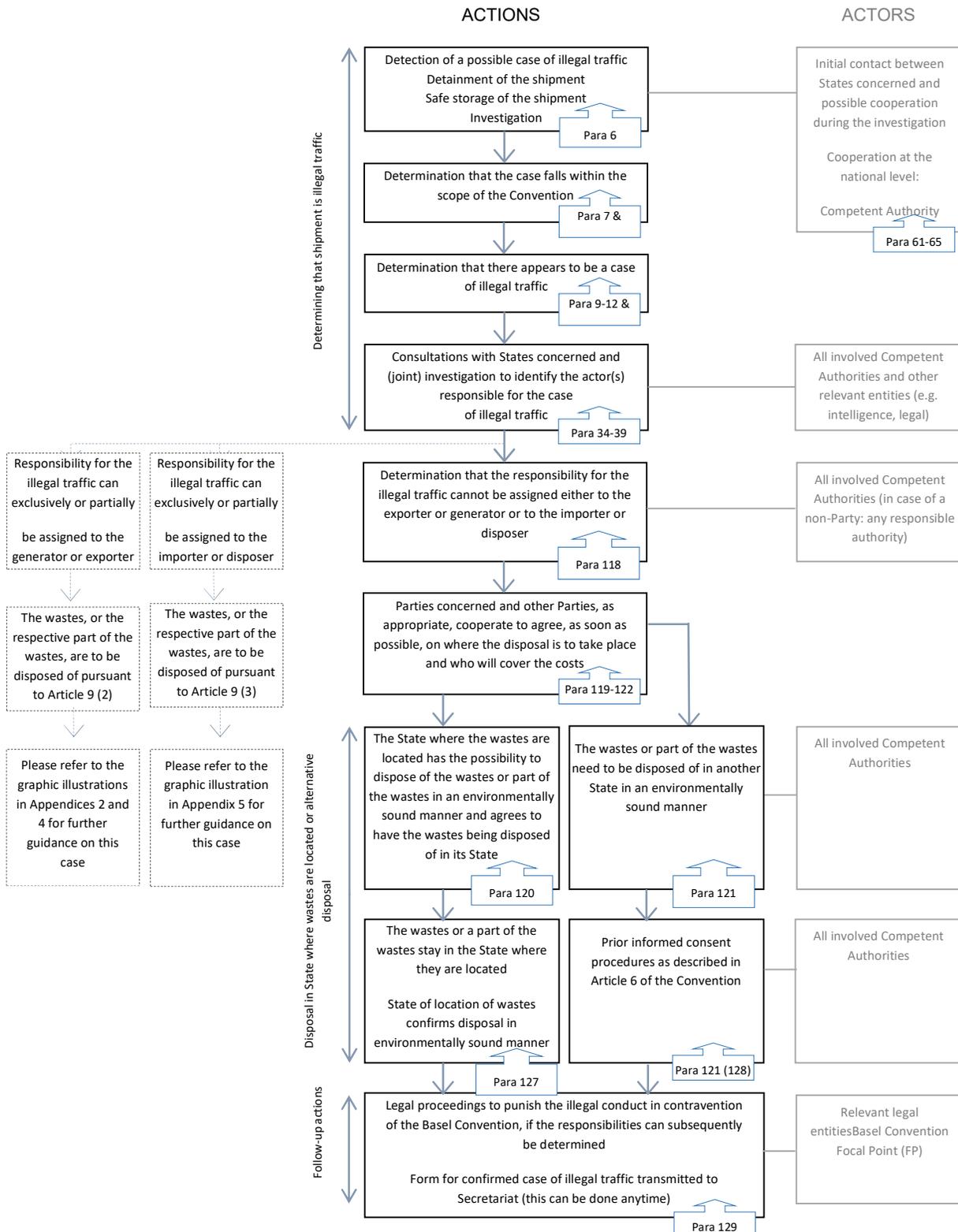
United Nations Human Rights Special Procedures Letter to Maersk (27 February 2018)

VesselsValue, 'Top 10 Ship Owning Nations 2018' (2018)

VesselsValue, 'Top 10 Ship Owning Nations 2019' (February 2019)

Annexure 1: Chapter 3

Graphic illustration of the implementation of the duty to cooperate where the responsibility for the illegal traffic cannot be assigned (paragraph 4 of Article 9)



ANNEXURE 2: Chapter 4

MARPOL Whistleblowers

Some American cases where whistleblowers have been rewarded for reporting breaches of

MARPOL

- United States v. Accord Ship Management PVT. Ltd./Nicanor Jumalo (2007)
- United States v. Aksay Denizcilik Ve Ticaret A.S. (2010)
- United States v. AML Ship Management GMBH (2015)
- United States v. Atlas Ship Management Ltd. (2010)
- United States v. B Navi Ship Management Services (2008)
- United States v. Botelho Shipping (2003)
- United States v. Boyang (Busan) Ltd. (2005)
- United States v. Calypso Maritime Corporation (2007)
- United States v. Carbofin (2015)
- United States v. Casilda Shipping Ltd et al. (2009)
- United States v. Ciner Gemi Acente Isletni Sanayi Ve Ticaret S.A. (2016)
- United States v. Cleopatra Shipping Agency, Ltd. (2012)
- United States v. Clipper Marine Services (2008)
- United States v. Columbia Ship Management (2013)
- United States v. Consultores de Navegacion et al. (2009)
- United States v. Cooperative Success Maritime S.A. (2010)
- United States v. Crescent Ship Servs., Inc. (1995)
- United States v. Diamlemos Shipping Corp (2008)
- United States v. Diana Shipping Services (2014)
- United States. v. Dianik Bross Shipping Corp. (2011)
- United States v. D/S Progress (Maric) (2002)
- United States v. DST Shipping (2005)
- United States v. Efploia Shipping Co (2011)
- United States v. Fairdeal Group Management SA (2005)
- United States v. Fairmont Shipping (Canada) Ltd. et al (2003)
- United States v. Fleet Management Limited (2010)
- United States v. Fujitrans Corporation (2005)
- United States v. General Maritime Management (Portugal) L.D.A. et al (2009)
- United States v. Giuseppe Bottiglieri Shipping Company S.P.A (2010)
- United States v. Gulf Stolt Ship Management (2013)

- United States v. Hachiuma Steamship Co Ltd. & Ireneo Tuale & Noly Torato Vidad (2015)
- United States v. Herm. Dauelsberg GMBH & CO. KG (2014)
- United States v. Hiong Guan Navegacion Japan Co (2009)
- United States v. Hoegh Fleet Services (2004)
- United States v. Holland America Line (1998)
- United States v. Holy House Shipping AB (2009)
- United States v. Ilios Shipping Company S.A. (2012)
- United States v. Ionia Management (2011)
- United States v. Irika Maritime S.A. (2007)
- United States v. Irika Shipping S.A . (2010)
- United States v. Kassian Maritime Navigation Agency (2007)
- United States v. Keoje Marine Co. (2012)
- United States v. Marine Managers (2015)
- United States v. MK Ship management (2006)
- United States v. Nimmrich und Prahm Bereederung GmbH CO.KG et al (2012)
- United States v. Noble Drilling (U.S.) LLC (2015)
- United States v. Noka Shipping Company Ltd. (2011)
- United States v. Norbulk Shipping UK Ltd. & Valerii Georgiev (2015)
- United States v. Norwegian Cruise Line Limited (2002)
- United States v. Odfjell Asia II Pte Ltd. and Leuterio (2014)
- United States v. Odysea Carriers, S.A. (2012)
- United States v. Ofer (Ship Holding) Ltd. (2008)
- United States v. OMI Corporation (2004)
- United States v. Overseas Shipping (2007)
- United States v. Polar Tankers (2007)
- United States v. Polembros Shipping (2009)
- United States v. Princess Cruises (1993)
- United States v. Princess Cruises (2016)
- United States v. Reederei Karl Schlueter (2009)
- United States v. Regency Cruises, Inc. (1995)
- United States v. Sabine Transportation Co. (Stickle) (2004)
- United States v. Sanford Ltd. (2013)
- United States v. Stanships, Inc. (Marshall Islands) (2011)
- United States v. Sun Ace Shipping Company (2006)
- United States v. STX et. al (2008)
- United States v. STX Pan Ocean Co. Ltd. (2009)

- United States v. Styga Compania Naviera S.A. (2010)
- United States v. Target Ship Management Pte. Ltd.et al. (2012)
- United States v. Transmar Shipping (Dimitrakis) (2010)
- United States v. Ulysses Cruises, Inc. et. al (1998)
- United States v. Wallenius Ship Management (2006)
- United States v. Aquarosa Shipping A/S (2011)
- United States v. DSD Shipping A/S (2015)
- United States v. Oceanic Illsabe Ltd. (2015)
- United States v. Aegean Shipping Management SA (2016)

ANNEXURE 3: Chapter 5

The Hong Kong Convention –Annual Ship Recycling Volume of Contracting States

I. Signatories

France	“Sous réserve de ratification”	19 November 2009
Italy	“subject to ratification”	2 August 2010
Netherlands	“subject to acceptance”	21 April 2010
Saint Kitts and Nevis	“subject to ratification”	27 August 2010
Turkey	“subject to ratification”	26 August 2010

II. Contracting States	Date of deposit	Ship Recycling Volume	Ship Recycling
	of instrument	2017	2018
Belgium (accession)	7 March 2016	12,291 GT	14,617 GT
Congo (accession)	19 May 2014		
Denmark (accession)	14 June 2017	28,486 GT	16,352 GT
Estonia (accession)	25 April 2019	--	17,735 GT
France (ratification)	2 July 2014	--	1,677 GT
Germany (accession)	16 July 2019	--	140 GT
Japan (accession)	27 March 2019	749 GT	4,391 GT
Malta (accession)	14 May 2019		
Netherlands (acceptance)		20 February 2019	5,196 GT
-			-
Norway (accession)	26 June 2013	1,107 GT	1,939 GT
Panama (accession)	19 September 2016		
Serbia (accession)	22 March 2019		
Turkey (ratification)	31 January 2019	1,257,082 GT	781,651 GT

ANNEXURE 4: Chapter 5

Hong Kong Convention: Strategy for Sustainable Training for the Ship Recycling Industry⁹⁷¹

STRATEGY FOR SUSTAINABLE TRAINING FOR THE SHIP RECYCLING INDUSTRY

Working Days:		Week 1					Week 2					Week 3				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Training Cohort 1	Sub Team 1A (12 People)	General Classroom (Modules 1, 2, 5 & 6)			Confined Space (Module 2)	HazMat Handling (Module 7)	First Aid Training (Module 8)	Chemical spill (Module 3)	Fire Safety Training (Module 4)	Working at Height (Module 5)	Hot Work Training (Module 6)					
	Sub Team 1B (12 people)	General Classroom (Modules 1, 2, 5 & 6)			First Aid Training (Module 8)	Confined Space (Module 2)	Fire Safety Training (Module 4)	HazMat Handling (Module 7)	Working at Height (Module 5)	Chemical spill (Module 3)	Hot Work Training (Module 6)					
	Sub Team 1C (12 people)	General Classroom (Modules 1, 2, 5 & 6)			Fire Safety Training (Module 4)	Confined Space (Module 2)	Working at Height (Module 5)	First Aid Training (Module 8)	Chemical spill (Module 3)	HazMat Handling (Module 7)	Hot Work Training (Module 6)					

Figure 3: General Worker Training Schedule (1 Training Cohort of 36 Workers)

Working Days:	Week 1					Week 2					Week 3					Week 4											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Training Cohort 1	General Classroom (Modules 1, 2 & 5)					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom				
Training Cohort 2	General Classroom					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom				
Training Cohort 3	General Classroom					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom					Confined Space	Fire Safety Training	Working at Height	Chemical spill	First Aid Training	Hot Work Training (Module 6)	General Classroom				
Minimum Trainer Number	1					2					3					4					5						

Figure 4: Optimised Training Schedule (Maximum Of 3 Cohorts at One Time = 108 Workers Trained Simultaneously)

⁹⁷¹ Stuart A. Mckenna, Raphael Baumler & Rafet E. Kurt, Report: Strategy For Sustainable Training For The Ship Recycling Industry, Safe and Environmentally Sound Ship Recycling SENSREC, WP4, Part 2, <http://www.imo.org/en/OurWork/Environment/MajorProjects/Documents/Ship%20recycling/WP4b%20Strategy%20for%20Sustainable%20Training.pdf>

STRATEGY FOR SUSTAINABLE TRAINING FOR THE SHIP RECYCLING INDUSTRY

Table 2: Training Facility Capacity Estimates

Training Facilities*	Min. No. of Trainers	Working Weeks^	Training Cohorts per Year(1)	No. of Workers per Cohort	Trained per Year	Training Time Estimation	Time to Train...	25,000	Workers:	19.8	Years						
1	6	48	35	36	1260												
2	12	48	70	36	2520										9.9		
3	18	48	105	36	3780										6.6		
4	24	48	140	36	5040										5.0		
5	30	48	175	36	6300										4.0		
6	36	48	210	36	7560										3.3		
7	42	48	245	36	8820										2.8		
8	48	48	280	36	10080										2.5		
9	54	48	315	36	11340										2.2		
10	60	48	350	36	12600				2.0								

*Presumed to have the facilities mentioned in Table 1 and have a maximum capacity of 108 students at any given time

^Working weeks minus national holidays and Ramadan period

(1) New training cohort starts every 7 working days

Please note the example above is for illustrative purposes only. Further optimisation and scheduling could result in further efficiencies, for example, if two fire safety training areas were present in a training facility this could increase the maximum capacity of a training facility.

