The legal matrix of ship recycling anno 2020

The impact of international legal developments on the legality of EU Regulations

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There was a time the air was clean
And you could see forever ‘cross the plains
The wind was sweet as honey
And no one had ever heard of acid rain

We’re torturing the earth
And pourin’ every kind of evil in the sea
We violated nature
And our children have to pay the penalty

Don’t go near the water children
See the fish all dead upon the shore
Don’t go near the water
‘Cause water isn’t water anymore

- *Johnny Cash*

Legislation

VCLT-69	UN	Vienna Convention on the Law of the Treaties (1969)
UNCLOS	UN	United Nations Convention on the Law of the Sea (1982)
VCLT-86	UN	Vienna Convention on the Law of the Treaties between States and International Organizations or between International Organizations (1986)
The Basel Convention	UN	The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)
The Bamako Convention	UN	The Bamako Convention (1991)
The Rotterdam Convention	UN	The Rotterdam Convention (1998)
The Stockholm Convention	UN	The Stockholm Convention on Persistent Organic Pollutants (2001)
SOLAS	IMO	International Convention for the Safety of Life at Sea (1960)
MARPOL	IMO	International Convention for the Prevention of Pollution from Ships (1978)
HKC	IMO	Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (2009)
C138	ILO	Convention no 138 on the Minimum Age (1973)
TFEU	EU	Treaty on the Functioning of the European Union (1957/2009)
EEA-Agreement	EU EEA	The Agreement on the European Economic Area (1992)
EWSR	EU	Regulation (EC) No 1013/2006 on Shipments of Waste
WFD	EU	Directive 2008/98/EC on Waste
ECD	EU	Directive 2008/99/EC on the Protection of the Environment through Criminal Law

PSTD	EU	Directive 2009/16/EC on Port State Control
ESRR	EU	Regulation (EU) No 1057/2013 on Ship Recycling
The Code	India	Shipbreaking Code (2013)
The Act	India	The Recycling of Ships Act (2019)
	Bangladesh	Labour Act (XLII of 2006)
	Pakistan	Balochistan Environmental Protection Act (2012)

Acronyms and abbreviations

BAN	Basel Action Network
BCTG	Technical guidelines on the environmentally sound management of the full and partial dismantling of ships
CIEL	Center for International Environmental Law
CoP	Conference of the Parties to the Basel Convention
EME	Eide Marine Eiendom
EMSA	European Maritime Safety Agency
ESM	Environmentally sound management
EUTG	Technical Guidance not under Regulation (EU) No 1257/2013 on ship recycling (2016/C 128/01)
GT	Gross tonnage
IHM	Inventory of hazardous wastes
LDT	Light displacement tonnage
MoU	memorandum of understanding
NBIM	Norges Bank Investment Management
NGO	The NGO Shipbreaking Platform
NIMBY	Not in my back yard
PIC	Prior informed consent
SoC	Statement of Compliance
SRTI	Ship Recycling Transparency Initiative

The Community	EU and EEA Member States
The EU-list	European List of Ship Recycling Facilities

1 An introduction to the world of ship recycling

The topic of this thesis is the public international law and EU-law that regulate the global ship recycling industry. Ship recycling is a large industry where the recycling itself and the practices employed in the process have a strong impact the environment and human health alike. Due to the transnational nature of shipping and the global nature of the interests involved, the industry is regulated through public international law.

The objective of this thesis is to analyse the EU Regulations' points of friction with international law and regulatory challenges of avoidance and efficiency, as well as the feasibility of the Commissions' preliminary «*proposed way forward*».[1]

Ship recycling is currently regulated on an international level by the Basel Convention on waste-shipments, made by the UN in 1989.[2] Another relevant international convention is the Hong Kong Convention on ship recycling, created by the IMO in 2009.[3] The latter is as of December 2020 not fully ratified, but it is expected to enter into force in a not-too-distant future and its signatories are already implementing the convention into their domestic law. In the EU and EEA Member States,[4] ship recycling is regulated mainly by two EU-regulations, the EWSR[5] and the ESRR.[6] The first regulation is an EU implementation the Basel Convention that the EU is an independent Party to, while the second is an EU facilitator for the HKC to which the EU cannot be Party.[7]

The various bodies that govern the ship recycling industry differ in several aspects; they have different authority, jurisdiction, composition, legislative procedures and last but not least, there are different interests to protect on international, regional and domestic levels. Interests also vary between the bodies on the same level of governance. Where the Basel Convention is based on equal voting rights for all its Parties, the IMO-system favour States with a strong presence in the ship recycling industry, and the interests of a developed country differs from those of a

[1] *Infra*, p. 4.

[2] The Basel Convention on Transboundary Shipments of Wastes and their disposal; referred to as «the Convention» being the one currently in force.

[3] The Hong Kong Convention on the Safe and Environmentally sound Recycling of Ships; IMO is the UN's specialised agency for the safety, security and environmental performance in international shipping.

[4] Referred to as «the Community». Although the EEA is not part of the EU, it's sensible to include EEA in the term 'Community', *mutatis mutandis*, since the Regulations hardly make the distinction. When the distinction is required, the thesis refers to the EU as 'Member States'.

[5] Regulation (EC) No. 1013/2006.

[6] Regulation (EU) No. 1257/2013.

[7] Unlike the UN, the IMO allow only States to be Party to its conventions, cf. Basel art. 22(1) contra HKC art. 16.

developing country.[8] The diverging interests between the actors are made an even more complicating factor for ship recycling by the Flag State rule, which separates the jurisdiction of a ship from that of the shipping company or beneficial owner of the ship.[9] All Parties to the HKC is already Party to the Basel Convention, and so the HKC, both EU Regulations and the domestic legislation in the Community and third countries must all be in compliance with the Basel Convention. The result is a complex legal matrix of multilevel governance on an international scale:

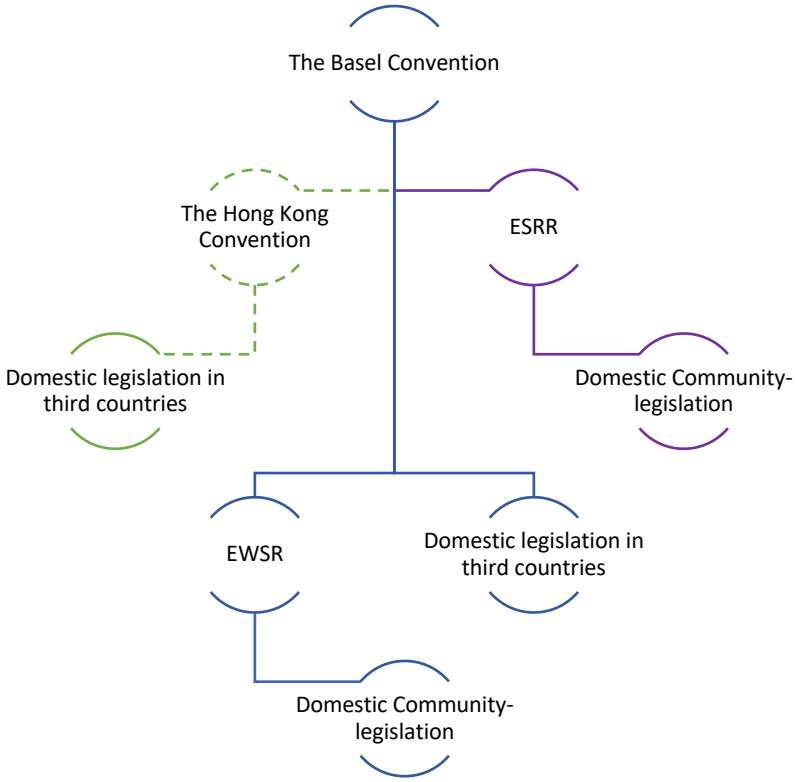

Figure 1: *My own graphic illustration of the structure of multilevel governance in ship recycling legislation.*

For the sake of the Community, both the regulatory regimes of the Basel Convention and the Hong Kong Convention has been implemented in Community law through the EU Regulations.[10] The facilitating ESRR and the coming-into-force of the new HKC is creating a new dynamic and friction in the ship recycling legislation both in the EU and internationally.

[8] Basel art. 25(1); HKC art. 17; *Infra*, subchapter 1.2.
[9] UNCLOS art. 91(1).
[10] Regulations have direct effect vertically and horizontally within EU, cf. TFEU art. 288, Cf. CJEU Case 43-71 (1971), para. 9; Unlike the Member States, EEA have not delegated legislative powers to the EU, and consequentially all regulations must be implemented to take effect, cf. EEA Agreement art. 3 and art. 7(a); Issues surrounding individual obligations and/or compliance under Basel and Member States' delegation of legislative powers, TFEU art. 216(2) cf. CJEU Case C-344/04 (2006), para. 35, or EEA non-delegation of legislative powers, will not be problematised here.

In response to ongoing legal developments, the European Commission Directorate on Circular Economy and Green Growth recently issued a note «*aimed at clarifying the legal situation and outlining the proposed way forward*» for the ship recycling regulation in the EU (see Appendix A).[11]

1.1 What is ship recycling

The process of ship recycling starts with a shipowner that has and end-of-life ship that the owner wishes to sell to a recycling yard. The shipowner typically sells the ship to a special-purpose company, a so-called 'cash buyer', who resells the ship to a ship recycling facility that dismantles the ship and makes a profit from selling the recycled materials. The vast majority end-of-life ships are sold through cash buyers due to the benefits of employing a special-purpose company. The shipowner doesn't have to spend time and resources on facilitating the recycling process, nor its resources on costs related to storage, towing and pre-cleaning of the ship (see Appendix B). The shipowner is secured payment for the ship as they are paid upfront in 100% cash and hence escape the risk of non-fulfilment from the yard. A final benefit is that the shipowner to a great extent is relieved of legal liability for the ships' further voyage where the ships' geographical position or re-registration entail jurisdictional changes, and for the manner in which the vessel is ultimately disposed.

Recycling is a word that normally give associations to environmental-friendly practices, and the recycling and reuse of the materials of the ship is in itself an effective exploitation of resources. However, the ship recycling-process is to a great extent anything but an eco-sustainable practice. The five great ship recycling countries whose ship recycling activity constitute 98 % of the market is India, Pakistan, Bangladesh, Turkey and China, and the three Southeast Asian countries account for 70-75%.[12]

Today, the most commonly used method for dismantling ships for their materials is called 'beaching'. There is no clear definition of beaching, but the Norwegian Shipowners' Association define it as «*recycling of ships without using fixed installations for collection and handling of dangerous and polluting wastes*».[13] Beaching mainly occurs in the Southeast Asian countries, at Alang-Sosiya in India, Gadani in Pakistan and Chattogram in Bangladesh, and the

[11] The note is unpublished, attached in Appendix A; The Directorate requested the note to be shared «*with experts in charge of implementation […] in your Member States*», Appendix A, p. 1.
[12] [51], [72, p. 22]; [36, p. 752].
[13] [52] translated in [31, p. 7].

method is used in 89.9 % of ship recycling in GT worldwide.[14] The quantity of ships that got beached in 2018 were 17 million GT.[15]

When a vessel is beached, it is run aground on the tidal mudflats of a beach where workers on the shore, ship breakers, dismantle it manually during low tide. This method creates safety and environmental hazards. The job of manually dismantling a beached ship is a precarious occupation, 400 workers has lost their lives since 2009 and many more are maimed for life.[16] As ships lie in the intertidal zone when they're broken apart, the hazardous and environmentally harmful materials of the ships soak the ground and is washed directly out into the sea along with the tide (See Appendix C). Studies have found significant pollution of the marine environment in the vicinity of beaching areas:

> «*From the findings of the case study, the coastal areas of Bangladesh are strongly polluted by Fe, Al, and Hg whereas moderately polluted by Mn, Zn and As and slightly by Pb and Cu. Trace elements concentrations i.e. Fe, Mn, Zn, Ni, Cr, Cu, Cd, Pb, As, Al and Hg of all seawater samples exceeded the average abundance of elements in the standard values of seawater. From the study, it revealed that average concentrations (mg/L) of Fe, Al and Hg are respectively high at Chittagong coast*».[17]

The owners of the beaching-yards doesn't spend much resources on building yards with industrial facilities to dispose of the hazardous waste and to secure a safe work environment, and the developing countries in which they reside have low wages and contain target markets for the ships materials.[18] Combined, these factors make the beaching yards very profitable and allows them to pay a better price to the cash buyer for an end-of-life-ship than an industrial yard in a developed country is able to, generating higher revenues and economic incentives for all actors involved in the demolition-sale.[19]

[14] [33] **Note**: other sources present different statistics, but as the NGO is a global coalition consisting of 18 environmental, human rights and labour rights organisations from 10 countries that specialise on unsound ship recycling, their statistics are presumed to be the most accurate; Chattogram is the correct name of Chittagong.

[15] 17 of 18.9 million GT, [33].

[16] [55]; Life expectancy for men working as ship breakers in Bangladesh is 20 years lower than Bangladeshi men in the general population, [31, p. 6]; An explosion at Gadani beach killed 31 workers and injured 58, 01/11/2016.

[17] [36, p. 754]; See also Appendix D, Table 1.

[18] 80-90% of Bangladesh's steel is derived through ship recycling, [44, p. 2].

[19] Appendix B.

The beaching countries of the Southeast Asian continent used to have very lenient legislation that facilitated the rise of Southeast Asia ship recycling havens, but in recent years they have adopted legislative acts prescribing both environmental and workforce protection.[20] In spite of these developments, the countries have poor law enforcement and the beaching industry has prevailed.[21]

> One reason for the lack of proper law enforcement is that the Southeast Asian countries struggle with widespread corruption. In Transparency Internationals' corruption index for 2019, India, Pakistan and Bangladesh were ranked as 80/198, 120/198 and 140/198, respectively.[22] The effect of the national level of corruption on the recycling industry is exemplified by an accident at a yard in Alang on the 28/04/2020; A worker named Md. Khalil was injured while working at an unregistered recycling yard belonging to the Indian legislator Didarul Alam.

1.2 Central considerations – understanding the stakes involved

As any industry, the ship recycling industry has its own balance of interests that regulators must consider diligently. For ship recycling, the most important balance to strike is one that preserves the environment, protects human health and sufficiently considers the societal importance of the recycling yards in their respective countries and their continued profitability.

Beaching causes major pollution in its surroundings, and working as a ship breaker has been described as the most dangerous occupation in the world.[23] The vast majority of ships contain asbestos, heavy metals, toxic mineral oils and fuels, PAHs, PCBs and organotins such as the aggressive biocide TBT (see Appendix C). The peril these volatile materials and substances pose is significant, with effects varying from highly explosive, lethal or carcinogenic upon long-term exposure, to causing male characteristics in female marine snails.[24]

Another consideration is the future environmental impact. The rising sea level will redistribute the metals from its current, relative immobilization in the soil to the marine ecosystem, where it could find its way into the food chain through shellfish, similar to the process of microplastics.

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[20] E.g. the Indian Shipbreaking Code of 2013 or the Pakistani « Balochistan Environmental Protection Act» of 2012, both of which are replete with stringent norms for safety, monitoring and compliance. Bangladeshi workforce protection was strengthened by the Labour Act of 2006.

[21] There are examples of enforcement: Bangladesh High Court Divisions verdict 14/11/2019 on the recycling of *North Sea Producer* (**IMO** 8124058)/ Indian authorities were in October 2020 on the lookout for tanker *J Nat* (**IMO** 8100909) containing over 1500 tons of mercury-contaminated wastes, to prevent in beaching in Alang [50] and Bangladeshi ship-import ban of 2009-2010.

[22] [54].

[23] [53] and [74, p. 3].