ANNEXURE 5: Chapter 5

The European List of Ship Recycling Facilities Referred to in Article 16 of Regulation (Eu) No 1257/2013⁹⁷²

PART A**Ship recycling facilities located in a Member State**

Name of the facility	Method of recycling	Type and size of ships that can be recycled	Limitations and conditions under which the ship recycling facility operates, including as regards hazardous waste management	Details on the explicit or tacit procedure for the approval of the ship recycling plan by the competent authority⁽¹⁾	Maximum annual ship recycling output, calculated as the sum of the weight of ships expressed in LDT that have been recycle	Date of expiry of inclusion in the European List⁽³⁾

⁹⁷² Commission Implementing Decision (EU) 2019/995 of 17 June 2019 amending Implementing Decision (EU) 2016/2323 establishing the European List of ship recycling facilities pursuant to Regulation (EU) No 1257/2013 of the European Parliament and of the Council (Text with EEA relevance.) C/2019/4360, Official Journal of the European Union L 160/28, 18 June 2019 .

					d in a given year in that facility (²)	
BELGIUM						
NV Galloo Recycling Ghent Scheepzatestraat 9 9000 Gent Belgium Phone: +32(0)9/251 25 21 Email: peter.wyntin@galoo.com	Alongside (wet berth), slope	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 265 meters Width: 37 meters Draught: 12,5 meters		Tacit approval, with a maximum review period of 30 days	34 000 ⁽⁴⁾	31 March 2020

DENMARK						
<p>FAYARD A/S Kystvejen 100 DK-5330 Munkebo Denmark www.fayard.dk Phone: +45 7592 0000 Email: fayard@fayard.dk</p>	<p>Drydock decommissioning and recycling</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 415 meters Width: 90 meters Draught: 7,8 meters</p>	<p>The ship recycling facility is regulated in accordance with applicable legislation and with the conditions set out in Environmental Permit of 7 November 2018 issued by the Municipality of Kerteminde. The Environmental Permit includes conditions for operating hours, special operating conditions, handling and storage of waste and also includes a condition that the activity</p>	<p>Tacit approval, with a maximum review period of 14 days.</p>	<p>0 ⁽⁵⁾</p>	<p>7 November 2023</p>

			must be carried out in a dry dock.			
Fornæs ApS Rolshøjvej 12-16 8500 Grenaa Denmark www.fornaes.dk Phone: +45 86326393 Email: recycling@fornaes.dk	Dismantling by quay and subsequent scrapping on impermeable floors with effective drainage systems	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 150 meters Width: 25 meters Draught: 6 meters GT: 10 000	The municipality of Norddjurs has the right to allocate Hazardous waste for environmentally approved reception facilities.	Tacit approval, with a maximum review period of 14 days.	30 000 ⁽⁶⁾	30 June 2021
Modern American Recycling Services Europe (M.A.R.S) Sandholm 60	Clipping and flame cutting after the item for dismantling	Ships as defined in point (1) of Article 3(1) of	The conditions under which the ship recycling facility operates are	Tacit approval, with a maximum review	0 ⁽⁷⁾	23 August 2023

<p>9900 Frederikshavn Denmark Website: http://www.modernamericanrecyclingervices.com/ Email: kim@mars-eu.dk</p>	<p>has been placed in a slipway facility</p>	<p>Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 290 meters Width: 90 meters Draught: 14 meters</p>	<p>defined in the Environmental Permit of 9 March 2018 issued by the Municipality of Frederikshavn The Municipality of Frederikshavn has the right to allocate hazardous waste to environmentally approved reception facilities, as set out in the Environmental Permit for the ship recycling facility. The facility must not store hazardous waste for more than one year.</p>	<p>period of 14 days.</p>		
--	--	--	--	---------------------------	--	--

<p>Smedegaarden A/S Vikingkaj 5 6700 Esbjerg Denmark www.smedegaarden.net</p>	<p>Dismantling by quay and subsequent scrapping on impermeable floors with effective drainage systems</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 170 meters Width: 40 meters Draught: 7,5 meters</p>		<p>Tacit approval, with a maximum review period of 14 days</p>	<p>20 000⁽⁸⁾</p>	<p>15 September 2021</p>
<p>Stena Recycling A/S Grusvej 6 6700 Esbjerg DENMARK Phone: +45 20699190 Website: https://www.stenarecycling.dk/ Email: jakob.kristensen@stenarecycling.com</p>	<p>Clipping and flame cutting after the item for dismantling has been placed within a confined flooding proof area with</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013. Maximum ship</p>	<p>The conditions under which the ship recycling facility operates are defined in the Environmental Permit of 5 October 2017 issued by</p>	<p>Tacit approval, with a maximum review period of 14 days</p>	<p>0⁽⁹⁾</p>	<p>7 February 2024</p>

	impermeable floors and effective drainage systems	dimensions : Length: 40 meters Width: 40 meters Draught: 10 meters	Esbjerg Municipality. Esbjerg Municipality has the right to allocate hazardous waste to environmentally approved reception facilities, as set out in the Environmental Permit for the ship recycling facility			
ESTONIA						
BLRT Refonda Baltic OÜ Kopli 103, 11712 Tallinn, Estonia Phone: +372 610 2933 Fax +372 610 2444 Email: refonda@blrt.ee www.refonda.ee	Afloat at the quayside and in the floating dock	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship	Waste permit No. L.JÄ/327249. Hazardous waste management licence No 0222. Rules of the Vene-Balti Port, Manual	Tacit approval, with a maximum review period of 30 days.	21 852 ⁽¹⁰⁾	15 February 2021

		<p>dimensions :</p> <p>Length: 197 meters</p> <p>Width: 32 meters</p> <p>Draught: 9,6 meters</p> <p>GT: 28 000</p>	<p>on Ships Recycling MSR-Refonda. Environmental Management System, Waste management EP 4.4.6-1-13</p> <p>The facility can recycle only the hazardous materials for which it has been licensed.</p>			
SPAIN						
<p>DDR VESSELS XXI, S.L.</p> <p>Port of "El Musel" Gijon Spain Phone: +34 630 14 44 16 Email: abarredo@ddr-vessels.com</p>	<p>Dismantling ramp</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013, except nuclear ships. Maximum ship</p>	<p>The limitations are included in the integrated environmental authorisation.</p>	<p>Explicit approval by the Harbour Masters Office of the port where the facility is located</p>	<p>0 ⁽¹¹⁾</p>	<p>28 July 2020</p>

		<p>dimensions :</p> <p>Length: 169,9 meters</p> <p>(Ships above that size which can operate a zero rollover or negative ramp movement may be accepted depending on the outcome of a detailed feasibility study)</p>				
FRANCE						
<p>Démonaval Recycling ZI du Malaquis Rue François Arago</p>	<p>Alongside, drydock</p>	<p>Ships as defined in point (1) of Article 3(1)</p>	<p>Environmental limitations are defined in the</p>	<p>Explicit approval – The competent</p>	<p>0 ⁽¹²⁾</p>	<p>11 Decembe r 2022</p>

<p>76580 LE TRAIT Phone: (+ 33) (0)7 69 79 12 80 Email: patrick@demonaval-recycling.fr</p>		<p>of Regulation (EU) No 1257/2013 Maximum ship dimensions (drydock): Length: 140 meters Width: 25 meters Depth: 5 meters</p>	<p>prefectural authorisation.</p>	<p>authority for the approval decision is the minister of environment</p>		
<p>GARDET & DE BEZENAC Recycling/Groupe BAUDELET ENVIRONNEMENT – GIE MUG 616, Boulevard Jules Durand 76600 Le Havre France Phone: +33(0)2 35 95 16 34 Email: infos@gardet-bezenac.com</p>	<p>Floating and slipway</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions :</p>	<p>Environmental limitations are defined in the prefectural authorisation.</p>	<p>Explicit approval – The competent authority for the approval decision is the minister of environment.</p>	<p>16 000⁽¹³⁾</p>	<p>30 December 2021</p>

		Length: 150 meters Width: 18 meters LDT: 7 000				
Grand Port Maritime de Bordeaux 152, Quai de Bacalan — CS 41320 - 33082 Bordeaux Cedex France Phone: +33(0)5 56 90 58 00 Email: maintenance@bordeaux-port.fr	Alongside, drydock	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions (drydock): Length: 240 meters Width: 37 meters Depth: 17 meters	Environmental limitations are defined in the prefectural authorisation.	Explicit approval – The competent authority for the approval decision is the minister of environme nt.	18 000 (¹⁴)	21 October 2021
Les Recycleurs bretons	Alongside, drydock	Ships as defined in point (1) of	Environmental limitations are defined in the	Explicit approval – The	5 500 (¹ ⁵)	24 May 2021

<p>Zone Industrielle de Kerbriant - 29 610 Plouigneau France Phone: +33(0)2 98 01 11 06 Email: navaleo@navaleo.fr</p>		<p>Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions (drydock):</p> <p>Length: 225 meters</p> <p>Width: 34 meters</p> <p>Depth: 27 meters</p>	<p>prefectural authorisation.</p>	<p>competent authority for the approval decision is the minister of environme nt.</p>		
ITALY						
<p>San Giorgio del Porto S.p.A. Calata Boccardo 8 16128 – Genova – Italy Phone:+39 (0)10 251561 Email: segreteria@sgdp.it; sangiorgiodelporto@legalmail.it www.sgdp.it</p>	<p>Alongside, drydock</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship</p>	<p>The limitations and restrictions are included in the integrated environmental authorisation. The facility has a Ship Recycling Facility Plan that meets the</p>	<p>Explicit approval</p>	<p>38 564 (¹⁶)</p>	<p>6 June 2023</p>

		dimensions : Length: 350 meters Width: 75 meters Immersion: 16 meters GT: 130 000	requirements of Regulation (EU) No 1257/2013			
LATVIA						
A/S “Tosmares kuģubūvētava” Ģenerāļa Baloža street 42/44, Liepaja, LV-3402 Latvia Phone: +371 63401919 Email: shipyard@tosmare.lv	Ship dismantling (wet berth and dry dock)	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 165 m	See national permit No. LI10IB0024.	Explicit approval — written notification in 30 working days	0 ⁽¹⁷⁾	11 June 2020