[24] [14]; In Bangladesh there was found asbestosis in 35 % of the workers tested, and 80 % reported eye-, lung-, gastrointestinal- and musculoskeletal-related symptoms, [47, pp. 2-4].

An IPCC-estimation of the effect of sea level rise on the beaches of Gadani and Chattogram suggest that the rising sea levels can cause the submerging of respectively 3500-8100 m^3 and 11000-25000 m^3 of polluted sand under the new high tide (see Appendix D, Table 2 and 3). The sea level rise could release, inter alia, between 5696,2-13019,9 kg of lead into the marine eco system of Chattogram and Gadani combined (see Appendix D, Table 4).[25]

> It is important to note that this estimation is based on IPCCs' 2007-estimation, projecting a sea level rise of 0.21m – 0.78m by 2099. IPCC has since adjusted their projection to a rise between 0.3m – 1.1m.[26]

Despite abovementioned hazards for human and environmental health alike, recycling still has a prominent environmentally friendly side as it reduces the exhaustion of the planet's natural resources. Ship recycling is a particularly effective industry, recovering up to 98% of the ship in weight.[27] Taking into account that 18.9 million GT of ships were recycled in 2018 alone, the recycled steel from the ships provide an important contribution to the overarching environmental goals of circular economy and reduced carbon emissions.[28]

The societal impact is another central element in this balance of interests. The ship recycling yards are big employers, and the Southeast Asian countries have industries that rely heavily on materials recovered from ship recycling.[29] It is difficult to obtain current employment-statistics, but in 2019 it was estimated that the Southeast Asian countries employ 225 000 as ship breakers or in ancillary operations, and in 2008 the ILO estimated that 500 000 people in India indirectly benefitted from beaching activities.[30] Additionally, the yards are important tax payers. In Pakistan, the yards contribute with between 5-12 billion Pakistani Rupees (€25 143 419 – 60 368 551) in taxes annually.[31] A societal human rights issue with the yards is that approximately 13% of the ship breaking workforce is made up by child labour.

> 13% of the workers in Bangladesh are child labourers from 15-18 years old, while the age limit for hazardous work in Bangladesh is 18 years.[32] In lack of recent sources for India and Pakistan,

[25] Combined numbers of impact.
[26] [56].
[27] [57, p. 1], significantly more effective compared to aircraft recycling, cf. [18].
[28] [33]; On average 1.9 tonnes of carbon is emitted per tonne of steel produced [66].
[29] *Supra*, fn. 18.
[30] 225 000, [47, p. 4]. Note that the report is unclear on where the numbers come from; it refers to [44], yet that study doesn't present these numbers. As the report otherwise is thorough, it is assumed to give a correct presentation of employment statistics; [13].
[31] [43, p. 3].
[32] [48, pp. 10-11]; Cf. the Labour Act of 2006 section 34, 35 and 2(63).

this thesis cautiously assume that child labour makes up a similar percentage of their workforce. The legal age limits for hazardous work is presumed to be the same for India and Pakistan as well, since these age limits are determined by ILO C138, which is ratified by both countries. The current amount of child labour is a significant decrease from 2008, when the percentage of child labour in the shipbreaking industry of Bangladesh was estimated to be 25%.[33] The latter study of 2008 found that 10 % of the workforce were children under the age of 12, while the 2019-study found no workers under the age of 15, and so the age of the child labourers is simultaneously increasing as the extent of the child labour decreases.

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Albeit necessary, a stricter regulation of the industry runs the risk of deterring the shipowners, and the Southeast Asian countries face an evident conflict of interests.[34] The countries are heavily dependent on the industry that maims and kills their workers, poisons their population and contaminates their soil and waters, for reasons of employment, tax revenue and steel supply. Placing restrictions on their industry risk reducing the current incentives for the shipowners to dispose of their ships on the beaches of Southeast Asia. Moreover, it would be a costly venture to upgrade the 392 shipbreaking plots on the beaches of Alang-Sosiya (120), Gadani (132) and Chattogram (140), which in turn could affect the prices and aggravate the economic prospects for the countries in question.[35]

Simultaneously, when a stronger legal framework could prevent shipowners from sending their ships to Southeast Asian beaches altogether, the possible deterrence can serve as motivation for the countries to comply with achievable standards to maintain their competitiveness.

Conflicting interests challenge global cooperation, which is made pertinent for the establishment of a well-functioning regulation of ship recycling by the transnational nature both of ships and of the jurisdictions involved. The Flag State rule subject ships exclusively to the jurisdiction of its Flag State while on the high seas, and the ship can change its flag to any nationality, conditioned that there «*exist a genuine link between the State and the ship*».[36] This has led to certain ship registries gaining repute as 'Flags of Convenience', used by shipowners to re-register their ships to a more lenient jurisdiction when convenient, for example to circumvent regulations.[37]

[33] [16, p. 15]; [74].
[34] See Indian Supreme Court-case of 2006-2007 on recycling *Blue Lady* (**IMO** 5119143), a highly toxic vessel that contained 1250 tons of asbestos-contaminated materials. The Indian authorities denied that ships were 'hazardous wastes' and emphasised the public, economic and environmental benefits of ship recycling, [74, p. 33].
[35] PHP spent $6m [39].
[36] UNCLOS art. 91(1)-(2).
[37] Compare blacklist [30] with, *infra,* fn. 42.

As this thesis focus on how these developments impact EU secondary legislation, as well as the ECs' «*proposed way forward*», the balance of interests should also be considered from a European perspective. The EU Commission launched the climate package «*the European Green Deal*» on the 11th of December 2019. Their adopted climate strategy state that:

«The Commission is of the view that the EU should stop exporting its waste outside of the EU and will therefore revisit the rules on waste shipments and illegal exports»[38] and the action plan announces that *«[…] considering that illegal shipments of waste remain a source of concern, the Commission will take action with the aim to [sic!]* ***ensure that the EU does not export its waste challenges to third countries****.»*[39]

Conversely, the EU regulation policy aim to facilitate export of end-of-life ships to third countries. The EU has seemingly not changed its ship recycling policy in accordance with the Green Deal action plan, as it is in the process of negotiating an end-of-life ship export agreement with India under the EU-India Joint Declaration on Resource Efficiency and Circular Economy from July 2020.[40] This deviation is closely linked to the EUs' interests as predominantly a trade union working to facilitate favourable trade for its important industries, and as an exporter of human rights and environmental awareness.

1.3 Actuality

The international community and the European community have worked to prevent environmentally unsound management of ships for many years through international conventions and EU regulations.[41] Considering the beaching-numbers from 2018 it can safely be stated that their attempts regarding environmentally sound ship recycling has, on account of lack of cooperation on enforcement and out-flagging-practices, so far proven unsuccessful.[42]

Since 2018, the ship recycling legislation has been subjected to substantial legal developments:

[38] [58, p. 8].
[39] [59, p. 15].
[40] *Infra*, chapter 3.
[41] SOLAS 1959, MARPOL 1973, Bamako Convention 1991, Rotterdam Convention 1994, Stockholm Convention 2001.
[42] Tuvalu, St. Kitts-Nevis, Mongolia, St. Vincent and Grenadines, Comoros, Cambodia and Dominica were the flag states of approximately 20% of all recycled ships, but less than 2% of ships in service in 2008, [5, p. 52]; 7.7% GT beached in 2014 were EU-flagged while 32% were under EU beneficial ownership [74, p. 5]; Installing higher requirement to the «*genuine link*» between the ship and the Flag State to prevent out-flagging have been attempted, including through the failed UN Convention for Registration of Ships from 1986 (not in force).

EU case law has moved towards establishing *de facto* criminal liability for unsound ship recycling practices,[43] the Basel Conventions' Ban Amendment accessioned into international law,[44] the entry-into-force of the HKC went from being a possibility to becoming a probability as it was ratified by Turkey and India,[45] and the ESRR is fully entering into force on the 31st of December 2020.[46]

Ship recycling regulation is increasingly relevant as the world fleet is ageing (see Appendix E). The situation is exacerbated by COVID-19 economic crisis, as recessionary times can prompt increased recycling activity.[47] The interconnectedness between the global economy and ship recycling has already lead to a rapid increase in recycling of cruise ships in Turkey.[48] EU regulations have particular impact on ship recycling practices due to the European ownership dominance in the world fleet, where European beneficial owners control between 35-40% and 22% fly a Community flag.[49]

2 Introduction to the legal landscape

This chapter will briefly introduce the Basel Convention and the ESRR, and the friction between them. The legal frameworks are of different levels and nature of governance, and different rules of interpretation applies to international treaties and to EU secondary legislation. Where the rules on the interpretation of international treaty law provide for a high level of sovereignty, the same does not apply to EU secondary law as the EU Member States have conceded legislative power and a certain extent of their sovereignty to the Union.[50] Consequentially, the Basel Convention is subject to strict treaty-interpretation, while the interpretation of EU legislation will be affected by auxiliary EU law, Community case law and guidelines issued by the Commission.

2.1 Vienna Convention on the Law of Treaties, 1969/1986

International customary treaty law is codified through the Vienna Conventions of 1969 and 1986.[51] Notwithstanding that the EU is Party to neither of the VCLT, it is accepted that the

[43] *Infra*, subchapter 4.1.1.
[44] *Infra*, subchapter 3.2.2.
[45] January and November of 2019 respectively. The ratification of two big ship recycling nations significantly increases the likelihood of that convention entering into force, *supra* fn. 8.
[46] ESRR art. 32(2)(b).
[47] [60, p. 683]; [61]; [63].
[48] [64]
[49] [74, p. 3], compare to [77].
[50] *Mutatis mutandis* for EEA, *supra*, fn. 10.
[51] The VCLT-69 only «*applies to treaties between States*» directly, cf. art. 1.

principles of customary international law that are codified in the VCLT are applicable to the EU.[52]

The general rule of treaty interpretation is codified in VCLT article 31. In accordance with article 31, the Basel Convention «*shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in light of its object and purpose*», taking into account «*any subsequent agreement between the parties regarding the interpretation […] or the application of its provisions; any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation*».[53] The treaty's interpretative factors may be supplemented by, *inter alia*, «*the circumstances of its conclusion*» where the initial interpretation «*leaves the meaning ambiguous*».[54]

2.2 The beginning of regulatory regimes on transboundary waste management

The Basel Convention on the Control of Transboundary Movements of Hazardous waste and their Disposal of 1989 entered into force in 1992 is today signed by 187 Parties.[55] The Convention was arranged by UNEP as a response to increased export of hazardous waste, 'toxic trade', from industrialised to non-industrialised countries. The toxic trade followed an increased environmental awareness- and regulation in developed countries and the «not in my back yard»-syndrome, which made it more profitable to export waste to countries where environmental awareness was less developed and environmental laws had yet to be made and sufficiently enforced. The toxic trade lead to a public outcry, and the Basel Convention was made to combat the problem.[56] In the preamble of the Convention, the parties declare themselves:

> *«Aware of the risk of damage to human health and the environment caused by hazardous wastes and other wastes and the transboundary movement thereof,»*

and state their determination to:

[52] Part 3, para. 11 [23] and [49, pp. 11-13]; Principles of international customary law is accepted by CJEU, cf. Case-432/92 (1994) para. 43; Case C-268/99 (2001) para. 35; Case C-432/92 (1994), paras 43, 50; Case C25/94 (1996), para. 33; Case C-158/91 (1993); Case C-327/91 (1994), para 25.
[53] VCLT-69 art. 31(1) & 31(3)(a)-(b).
[54] VCLT-69 art. 32(a).
[55] It is notable that the US and Haiti are the only signatories that have not ratified the Convention.
[56] [75].

«protect, by strict control, human health and the environment against the adverse effects which may result from the generation and management of hazardous wastes and other wastes».[57]

The preamble identifies three tactics to resolve the problem of toxic trade: Reduction of generation of hazardous wastes,[58] reduction of transboundary waste-movement,[59] and to allow transboundary waste-movement only when the transport and ultimate disposal is environmentally sound. It is the latter element, realised through «*prior informed consent*»[60] procedures and «*environmentally sound management*» provisions,[61] that directly relates to the ship recycling industry.

2.2.1 The scope of the Basel Convention and its applicability to ship recycling

The Convention applies to export, transit or import of waste, and the Parties are prohibited from engaging in waste import or export with countries that are not Party to the Convention.[62] The prohibition entails that the Conventions' stipulations are fully applicable to all export, transit and import related to ship recycling within the geographical jurisdictions of the contracting Parties. The Convention is public international law that the Parties are required to implement the Conventions' provisions in their national public and private law to fulfil their obligations as Parties.[63]

The Convention applies to transboundary movements of 'wastes', and 'hazardous wastes'. Waste is defined in the Convention article 2(1) as any «*substances or objects which are disposed of […] intended to be […] or are required to be disposed of*», through operations listed in the Convention Annex IV.[64] Recycling is a recovery operation as defined in the Annex IV, and ships that are destined for recycling are accordingly 'wastes' within the Basel regime.[65] A ship is classified as waste from the point in time when the intention to recycle the ship manifests itself.[66]

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[57] Preamble (1) and (24).
[58] Art. 4(2)(a).
[59] Art. 4(2)(b), (d).
[60] Art. 4(1) and art. 4(2)(f). Specifically prescribed in art. 6; See also the Rotterdam Convention.
[61] Art. 4(2)(c)-(h), Cf. art. 2(8).
[62] Art. 4(5).
[63] Art. 4(4).
[64] Art. 2(1), cf. 2(4).
[65] Annex IVB. For art. 2(1), it was confirmed that a ship could be 'waste' in Decision VII//26 of the 7th CoP, which, by force of being a subsequent agreement between the Parties, is applicable to the interpretation of the Convention text, Cf. VCLT-69 art. 31(3)(a).
[66] In what manner such intent must be manifested is outside the scope of this thesis.

A ship intended for recycling is classified as 'hazardous wastes' if the vessel «*having as constituents*» any of the substances or materials as listed in Annex I, «*unless they do not possess any of the characteristics contained in Annex III*».[67] As shown in chapter 1, most ships have such constituents and do possess the characteristics of Annex III.[68] In addition, wastes that are considered hazardous by domestic legislation in a Party involved in the transport, shall be treated as hazardous wastes.[69]

> Waste discharge that «*derive from the normal operations of a ship*», is excluded from the scope of the Basel regime when the discharge in question is regulated by other international instruments.[70] A ship is obviously not derived from its own operation, and ships that have become 'waste' can thereby not be excluded under this exemption. Aside from the letter of the Convention, this matter is clearly settled by the subsequent agreement Decision VII/26.[71]

2.2.2 The Basel Ban Amendment

The Basel Ban Amendment in article 4A was adopted by the 3[d] CoP, in recognition of «*[…] that transboundary movements of hazardous wastes, especially to developing countries, have a high risk of not constituting an [ESM] […] as required by this Convention*».[72] The Amendment completed its ratification process 24 years after its adoption, and entered into force on the 5[th] of December 2019 ratified by 99 Parties, including the EU.[73] Article 4A(2) provide that:[74]

> *«Each Party listed in Annex VII shall [...] prohibit [...] all transboundary movements of hazardous wastes under Article 1(1)(a) of the Convention which are destined for operations according to Annex IV B to States not listed in Annex VII […]»*

The amendment is a complete ban on export of hazardous wastes from Parties to the Amendment «*listed in Annex VII*», hereinafter 'OECD+ countries', destined for recovery operations in non-OECD+ countries.[75] In addition to applicability for Parties to the

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[67] Basel art. 1(1)(a).
[68] Compare Appendix C to Convention Annex I, and the perils of beaching for human health and the environment in Chapter 1 to Annex III.
[69] Basel art. 1(1)(b).
[70] Basel art. 1(4); cumulative criteria, referring to MARPOL, cf. [24] para. 58.
[71] VCLT-69 art. 31(3)(a) cf. 7[th] CoP decision VII//26 «*many ships […] are known to contain hazardous materials*» and may «*become hazardous wastes*».
[72] Convention preamble (7) *bis.*
[73] Annex VII.
[74] Non-recovery operations are regulated in art. 4A(1), recovery operations in 4A(2), Cf. Annex IVA and B.
[75] 4A(2) only applies to 'hazardous wastes', exclusively defined in art. 1(1)(a). The same limitation is *not* imposed in 4A(1), applicable for all 'wastes'; OECD Members, EU, Lichtenstein.

Amendment, the ban applies indirectly to all transboundary movements where eighter the importing or exporting country has ratified the Ban Amendment.

> The indirect effect for Parties that have not ratified the Amendment come from the general obligations and PIC-procedures that all Parties to the Convention must adhere to. For an exporting Party, the indirect effect follow the general obligation for Parties to «*prohibit […] the export […] to the Parties which have prohibited the import of such wastes*».[76] For an importing Party, the PIC-procedure require that «*The State of [import] shall not allow […] the transboundary movement until it has received […] written consent from the State of [export]*».[77]

Violations of the Ban Amendment constitute «*illegal traffic*» which is a «*criminal*» act subjected to penal sanctions.[78]

The EUs' transposition of the Convention is the EWSR, applicable to transnational waste-shipments taking place in Community territory.[79] The EWSR definition of 'wastes' is made by referral to WFD Annex I and II.[80] Ships' classification as waste is expressed through WFD art. 3(15) and article 4.[81]

While the Ban Amendment may be a new feature to the Convention, the EU has imposed the Basel Ban since 1997, and article 4A(2) is currently implemented through EWSR article 36.[82] The ban applies to waste-exports from the Community «*destined for recovery in countries to which the OECD decision does not apply*», if the waste has hazardous characteristics as listed in litra (a)-(e).[83] Illegal traffic is criminalised through the ECD.[84]

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[76] Art. 4(1)(b).
[77] Art. 6(3) cf. art. 6(5)(b).
[78] Art. 9(1)(b) cf. 4(3)-(4).
[79] EWSR art. 1(2). Excluded shipments are exhaustively listed in art. 1(3)-(5).
[80] EWSR art. 2(1), cf. WFD art. 3(1), (previously Directive 2006/12/EC art. 1(1)(a)), cf. 3(15) and 3(19); For 'waste', the «*actual intention*» of the holder is given decisive significance, cf. CJEU Case C-C421/12, para. 49.
[81] EWSR preamble (35); EWSR art. 2(2) defines 'hazardous wastes' through referral to Directive 91/689/EEC art. 1(4), a directive that was repealed the 11th of December 2010 by WFD art. 41. According to art. 41, the repealed Directive art. 1(4) is replaced by «*waste featuring on the list established by Commission Decision 2000/532/EC on the basis of Annexes I and II to this Directive*» that «*have one or more of the properties listed in Annex III*». The Decision 2000/532/EC was amended to Decision 2014/955/EU. The decision contains a substantial list of wastes subject to the test of hazardous properties in WFD Annex III, and specified limit values for certain substances or materials (additional to the cut-off values in WFD Annex III). The 2014-decision conferred by WFD Annex III is the applicable definition of 'hazardous wastes' in the EWSR, without prejudice to the list in EWSR Annex V.
[82] Previously Regulation 259/93/EEC amended by Regulation 120/97/EC; art. 34 address disposal-operations.
[83] Refers to OECD Decision C(2001)107/Final, also referred to as 'OECD+ countries'.
[84] EWSR art. 2(35)(f) cf. art. 50(1) cf. ECD art. 3(c).

After the accession of the Ban Amendment, ships are banned from being exported out of the Community for purposes of recycling in non-OECD+-countries by power of public international law.

2.3 European Ship Recycling Regulation 1257/2013

The ESRR aims toward « *facilitating early ratification*» of the HKC in the Community and in third countries through introducing EU regulation «*on basis of that Convention*».[85] The Regulation applies Flag State and Port State jurisdiction, covering ships of no less than 500 GT whose flag state is in the Community.[86]

The objective of the Regulation is «*namely to prevent, reduce or eliminate adverse effects […] caused by the recycling […] of ships flying the flag of a Member State*»,[87] acknowledging that its functionality is limited «*to the extent that re-flagging to avoid EU jurisdiction does not occur*».[88] To «*reduce disparities between operators in the Union, in OECD countries and in relevant third countries*» and «*avoid duplication*», the preamble of ESRR consider it «*necessary to exclude ships […] falling under the scope of this Regulation*» from the EWSR and the WFD.[89] The scope of EWSR has consequentially been amended.[90]

In recognition of the Basel regimes' shortcomings relating to «*the specificities of ships and international shipping*»,[91] the ESRR restrict the use- and require an inventory of hazardous materials in ships,[92] contain provisions for shipowners, recycling facilities and their host countries and Flag States on ship preparations, inspections and certificates ahead of a recycling-operation,[93] and specified procedures and technical standards for the recycling facilities.[94] Technical guidelines issued by the Commission «*in order to facilitate*» the approval recycling facilities in third countries function as specified requirements rather than as 'recommended but

[85] See analysis of HKC [60]; ESRR preamble (5).
[86] Cf. ESRR art. 2. ESRR does not apply to Community flagged ships that has operated solely within its flag states territorial waters, cf. art. 2(2)(c), nor to warships, naval auxiliary, or ships owned or operated by a state for non-commercial purposes, cf. art. 2(2)(a). The ESRR art. 12 has an additional geographical jurisdiction, including ships flagged to third countries when they call at a port or anchorage within Community territory, cf. art. 2(1).
[87] Preamble (22).
[88] [29, p. 8].
[89] Preamble (7) and (10); *Infra,* chapter 3.
[90] EWSR art. 1(3)(i). WFD allow specifying legislation for «*particular instances […] on the management of particular categories of waste*» through «*individual Directives*», cf. art. 2(4). The ESRR only override WFD in certain articles, «*particular instances*», although not a Directive.
[91] Preamble (2), referring to the Basel non-binding ship recycling guidelines, cf. 6th CoP Decision VI/24.
[92] Art. 4, art. 5.
[93] Art. 6-10.
[94] Art. 13-15.

optional' practices, as they are instructive on how to gain necessary approval from the Commission.[95]

The ESRR allow ships to be recycled at any yard listed in the European List of Ship Recycling Facilities.[96] Community facilities shall be authorised and added to the EU-list if they are compliant with the requirements of article 13, while facilities in «*third countries*» may apply for inclusion.[97] The ESRR makes no reservation for applications from facilities in non-OECD+ countries, and so the text of the Regulation allow for export of end-of-life ships to non-OECD+ countries, insofar as the destination-facility meet the criteria in article 15.

3 An article 11 comparative analysis of the EU strategy

The legality of the ESRR-system was a controversial matter already before the Ban Amendment entered into force,[98] and the legality has again been questioned in light of the binding force of the Basel Ban Amendment as public international law.[99] The access for non-OECD+ yards to the EU-list is in contradiction of the Ban Amendment, while the Convention declares that «*no reservation or exception may be made to this Convention*».[100] This chapter will analyse the legality of the ESRR in light of the EU's obligations under public international law.

> A third, but minor, point of conflict stems from a formulation in the ESRR preamble, stating that «*Ships neither covered by the Hong Kong Convention nor by this Regulation […] should continue to be subject to [EWSR] and to [WFD] and [ECD]*».[101] The formulation display an intention to allow also vessels covered by HKC and not by the ESRR, to be exempt from the WFD and the criminal liability for EWSR-violations in ECD.[102] Preamble recitals have no legal force independently, but is nevertheless noteworthy both as a reflection of EU policy and as it seemingly is the defence in the EWSR-based investigations of Eimskip and Teekay Offshore.[103]

[95] Art. 15(4) §3; See application in [1], [2] of EUTG, [32].
[96] Art. 6(2)(a) cf. Art. 16; See controversy on the EU-lists' recycling capacity [76].
[97] ESRR art. 13-15.
[98] The friction between the Convention and ESRR rise from the fact that the EU excluded ESRR-ships from the EWSR [26], [69] contra [29]; The frameworks apply different regulatory structures, which Krämer argues could be simultaneously applied after minor adjustments [69], para. 34.
[99] [26], [25] and [17].
[100] Basel art. 26.
[101] Preamble (10).
[102] Illegal waste traffic is criminalised in Directive 2008/99/EC art. 3(c), cf. EWSR art. 2(35).
[103] Eimskip is under investigation for demolition-sales of *Goodafoss* (**IMO** 9086796) and *Laxfoss* (**IMO** 9086801). Teekay is under investigation for *Navion Britannia* (**IMO** 9145188). Interestingly, the demolition sales of Teekay-ships *Alexita Spirit* (**IMO** 9152507), sold for approx. $9 million in April 2019, beached in Alang 06.05.2019), *Navion Scandia* (**IMO** 9168934), sold for $10.8 million in November 2018 beached in Chittagong 16.02.2019), and *Nordic Spirit* (**IMO** 9208045), sold for approx. $9 million in April 2019 beached in Alang 01.06.2019) are not part of the investigation, despite being within the same jurisdiction, [67], [68]. Both companies claim the sales under investigation were compliant with EU law since the yards are so-called 'Hong Kong certified', *infra*, subchapter 4.2.

3.1 The EU's assessment of the implications of the Ban Amendment on the ESRR and the Commissions «*proposed way forward*»

The Convention opens up for regulatory structures that deviate from the Convention text in article 11(1):

> «*Notwithstanding the provisions of article 4 paragraph 5, Parties may enter into bilateral, multilateral, or regional agreements or arrangements regarding transboundary movement of hazardous wastes or other wastes […] with Parties or non-Parties provided that such agreements or arrangements do not derogate from the environmentally sound management of hazardous wastes […] required by this Convention. These agreements […] shall stipulate provisions which are not less environmentally sound than those provided for by this Convention in particular taking into account the interests of developing countries*».

A cardinal rule of the VCLT, *pacta sunt servanda,* uphold the principle that «*every treaty in force is binding upon the parties to it and must be performed by them in good faith*».[104]

The applicability of article 11 to the Ban Amendment once in force was examined by the EU in 1995. The matter was discussed by the Council of Ministers of the Environment in October 1995, concluding that article 11 could not be applied in relation to article 4A.[105] Their position was affirmed by the EU Head of the Waste Management Unit, stating that «*any derogation from the general obligation of Article 4A by way of [article 11] would be a violation of the spirit and the provisions of the Convention*».[106] In 2012, the EU Legal Service issued an opinion in which they recognize the «*difficulty*» of relying on article 11 «*as regards to the Ban Amendment […] particularly in the absence of any appropriate interpretative Decision of the Basel Convention COP*».[107]

[104] VCLT-69 art. 26; The rule has been recognised as binding upon the EU by the CJEU: Case 104/81 (1982), ECR-3641 para. 18, regarding the EEC, Portugal and GATT 1947, the court confirm that «*According to the general rules of international law there must be bona fide performance of every agreement*»; Case C-61/94 (1996) I-3989 para. 30, the court refer to «*the general rule of international law requiring the parties to any agreement to show good faith in its performance*» when interpreting the International Dairy Agreement.

[105] [45, p. 2].

[106] Para. 4 [45].

[107] [29, p. 13].

The Commission conducted a new article 11-analysis of the ESRR in relation to the entry-into-force of Ban Amendment in October 2020, and reached the following conclusions:

> **(1)** no recycling yard situated in a non-OECD+ country can be accepted to the EU-list before the EU has concluded a ship recycling-agreement with the third country in question, **(2)** an agreement between the EU and the third country can make the ESRR-system article 11-compliant, and **(3)** insofar as no yard in a non-OECD+ country is on the EU-list, the theoretical possibility of such an inclusion does not in itself constitute a violation of the Basel Ban Amendment.[108]

The Commission consider the ESRR-regime to be performance in good faith of the EUs obligations under the Basel Convention, and is in the process of establishing a trade-agreement with India, through which the EU aim to facilitate export of end-of-life ships. The envisioned arrangement consists of three pillars: the ESRR, domestic ship recycling-regulation in India, and a ship recycling export agreement under the newly established India-EU Resource Efficiency and Circular Economy Partnership.[109]

3.2 Treaty interpretation of article 11

Access to deviate from the Convention through article 11 is conditioned by four cumulative criteria.

The first criterion identifies the valid legal instruments. The deviation must be conducted through «*bilateral, multilateral, or regional agreements or arrangements»*. The second criterion clarify the scope; the object of the arrangement must be concerning *«transboundary movement*» of wastes between the contracting Parties to the arrangement.

The third criterion is that the arrangement does «*not derogate from the environmentally sound management*» of wastes as required by the Convention. The ordinary meaning of derogation is defined as «*partial repeal of a law, usually by a subsequent act that in some way diminishes its original intent or scope*»; to «*enact something that is contrary to it*»; and «*an exception from a rule of law*».[110] The Convention rules on waste management must not be repealed, diminished, contradicted or granted exceptions by the agreement. This criterion is limited to regulate only

[108] Appendix A, pp. 7-8.
[109] Appendix A, para. 7 and 22-25; «EU-India Joint Declaration on Resource Efficiency and Circular Economy».
[110] Definitions from [34], [40], [27].

provisions on waste management, thereby allowing for derogation of other rules, such as notification procedures or dispute mechanisms. Considering the specific exception, «*notwithstanding the provisions of article 4 paragraph 5*» which regulate with whom a Party may engage in waste import or export, it is reasonable to interpret import and export as 'waste management' in the context of article 11.[111] This understanding is strengthened by the fact that physical movement of waste is a quite literal management of said waste, furthermore as 'control over transboundary movement of waste' and «*protect, by strict control*» the 'ESM of waste' constitute the object and purpose of the Basel Convention, respectively.[112] The fact that the object of an article 11-arrangement is transboundary waste-movement does not contradict this interpretation, as any trade-arrangement would have ancillary provisions on notification procedures, etc.

Finally, the arrangement «*shall stipulate provisions which are not less environmentally sound*» than those of the Convention, particularly accounting for «*the interests of developing countries*». The last criterion relates to any provision, on waste-management or otherwise. This threshold of environmental soundness is directly linked to «*the interests*» of developing countries, implying that the environmental interests of developing countries is the main, although perhaps not the singular, focus of particular consideration.

Aside from the treaty-text, subsequent agreements and practices between the Parties are central interpretative factors, such as CoP Decisions. Lacking «*any subsequent agreement regarding the interpretation*», the «*subsequent practice in the application*» of article 11 is utilised as an interpretative factor.[113]

Practice has been established through CoP decisions and deliberations on the relationship between the Basel Convention and the HKC. The Parties refer to article 11 as a question of whether the agreement or arrangement establishes an «*equivalent level of control*» and «*enforcement*» as the Basel Convention.[114] Assessment of 'article 11-equivalency' is a practice between the Parties and its content has not been further deliberated in a separate decision, which in turn reduce its weight as an interpretative factor.

[111] If not, the specific exception of article 4(5) would be superfluous. VCLT-69 art. 31(1).
[112] Preamble (24), Cf. VLCT-69 art. 31(2).
[113] VCLT-69 art. 31(2)(a)-(b).
[114] «*Equivalent level of control*» cf. 7th CoP Decision VII/26; 8th CoP Decision VIII/11; 9th CoP Decision IX/30; 10th CoP Decision X/17; «*A level of control and enforcement equivalent to that provided under the Basel Convention*», cf. 11th CoP deliberation, pt. 2 p. 21.