		Width: 22 m Depth: 7 m DWT: 14 000 GT: 200 - 12 000 Weight: 100 – 5 000 tonnes LDT: 100 - 5 000				
LITHUANIA						
UAB APK Minijos 180 (berth 133A), LT 93269, Klaipėda, Lithuania Phone: +370 (46) 365776 Fax +370 (46) 365776 Email: uab.apk@gmail.com	Alongside (wet berth)	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions :	See national permit No. TL- KL.1-15/2015	Explicit approval — written notification in 30 working days	1 500 ⁽¹ ⁸⁾	17 March 2020

		<p>Length: 130 meters</p> <p>Width: 35 meters</p> <p>Depth: 10 meters</p> <p>GT: 3 500</p>				
<p>UAB Armar</p> <p>Minijos 180 (berths 127A, 131A), LT 93269, Klaipėda, Lithuania Phone: +370 685 32607 Email: armar.uab@gmail.com; albatrosas33@gmail.com</p>	<p>Alongside (wet berth)</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013</p> <p>Maximum ship dimensions (berth 127A):</p> <p>Length: 80 meters</p> <p>Width: 16 meters</p> <p>Depth: 6 meters</p>	<p>See national permit No. TL-KL.1-16/2015 (berth 127A)</p> <p>See national permit No. TL-KL.1-51/2017 (berth 131A)</p>	<p>Explicit approval — written notification in 30 working days</p>	<p>3 910 ^(1 9)</p>	<p>17 March 2020 (berth 127A)</p> <p>19 April 2022 (berth 131A)</p>

		<p>GT: 1 500</p> <p>Maximum ship dimensions (berth 131A):</p> <p>Length: 80 meters</p> <p>Width: 16 meters</p> <p>Depth: 5 meters</p> <p>GT: 1 500</p>				
<p>UAB Vakaru refonda</p> <p>Minijos 180 (berths 129, 130, 131A, 131, 132, 133A), LT 93269, Klaipėda, Lithuania</p> <p>Phone: +370 (46) 483940/483891</p> <p>Fax +370 (46) 483891</p> <p>Email: refonda@wsy.lt</p>	Alongside (wet berth)	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013</p> <p>Maximum ship dimensions :</p> <p>Length: 230 meters</p>	See national permit No. (11.2)-30-161/2011/TL-KL.1-18/2015	Explicit approval — written notification in 30 working days	20 140 ⁽²⁰⁾	21 May 2020

		Width: 55 meters Depth: 14 meters GT: 70 000				
THE NETHERLANDS						
Keppel-Verolme Prof. Gerbrandyweg 25 3197 KK Rotterdam-Botlek The Netherlands Phone: +31 18 123 43 53 Email: mzoethout@keppelverolme.nl	Shipbreaking	Maximum ship dimensions : Length: 405 meters Width: 90 meters Depth: 11,6 meters	The site has a permit to operate; this permit contains limitations and conditions to operate in an environmental sound manner.	Explicit approval	52 000 ⁽²¹⁾	21 July 2021
Scheepssloperij Nederland B.V. Havenweg 1; 3295 XZ s-Gravendeel Postbus 5234; 3295 ZJ s-Gravendeel The Netherlands Phone: +31 78 673 60 55 Email: info@sloperij-nederland.nl	Shipbreaking	Maximum ship dimensions : Length: 200 meters	The site has a permit to operate; this permit contains limitations and conditions to operate in an	Explicit approval	9 300 ⁽²⁾	27 September 2021

		<p>Width: 33 meters</p> <p>Depth: 6 meters</p> <p>Height: 45 meters (Botlekbridge)</p> <p>Recycling operations start on water to make the hull lighter; the winch to haul ships on the ramp can pull 2 000 tonnes.</p>	environmental sound manner.			
NORWAY						
<p>AF Offshore Decom</p> <p>Raunesvegen 597, 5578 Nedre Vats Norway</p>	Dismantling at quay and subsequent skidding of hull to quay.	Ships as defined in point (1) of Article 3(1) of	See national permit No 2005.0038.T	Explicit approval	20 000 ⁽²³⁾	28 January 2024

<p>https://afgruppen.no/selskaper/af-offshore-decom/</p>	<p>Waste management and scrapping on impermeable surface with effective drainage systems.</p>	<p>Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 290 meters Depth: 23 meters AF can also receive semi-submersible rigs and platforms</p>				
<p>Green Yard AS Angholmen, 4485 Feda, Norway www.greenyard.no</p>	<p>Indoor facility on a slipway. Major dismantling operations must be performed indoors.</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship</p>	<p>See national permit No 2018.0833.T Permit sets limits on work that can be performed outside in order to fit ships</p>	<p>Explicit approval</p>	<p>0 ⁽²⁴⁾</p>	<p>28 January 2024</p>

		<p>dimensions :</p> <p>Width: 25 m</p> <p>Length: No limit</p>	inside indoor facility.			
<p>Kvaerner AS (Stord) Eldøyane 59, 5411 Stord, Norway www.kvaerner.com</p>	<p>Wet berth and slipway. Large vessels will be partly decommissio ned on quay until the hull can be brought up the slipway. All further decommissio ning work on concrete pads with drainage to a water treatment facility.</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions :</p> <p>Length: 230 m</p> <p>Width: No limit</p> <p>Kvaerner can also receive topsides and jacket</p>	See national permit No 2013.0111.T	Explicit approval	60 000 (²⁵)	28 January 2024

		structures and semi-submersible installations				
<p>Lutelandet Industrihamn Lutelandet Offshore AS 6964 Korssund, Norway www.lutelandetoffshore.com</p>	<p>Dismantling along the quayside, lifted onshore for scrapping on impermeable surface with drainage and treatment systems.</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Any ship within the dimensions authorized within the permit. Lutelandet can also receive topsides and jacket structures and semi-submersible installations</p>	<p>See national permit No 2014.0646.T</p>	<p>Explicit approval</p>	<p>7 000 ⁽²⁾₆₎</p>	<p>28 January 2024</p>

<p>Norscrap West AS Hanøytangen 122, 5310 Hauglandhella, Norway www.norscrap.no</p>	<p>Floating slipway. Optional depending on complexity, in addition: 1 Dismantling by quay and subsequent scrapping on impermeable floors with effective draining system 2. Drydock</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions : Length: 150 m Width: 34 m LDT: 8 000 tons floating slipway. Increasing based upon methods of recycling.</p>	<p>See national permit No 2017.0864.T</p>	<p>Explicit approval</p>	<p>4 500 ⁽²⁾₍₇₎</p>	<p>1 March 2024</p>
<p>PORTUGAL</p>						

<p>Navalria — Docas, Construções e Reparações Navais</p> <p>Porto Comercial, Terminal Sul, Apartado 39, 3811-901 Aveiro Portugal Phone: +351 234 378 970, +351 232 767 700 Email: info@navalria.pt</p>	<p>Drydock dismantling, decontamination and dismantling on a horizontal plane and inclined plane, according to the ship's size</p>	<p>Nominal capacity of the horizontal plane: 700 tonnes</p> <p>Nominal capacity of the inclined plane: 900 tonnes</p>	<p>Conditions applied to the activity are defined in specifications annexed to Title AL n.º 5/2015/CCD RC, of 26 January 2016</p>	<p>Explicit approval</p>	<p>1 900 ⁽²⁾₈₎</p>	<p>26 January 2020</p>
FINLAND						
<p>Turun Korjaustelakka Oy (Turku Repair Yard Ltd)</p> <p>Navirentie, 21110 Naantali Finland Phone: +358 2 44 511 Email try@turkurepairyard.com</p>	<p>Alongside, drydock</p>	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013</p> <p>Maximum ship dimensions :</p> <p>Length: 250 meters</p>	<p>The limitations are included in the national environmental permit.</p>	<p>Explicit approval</p>	<p>20 000 ⁽²⁹⁾</p>	<p>1 October 2023</p>

		Width: 40 meters Draught: 7,9 meters				
UNITED KINGDOM						
Able UK Limited Teesside Environmental Reclamation and Recycling Centre Graythorp Dock Tees Road Hartlepool Cleveland TS25 2DB United Kingdom Phone: +44(0)1642 806080 Email: info@ableuk.com	Ship dismantling and associated treatment authorised with dry dock and wet berth	Any ship within the dimensions authorised within the permit. Maximum ship dimensions : Length: 337.5 meters Beam: 120 meters Draft: 6,65 meters	The facility has a Ship Recycling Facility Plan that meets the requirements of Regulation (EU) No 1257/2013. The site is authorised by way of a permit (Reference EPR/VP3296Z M) that limits the operations and places conditions on the operator of the facility.	Explicit approval	66 340 ⁽³⁰⁾	6 October 2020

<p>Dales Marine Services Ltd Imperial Dry Dock Leith Edinburgh EH6 7DR Contact: Phone: +44(0)131 454 3380 Email: leithadmin@dalesmarine.co.uk; b.robertson@dalesmarine.co.uk</p>	<p>Ship dismantling and associated treatment authorised within a drydock, and wet berth</p>	<p>Any ship up to a maximum of 7 000 tonnes Maximum ship dimensions : Length: 165 meters Beam: 21 meters Draft: 7,7 meters</p>	<p>The facility has a Ship Recycling Facility Plan that meets the requirements of Regulation (EU) No 1257/2013. The site is authorised by way of a licence (Ref: WML L 1157331) that limits the operations and places conditions on the operator of the facility.</p>	<p>Explicit approval</p>	<p>7 275 ⁽³⁾₁₎</p>	<p>2 November 2022</p>
<p>Harland and Wolff Heavy Industries Limited Queen's Island Belfast BT3 9DU United Kingdom Phone: +44(0)2890 458456</p>	<p>Ship dismantling and associated treatment authorised with dry dock, and wet berth</p>	<p>Any ship with the dimensions detailed in the agreed Working Plan.</p>	<p>The facility has a Ship Recycling Facility Plan that meets the requirements of Regulation</p>	<p>Explicit approval</p>	<p>13 200 ⁽³²⁾</p>	<p>3 August 2020</p>

<p>Email: trevor.hutchinson@harland-wolff.com</p>		<p>Maximum ship dimensions :</p> <p>The main dock (the largest) is 556 m × 93 m × 1,2 m DWT, and can take vessels up to this size. This largest dry dock is 1,2 million DWT.</p>	<p>(EU) No 1257/2013.</p> <p>The site is authorised by way of a waste management licence, authorisation number LN/07/21/V2 that limits the operations and places conditions on the operator of the facility.</p>			
<p>Swansea Drydock Ltd Prince of Wales Dry Dock Swansea Wales SA1 1LY United Kingdom Phone: +44(0)1792 654592 Email: info@swanseadrydocks.com</p>	<p>Ship dismantling and associated treatment authorised with dry dock, and wet berth</p>	<p>Any ship within the dimensions authorised within the permit. Maximum ship dimensions :</p>	<p>Site has a Ship Recycling Facility Plan that meets with the requirements of Regulation (EU) No 1257/2013.</p> <p>The site is authorised by</p>	<p>Explicit approval</p>	<p>7 275 ⁽³⁾₃₎</p>	<p>2 July 2020</p>

		Length: 200 meters Beam: 27 meters Draft: 7 meters	way of a permit (Reference EPR/UP3298V L) that limits the operations and places conditions on the operator of the facility.			
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PART B