«*In light of the object and purpose*» as presented in the Convention title, the equivalency-reference is understood to be control over *«the transboundary movement»* and control over the *«disposal»* of an object or substance from the point in time when it becomes «*wastes*».[115] Although the Convention to some extent concern itself with the process before something becomes waste through provisions on reduced waste-production, these are given significantly less focus than waste-management in the Convention text. Control with waste-production is a secondary objective, and is accordingly given less importance in the interpretation of the term.

The context of how the term is used, as a referral to the deviation-access in article 11 as a whole, signal that ensuring equivalency in level of control and enforcement is the purpose of the articles' criteria. A second understanding of the term is that it refers to an assessment that replaces the criteria in article 11. The term could reasonable be understood as a precision of the criterion «*no less environmentally sound*», but if the term should replace the criterion «*do not derogate*», that would significantly alter the meaning of article 11. Considering that the term has not been explicitly deliberated by the Parties, nor stem from a subsequent agreement between them, the basis of the term is inadequate to replace, repeal or significantly alter the interpretation of the Convention text. The term is understood as a complimentary overarching assessment.

The meaning of «*equivalent level of control and enforcement*» is still is left ambiguous, and the context of its conclusion with the NIMBY-phenomenon and toxic trade, acts as a supplementary interpretative factor.[116] The term is therefore interpreted as an overarching requirement of equivalent level of enforcement and control over transboundary movement and control over disposal in order to prevent toxic trade in wastes.

3.2.1 The applicability of article 11 to the Ban Amendment in article 4A

According to the interpretation of the treaty-text, no article 11-arrangement can repeal, diminish, contradict or grant exceptions to the Convention rules on waste management, hereunder export. The Ban Amendment regulate waste-management through export, and an arrangement seeking to lift the Ban for recycling of ESRR-ships is clearly to grant an exception from the export-ban «*required*» by the Convention article 4A(2). The arrangement would «*derogate*» from the Conventions' Ban Amendment in every «*ordinary meaning*» of the term,

[115] Convention title, cf. art. 2(1); VCLT-69 art. 31(1).
[116] VCLT-69 art. 32(a).

and is therefore unable to fulfil the criteria of article 11.[117] As the article is inapplicable in relation to the Ban Amendment, no additional equivalency-assessment can be made.

The text of the treaty does not allow for the creation of an arrangement that circumvent the Ban Amendment and indeed the EU themselves deemed such an arrangement to be «*unacceptable from a legal point of view*».[118]

The conclusion is that article 11 cannot be applied in relation to the Ban Amendment in article 4A, and the exclusion of ESRR-ships from the EWSR is a violation of the Basel Convention.

3.3 Equivalent level of control and enforcement

On account of the Amendments' accession and the HKC-related legal developments, there is a pressing need for the 15th Basel CoP in July 2021 to clarify the relationship between article 4A and article 11 and how this relates to the coming regime of HKC-legislation. This analysis continues under the pretence that the CoP issues a Decision that explicitly accept such applicability of article 11 where the arrangement or agreement provide an equivalent level of control and enforcement as the Convention.[119]

The EU seemingly consider article 11-equivalency in both ESRR and Indian domestic law a necessity for its envisioned arrangement, while expressing uncertainty as to whether «*the Indian regime satisfies the conditions of Article 11*».[120] While the need for equivalency in both legislations may not be a condition for establishing an article 11-arrangement, the analysis will base itself on the EUs' strategy and understanding.

3.3.1 ESRR and article 11-equivalency

The first question is if the ESRR provide an equivalent level of control and enforcement as the Convention.

Among the previously mentioned dissertations, CIEL present the argument that «*an agreement facilitating an activity the parties have deemed to be so risky as to require a complete ban absolutely cannot be argued to provide an equivalent level of control to that ban*».[121] The Ban

[117] VCLT-69 art. 31(1).
[118] [45, p. 1]; Also 2012-opinion stressed the need for interpretative CoP Decision, implying the opinion that the text of article 11 itself does not allow for application to the Ban Amendment, *supra*, subchapter 3.1.
[119] Based on list of potentially relevant assessment-criteria in «Annex to OEWG-V11/12».
[120] [3], para. 21-24.
[121] [25, p. 7].

Amendment was adopted in recognition of that export of hazardous wastes to non-OECD+ countries *«have a high risk of not constituting an [ESM] of hazardous wastes as required by the Basel Convention*».[122] Although this rationale was based on circumstances 25 years ago and the ship recycling industry has seen improvements in that time, the prominent obstacles of poor enforcement and widespread corruption causing this «*high risk*» is still present in developing countries.[123] *Prima facie*, CIEL make a valid point considering the reasoning behind the Ban. However, a new regulation may instil more practicable rules of control resulting in reduced circumvention and better environmental protection, and the actual provisions on control and enforcement must be assessed closer before such a conclusion can be made.

An issue raised in all dissertations, is that while the Convention provisions include rules of ESM of waste through the entire waste stream, downstream management of hazardous waste is outside the scope of the ESRR. This difference in scope is due to the nature of the ESRR as EU secondary legislation whose jurisdiction is limited to the Community, while an international convention is granted applicability within the jurisdictions of all its Parties. Still, the criticism in the dissertations is a misrepresentation of the ESRR-control over DWM. While the ESRR may not have direct jurisdiction over DWM in third countries, it requires that an application to the EU-list provide «*evidence that the [DWM] will be carried out without endangering human health and in an environmentally sound manner*».[124] The inspection-procedure of each yard and the demand for evidence of environmentally sound DWM is not found in the Convention, and the ESRR grant a higher level of control in that aspect, particularly considering the central position of the their guidelines.[125] While the EU may seek to exclude ships from the Convention, the EU does not have the power to exclude ships from the Convention for the sake of third countries, who are bound by the Conventions DWM-provisions irrespective of EU policy. Should the yard employ unsound DWM, the Commission can respond by not accepting or by removing yards that do not comply with their standards.

The ESRR give more control to the EU over the soundness of downstream management of hazardous wastes and is more than equivalent to the Convention, at least when considered isolated from other control- and enforcement mechanisms.

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[122] 2nd CoP Decision II/12.

[123] *Supra,* subchapter 1.2; Shortcomings of ESM-compliance, *supra* fn. 34, *infra* fn. 128-130 and 139, [73, pp. 174-176], and PIC-procedure [73, pp. 173-174].

[124] ESRR art. 15(2)(f)(ii).

[125] *Supra,* fn. 95.

The CoP is in disagreement on the topic of the HKC and article 11-equivalency. The disagreement holds some relevance to the matter of ESRR and article 11 as the ESRR is based on the Hong Kong Convention, but this can only be given a minimum of weight since the Regulation applies higher standards than the HKC.[126]

The ESRR-stipulations does not allow for beaching, as they require that «*the ship recycling facility [….] operated in a safe and environmentally sound manner […] from built structures*» ensuring «*containment of all hazardous materials […] during the entire ship recycling process so at to prevent any release […] into the environment*» while any hazardous wastes is handled «*only on impermeable floors with effective drainage systems*».[127] In comparison, the Basel Convention prevent beaching through the Ban Amendment, but ascertain very little control over the recycling process in general.

The Convention instruct the Parties to abide by the relative size of «*environmentally sound management*», while the guidelines specifying what such management might entail are non-binding.[128] The Convention text left the extrapolation of the vague ESM-term to national discretion of the Parties, and limited the ESM-obligations to «*taking all practicable steps*», which in good faith must be interpreted as an intentional act from the Parties.[129] Still, the ESM-term is a central principle in the Convention and must have at least some material content, a minimum of environmental protection, reducing its relativity to some unknown extent.[130]

ESM of waste in third countries must according to the ESRR be «*broadly equivalent to […] Union standards*».[131] The EU standard of waste-management is found in WFD article 4.[132] In

[126] 10th CoP, decision X/17; [29], para. 21; Note that both predates the Ban Amendment, and that the EU position is modified accordingly; ESRR art. 13(1)(c), 13(1)(f), 13(1)(g)(i), 13(1)(h) and art. 15(5) differ from HKC.

[127] ESRR art. 13(1); (c), (d) and (g)(i), cf. art. 13(1)(f) and EUTG.

[128] The vague obligation of ESM *«means taking all practicable steps to ensure [wastes] are managed in a manner which will protect human health and the environment against the adverse effects*» in an OECD+ country, supplemented by non-binding guidelines, *infra,* fn. 130, Cf. Basel Convention art. 2(8) cf. 4A.

[129] Convention art. 2(8); Placing limitations on a Partys' sovereignty beyond what the Parties strictly speaking have agreed to relinquish, eighter through the original Treaty or subsequent agreements violate «*good faith*» and the principle of sovereignty, VCLT-69 preamble (6).

[130] Beaching-practices labelled «the insufficiencies» in BCTG pt.1§2; Absence of a CoP Decision on the question of beaching can constitute ESM could be interpreted as a conscious choice by the Parties; the Indian Code list beaching as a legitimate recycling-operation, cf. Section 2(xv); Beaching is briefly mentioned in 10th CoP Table 3(B)(3), Activity 31: «*develop a feasibility study to identify cost-effective alternatives to the beaching method*».

[131] ESRR art. 15(5).

[132] Applicable law within the Community and also for EWSR-shipments of waste to third countries, cf. EWSR art. 49(1) (WFD previously 2006/12/EC).

article 4(2) there is a referral to act in accordance with Directive article 13, which obliges the Community to conduct:

> *«waste management […] (a) without risk to water, air, soil or plants; (b) without causing a nuisance through noise or odours; and (c) without adversely affecting the countryside or places of special interest».*

The ESRR standards are more stringent than the Convention and provide a higher standard of ship recycling both within and outside the OECD+ countries, if they are complied with. Nevertheless, the assessment is not of which framework provide the most detailed rules, it is of equivalent level of enforcement and control over transboundary movement and control over disposal in order to prevent toxic trade in wastes. The problem remains that control over the transboundary movement itself is not the subject of the ESRR, and this is where the real problematics of equivalency arise.

The ESRR jurisdiction is based on territorial Port State Control in the Community and extraterritorial Flag State jurisdiction. The Port State Control may inspect ships in accordance with PSTD, but the inspection «*shall be limited to*» the ships' IHM, recycling-certificates and IHM-procedures.[133] The Port State Control may only detain a vessel «*in the event that it fails to submit […] a copy of the inventory certificate or the ready for recycling certificate*», while failure to carry an updated IHM «*shall not constitute a detainable deficiency*».[134] To adjust for lack of extraterritorial control beyond EU-flagged ships, the ESRR reserves the right for the Commission to conduct site inspections on EU-listed yard situated in third countries, and require that midterm-reviews are carried out every 2.5 year to verify compliance with article 13.[135]

The result is that all export or transit states within the Community must allow any ship headed to an EU-listed yard with its documentation in order to continue to a yard whose compliance is verified on a less than biannual basis. Despite the Commissions' inspection access, this is a very low level of control for the Sates in comparison with the authority of the exporting, transit and importing States of the Convention article 4(2)(e), instructing States to take «*appropriate*

[133] ; Directive 2009/16/EC; ESRR art. 11(1)-(3).
[134] ESRR art. 11(3).
[135] ESRR art. 15(4)(1)-(2).

measures to […] not allow export […] if it has reason to believe that the wastes […] will not be managed in an [ESM]».[136]

> The Convention does not mention Port State Control since it regulates general waste movements, but the authority given to the Competent Authority is the same where the waste-shipment is in an exporting, transit or importing Party's territorial waters. The Convention authority is exercised by environmental directorates rather than a Port State Control-inspector, but that is not a matter of whether the State has such authority, but of delegation. Although nothing in the ESRR prevent Community States from individually continuing to exercise a higher level of control through their directorates, this control would be shifted from obligatory to voluntarily. The ESRR is thereby a more lenient legislation.

Another issue of control in the ESRR-system is the procedure of approving ship recycling-plans. A vessel cannot be recycled before the ship-specific recycling plan issued by the yard is approved by the local Competent Authority. However, «*tacit approval shall be deemed given, if no written objection to the ship recycling plan is communicated […] within a review period laid down in accordance with the requirements of the state where the ship recycling facility is located*».[137] The review period is vulnerable to be exceeded due to unpredictable factors such as administrative burden, particularly in India where this review period is fifteen days.[138] Tacit approval grants effectiveness at the expense of control, especially as exporting or transit States are initially prevented from intervening if they suspect unsound waste-management.[139] In stark contrast, tacit approval is in the Conventions PIC-procedure reserved to transit States, and then only after a sixty days review period, while exporting and importing States must give written consent to waste shipments.[140] The ESRR approval-process ahead of ship recycling operations provide a significantly lower level of control than the Basel PIC-procedure.

The ESRR enforcement-stipulations deviate from the Convention both in preventive measures to prohibit an unlawful ship recycling operation to occur, and in the prescription of sanctions for violations.

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[136] See Convention art. 4(2)(f)-(g) and art. 4(5).
[137] ESRR art. 7(3)(3)
[138] The Act art. 17(3) and 20(3).
[139] The Competent Authority over Indian yards, GMB, describe Alang as «*blessed with high tidal range, [sic!] Long beach with gentle slope and firm ground facilitating beaching of ships just at the threshold of the plot*», [20] note: faulty web-page, access requires patience.
[140] Convention art. 6(4); Convention art. 6(2)-(3).

The Conventions' duty to reimport a shipment of waste when the shipment cannot be completed as intended or when the shipment is illegal, is not found in the ESRR.[141] Instead, a request can be made for «*the Commission to take action*» if there is «*an imminent threat*» of breach of article 13 and/or 15, but the «*action*» remains unspecified.[142] The Regulations review-, certification and inspection-procedures function as a long-term preventive measure, reducing the amount of, and increasing control over, toxic materials present in ships. The 'cradle-to-grave' approach has a mitigating effect, but as these measures control ships before they become 'wastes', they are less central to the assessment.[143] The ESRR lacks immediate preventive procedures, and equivalency for measures disruptive of unsound waste-management cannot be established.[144]

Both the Convention and the ESRR require that violations are sanctioned by penalties that are «*appropriate*»[145] or «*effective, proportionate and dissuasive*».[146] The difference in the frameworks is that where the Convention explicitly criminalise 'illegal traffic', therein requiring criminal sanctions for such breaches, the ESRR does not criminalise any violations of the Regulation.[147] The ESRR suggest sanctions of a «*civil or administrative nature*», and removed ESRR-ships from the Environmental Crime Directive.[148] The ESRR leaves the nature of sanctions for any violation to national discretion and decriminalise previously 'illegal traffic' under the Convention, which is an obvious lack of equivalency of enforcement.

The ESRR detailed requirements to ships and ship recycling yards set a considerably higher standard of ESM for the ship recycling process than the Convention.[149] Nevertheless, the limited access to control over facilities in third countries, for Community States to inspect or execute authority over ESRR-ships within their territorial waters, the forgoing of the PIC-procedure, the lack of specified preventive measures and decriminalisation amount to a system with a reduced ability to enforce the ESM-provisions and an overall lower level of control over the waste-management. The conclusion is that the ESRR does not provide an equivalent level of control and enforcement as the Convention.

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[141] EWSR art. 22-25 Cf. art. 2(35) & Convention art. 8 and art. 9(2)(a)
[142] ESRR art. 23.
[143] *Supra*, subchapter 3.2.
[144] [25], [17].
[145] Convention art. 4(4).
[146] ESRR art. 22(1)
[147] Convention art. 4(3), cf. art. 9; EWSR art. 2(35) cf. ECD art. 3(c).
[148] ESRR preamble (17); ECD art. 3(c).
[149] Note: Convention, not the EWSR, who subject waste to the standards of EU environmental law, which already are very high. The ESRR improve upon the EWSR in some respects, but not considerably.

3.3.2 Article 11-equivalency of Indian domestic law

Provided that the 15th CoP also explicitly recognise the ESRR as a valid article 11-instrument, the second question is if the Indian domestic law provides an equivalent level of control and enforcement as the Convention.

India has not ratified the Ban Amendment, and is not directly affected by it. The article 11-assessment will therefore focus on control of import, considering that article 4(1)(b) of the Convention compels India to respect the Ban Amendment by prohibiting waste-import from its Signatories.[150]

There are two legislative texts in the Indian ship recycling regulation, the first being the Basel-implementing Shipbreaking Code of 2013 and the second being the HKC-based Recycling of Ships Act of 2019. While still an uncompleted work, the latter entered into force when receiving the Presidents assent on the 13th of December 2019. There is legal uncertainty regarding the regulatory regime, as it is unclear if the Act repeal the Code, or if the two regulations are intended to complement one another.[151]

There are several articles in the Act that address matters that were covered by the Code.[152] Where the Act overlap the Code, the Act often reads «*as may be prescribed*» as «*rules made under this act*», and the future term heavily indicate that the previous regulation has been repealed.[153] This is further implied as article 19 use the present term, «*as specified by the regulations*», and by the existence of referrals to specific existing legal sources, such as the Factories Act.[154] This thesis will presume that the Act has repealed the Code in relation to vessels covered by the HKC.[155] This presumption does not compromise any referral to the EU position on the matter, as they seemingly have drawn the same conclusion.[156]

By repealing the Code of the Basel Regime through the HKC-based Act, the Indian Government has presumably declared that the Act is article 11-equivalent. The EU has not taken a clear stance on whether they support this move, stating that the Act is a «*clear indication that India*

[150] *Supra*, subchapter 2.2.
[151] [38].
[152] E.g. the Act art. 12(5), contra Code art. 5(2) and 8(3).
[153] E.g. the Act, art. 15(2) cf. art. 2(h).
[154] The Act refer to the Factories Act in art. 14-15
[155] The Act, art. 3 cf. art. 5.
[156] Appendix A, para. 23.

is committed» to environmentally sound ship recycling, while acknowledging that «*further information would be necessary on the specific implementing rules*».[157] The position of the EU appears to be that the Act may be article-11 equivalent depending on the specific rules that have yet to be prescribed. Unlike the ESRR, the Act has, as of yet, not improved upon the HKC-requirements to recycling yards.[158] The CoP-dissent to the Hong Kong Convention and article 11-equivalency is almost directly applicable to the Act, and the weight of the CoP set a strong biased against accepting equivalency of the Act. The analysis of the Act will limit itself to compare three differences between the Act and the Convention, considered sufficient to ascertain if it establishes an equivalent level of control.

According to the Act, no ship recycling facility may operate without being inspected and granted permission by the Competent Authority in accordance with the provisions in Chapter V1, and the ship recycling process is regulated in Chapter V.

Instead of the Conventions PIC-procedure, the Act prescribe that «*no Ship Recycler shall recycle any ship without a ship recycling plan […] approved by the Competent Authority*».[159] The ship itself also need permission for recycling, given «*only after physical inspection of the ship*».[160] The waste must undergo an application process in both the Convention and the Act, but the Act demand a physical inspection of the vessel. While the Convention require written consent, the Act deem both permissions to be tacitly given when «*the Competent Authority fails to convey its decision […] within fifteen days of its submission*».[161] Notwithstanding the added control of physical inspections, the control of the Act is nevertheless not equivalent to the PIC-procedure where all wastes are explicitly approved.

Another element relevant for assessing control, is the reporting-procedures. The Competent Authority is to report on approved facilities, non-compliant ships and recycled ships to the National Authority «*from time to time*».[162] In comparison, the Convention require that the Parties «*shall transmit […] to the [CoP] […] before the end of each calendar year, a report on the previous year*», of a substantial list of waste management statistics and activities.[163] The

[157] Appendix A, para. 24.
[158] Act, art. 12(5)
[159] The Act, art. 17(1).
[160] The Act, art. 18(1) cf. art. 20(1).
[161] The Act, art. 17(3); art. 20(2).
[162] The Act, art. 24.
[163] Convention art. 13.

Conventions' reporting obligations are more substantial and more and predictable than the requirements of the Act, resulting in a higher level of control.

The third aspect is of the applicability of the Act. The Act article 29(1) uphold that

> «*Notwithstanding anything contained in this Act, the Central Government may […] exempt any vessel or class thereof, ship recycling facility or Ship Recycler from any specified requirement contained in or prescribed in pursuance of this Act, or dispense with the observance of any such requirements, if it is satisfied that the requirement have been substantially complied with or that compliance with the requirements is or ought to be dispensed within the circumstances of the case*».

The competence of exemption is by article 29(1) granted to the Central Government, who «*may […] direct that any power, authority or jurisdiction exercisable by it […] under this Act […] be exercisable also by the National Authority or Competent Authority or such other officer*». Power to execute the substantial exception clause can be delegated to any such officer not below the rank of Joint Secretary.[164] This is a major weakness of the Act, especially when recognizing issues of corruption in India.[165] The Act allow for a very low and uncertain level of control, not equivalent to the Convention which allow for no exceptions.

The Act provide for tacit approval after short review periods, infrequent and unsubstantial reporting of its ship recycling activity, and grant access to complete exemptions from the prescribed procedures in the Act. Compared to the Conventions PIC-procedure of written consent, complete and regular reporting and lack of exemptions, there is no need for a more substantial analysis of the Act nor of its not-yet-prescribed complementary legislation to conclude the article 11-assessment.

Indian domestic law does not provide an equivalent level of control and enforcement as the Convention.

4 The legal matrix of ship recycling in the EU

The text of article 11 does not accommodate applicability to article 4A as it would derogate the prohibition, and the article may not be applied in relation to the Ban Amendment before an

[164] The Act, art. 3.
[165] *Supra*, subchapter 1.2; [22], [42].

interpretative CoP Decision expressively state that it can. In the case that such a decision should come in the future, neither the ESRR nor the Act are article 11-equivalent, and no article 11-arrangement can be concluded between the EU and India on the basis of their current legislation.

The position expressed by the EU, that their legal framework exempting ESRR-ships from the EWSR, is legal as long as no yard in a non-OECD+ country is added to the EU-list, creates uncertainty and lacks legal validity. The distinction between formal authority and exercised authority the EC builds their rationale on is questionable at best, but ultimately irrelevant. EWSR article 1(3)(i) excludes ESRR-ships from its scope, and by extension from the ECD, which cannot be done except through article 11. No such arrangement is present, and the exclusion is an act of non-compliance with the Convention.[166]

4.1 Efficiency

Both the Basel-regimes' EWSR and the ESRR are fairly easy to circumvent in the case of ship recycling. The EWSR applies to vessels in Community territorial waters from the point in time when it is «*intended to be […] disposed of*», while The ESRR applies to ships as long as they are flagged to the Community.[167] The result is that shipowners can avoid the applicability of both Regulations by sailing the ship out of Community territorial waters and re-flag the vessel to a convenient jurisdiction before the intention of conducting a demolition-sale is manifested.[168] At this point, a decision to recycle the ship is outside the scope of both EU Regulations, and the ship can be sold or sailed for recycling anywhere that is accepted by the new Flag State.[169] Circumvention require planning ahead and caution in the decision-making process, but it is very feasible.

When applicable, the Regulations are relatively effective, in the sense that they are able to detect violations of the applicable Regulations, and there are enforcement mechanisms to sanction unlawful conduct. That being said, the question of whether the Regulations are efficient, eligible to achieve their aim to prevent illegal traffic and unsound ship management, is an entirely different question.

[166] Where the EWSR and ESRR duplicate one another on procedural matter of certificates, the ESRR-system could quite possibly constitute an article 11-agreement.
[167] *Supra*, chapter 2.
[168] [70] Pt. 4.3.4.2, para. 5.
[169] *Supra*, subchapter 1.2 on Flag States; The vessel would to avoid Community territorial waters on its break-up journey not to be encompassed by the EWSR.

The ESRR entered into force on the 31st of December 2018 and is fully applicable from the 31st of December 2020. Reports from the Community States is due no sooner than 30th of September 2022. Even though the certifications-requirements to every ESRR-ship undeniably will contribute to increase knowledge of which hazards a ship contain, it is nevertheless too early to assess the efficiency of that Regulation as a whole.[170] The EWSR has been in force since the 12th of July 2007, and an assessment of its efficiency can safely be executed.[171]

4.1.1 Case law

Notwithstanding the domestic nature of penal law, the questions of what constitutes illegal traffic are matters of treaty-interpretation and is as such Community relevant case law.[172] There are two cases of EWSR enforcement that are important contributions to establishing criminal liability for perpetrators and accessories for demolition-sales in ship recycling.

The first case is the recently annulled Dutch Seatrade-case of 2018.[173] It was a landmark ruling, convicting shipping company Seatrade and two of its CFOs' for the demolition-sales of four ships that sailed from Rotterdam and Hamburg, intended to be sold 'on delivery' in Alang.[174] Seatrade was fined €750 000, and the CFOs' got a one-year professional disqualification and were fined €50 000. It was the first case in the Community that held the perpetrators criminally liable for demolition sales in violation of EWSR article 36.

The second is the Norwegian Harrier-case of 2020, which has been appealed.[175] The ship, Eide Carrier, was sold by shipping company Eide Marine Eiendom to cash buyer Wirana 'as is where is' in 2015.[176] Wirana sent the ship to sail from Norway to Gadani in 2017, but the ship was detained after it broke down, still in Norwegian territorial waters. The perpetrator, Wirana, was

[170] *Infra,* subchapter 4.2.1.
[171] EC review based on reports from the Community is expected 31st of December 2020, see also [81].
[172] The CJEU does not have *de jure* power of future precedent as there is no doctrine of *stare decisis* in EU law, yet their interpretations are given *de facto* precedent in Community treaty interpretation [62, p. 832]. Keeping in mind that while the system of CJEU/EFTA court is dualistic, allowing only EU-cases to be brought before the CJEU (limiting the significance of EEA case law), the novelty increases the importance of domestic EEA-practices for interpretation in the Community.
[173] Awaiting retrial since the Hague Court of Appeal could not establish impartiality of the Court, 02/07/2020.
[174] [70]; *Spring Bear*, *Spring Bob*, *Spring Deli*, *Spring Panda*, (**IMO** 8220383/8213665/8220424/8213653, respectively).
[175] [71].
[176] Renamed Harrier, **IMO** 8730479; The sales contract between formally name Julia Shipping Inc as the Buyer, but the contract list Wirana-CFO Keyur Dave, as «*contact person*» in Julia. Julia refuse to disclose its ownership structure. The Norwegian Environment Agency consider Wirana as *de facto* owner of Harrier, but were fined as 'managers' [15].

in 2019 issued a fine of €700 000 for attempting illegal traffic after EWSR art. 37(5).[177] EME and its owner Georg Eide were convicted as accessories for the demolition sale and involvement with the shipment. Georg Eide was sentenced to 6 months imprisonment and a fine of NOK 10 000, while EME was fined 2 mNOK.

Holding perpetrators criminally liable for EWSR 'illegal traffic' is a novelty in the Community, and the two cases signal a significant shift in enforcement practices, and the investigations of Eimskip in Iceland or Teekay Shipping in Norway could be vital in further establishing liability in the court of law.

Pushing aside the corporate veil on liability in ship demolition-sales could have a chilling effect on any undertaking involved in the export of ships for recycling-purposes operating within Community territory.[178] Yet if the assumption is made, that as long as it is profitable to circumvent Community Regulations the shipping industry will continue to do so, then any regulating legal instrument must counteract the profitability in order to be efficient.

In the Seatrade-case, the company were paid $11 932 797,07 in the demolition-sale of the four ships, while the Court fined the company €750 000.[179] Ships that are sold for recycling contain high values in materials irrespective of recycling country, and it would be inaccurate to compare the total sale price with the fine. The price offered in EU yards are more or less half of prices offered in Southeast Asia, so the profit made strictly through waste export was approximately $6 000 000.[180] Thereto is added that Seatrade beached a total of 15 ships in the period from 2010-2017, with a total revenue close to $40 000 000.[181] Considering the size of the export-profit, a fine of €750 000 can hardly be considered deterring, and evidently wasn't for Seatrade, who beached two additional ships in Alang even as the legal proceedings were ongoing (see Appendix F).

[177] It is unclear why it was prosecuted after implementation of art. 37(5) instead of art. 36. Harrier contained 260 tons of asbestos [71, p. 21] making it 'hazardous waste' subject to the export prohibition, cf. EWSR art. 36 cf. Annex V 2§2 cf. Annex V Part 1 List A, code A2050.

[178] Initial charges in Harrier included an insurance company and a consultant.

[179] The currency used in ship demolition sales is USD. Where inaccuracies related to exchange rate at the date of payments cannot be avoided the original currency is used; *Bear* $3 184 959,99, *Bob* $3 233 289,08, *Deli* $2 792 220, *Panda* $2 722 328, [70] pt. 4.3.3.4.

[180] The EU prices are between 50-75% lower than that offered in Southeast Asia, ranging between 125$/ldt and 240$/ldt, [37], [46]. Note: the source in [46] is biased (Anil Sharma, founder and CEO of cash buyer GMS), and that the calculations of EU prices are in 2020, not 2012 (due to difficulties finding historical statistics). Irrespectively, the difference is presumed to have been similar in 2012 as the price gap is a lasting problem, cf. *supra,* chapter 1.

[181] Not adjusted for legal/illegal profit, [7, p. 11].

The profitability of the illegal demolition-sale in the Harrier-case was NOK 4 256 319 ($520 975) for the shipping company, who was fined 2 mNOK ($225 578).[182] A rough estimate can be made of the profitability for the presumed owner, Wirana.[183] As explained in the introduction, a cash buyer like Wirana buy ships from shipowners at scrap value, and they are called 'cash buyers' because they pay the shipowners upfront.

Wirana paid 5 mUSD for the 22 030 ldt ship in July 2015. The median scrap-price in Pakistan 2017 when the ship was sent for recycling, was between 375-395 $/ldt, similar to India where the average was 375 $/ldt (see Appendix G).[184] Estimated on basis of these statistics, the demolition value that Wirana could expect for Harrier in Gadani in 2017 was approaching $8 261 250.[185] The anticipated profit at the time Wirana sent the ship for recycling was somewhere around 3 mUSD.[186] Wirana ended up having to recycle the ship in Turkey at decisively lower rates, reducing their profit margin by more or less $1 872 550 to an actual profit somewhere around $1 388 700.[187] Wirana profited from the demolition sale despite the fine of €700 000, although significantly less than anticipated. For cash buyers whose business-model is based on speculation, claiming to be «*working on extremely low and limited margins, underwriting market conditions*», a loss of $1 872 550 in anticipated profit and a €700 000 fine is not insignificant.[188]

> Cash buyers profit margin can be a lot smaller than in the Harrier-case. The cash buyers profit in the recent sale of a 28 189 ldt-ship named Janice N was $563 798.[189]

Fines of €700 000 may reduce or undercut the profit margin for cash buyers entirely, but their effect upon the industry is uncertain – it could simply lead to an adjustment of cash buyers' risk-assessments. Nevertheless, the fines for cash buyers are as «*dissuasive*» as they can get

[182] The prosecutions illegal profit-adjustment: estimated scrap-value in Turkey NOK 36 654 581 ($4 486 539), valued at approximately 203 $/ldt in 2015, cf. [71, p. 38]; DNB exchange-rate fine 27/11/2020 and scrap-value 30/07/2015.