Ship recycling facilities located in a third country

Name of the facility	Method of recycling	Type and size of ships that can be recycled	Limitations and conditions under which the ship recycling facility operates, including as regards hazardous waste management	Details on the explicit or tacit procedure for the approval of the ship recycling plan by the competent authority ⁽³⁴⁾	Maximum annual ship recycling output, calculated as the sum of the weight of ships expressed in LDT that have been recycled in a given year in	Date of expiry of inclusion in the European List ⁽³⁶⁾

					that facility ⁽³⁵⁾	
TURKEY						
Isiksan Gemi Sokum Pazarlama Ve Tic. Ltd Sti. Gemi Söküm Tesisleri Parcel 22 Aliğa İzmir 35800 Turkey Phone: +90 232 618 21 65 Email: info@isiksangemi.com	Landing method	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions: Length: no limit Width: 75 meters Draught: 17 meters	The site has a Ship Dismantling Permit, issued by the Ministry of Environment and Urban Planning, and a Ship Dismantling Authorisation Certificate, issued by the Ministry of Transport, Maritime Affairs and Communication, which contain limitations and conditions under which	Tacit approval The ship recycling plan (SRP) is part of a set of documents, surveys and permits/licenses that are submitted to the competent authorities in order to obtain permission to dismantle a ship. The SRP is neither explicitly approved nor rejected as a standalone document.	91 851 ⁽³⁷⁾	7 July 2024

			the facility operates. Hazardous wastes are handled by SRAT (Ship Recycling Association of Turkey) which operates under the necessary licence issued by the Ministry of Environment and Urban Planning.			
<p>LEYAL GEMİ SÖKÜM SANAYİ ve TİCARET LTD.</p> <p>Gemi Söküm Tesisleri, Parcel 3-4 Aliaga, Izmir 35800, Turkey Phone: +90 232 618 2030 Email: info@leyal.com.tr</p>	Landing method	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship	The site has a Ship Dismantling Permit, issued by the Ministry of Environment and Urban Planning, and a Ship Dismantling Authorisation	Tacit approval The ship recycling plan (SRP) is part of a set of documents, surveys and permits/licences that are submitted to the competent	55 495 ⁽³⁸⁾	9 December 2023

		<p>dimension s:</p> <p>Length: no limit</p> <p>Width: 100 meters</p> <p>Draught: 15 meters</p>	<p>Certificate, issued by the Ministry of Transport, Maritime Affairs and Communication, which contain limitations and conditions under which the facility operates.</p> <p>Hazardous wastes are handled by SRAT (Ship Recycling Association of Turkey) which operates under the necessary licence issued by the Ministry of Environment and Urban Planning.</p>	<p>authorities in order to obtain permission to dismantle a ship.</p> <p>The SRP is neither explicitly approved nor rejected as a standalone document.</p>		
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<p>LEYAL-DEMTAŞ GEMİ SÖKÜM SANAYİ ve TİCARET A.Ş.</p> <p>Gemi Söküm Tesisleri, Parcel 25 Aliaga, İzmir 35800, Turkey Phone: +90 232 618 2065 Email: demtas@leyal.com.tr</p>	Landing method	<p>Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013</p> <p>Maximum ship dimension s:</p> <p>Length: no limit</p> <p>Width: 63 meters</p> <p>Draught: 15 meters</p>	<p>The site has a Ship Dismantling Permit, issued by the Ministry of Environment and Urban Planning, and a Ship Dismantling Authorisation Certificate, issued by the Ministry of Transport, Maritime Affairs and Communication, which contain limitations and conditions under which the facility operates.</p> <p>Hazardous wastes are handled by SRAT (Ship Recycling</p>	<p>Tacit approval</p> <p>The ship recycling plan (SRP) is part of a set of documents, surveys and permits/licences that are submitted to the competent authorities in order to obtain permission to dismantle a ship.</p> <p>The SRP is neither explicitly approved nor rejected as a standalone document.</p>	50 350 ⁽³⁹⁾	9 December 2023
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			Association of Turkey) which operates under the necessary licence issued by the Ministry of Environment and Urban Planning.			
UNITED STATES OF AMERICA						
International Shipbreaking Limited L.L.C 18601 R.L Ostos Road Brownsville TX, 78521 United States Phone: 956-831-2299 Email: chris.green@internationalshipbreaking.com robert.berry@internationalshipbreaking.com	Alongside (wet berth), slope	Ships as defined in point (1) of Article 3(1) of Regulation (EU) No 1257/2013 Maximum ship dimensions: Length: 335 meters	The conditions under which the facility is authorised to operate are defined in permits, certificates and authorisations issued to the facility by the Environmental Protection Agency, the Texas Commission	There is currently no procedure in US law related to the approval of ship recycling plans	120 000 (4 ⁰)	9 December 2023

		<p>Width: 48 meters Draught: 9 meters</p>	<p>of Environmental Quality, the Texas General Land Office and the U.S Coast Guard. The U.S. Toxic Substances Control Act prohibits the import into the US of foreign flagged vessels that contain PCB concentrations greater than 50 parts per million. The facility has two slips with ramps for final vessel recycling (East Slip and West Slip). Ships flying a flag of EU Member States shall be</p>			
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			recycled exclusively on the East Slip ramp.			
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ANNEXURE 6: Chapter 6

Maritime Conventions and Treaties Containing the Word 'ship'

1. UNCLOS	The words vessel and ship are used interchangeably while the French, Russian and Spanish translations use only one term but no definition is given ⁹⁷³
2. STCW Convention Article 1(i) ⁹⁷⁴	<p><i>Seagoing ship</i> means a ship other than those which navigate exclusively in inland waters or in waters within, or closely adjacent to, sheltered waters or areas where port regulations apply</p> <p><i>Fishing vessel</i> means a vessel used for catching fish, whales, seals, walrus or other living resources of the sea</p>
3. International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS 1974) Article II	The present Convention shall apply to ships entitled to fly the flag of States the Governments of which are Contracting Governments
4. MARPOL, 73 Article 2(4)	'ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms
5. Hague-Visby Rules 1924 ⁹⁷⁵ Article 1(d)	'ship' means any vessel used for the carriage of goods by water (Under these rules the vessel must be sea-going, employed for the carriage of goods, self-propelled and with adequate crew and supplies for the voyage ⁹⁷⁶)

⁹⁷³ Haijiang Yang, Jurisdiction of the Coastal State over Foreign Merchant Ships in Internal Waters and the Territorial Sea 10 (2006).

⁹⁷⁴ The same definitions with minor alterations are found in International Convention on Standards of Training, Certification and Watchkeeping for Fishing Vessel Personnel (STCW-F), *adopted* July 7 1995 (entered into force April 28 1984).

⁹⁷⁵ International Convention for the Unification of Certain Rules of Law relating to Bills of Lading and Protocol of Signature, *opened for signature* August 25 1924, 120 L.N.T.S. 155 (entered into force June 2 1931).

⁹⁷⁶ Francesco Berlingieri, International maritime conventions: Volume 1: The Carriage of Goods and Passengers by Sea 13 (1 ed. 2014).

6. Accommodation of Crews Convention (Revised) 1949 (No 92), Article 2(a)	The term ship means a vessel to which the Convention applies (namely “every sea-going mechanically propelled vessel, whether publicly or privately owned, which is engaged in the transport of cargo or passengers for the purpose of trade and is registered in a territory for which this Convention is in force” ⁹⁷⁷)
7. International Convention for the Prevention of Pollution of the Sea by Oil 1954 Article 1 (1)	‘Ship’ means any sea-going vessel of any type whatsoever, including floating craft, whether self-propelled or towed by another vessel, making a sea voyage; and ‘tanker’ means a ship in which the greater part of the cargo space is constructed or adapted for the carriage of liquid cargoes in bulk and which is not, for the time being, carrying a cargo other than oil in that part of the cargo space
8. Convention on the High Seas 1958 ⁹⁷⁸	Contains no definition of ship even though it uses the word ninety-four times and discusses various types of ships including warships, mother ships, pirate ships and merchant ships
9. International Convention for the Unification of Certain Rules Relating to the Carriage of Passengers by Sea and Protocol 1961, Article 1(d)	‘ship’ means only seagoing ship
10. Intervention 1969, ⁹⁷⁹	2. ‘ship’ means: (a) any sea-going vessel of any type whatsoever, and (b) any floating craft, with the exception of an installation or device engaged in the exploration and

⁹⁷⁷ Accommodation of Crews Convention (Revised) (No 92), art.1(1), *adopted* June 18 1949, entered into force January 29 1953).

⁹⁷⁸ Convention on the High Seas, *opened for signature* April 29 1958, 450 U.N.T.,S., 11 (entered into force September 30 1962).

⁹⁷⁹ International Convention' Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties, *opened for signature* November 29 1969, U.N.T.S. 14049 (entered into force May 6 1975).

Article II 2(a) and (b)	exploitation of the resources of the sea-bed and the ocean floor and the subsoil thereof.
11. International Convention on Civil Liability for Oil Pollution Damage, 1969, Article 1	'ship' means any sea-going vessel and seaborne craft of any type whatsoever constructed or adapted for the carriage of oil in bulk as cargo, provided that a ship capable of carrying oil and other cargoes shall be regarded as a ship only when it is actually carrying oil in bulk as cargo and during any voyage following such carriage unless it is proved that it has no residues of such carriage of oil in bulk aboard (It has been concluded this definition excludes Floating, Storage and Offloading vessels ("FSO") ⁹⁸⁰)
12. Convention on the International Regulations for Preventing Collisions at Sea 1972 Rule 3 (a) ⁹⁸¹	The word "vessel" includes every description of water craft, including non-displacement craft, WIG craft and seaplanes, used or capable of being used as a means of transportation on water
13. INMARSAT 1976, Article 1(f) ⁹⁸²	'ship' means a vessel of any type operating in the marine environment. It includes <i>inter alia</i> hydrofoil boats, air-cushion vehicles, submersibles, floating craft and platforms not permanently moored
14. Athens Convention (PAL) ⁹⁸³ 1974, Article 1 (3)	'ship' means only a seagoing vessel, excluding an air-cushion vehicle
15. International Convention on	Vessel means any ship or craft, or any structure capable of navigation

⁹⁸⁰ Vaughan Lowe, Report On The Interpretation Of The Term 'Ship' In The 1992 Civil Liability Convention, para 1 (2011), <http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/> (last visited April 1, 2019).

⁹⁸¹ Convention on the International Regulations for Preventing Collisions at Sea, rule 3, *opened for signature* October 20 1972, 1050 U.N.T.S. 16 (entered into force July 15 1977).

⁹⁸² Convention on the International Maritime Satellite Organization (INMARSAT), *opened for signature* September 3 1976, 1143 U.N.T.S. I-17948 (entered into force July 16 1979).

⁹⁸³ Athens Convention relating to the Carriage of Passengers and their Luggage by Sea (PAL), *opened for signature* December 13 1984, 1463 U.N.T.S. 20 (entered into force April 23 2014).

Salvage 1989, Article 1(b) ⁹⁸⁴	
16. International Convention on Oil Pollution Preparedness, Response and Co-operation 1990, Article 2(3)	'ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, and floating craft of any type
17. 1992 Helsinki Convention, Article 2(3)	'ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms
18. International Convention on Civil Liability for Bunker Oil Pollution Damage 2001, Article 1	'ship' means any seagoing vessel and seaborne craft, of any type whatsoever (It has been concluded this definition excludes Floating, Storage and Offloading vessels ("FSO") ⁹⁸⁵)
19. International Convention on the Control of Harmful Anti-fouling Systems on Ships 2001 Article 2(9)	'ship' means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, floating storage units (FSUs) and floating production storage and off-loading units (FPSOs).
20. 2004 International Convention for the Control and	'Ship' means a vessel of any type whatsoever operating in the aquatic environment and includes submersibles, floating craft, floating platforms, FSUs and FPSOs.

⁹⁸⁴ International Convention on Salvage, *opened for signature* April 28 1989, 1953 U.N.T.S. 165 (entered into force July 14 1996).

⁹⁸⁵ Vaughan Lowe, Report On The Interpretation Of The Term 'Ship' In The 1992 Civil Liability Convention, para 1 (2011), <http://documentservices.iopcfunds.org/meeting-documents/download/docs/3535/lang/en/> (last visited April 1, 2019)..