[183] If Julia Inc is the real buyer, the assessment applies for Julia Inc, minus €700 000.

[184] Pakistani yards paid $2,5 more per ldt than Indian yards, Appendix G, Table 1; Appendix G, Table 2.

[185] $375 x 22 030 LDT = $8 261 250.

[186] Not adjusted for their expenses, Appendix B.

[187] My rough estimation of actual rates and profitability: The scrapping market in Turkey at the time of recycling January 2018 was at $290/mt, resulting in an approximate scrap price of 22 030 x 290 = $6 388 700, [11]. Profit reduction $6 388 700 - $ 5 000 000 = $1 388 700; estimated profit reduction $8 261 250 - $6 388 700 = $1 872 550. Note **1:** the difference between mt/ldt is inconsequential, cf. figure 3 [11], **2:** Harrier was recycled in August, but I have not found prices for that month. Based on historic development of prices in 2017, I assess that the January prices are sufficient to highlight the price-difference, cf. figure 3 [11] and Table 2 [8].

[188] [35].

[189] *Janice N* (**IMO** 9084190) was reported sold at 337 $/ldt for 9.5mUSD, leaving 28 189 ldt. The ship was eventually bought by the cash buyer for 350 $/ldt and sold for 370 $/ldt, [39].

while still being «*proportionate*» sanctions.[190] For the sake of shipowners, current enforcement-practices does not counteract the profitability of unsound ship recycling practices and are not efficient, as highlighted by the figures above.

4.2 De lege ferenda

In light of how easy it is for shipowners to circumvent the Regulations, it goes without saying that introducing economically viable recycling-options to beaching is of paramount importance for the sake of achieving the overarching goal of environmentally sound ship recycling. Several corporate initiatives are being taken which present shipowners with associative- or economic incentives to promote safe and environmentally sound ship recycling practices.[191]

From a pragmatic point of view, it should be emphasised that recycling in non-OECD+ countries in itself is not undesirable. As highlighted in the introduction, the ship recycling countries of Southeast Asia are highly dependent on their ship recycling industry, and to avoid an increased north/south-problematics of depriving these countries of important industries, a goal should be to incentivise them to increase their standards to an acceptable level of worker safety and environmental protection. The rise of facility-standards that has taken place in India since the HKC was created proves that the HKC has had a positive impact, and the ESRR is suitable to further that same positive development (see Appendix H).[192]

Priya Blue Industries Private Limited [1]: landing area/ drainage facilities/ secondary cutting deck.

[190] EWSR art. 50(1); ESRR art. 22(1).

[191] CSR-standards: RSRS implemented by banks such as DNB, ABN AMRO, ING, NIBC, KfW-IPEX, Nordea, Danske Bank; Sustainable Shipping Initiatives' SRTI; The Clean Shipping Network, including H&M, ABB, Volkswagen and Philips; Norwegian Shipowners' Association «No to beaching of ships» in 2015; CSR-standards effect: KLP divest from NAT [78]; NBIM divest from Precious Shipping and Evergreen Marine [79], the latter subsequently joined SRTI in 2020 [80].

[192] «*the Indian ship-recycling industry has taken some positive steps to reduce work-related fatalities and incidents […] e.g. asbestos chambers, although the research group found these were not used*» [74, p. 33].

The first picture is from the Priya Blue facilities in Alang, which was the first yard in India to receive a Statement of Compliance to the HKC from a classification society.[193] Priya Blue applied for inclusion on the EU-list, but was found wanting in several areas, inter alia for beaching ships by dismantling them in the intertidal zone (left picture). The picture below is from Y. S. Investments in Alang. The difference in standard between Priya Blue and Y. S. Investments is evident, and the latter who employ the landing-method was awarded a SoC to the ESRR by Lloyds Register in May 2019. Despite the certification by a widely recognized classification society, the yard still has not been accepted to the EU-list as the Commissions verifier, DNV-GL uncovered five discrepancies in their inspections in 2019.[194] Nevertheless, the yard is an example of a standard that is very close to compliance with EU-requirements.

Y. S. Investments [2]: yard/ secondary cutting deck with drainage, lading-method landing, cf. [2] art. 16(2)(a).

Working under the presumption that the ESRR-standards prohibit ship recycling methods that allow for the hazardous wastes to seep into the ground or be washed into the sea, despite the cutting occurring on beaches with high tidal range, this is a very positive development.[195]

As long as the Ban Amendment prohibit all EWSR and ESRR-ships from being recycled in non-OECD+ countries, neither Regulation can contribute to raising the standards of the non-OECD+ yards further than the level of HKC-compliance exemplified by Priya Blue, despite being in the environmental interest of developing countries and in the interest of their development. For the sake of environmentally sound ship recycling, EU-compliance to the Basel Convention and of eco-sustainable development in the Community and non-OECD+

[193] SoC issued by ClassNK. An SoC is not a certification an actual HKC-certification, as the HKC has yet to enter into force.

[194] When a yard situated in third countries apply for inclusion on the EU-list, they must first by inspected by and obtain certification from an independent verifier. This certification is sent as the application to the EC, cf. ESRR art. 15(4); [28] and [2].

[195] Although research commissioned by the EC in 2016 concluded that «*the Indian ship-recycling industry […] always uses the beaching technique and significant improvements cannot take place until a dry dock is used*», [74, p. 33].

countries alike, the question should be raised: what can be done by the EU to create an article 11-arrangement with India on the basis of the ESRR?

4.2.1 The road to compliance for the ESRR

The accession of the Ban Amendment was a drastic change in the Conventions provisions of waste management, devaluating previously issued CoP-statements regarding article 11 and the HKC. As shown in chapter 3, no Party can in good faith apply article 11 to article 4A as that would be conduct in direct conflict with the treaty text. The change in circumstance require the CoP to give its explicit acceptance for such application to be lawful.

Should the CoP accept applicability, it would be appropriate to provide further elaboration on what «*equivalent level of control and enforcement*» entails in the Decision. The ESRR can be made lawful eighter through direct acceptance by the CoP or through achieving article 11-equivalency.[196]

As identified in the article 11-analysis of the ESRR, the Regulation must be subjected to several amendments to establish an equivalent level of control and enforcement as the Convention. Equivalency of control cannot be achieved without the re-establishment the level of authority given to export and transit countries under the Convention, while equivalent level of enforcement conditions the re-establishment of criminal liability for violations and specified preventive measures to replace the take-back obligation.

The question of what constitutes equivalent control regarding the written approval for import and export in the Convention contra tacit approval in the Regulation is more nuanced. On one side, if every ship and ship recycling plan must receive a written approval, the administrative burden might be so significant that the quality of the review could suffer by it. On the other side, running the risk of letting approvals be given without the ships or recycling plan having been reviewed is similarly damaging. The question of written or tacit approval should be reviewed in light of relevant administrative and industry statistics, and if tacit approval is able to provide an equivalent level of control, the ESRR should at the very least establish an appropriate minimum review period.

[196] The ESRR applies as a regional agreement for the Community which must achieve article 11-equivalency to be valid, even without the EU-India agreement.

Regarding the EU-India trade agreement, the CoP could clarify whether both the legislation of the exporting and importing country needs to be article 11-equivalent. There is however no explicit requirement of dual equivalency in Parties domestic legislation in the treaty nor in the CoP-statements. The text mention only «*agreements or arrangements*», and the CoP has not addressed conditions beyond article 11-equivalency.

As it stands, an article 11-arrangement without dual equivalency in the legislation of the countries involved is a theoretical possibility.[197] Furthermore, the possibility is also practical *«taking into account the interests of developing countries*», as it can aid in establishing of higher level of control and raise industry standards in developing countries.[198] In line with the letter and purpose of the Convention article 11, the EU can seek to establish an article 11-arrangement with India through improving the ESRR while mitigating the identified deficiencies in the Indian Act through the trade agreements' provisions.[199] The agreement should also require frequent reports on the recycling of ESRR-ships to the Commission, to supervise and verify continuing compliance in the recycling-practices (see Appendix H).[200]

A report issued by EMSA in May 2020 suggest that the Regulations' effectiveness suffers severely on account of out-flagging practices.[201] The «*proposed way forward*» present some very interesting measures to counteract the derogating effect of out-flagging practices have on the effectiveness of the ESRR. The Directorate General Environment and the Commission propose the implementation of a financial incentive for shipowners to recycle within the Community, a Ship Recycling License to subsidize the cost-gap between the Community and Southeast Asia, and expanding the scope of the ESRR to include vessels under beneficial ownership in the Community, irrespective of Flag State.[202]

As the Community owned fleet constitutes approximately 35-40% of the world fleet, implementing regulation based on beneficial ownership would prohibit circumvention by out-flagging to Flags of Convenience and increase the effectiveness of EU regulations, while also provide a powerful incentive to raise global industry standards. Despite the current state of the industry and the EU Regulations' non-conformity with public international law, the political,

[197] That being said, it would difficult to do so without equivalency in at least one Partys' legislation.
[198] Convention art. 11
[199] *Supra*, subchapter 3.2.2.
[200] E.g. by adding a report-obligation to the existing documentation-obligation in ESRR art. 13(1)(j), who per now are only required «*if requested*» by the Competent Authority.
[201] [3], para. 29.
[202] ESRR preamble (19); [3], para. 30-33; [19].

legal and industrial developments and initiatives gives hope for a future ship recycling industry where worker safety and environmental sound management become the new global standard.

Appendices

Appendix A
Directorate on Circular Economy and Green Growth

Source: [3].

Ref. Ares(2020)5303741 - 07/10/2020

EUROPEAN COMMISSION
DIRECTORATE-GENERAL
ENVIRONMENT
Directorate B - Circular Economy & Green Growth
ENV.B.3 - Waste Management & Secondary Materials

Note for the attention of the Ship Recycling Regulation Committee

Subject: **Implications of the entry into force of the Basel Ban Amendment on Regulation 1257/2013 on Ship Recycling and proposed way forward**

At the last meeting of the Experts' Group on ship recycling, held on 13 February 2020, the Commission presented its preliminary findings on the implications of the recent international entry into force of the so-called Basel Ban Amendment on Regulation 1257/2013 on ship recycling[1] (the "Ship Recycling Regulation"). Several Member States commented on this matter during and after that meeting.

You will find attached a note aimed at clarifying the legal situation and outlining the proposed way forward, including also concerning the future review of the Ship Recycling Regulation.

We would welcome your views on the issues addressed in this note, and look forward to discussing further these matters with you at the next meeting of the Ship Recycling Regulation Committee in November. We would also invite you to share this note with experts in charge of the implementation of the Basel Convention in your Member States.

Mattia Pellegrini
Head of Unit

[1] 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 and Directive 2009/16/EC; *OJ L 330, 10.12.2013, p. 1.*

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ANNEX

I. RELEVANT FACTS AND CIRCUMSTANCES

1. End-of-life ships qualify as hazardous waste, which falls under the scope of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal[2] (the "Basel Convention"). The EU and all of its Member States are Parties to the Basel Convention.

2. The so-called Basel Ban Amendment was adopted in 1995 and entered into force on 5 December 2019. The Basel Ban Amendment prohibits exports of all hazardous wastes covered by the Basel Convention (which includes end-of-life ships) that are intended for final disposal, reuse, recycling and recovery from Parties and other States which are members of the OECD and the EU and from Liechtenstein to all other countries. The EU and all of its Member States have ratified the Basel Ban Amendment.

3. Regulation 1013/2006 on shipments of waste[3] (the "Waste Shipment Regulation"), which implements the rules of the Basel Convention into EU law, includes a similar ban on the export of hazardous waste to countries outside the OECD in its Article 36. Nevertheless, end-of-life ships are excluded from the scope of application of the Waste Shipment Regulation under its Article 1(3)(i) in so far as they are covered by the Ship Recycling Regulation (which applies to large commercial seagoing vessels (above 500 gross tonnage) flying the flag of Member States of the European Union).

4. The Ship Recycling Regulation[4] is to a large extent based on the Hong Kong Convention on the Safe and Environmentally Sound Recycling of Ships[5] (the "Hong Kong Convention"), which was signed in 2009 but did not yet enter into force. Article 1 of the Ship Recycling Regulation expressly provides that the Regulation aims to facilitate the ratification of the Hong Kong Convention. The EU is however not a party to the Hong Kong Convention (as it falls under the International Maritime Organisation), and only eight of the Member States have ratified the Hong Kong Convention. Seven non-EU countries have ratified the Convention, including India (on 28 November 2019). On a number of issues, the Ship Recycling Regulation imposes stricter environmental and safety requirements than the Hong Kong Convention.

5. The Ship Recycling Regulation was adopted in 2013 and most of its provisions have been applicable since 31 December 2018[6]. The Ship Recycling Regulation does not impose an export ban on end-of-life ships, but rather contains a system according to which EU-flagged ships may be recycled only in safe and environmentally sound facilities included in the European list of ship recycling facilities (the "EU list"). One important reason for the adoption of the Ship Recycling Regulation was the recognition that an export prohibition on end-of-life ships from the EU to non-OECD countries would be nearly impossible to enforce.

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2 22 March 1989, 1673 UNTS. 125, to be found at: http://www.basel.int/TheConvention/Overview/TextoftheConvention/tabid/1275/Default.aspx

3 Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste, *OJ L 190, 12.7.2006, p. 1.*

4 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 and Directive 2009/16/EC; *OJ L 330, 10.12.2013, p. 1.*

5 http://www.basel.int/Portals/4/Basel%20Convention/docs/ships/HongKongConvention.pdf

6 Per Article 32(1)(b) of the Regulation

Data confirmed that the rules of the Waste Shipment Regulation were circumvented on a large scale when it came to end-of-life ships. Therefore, it was deemed appropriate for the EU to subject end-of-life ships to a regime of controlled export for recycling, rather than to an export ban.

6. Facilities are included on the EU list through Commission Implementing Decisions when they comply with strict criteria[7]. Whereas the EU list currently only includes facilities in the OECD, it is open to any facility meeting the relevant criteria, regardless of where it is located. At present, there are a number of facilities in India which have applied for inclusion on the EU list and some of them have made important progress towards achieving compliance with the strict EU requirements.

7. In this context, it should be further noted that at the last EU-India summit, held on 15 July 2020, EU-India leaders adopted a joint declaration on resource efficiency and circular economy[8] ("the Joint Declaration"). The Joint Declaration envisages strengthened cooperation on ship recycling under the framework of the newly established India-EU Resource Efficiency and Circular Economy Partnership.

8. Finally, it must be recalled that Article 30(3) of the Ship Recycling Regulation provides that "*[t]he Commission shall keep this Regulation under review and, if appropriate, make timely proposals to address developments relating to international Conventions, including the Basel Convention, should it prove necessary*". The recent entry into force of the Basel Ban Amendment can be considered as a development falling under the scope of this specific provision.

II. INTERPLAY BETWEEN THE SHIP RECYCLING REGULATION AND THE BASEL BAN AMENDMENT

9. Following the entry into force of the Basel Ban Amendment, the Basel Convention prohibits the export of end-of-life ships to countries outside the OECD. The Ship Recycling Regulation theoretically allows for export of end-of-life ships to countries outside the OECD, as long as such transport takes place to facilities included on the EU list. Nevertheless, since no facilities from non-OECD countries are included on the current EU list, it is at present impossible to export EU-flagged end-of-life ships to non-OECD countries in conformity with the Ship Recycling Regulation.

10. On that basis, it is considered that there are currently no inconsistencies between the regime of the Basel Convention and that of the Ship Recycling Regulation, as neither allows the export of end-of-life ships to non-OECD countries.

11. However, the inclusion of a facility located in a non-OECD country on the EU list would allow the export of EU-flagged end-of-life ships to that non-OECD country. In so far as that situation is not covered by an agreement or arrangement meeting the conditions of Article 11 of the Basel Convention, this inclusion under the Ship Recycling Regulation would be incompatible with the obligations of the Basel Convention, as amended.

12. Indeed, after the inclusion of the non-OECD facility on the EU list, the regime of the Ship Recycling Regulation would allow exports of end-of-life ships to a non-OECD country, whereas the Basel Ban Amendment prohibits such exports, thus leading to incompatible legal

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[7] The substantive requirements necessary for ship recycling facilities to be included in the EU list are set out in Article 13 of the Ship Recycling Regulation. The procedure for inclusion of facilities on the EU list is regulated under Article 16 in conjunction with Articles 14 and 15 of the Regulation.

[8] https://www.consilium.europa.eu/media/45027/joint-declaration-with-india-on-resource-efficiency-and-circular-economy.pdf

regimes as such. As Parties to the Basel Convention, both the EU and its Member States have to comply with their obligations flowing from international law.

13. In that respect, Article 11 of the Basel Convention foresees the possibility for Parties to enter into "*bilateral, multilateral, or regional agreements or arrangements regarding transboundary movement of hazardous wastes*", as long as these "*do not derogate from the environmentally sound management of hazardous wastes and other wastes as required by this Convention. These agreements or arrangements shall stipulate provisions which are not less environmentally sound than those provided for in this Convention, in particular taking into account the interests of developing countries [...]*" Article 11 further states that "*The provisions of this Convention shall not affect transboundary movements which take place pursuant to such agreements provided that such agreements are compatible with the environmentally sound management of hazardous wastes and other wastes as required by this Convention*".

14. In order for the EU and its Member States to pursue the approach set out in the Ship Recycling Regulation and remain in compliance with their obligations under the Basel Convention, the pre-condition for the inclusion of any facility from non-OECD countries on the EU list is that the export of end-of-life ships to the country in question is covered by an agreement or arrangement satisfying the conditions of Article 11 of the Basel Convention.

III. PROPOSED WAY FORWARD

15. The Commission services consider that the current EU policy on ship recycling, based on the Ship Recycling Regulation, is the most effective way for the EU to continue to promote sustainable ship recycling practices worldwide, including in the big ship recycling countries in South Asia, which have been receiving the vast majority of European vessels for dismantling over the past two decades.

16. This EU policy has been delivering important results. Most notably, the opportunities presented by the EU list have already incentivised a number of yards globally, including in non-OECD countries, to bring their operations and infrastructure up to higher standards, to the benefit of the workers and the environment.

17. The Commission services would therefore propose to maintain the current regime of the Ship Recycling Regulation, notably the possibility for yards located in non-OECD countries such as India to join the EU list in the future. At the same time, the Commission services would also propose to start to explore how the current regime of the Ship Recycling Regulation could be further strengthened in the future, with a view to boosting ship recycling in Europe and increasing the supply of important secondary raw materials such as scrap steel for the European steel industry. The main elements of this proposed way forward are presented below.

A. INCLUSION OF INDIAN YARDS ON THE EU LIST

18. It follows from the analysis in the previous section that the inclusion of an Indian facility on the EU list would require the conclusion of a bilateral agreement or arrangement between the EU and India satisfying the conditions of Article 11 of the Basel Convention, which require equivalence in terms of environmentally sound management of waste.

19. In order to meet these conditions, this agreement or arrangement would have to recognise that the regime applying to the export of end-of-life EU-flagged vessels to India for dismantling in EU-listed yards is based on provisions which are not less environmentally sound than those provided for by the Basel Convention.

20. The Commission services believe that, from the EU side, the regime of the Ship Recycling Regulation meets that requirement. Notably the substantive requirements necessary for ship

recycling facilities to be included in the European List under Article 13 of the Ship Recycling Regulation ensure the environmentally sound management of end-of-life ships.

21. It must be also recalled that these EU requirements are largely based on the Hong Kong Convention and take also into account the relevant guidelines of the Basel Convention. Moreover, as far as the Hong Kong Convention is concerned, in April 2010 the EU and its Member States concluded in their assessment submitted to the Basel Convention's Open Ended Working Group-VII/12 that the Hong Kong Convention "*appears to provide a level of control and enforcement at least equivalent to the one provided by the Basel Convention (...)*". Therefore, it is considered that the Ship Recycling Regulation, which gives effect to the Hong Kong Convention at EU level, also satisfies the conditions of Article 11 of the Basel Convention, even more so since the Ship Recycling Regulation contains some more stringent requirements than the Hong Kong Convention[9]. In addition, the Ship Recycling Regulation has introduced additional control measures, including site inspections by the Commission of third country yards prior to or after their inclusion on the European List, contingent on cooperation with the authorities of the said third countries.

22. From the Indian side, the ratification of the Hong Kong Convention on 28 November 2019 was followed by the adoption of the Recycling of Ships Act, 2019[10], which transposes the requirements of the Hong Kong Convention into Indian law and sets out the main provisions governing ship recycling activities in the country. Under this Act, ship recycling facilities are required to be authorized and ships shall be recycled only in such authorized ship recycling facilities. This Act also provides that ships shall be recycled in accordance with a ship-specific recycling plan. Ships to be recycled in India shall be required to obtain a Ready for Recycling Certificate in accordance with the HKC. The Act furthermore imposes a statutory duty on ship recyclers to ensure safe and environmentally sound removal and management of hazardous wastes from ships. Penal provisions have been also introduced in the Act to deter any violation of statutory provisions.

23. Furthermore, it is understood that, based on this new Act, the Indian administration is currently working on the adoption of further specific rules and regulations designed to set out detailed conditions regarding ship recycling activities in India.

24. The fact that India has ratified the Hong Kong Convention and adopted corresponding domestic legislation is a clear indication that India is committed to ensuring an environmentally sound management of end-of-life vessels. However, in order to be able to confirm that the Indian regime satisfies the conditions of Article 11 of the Basel Convention, further information would be necessary on the specific implementing rules for the new Act.

25. On this basis, the Commission services therefore propose to invite India to provide further information on the status and contents of their regime on ship recycling, as well as to offer to start negotiations with the Indian authorities with a view to concluding a bilateral agreement or arrangement. The conclusion of this agreement or arrangement would allow the export of

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[9] The requirements specific to the SRR (not found in the Hong Kong Convention) include the following:

- Article 13(1)(c) 'built structures'
- Article 13(1)(f) 'demonstration of the control of any leakage, in particular in intertidal zones'
- Article 13(1)(g)(i) 'the containment of all hazardous materials present on board during the entire ship recycling process so as to prevent any release of those materials into the environment'
- Article 13(1)(g)(i) 'the handling of hazardous materials, and of waste generated during the ship recycling process, only on impermeable floors with effective drainage systems'
- Article 13(1)(h) 'rapid access for emergency response equipment, such as fire-fighting equipment and vehicles, ambulances and cranes, to the ship and all areas of the ship recycling facility'
- Article 15(5) 'broad equivalence of downstream waste management standards'

[10] http://egazette.nic.in/WriteReadData/2019/214694.pdf

EU-flagged end-of-life ships to those Indian facilities which will have demonstrated compliance with the substantive requirements of the Ship Recycling Regulation and which may therefore be included on the EU list in the future. The Commission also believes that the Joint Declaration referred to above provides a good basis for starting negotiations with India on this matter.

B. FUTURE REVIEW OF THE SHIP RECYCLING REGULATION

26. Article 30(2) of the Ship Recycling Regulation contains a specific review clause linked to the Hong Kong Convention. It requires the Commission to "*review this Regulation not later than 18 months prior to the date of entry into force of the Hong Kong Convention and at the same time, submit, if appropriate, legislative proposals to that effect. [...]*". At present, it is however still not known when the Hong Kong Convention will finally enter into force, although, based on the latest available information, it could happen sometime between 2023 and 2025 at the earliest[11].

27. Furthermore, Article 30(4) of the Ship Recycling Regulation requires the Commission to submit a report to the European Parliament and to the Council on the application of this Regulation by five years after the date of application of this Regulation (i.e. by 31 December 2023). This report shall be "*accompanied, if appropriate, by legislative proposals to ensure that its objectives are being met and its impact is ensured and justified*."

28. In this context, it should be noted that there is at present only limited information available to the Commission services on the application of the Ship Recycling Regulation. This is partly because the recycling related obligations of the Regulation have been applicable for less than two years (since 31 December 2018) while some other key provisions of the Regulation, such as the IHM-related requirements, will become fully applicable only as of 31 December 2020. Secondly, the first implementation reports by the Member States (covering the three-year period starting on the date of application of this Regulation) are only due by 30 September 2022[12].

29. Nevertheless, the latest available data on dismantling trends received from the European Maritime Safety Agency[13] (EMSA) indicate that the Ship Recycling Regulation has had only limited effects so far. In reality, ship owners can easily find ways to circumvent their legal obligations to get their EU-flagged end-of-life vessels dismantled only in listed yards. The main vehicle of circumvention is "*outflagging*", i.e. changing from an EU-MS flag to a non-EU-MS flag at the end of the ship's lifecycle. In fact, according to the latest figures available, EU ships being recycled in listed facilities as EU flags at the end of their ship life were on average becoming smaller in size along the past few years. Conversely, an increasing number of bigger ships have indeed changed their flag to non-EU states before being recycled in non-listed facilities (mostly in South Asia).

30. Therefore, the Commission services consider that it would be necessary to strengthen the regime of the Ship Recycling Regulation by introducing additional measures aimed at

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[11] The HKC will enter into force 24 months after ratification by 15 States, representing 40 per cent of world merchant shipping by gross tonnage, combined maximum annual ship recycling volume not less than 3 per cent of their combined tonnage. As of today, 15 States have ratified or acceded to the Convention, including 8 EU/EEA countries (Belgium, Denmark, Estonia, France, Germany, the Netherlands, Malta and Norway). This means that the number of States required has now been reached, but further tonnage and recycling volumes are needed before the HKC can enter into force.

[12] Per Article 21(2) of the Ship Recycling Regulation

[13] See document titled '*Statistics of ships changing their EU-MS flag to non-EU flag before recycled (Provisional update until 2019)*' circulated earlier to the Member States' experts (by email of 15 May 2020)

improving its effectiveness and thus ensuring that its objectives are fully achieved in practice. To this end, the Commission services will intend to revisit plans to introduce a potential financial incentive, building on the results of the existing study presented to the Member States a few years ago[14].

31. The main purpose of this financial incentive would be to cancel out the profit gap between dismantling in sub-standard yards and dismantling in yards listed on the EU list. It would provide a financial encouragement for ship owners to recycle their vessels in EU-listed yards. In particular, it is expected that this financial incentive could benefit yards located in the EU/EEA whose capacities appear to have been be grossly under-utilised up to now. In other words, the proposed financial incentive could create a level playing field that renders it more competitive to recycle sustainably in Europe, thus contributing to the circular economy objectives. Moreover, it would even be an opportunity for Europe to offer proper recovery solutions for ships originated also from non-EU countries, especially from parts of the world with no appropriate waste treatment infrastructures.

32. In addition to the financial incentive, the Commission services will also aim to explore the possible extension of the scope of the Regulation. In particular, it appears that there would be merits to extend the scope of the Regulation to cover all vessels without any size and class limitation and including therefore ships of less than 500 GT (including perhaps also leisure boats) as well as navy vessels. Moreover, it could be appropriate extend the scope of the Regulation to cover ships not flying a flag of a Member State, such as for example abandoned vessels in EU ports with no flag or non-EU flag, or vessels with EU beneficiary ownership which operate under a non-EU flag in European waters, both of which cases currently fall outside the scope of application of the Regulation.

33. In conclusion, the Commission services will aim to focus their future work linked to the revision of the Regulation around these topics. In accordance with Article 30(4), a proposal for a revised Regulation is expected to be put forward by the end of 2023. However, in the unlikely event if the HKC enters into force before that date, the revision of the Regulation might need to be brought forward to an earlier date.

IV. CONCLUSION

On the basis of the foregoing, the following conclusions can be drawn:

- There are currently no incompatibilities between the Basel Ban Amendment and the Ship Recycling Regulation, as neither allow for the export of EU flagged end-of-life ships to non-OECD countries. Therefore, no immediate need exists to review or amend the Ship Recycling Regulation.

- The introduction of facilities located in non-OECD countries on the EU list would entail that such implementation of the Ship Recycling Regulation is in breach of the obligations of the EU under international law to comply with the Basel Ban Amendment, unless the transport of EU-flagged end-of-life ships to the respective non-OECD country is covered

[14] Article 29 of the Ship Recycling Regulation invited the Commission to "*report on the feasibility of a financial instrument that would facilitate safe and sound recycling*" and, "*if appropriate, accompany the report by a legislative proposal*". In August 2017, the Commission published the said report (COM(2017)420 final), based on a 2016 study commissioned from a private consortium (see http://ec.europa.eu/environment/waste/ships/pdf/financial_instrument_ship_recycling.pdf). In its report the Commission acknowledged the merits of a financial incentive (in the form of a so-called Ship Recycling Licence) but concluded that the need for additional measures on financial incentives would be reassessed at a later stage, based on an analysis of the use and effects of the EU list.

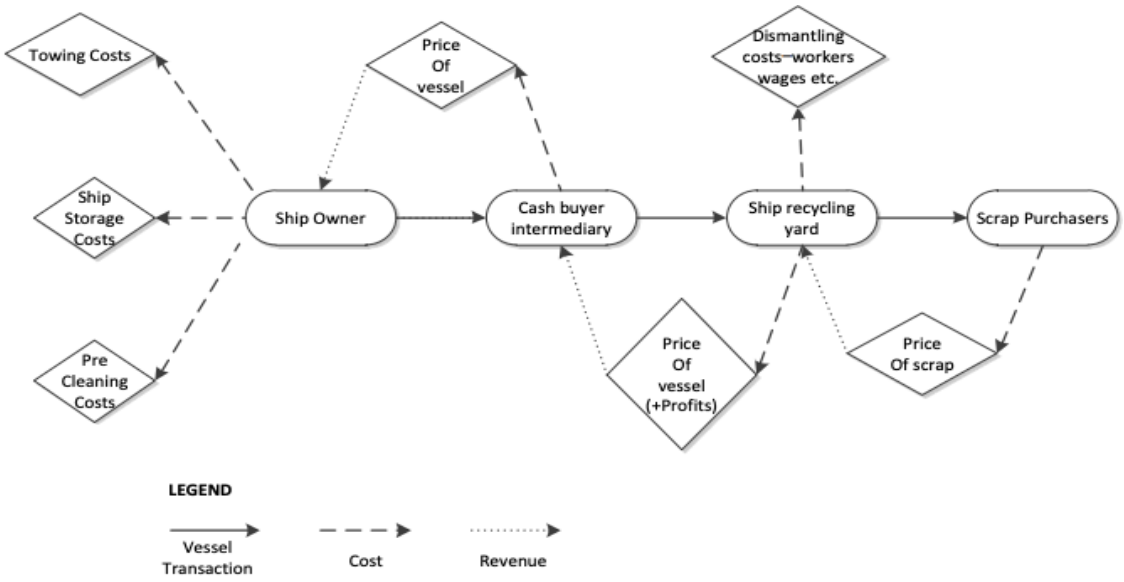
by an agreement or arrangement meeting the conditions of Article 11 of the Basel Convention.

- Therefore, for the inclusion of an Indian facility on the EU list, a bilateral agreement or arrangement between the EU and India would be required. The Commission services are therefore proposing to start negotiations with India on this matter.