Management of Ships' Ballast Water and Sediments, Article 1(12)	
21. 2005 SUA Convention ⁹⁸⁶ , Article 2.1(a)	'Ship' means a vessel of any type whatsoever not permanently attached to the sea-bed, including dynamically supported craft, submersibles, or any other floating craft
22. Maritime Labour Convention 2006, Article II(i)	<i>Ship</i> means a ship other than one which navigates exclusively in waters within, or closely adjacent to, sheltered areas or areas where port regulations apply
23. Special Purpose Ship Code 2008, 1.3.12	'Special purpose ship' means a mechanically self-propelled ship which by reason of its function carries on board more than 12 special personnel ⁹⁸⁷
24. Guidelines for Ships Operating in Polar Waters 2010, G-3.23	Ship means any vessel required to comply with the 1974 SOLAS Convention ⁹⁸⁸
25. Guidelines For Survey And Certification Of Anti-Fouling Systems On Ships 2010, s 2.7	Ship means a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft, fixed or floating platforms, floating storage units (FSUs) and floating production storage and off-loading units (FPSOs)
26. The Nairobi International Convention on the Removal of	Ship means a seagoing vessel of any type whatsoever and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and <i>Wreck Removal Convention Act 2011 (c. 8) Schedule — Wreck Removal Convention</i> 11 floating platforms,

⁹⁸⁶ Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, Protocol for the Suppression of Unlawful Acts Against the Safety of Fixed Platforms Located on the Continental Shelf, *opened for signature* March 10 1988, 1678 U.N.T.S. I-29004 (entered into force March 1 1992).

⁹⁸⁷ Maritime Safety Committee, *Code Of Safety For Special Purpose Ships 2008*, Resolution MSC.266(84), MSC 84/24/Add.2, Annex 17 para 1.3.12.

⁹⁸⁸ International Convention for the Safety of Life at Sea, *opened for signature* November 1 1974, 1184 U.N.T.S. I-18961 (entered into force May 25 1980).

Wrecks, s 2 (entered into force 14 April 2015)	except when such platforms are on location engaged in the exploration, exploitation or production of seabed mineral resources.
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ANNEXURE 7: Chapter 6

Number of Occurrences of Individual Terms in Definitions in Ratified Conventions

Term	Category	Number of Occurrences
Seagoing	where	10
Navigate	Navigate	3
Flags contracting gov	registration	1
Operate	Function / work / task	9
Marine environment	where	6
Hydrofoil boats	type	7 (listed as a type of ship included in definition)
Air cushion vehicles	type	8 (1 excluding) excl 1
Submersibles	type	9 (listed as a type of ship included in definition)
Floating craft	type	11 (listed as a type of ship included in definition)
Fixed or floating platforms	type	8 (listed as a type of ship included in definition)
Self-propelled	how	4 (1 referring to mechanically)
Used in seaborne trade	Function	2
Transport goods	function	3
Excl < 500 GT	size	1
Seaborne craft	how	2
Carriage of oil as cargo	Function	1
Required to comply with SOLAS	registration	1

FSU FPOS	Type	2
VESSEL	type	27
Transport passengers or goods	function	5
> 12 crew	manning	2
On water, aquatic	where	2
Platforms not permanently moored	type	2
Towed	how	1
Sea voyage	purpose	1
Seagoing "other than those which navigate exclusively in inland waters or in waters within, or closely adjacent to, sheltered waters or areas where port regulations apply"	where	3

ANNEXURE 8: Chapter 7

Comparative and Qualitative Contractual Analysis: SALEFORM 2012

1. TITLE:

“Norwegian Shipbrokers’ Association’s Memorandum Agreement for sale and purchase of ships”

Parties to contracts are aware ‘that unless they use the proper language in expressing their intentions, they will fail of legal effect’⁹⁸⁹ and the first place to look to identify intention is the title of the document, which here clearly states that this is an “..agreement for the sale and purchase of ships”.

2. Lines 2 and 3: Parties to the transaction

The Buyer and Seller details.

3. Lines 4 to 10 identify the vessel and its specifications

a. Line 4: name of vessel

This identifies which ship is being sold by the name under which it is currently sailing.

b. Line 5: IMO number

This is a permanent number allocated to a vessel for identification purposes and has been mandatory since 1996. It enables identification of exactly which ship is the subject of the transaction despite any possible name changes.

c. Line 6: Classification Society

Classification societies are staffed by marine surveyors and provide classification and other services to the maritime industry and regulatory bodies as regards maritime safety and pollution prevention⁹⁹⁰ by setting the build specification for a particular type of ship and then surveying the ship at regular intervals to ensure it continues to comply with the rules and requirements of its Class⁹⁹¹. Holding a certificate of classification attests that a ship complies with the Rules developed and published by the Society issuing the classification certificate⁹⁹² for that type of vessel. ‘Most buyers will rely upon the accuracy of the ship’s classification records and upon the certificate typically provided at delivery confirming that the ship is in class, free from conditions or recommendations imposed by the ship’s Classification Society’⁹⁹³. A ship can

⁹⁸⁹ Duncan Kennedy, ‘Form and substance in private law adjudication’ (1976) 89(8) *Harvard Law Review* 1685, 1743.

⁹⁹⁰ ‘Classification societies - what, why and how?’ (Information Paper, International Association of Classification Societies, January 2015) 4.

⁹⁹¹ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 42.

⁹⁹² ‘Classification societies - what, why and how?’ (Information Paper, International Association of Classification Societies, January 2015) 4.

⁹⁹³ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 41.

be detained in port or lose its insurance and a buyer's financiers may refuse to lend if it is not operating in Class, as this and an inspection report are generally the only measures of the condition of the ship. Knowledge of the ship's condition is critical to the buyer in terms of determining the value of the ship and assessing future costs once ownership is transferred.

d. Line 7: class notation

Class notation is the ship's full classification description and identifies whether a ship meets voluntary criteria additional to the requirements of its Class Societies' Rules either specific to its vessel type or exceeding standard classification requirements⁹⁹⁴. This may change during a ship's life if it changes its use through modifications or changes in trade. It is important to ensure this is accurate and will remain so until ownership is transferred⁹⁹⁵.

e. Line 8: Year of Build and Builder / Yard

The year of build is 'significant for valuation and insurance purposes and ... may, in certain trades with age of tonnage reservations, be significant for operational reasons'⁹⁹⁶. The Builder and Yard can be useful information for the buyer if there are different perceptions of quality associated with different builders and yards or if major modifications have been undertaken to the ship.

f. Line 9: Flag, Place of Registration and GT/NT:

- i. GT: Gross tonnage refers to vessels not cargo and is determined by dividing by 100 the contents, in cubic feet, of the vessel's closed-in spaces. A vessel ton is 100 cubic feet.
- ii. NT: Net Tonnage is a vessel's gross tonnage minus deductions of space occupied by machinery, the engine room and fuel, for navigation, and accommodations for crew, and represents the space available for the accommodation of passengers and the stowage of cargo⁹⁹⁷.

4. Lines 11 to 27

Definitions of terms used in the Agreement.

5. Cl 1: purchase price

The agreed value of the ship at the time of this transaction. The market value of the ship is determined with reference to a variety of factors including: existing market conditions such as the price fetched by similar ships; the reputation of a ship's owner and managers;

⁹⁹⁴ 'Classification societies - what, why and how?' (Information Paper, International Association of Classification Societies, January 2015) 15.

⁹⁹⁵ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 83.

⁹⁹⁶ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 83.

⁹⁹⁷ 'Ship Tonnage Explained - Displacement, Deadweight, Cargo, Gross, Etc.', *GG Archives* (Web Page, 2019) <<https://www.gjenvick.com/OceanTravel/ShipTonnage/1932-06-28-ShipTonnageExplained.html>>.

special characteristics of the ship's design or existing charters that may carry over through the transfer of ownership; availability of finance (which can be affected by a ship's age); the physical condition of the ship and its machinery; any previous sale price if the ship has been sold previously on the second-hand market⁹⁹⁸. Inclusions in and exclusions from the purchase price are detailed in Clause 7.

6. Cl 2: deposit

Explains the amount and terms of the deposit payment to be lodged with the identified Deposit Holder. The Deposit Holder needs to be identified as there can be an extended period between deposit and transfer of ownership. The Deposit Holder also needs to be neutral for each party to be reassured that the funds are safe in the case of a contested breach.

7. Cl 3: payment

Specifies when and where payment of the purchase price must be made, stating it must be no later than 3 days after a Notice of Readiness has been provided under Cl 5. A Notice of Readiness is a 'notice to the Charterer, shipper, receiver or other person as required by the charter that the ship has arrived at the port or berth as the case may be and is ready to load/discharge'⁹⁹⁹ and may only be issued when the ship is physically ready for delivery as per Cl 5.

8. Cl 4: Inspection: Cl 4a and Cl 4b are alternatives for the buyer and only one should be selected.

- a. Cl 4a: confirms the buyer has inspected the vessel and accepted the vessel condition 'as is' following inspection and that the sale is unconditional post inspection;
- b. Cl 4b: confirms the sale is subject to the buyer's inspection of the classification records and provides the deadline by which any issues with same must be declared.

The rest of Cl 4 specifies the terms of the inspection:

- c. The seller is obliged to make the vessel available for the buyer's inspection and must provide deck and engine log books;
- d. The buyer can inspect but may not open up the vessel, and is liable to compensate the seller for any losses caused by delays due to the inspection;
- e. Acceptance of the vessel must be specified within 3 days of inspection.

There are three phases to inspections: a review of class records; a visual inspection on board ship by a surveyor which can include ultrasonic measurements, reviewing log

⁹⁹⁸ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) 2-4.

⁹⁹⁹ Evi Plomaritou, Anthony Papadopoulos, *Shipbroking and Chartering Practice*, Taylor & Francis, 12 Dec 2017, para 15.12.

books and certificates and reviewing the ship's performance and trading history with the Master and Chief Engineer; the surveyor's report.

9. Cl 5: Delivery

- a. Cl 5a: Requires the vessel be delivered and taken over safely afloat at a safe and accessible berth or anchorage at an agreed place and states the earliest date by which a Notice of Readiness may be provided. 'Delivered and taken over' refers to the two steps required to complete delivery under SALEFORM 2012: the seller tenders the ship for delivery and the buyer accepts delivery and takes physical control of the ship. 'Safely afloat' confirms the ship is expected to be in a condition suitable for ongoing sailing and references the buyer's entitlements to inspect the ship (Cl 6) prior to accepting delivery.
- b. Cl 5b: places an obligation on the seller to keep the buyer apprised of the vessel's itinerary and provides a countdown of notifications required to be given to the buyer prior to delivery of the Notice of Readiness, which is to be issued when the vessel reaches its place and condition of delivery. This is to allow the buyer to make arrangements to transfer ownership such as (re)flagging, organising the arrival of crew, arranging pre-delivery inspections, preparing papers and finance etc.
- c. Cl 5c and 5d: provide the terms under which the delivery date may be extended or cancelled:
 - i. Cl 5c: imposes an obligation on the seller that the buyer must be notified if the vessel will not be ready for delivery by the cancelling date and a new cancelling date proposed which the Buyer has the option of rejecting;
 - ii. Cl 5d: acceptance or rejection of the cancellation date does not affect the buyer's right to claim damages arising from any delay of delivery of the vessel.
- d. Cl 5e: allows complete cancellation of the agreement should the vessel become an actual, constructive or compromised loss prior to delivery.
 - i. An actual loss occurs where the vessel is so damaged or destroyed that it is no longer 'a thing of the kind insured under the owner's insurance policy or where the owner is irretrievably deprived of the ship';¹⁰⁰⁰

¹⁰⁰⁰ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) para 5.23.15.

- ii. A constructive loss occurs where the ship is reasonably abandoned, either because its total loss was unavoidable or because the cost of avoiding total loss exceeds its insured value;¹⁰⁰¹
 - iii. A compromised loss occurs where there is neither total nor constructive loss but the cost of repairs does not justify the expenditure¹⁰⁰².
10. Cl 6(a) and (b): offers the alternative options of a Classification Society approved divers' inspection in the presence of a Classification society surveyor or a dry dock inspection by the Classification Society's surveyor to examine the underwater parts of the ship. The inspection is to the satisfaction of the Classification Society to confirm the ship's condition meets its class requirements, making it suitable for ongoing sailing. Cl 6(c)9iii) allows the buyer's representative to be present during inspection as an observer only.
- a. Cl 6 (a)(i): Divers Inspection: the buyer pays for the divers to undertake an underwater inspection and the seller must make the vessel available at the seller's own expense for said inspection and pay for a Classification Society surveyor to attend;
 - b. Cl 6(a)(ii): if the inspection reveals the condition of any underwater parts to be below the standard required by the vessel's class, then an obligation is imposed on the seller to have such parts repaired or replaced to meet the Classification Society's requirements. If the repairs do not require rectification before the next dry dock survey, their costs are to be deducted from the purchase price.
 - c. Cl 6(b) requires the seller to place the ship in drydock for inspection. If repairs are needed they are to the seller's expense but in all other cases, the buyer is liable for expenses.
11. Cl 7: Under this clause:
- a. ownership and possession of the following are transferred automatically to the buyer at no cost:
 - i. all spare parts and spare equipment on the vessel and on shore, including any parts that may may have been replaced but excluding parts on order;
 - ii. any unused stores and provisions;
 - b. ownership and possession of the following are transferred automatically to the buyer at a cost based on invoices or net market price:

¹⁰⁰¹ Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) para 5.23.15.

¹⁰⁰² Iain Goldrein, *Ship Sale and Purchase* (London Informa, 6th ed, 2012) para 5.23.15.

- i. remaining bunkers and unused lubricating and hydraulic oils and greases in storage tanks and unopened drums;
 - c. and possession of the following are not transferred to the buyer:
 - i. library and forms for exclusive use in the seller's vessel;
 - ii. items owned by hirer's or third parties and listed on the contract;
 - iii. items owned by hirer's or third parties and not listed on the contract have to be replaced by the seller at the seller's expense.
- 12. Cl 8(a): at settlement the seller is obligated to provide the buyer with various documents including:
 - i. legal bills of sale transferring free title to the buyer;
 - ii. Certificate or Transcript of Registry;
 - iii. Declaration of Class issued within 3 banking days prior to delivery confirming the vessel is free of conditions or recommendations of class (ie the ship is in class and does not require any repairs or modifications);
 - iv. written confirmation the vessel will be or has been deleted from the Vessel's registry;
 - v. a copy of the vessel's Continuous Synopsis Record (an on board log that lasts the duration of the ship's life and records "all changes of owner, flag, name, Class, ISM etc"¹⁰⁰³);
 - vi. commercial invoice for the vessel;
 - vii. commercial invoice for bunkers, lubricating and hydraulic oils and greases;
 - viii. confirmation the vessel's contract with its satellite communication provider has been cancelled;
 - ix. any additional documents as may be required by the buyer's Flag State to enable registration of the vessel;
 - x. written confirmation that the vessel is not blacklisted by any state or organisation;
 - xi. copies of the ship's log (the seller may keep the originals).
- b. Cl 8(e): the seller is obligated to provide the buyer with classification certificates and all plans, drawings and manuals on board the vessel;
- c. Cl 8(f): other technical documentation held by the seller is to be forwarded to the buyer and the buyer is entitled to the log books or copies of same.

¹⁰⁰³ 'Guidance for companies on continuous synopsis record (CSR)' (Guidelines No MSF 5623 rev 0314, UK Maritime and Coastguard Agency) 1.

13. CI 9: the seller is obligated to provide written confirmation that the vessel is free from any and all encumbrances and to indemnify the buyer from any future claims incurred prior to delivery
14. CI 10: taxes, fees and expenses
 - a. this clause allocates all obligations to pay taxes and fees for purchase and registration in the buyer's state to be the responsibility of the buyer, and all similar charges concerning closing of registration to be for the seller's account.
15. CI 11: condition on delivery
 - a. The effect of this clause is that 'the risk and expense of loss, deterioration or damage to the ship remain with the seller until the ship is delivered to the buyer.
 - b. this clause places an obligation on the seller to deliver the vessel:
 - i. free of cargo and stowaways;
 - ii. with Class maintained without condition / recommendation;
 - iii. free of damage;
 - iv. with valid and unextended classification and national certificates as had at the time of inspection.
16. CI 12: Name / markings
 - a. This clause imposes an obligation on the buyer to change the vessel's name and funnel markings upon delivery.
17. CI 13: Buyer's default

Entitles the seller to cancel the agreement and claim compensation for losses and expenses should the buyer fail to pay the deposit, or should the buyer fail to pay the remainder of the purchase price and the deposit not cover the expenses and losses.
18. CI 14: Seller's default: the seller is liable to compensate the buyer for any loss and expenses

If the seller fails to provide a notice of readiness or to be ready to complete the transfer by the cancelling date the buyer may cancel the agreement;

If the vessel ceases to be physically ready for delivery after the notice of readiness is given but prior to delivery and the seller fails to make it ready for delivery, the buyer retains the right to cancel the agreement;

If the seller's failure is due to negligence.
19. CI 15: buyer's representatives

Under this clause the buyer is entitled to place two representatives on board the ship after the agreement has been signed and the deposit lodged, at the buyer's expense and for the sole purpose of familiarisation and in the capacity of observers only and this is accompanied by an obligation on both parties to sign the standard indemnity form of the seller's P&I.

20. CI 16: law and arbitration

- a. CI 16(a): this clause provides that the agreement is governed and constituted in accordance with English law and any disputes are referred to arbitration in London in accordance with the Arbitration Act 1996, and then provides details on how such arbitration would proceed; or
- b. CI 16(b): this clause provides that the agreement is governed and construed in accordance with Title 9 of the United States Code and the substantive law of the State of New York and any dispute is to be dealt with under the rules of the Society of Maritime Arbitrators; or
- c. CI 16(c): allows for the parties to nominate any state under whose law the agreement shall be governed, and not to nominate any location and its associated rules for arbitration of any dispute.

21. CI 17: Notices

Details for recipients of notices on behalf of the buyer and the seller.

22. CI 18: entire agreement

Confirms the written agreement represents the entire agreement between the parties and supersedes all others

MEMORANDUM OF AGREEMENT

Norwegian Shipbrokers' Association's
Memorandum of Agreement for sale and
purchase of ships, Adopted by BIMCO in 1956.
Code-name
SALEFORM 2012
Revised 1966, 1983 and 1986/87, 1993 and 2012

Explanatory Notes for SALEFORM 2012 are available from BIMCO at www.bimco.org

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Dated: _____	1
_____(Name of sellers), hereinafter called the "Sellers", have agreed to sell, and	2
_____(Name of buyers), hereinafter called the "Buyers", have agreed to buy:	3
Name of vessel: _____	4
IMO Number: _____	5
Classification Society: _____	6
Class Notation: _____	7
Year of Build: _____ Builder/Yard: _____	8
Flag: _____ Place of Registration: _____ GT/NT: _____/_____	9
hereinafter called the "Vessel", on the following terms and conditions:	10
Definitions	11
"Banking Days" are days on which banks are open both in the country of the currency stipulated for the Purchase Price in Clause 1 (Purchase Price) and in the place of closing stipulated in Clause 8 (Documentation) and _____ (add additional jurisdictions as appropriate).	12 13 14
"Buyers' Nominated Flag State" means _____ (state flag state).	15
"Class" means the class notation referred to above.	16
"Classification Society" means the Society referred to above.	17
"Deposit" shall have the meaning given in Clause 2 (Deposit)	18
"Deposit Holder" means _____ (state name and location of Deposit Holder) or, if left blank, the Sellers' Bank, which shall hold and release the Deposit in accordance with this Agreement.	19 20
"In writing" or "written" means a letter handed over from the Sellers to the Buyers or vice versa, a registered letter, e-mail or telefax.	21 22
"Parties" means the Sellers and the Buyers.	23
"Purchase Price" means the price for the Vessel as stated in Clause 1 (Purchase Price).	24
"Sellers' Account" means _____ (state details of bank account) at the Sellers' Bank.	25
"Sellers' Bank" means _____ (state name of bank, branch and details) or, if left blank, the bank notified by the Sellers to the Buyers for receipt of the balance of the Purchase Price.	26 27
1. Purchase Price	28
The Purchase Price is _____ (state currency and amount both in words and figures).	29
2. Deposit	30
As security for the correct fulfilment of this Agreement the Buyers shall lodge a deposit of _____% (_____per cent) or, if left blank, 10% (ten per cent), of the Purchase Price (the "Deposit") in an interest bearing account for the Parties with the Deposit Holder within three (3) Banking Days after the date that:	31 32 33 34
(i) this Agreement has been signed by the Parties and exchanged in original or by e-mail or telefax; and	35 36
(ii) the Deposit Holder has confirmed in writing to the Parties that the account has been opened.	37 38
The Deposit shall be released in accordance with joint written instructions of the Parties.	39
Interest, if any, shall be credited to the Buyers. Any fee charged for holding and releasing the Deposit shall be borne equally by the Parties. The Parties shall provide to the Deposit Holder all necessary documentation to open and maintain the account without delay.	40 41 42

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ANNEXURE 9: Chapter 7

Comparative and Qualitative Contractual Analysis: RECYCLECON

1. Title:

'RECYCLECON Standard Contract for the Sale of Vessels for Green Recycling'.

Part 1 of the contract contains the factual elements of the contract while Part II contains the clauses of the contract.

Part 1

2. Box 1: Place and Date of Contract
3. Box 2 and 3: Sellers and buyers details and Places of Business
4. Box 4: Details of the Ship Recycling Facility, described under Definitions in Part II as 'a defined area that is an authorised site, yard or facility ... used for Recycling and that is designed, constructed, and operated in a safe and environmentally sound manner'
5. Boxes 5, 6, 7, 8, 9 and 10: identifying details of the vessel – Name; Type of Vessel; Year and Place Built; Flag, Place of Registry and IMO number
6. Box 11: the Contractual Weight of the vessel as calculated by the Lightweight Displacement Tonnage less the Deductions, described under Definitions in Part II as 'the permanent ballast and other weight deductions stated in Box 11'
7. Box 12: the Purchase Price stated both as a lump sum and as a price per ton of the Contractual Weight listed in Box 11
8. Box 13: Amount of the deposit and where it should be paid
9. Box 14: Details of the seller's bank where the remainder of the purchase price is to be paid
10. Box 15 and 16: Place of Closing and Place of Delivery
11. Box 17 and 18: Earliest date of delivery and Cancelling Date
12. Box 19: Post-delivery assistance broken down into (a) number of days and (b) daily cost, discussed further in CI 11 of Part II
13. Box 20: Dispute Resolution – three options for dispute resolution are offered in CI 22 of Part II
14. Box 21 and 22: Sellers' and buyers' contact details for notices
15. Box 23: The number of additional clauses if any have been agreed between the parties

Part 11

1. Preamble: this states the sellers and buyers as identified in Part 1 have agreed to buy the named vessel on the conditions outlined, which 'include an undertaking to recycle the Vessel in a safe and environmentally sound manner consistent with international and national law and relevant guidelines'. The explanatory notes published by BIMCO explain that many of the terms in this contract referencing environmental requirements are terms from the IMO Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 which has not enough signatories to be in force. 'However, during the interim period the wording of the Convention and the guidelines cannot be strictly applied, which means that the definitions in this Clause and the use of the Convention terminology throughout

the entire contract is applied in a way that is consistent with current commercial practice¹⁰⁰⁴.