- Finally, the Commission services will aim to seek to boost the ship recycling industry in Europe by strengthening the current regime of the Ship Recycling Regulation, notably by exploring the possibility of introducing additional measures and tools (including a financial incentive) and, possibly, by extending the scope of application of the Regulation. This will be done in the context of the future review of the Regulation, on which work will commence already in 2021, with a view to put forward a legislative proposal by the end of 2023.

Appendix B
Transactions and cash flows in ship recycling

Source: [4, p. 38].



Appendix C
Hazardous materials in ships

Source: [5, p. 29] *«Table 3-1».*

Table 3.1. Amount of hazardous material per million GT on merchant and navy vessels

		Merchant Vessels**		Navy Vessel**	
Hazardous Material	**Unit**	**Material/ million GT**	**Panamax tanker 40,000 GT**	**Material/ million LDT**	**Destroyer class 5,000 LDT**
Asbestos	ton	510	20	17,000	86
PCBs					
PCB liquids (transformers, etc.)	kg	0	0	No info. available	
PCB solids (capacitors, ballasts, etc.)*	kg	1.7	0.07	5,500	28
Hydraulic oil	ton	110	5.0	1,600	8.0
Ozone-depleting substances **(ODS)**					
ODS liquids (CFC, Halons, etc.)	ton	7.0	0.3	No info. available	
ODS solids (e.g., polyurethane (PU))	ton	1,800	70	No info. available	
Paints					
Paints no info	ton	420	17	39,000	200
Paints containing tributyltin (TBT)	ton	14	0.56	No info. available	
Paints containing PCBs	ton	No info. available		No info. available	
Paints containing metals	ton	No info. available		25,500	130
Heavy metals					
Cadmium (merchant); lead (naval)	ton	1.9	0.08	34	0.17
Mercury	kg	44	1.8	75	0.38
Radioactive substances	kg	No info. available		No info. available	
Waste liquids organic	m^3	5,650	230	1,900	9.0
Reusable liquids organic (HFO, diesel)	ton	3,200	130	23,000	110
Miscellaneous					
Ballast water (C-34)	ton	60,000	2,400	280,000	1,400
Sewage (C-35)	m^3	660	26	No info. available	
Garbage (C-42)	ton	2.3	0.09	No info. available	
Incinerator ash (C-41)	ton	1.9	0.08	No info. available	
Oily rags (C-45)	ton	3.1	0.12	No info. available	
Batteries nickel/ cadmium	units	170	7.0	No info. available	
Waste liquids inorganic (acids)	m^3	0.28	0.01	430	2.0
Reusable liquids organic (other)	m^3	620	25	1,500	7.0
Equipment					
Batteries lead (C46)	ton	2.2	0.09	34,000	170

*Merchant vessel does not estimate PCBs in cables due to lack of data.
**For both categories an example is given for a typical-size vessel. The underlying IHM datasets include 14 merchant and 13 navy vessels.
**All figures are rounded to two significant figures.

Appendix D
Heavy metal concentration in the sediments of Chattogram Bangladesh

Table 1: Heavy metal concentrations in the sediments of breaking sites in Chattogram, Bangladesh, 2006.
Source: [5, p. 34] *«Table 3-5».*

Sampling stations	Trace metal concentration (µg/g)							
	Fe	Cr	Ni	Zn	Pb	Cu	Cd	Hg
Salimpur	12	68	23	84	37	21	0.57	0.02
Bhatiari	35	87	35	102	122	40	0.83	0.02
Sonaichhari	41	78	49	143	148	31	0.94	0.12
Kumira	21	23	25	120	42	28	0.59	0.05
Sandwip (control site)	3	19	4	22	9	2	0.19	0.02

Source: Hossain and Islam 2006.

Table 2: estimation of accumulated hazardous wastes amounts between 2010-2030 in Chattogram, Bangladesh and Gadani, Pakistan.
Source: [5, p. 5] *«Table ES 3».*

Hazardous material	Unit	Bangladesh**	Pakistan**
Asbestos	ton	79,000 (62,000)	5,200 (11,700)
PCB*** (mainly in cables)	ton	240,000 (192,000)	16,000 (36,000)
ODS (mainly in PU foam)	ton	210,000 (168,000)	14,000 (32,000)
Paints (metals, TBT, and PCB)	ton	69,200 (59,800)	4,550 (102,000)
Heavy metals****	ton	678 (542)	45 (101)
Waste liquid organic	m^3	1,980,000 (1,580,000)	130,000 (292,000)
Miscellaneous (mainly sewage)	m^3	107,000 (85,600)	7,000 (15,700)
Waste liquids, inorganic (acids)	ton	775 (620)	51 (115)
Reusable liquids, organic	ton	675,000 (540,000)	44,200 (99,500)

Table 3: Volume of sand to 0.2m depth under water with predicted sea level rise.
Source: [5, p. 38] «Table 3-12».

Beach	Slope and length	Polluted sand under new high tide (sea level rise 0.21–0.48 m)
Chittagong, Bangladesh	0.05; 13 km	11,000–25,000 m^3
Gadani, Pakistan	0.08; 7 km	3,500–8,100 m^3

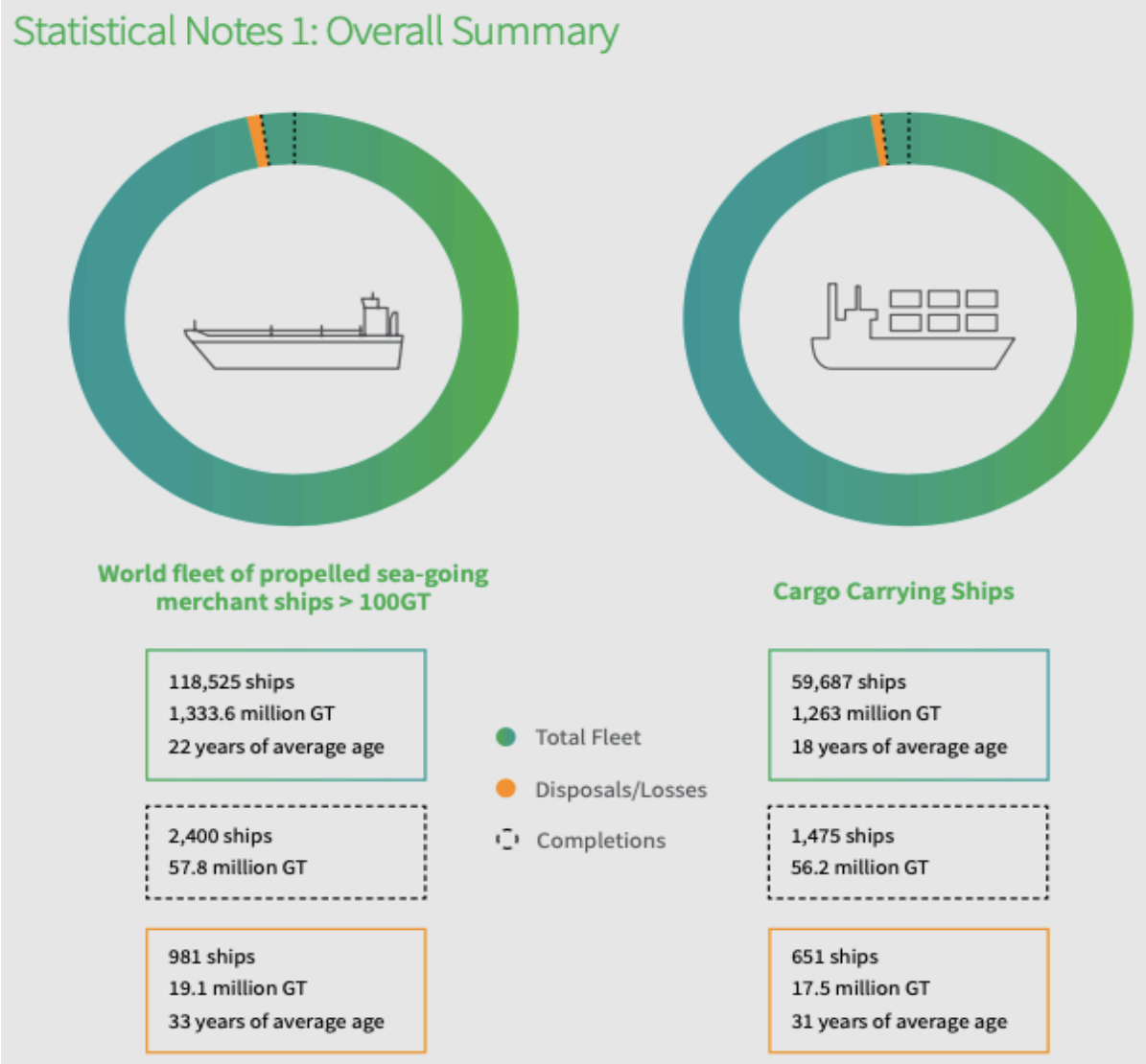
Source: IPCC 2007 (A1B scenario).

Table 4: Pollutants submerged with predicted sea level rise (in kg).
Source: [5, p. 39] *«Table 3-13».*

Chittagong	Low estimate (0.21m)	High estimate (0.48m)
Lead (Pb)	5,049.3	11,541.3
Cadmum (Cd)	25.8	58.9
Chromium (Cr)	2,723.5	6,225.1
Mercury (Hg)	3.2	7.3
Gadani		
Lead (Pb)	646.9	1,478.6
Cadmium (Cd)	0.0	0.0
Chromium (Cr)	94.2	215.3
Mercury (Hg)	0.7	1.6
PCB (ppb)	46.9	107.3
Total Oil	13,713.7	31,345.6
Asbestos	0.0	0.0

Appendix E
Statistical table of world fleet over 100 GT, anno 31. December 2018

Source: [6, p. 9].



Appendix F
Seatrade demolition-sales 2010-2017
Source: [7, p. 11].

Seatrade ships demolished between 2010 and 2017

IMO n°	Ship	Country of demolition	year of demolition
8129852	*Pioneer Bay*	India	2010
8312605	*Spring Tiger*	India	2010
8812813	*Antigua*	India	2011
8608743	*Asiatic*	India	2011
8911475	*Cape Vincente*	India	2011
8511952	*Nostalgic*	India	2011
8307923	*Cloudy Bay*	India	2011
8609084	*Nova Friesia*	India	2012
8220383	*Spring Bear*	India	2012
8213665	*Spring Bob*	Bangladesh	2012
8213677	*Spring Bok*	Turkey	2012
8220424	*Spring Deli*	Turkey	2012
8213653	*Spring Panda*	Turkey	2012
9267534	*Magellan Strait*	India	2017
9267546	*Messina Strait*	India	2017

Appendix G
Demolition market 2017

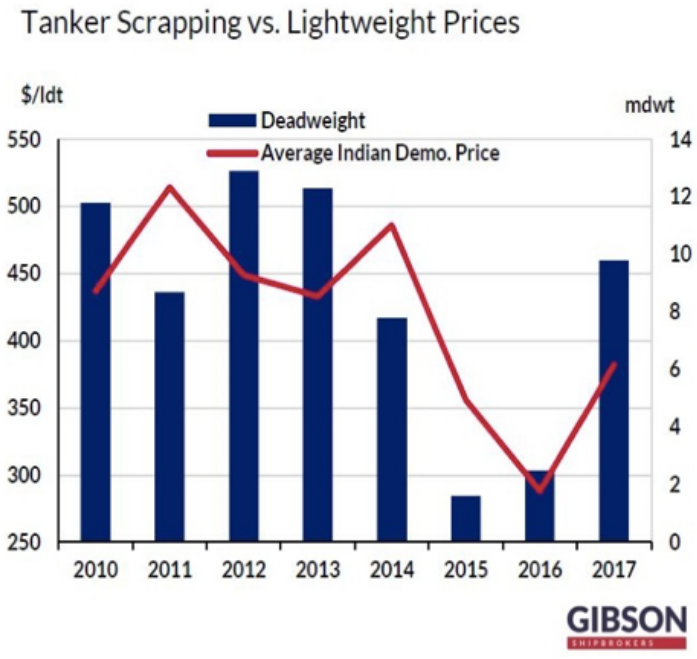
Table 1: Average demolition prices in 2017.
Source: [8, p. 784] *«Table 2».*

Table 2. Descriptive Statistics for Wet and General Demolition Prices

	Wet Market					General Market				
	BANG	CHINA	INDIA	PAK	TUR	BANG	CHINA	INDIA	PAK	TUR
Mean	377,50	256,63	379,06	380,02	258,46	356,63	241,99	358,33	357,75	247,06
Median	390,00	250,00	392,50	395,00	260,00	370,00	235,00	372,50	375,00	250,00
Maximum	485,00	405,00	485,00	490,00	350,00	455,00	390,00	465,00	460,00	340,00
Minimum	245,00	125,00	250,00	250,00	160,00	220,00	110,00	225,00	220,00	145,00
Std. Dev.	62,08	75,46	64,72	63,24	58,36	61,07	74,37	64,20	62,85	56,91
Skewness	-0,26	0,03	-0,24	-0,23	-0,17	-0,36	0,01	-0,31	-0,33	-0,19
Kurtosis	1,94	1,95	1,85	1,92	1,60	2,02	1,93	1,95	2,00	1,61
Jarque-Bera	15,02	12,06	16,92	14,98	22,65	16,01	12,43	16,28	15,47	22,36
Probability	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Observations	260	260	260	260	260	260	260	260	260	260

Source: Athenian Shipbrokers SA

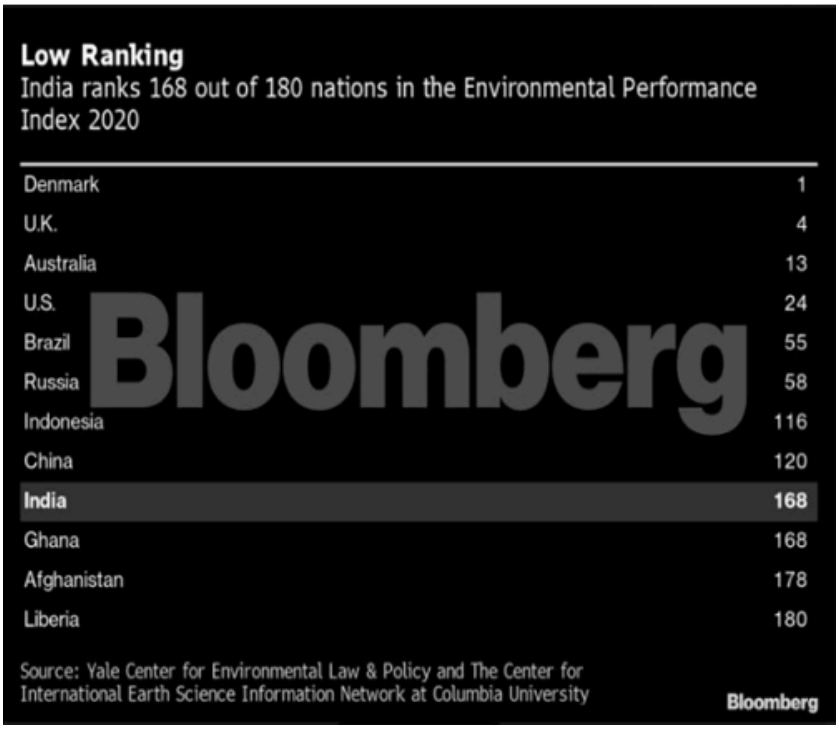
Table 2: Tanker scrapping ldt prices, source weekly shipping report.
Source: [9, p. 1].



Appendix H

Bloomberg Environmental Performance Index 2020

Source: [10]



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