2. CI 1: definitions
3. CI 2: provides that this is an outright sale and, as per the Explanatory Notes, the sale is not subject to an inspection and the seller is not liable for any representations, errors, omissions and/or overall condition of the Vessel upon arrival at the Place of Delivery. The Explanatory Notes also recognise that the only inspection under RECYCLECON is generally a pre-contractual one to identify waste material and inventory checking.
4. CI 3: Confirms the Purchase Price is based on the Contractual Weight and payable in USD.
5. CI 4: Details of when and where the Deposit should be paid
6. CI 5: Details of when and where the remainder of the purchase price should be paid
7. CI 6: itemises the documents the sellers have to provide to the buyers:
 - a. A legal bill of sale transferring title and confirming the vessel is free of all encumbrances;
 - b. three (3) commercial invoices signed by the Sellers;
 - c. a certificate or transcript of registry evidencing the ownership of the Vessel on the date of delivery ... dated not earlier than five (5) days prior to Sellers tendering notice of readiness for delivery;
 - d. a written undertaking from the Sellers to apply for and supply to the Buyers a certificate of deletion or closed transcript of registry latest thirty (30) days after delivery of the Vessel;
 - e. a written undertaking by the Sellers to instruct the Master or their agents to promptly release and physically deliver the Vessel to the Buyers;
 - f. the corporate authority of the Sellers according to which they decide the sale of the Vessel and a copy of the power of attorney authorizing the signature of the bill of sale;
 - g. a declaration from the Sellers confirming that at the time of delivery the vessel is free from encumbrances;
 - h. an incumbency certificate or other corporate document listing the directors of the Sellers;
 - i. power of attorney of the Buyers appointing one or more representatives to act on behalf of the Buyers in the performance of this Agreement.
8. CI 7: The sellers are to notify the buyers in advance of the date of delivery by giving fifteen (15), ten (10), seven (7), and three (3) days' notice of the expected time of arrival of the Vessel at the Place of Delivery
9. CI 8: documents to be issued with the Notice of Readiness:
 - a. a certificate issued by a local marine surveyor confirming the LDT of the Vessel as per the original of the valid trim and stability booklet on board the Vessel;
 - b. a valid certificate issued by the relevant authorities on arrival at the Place of Delivery specifying that all the Vessel's cargo tanks, pump rooms and cofferdams are safe for entry and safe for hot work;
 - c. a letter on behalf of the Sellers' stating that there are no pending dues against the Vessel at the time of delivery;

¹⁰⁰⁴ 'RECYCLECON: Standard Contract for the Sale of Vessels for Green Recycling' (Explanatory Notes, BIMCO) 3.

- d. a letter signed and stamped by the Master stating that neither he nor the crew have any outstanding claims against the Vessel.
10. CI 9: Delivery – the vessel should be delivered to the place of delivery ‘under her own power with main engine and all generators in working condition, safely afloat, substantially intact, free of cargo, with anchors in place, unless otherwise described in Annex A (Vessel Details)’. If the place of delivery is inaccessible the buyers shall nominate the nearest safe berth to take ownership. All expenses prior to delivery are to the seller and all expenses after delivery are to the buyer. The Vessel is at the Sellers’ risk and expense until delivered and must be delivered without any stowaways, contraband or arms and ammunition on board.
11. CI 10: the seller shall provide a notice of readiness for delivery on or after the date stated in Box 17 but no later than the date stated in Box 18.
12. CI 11: Post-delivery assistance- Following payment and delivery of the Vessel the Sellers shall assist the Buyers for a period not exceeding the number of days and at the daily cost stated in Box 19 with post-delivery operations reasonably requested by the Buyers, provided the Sellers can arrange for crew as appropriate to remain with the Vessel for such period and obtain crew insurance cover. The Explanatory Notes expand on this, recognising that if delivery occurs at the recycling yard, post-delivery assistance will not be required. However, as the contract does not completely preclude beaching and as only a limited number of yards currently have the capacity to recycle vessels without beaching, post-delivery assistance is provided in most instances to deliver and drive the vessel onto the beach for recycling.
13. CI 12: Removals
- a. The Vessel shall be delivered with everything belonging to her on board without removals other than statutory certificates, hired equipment and those items stated in Annex B (Excluded Items). The Sellers shall also have the right to take ashore without compensation the following items: crockery, cutlery, linen and other articles bearing the Sellers’ flag or name, as well as library, forms, etc., exclusively for use in the Sellers’ vessels.
 - b. The Vessel’s log book shall be excluded from the sale.
 - c. Any remaining bunkers, lubricating oils, stores, equipment and spares used or unused on board at the time of delivery shall become the Buyers’ property without extra payment. The Sellers are not required to replace any material, spare parts or stores which may be consumed or taken out of spare and used as replacement prior to delivery, but all replaced spares shall be retained on board and shall become the property of the Buyers.
 - d. The Sellers shall hand to the Buyers all plans, specifications and certificates, or copies thereof.
14. CI 13: Verification of Light Displacement Tonnage (LDT) – the buyer is entitled to sight a copy of the Vessel’s valid trim and stability booklet to verify the LDT prior to the signing of this Contract. The Sellers must ensure the original trim and stability booklet is on board at the time of tendering the notice of readiness under CI 7. If the Vessel’s trim and stability booklet is not the builders’ trim and stability booklet, the Buyers may request the builders’ trim and stability booklet and any documentation relating to any subsequent modifications of the LDT, if available. The Explanatory Notes stress the importance of the original trim and stability booklet being available: ‘[T]he Buyers are

- buying the vessel and paying the purchase price based on the current LDT, therefore it is an absolute requirement of the contract that the original of the *valid* trim and stability booklet is to be found on board the vessel'¹⁰⁰⁵.
15. CI 14: The Sellers warrant that the Vessel, at the time of delivery, is free from all charters, encumbrances and maritime liens or any debts whatsoever.
 16. CI 15: Charges - Any expenses connected with the purchase of the Vessel are for the Buyers' account, and any charges connected with the closing of the Sellers' register are for the Sellers' account.
 17. CI 16: Buyer's representatives - the buyer is entitled to place up to three (3) representatives on board the Vessel once the deposit has been lodged in accordance with CI 4 but not earlier than fifteen (15) days prior to expected delivery.
 18. C I 17: Purpose of Sale - The Vessel is sold for Recycling only and the Buyers undertake and warrant that the Vessel will be recycled at the Ship Recycling Facility in accordance with the Ship Recycling Facility Plan and the Ship Recycling Plan
 19. CI 18: Safe and Environmentally Sound Recycling –
 - a. at the Sellers' request the buyer must (i) either provide a copy of the Ship Recycling Facility Plan or an attestation that the Ship Recycling Facility has a Ship Recycling Facility Plan and (ii) allow the Sellers to visit the Ship Recycling Facility to review the Ship Recycling Facility Plan and verify that the Ship Recycling Facility is compliant with the Ship Recycling Facility Plan.
 - b. The Sellers must provide the Buyers with Part I of the Inventory of Hazardous Materials as soon as possible after the date of this Contract. The Sellers shall provide the Buyers with provisional Parts II and III of the Inventory of Hazardous Materials as soon as possible after the date of this Contract and final Parts II and III upon delivery of the Vessel. The information contained in the Inventory of Hazardous Materials is given to the best of the Seller's knowledge but always without guarantee. The lack of guarantee is explained in the Explanatory Notes: although it is now becoming standard practice that the building yard produces an inventory of Hazardous Materials and passes it on to the buyers at completion of the build, this is a new practice and only a minor part of the currently trading vessels have such inventory readily available.
 - c. Following the receipt of Part I and the provisional Parts II and III of the Inventory of Hazardous Materials, the buyers shall without undue delay provide the Sellers with the Ship Recycling Plan and ensure that after delivery the Sellers' representatives are allowed to visit the Ship Recycling Facility to ascertain that the Recycling of the Vessel is being conducted in accordance with the Ship Recycling Facility Plan and the Ship Recycling Plan.
 - d. Within two (2) weeks of completion of recycling of the Vessel the buyers must provide the Sellers with a Statement of Completion as per Annex C (Statement of Completion).
 20. CI 19: Exemptions - Neither the Sellers nor the Buyers shall be under any liability if the Vessel should become an actual, constructive or compromised total loss before delivery, or if delivery of the Vessel by the Cancelling Date should otherwise be

¹⁰⁰⁵ 'RECYCLECON: Standard Contract for the Sale of Vessels for Green Recycling' (Explanatory Notes, BIMCO) 6.

- prevented or delayed due to outbreak of war, restraint of Government, Princes, Rulers or People of any Nation or the United Nations, Act of God, or any other similar cause beyond the Buyers' or the Sellers' control.
21. CI 20: Buyer's default – if the buyer defaults in payment of the deposit or the purchase price the seller has the right to cancel the contract.
 22. CI 21: Sellers' Default – if the Sellers fail to give notice of readiness in accordance with CI 7 or fail to execute a legal transfer or to deliver the Vessel with everything belonging to her by the Cancelling Date, the Buyers shall have the right to cancel the contract.
 23. CI 22: BIMCO Dispute Resolution Clause - three options for dispute resolution are offered: arbitration in London, New York or at a place mutually agreed between the parties.
 24. CI 23: confirms this contract represents the entire agreement between the parties
 25. CI 24: notices – any notices to be given by either party are to be sent in writing to the addresses in Boxes 21 and 22.



RECYCLECON

STANDARD CONTRACT FOR THE SALE OF VESSELS
FOR GREEN RECYCLING PART I

1. Place and Date of Contract (Cl. 1):		
2. Sellers/Place of business (state full style and address) (Cl. 1)	3. Buyers/Place of business (state full style and address) (Cl. 1)	4. Ship Recycling Facility (state full style and address) (Cl. 1)
5. Name of Vessel (Cl. 1, 6(b))	6. Type of Vessel (Cl. 1, 6(b))	7. Year and place built (Cl. 1, 6(b))
8. Flag (Cl. 1, 6(b))	9. Place of registry (Cl. 1, 6(b))	10. IMO number (Cl. 1, 6(b))
11. Light Displacement Tonnage (state metric or long tons) (Cl. 1, 8(a)) (a) Lightweight (b) Deductions (c) Contractual Weight ((a)-(b))	12. Purchase Price in figures and letters (state both lump sum price and the equivalent price per ton Contractual Weight)(Cl. 3) (a) Lump sum price (b) Equivalent price per ton Contractual Weight	
13. Deposit (Cl. 4, 5) (a) State percentage of purchase price (b) State name and place of bank to which the deposit shall be paid	14. Sellers' bank (state name and place and bank account details to which the balance of the purchase price shall be paid) (Cl. 4, 5)	
15. Place of closing (Cl. 1, 6)	16. Place of Delivery (Cl. 1, 2, 9(a))	
17. Earliest date of delivery (Cl. 10(a))	18. Cancelling date (Cl. 10(a))	
19. Post-delivery assistance (Cl. 11) (a) State number of days: (b) State daily cost:	20. Dispute Resolution (state 22(a), 22(b) or 22(c)); if 22(c) agreed place of arbitration must be stated)(Cl. 22)	
21. Notices to Sellers (state contact details) (Cl. 24(b))	22. Notices to Buyers (state contact details) (Cl. 24(b))	
23. Numbers of additional clauses covering special provisions, if agreed		

It is mutually agreed between the party named in Box 2 and the party named in Box 3 that this Contract consisting of PART I including additional clauses, if any agreed and stated in Box 23, and PART II as well as Annexes "A" (Vessel Details), "B" (Excluded Items) and "C" (Statement of Completion) attached hereto, shall be performed subject to the conditions contained herein. In the event of a conflict of conditions, the provisions of PART I and Annexes "A", "B" and "C" shall prevail over those of PART II to the extent of such conflict but no further.

Signature (Sellers)	Signature (Buyers)
---------------------	--------------------

ANNEXURE 10: Chapter 8 Part A

Basel Convention Definitions

ARTICLE 2

DEFINITIONS

For the purposes of this Convention:

1. "Wastes" are substances or objects which are disposed of or are intended to be disposed of or are required to be disposed of by the provisions of national law;
2. "Management" means the collection, transport and disposal of hazardous wastes or other wastes, including after-care of disposal sites;
3. "Transboundary movement" means any movement of hazardous wastes or other wastes from an area under the national jurisdiction of one State to or through an area under the national jurisdiction of another State or to or through an area not under the national jurisdiction of any State, provided at least two States are involved in the movement;
4. "Disposal" means any operation specified in Annex IV to this Convention;
5. "Approved site or facility" means a site or facility for the disposal of hazardous wastes or other wastes which is authorized or permitted to operate for this purpose by a relevant authority of the State where the site or facility is located;
6. "Competent authority" means one governmental authority designated by a Party to be responsible, within such geographical areas as the Party may think fit, for receiving the notification of a transboundary movement of hazardous wastes or other wastes, and any information related to it, and for responding to such a notification, as provided in Article 6;
7. "Focal point" means the entity of a Party referred to in Article 5 responsible for receiving and submitting information as provided for in Articles 13 and 16;
8. "Environmentally sound management of hazardous wastes or other wastes" means taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes;
9. "Area under the national jurisdiction of a State" means any land, marine area or airspace within which a State exercises administrative and regulatory responsibility in accordance with international law in regard to the protection of human health or the environment;
10. "State of export" means a Party from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated;
11. "State of import" means a Party to which a transboundary movement of hazardous wastes or other wastes is planned or takes place for the purpose of disposal therein or for the purpose of loading prior to disposal in an area not under the national jurisdiction of any

State;

12. "State of transit" means any State, other than the State of export or import, through which a movement of hazardous wastes or other wastes is planned or takes place;

13. "States concerned" means Parties which are States of export or import, or transit States, whether or not Parties;

14. "Person" means any natural or legal person;

15. "Exporter" means any person under the jurisdiction of the State of export who arranges for hazardous wastes or other wastes to be exported;

16. "Importer" means any person under the jurisdiction of the State of import who arranges for hazardous wastes or other wastes to be imported;

17. "Carrier" means any person who carries out the transport of hazardous wastes or other wastes;

18. "Generator" means any person whose activity produces hazardous wastes or other wastes or, if that person is not known, the person who is in possession and/or control of those wastes;

19. "Disposer" means any person to whom hazardous wastes or other wastes are shipped and who carries out the disposal of such wastes;

20. "Political and/or economic integration organization" means an organization constituted by sovereign States to which its member States have transferred competence in respect of matters governed by this

Convention and which has been duly authorized, in accordance with its internal procedures, to sign, ratify, accept, approve, formally confirm or accede to it;

21. "Illegal traffic" means any transboundary movement of hazardous wastes or other wastes as specified in Article 9.

ANNEXURE 11: Chapter 8 Part A

The Ship Recycling Process Overlaid onto the Basel Convention Terms

In conclusion, ship recycling overlays the Basel process as follows:

- a. Waste - the vessel when it no longer meets the definition of ship and is on its end-of-life journey under break-up voyage insurance to the approved sites for facility of the Disposer for the sole purpose of disposal
- b. Generator - ship owner responsible for notification of the transboundary movement to the relevant competent authorities
- c. Exporter - arranger of export of vessel from state of export, either ship owner, broker or cash buyer who may be responsible for notification of the transboundary movement to the relevant competent authorities
- d. State of export - either the area under the national jurisdiction of a state in which the Generator is located or the state in who's area of national jurisdiction the vessel is located when the end-of-life journey is initiated or plans to be initiated or the flag state with jurisdiction over the vessel when the end-of-life journey is initiated or planned to be initiated
- e. Transboundary movement - and end-of-life journey for a vessel that passes through areas under the national jurisdiction of two or more different states
- f. States of transit - any state through which vessel passes on it end-of-life journey that is neither the state of export nor the state of import
- g. State of import - the state in his area of national jurisdiction the Disposer is located or the last area through which the end-of-life journey passes under the national jurisdiction of a state
- h. Importer - the person who arranges for the vessel to be brought into the state of import, either the broker, cash buyer or Disposer who may be responsible for notification of the transboundary movement to the relevant competent authorities
- i. Disposal - the process of ship recycling
- j. Approved site or facility - recycling yard approved by an authority under the national jurisdiction of the state in which is located
- k. Environmentally sound manner - in accordance with the technical guidelines produced by the Convention
- l. Disposer - the recycling yard responsible for the disposal of the vessel who may be responsible for notification of the transboundary movement to the relevant competent authorities

- m. Carrier - any person responsible for transporting a vessel on a transboundary end-of-life journey to a Disposer for the sole purpose of disposal
- n. Illegal traffic - any transboundary movement of a vessel as waste that breaches the Convention

ANNEXURE 12: Chapter 8 Part B*Spring Bear Timeline*

Step	Date All dates are 2012	Event	Consideration / Decision / Planning / Implementation of plan for end of life journey
1	2 February	Director of Company 1 (sole shareholder of Company 2), cc Financial Director Co 1, asks Managing Director (MD) of the Beneficial Owner of ships (Company 2) what feedback the Commercial Operator of the ships (Company 9) had so far in testing the market for possible bids to recycle the Spring ships. Reply, not much as they had not publicly entered the market yet	Consideration
2	3 February	MD Co 2 emailed Director 1 re other potential uses of the Spring auxiliary engines	Consideration
3	7 February	Pool Manager of Co 8 forwarded to Director and Financial Director of Co 1 (who forwarded to MD Co 2) an email from Baltic Union Shipbrokers, subject line "Demolition spring class" with discussion of added value from new generators and a possible transaction to Global Marketing Systems, seeking intentions re delivery timings so a discussion [for the sale] could begin ...	Consideration
4	March 9	MD Co 2 sent email to Pool Manager of Co 8 stating a decision had been made the day before to "start the <i>phase out / scrapping of the Spring types</i> . A communication group has been set up with the name Spring phase out ". The email had the following action points: (i) finish the last LWT including	DECISION The communication group appear to be those tasked with creating (making choices for) the end of

		the latest container upgrades, (ii) prepare a list of all things that need to be disembarked and (iii) a possible change of flag for sale in connection with 'the position in ranking scrapping list Platform North Sea'.	life journey – they are the planners
5		An employee of company 9 e-mailed the captains and chief engineers of the ships that it had been decided that all Spring ships <i>would be taken out of service by April. All orders / repairs / maintenance were stopped or canceled and the ships would remain in operation for as long as it takes, albeit at a low cost level</i>	Post-decision Planning choices: - by April - cancellation of orders/ repairs / maintenance Implementation start date (April) set
6	12,14,21 March	Discussions about what would be removed / dismantled from the Spring ships	Planning choices
7	4 April	A employee of the commercial operator of JB/SD/SP sent an email with a schedule for taking the ships out of service: <i>Spring Bob Rotterdam 19/04</i> <i>Spring Deli Rotterdam 03/05</i> <i>Spring Panda Rotterdam 10/05</i> <i>Spring Bear Rotterdam 17/05</i>	Planning choices
8		An email was sent to the commercial operator re cerTification, advising “ <i>It is expected that all rec. be extended after class is informed of the single voyage scenario. What we need to be alert to are the annuals that as such have an expiration date for which they must have been done (so no more windows).</i> ”	Planning choices
9	10 April	Email re removal from ships of items paintings, reproductions, portraits of Queen Beatrix, sextants and manual speed logs	Planning choices

10	11 April	Captain of the Spring Bear was advised of changes to the bunker plans as the ship would now be going via Iran to India and only needed enough bunkers for 4 to 5 days in India	Planning choices
11	12 April	Email exchange when Captain advised the Egypt-Iran cargo had been booked and asked how many bunkers the Spring Bear needed to safely reach the Persian Gulf and to reach Alang after Iran	Planning choices
12	12 April to 13 April	Email exchange discussing proceeds of a sale in Fujairah weighing up whether it was financially advantageous to recycle there and ending up <i>on the name and shame list</i> or to change ownership <i>to a flag State that requires no inspections or whatever</i> and continue to India.	Planning choices that put the end of life journey in breach of EWSR and Basel Convention
13	13 April	Email sent re removal of freon	Planning choices
14	15 April	Spring Bear left Rotterdam for its final cargo voyages through Egypt and Iran from where it began its end of life journey to Alang. (<i>This is where Spring Bear falls under the definition of waste and not ship. It is no longer in operation as it is no longer in class.</i>)	Implementation of plan begun re bunkers, crew, offloading items etc
15	8 May	Human Environment and Transport Inspectorate spoke by telephone with [MD Co 2] and [Com Op A Employee K] who denied SB might be transferred to India for demolition	Denial of planning choices
16	24 May	Email exchange about the possibilities of the Royal Bank of Scotland approving back-to-back sale one or two days pre-delivery to cancel the mortgage and another email exchange discussing the transfer of shares via a middle entity to the final buyer	Planning choices

17		Confirmation re Structure of final transfer of ownership and agreed sale of shares for \$1,000,000	Planning choices
18	25 May	On 25 May 2012, Baltic Union Shipbrokers sent the concept of MoD to interested parties for comment	Planning choices
19	30 May	<i>Spring Bear</i> captain was advised that there would be a change of management but only on paper, no change in practice	Planning choices
20		<i>Spring Bear</i> crew advised that bringing Freon ashore in Fujairah is quite complicated and expensive and Freon stock to remain on board	Planning choices
21		An email exchange confirmed that the sale of shares would be that day or the next and retroactive from 24 May	Planning choices
22	1 June	Termination agreement signed confirming management of the ship has been transferred on 24 May The memorandum of agreement dated 24 May confirms sale and that delivery is due in Alang between 1 and 15 June where seller will assist in putting the vessel on the beach at the shipyard	Planning choices and initiation of end of life journey
23	3 June	Email exchange confirming the buyer had chosen the port of Alang for delivery	Initiation of end of life journey
24	6 June	<i>Spring Bear</i> arrived in Alang	End of life journey
25	11 June	Email exchange to interested parties confirming <i>Spring Bear</i> declaration of unencumbered status	End of life journey
26	12 June	Captain of the <i>Spring Bear</i> advised that the remainder of the purchase price had been received, the vessel title had been	End of life journey

		transferred, and buyer / agent instructions to put the vessel on the beach to follow	
27	13 June	Captain of the <i>Spring Bear</i> advised the vessel on the beach	End of life journey

ANNEXURE 13: Chapter 8 Part B

Questionnaire for Break-Up Voyage Insurance Policy

VESSEL(S):

ASSURED: **ADDRESS:**
Bank (if applicable)
Type: **Built:** **LDT:** **GRT / NRT:** **DWT:**
U.O.P.: **Towage:**
Voyage: **to** **via**
E.T.S.: **Estimated voyage duration:**
Route: **Distance:**
Details if in damaged condition:
Details of present lay up position:
Purchase price: **H&M value required:**

Coverage, including War Risks etc. required from time of purchase by Assured and/or their representatives until final delivery to buyers/breakers

IF UNDER OWN POWER

Has vessel recently been trading? _____
 Will voyage be in ballast? _____
 Details of cargo, if any: _____
 Does vessel have current class? _____
 If so, which and will class be maintained for voyage? _____
 Is cover for Port Risk period prior to departure
 expected to be required – if so for what period? _____
 What flag will vessel fly? _____
 Proposed crewing arrangements: _____
 Is cover for Port Risk period at arrival awaiting tide
 expecting to be required – if so for what period? _____

IF UNDER TOW

Proposed tug/towage company: _____
 If more than one vessel – single or double tow _____
 Is cover for Port Risk during preparation required –
 if so, for what period? _____
 Is cover for Port Risk period at arrival awaiting tide
 expected to be required – if so for what period? _____

Additional information, if any: