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Green Shipping: A Legal Evaluation of the Contractual Mechanisms by Private Industry Actors to achieve a Sectoral Transition

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Doctor of Philosophy (PhD) Thesis

City, University of London

The City Law School

October 2021

ACKNOWLEDGMENTS

My sincere gratitude to my supervisor, Professor Jason Chuah, who foresaw the direction of this thesis before I even knew where to begin. And for helping me to find an “appropriate” balance between environmental activism and realising the importance of money.

Thank you to my family and friends who provided such a strong support network during this time. To my parents, who made the decision to educate me without realising that I would never stop being a student. To my partner, Adán, for putting up with my perpetual state of anxiety over the last three years. And to my friends in London who have given me a home away from home and have been my constant fan club throughout this journey. Finally, to my fellow PhD students, who have been true comrades in this venture and who will remain my colleagues for many more years to come.

Not for one second, do I ever believe that I could have done this alone.

ABSTRACT

Achieving the United Nations Sustainable Development Goals and economic recovery following the Covid-19 pandemic will require maritime fleet expansion for increased trade flows and supply chain stability. Sectoral growth is inevitable as global trade upsurges and wide-scale infrastructure developments, such as the People's Republic of China's Belt and Road initiative, expand into developing nations. However, increased fleet capacity is also directly proportional to the impact that shipping has on the marine environment. The maritime sector has not been included in the Kyoto Protocol and the subsequent Paris Agreement based on the persistent notion that the International Maritime Organisation (IMO) can adequately regulate pollution from shipping. Critics of the IMO feel that it is failing at the task of aligning the sector with a sustainable development agenda and climate change targets. In particular, the IMO's decision to not cap carbon emissions, but to rather implement a non-prescriptive, performance-based mechanism, technical standard known as the Energy Efficiency Design Index, is contentious given the urgent call to keep the increase in global average temperature below 2°C above pre-industrial levels.

However, this thesis does not engage in discourses about the effectiveness of the IMO's pollution regime for shipping. Rather, it views the task of 'greening' the sector as a collaborative agenda comprising of both top-down standard-setting and bottom-up initiatives adopted by private actors. This thesis asserts that the IMO's role in environmental governance is ***but one*** component of improving the overall environmental performance of the maritime sector. Instead, this thesis focuses on the greening of everyday transactions between private actors that support crucial shipping activities, many of which may fall outside of the jurisdiction and enforcement powers of IMO member states. A focus on private actors is justified by an overarching theoretical framework of a contract governance approach to contract theory. Contract governance contemplates a wide range of rule and decision makers, recognising that the public law and private law can contribute to restoring party autonomy in furtherance of a common goal. Where there are weak spots in the regulatory regime, private law mechanisms and devices can assist in obtaining the overall objectives of the state-implemented regime. However, this would call for a modernisation of contract law for greater alignment with external frameworks and normative agendas.

This thesis poses one major research question: *How contractual mechanisms should be developed to* ***facilitate*** *and* ***increase incentivisation*** *of the green shipping transition?* This question is placed in various contexts as categorised by a vessel's lifespan. The research question therefore asks how various commercial transactions can obtain this goal. In the pre-voyage phase, a vessel's construction is predominantly supported by financing and shipbuilding agreements. In its voyage phase, the carriage of goods is supported by a number of contracts, including chartering arrangements. When a vessel reaches its end of life, dismantling and recycling sale agreements dictate how the vessel is to be disposed of. All of these essential transactions have the potential to elevate a set of green principles that will guide how parties exercise their freedom of contract.

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TABLES

A) ABBREVIATIONS

AfDB	African Development Bank
ADB	Asian Development Bank
ASBA	Association of Ship Brokers and Agents (USA)
ASI	Avoid-Shift-Improve
BAF	Bunker adjustment factor
BIMCO	Baltic and International Maritime Council
BRI	Belt and Road Initiative (China)
BWM	Ballast Water Management
CBI	Climate Bonds Initiative
CFA	Charter of Fundamental Rights (EU)
CLC	International Convention on Civil liability for Oil Pollution damages
CoA	Contract of Affreightment
COP	Conference of the Parties
CISG	Convention on Contracts for the International Sale of Goods
CO	Carbon monoxide
CO_2	Carbon dioxide
CSR	Corporate Social Responsibility
CLIA	Cruise Lines International Association
ECA	Emission Control Area
EIA	Energy Information Administration (USA)
EIB	European Investment Bank
EEISS	Energy Efficiency Investment Sharing Scheme
EOL	End of Life
EP	Equator Principle
EPFIs	Equator Principles Financial Institutions
ESG	Environmental and Social Governance
ESM	Environmentally Sound Management
ETC	Energy Transitions Commission (UK)
EU	European Union
EU ETS	European Union Emission Trading Scheme
EU SSR	EU Ship Recycling Regulation
FCA	Financial Conduct Authority
FONAR	Fuel Oil Non-Availability Report
FTA	Federal Transport Authority of the United Arab Emirates
GAFTA	Grain and Feed Trade Association
GBP	Green Bond Principles
GHG	Greenhouse Gas Emissions
GPCC	General Provisions of the Civil Law of the People's Republic of China
GTAG	Green Technical Advisory Group
GSIA	Global Sustainable Investment Alliance
HBCDD	Hexabromocyclododecane - Brominated Flame Retardant
HFW	Holman Fenwick Willan
HSFO	High Sulphur Fuel Oil
ICCL	International Council of Cruise Liners

ICMA	International Capital Market Association
ICS	International Chamber of Shipping
IDFC	International Finance Development Finance Club
IHM	Inventory of Hazardous Materials
ILO	International Labour Organisation
IMCO	Inter-Governmental Maritime Consultative Organization
IMO	International Maritime Organisation
IWG	Industry Working Group (CBI)
INTERCARGO	International Association of Dry Cargo Shipowners
INTERTANKO	International Association of Independent Tanker Owners
IPTA	International Parcel Tankers Association
IPIECA	International Petroleum Industry Environmental Conservation Association IPIECA
ISO	International Organisation for Standardisation specifications
ITC	International Trade Centre
LDCs	Lease Developed Countries
LLMC	Convention for Limitation of Maritime Claims
LOT	Load on Top
MARPOL 73/78	The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
MDBs	Multilateral Development Banks
MIA	Marine Insurance Act 1906
MoS	Motorways of the Sea
MPA	Maritime & Port Authority of Singapore
MSC	Maritime Safety Committee (IMO)
MSC	Mediterranean Shipping Company
NAMEPA	North American Marine Environment Protection Association
NMVOCs	Non-methane volatile organic compounds
NOx	Nitrous oxides
OCIMF	Oil Companies International Marine Forum
ODS	Ozone Depleting Substances
OECD	Organisation for Economic Co-operation and Development
OILPOL	Convention for the Prevention of Pollution of the Sea by Oil 1954
OPEC	Organisation of Petroleum Exporting Countries
PBoC	People’s Bank of China
PM	Particulate Matter
PFOS	Perfluorooctane sulfonic acid
RSRS	Responsible Ship Recycling Standards
SAYS	Save as You Sail
SBG	Sustainability Bond Guidelines
SBP	Social Bond Principles
SCC	Standardised covenant clauses
SCC	Sustainable Contractual Clauses
SCMP	Subcommittee on Marine Pollution
SD	Sustainable Development
SDGs	Sustainable Development Goals
SECAs	Sulphur Emission Control Areas
SFFSM	Self-Financing Fuel-Saving Mechanism
S&P 500	Standard and Poor's 500

SIDS	Small Island Developing States
SMTS	Sustainable Maritime Transport System
SOLAS	International Convention for the Safety of Life at Sea
SOx	Sulphur Oxides
SSI	Sustainable Shipping Initiative
TAC	Type Approval Certificate
TCDF	Task Force on Climate-related Financial Disclosures (UK)
TEN-T	Trans-European Transport Network
TEG	Technical Working Group on Sustainable Finance (EU)
TFEU	Treaty on the Functioning of the European Union
TWG	Shipping Technical Working Group (CBI)
UCC	American Uniform Commercial Code
UCTA	Unfair Contract Terms Act 1977
UK	United Kingdom
UMAS	University Maritime Advisory Services
UN	United Nations
UNCLOS	United Nations Law of the Sea Convention
UNEP	United Nations Environment Programme
UNFCC	The United Nations Framework Convention on Climate Change
UNCTAD	United Nations Conference on Trade and Development
UNGC	United Nations Global Compact
USA	United States of America
VOC	Volatile Organic Compounds
WHO	World Health Organisation
WSC	World Shipping Council

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- Wellesley Partners LLP v Withers LLP [2015] EWCA Civ 1146, [2015] All ER (D) 146 (Nov)
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A. 237(VII)	1971	Acceleration of The Maritime Safety Committee's Work Programme
A.246(VII)	1971	Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil, 1954 Concerning Tank Arrangements and Limitation of Tank Size
A.719(17)	1991	Prevention of Air Pollution for Ships.
A.739(18)	1993	Guidelines for the Authorization of Organizations Acting on Behalf of Administrations
A.774(18)	1993	International Guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges
A.789(19)	1995	Specifications on the Survey and Certification Functions of Recognized Organizations Acting on Behalf of Administrations
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A.1110 (30)	2017	Strategic Plan for the Organization for the Six-Year period 2018 into 2023
A.1097(29)	2015	Strategic Plan for the Organization 2016–2021; Revokes A.1060(28), Revoked by A.1110(30)

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MEPC.111(50)	2003	Amendments to the Annex of the Protocol of 1978 Relating to the International Convention for the Prevention of Pollution from Ships, 1973
MEPC.174(58)	2008	Guidelines for Approval Of Ballast Water Management Systems (G8)
MEPC.178(59)	2009	Calculation of Recycling Capacity for Meeting The Entry-Into-Force Conditions Of The Hong Kong International Convention For The Safe And Environmentally Sound Recycling Of Ships, 2009
MEPC.196(62)	2011	2011 Guidelines For The Development Of The Ship Recycling Plan

MEPC.203(62)	2011	Amendments to the Annex of the Protocol of 1997 to Amend the International Convention for the Prevention of Pollution from Ships, 1973, as Modified by the Protocol of 1978 relating thereto (Inclusion of Regulations on Energy Efficiency for Ships in MARPOL Annex VI)
MEPC.252(67)	2014	Guidelines for Port State Control Under the BWM Convention
MEPC.228(65)	2013	Information Reporting on Type Approved Ballast Water Management Systems; Revokes MEPC.175(58)
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MEPC.282 (70)	2016	Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP); Supersedes MEPC.213(63)
MEPC.292(71)	2017	Guidelines for Administration Verification of Ship Fuel Oil Consumption Data
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BLG 10/5/8	2007	ICF, 'Revision of MARPOL Annex VI and the NOx Technical Code: A goal-based approach to emission reduction'
BLG 11/5/15	2007	United States, 'Review of MARPOL Annex VI and the NOx Technical Code: Development of Standards for NOx, PM and Sox'
BLG 11/5/19	2007	Sweden, 'Review of MARPOL Annex VI and the NOx Technical Code: Comments Related to Fuel Issues and the Sole Use of Low Sulphur Distillates Fuel'
BLG 11/5/24	2007	Norway, 'Review of MARPOL Annex VI and the NOx Technical Code: Comments on the report of the first intersessional meeting of the BLG Working Group on Air Pollution – proposal for new global sulphur limits and fuel specification'
MEPC 32/7	1992	Report of the Marine Environment Protection Committee on its Thirty Second Session
MEPC 46/23	2001	Report of the Marine Environment Protection Committee on its Forty-Sixth Session
MEPC 49/16/1	2003	Interpretations and amendments of MARPOL 73/78 and Related Instruments Proposed amendments to Annex I of MARPOL 73/78 (Submitted by Austria, Belgium, Denmark, Finland, France, Germany,

		Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, the United Kingdom and the European Commission)
MEPC 49/16/7	2003	Interpretation and amendments of MARPOL 73/78 and Related Instruments Comments to document MEPC 49/16/1 by the EU Member States and the European Commission (Submitted by BIMCO)
MEPC 50/2/10	2003	Consideration and Adoption of amendments To MARPOL 73/78 Proposed amendments to MARPOL Annex I (Submitted by Brazil)
MEPC 50/2/11	2003	Consideration and Adoption of amendments To MARPOL 73/78 Comments on the proposed amendments to MARPOL Annex I (Submitted by INTERTANKO)
MEPC 50/3	2003	Report of the Marine Environment Protection Committee on its Fiftieth Session
MEPC 53/4/4	2005	Prevention of Air Pollution from Ships: New Solutions for Effective Reduction of VOC Emissions from Tankers - implications for regulation 15 to MARPOL Annex VI (Submitted by Norway)
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MEPC 64/2/17	2012	Harmful Aquatic Organisms in Ballast Water Consideration of amending the Guidelines for approval of ballast water management systems (G8) (Submitted by the International Chamber of Shipping (ICS))
MEPC 64/2/17	2012	Harmful Aquatic Organisms in Ballast Water Consideration of amending the Guidelines for approval of ballast water management systems (G8) (Submitted by the International Chamber of Shipping (ICS))
MEPC 64/2/18	2012	Harmful Aquatic Organisms in Ballast Water Challenges to effective implementation of the BWM Convention (Submitted by Liberia, the Marshall Islands, Panama, BIMCO, INTERTANKO, CLIA, INTERCARGO, InterManager, IPTA, NACE and WSC)
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MEPC 67/2/6	2014	Harmful Aquatic Organisms in Ballast Water Measures to be taken to facilitate entry into force of the International Convention for the Control and Management of Ships Ballast Water and Sediments (Submitted by ICS, IUMI, BIMCO, INTERTANKO, CLIA, INTERCARGO, InterManager, IPTA, IMCA, INTERFERRY, ITF, the Nautical Institute and WSC)
MEPC 67/20	2014	Report of The Marine Environment Protection Committee on its Sixty-Seventh Session
MEPC 68/1	2014	Provisional Agenda for the sixty-eighth session of the Marine Environment Protection Committee to be held at IMO Headquarters, 4 Albert Embankment, London SE1 7SR from Monday, 11 May to Friday, 15 May 2015
MEPC.1/Circ.878	2018	Guidance on the Development of a Ship Implementation Plan for the consistent implementation of the 0.50% Sulphur Limit under MARPOL ANNEX VI

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MEPC 70/5/5	2016	Regulation 14.8 of MARPOL Annex VI calls for a review of the global fuel sulphur limit to determine the availability of compliant fuel oil: EnSys
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MEPC 75/7/xx	2019	(pre-session public release) Additional comments on proposal to establish an IMRB
MEPC 75/7/15	2020	Reduction of GHG Emissions from ships (2020) Fourth IMO GHG Study Final Report
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MEPC 76/7/45	2021	Reduction on Emissions from Ships: Additional comments on proposal to establish an IMRB (Submitted by ICS, BIMCO, INTERTANKO, CLIA, INTERCARGO, IPTA, IMCA, INTERFERRY and WSC)

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Directive 2001/106/EC of the European Parliament and of the Council of 19 December 2001 amending Council Directive 95/21/EC concerning the enforcement, in respect of shipping using Community ports and sailing in the waters under the jurisdiction of the Member States, of international standards for ship safety, pollution prevention and shipboard living and working conditions (port State control) [2002] OJ L 19/17

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Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) 2016/1011 as regards EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks and sustainability-related disclosures for benchmarks PE/90/2019/REV/1 [2019] OJ L 317/17

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1. CHAPTER ONE: INTRODUCTION

Seaborne trade plays a pivotal role in the growth of the world economy and sustainable development (SD). Efficient freight transport systems are necessary for developed and developing states alike to manage their transport costs, attract investment, develop business, and improve productive capacities.[1] Maritime fleet expansion therefore goes hand in hand with infrastructure development and increased trade flows, particularly taking into account monumental global development plans such as the People's Republic of China's Belt and Road Initiative (BRI) and post-Covid economic recovery plans throughout domestic and international markets. Due to amplified sectoral growth, shipping's impact on the environment has become increasingly scrutinised as it has been one of the slowest sectors to make major progress in aligning itself with the 2015 Paris Climate Change goals. Although shipping has an historical reputation for being a sustainable and environmentally friendly method of transport in comparison to its counterparts on land, this reputation has been slowly eroded. The sector was left out of the Kyoto Protocol and the subsequent Paris Agreement based on a persistent notion that the International Maritime Organisation (IMO) can effectively regulate the industry.[2] However, the IMO has faced criticism for its ability to regulate environmental matters in shipping with academic literature questioning whether it is best suited to navigate the complex economic and scientific challenges of shipping's relationship with the marine environment.[3] These criticisms have been further fuelled by the IMO's reluctance to regulate greenhouse gas (GHG) emissions, whilst these are increasingly regulated through various international and regional agreements such as the Kyoto Protocol and the European Union's Emission Trading Scheme (EU ETS). Although this thesis does not entirely support some of the structuralist assumptions that the IMO's hierarchical state-based governance is failing due to globalisation and more powerful corporate forces,[4] it does assert that the IMO's role in environmental governance is ***but one*** component of the green shipping conundrum. As a legal study, this thesis recognises the neo-pluralist arguments for private governance regulatory efforts, but it is not concerned with undermining the role of state regulation. Rather, it seeks to identify the market transactions which constitute the contractual underpinnings of the shipping sector to offer a unique private law perspective on how commercial agreements can contribute to the achievement of environmental objectives. It thus poses one major research question: *How contractual mechanisms in private agreements between shipping actors should be developed to facilitate and increase incentivisation of the green shipping transition?*

This introductory chapter sets out to provide the context of the problems arising from 'green shipping'. It recognises the SD and climate change agendas coupled with the commercial impracticalities and economic difficulties in meeting these mandates within the maritime sector. It then sets out to describe the broader purpose and aims of this study, followed by a description of the primary research question which presents a narrower view of the private legal aspects of the green shipping conundrum. Section 1.2 of this Chapter describes the unique contribution of this thesis to the literature surrounding green shipping, particularly from a legal standpoint; whilst Section 1.3 provides an outline of the

[1] UNCTAD, *Review of Maritime Transport 2020* (UNCTAD/RMT/2020), xi.
[2] Bernd Hackmann, 'Analysis of the Governance Architecture to Regulate GHG Emissions from International Shipping' (2012) 12(1) International Environmental Agreements: Politics, Law and Economics 85.
[3] Jane Lister, René Taudal Poulsen and Stefano Ponte, 'Orchestrating Transnational Environmental Governance in Maritime Shipping' (2015) 34 Global Environmental Change 185.
[4] Michael Roe, 'Maritime Governance and Policy-Making: The Need for Process Rather than Form' (2013) 29(2) Asian Journal of Shipping and Logistics 167-186.

methodology and methods employed in answering the primary research question as well as providing a taxonomical overview.

1.1 The Green Shipping Conundrum and Broad Purpose of this Study

Almost all shipping activities have an impact on the quality of the surrounding environment.[5] These activities comprise, inter alia, navigation, mooring and docking, construction, maintenance and cleaning, as well as dismantling and waste generation.[6] The harmful consequences of these activities range from soil contamination, habitat destruction, loss of biodiversity, to noise and water pollution; the most pertinent of which are the harmful atmospheric emissions released from ships, both at sea and in port.[7] Maritime transport is currently estimated to emit over 1,000 million tonnes of carbon annually and contributes almost 3% of global greenhouse gas emissions.[8] Shipping is also reported to emit approximately 12% of the global total of sulphur oxide (SOx) emissions and 13% of the world's nitrogen oxides (NOx).[9] Emissions from ships are known to travel over vast distances, with the potential to traverse a number of territories and jurisdictions despite often being emitted far from land.[10] The release of these gases into the atmosphere has proven to have direct health implications for humans and other species, whilst also contributing to global warming. Global goals require that carbon emissions to be halved by 2050,[11] yet the IMO attracted further criticism when its Marine Environment Protection Committee (MEPC) approved draft measures for decarbonisation in November 2020 which environmental experts believe to be wholly inadequate.[12] According to the IMO's Fourth Green House Gas Study of August 2020, despite the carbon intensity of shipping improving between 2012 and 2018, increased economic activity has increased shipping's overall share of global anthropogenic emissions with emissions projected to rise 90-130% by 2050 compared to 2008.

Nowadays, there is a strong *legal basis* for the protection of the marine environment. Article 192 of the United Nations Law of the Sea Convention (UNCLOS)[13] places a general obligation on states to protect and preserve the marine environment. States are also obligated to adopt all measures consistent with UNCLOS that are 'necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities'.[14] Article 211 of UNCLOS specifically deals with vessel-source pollution and provides that states, through the IMO, 'shall establish international rules and standards to prevent, reduce and control pollution of the marine environment from vessels', as well as adopt appropriate routeing systems to minimise and prevent accidents which might cause pollution to the

[5] Peter Bickel et al (IER), 'Marginal environmental cost case studies for air and water transport' (GRACE. Funded by Sixth Framework Programme ITS, University of Leeds, Leeds. August 2006).
[6] Ibid.
[7] Apollonia Miola and others, 'Regulating Air Emissions from Ships: The State of the Art on Methodologies, Technologies and Policy Options' (2010) *JRC Reference Reports*, European Commission.
[8] MEPC 75/7/15 'Reduction of GHG Emissions from ships' (2020) *Fourth IMO GHG Study Final Report*
[9] Estimates taken from MEPC 67/INF.3 'Reduction of GHG Emissions from ships' (2014) *Third IMO GHG Study Final Report* 117.
[10] Janusz Cofala and others, *Analysis of policy measures to reduce ship emissions in the context of the revision of the national emissions ceilings directive. Final Report* (International Institute of Applied Systems Analysis (IIASA, Laxenburg, Austria, 2007).
[11] Article 2(1)(a) of the United Nations Framework Convention on Climate Change, 2015.
[12] Lee Hong Liang, 'IMO sets short-term decarbonisation measures for global shipping' (*Seatrade*, 18 November 2020) https://www.seatrade-maritime.com/regulation/imo-sets-short-term-decarbonisation-measures-global-shipping accessed 15 September 2021.
[13] UN General Assembly, *Convention on the Law of the Sea*, (10 December 1982) 1833 UNTS 399 (UNCLOS).
[14] Ibid, Article 194.

marine environment, coastline, or damage to related interests. There is thus a strong international environmental law foundation for a vessel-source pollution law framework which is bolstered by a number of normative principles such as the 'polluter pays', the 'precautionary approach'[15], and 'sustainable development'[16]. Increased environmental regulation in all major industry sectors is occurring quite rapidly, however the shipping sector has a reputation for being notoriously unregulated. Although this is no longer entirely true, the IMO is under increasing pressure from environmental lobbyists to strengthen its hard law approach to reduce environmental threats from shipping.[17]

Despite the increasing pervasiveness of the SD agenda, the commercial realities of the shipping sector and the current strains placed on shipping actors cannot be ignored. Events during the last half-century have presented several mainly unforeseeable disruptions in the markets which have consequently impacted world trade and the transportation of goods. Shipping and global trade are inextricably linked and are continuously faced with instability as both trade and environmental policies fluctuate or evolve. [18] In 2020 the Covid-19 pandemic caused an unprecedented year-on-year fall of 27% in the second quarter in respect of world trade.[19] This coincides with increasing environmental regulation and the introduction of the stricter 2020 sulphur cap. Therefore, although industry has been criticised for 'fighting the green tide',[20] there are underlying economic reasons which present financial challenges for the 'greening' of commercial shipping.

In simplified terms, there is a polarisation between the environmental interests of law makers and the economic interests of the commercial shipping sector. There is an urgent mandate to take immediate climate change action within an industry of stifled competition and hard global realities of financial crises, trade wars, pandemics, and other market disruptions. However, these interests need not always be conflicting. The aim of this thesis is to illuminate avenues for environmental sustainability, so that greener shipping equates to financially lucrative shipping. However, within the current paradigm, there are no clear solutions as to how to rapidly revolutionise an industry that is structured on fossil fuel consumption. Since 2013, the IMO has provided member states and stakeholders the opportunity to reflect on sustainability issues and has defined the concept of a Sustainable Maritime Transport System (SMTS) as, 'a seamless and reliable service in the most efficient manner, the Maritime Transportation System must deliver safe, secure, efficient and reliable transport of goods across the world, while minimizing pollution, maximizing energy efficiency and ensuring resource conservation'.[21]

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[15] For a formulation of the precautionary approach see Principle 15 of the 1992 Rio Declaration on Environment and Development.

[16] Sustainable Development is defined by the ICJ in *GabCikovo-Nagymaros Project (HungarylSlovakia*), Judgment, 1. C. J. Reports 1997, 7.

[17] Harilaos N. Psaraftis and Christos A. Kontovas, 'Influence and transparency at the IMO: the name of the game' (2020) 22 Marit Econ Logist 151–172.

[18] Conor Walsh and others, 'Trade and trade-offs: Shipping in changing climates' (2019) 106 Marine Policy 103537.

[19] UNCTAD, 'The coronavirus pandemic dealt a severe blow to global merchandise trade. Data from weekly port calls by container ships show early but uneven signs of recovery' (*UNCTAD* 9 Sep 2019) https://unctad.org/news/covid-19-shipping-data-hints-some-recovery-global-trade accessed 15 September 2021.

[20] The Economist, 'The shipping industry attempts to cap carbon emissions' (14th April 2018) https://www.economist.com/business/2018/04/14/the-shipping-industry-attempts-to-cap-carbon-emissions accessed 15 September 2021.

[21] IMO, *Concept of a Sustainable Maritime Transport System* (Symposium on Sustainable Maritime Transportation System, World Maritime Day on 26 September 2013)

Ultimately, an SMTS as envisioned by the IMO, is going to require a radical technological shift from fossil fuels to innovative clean solutions, which have minimal impacts on the environment. Despite this awareness, there is little analysis of the shipping sector as a socio-technical regime that poses barriers for energy transitions.[22] Few conceptual frameworks have been applied to categorising both the barriers and risks associated with low-carbon or alternative energy technologies for ships. However, certain theories and frameworks have been applied to energy transitions more generally which can equally apply to shipping.

Geels recognises technological regimes as 'evolutionary reconfiguration processes'.[23] He describes the current paradigm as a 'socio-technical regime' that embodies existing ways of doing, and is characterised by seven factors: technology, infrastructure, cultural and symbolic meaning, industry, knowledge, sectoral policy and markets and user practices.[24] The connections between these aforementioned factors create a system of stability and certainty that is uneasily changed. The regime presents few and rare opportunities for incremental change as unorthodox or differing ideas threaten to destabilise or weaken the regime.[25] This is similarly reflected in the commercial contracts which govern the existing regime paradigm. All of these arrangements view regulatory compliance as a hindrance to commercial viability and a limitation on the freedom of contract. In a shipping context, as with many industrial sectors, the existing paradigm is one fundamentally underpinned by fossil-fuel consumption and therefore fossil-fuel technologies. This regime is supported by all actors in the logistics chain from the oil refinery to the ship builder. Commercial vessels are constructed in accordance with the standards of classification societies, which were initially established to give shipowners, merchants and underwriters recorded information on the quality of vessels. Regulators are thus assisted by classification societies in a developing legally binding technical and operational specifications for vessels. Ports require different infrastructures to meet vessel needs and how they are to be loaded, unloaded and refuelled. When the sectoral regulator creates new efficiency design standards based on existing technologies, it reinforces a system based on fossil fuels without providing a strong impetus for radical change.

Major change occurs where a niche innovation fits a purpose within the broader regime and is combined with the existing regime to improve performance, resulting in the eventual replacement of the existing regime.[26] Geels also argues that niches are often developed in protected spaces, such as 'R&D laboratories, subsidised demonstration projects, or small market niches where users have special demands and are willing to support emerging innovations'.[27] Niche technologies are crucial in providing systemic change, but their acceptance is not always easy because the existing regime is stabilised by 'lock-in mechanisms' and niche innovations 'may have a mis-match with existing regime

https://sustainabledevelopment.un.org/content/documents/1163CONCEPT%20OF%20%20SUSTAINABLE%20MARITIME%20TRANSPORT%20SYSTEM.pdf accessed 15 September 2021.

[22] Sarah Mander, 'Slow steaming and a new dawn for wind propulsion: A multi-level analysis of two low carbon shipping transitions' (2016) 75 Marine Policy 210-216.

[23] Frank W Geels, 'Technological transitions as evolutionary reconfiguration processes: a multi-level perspective and a case-study' (2002) 31 Research Policy 1257–1274.

[24] Ibid 1262.

[25] Frank W Geels and others, 'The Socio-Technical Dynamics of Low-Carbon Transitions' (2017) 1(3) Joule 463-479.

[26] For niche technologies to become the dominant design, see Frank W Geels and Johan Schot, 'Typology of sociotechnical transition pathways' (2007) 36 Res. Policy 399-417.

[27] Frank W Geels, 'The multi-level perspective on sustainability transitions: Responses to seven criticisms' (2011) Environmental Innovation and Societal Transitions 1, 24–40.

dimensions'.[28] For the niche to become dominant it needs to be supported by three social processes: learning, the articulation of visions, and social networks.[29] A niche can then gain momentum through alignment with a dominant design.[30] In this regard, hybridisation and pathway technologies are key enablers of niche developments gaining traction.[31] Automated shipping has also presented the possibility of replacing a human crew with autonomous technology – something which may allow for longer, cleaner, and more sustainable voyages. However, where radical technological change is required to meet a looming global target, this incremental process of emerging niche technologies might not happen as rapidly as necessitated.

There are wider challenges for emerging green technologies such as wide-scale industry acceptance, licensing, regulation and financing.[32] Carbon-neutral shipping that meets future IMO targets will require fleet-wide retrofitting with new technologies and the emergence on an entirely new global market; one that incorporates new ways of shipping construction and sale with the transportation of goods, the recycling of vessels and advanced port infrastructure – all of which would require new policy and regulatory standards.[33] Widespread technological uptake also requires intensive research and development requiring expertise and specialised knowledge from a variety of actors – from the scientist, the financier, the shipbuilder, to ship operators.[34] Incentivising actors who are willing to adopt these technologies and practices early is crucial in a risk-adverse sector.[35] This not only requires carving out new avenues for access to capital and financing, but is also contingent on risk-management and equitable distribution of risk for the uptake newer technologies.[36]

Geels et al provide a typology for the complexities hindering low-carbon energy transitions; these include: 1) uncertainties (in respect of the performance of new innovations as well as the regulatory landscape), 2) disagreements (about optimal solutions, costs, and benefits), and 3) the distribution of power (the reliance of policy-makers on actor buy-in).[37] In the case of shipping, regulatory uncertainty has played a major role in deterring actors from investing in and prescribing to new technologies.[38] Regulatory uncertainty increases the costs of CO_2 abatement, requiring regulators and policy-makers

[28] Ibid 27.
[29] René Kemp, Johan Schot and Remco Hoogma,'Regime shifts to sustainability through processes of niche formation. The approach of strategic niche management' (1998) 10(2) Technol. Anal. Strateg. Manag. 175–198.
[30] Frank W. Geels, 'The multi-level perspective on sustainability transitions: Responses to seven criticisms' (n 27) 28.
[31] Ibid.
[32] Norbert Edomah, Morgan Bazilian & Benjamin K Sovacool, 'Sociotechnical typologies for national energy transitions' (2020) Environ. Res. Lett. 15.
[33] Conor Walsh and others, 'Charting a low carbon future for shipping: A UK perspective', (2017) 82 Marine Policy 32–40.
[34] De Xia and others, 'Developing a framework to identify barriers of green technology adoption for enterprises Resources' (2019) 143 Resources, Conservation and Recycling 99.
[35] Ibid 39.
[36] Sepideh Jafarzadeh and Ingrid Bouwer Utne, 'A framework to bridge the energy efficiency gap in shipping' (2014) 69 Energy 603–612: The use of 'smart contracts' enables charter arrangements to spread the costs (e.g. capital) and benefits (e.g. fuel saving) between charters and owners.
[37] Frank W Geels and others, 'The Socio-Technical Dynamics of Low-Carbon Transitions' (n 25) 474.
[38] Christian Haehl and Stefan Spinler, 'Technology Choice under Emission Regulation Uncertainty in International Container Shipping' (2020) 284 European Journal of Operational Research 383-396.

to reduce uncertainty if they desire to see a more fervent uptake of new and alternative technologies.[39] Technical uncertainty is also a major factor that deters the entry of new technologies into the market. The Organisation for Economic Co-operation and Development (OECD) recognises that certain conditions prevent firms from making optimal choices and identifies 'imperfect, insufficient or incorrect information' as a market failure and barrier for decarbonising shipping.[40] Such an information deficiency causes suboptimal investments and increases the risks for actors who wish to be first-users. The second factor noted by Geels is 'disagreements' as to optimal solutions. This is inextricably linked to uncertainty but is also reflective of the fragmentation and granularity in varying interests amongst shipping actors. A major focus for fuel transitions in the shipping sector has been the relationship between shipowners and charterers - namely, the principal-agent problem.[41] Third, a 'distribution of power' refers to the complexity surrounding the differing political and economic interests which drive decisions for green shipping. Most solutions for pollution control in the sector have viewed the IMO, member states, regional bodies and domestic law-makers as the key enablers of green shipping. This view point fails to acknowledge the inherent nature of a transnational sector that is closely intertwined with retail, the global economy, and growing consumer concerns about the environment.[42] A green shift in shipping will depend heavily on the decisions of private actors as shipping poses a number of impracticalities in applying the principles of transboundary harm. Customary laws are often inept in addressing circumstances where 'flags of convenience' are used to evade liability under jurisdictional enforcement regimes.[43] Currently, despite consumer-driven pressure for private actors to adopt greener technologies, shipowners (as well as port operators) are reported to be conservative, resist innovation, and express reluctance to new solutions.[44] Private shipping actors have to be 'on-board' in terms of driving an energy transition, therefore far greater incentive than traditional command-and-control laws is required.

A SMTS that is carbon neutral with minimal environmental impacts will appear radically different from the system of today. To drive innovation, newer technologies and clean fuels cannot be viewed as high-investment nor burdensome financial undertakings. This thesis aims to identify solutions to this dilemma in order to effectively drive the green shift.[45] It recognises that green solutions require a more balanced sharing of costs between actors and that contract law can achieve this. The private law has a pivotal role to play in the acceptance of green principles between private actors as well as providing practical solutions to the issues of costs, risk, and liability. In this way, contract law can *govern*

[39] Peter S. Reinelt and David W. Keith, 'Carbon Capture Retrofits and the Cost of Regulatory Uncertainty' (2007) 28(4) The Energy Journal 101-127; William Blyth and others, 'Investment risks under uncertain climate change policy' (2007) 35(11) Energy Policy 5766-5773.

[40] International Transport Forum, 'Decarbonising Maritime Transport: Pathways to zero-carbon shipping by 2035' (2018) www.itf-oecd.org/decarbonising-maritime-transport accessed 15 September 2021.

[41] Ángeles Longarela-Ares, 'The Influence of Economic Barriers and Drivers on Energy Efficiency Investments in Maritime Shipping from the Perspective of the Principal-Agent Problem' (2020) 12 Sustainability 7943.

[42] Jane Lister, 'Green Shipping: Governing Sustainable Maritime Transport' (2014) 6(2) Global Policy 118 - 129.

[43] Robin Rolf Churchill and Alan Vaughan Lowe, *The Law of The Sea* (3rd ed Manchester University Press 1999) 333.

[44] Patrizia Serra and Gianfranco Fancello, 'Towards the IMO's GHG Goals: A Critical Overview of the Perspectives and Challenges of the Main Options for Decarbonizing International Shipping' (2020) 12(8) Sustainability 3220.

[45] Multiple shipping companies have invested in technological and research solutions, such as: Aquarius Marine Renewable Energy (Japan), NYK Super Eco Ship 2030 (Japan), Volvo Penta-led Swedish EcoShip (Sweden), FellowSHIP Programme: DNV (Norway), Post-Panamax ships – S-class: Evergreen (Taiwan), Rotor Sails: Greenwave Wind Engines (UK), Air Cavity System (ACS): DK Group (The Netherlands), Ecospec Global Technology (Singapore), Sea Water Scrubbing System: Hamworthy Krystallon (UK).

commercial arrangements in a way that aligns business attitudes, practices, and trade with a state-driven SD mandate. This thesis seeks out ways in which contractual mechanisms can *facilitate* and *incentivise* greener practices and the uptake of newer technologies through agreements that promote SD and achieve equitable cost distribution. It recognises that different actors will play different roles in revolutionising the sector and that the collective problem requires more than regulatory action as a punitive driver of green behaviour. Greening the maritime sector will also require that industry actors 'jump on board' with sustainability mandates and that they are given the necessary legal tools to do so.

There are a range of **industry-led innovations** and environmental policy commitments, stemming from the financier to the recycling yard – all of which require proper legal implementation to carry out sustainability initiatives effectively. These industry efforts are explored in greater detail in Chapters 3-5 of this thesis. 'Industry-led innovations' is used broadly to encompass not only green installations, low-carbon fuels, and operational measures; but also, company best practices, financial products, CSR/ESG policies, cost sharing schemes, the digitising of supply chains, and other market tools. **Chapter 3** analyses a number of state proposed and voluntary green finance frameworks which apply to the financing of industrial sectors, including shipping. Although shipping is intended to be included in the EU Taxonomy Regulation (Regulation (EU) 2020/852), a number of voluntary schemes have been adopted by industry actors, including the Climate Bonds certification standard, the Loan Market Association's Green Loan Principles and the Sustainability Linked Loan Principles, [46] and most notably in the shipping context – the Poseidon Principles – a framework for signatory banks to integrate climate considerations into lending decisions with the objective of achieving decarbonisation in the industry.[47] In respect of contracts of carriage by sea (**Chapter 4**), shipping associations have been instrumental in drafting contractual clauses for the shipping sector to meet its environmental commitments, whilst similarly supporting IMO environmental law-making through submitting various submissions on technical standards to the MEPC.[48] **Chapter 5** of this thesis identifies how industry actors are participating in environmentally safe and sound recycling, something which is not only being adopted through the use of BIMCO's RECYCLECON, but also through a number of corporate and social governance efforts and an industry-wide commitment to the 2030 Sustainable Development Goals (SDGs). An effective international environmental regime for shipping is going to require multi-faceted efforts recognising various sources of law (public and private) that implement multidisciplinary solutions.

As criticisms of the IMO mount and the limits of international environmental laws and law-making processes for shipping are identified and challenged, non-state participants will increasingly announce and self-regulate their specific actions and commitments.[49] As a sector, shipping will be no exception to the wave of innovative ways in which plaintiffs are instituting climate change litigation – both public and private – in increasingly creative ways, relying on attribution science, common law principles of

[46] The Loan Market Association's Green Loan Principles have very recently been applied to container shipping in respect of a transaction by Hapag-Lloyd for six ultra-large 23,500 TEU container ships; see Marc Allen, 'DNV supports Hapag-Lloyd's milestone green financing' (*Maritime Direct*, 4 March 2021) https://maritime.direct/en/2021/03/04/dnv-supports-hapag-lloyds-milestone-green-financing/?utm_source=rss&utm_medium=rss&utm_campaign=dnv-supports-hapag-lloyds-milestone-green-financing accessed 15 September 2021.

[47] See *Poseidon Principles* https://www.poseidonprinciples.org/#about accessed 15 September 2021.

[48] In this respect, BIMCO and INTERNTANKO are noteworthy – the standardised clauses of which are analysed in Chapter 4.

[49] See UNFCC, 'Global Climate Action' http://climateaction.unfccc.int/ accessed 5 July 2021.

duty of care, nuisance law, property law, corporate governance, competition law, ***in addition to*** administrative law recourse enabled by international climate change frameworks.[50] Therefore shipping actors are going to need additional forms of self-regulation and private enforcement to *not only* achieve the wider SD and climate change agendas, but to ***protect*** themselves and ***manage risk***. International environmental regimes have increasing economic relevance as actors encounter a set of public law principles and must engage them as 'an active process of applying rational decision-making tools to data and information related to the activities under examination'.[51] Property law has had more time to develop a convergence with environmental law as land use is inherently steeped in conservation efforts and theoretical and practical attempts at reconciling private land rights with the commons.[52] However, contract law (and its sector-specific branches) will need to quickly catch up as legal devices enabled by property law developments are causing a 'private law earth quake' in connecting environmental obligations with private ones.[53]

This thesis sets out to identify how contractual mechanisms can *facilitate* a desired outcome – namely achieving a green transition in shipping. It looks at the major commercial phases of a vessel's life span and assesses the dominant **agreements** and **forms** used to negotiate and implement a set of sustainability objectives. It then sets out to analyse a range of contractual techniques, both those currently employed and those which should be introduced, to achieve a behavioural shift in how private actors perform their contractual obligations. The purpose here is two-fold: 1) to create a principled change in mind-set and a convergence of objects centred on SD norms; and 2) to present tangible legal remedies for accountability. The private law can provide a bottom-up set of contractual strategies which can work within the public regulatory landscape to offer actors a greater set of protections and control over their green transitions – especially where the public law regime presents enforcement gaps and exposes private actors to increased risk.

1.2 Research Question

This thesis poses one major question: *How contractual mechanisms in private agreements between shipping actors should be developed to facilitate and increase incentivisation of the green shipping transition?* This requires more than a mere investigation of how non-state actors ensure compliance with a prevailing state-led regulatory regime. It calls for a ***re-evaluation*** of private agreements to *implement*, *enforce*, and *achieve* a higher level of environmental commitment. Contractual agreements can *incentivise* better practices through providing commercial certainty on how the responsibility for good environmental management is to be shared amongst parties, whilst simultaneously providing an interpretive framework for the manner in which all obligations and sub-contracted obligations are carried out. Contractual arrangements can also provide *new ways of self-regulation* in addressing the gaps in compliance and enforcement created by the public law regime. As explained in the forthcoming section on theoretical frameworks, the term '**contract**' is defined not only in a legal sense of comprising of its constituent elements under English law, but it is recognised as a

[50] Geetanjali Ganguly, Joana Setzer and Veerle Heyvaert, 'If at First you don't Succeed: Suing Corporations for Climate Change' (2018) 38(4) Oxford Journal of Legal Studies 841.
[51] Michael G Faure and Roy A Partain, *Environmental Law and Economics: Theory and Practice* (Cambridge University Press 2019) 12.
[52] Vincent Sagaert, 'Property Law, Contract Law and Environmental Law: Shaking Hands with the (Historical) Enemy' in Siel Demeyere & Vincent Sagaert (eds), *Contract and Property with an Environmental Perspective* (Intersentia 2021) 1 -28.
[53] Ibid 1.

tool upon which the effects of governance are contingent.[54] Contracts embody exchange relationships which operate within a social framework of norms and ideals.[55] A fundamental assertion of this thesis is that contracts can either promote the achievement of such ideals or maintain the status quo.

This question is based upon **two major premises**: 1) a top-down SD mandate and a global climate change agenda exists with legitimate goals and targets, and, 2) a number of practical barriers hinder the urgent and necessary uptake of greener technologies in the maritime sector. The first premise encompasses the objectives and mandate of the IMO, as well as their guiding normative values. As a specialised United Nations agency, the IMO is guided by the overall mission of the UN and its internationally agreed principles. Once these objectives are identified, there is no need to scrutinise their merit as they are widely accepted by the global community. An historical account of the IMO's functions, and how it has regulated on environmental matters will necessarily inform an understanding of how the IMO sets out to achieve its mandate and recognises that the IMO has ***but one*** role in the overall conundrum of achieving environmental sustainability in shipping. The limits of top-down regulatory law-making can be assessed against a backdrop of previous standard-setting examples for the industry and how the IMO intends to fulfil its functions going forward. The second premise addresses practical challenges to the problem of environmentally sustainable shipping. Identifying the challenges in complying with specific IMO regulatory targets assists in drawing out the common themes of the economic factors and the risks associated with green technologies. There exists a proliferation of available technologies, yet no conclusive guidance on how to implement such options given the prevailing challenges. This leads to additional costs, limited access to finance such greener technologies, and deters first-user uptake. Green technology uptake (as a broad set of solutions comprising techniques, methods, processes, research, design, products, and equipment) needs to be supported by both public and private law-making processes. States can introduce both regulatory efforts and softer policies to channel funding and develop the maritime sector by setting goals and streamlining decarbonisation efforts. On the other hand, private actors are concerned with sourcing the capital for green newbuilds and retrofits, whilst also seeking out ways to share the costs and risks associated with green shipping.

In addressing these problems, the central research question acknowledges the role of ***private actors*** in commercial relationships centred on typical shipping business activities. A focus on private actors and **market mechanisms** as ways to solve issues of environmental degradation and social justice may be criticised by Marxist theorists as 'frictionless capitalism' – a criticism of the ways in which 'liberal communists' view the liberal market economy as fostering ethical ideals and the notion that corporations can act as 'saviours of the environment'.[56] Indeed, the ideal of SD (as discussed below in section 1.3.1) is rife with similar criticisms 'that we can have the global capitalist cake, i.e. thrive as profitable entrepreneurs, and eat it, too, i.e. endorse the anti-capitalist causes of social responsibility and ecological concern'.[57] The conflation of economic and environmental interests, which this thesis seeks to achieve, is undermined by critics of the 2030 SD Agenda as 'a fantasmatic explanation of international development and sustainability issues that conceals the antagonistic dimension of social,

[54] Thomas G Noordewier, George John and John R Nevin, 'Performance Outcomes of Purchasing Arrangements in Industrial Buyer-Vendor Relationships' (1990) 54(4) Journal of Marketing 80-93.
[55] Russell Hardin, 'The New Social Contract: An Inquiry into Modern Contractual Relations, Ian R. Macneil' (1982) 93 (1) Ethics 168-168.
[56] Carl Cederström and Michael Marinetto, 'Corporate social responsibility á la the liberal communist' (2013) 20(3) Organization 416 – 432, 419.
[57] Slavoj Žižek, *Violence* (London: Profile Books 2008) 16.

political and economic issues'.[58] These post-Marxist views are therefore critical of CSR as a 'spectacle', in that it alienates the working class by pitting its members against each other whilst concealing the domination of the capitalist class; and second, it uses humanitarian values to achieve greater profits through the pursuit of successful business strategy – thus commodifying such values with the ultimate goal of wealth accumulation.[59]

However, this thesis does not engage in these discourses of political science, nor does it take a view on whether CSR practices are necessarily 'good' or 'bad' ways to achieve global environmental governance. Rather, it recognises that many businesses, in particular multi-national enterprises, have assumed a state-like role in enforcing best practices and implementing human rights.[60] In many ways, these private entities respond to the problems presented by globalisation by taking on a political role that goes beyond mere legal compliance.[61] In transnational industries such as commercial shipping, the impact of state regulation is limited due to the multiple ways in which a vessel owner can use the UNCLOS framework to avoid international laws or undertake activities in the high seas beyond state jurisdictional reach. Given the fact that shipping is not set to reach its decarbonisation targets and continues to pose other environmental threats, it is fair to say that IMO law-making is failing to decarbonise the sector and adequately enhance its green performance. Thus, the focus of this thesis is on legal solutions that can **supplement** the top-down regulatory regime for an outcome that aligns the sector more closely with its SD mandate. This thesis recognises that a number of "carrot" as opposed to "stick" solutions exist, yet their effectiveness depends on certainty and legal accountability. In this regard, contractual terms dictate the outcome of achieving ***real* 'green' solutions**. Each forthcoming Chapter of this thesis addresses a contractual phase of a vessel's lifespan. Thus, each Chapter places the primary research question within a separate context dependant on the types of contracts negotiated in common maritime practices which impact on the environment.

1.3 Scope, Definitions and Delimitations of Thesis

Although this thesis appears to be addressing a broad enquiry into *how* to 'green' international shipping, it is important to clarify that the research question is a ***legal*** one – specifically, one of ***private contract law***. A comprehensive policy approach would require a multi-disciplinary investigation of a wide range of financial, market-based, technological, regulatory, and logistical proposals. Rather, this thesis is concerned with a narrow yet *crucial* piece of the puzzle. It addresses **essential contractual agreements** that are made and performed throughout a ship's lifespan in **three phases**: 1) financing and shipbuilding, 2) the carriage of goods and, 3) dismantling and recycling of the vessel. Within these three phases (pre-voyage, voyage, post-voyage), there are a number of vital contracts that support and facilitate shipping operations as well as trade operations. Bank loan agreements enable shipbuilding and retrofitting, charterparties support the carriage of goods, and sale agreements for vessel recycling enable the final voyage of a ship to a suitable facility for dismantling and recycling purposes. There are, of course, various other essential contracts throughout a ship's lifespan. These

[58] Juan Telleria and Jorge Garcia-Arias, 'The fantasmatic narrative of 'sustainable development. A political analysis of the 2030 Global Development Agenda' (2021) Environment and Planning C: Politics and Space.
[59] Guy Debord, *Society of the Spectacle* (Black & Red 1977) http://www.marxists.org/reference/archive/debord/society.htm accessed 15 September 2021.
[60] Andreas Georg Scherer and Guido Palazzo, 'The New Political Role of Business in a Globalized World: A Review of a New Perspective on CSR and its Implications for the Firm, Governance, and Democracy' (2011) Journal of Management Studies 48.
[61] Ibid.

include, inter alia, shipbuilding contracts, bills of lading, insurance contracts, freight forwarding contracts, and a number of alternative finance arrangements that are increasingly enabled by digital platforms and blockchain technologies. In terms of scope, this thesis has narrowed its lens to core commercial relationships wherein green principles can have a pervasive influence over shipping more generally whilst such principles and terms can easily be translated into all manner of contracts.

The research question is then asked in the context of each type of contracting scenario: how can each commercial arrangement be developed to facilitate and incentivise a green transition and elevated green behaviour? Such 'green behaviour' refers to myriad of efforts to achieve environmental sustainability, whether the goal be absolute or on a spectrum of greenness. These can range from pervasive shifts in industry attitudes to decision-making frameworks and tangible green practices. In this regard, it is important to clarify what is meant by terms such as 'sustainable', 'sustainable development', 'green', or 'environmental'. It is also important to identify which actors are involved in these transactions to take cognisance of *why* these contracts should intersect with sustainability agendas – generally considered a public law prerogative.

A brief chapter on the public law regime is nevertheless included in this thesis for two important reasons: 1) an historical overview of maritime pollution standard-setting points to a persistent *polarisation* of environmental regulatory efforts and commercial shipping interests; and 2) a new *collaborative* agenda between these interests, wherein private regulation is recognised as a powerful legal supplement to top-down law-making, is emerging as part of the IMO's SD mandate. The 'public law regime' herein refers to the global laws prescribed by the IMO as the UN Agency tasked with creating a regulatory framework for the shipping industry.[62] This is the predominant regulatory scale which this thesis is concerned with, however it also acknowledges regional scales – particularly the European Union – and national scales of environmental governance. This thesis does **not** aim to promote theories of private governance *in place of* public law-making but affords a synergistic perspective which requires an understanding of how private actors operate within global legal regimes.

Given the broad nature of the research question, it is also important to delimit what is meant by the terms 'incentivise' or 'facilitate' in the context of the aforementioned private transactions. It is arguable that the public law regime already provides command-and-control regulations which incentivise through a range of criminal and administrative sanctions; whilst a growing eco-consciousness provides a moral imperative to promote sustainability agendas. This thesis does not undermine these assumptions, but rather addresses the critical point that a number of economic factors may deter environmental compliance – the number one reason being costs. The research question thus seeks to '**incentivise'** environmental sustainability by affording a more equitable distribution of costs between actors and offers each party a set of protections to de-risk green practices. '**Facilitate**' means to implement a set of green incentives which already exist between private actors, e.g. reputational gains, access to green financing on preferential terms, less red tape, or a new customer base.

[62] IMO, *Introduction to IMO*, available at http://www.imo.org/en/About/Pages/Default.aspx accessed 15 September 2021; IMO Convention, art 2.

1.3.1 'Sustainable', 'Sustainable Development', a 'Sustainable Maritime Transport System', and 'Green Shipping'

SD is a pervasive concept used throughout this thesis and falls under the umbrella of 'sustainability'; which can be simplified as being all that is good, desirable and equitable, and will keep the planet on a trajectory whereby it can provide for all species in perpetuity. However, both terms have different understandings and refer to different practices depending on the context in which they are used. In a broader sense, 'sustainable development' refers to 'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'.[63] The term was primarily an environmental concept, yet global developments have applied the term to economic growth, social inclusion, and equality in addition to environmental protection.[64] Critics of the term argue that it is misleading and equates 'development' with economic growth, thus suggesting that our current economic systems and their dependence on increased consumption can actually be 'sustainable'.[65] This is essentially a situation of trying to 'have one's cake and eat it too'.[66] Despite its adversaries, the strength of SD as a policy term perhaps lies with its ambiguity. It is a term that is adjustable to suit various academic disciplines and promote environmental principles. It can represent both broad ideals and can have specific meanings when applied to specific contexts. Nowadays, the term underpins a wide range of environmental management tools and has been enshrined in various legislative and policy documents.[67]

In 2015, all 193 of the United Nations' member states unanimously adopted the 2030 Agenda for SD, including 17 SDGs and numerous related targets. The IMO has recognised that in order to successfully implement the 2030 Agenda, this framework will have to be incorporated into the national policies and strategies of its member states. These SDGs purport to provide a 'blueprint for peace and prosperity for people and the planet, now and into the future'.[68] These goals provide a comprehensive outlook of the various kinds of action required by SD. They recognise that tackling climate change and preserving the world's natural heritage must necessarily go hand-in-hand with improvement strategies for overall health, education, reduction of inequality and increased economic growth. SD nowadays comprises a substantive body of legal norms which are supported by distinguishing procedural elements which address the conflicts and points of intersection of environmental, social and economic law. Although sustainable development is a well-recognized concept in the field of environmental law and policymaking, it is fairly new to the international maritime transport domain.[69]

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[63] Gro Harlem Brundtland, *Report of the World Commission on Environment and Development: Our Common Future* UN A/42/427 (1987).

[64] The Rio Declaration on Environment and Development UN Doc A/CONF.151/26 (Vol. I) (1992).

[65] Sharachchandra M Lélé, 'Sustainable Development: A critical Review' (1991) 19(6) World Development 607-621.

[66] Ibid 618; the concept of Sustainable development has also been criticised by post-Marxist theorists, see Juan Telleria & Jorge Garcia-Arias, 'The fantasmatic narrative of 'sustainable development. A political analysis of the 2030 Global Development Agenda' (n 58).

[67] South Africa has gone so far as to include an environmental right in its Constitution, which exhorts the passing of legislative and other measures that secure "ecologically sustainable development" (S 24(b)(iii) of the Constitution of the Republic of South Africa, 1996.

[68] UN, *Sustainable Development Goals Knowledge Platform* (2015) https://sustainabledevelopment.un.org/?menu=1300 accessed 15 September 2021.

[69] Lawrence Sciberras and Joaquim Ramos Silva, 'The UN's 2030 Agenda for sustainable development and the maritime transport domain: the role and challenges of IMO and its stakeholders through a grounded theory perspective' (2018) 17 WMU J Marit Affairs 435–459.

Within international law, the term has been eloquently described by Justice Weeramantry in his former role as Vice President of the International Court of Justice in the case of *GabCikovo-Nagymaros Project* case:[70]

> *Throughout the ages, mankind has for economic and other reasons, constantly interfered with nature. In the past, this was often done without consideration of the effect upon the environment. Owing to new scientific insights and to growing awareness of the risks for mankind – for present and future generations – of pursuit of such interventions at an unconsidered and unabated pace, new norms and standards have been developed, set forth in a great number of instruments during the last two decades. Such new norms have to be taken into consideration, and such new standards given proper weight, not only when states contemplate new activities, but also when continuing with activities begun in the past. This need to reconcile economic development with protection of the environment is aptly expressed in the concept of sustainable development.*[71]

Justice Weeramantry also affirmed the principle of SD as an 'an integral part of modern international law' when making decisions or continuing activities which must necessarily balance the competing demands of development and environmental protection.[72]

Following a general understanding of SD, the next question is what 'sustainable development' means for shipping and how it applies to public environmental law making for the maritime sector. Traditionally, 'sustainability' and 'sustainable development' in shipping has referred to the environmental impacts of shipping.[73] This understanding is quite limited in scope and has been applied predominantly to technical solutions for specific environmental concerns.[74] Previously the main objective of sustainability in shipping was to target and regulate oil discharges, with the emphasis now moving towards limiting atmospheric emissions.[75] Cabezas-Basurko et al define sustainable shipping as 'a cost-effective commercial activity, in which the environmental load is not bigger than that which the environment can currently and in the future bear, and that the social community (directly and indirectly) in contact with it is not being negatively affected'.[76] This definition recognises the industry agenda of keeping costs low whilst also looking out for the surrounding human community. The IMO recognises a SMTS as being premised on the UN concept of SD, requiring implementation of the SD concept into commercial shipping practices.[77]

Although SD mandates a consideration of environmental, economic and social factors (considered the three pillars of SD), the focus of this thesis is on the environmental component of shipping, without ignoring the other two pillars of SD. This thesis aims to address the ***green*** shift in the industry and how actors make decisions that are better for both the marine environment and the connected terrestrial environment. This thesis recognises that the current paradigm has created tensions between economic gain and the promotion of environmental standards. However, in seeking environmental solutions that

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[70] (Hungary/Slovakia), Judgment, I. C. J. Reports 1997, 7.
[71] Ibid 201, para 140.
[72] Ibid 205.
[73] Oihane Cabezas-Basurko, Ehsan Mesbahi and SR Moloney, 'Methodology for sustainability analysis of ships' *(2008)* 3(1) Ships and Offshore Structures 1-11.
[74] Stefanos Chatzinikolaou & Nikolaos Ventikos, 'Sustainable maritime transport, An operational definition' (2011) Sustainable Maritime Transportation and Exploitation of Sea Resources, CRC Press, 931–939.
[75] Ibid.
[76] Oihane Cabezas-Basurko, Ehsan Mesbahi and SR Moloney, 'Methodology for sustainability analysis of ships' (n 73) 3.
[77] IMO, 'Concept of a Sustainable Maritime Transportation System' (n 21).

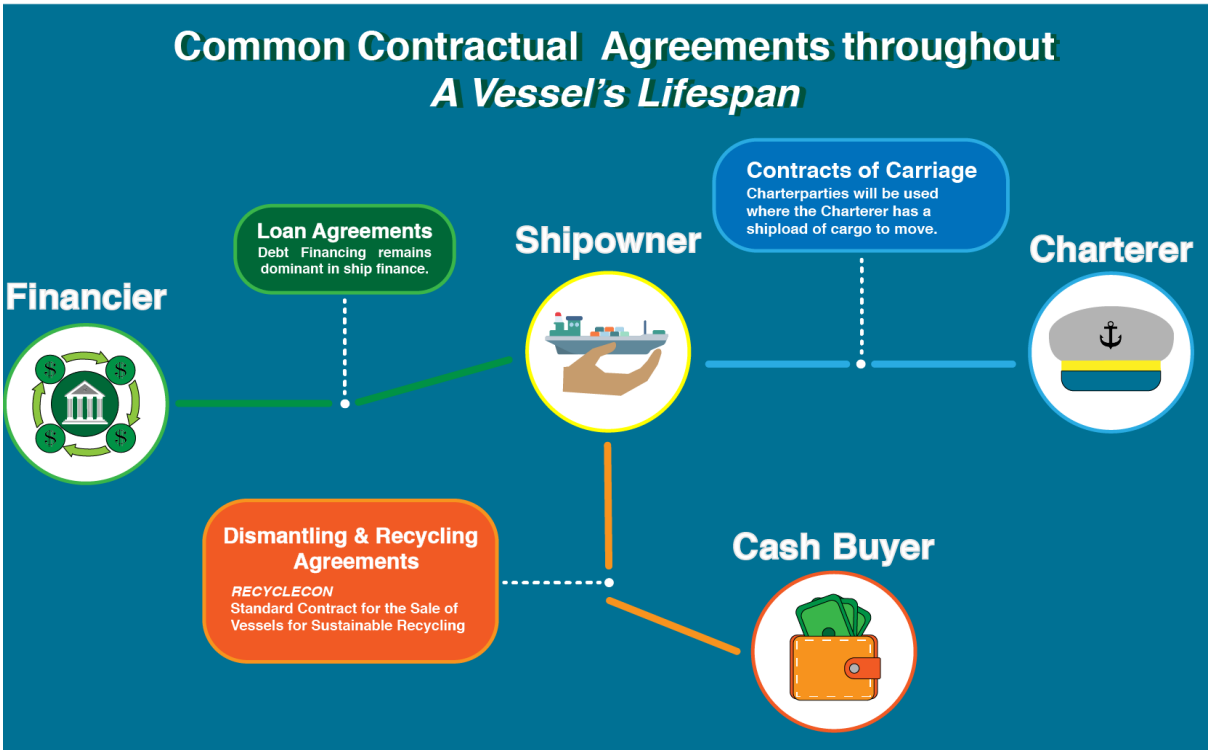
are sustainable for the industry, it hopes to illustrate how environmental protection and principles of environmental law can and must necessarily converge with economic incentives and profitability to truly achieve SD.

The term 'green' is used broadly to reflect a range of environmental objectives including, inter alia, carbon-neutrality, emission reductions, marine protection, biodiversity protection, and more environmentally friendly and ecologically responsible decisions. There is no absolute standard of 'green' and varying degrees of greenness are recognised in different frameworks. In respect of green finance (Chapter 3), it has been contended that an understanding of 'green finance should prefer neither a narrow nor a wide definition'.[78] Instead, it is more useful to map the interconnected areas of core and secondary activities which can positively contribute to sustainability agendas.[79] This would envision 'degrees' of *greenness* in respect of shipping activities. Specific definitions and characterisations of 'green shipping activities', however, are important for the drafting of contractual clauses to prescribe clear obligations and duties. In the context of a specific contractual agreement adhering to an identified framework, the term 'green' will be appreciated for its broad implications yet dealt with in its precise sense where called for.

1.3.2 Actors and Transactions

This thesis focuses on international commercial shipping and the major actors which will be involved in driving the ***green transition***. Collaboration between lawmakers and non-state actors is gaining increased attention in view of the IMO's recent standpoint that there are now enough regulations in place and the problem is one of 'implementation and enforcement'.[80] As this study focuses on 'green shipping', it is ultimately concerned with vessels: from financing the vessel's construction/retrofit to its operational life-span, and its dismantling and recycling. The shipowner remains a central figure to all of the transactions throughout a vessel's life, including successive owners in title; but the owner needs to interact with other parties to ensure the vessel's environmental compliance and green performance. The primary actors involved in green shipping are simplistically laid out in the below diagram:

[78] Jason Chuah, 'Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes' in Mukherjee P et al. (eds) *Maritime Law in Motion. WMU Studies in Maritime Affairs* (Volume 8, Springer, Cham. 2020) 131-152, 135.
[79] UNEP, *Definitions and Concepts: Background Note. Inquiry Working Paper 16/13* (2016) 8 https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf?sequence=1&amp%3BisAllowed= accessed 15 September 2021.
[80] IMO, *Implementation of IMO Instruments* (2021) https://www.imo.org/en/OurWork/IIIS/Pages/default.aspx accessed 15 September 2021.



(Source: Author's own)

1.3.2.1 Financiers & Owners: Loan Agreements

Legal ownership of a vessel is acquired in the same manner as legal ownership is acquired in other personal property: usually as a new ship under a shipbuilding contract between the buyer and the builder or as a second-hand ship under a contract of sale between the owner and the buyer.[81] In respect of ship ownership, all vessels are ordinarily registered with a registry of their flag state, thus assuming that state's nationality, its protection, and mandated laws.[82] The ship is thus subject to the law of the flag state and all its requirements regarding safety, operational measures, and the registration of mortgages, taxation and employment of crew.[83] The legal entity recorded in the state registry is known to be the 'owner of the ship'. Allowing companies to be registered legal owners comes with all the complications of shielding 'true' or 'beneficial' owners from liability. The 'flag of convenience' conundrum exacerbates the problem of owners trying to escape strict environmental controls or liability. Given the highly competitive and complex nature of the shipping industry, it is easy to see why environmental responsibility has not traditionally featured as a top priority for shipowners. States have sought to target shipowners and make them responsible for the lion's share of the costs of environmental compliance as environmental regulations have called for the instillation of pollution control and waste minimisation technology, instead of allocating the costs to ports and states providing reception facilities. The shipowner's customary rights to free navigation have thus been significantly eroded by the strengthening environmental mandate. Nowadays, however, there are a wider range of incentives for shipowners to have green vessels – these stem not only from compliance with the public law regime, but corporate social responsibility (CSR) drives, green labelling, access to green finance, port fare reductions, as well as fuel savings.

[81] David Osborne, Graeme Bowtle, and Charles Buss, *The Law of Ship Mortgages* (Informa law from Routledge, Milton Park 2017) 16.
[82] Art 91, UNCLOS.
[83] Art 94, UNCLOS.

Whether an owner requires capital to purchase an existing ship, build a new one, or retrofit one already owned – the most vital aspect of a green ship's inception is obtaining capital. The major role that financial institutions can have in driving a green transition is explained more fully in Chapter 3 which deals with green financing. Each year, Lloyds publishes a 'Top 10 in Finance', naming the most prominent expanders of ship finance.[84] Lloyds acknowledges that the ship finance market has undergone significant changes since the Global Financial Crisis, which saw many ship finance banks leave the market. Those banks which have remained in shipping, are now subject to tighter funding parameters due the stricter controls put in place by the Basel Committee on Banking Supervision. Ship owners and actors seeking finance, are increasingly having to rely on other sources of financing. Traditionally, finance is secured through a ship mortgage, whereby a lender can enforce its rights through a number of mechanisms such as arrest and sale. In respect of obtaining finance for new shipbuilding which meets environmental regulatory requirements or green technology retrofitting, certain banks are providing specific lending and blending products. The green principles which financiers choose to uphold is gaining increasing attention with the establishment of green loan frameworks, the Poseidon Principles, and the EIB's Green Shipping initiatives.

1.3.2.2 Owners & Charterers: Charterparties

Charterers are also fundamental to the green performance of a vessel and are generally responsible for operational costs and the purchasing of fuel bunkers under a time charterparty. Charterparties are used where a charterer has a load of cargo to move. The actual structure of the shipping industry has effects on the bargaining powers of parties, placing either the shipowner or the charterer in a stronger position according to the markets.[85] This thesis does not extend to an enquiry beyond a discussion of voyage charters and time charters. It is not concerned with the full range of contracts of carriage by sea and therefore does not extend to bills of lading – this is because despite bills of lading being capable of contractual effect, a charterer and shipowner would generally want the terms on the bill of lading to mirror the terms of the charterparty.[86] A consideration of bareboat charters is also excluded from this thesis as under such an arrangement, the owner (usually a financial institution), hands the vessel over to the charterer for a lengthy period and is not active in the operation of the vessel, whilst the charterer manages the vessel and pays all operational and voyage costs.[87]

Voyage and time charterparties are, as a rule, concluded using standard chartering forms.[88] In this respect, three associations are worth identifying for being instrumental in constructing standard forms: the Baltic and International Maritime Council (BIMCO), the International Chamber of Shipping (ICS), and the International Association of Independent Tanker Owners (INTERTANKO), all of whom enjoy consultative status at IMO. Situated in Denmark, BIMCO is the largest international shipping association, with members including shipowners, operators, managers, brokers and agents. [89] It offers a number of services to its over 2100 members; including standard contracts and clauses, information

[84] Lloyd's List, 'Top 10 in ship finance 2020' (11 December 2020) https://lloydslist.maritimeintelligence.informa.com/LL1135066/Top-10-in-ship-finance-2020 accessed 15 September 2021.
[85] UNCTAD, *From Charter Parties, report from the Secretariat of the UNCTAD* (1974) Section 52.
[86] Anthony Rogers, Jason Chuah, and Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (Taylor & Francis Group 2019) 249; older authorities held that the Bill of Lading is a mere receipt in the hands of the charterer who is also the shipper, *Steamship Calcutta Company Ltd v Andrew Weir & Co* [1910] 1 KB 759.
[87] Ibid 10.
[88] UNCTAD, *From Charter Parties* (n 85) Section 55.
[89] BIMCO www.bimco.org, accessed 15 September 2021.

and advice, training and representing its members' interests within regulatory arenas. It is currently estimated that over 75% of maritime transactions worldwide involve the use of a BIMCO contract.[90] BIMCO also provides clarity on the position of its members in environmental matters by providing updated statements on its website. The ICS was established in London in 1921 and represents shipowner interest at various intergovernmental regulatory bodies.[91] The ICS also develops best practices and guidance and provides free resources and guidance. Finally, INTERTANKO was established in 1971 to represent and defend the interests of independent tanker owners and major oil companies.[92]

1.3.3.3 Owners (Sellers) and Cash Buyers for End-of-Life Vessels: RECYCLECON

At the end of a ship's life, the shipowner generally exercises one of two options: contracting with a ship recycling facility or using the services of a broker or cash buyer to sell the vessel for dismantling and recycling purposes. Specialist services have also emerged in light of tightening regulations, whereby the service provider will select a recycling yard which is authorised by governing law and will supervise the preparation of the vessel and its delivery to a suitable facility.[93] Generally, direct sales to the recycling facility are impractical because they require specialised knowledge of the regulatory scene, the recycling market and relevant information pertaining to available recycling facilities and their history of compliance. Other complications can include financial practices of the recycling country (e.g. letters of credit) and it is therefore more likely that only bigger shipping companies have the available resources and knowledge to sell vessels directly to the facility. Small to medium sized owners will likely make use of a cash buyer.

Once an owner has decided to recycle a vessel, the procedure is similar to that of a tender procedure on the shipbuilding market – an offer will be circulated to potential contracting parties.[94] Historically, buyers or brokers would use their own contractual documents and there was no standardised form,[95] yet increasing regulation has seen the development of standardised forms. The BIMCO DEMOLISHCON and RECYCLECON are 'often, though not invariably used when vessels are sold for scrap'.[96] The BIMCO DEMOLISHCON form is the predecessor of the RECYCLECON, which was drafted in alignment with the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.[97] The DEMOLISHCON makes reference to outdated practices such as beaching – now considered environmentally *un*safe and *un*sound. When analysing the primary transaction at the end of a vessel's life, this thesis deals directly with the RECYCLECON standard form, yet also considers sale agreements more generally for the strengthening of environmental objectives and protections for the shipowner.

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[90] Daniel Barnes, 'At the forefront of the shipowner industry for over 110 years' (*InsideMarine* 2019) https://www.insidemarine.com/index.php/editor-s-choice/inside-marine-meets/342-at-the-forefront-of-the-shipowner-industry-for-over-110-years accessed 15 September 2021.
[91] ICS https://www.ics-shipping.org accessed 15 September 2021.
[92] INTERTANKO https://www.intertanko.com/about-us accessed 15 September 2021.
[93] ICS, *Shipping Industry Guidelines on Transitional Measures for Shipowners Selling Ships for Recycling, Second Edition* (2016) https://www.ics-shipping.org/publication/shipping-industry-guidelines-on-transitional-measures-for-shipowners-selling-ships-for-recyclingno-date/ accessed 15 September 2021.
[94] Urs Daniel Engels, 'Entry-into-Force Provision' in Urs Daniel (ed) *European Ship Recycling Regulation* (Hamburg Studies on Maritime Affairs, Springer, Berlin, Heidelberg 2013) 43 – 99.
[95] Currently GMS Leadership is the biggest facilitator of ship sales for recycling, using a GMS Responsible Ship Recycling Program (RSRP) based on the guidelines provided by the HK Convention.
[96] *Priyanka Shipping Limited v Glory Bulk Carriers PTE Limited* [2019] EWHC 2804 (Comm) para 7.
[97] 2009 SR/CONF/45.

1.4 Overview of Available Literature

Existing literature within the general green-shipping landscape is principally divided along two enquiries: 1) international environmental law and ocean governance; and 2) economic performance indicators of green options and choice of technologies. The first enquiry is clearly a legal research theme, however the second falls more squarely within the ambit of economics and scientific data analysis. The **first** body of literature is explored in **Chapter 2** of this thesis and is a necessary preliminary enquiry to establish the greater objectives of this thesis. Chapter 2 maps out some of the historical literature on IMO law-making processes and the current academic discourse on international environmental standards. The aim is to illustrate that top-down regulatory efforts are merely ***one component*** of the green shipping transition and the IMO has served several political and commercial interests in respect of environmental matters. Although not found within legal literature *per se*, this **second** theme is relevant to the law in how it informs policy and standard-setting, whilst also assessing the viability of green technologies and their incorporation into private relationships. There is little to none literature which investigates the incentivisation of green shipping through private law mechanisms – a gap which this thesis aims to address.

Chapter 2 of this thesis serves to contextualise the private transactions that occur within international shipping in a public law framework for the regulation of shipping emissions. The public law regime for green shipping refers to the international law-making processes that govern pollution from shipping, namely the laws of the IMO as implemented by member states, as well as the laws of regional bodies such as the EU, within a climate change governance framework. The main enquiry in Chapter 2 is not necessarily unique in its description of the law-making processes that regulate the environmental outputs of shipping, but it is unique in the point it serves to illustrate: that the ***green shipping transition*** (including, but not limited to decarbonisation efforts) is going to require ***pluralistic solutions*** and industry "buy-in". As a starting point, research within international law has been largely concerned with terrestrial sources of pollution. Questions of state responsibility for transboundary air pollution have dominated this discourse and the same discussions have been transferred to a marine, namely 'vessel-source', context. An historical analysis of the formation of the IMO and how its pollution laws have developed is comprehensively provided by Tan.[98] Oil pollution incidents over the last 40 years spurred academic arguments surrounding civil and criminal liability as mechanisms for the prevention of oil marine pollution.[99] Air pollution gained attention more recently with early commentators such as Okamura[100] and Honka[101] who analysed MARPOL 73/78 Annex VI 1997 and the Revised MARPOL 73/78 Annex VI 2008 respectively. Tan also looked more closely at the historical and political background to the drafting of MARPOL Annex VI and its subsequent revision.

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[98] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (Cambridge: Cambridge University Press 2006).

[99] To name a few, works include: Thomas J Schoenbaum, 'Liability for Damages in Oil Spill Accidents: Evaluating the USA and International Law Regimes in the Light of Deepwater Horizon' (2012) 24(3) Journal of Environmental Law 395–416; Sophia Kopela, 'Civil and criminal liability as mechanisms for the prevention of oil marine pollution: the Erika case' (2011) 20(3) Review of European Community and International Environmental Law 313-324; and Julien Hay, 'How efficient can international compensation regimes be in pollution prevention? A discussion of the case of marine oil spills' (2010) 10(1) International Environmental Agreements 29-44.

[100] Bin Okamura, 'Proposed IMO Regulations for the Prevention of Air Pollution from Ships' (1995) 26(2) Journal of Maritime Law and Commerce, 183-195.

[101] Hannu Honka, 'The MARPOL Convention Annex VI on regulations for the prevention of air pollution from ships - a fair deal?' (2011) in SIMPLY – Scandinavian Institute of Maritime Law Yearbook, Marlus 400, 231-266.

Also, within legal scholarship, is the discussion of unilateral law-making by states. The legitimacy of EU laws which exceed the IMO's sulphur standards have been contemplated by Ringbom in respect of measuring the trends in the EU's actions as a flag state, port state and coastal state against the international legal framework. [102] Linné used a Regulatory Studies framework for assessing environmental governance on different regulatory scales (namely, the IMO, EU, and Sweden) with the view to improving global and uniform regulation in respect of sulphur emissions.[103] Examples of regulatory study works in this vein include Kotzé[104] and DiMento & Hickman.[105] In respect of improving EU environmental regulation for shipping through its construction, Gunningham et al is noteworthy.[106] One apparent gap in existing public law literature are the enforcement issues surrounding the IMO's sulphur regulation. The ICS, as well as other associations such as BIMCO and INTERTANKO have looked at viable options for compliance, whilst noting the uncertainty regarding port enforcement in industry-led studies.[107] The Swedish Club has also raised concerns over the practicalities of enforcement.[108] However, how states will enforce the tightened 2020 standard is yet to be seen with little predictive guidance as the Covid-19 pandemic has hindered enforcement strategies globally. These issues of enforcement and administrative procedure are beyond the scope of this thesis, as well as being placed outside the ambit of a discussion Chapter 2. This thesis recognises these problems, but it not concerned with solving them from a public-law viewpoint and therefore does not offer extensive analysis of the scholarship in this area. Through merely identifying that gaps in implementation and enforcement exist, **Chapter 2** provides a *raison d'être* for overcoming these challenges using the private law – domestic issues of port inspection and enforcement schemes, as well as developing the reach of international standards is therefore omitted from the aims of this thesis.

CO_2 emissions are newer to the IMO's body of work and discussions have been introduced by Balkin in respect of climate change.[109] Mukherjee argues that, *prima facie*, restricting carbon emissions from shipping is inconsistent with the mandate of the IMO as set out in the IMO Convention, as the Convention refers to 'marine pollution' and the 'marine environment'.[110] However, he extends his

[102] Henrik Ringbom, *The EU Maritime Safety Policy and International Law* (Martinus Nijhoff Publishers 2008).
[103] Philip Almestrand Linné, 'Regulating Vessel-Source Air Pollution - Standard-Setting in the Regulation of SOx Emissions' (2017) Juridiska institutionens skriftserie, Handelshögskolan vid Göteborgs universitet Skrift 025 http://hdl.handle.net/2077/53702 accessed 15 September 2021.
[104] Louis J Kotzé, *Global Environmental Governance: Law and Regulation for the 21st Century* (Edward Elgar Publishing 2012).
[105] Joseph FC DiMento and Alexis Jaclyn Hickman, *Environmental Governance of the Great Seas: Law and Effect* (Edward Elgar Publishing 2012).
[106] Neil Gunningham, Peter N. Grabosky, and Darren Sinclair, *Smart Regulation: Designing Environmental Policy* (Oxford University Press 1999).
[107] ICS, 'Guidance to Shipping Companies and Crews on Preparing for Compliance with the 2020 'Global Sulphur Cap' for Ships' Fuel Oil in Accordance with MARPOL Annex VI' (2019) https://www.ics-shipping.org/wp-content/uploads/2019/07/ICS-Guidance-on-Compliance-with-the-2020-Global-Sulphur-Cap-July-2019-1.pdf accessed 15 September 2021.
[108] The Swedish Club, 'Legal issues arising from new bunker sulphur regulations in MARPOL' (2018) Circular no: 53/2018.
[109] Rosalie Balkin, 'IMO's Response to Climate Change' in Neil Bellefontaine & Olof Lindén (Eds.) *Impacts of Climate Change on the Maritime Industry: the proceedings of the Conference on Impacts of Climate Change on the Maritime Industry*, (WMU Publications 2009).
[110] Proshanto K Mukherjee and Jingjing Xu, 'The Legal Framework of Exhaust Emissions from Ships: A Selective Examination from a Law and Economics Perspective' in Neil Bellefontaine and Olof Lindén (eds) *Impacts of Climate Change on the Maritime Industry: the proceedings of the Conference on Impacts of Climate Change on the Maritime Industry, 2-4 June 2008* (WMU Publications 2009) 78.

analysis to conclude that legislating on carbon emissions through MARPOL Annex VI could be necessary to give effect to Article 2.2 of the Kyoto Protocol as MARPOL recognises the 'need to preserve the human environment in general and the marine environment in particular…'.[111] A more modern understanding of the 'marine environment' cannot separate so called 'marine' matters from atmospheric ones, as global warming poses the greatest threat to the world's oceans. In 2016, Romera analysed the omission of the maritime sector from the Paris Agreement and explored the possible indirect effects of the Paris Agreement on regulating emissions from shipping, arguing for a multilateral approach and the rise of industry action resulting from commitments to the Paris Agreement.[112] Romera's work supports the underlying premise of Chapter 2, but is far more concerned with the effects of international climate change instruments on multilateral regulation than with providing a ***basis*** for *developing private solutions*.

In addition to exploring command and control legislation for decarbonisation, another line of enquiry has been market-based-measures for meeting CO_2 reduction goals. Christodoulou-Varotsi focuses on introducing carbon emissions from shipping into a trading scheme and this work has been continued in respect of the EU's carbon cap and trading scheme more specifically.[113] Other state policy initiatives such as fuel levies and subsidies, have also been explored. Kosmasab & Acciaroa have looked at the economic impacts of two fuel levy mechanisms, the unit-tax per ton of fuel and an ad-valorem tax (a percentage tax on fuel prices), and the practical problems presented by the payment point of the proposed schemes.[114] Direct support for green shipping through state subsidies has also been found effective by Nicolini & Tavoni as it allows for swifter progress and can target the uptake of green technologies and interventions.[115] Most recently, an extensive literature review of market-based measures (MBMs) for the decarbonisation of shipping has been undertaken by Lagouvardou, Psaraftis, and Zis.[116] Their literature review reveals that MBMs can form part of pluralistic and concrete solutions, as MBMs can induce changes at an operational and technological level – therefore are both short and long-term candidate measures that can achieved the IMO's decarbonisation targets. This thesis similarly recognises that a pluralistic solution is necessitated to drive a reduction in CO_2 emissions from shipping and ultimately carbon neutrality. However, an exploration of MBMs is beyond the scope of this thesis as there is presently no clear indication of what a global MBM for shipping would look like. Experts are navigating the conflict between the principle of Common But Differentiated Responsibilities and Respective Capabilities (CBDR-RC), consistent with the UNFCCC and its Kyoto

[111] Ibid 79.
[112] Beatriz Martinez Romera, 'The Paris Agreement and the Regulation of International Bunker Fuels' (2016) 25(2) RECIEL 216.
[113] Iliana Christodoulou-Varotsi, 'Demystifying air pollution from ships via trading schemes: how far can we go?' (2009) 15(2) The Journal of International Maritime Law 169. See also A Denny Ellerman & Barbara K Buchner, 'The European Union Emissions Trading Scheme: Origins, allocation, and early results' (2007) 1(1) Review of Environmental Economics and Policy,66 – 87; Christian Egenhofer, Monica Alessi, Anton Georgiev & Noriko Fujiwara, 'The EU Emissions Trading System and Climate Policy Towards 2050: Real Incentives to Reduce Emissions and Drive Innovation?' in CEPS Special Report (2011 Centre for European Policy Studies, Brussels).
[114] Vasileios Kosmasab and Michele Acciaroa, 'Bunker levy schemes for greenhouse gas (GHG) emission reduction in international shipping' (2017) 57 Transportation Research Part D: Transport and Environment Volume.
[115] Marcella Nicolini and Massimo Tavoni, 'Are renewable energy subsidies effective? Evidence from Europe, (2017) 74 (C) Renewable and Sustainable Energy Reviews, Elsevier 412-423.
[116] Sotiria Lagouvardou, Harilaos N. Psaraftis, and Thalis Zis, 'A Literature Survey on Market-Based Measures for the Decarbonization of Shipping' (2020) 12 Sustainability 3953.

Protocol, and the non-discrimination principle specified in the IMO Convention and its instruments.[117] This thesis has avoided these discourses as MBMs do not provide private actor solutions *per se*, but a state led top-down mechanism of internalising the external cost of GHG emissions and implementing the principle of the "polluter pays".[118]

The prevailing legal scholarship on incentivising green shipping is thus largely public law orientated. Although this thesis needs to consider the pollution-law framework for the shipping sector, it is unique in that its focus is ***not*** on top-down standard-setting regimes. The global response to vessel-source pollution has been largely command-and-control, with the market only being considered in respect of market-based initiatives governed by states, such as trading schemes, tax provisions, subsidies, fuel levies, and a plethora of other potential MBMs. Probably, the most relevant public/private cross-over within this thesis is the analysis of the pro-forma green covenants in financing agreements. Financial institutes, such as the European Investment Bank are providing guidance on how to implement commercial agreements for the uptake of green technologies through its Green Shipping Loan Programme and Green Shipping Guarantee Programme. Although this is a state initiative, it sets an important example for how private financiers can incorporate green covenants and provide measures of environmental accountability as a contractual obligation. In respect of the term 'green' in financing agreements for the shipping sector, Chuah explores the implication of this definition and why definitions matter.[119] Beyond financial agreements, green clauses for shipping remain in their embryonic phases and still await legal analysis. A 'green principle' in Contract Law is starting to emerge, but this discussion has been mainly limited to government policies and frameworks and still needs to permeate private agreements.

In respect of private standards that aim to mitigate greenhouse gas (GHG) emissions in shipping, Scott et al have noted that a stagnation in regulatory efforts and the exclusion of shipping from the Paris Climate Change Agreement saw a proliferation of private regulatory standards.[120] It is noted that these standards have arisen out of market failures that have held back fuel efficiency advances and are a product of complex governance arrangements. Although these private standards hold considerable promise, a number of inadequacies permeate their effectiveness - mainly a lack of transparency, low levels of ambition (sometimes mere regulatory compliance, despite recognising that regulation is failing) and concerns about data reliability. Scott et al examine the deficiencies of private regulation to assess how the law could address them. A main premise of this work is that the mitigation of GHG emissions in shipping has the potential to be a site of 'hybrid' governance, 'combining private standards and state/supra-state law in a productive way'.[121] This thinking is aligned with the approach

[117] Article 1(b) of the Convention on the International Maritime Organization (adopted 6 March 1948, entered into force 17 March 1958) 289 UNTS 3 (IMO Convention); Harilaos N. Psaraftis, Thalis Zis, and Sotiria Lagouvardou, 'A comparative evaluation of market based measures for shipping decarbonization' (2021) 2 Maritime Transport Research 100019.

[118] Hillary Aidun, Daniel J. Metzger, and Michael B. Gerrard, *Principles of International Law and the Adoption of A Marketbased Mechanism For Greenhouse Gas Emissions from Shipping* (2021 Sabin Center for Climate Change Law, Columbia Law School) https://scholarship.law.columbia.edu/faculty_scholarship/2749 15 September 2021.

[119] Jason Chuah, 'Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes' (n 78).

[120] Joanne Scott, Tristan Smith, Nishatabbas Rehmatulla, and Ben Milligan, 'The Promise and Limits of Private Standards in Reducing Greenhouse Gas Emissions from Shipping' (2017) 29(2) Journal of Environmental Law, 231–262.

[121] Ibid.

of this thesis, although this thesis takes a transactional contract law perspective as opposed to addressing the merits of a proliferation of private frameworks, certification schemes, labelling and standards. The closest this thesis comes to examining private governance schemes is within the context of green finance (**Chapter 3**). Chapter 3 recognises the shortcomings of various voluntary (i.e. private governance) green finance frameworks for shipping that are yet to establish a 'common language' for 'green shipping' activities in order to mobilise investment for greener technologies and practices.

Eftestøl-Wilhelmsson offers a contract governance approach to environmentalism in contracts in examining the role of contract law in European Sustainable Freight.[122] Eftestøl-Wilhelmsson analyses the EU's modal shift in transport from mainly road-based to more environmentally friendly modes, such as seaborne transport, rail and inland waterways. In doing so, she addresses one pivotal question: 'whether the traditional role of contract law is changing to such an extent that the parties involved must take external factors into account'. Her work on the subject is used to support arguments in **Chapter 4** of this thesis, however, its focus is on whether a uniform liability regime is necessary. Her conclusions are aligned with discussions in this thesis pertaining to the necessary impact of the sustainability norm in the realm of contract law, however, it does not address *how* to integrate sustainability factors into contracts of carriage from a private law perspective. Rather, it calls upon an application of the integration principle and Article 11 of the Treaty on the Functioning of the European Union (TFEU) to integrate environmental protection into 'the definition and implementation of the Union policies and activities, in particular with a view to promoting sustainable development'.[123] Her work only examines contracts of carriage, is not limited to shipping, and is done solely within an EU law context. The overlap with this thesis is therefore quite limited, despite offering similar propositions about the role of contract law more generally.

The second body of literature on green shipping proposes a number of cost sharing schemes and measures the financial benefits of incorporating green responsibility initiatives into company governance and internal policy. It is also concerned with providing much needed clarity on the performance of certain green technologies to incentivise their uptake. Here the focus of most research is to assess the relationships between environmental protection and economic performance or possible monetary gains. Environmentalism as an objective coinciding with financial gain is strongly linked to the aim of this thesis, however prevailing literature is not concerned with the *law* facilitating this objective. Most of the authors mentioned below are not legal scholars, but members of the scientific and economic scholarship communities. The following authors have measured certain financial benefits through better cost reductions and profit margins. This literature has evaluated company performance from a broader perspective to create greater business value, i.e. the bottom triple line. Yang conducted a survey amongst container shipping firms in Taiwan which analysed how firm competitiveness can be increased by green performance, greener practices, and green supply-chain integration.[124] Lai et al also looked at how green shipping practices, shipper cooperation, and company policy that incorporates ship designs for environmental compliance can positively impact on

[122] Ellen Eftestøl-Wilhelmsson, 'European Sustainable Freight – The Role of Contract Law' in *Environmental Liabilities in Ports and Coastal Areas – Focus on Public Authorities and Other Actors* (Åbo Akademi University, Institute of Maritime and Commercial Law, Åbo, 2011).
[123] Ibid 127.
[124] Chung-Shan Yang, 'An analysis of institutional pressures, green supply chain management, and green performance in the container shipping context' (2018) 61(B) Transportation Research Part D: Transport and Environment 246-260.

financial performance of a shipping company.[125] In respect of container and bulk shipping companies, Gong, Wu and Luo considered undesirable outputs in evaluating economic efficiency and environmental performance.[126] Qiu, Wong, and Lam proposed liner vessel sharing along the maritime silk road for economic and environmental reasons.[127] Scientific models have also looked at optimisation routes and speeds for ships that traverse through emission control areas (ECAs);[128] and Lindstad et al illustrated that scrubbers are the lowest cost options for larger vessels.[129] Lindstad et al arrived at a similar conclusion with respect to sulphur abatement technologies versus low-sulphur fuel options in anticipation of the global sulphur cap. These works have focused on cost savings and alignment of environmental or regulatory objectives with financial feasibility for the shipping company.[130]

Some literature has also addressed the significant barriers posed to decarbonisation of the industry and why such goals are not yet practically attainable. Balcombea et al talk generally on how to decarbonise international shipping by presenting options for fuels, technologies, and policies.[131] Rehmatulla et al look specifically at wind technologies and their opportunities and barriers as low-carbon solutions for the shipping sector.[132] Rojon & Dieperink also previously identified these drivers and barriers for wind propulsion technologies. Overcoming these barriers through private contracts has not yet been investigated at length.[133] G A Psarros looked at energy savings and charter parties though an economic perspective. In a study of more than 50 standardised contracts, it was shown that the coded sub-categories of description and performance clauses failed to mention energy saving devices.[134] Through his study, Psarros showed that including energy efficiency as a negotiated contractual term from the inception stages of the chartering process is expected to provide an incentive for environmental commitment from both parties. This idea is expanded on in this thesis.

This overview of literature from various disciplines shows that 'green shipping' is largely considered an exclusively technological movement with economic implications. From a legal perspective, the

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[125] Kee-Hung Lai, Venus YH Lun, Christina W Y Wong, and T C E Chenga, 'Green shipping practices in the shipping industry: Conceptualization, adoption, and implications' (2011) 55 (6) Resources, Conservation and Recycling 631-638.

[126] Xiaoxing Gong, Xiaofan Wu, and Meifeng Luo, 'Company performance and environmental efficiency: A case study for shipping enterprises' (2019) 82(C) Transport Policy, Elsevier, 96-106.

[127] Xuan Qiu, EYC Wong, Jasmine Siu Lee Lam, 'Evaluating economic and environmental value of liner vessel sharing along the maritime silk road' (2018) 45(3) Maritime Policy & Management, 336-350.

[128] Kjetil Fagerholt, Nora T. Gausel, Jørgen G. Rakke, Harilaos N. Psaraftis, 'Maritime routing and speed optimization with emission control areas' (2015) 52 Transportation Research Part C: Emerging Technologies, 57-73; Kjetil Fagerholt, Harilaos N. Psaraftis, 'On two speed optimization problems for ships that sail in and out of emission control areas' (2015) 39 Transportation Research Part D: Transport and Environment 56-64.

[129] Elizabeth H Lindstad, Inge Sandaas, Anders Strømman, 'Assessment of cost as a function of abatement options in maritime emission control areas' (2015) 38 Transportation Research Part D: Transport and Environment.

[130] Elizabeth H Lindstad, Carl Rehn, Gunnar Eskeland, 'Sulphur Abatement Globally in Maritime Shipping' (2017) NHH Dept. of Business and Management Science Discussion Paper No. 2017/8

[131] Paul Balcombea, James Brierley, Chester Lewis, Line Skatvedt, Jamie Speirs, Adam Hawkes, Iaian Staffell, 'How to decarbonise international shipping: Options for fuels, technologies and policies' (2019) 182 Energy Conversion and Management 72-88.

[132] Nishatabbas Rehmatulla and others, 'Wind technologies: Opportunities and barriers to a low carbon shipping industry' (2017) 75 Marine Policy 217-226.

[133] Isabell Rojon and Carel Dieperink, 'Blowin' in the wind? Drivers and barriers for the uptake of wind propulsion in international shipping' (2014) 67 Energy Policy, 394–402.

[134] George Adamantios Psarros, *Energy Efficiency Clauses in Charter Party Agreements: Legal and Economic Perspectives and Their Application to Ocean Grain Transport* (Springer, ProQuest 2016).

dominant discourse is concerned with driving this movement through tightening regulations, from which debates concerning regulatory scales, uniformity and unilateralism have emerged. Green shipping is yet to be adequately explored from a private law perspective, namely a contract law perspective – a viewpoint that this thesis investigates in answering the research question presented.

1.5 Thesis Outline

In addition to this introductory chapter and the concluding chapter, this thesis consists of one contextualisation chapter (Chapter 2) and three substantive chapters (Chapters 3 to 5). Chapter 2 provides an overview of the normative sustainability mandate stemming from the IMO's regulatory agenda and policy guidance. It would be remiss to employ an underlying collaborative governance premise and a contract theory framework without properly addressing the role of regulatory authorities in contributing to environmental governance of the shipping sector. The purpose of Chapter 2 is to illustrate the interplay between public law making and the private sector, mainly to elucidate that a purely public regulatory approach cannot achieve environmental sustainability without stakeholder support and bottom-up commitments from industry actors.

Chapter 3, 4, and 5 deal directly with answering the research question in differing transactional contexts. These contexts deal in turn with a differing phase of a vessel's life span: pre-voyage, voyage and end of voyage. The research question remains the same, however, the contractual agreement at each phase of a vessel's lifespan is different. These substantive chapters are as follows:

- Chapter Three (Pre-Voyage matters): Green Finance for Shipping
- Chapter Four (Voyage arrangements): Chartering
- Chapter Five (End of Voyage): Sale of Vessels for Recycling

1.5.1 Methodology and Theoretical Framework

The current section is concerned with the theoretical and methodological framework employed to achieve the aims of this study. It may be easy to fall into the trap of categorising the methodological base of this thesis as socio-legal, as this study is one which identifies the law as a form of social control to obtain a behavioural outcome.[135] The main research question posed is how contractual mechanisms should be developed to ***incentivise*** and ***facilitate*** environmental sustainability within the shipping sector. This question requires a perspective of the *law in context*, namely the social, political and scientific factors that influence the implementation of green practices, and the problems surrounding compliance with environmental regulations for a commercial sector.[136] Similarly, an economic analysis of law, or economically informed legal research, would be helpful in seeking the answers to two major questions: 'What are the effects of legal rules on the behaviour of relevant actors? And are the effects of legal rules socially desirable'.[137] Given that thesis is concerned with commercial contracts, economic thinking is useful in providing the position that behaviour will be desirable if it is economically

[135] Herbert Lionel Adolphus Hart, *The Concept of Law* (Clarendon Law Series, 2nd Edition 1961) Oxford: Oxford University Press.
[136] Keith Hawkins, *Environment and Enforcement*, (Oxford: Clarendon Press, 1984) 3-15.
[137] Louis Kaplow and Steven Shavell, 'Economic Analysis of Law', in A. Auerbach and M.Feldstein (eds), Handbook of Public Economics, Vol 3 (Amsterdam, Elsevier, 2002) 1661 – 1784, 1661.

efficient,[138] however a major premise is that the green agenda must prevail. Therefore, an exclusively economic framework would not assist in achieving the main objective of the research question.

Doctrine can be defined as 'a synthesis of rules, principles, norms, interpretive guidelines and values' which 'explains, makes coherent or justifies a segment of the law as part of a larger system of law'.[139] Here, the 'larger system of law' comprises more than the domestic regimes governing contract law principles and maritime law more generally, but the international legal framework that comprises the forms and functions of international law-making. The 'international legal system' is, however, no straightforward concept to define and is laden with debates surrounding the inadequacies of treaties and custom for the inclusion of soft law principles and policies.[140] This thesis recognises that the international legal system and international law-making processes are layered and complex, whereby 'transnational actors, sources of law, allocation of decision function and modes of regulation have all mutated into fascinating hybrid forms. International Law now comprises a complex blend of customary, positive, declarative and soft law'.[141] Within international law, there are also international environmental regimes – 'regime' being a similarly broad concept, generally considered to be the way in which states cooperate to solve environmental dilemmas.[142] International environmental regimes have the ability to develop a 'life of their own' in response to scientific and political needs and developments.[143] The legal aspects of an international environmental regime comprises three integral elements: 'multilateral environmental agreements, the treaty bodies or forms of international organizations established by the MEAs and the different forms of norms created under both'.[144] The doctrinal methodology of this thesis therefore analyses 'segments' of the law within a larger system of top-down standard setting.[145] Therefore, the 'doctrine' analysed ***does not exist*** in isolated domestic law pockets devoid of any attachment to a greater legal system comprising of environmental and/or climate regimes.[146] This identification of this larger system and its inherent norms provide contextualisation of the research questions - which require both an appropriate methodology and overarching theoretical framework.

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[138] Albert Sanches-Graells, 'Economic Analysis of law, or economically informed legal research' in Dawn Watkins and Mandy Burton (eds), *Research Methods in Law* (2nd ed, Routledge 2018) 171.

[139] Terry Hutchinson and Nigel Duncan, 'Defining and describing what we do: doctrinal legal research' (2012) 17(1) Deakin Law Review 82, 84.

[140] These debates largely centre around the conflict between the sources of law listed in Article 38(1) of the Statute of the International Court of Justice (i.e. treaties and custom) and the inclusion 'general principles of law' in Article 38(1)(c); see Christine Chinkin, 'Normative Development in the International Legal System' in Dinah Shelton (ed) *Commitment and Compliance: The Role of Non-binding Norms in the International Legal System* (Oxford University Press 2003).

[141] Harold H. Koh, 'A World Transformed' (1995) 20 Yale J. Int'l L. ix, xi.

[142] Simone Schiele, 'International environmental regimes and their treaties' in *Evolution of International Environmental Regimes: The Case of Climate Change* (2014 Cambridge Studies in International and Comparative Law, Cambridge: Cambridge University Press) 11-57.

[143] Winfried Lang, 'Diplomacy and international environmental law-making: some observations' (1992) 3 Yearbook of International Environmental Law 108–22, 110.

[144] Simone Schiele, *Evolution of International Environmental Regimes: The Case of Climate Change* (n 142) 245.

[145] This top-down standard setting refers to the instruments implemented by the IMO, as empowered by UNCLOS.

[146] It is important to note that the English law principles that govern the commercial contracts investigated by this thesis are not confined to the geographical boundaries of England and Wales, but are used internationally to solve a range of maritime disputes, commercial arbitration matters, and to guide the banking and financial sectors.

Critics of doctrinal methodologies might argue that a 'library-based' research design is simply 'legal problem-solving' or an extended literature review.[147] Here, the primary data consists of sources of law, yet the assembly of relevant facts may or may not involve a broad initial scoping of multidisciplinary literature on the practical challenges which inform the research question. Doctrinal research therefore involves a critical analysis of the legal principles in a specific context against a particular framework.[148] In this regard, a theoretical framework is important in that it provides a 'system of non-contradictory assertions, views and systems concerning the legal system […] which are worded in such a way that it is possible to deduct from them testable hypotheses about the existence (validity) and interpretation of legal concepts, rules or principles'.[149] A theoretical framework justifies the research question by illustrating that 'the question arises from gaps or tensions in existing research'.[150] A foundational theory is thus necessary in identifying the existing flaws with the current paradigm and putting forward solutions that adhere to overarching normative ideas.

In relation to this thesis, the theoretical framework comprises a contract governance approach to contract theory. Contract governance refers to a holistic and comprehensive approach which considers diverse issues of governance in contract law.[151] Governance refers to the 'institutional matrix within which transactions are negotiated and executed'.[152] Therefore, contract governance contemplates a wide range of rule and decision makers, and the 'interplay between external and internal impacts on decision-making in institutions (state or corporation) and the analysis of 'weak spots' within a scheme of collaboration'.[153] Contract governance incorporates some key considerations and objectives: 1) modernising contract law studies to achieve an integrated view of regulation and private law in market transactions; 2) regulation is not viewed as limiting freedom of contract but as a way of restoring and contributing to party autonomy, therefore viewing regulation and private law as furthering a common goal; 3) steps to close the gaps between regulation and private law remedies are already underway; 4) contracts are not viewed as bilateral instruments, but as a tripartite process between the legislature and contracting parties.[154] Where contract governance exceeds other theories, is that it comprises both traditional and progressive assertions that contracts *govern*, and that we are also concerned with the *governance* of contracts.[155] The author of this thesis cannot articulate contract governance more eloquently than Zumbansen:

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[147] Terry Hutchinson and Nigel Duncan, 'Defining and Describing What We Do: Doctrinal Legal Research' (n 139) 112; see also William Twining, *Taylor Lectures 1975 Academic Law and Legal Development* (University of Lagos Faculty of Law, Lagos, 1976).

[148] Ibid.

[149] MV Hoecke (ed.), *Methodologies of Legal Research: Which Kind of Method for What Kind of Discipline?,* (Bloomsbury Publishing, Oxford 2011) 14.

[150] Sanne Taekema, 'Theoretical and Normative Frameworks for Legal Research: Putting Theory into Practice' (2018) Law and Method 1, 2.

[151] Stefan Grundmann, Florian Möslein, and Karl Riesenhuber, 'Chapter One: Contract Governance: Dimensions in Law and Interdisciplinary Research' in *Contract Governance: Dimensions in Law and Interdisciplinary Research* (2015 Oxford University Press) 3 -57.

[152] Oliver E Williamson, 'Transaction-Cost Economics: The Governance of Contractual Relations' (1979) 22 Journal of Law and Economics 233–61, 239.

[153] Grundmann and others, 'Contract Governance: Dimensions in Law and Interdisciplinary Research' (n 151) 5.

[154] Ibid.

[155] Peer Zumbansen, 'Law, Economics, and More: The Genius of Contract Governance: Comment on T. Kameda, K. Inukai, T. Wisdom, and W. Toyokawa, 'The Concept of Herd Behavior: Its Psychological and Neural Underpinnings'' in *Contract Governance: Dimensions in Law and Interdisciplinary Research* (2015 Oxford University Press) 81.

> '*Contract governance cannot be reduced to a theory of social norms independent from the theory of society, in which it is embedded. This theory, however, is not fully accessible for the law itself, as it has its own—legal—'rhymes and reasons'. But the differentiation of the legal system occurs as the law 'reacts to the world' over time. In doing so, it receives impulses from economics, politics, and religion and these perturb, impregnate, and challenge the law and its toolkit. This is where we are*.'[156]

Contract governance necessarily incorporates theories of 'corporate governance' and 'private authority', which have for a long time recognised reflexive governance mechanisms, including 'regulated self-regulation' and ways of connecting the corporate world and state-centric world.[157] In the absence of an international authority which can prescribe and enforce laws which apply to all private actors, multinational enterprises could capitalise on regulatory gaps, externalise costs, and employ low standards. Corporate governance has addressed these dilemmas of globalisation by viewing private institutions as semi-autonomous rule makers and not mere participants in existing state-controlled governance systems.[158] Private and corporate governance have therefore proposed new approaches to collective action problems surrounding environmentalism which transverse various scales of regulation.[159] Theories of private governance have already recognised that researchers of environmental law generally address a collective action problem (e.g. climate change) with a view to calculating what types of government actions can address the problem.[160] A private governance model identifies the pressures which influence company behaviour *other than* state regulation.[161] This model also identifies why private forms of governance are more flexible, easier to implement, and less costly to individual interests.[162] Political concerns and issues of state-sovereignty are also less relevant to private relationships, which are premised on freedom of contract, and thus pose less of a barrier to private regulation. In respect of environmental issues, corporate governance strategies have included reporting and disclosure, labelling, corporate social responsibility schemes, community participation, and shows of activism.

However, contract governance can arguably go further than theories of corporate governance and private authority in respect of environmental problem-solving.[163] This is because corporate governance and private authority do not delve deeply enough into questions of market transactions and contracts.[164] Contract governance addresses the following broad 'problems', which require multidisciplinary enquiries from not just law and economics, but the full spectrum of social sciences.[165]

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[156] Ibid.

[157] Martin Herberg, 'Private authority, global governance, and the law' in Gerd Winter (Ed.), *Multilevel Governance of Global Environmental Change: Perspectives from Science, Sociology and the Law* (Cambridge University Press 2006) 149-178.

[158] Ibid 150.

[159] Michael P Vandenbergh, 'Private Environmental Governance' (2013) 99 Cornell L Rev 129.

[160] Ibid 138.

[161] Ibid.

[162] Ibid.

[163] Albeit contract governance has not yet been applied as such and is generally discussed in an economic and antitrust context

[164] Peer Zumbansen, 'Law, Economics, and More: The Genius of Contract Governance: Comment on T. Kameda, K. Inukai, T. Wisdom, and W. Toyokawa, 'The Concept of Herd Behavior: Its Psychological and Neural Underpinnings'' (n155) 85.

[165] Grundmann and others, 'Contract Governance: Dimensions in Law and Interdisciplinary Research' (n 151) 6-7.

1. Contract and third parties: the problem that legal frameworks and the drafting of contracts have varying impacts on third parties and third parties exert influence on contracts.
2. Contracts and networks: the problem that contracts form one component of a larger network of relationships – both as individual and interdependent contracts.
3. Contract and organisation: the problem that contracts have more than an individual exchange function, but also an organisational one in that they constitute the basis of long-term collaboration.

Contract governance is also hugely concerned with combatting 'herd behaviour' – 'when a group of people behave in the same way without being aware of it' and therefore without being critical of it and capable of independent and rational action.[166] International shipping is arguably not immune to herd behaviour as the whole system is entrenched in oil dependency which went unchallenged for many years. Rhetoric of shipping being sustainable compared to other modes of transport and the perceptions of green technology as risky and unsafe, although once rooted in fact, are now commonly accepted as the prevailing rebuttal to calls for innovation. Herd behaviour ultimately contributed to the mass retirements of fleets, their scrapping, and orders for newbuilds resulting in the hazardous recycling practices along developing nation shorelines.[167] However, the concept of herding has not yet received attention from a legal perspective. Legally, it is hard to define and it is largely irrelevant to lawyers and legal scholars until such time that it negatively impacts on others with a tangible causal link.[168] Micklitz writes that an analysis of herd behaviour leads to a number of preliminary conclusions including, inter alia:[169]

- The public/private law divide serves no purpose as contract governance must include all relevant actors, private parties and regulatory/supervisory authorities;[170]
- Supervisory authorities have broader functions than enforcement and compliance, but must monitor the markets including contract making – this means considering the interests of all actors: the financial service provider, private parties and the consumers.[171]
- Cooperation in the spirit of trust and confidence between actors is key.[172]
- The actions of private parties reach beyond the interests of the firm, therefore collective action is needed.

[166] Herd behaviour was indeed the cause of the 2008 financial crisis as identified by Bruno S Frey and Reto Cueni, 'Moral Hazard and Herd Behaviour in the Financial Crisis' in *Contract Governance: Dimensions in Law and Interdisciplinary Research* (2015 Oxford University Press) 87.
[167] Nikos C. Papapostolou Panos K. Pouliasis and Ioannis Kyriakou, 'Herd behavior in the drybulk market: An empirical analysis of the decision to invest in new and retire existing fleet capacity' (2017) 104 Transportation Research Part E: Logistics and Transportation Review 36-51.
[168] Hans -W Micklitz, 'Herd Behaviour and Third Party Impact as a Legal Concept: On Tulips, Pyramid Games, and Asset-backed Securities' in *Contract Governance: Dimensions in Law and Interdisciplinary Research* (2015 Oxford University Press) 113.
[169] Ibid 137.
[170] See also Fabrizio Cafaggi & Horatia Muir-Watt, *Making European Private Law, Governance Design* (Cheltenham: Edward Elgar Publishing Ltd, 2008).
[171] Hans -W Micklitz, 'Herd Behaviour and Third Party Impact as a Legal Concept: On Tulips, Pyramid Games, and Asset-backed Securities' (n168) 137.
[172] Ibid.

Micklitz proposes that combatting herd behaviour with a contract governance approach recognises the need for: 1) incentives for cooperation, 2) responsible lending and responsible investment, 3) ranking and labelling of risky financial instruments, 4) access to, and disclosure of, information versus advice, 5) contract and corporate governance, and 6) communication (advertising and sales promotion).[173] The overall vision propounded by contract governance is that when regulators draft the rules, they consider both public supervision and private contracting, bearing in mind 'a realistic vision of the behaviour and the decision-making process of the actors in mind'.[174]

A contract governance approach to environmental management of shipping therefore recognises the pressures on private behaviour *in addition* to state regulation. By placing all emphasis on the IMO and state administrations to bring about protection of the marine environment from vessels, one ignores other critical transboundary forms of governance. Despite the proliferation of private governance attempts in the sector, the IMO and its signatory states are still viewed as the relevant actors for solving environmental challenges and a set of top-down laws are viewed as the necessary action. This outlook fails to recognise that environmental preferences and collective objectives can be expressed through a number of private transactions, such as lending, investing, purchasing, supply-chain contracts and major shipping contracts (i.e. charter parties). Standard-setting already occurs within these negotiated arrangements between private stakeholders and not for the sole purpose of achieving compliance with the prevailing public law regime. Enforcement can occur through many private means, such as internal inspections, corporate shaming, non-renewal or termination of agreements, and preferential purchases. Disputes are increasingly resolved through private arbitration without recourse to state courts. All these private activities within the sector generate a type of environmental behaviour which is not determined by a public body.

The next question is therefore how a legal doctrinal methodology fits into this broad theoretical framework of contract governance. In respect of doctrinal research, it has been suggested that a narrower normative legal framework is seemingly more appropriate than a general theoretical framework.[175] Westerman even argues that this distinction is superfluous because the legal system is used as the implicit theoretical framework and doctrinal legal research is inherently normative, using principles of the legal system as standards.[176] However, Vranken strongly disagrees with Westerman's idea of the legal system as a theoretical framework and places the system as the subject of a range of theoretical and normative perspectives.[177] This thesis supports Vranken's view and therefore views contract law as requiring a theoretical approach which can incorporate a number of normative values to obtain a desired outcome. Contract law needs to be adequately structured and modernised to adopt the contextual enquiries that characterise contract governance. This is the only way that contract law can deal with complexity and varying forms of risk and adapt in response to changed circumstances recognising new social norms. At the same time, there needs to be clear demarcation of contract law and its internal principles within the greater external theoretical framework. Deep

[173] Ibid.
[174] Ibid 138.
[175] Ibid.
[176] Paiuline Westerman, 'Open or autonomous? The debate on legal methodology as a reflection of the debate on law' (2011) in Mark Van Hoecke (Ed), *Methodologies of legal research: Which kind of method for what kind of discipline?* (Oxford: Hart 2011) 87-110.
[177] Jan BM Vranken, 'Methodology of legal doctrinal research: A comment on Westerman' in Mark Van Hoecke (Ed.), *Methodologies of legal research: Which kind of method for what kind of discipline?* (2011 Oxford: Hart) 111-121.

integration of the external and the internal is called for, as contract law can no longer be viewed in isolation from external context.

Given the international nature of shipping practices, shipping companies have a preference for uniformity and a level-laying field when it comes to environmental regulation.[178] There are established principles of commercial pragmatism and business efficacy which have become appropriate industry norms characterising an internal framework. Commercial practice has internalised certain guiding values premised on profitability, efficiency, and certainty, to drive perceived notions of success. On the other hand, external imperatives are promoting the advancement of more than mere business efficacy and profit generation. External paradigms provide a number of implications and consequences for a greater commitment to environmental and social considerations and the integration of SD into private commercial practices. From a regulatory perspective, SD and sound environmental management are now mandated for all actors and these values should equally permeate private business endeavours. This thesis calls for a closer alignment of the internal framework with its external one. Internal perceptions of commercial success should more closely reflect and accommodate the external milieu that prioritises a climate agenda and SD. In providing suitable contractual mechanisms for green shipping, such mechanisms should not only achieve a particular outcome, but they require *acceptance* from private actors. This requires an evolution of the internal framework as it is only beginning to recognise CSR in a wider sense. It might be observed that current forms of contractual arrangements in shipping have yet to substantively accommodate and recognise a properly defined green imperative.

If one views the climate regime as a normative one, the implication is that different sources of 'law' are recognised – including market mechanisms and private accountability and enforcement governed by the 'consumer interest'.[179] Industry-led initiatives for the greening of private relationships need to become internationally accepted and incorporated into industry standards. The purpose of this thesis is to examine ways in which contract law mechanisms can facilitate this process and create incentivisation for the acceptance of green principles and ultimately the uptake of green technologies which reduce pollution and achieve long-term carbon neutrality goals. Contract governance therefore makes space for a legal doctrinal methodology *in context*. This context is informed by a number of normative values pertaining to climate change, environmental protection, carbon neutrality, and SD. Pursuant to the research question posed, a wide range of methods have been deployed, *unique* to each chapter and its specific conceptual and factual matrix requiring a contract law solution. Further details about the deployment of these methods are described in each chapter as individual but composite enquiries as broadly set out below. The potential limits of these methods are identified at the ***end*** of this thesis in its concluding statements (Chapter 6).

1.5.2 Methods and Materials

This study aims to provide an original analysis of private contractual solutions for green performance in the shipping industry. In achieving this broad aim, this section explains that the methodology employed requires flexibility. No single methodological statement should be made as this would result

[178] Lindsey Wuisan, Judith van Leeuwen, and Kris van Koppen, 'Greening international shipping through private governance: A case study of the Clean Shipping Project' (2012) 36(1) Marine Policy 165, 166.
[179] Simone Schiele, 'Increasing robustness of the international climate regime as a system of norms' (n 142) 105.

in an oversimplification of the various contexts in which the research question is placed. These unique contexts, encompassing crucial shipping transactions, each require their own methods and sources for an effective analysis of how contractual mechanisms can promote a green agenda therein. As stated previously, doctrinal methods may view the law as data (case law and legislation). Yet, at the same time, law is not fixed and objective datum, it is in a constant state of evolution and invention.[180] This thesis does not argue for a view of "law as data", nor does it dare try to draw tangible comparisons between the library and the laboratory in the collection of empirical data – rather it prefers a metaphorical notion of "data" as the materials and sources relied upon. The sources and materials employed by this thesis are determined by the method and require "data collection" – i.e. information and relevant law – in respect of assembling the relevant facts and identifying the relevant law to answer the legal questions presented.[181]

In initially identifying the factual matrix, broadly described as the 'green shipping conundrum' and more specifically noted in each transactional phase of a vessel, the materials relied upon are not necessarily legal. Here, a number of industry studies, academic literature from all disciplines, media statements, and association press releases are all relied upon to provide an overview of the practical problems faced by the international shipping sector in meeting green demands. This thesis is not tasked with interviewing relevant industry actors, nor is it the aim to gain scientific consensus of the best types of green shipping technologies or to suggest the form and nature of best potential financial products. The factual enquiry performed is intended to be distilled and framed into a narrow set of legal questions. Many of the technical or financial solutions presented by a factual exposition require legal implementation, this leads to the primary concern of this study: how private law mechanisms can incentivise uptake thereof or facilitate various existing solutions.

Chapter 2 of this thesis is unique in comparison to other chapters because it is concerned solely with the public-law regime for vessel-source pollution. Most environmental laws at various regulatory scales, as well as IMO documents and resolutions, are easily located in available legal databases. Other materials will include empirical data collected by industry actors during these times, secondary sources of legal writing for historical context, policy documents, and relevant commentary. Much of this Chapter employs an historical approach to legal research. Such a perspective asks how the 'law' has evolved to reveal crucial components of a legal conundrum.[182] Viewing law as history plays an 'important role as empirical mapping of the circuits of law's agency and the legal agency of subjects'.[183] This viewpoint offered by Birla is useful in that it recognises that market governance is not simply about mapping the law's sites of regulation and corresponding resistance by 'vernacular capitalists'.[184] It also addresses the historical production of the market as a value-laden model for self-regulation comprising ethical and political factors.[185] Such a method also calls the law to attend to history by detailing the legal translation and mistranslation of sites of agency.[186] It views the subjects of law as autonomous and capable of exercising intentioned economic agency. Chapter 2 aims to map out

[180] Christopher McCrudden, 'Legal Research and the Social Sciences' (2006 October) Law Quarterly Review 632, 648.
[181] See Bruce Kimball, *The Inception of Modern Professional Education: C.C. Langdell, 1826-1906* (North Carolina Press 2009) 349.
[182] BC Nirmal, Rajnish Kumar Singh, and Arti Nirmal *Legal Research and Methodology Perspectives, Process and Practice* (Satyam Law International 2019).
[183] Ritu Birla, 'Law as Economy: Convention, Corporation, Currency' (2011) 1 U.C. Irvine L. Rev. 1015, 1036.
[184] Ibid 1016.
[185] Ibid.
[186] Ibid.

pivotal moments of the IMO's regulatory regime formation, whilst recognising that various actors were simultaneously exercising their own autonomy and intentioned agency. The aim is not merely to elucidate the tensions between the law-making environmental agenda and the industry's commercial responses. It also evaluates the *nomos* of the pollution regime for shipping and how it has been shaped by multiple interests. The environmental agenda requires that these interests move towards resolution and ultimately proposes that the IMO has a role to play in constructing a series of norms to this end. The materials relied upon are industry submissions at the MEPC, MEPC resolutions,[187] and academic authors presenting an analysis of the IMO's historical developments and role.

Chapters 3 to 5 of this thesis employ a systematic doctrinal method. In placing the research question in the context of a particular commercial transaction, the legal issues are addressed using primary sources of English law. Although the main focus of these chapters is research *in law*, the transactions in each of these respective chapters is contextualised using not only legal sources but a number of industry sources and research done by government agencies and environmental NGOs. Chapter 3 on Green Finance, in particular, relies on many banking documents for taxonomy information and the reports complied by state banks and private banks on the problems underlying the effectiveness of green financing tools. Many of these reports are freely available on the banks' websites or the websites of certain taxonomy initiatives and green frameworks to which banks are signatories. Although the black letter law is relied upon for a means of incorporating green taxonomies into loan agreements, many sample or standard clauses have been suggested for signatories by the framework organisation and can be accessed in the accompanying guidance and implementation documents.

Chapter 4 and Chapter 5 perhaps have a more comparative element in terms of legal research. Chapter 4 investigates the proposition of an external normative green framework for charterparties and asks the same questions of contract law more generally. Although this Chapter argues that such a universal framework should underpin international commercial shipping and therefore English law contract law, it does look to jurisdictions that are effectively making use of the horizontal application of environmental rights between private parties for the greening of the private law: as all law (private and public) must be viewed through a rights prism in certain constitutional democracies (see section 4.3.1). However, in addition to contractual interpretation, Chapter 4 is also largely concerned with integrating green terms into voyage and time charters. Here, as within Chapter 3, English contract law provides the toolkit, but shipping associations such as BIMCO and INTERTANKO have also provided useful standardised clauses from their contractual clause 'banks'.

Chapter 5 is also strongly rooted in an understanding of Sale Agreements of Vessels as governed by English law. However, it employs the most comparative analysis out of all three substantive chapters in terms of seeking out solutions from other legal jurisdictions. A major contributing factor to harmful practices in ship recycling is the inadequacy of the sale agreements of end-of-life vessels from seller to cash buyer. BIMCO has drafted a RECYCLECON form which improves upon this agreement to place environmentally sound and safe recycling at the core of the agreement's purport – this form is analysed in some detail as a major source for proposing ways of elevating environmental commitments to contractual conditions. However, some of the weaknesses in the current regime are still perpetuated in this standardised agreement. This Chapter therefore seeks solutions from other

[187] All MEPC documents are easily located at IMO Docs upon registration at https://docs.imo.org/ accessed 15 September 2021.

jurisdictions to deal with the issues of anticipatory breach and English law restrictions on liquidated or punitive damages.

A bird's eye view of this thesis illustrates that each Chapter is a self-contained enquiry with a focus on a specific type of commercial shipping transaction. Although each chapter asks the same research question: *How contractual mechanisms in private agreements between shipping actors should be developed to facilitate and increase incentivisation of the green shipping transition?*, the transactional context differs and each chapter must necessarily draw its own conclusions. That is not to say that each chapter is entirely disconnected from its previous nor subsequent chapter. A common theoretical framework, a series of premises, and an ultimate objective runs throughout this study: the '**greening**' of contractual agreements to achieve an ***elevated set of environmental objectives*** in the shipping sector *and* to ***align*** the industry more closely with the Paris Climate Change Agreement. A final conclusion will address the extent to which this thesis has achieved this major objective. As each chapter necessarily draws its own set of conclusions in relation to the transactional context, a final conclusion will therefore be more concerned with avenues for further research and gaps in this present study.

2. CHAPTER TWO: THE INTERNATIONAL MARITIME ORGANISATION - NOT A 'ONE STOP SHOP' FOR GREEN SHIPPING

The purpose of this Chapter is to provide a ***contextual setting*** and a theoretical justification for the focus of this thesis on private contractual mechanisms. Rather than promote a purely private governance perspective, this thesis calls for a synergistic approach to environmental governance: one recognising the role of state-led regulation, particularly as a source of legitimate norms and targets, as well as the contribution of a myriad of non-state actors who undertake environmental decision-making in everyday **market transactions**. Academic scholarship on environmental governance of the shipping sector has heavily criticised the IMO as 'no longer fit for the task as they reflect a national domination of jurisdictional integrity that is inappropriate for an increasingly global shipping industry'.[188] In 2015, Lister, Poulsen and Pont contended that, 'with the exception of oil spills, regulatory development has stalled with respect to all of the major issue areas including CO_2 and other emissions, and invasive species'.[189] The IMO also came under scathing attack in 2018 by a Berlin-based NGO, Transparency International, which released a comprehensive report on the IMO's governance structures and pointed out, inter alia, overrepresentation of private industry actors, unequal influence of certain member states, lack of accountability and overall weaknesses in transparency.[190]

This Chapter argues that *despite* the IMO's expanding environmental governance mandate, it cannot be tasked with managing the weaknesses in a proliferation of private governance initiatives whilst at the same time implementing uniform public law standards.[191] In order for it to operate as such, it would have to be something that it is not: a super-state structure like the European Union, which can mandate a number of controls over all aspects of its regional market whilst being able to allocate funds accordingly.[192] The effectiveness of the IMO's environmental protection efforts are not only dependant on the outcome of meaningful negotiation, but the willingness and capacity of industry to take up the environmental mandate. On the other hand, 'the industry' perspective of environmental governance has been largely portrayed as a unified non-progressive voice in opposition to the green shift. This Chapter will elucidate that this viewpoint is an oversimplification of the green shipping narrative, with shipping actors often having diverse needs and concerns in respect of meeting environmental targets and regulations.

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[188] Michael Roe, 'Maritime Governance and Policy-Making: The Need for Process Rather than Form' (2013) 29(2) The Asian Journal of Shipping and Logistics 167, 170.

[189] Jane Lister, René Taudal Poulsen & Stefano Ponte, 'Orchestrating Transnational Environmental Governance in Maritime Shipping' (n 3). One exception is Md Saiful Karim, who argues that the IMO 'has not only promoted the adoption of numerous international marine environmental legal instruments, but also gradually established well-functioning institutional structures for marine environmental protection'; furthermore, many of its shortcomings are not due to deficiencies in the work processes of the organisation, but are 'related to broad international politics underpinning relations between States'; see Md Saiful Karim, *Prevention of Pollution of the Marine Environment from Vessels: The Potential and Limits of the International Maritime Organisation* (Cham: Springer 2015) 152–153.

[190] Transparency International, 'Governance at the International Maritime Organization: The case for Reform (Report, July 2018) https://www.transparency.org/en/publications/governance-international-maritime-organisation accessed 15 September 2021.

[191] Something which the IMO's critics rather ironically argue it should do, despite noting its failure in public law governance; see Jane Lister, René Taudal Poulsen & Stefano Ponte, 'Orchestrating Transnational Environmental Governance in Maritime Shipping' (n 3) 193.

[192] Various initiatives of the EU are addressed in forthcoming sections as examples of comprehensive public-private law making.

From a *contract governance* perspective, the nuances of the IMO's historical law-making processes can identify the gaps in effective environmental governance to seek out areas where contract law can implement industry-led solutions. This Chapter does ***not*** argue that international shipping is ungovernable from a public law perspective, rather that top-down law making should be *supplemented* by private law mechanisms to manage a set of competing interests that the IMO cannot always balance. The historical overview provided by this Chapter serves to illustrate how stakeholder 'buy-in' has been a determining factor in the success of environmental governance efforts. This sets the tone for the rest of this thesis which seeks out the tools that can assist shipping actors in driving a common mandate with the IMO. This collaborative environmental governance agenda informs the wider normative framework of this thesis and therefore informs how the private law mechanisms presented in forthcoming chapters are to be interpreted and utilised. The IMO, states and private actors, need to act as cohesive force in driving environmental sustainability through pluralistic solutions. The growing external pressures on private actors, apart from IMO standards, also require that the sector aligns itself with climate change efforts.[193] Therefore, the IMO can no longer be viewed as a "one-stop-shop" for all matters green shipping – ***all* actors** are required to drive innovation and change.

2.1 Earlier "Standard Setting" Role of the IMO: reacting to Political Pressures and State Interests

Initially, the IMO had no pollution control functions.[194] It took on the responsibility of making international pollution laws for shipping when it became apparent over the last century that customary rules alone are insufficient to tackle problems of marine pollution.[195] The provisions of the UNCLOS thus created a distinctive role for the IMO by granting indirect law-making and standard-setting powers to the Organisation.[196] In its early days, a broad legislative function would have been met with intense scepticism as maritime interests were already reluctant to accept that the IMO (then named the 'Inter-Governmental Maritime Consultative Organization' (IMCO)) could exercise jurisdiction over more than mere technical matters.[197] The IMO now recognises its role to *adopt* legislation on a number of matters, whilst Governments are responsible for *implementing* the adopted laws.[198] In accepting an IMO Convention, a Government agrees to incorporate it into its own national laws and enforce those laws accordingly.

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[193] For example, in November 2020 in the UK, the Chancellor announced that HM Treasury intends to make it mandatory for large UK companies and financial institutions to make climate-related disclosures by 2025 in accordance with the recommendations of the Taskforce on Climate-related Financial Disclosures (TCFD) in 2017.

[194] There are no explicit pollution provisions in IMCO's original 1948 constitution.

[195] Robin Rolf Churchill and Alan Vaughan Lowe, *The Law of The Sea* (n 43)) 333. Traditional principles of transboundary harm posed immense impracticalities when non-state actors are involved in the ownership and management of marine vessels. In addition, customary laws are often inadequate in addressing circumstances where 'flags of convenience' are used to evade liability under the jurisdiction of the state enforcing customary responsibility.

[196] J Sommer, Environmental law-making by international organisations (1996) 56 Zeitschrift furauslandisches offentliches Recht und Volkerrech 628–667, 656.

[197] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 30-31. The word 'consultative' was thus included in the Organisation's name to assure actors of its purely advisory capacity on technical matters, see IMO Convention, art. 1(b).

[198] IMO, *Implementation of IMO Instruments* (n 80).

The history of the International Convention for the Prevention of Pollution from Ships (MARPOL)[199] and the internal law-making processes of the IMO illustrate how pollution laws for the industry have been largely reactionary to major catastrophes with numerous political pressures driving certain agendas – unfortunately, not all have been good for the environment. This cycle is somewhat ironically advertised by the IMO's own account of its historical processes on its very own website, in which various legal developments are grouped and ordered according to chronological pollution misfortunes.[200]

2.1.1 OILPOL 54

The first treaty agreement to specifically deal with oil pollution of the sea was termed the 1954 Convention for the Prevention of Pollution of the Sea by Oil (OILPOL 54).[201] This convention came shortly after the establishment of the Inter-Governmental Maritime Consultative Organization (IMCO) by the UN at a Maritime Conference in Geneva in 1948. In 1959, IMCO assumed responsibility for a number of the UN's activities and responsibilities in terms of oil pollution, including the 1954 Oil Pollution Convention.[202] OILPOL 54 was a significant development as the first multilateral instrument which was concluded with the primary objective of environmental protection.[203] However, at the time, it was excessively technical and required specific expertise and costly equipment, which most states were unable to employ.[204] In 1962, IMCO heeded the call to amend OILPOL 54.[205] Penalties were also imposed for discharge violations recorded in a vessel's Oil Report Book and flag states were obliged to impose penalties 'adequate in severity' for certain violations or inadequacies at port reception facilities visited by their vessels.[206]

Overall, the 1962 Conference did little to improve enforcement as OILPOL imposed burdens on states which would hurt their own industries and were not aligned with maritime interests.[207] Despite the

[199] International Convention for the Prevention of Pollution from Ships (MARPOL 73/78), 12 ILM 1319 (1973), as amended by the 1978 Protocol to the 1973 Convention, 1341 UNTS 3, 17 ILM 546 (in force 2 October 1983)
[200] IMO, *Introduction to IMO* (n 62).
[201] International Convention for the Prevention of Pollution of the Sea by Oil, 1954 (adopted 12 May 1954, entered into force 26 July 1958) 327 UNTS 3 (OILPOL 54).
[202] Philippe Sands, *Principles of International Environmental Law* (3rd ed, Cambridge University Press 2012) 348.
[203] See preamble of MARPOL which appreciates the significant contribution of OILPOL in preserving the seas and coastal environment from pollution.
[204] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 113: the 1954 Convention implemented the previously popular zonal approach by prohibiting tanker discharges beyond 100 parts of oil in 1,000,000 parts of the mixture within a 50-mile coastal zone, yet exempted smaller ships and ships engaged in the whaling industry. The ecological incentive to end such practices was evident, however enforcement of the then 100-ppm standard posed practical implications.
[205] OILPOL 54/62, art VI(3) and art VII(3). Significant changes resulting from the 1962 conference included a total prohibition of discharges by new ships over 20,000 gross tons; agreement to enlarge prohibition zones to 100 miles for certain 'special areas' which are more ecologically sensitive or inclined to be polluted; and the requirement for vessels over 20 000 deadweight tons to report discharges exceeding the permissible maximum level to their flag states, which would then report the discharges to IMCO.
[206] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 117: This had the impractical effect of requiring crew members to incriminate themselves and for flag states to penalise their own commercial vessels. The UK submitted a proposal to grant port states investigating rights to inspect vessels carrying incriminating evidence, whilst France proposed that such powers be given to investigate any vessel in any port.
[207]This was an immense pity as historically the 1962 conference coincided with the Suez Canal saga, which saw the canal temporarily closed following political unrest and conflict in the late 1950's. There was thus an

IMO establishing its Subcommittee on Oil Pollution in 1956 under the umbrella of its Maritime Safety committee (MSC), it was only a matter of time before a huge oil tanker crisis was to occur without the international arena having adequate systems in place to allocate responsibility. On the 18th of March 1967, in a catalyst event which was to change the international perspective on marine pollution, the Torrey Canyon ran aground off the Scilly Isles while entering the English Channel. Her entire 120 000 tons of crude oil was spilt into the surrounding environments resulting in the largest oil spill ever recorded.[208] As an unprecedented disaster, there was a lack of both scientific and legal knowledge on how to deal with a crisis of such magnitude. The British government utilised chemical dispersants to break up and dissolve the oil and two million gallons of a chemical dispersant called BP 1002 were sprayed onto the surrounding polluted waters. This chemical proved to be toxic and hugely destructive to the marine life.[209]

This catastrophic event and the consequential damage of the marine environment served as an eye-opener for the international community, exposing the vast inadequacies of the system for disaster and pollution management at sea. The heightened fears of even larger accidents spurred efforts at IMCO to revise OILPOL 54/62 and reform the system for pollution management.[210] Thus, the series of events which lead up to the adoption of MARPOL commenced and an array of conventions dealing with liability and compensation were set in motion. In 1967, IMCO called an extraordinary session of its Council, which had drawn up a special plan of action on technical and legal aspects of the Torrey Canyon incident. The emergency session was called by Great Britain which believed that IMCO had to consider three types of measures: prevention of pollution; remedial steps to limit damage once a spill had occurred; and changes in international law.[211]

Major oil companies who were largely uninterested in the 1962 Amendments to OILPOL, now took greater initiative in the negotiations for further amendments to OILPOL. There were rising fears that the new amendments might require the enormous expense of building reception facilities at ports, as the 1962 amendments had effectively ensured that reception facilities would not be required. Amidst uncertainty that this might change following the Torrey Canyon Disaster, the major oil companies decided on a solution more feasible to their interests.[212] The preferred development included the implementation of a system known as “Load on Top” (LOT) for oil tankers. This method used the scientific occurrence of oil and water separating in the ballast tank. The heavier water could then be discharged from the bottom of the tank whilst the sloppy remnants would be retained. Fresh oil would then be loaded on top, negating the necessity of washing out the tanks for new shipments and substantially reducing the amount of sloppy oily discharge.[213] The LOT system was also economically

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increase in larger tankers which were required to cover the route from Europe to the Middle East around Cape Town, resulting in the order of Very Large Crew Carriers of 200 000 tonnes deadweight in the mid 1960’s.

[208] Ibid.

[209] Robin J. Law, ‘The Torrey Canyon Oil Spill, 1967’ in Mervin Fingas (ed), *Oil Spill Science and Technology* (Gulf Professional Publishing, 2011).

[210] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 120.

[211] These measures were considered in the 18-point programme found in C/ES. III/5; see Lawrence Juda, ‘IMCO and the Regulation of Ocean Pollution from Ships’ (1977) 26(3) International and Comparative Law Quarterly 558-584.

[212] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 120.

[213] Robert J Fiocco and Vincent W Ridley, ‘Slop Tank Design for Improved Load-On-Top International’ (1975) 1 Oil Spill Conference Proceedings March 1975, 195-200.

incentivised as it allowed for the saving of oil at the time of a major oil price hike brought on by the Organisation of Petroleum Exporting Countries (OPEC).[214] Other factors significantly incentivised oil companies to employ LOT and charter party clauses employing LOT were already becoming standard practice.[215] In an impressive display of the persuasive powers of the oil industry, the oil companies effectively convinced governments to endorse a system already in common use.[216] The problem with LOT, however, was that its employment could never guarantee compliance with the OILPOL 54/62 standard of 100-ppm in prohibition zones and there would be even further non-compliance for new tankers (over 20 000 gross registered tons) which could not legally discharge more than 100-pmm anywhere.[217] The wide-scale adoption of the LOT system in clear contravention of OILPOL54/62's requirement, made the international standard essentially redundant. Certain states were even beginning to legally formalise the adoption of LOT in obvious transgression of their OILPOL obligations.[218] Plans to formalise LOT in the upcoming OILPOL amendments commenced.

Competing interests eventually reached a compromise and LOT was incorporated into the 1969 amendments at the expense of the 'ppm standard', with the addition of other requirements.[219] The adoption of the LOT system illustrated the negotiating powers of the oil companies and states who were pushing maritime oil interests over calls for maximising environmental protection from pollution. At this time, maritime interests and oil interests were largely the same, as oil companies owned the tanker fleets that they required to move their product. In effect, no ground-breaking nor significant improvements were made to OILPOL by the 1969 amendments. France attempted yet again to strengthen port inspection powers, proposing that all states be required to inspect all vessels in their ports for contraventions of OILPOL.[220] This proposal was defeated by arguments of costly implementation, delays, danger to port staff and interference with jurisdiction.[221] Instead of accepting the French proposal, the previous 1962 proposal of allowing port states to inspect vessels following allegations and receiving evidence of contraventions was accepted as a non-binding assembly resolution.[222] In 1971, IMCO's assembly once again voted to amend OILPOL and an annex was added to establish construction standards for new tankers.[223] The move away from a discharge standard to

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[214] William G Waters, *Oil Pollution from Tanker Operations – Causes, Costs, Controls* (University of British Columbia, Vancouver, 1980) 182.
[215] Phillipe Valois, *Tankers – An Introduction to the Transport of Oil by Sea* (Witherby & Co, London, 1997) 51.
[216] Ibid.
[217] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 122.
[218] Ibid; these included the UK and Sweden.
[219] OILPOL 54/69, art. III(b); These included that tankers now had further restrictions in areas beyond 50 miles from shore; tankers of contracting states may release no more than 60 litres of oil per nautical mile; and the amount of oil that could be release during a voyage was limited to 1/15 000 of the total cargo carrying capacity of the tanker. Other vessels were to release oil as far from land as practical and cannot release more than 60 litres per nautical mile or 100 parts of oil per million parts of effluent. Changes were also made to the Oil Record Book standards. Other vessels were to release oil as far from land as practical and cannot release more than 60 litres per nautical mile or 100 parts of oil per million parts of effluent. Changes were also made to the Oil Record Book standards.
[220] R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (Berkley, CA, 1979) 268.
[221] Ibid at 224.
[222] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 126.
[223] IMCO A/Res. 246 (vii). The new standards adopted a formula requiring compartmental separation of oil-bearing tanks in such a way to limit the maximum amount of oil flow in the event of the tanker being grounded or involved in other accidents.

construction standards was largely due to enforceability issues. Violations of construction requirements are easier to prove and the move towards their preferred use gained support.[224] The events leading up to the construction of MARPOL are hard to describe as an environmental triumph. They were largely an oil industry victory, which has perhaps tainted perceptions of the IMO from the outset as being subject to 'corporate capture'.[225]

2.1.2 MARPOL 73/78

In response to the Torrey Canyon incident, pollution and contamination from ships saw greater involvement of governments and industry within the international arena. [226] Incidents of oil pollution had dramatic effects, which were drawing attention both globally and nationally. This was primarily due to unprecedented increases in global trade in the 1960's and 1970's.[227] There was also an increasing awareness that environmental concerns should transcend individual interests and should be viewed as cross-jurisdictional matters requiring international cooperation.[228] Placing constraints on the 'contamination of the sea, land and air by ships, vessels and other equipment operating in the marine environment' was thus included in an 1969 resolution of the IMCO Assembly for the purposes of convening an international conference aimed at preparing a suitable international convention on marine pollution.[229] The agenda for this upcoming 1973 international Conference on Marine Pollution was primarily focused on oil discharges.[230] Nine major research programs, six directly related to oil pollution, were initiated at the time to seek 'the achievement by 1975 if possible but certainly by the end of the decade of the complete elimination of the wilful and intentional pollution of the seas by oil and noxious substances other than oil, and the minimisation of accidental spills'.[231] The Subcommittee on Marine Pollution (SCMP) produced five drafts of the convention; this process was inevitably influenced by the United Nations Stockholm Conference on the Human Environment, in particular its Marine Principles.[232]

The Oil Companies International Marine Forum (OCIMF), a voluntary association of oil companies concerned with the shipment of crude oil, petrochemicals and gas, was granted consultative status by the IMO in 1971 and was recognised as the voice of the industry in the preliminary negotiation stage of MARPOL. [233] The OCIMF conducted international industry negotiations about what the industry was to accept and how a shift in industrial policy would occur.[234] One of the key areas of debate in the build

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[224] Lawrence Juda, 'IMCO and the Regulation of Ocean Pollution from Ships' (n 211) 568.
[225] See InfluenceMap, 'Corporate Capture of the IMO: How shipping lobbies to stay out of the Paris Agreement on climate' (October 2017) https://influencemap.org/site/data/000/302/Shipping_Report_October_2017.pdf accessed 15 September 2021.
[226] Thomas A. Mensah, 'International Environmental Law: International Conventions Concerning Oil Pollution at Sea (1976) 8 Case Western Reserve Journal of International Law 110, 110: by this stage, it had become apparent that hydrocarbon oil was one of the major sources of marine pollution.
[227] Ibid.
[228] Ibid.
[229] IMCO Assembly Resolution. A.176(VI), adopted 21 October 1969, 125.
[230] MSC XXIV/3/1 (1971), the annex of which lays out the agenda for the 1973 international Conference on Marine Pollution.
[231] IMCO Assembly Resolution A VII/Res. 237, adopted 12 October 1971.
[232] Report of the UN Conference on the Human Environment, Stockholm 5-16 June 1972 (U.N. doc. A/CONF. 48/14).
[233] Ibid.
[234] R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (n 220) 109.

up to a marine pollution convention was whether there would be a demand for segregated ballast tanks in shipping construction.[235] Initially, the OCIMF rejected this proposal but following the American submission, they reconsidered their position as the OCIMF was dominated by American oil companies.[236] The USA was at the time leading the environmental wave of ecological consciousness and had openly criticised the previous LOT system.[237] As the OCIMF consisted mainly of major oil companies, they recognised the need to appease their government and support the separated ballast tank proposal.

In November 1972 in an 11-2 vote, the OCIMF accepted the segregated ballast tank proposal with important European oil companies (such as BP and Shell) and American multi-national companies expressing their willingness to cooperate with the American submission on this issue.[238] The only dissidents were French and Japanese representatives.[239] The acceptance of the industry in accepting a proposal that would later form part of MARPOL, was not incentivised by any great environmental cause, but rather by the strength of American influence and the fact that the American government would in any event require segregated ballast tanks in its own coastal waters.[240] The acceptance of segregated ballast tanks by the oil companies was in part also motivated by the appeal of averting more costly requirements like double hulls.[241] Developing states were somehow persuaded to agree to segregated ballast tanks, despite having few environmental concerns and larger needs to drive economic growth.[242]

In October and November of 1973, the International Conference on Marine Pollution was held in London and attended by seventy-one states. For the first time, developing states constituted the majority.[243] The Convention applied then, and still does, to all states flying the flag of a state which is party to the Convention or is operating under the authority of a party state.[244] The outcome of this conference was MARPOL 73, which superseded and absorbed the regulatory framework of OILPOL 54

[235] Thomas A. Mensah, 'International Environmental Law: International Conventions Concerning Oil Pollution at Sea' (n 226) 118: At the time, much of the pollution from deliberate discharges arose from having to carry ballast water in cargo oil tanks on unladen ships, the oily ballast would then need to be released before the ship could load fresh cargo.

[236] OCIMF Submission of September 1971 to the Subcommittee on Marine Pollution (OP/X/2/4).

[237] Sonia Zaide Pritchard, 'Load on Top – From the Sublime to the Absurd' (1979) 9 Journal of Maritime Law and Commerce 185-224.

[238] R Michael M'Gonigle and Mark W Zacher, Pollution, Politics and International Law: Tankers at Sea (n 220) 110.

[239] Ibid 224 and 268: France had by this stage jumped ship from an environmental agenda to a commercial one, as it previously campaigned for a stricter enforcement regime

[240] Ibid at 110; see also Ports and Waterways Safety Act 1972 (USA).

[241] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 130: Segregated ballast tanks effectively benefitted oil companies and major oil exporting countries, such as those in the Middle East, as it would result in increased environmental protection and the costs of segregated ballast tanks would fall on the ship owner. It also meant that there would be no need for states to provide costly reception facilities. Developing states, with clear incentives to increase trade and economic growth, opposed the use of segregated ballast tanks as this would impose burdensome expenses on their new fleets and generally raise the cost of imports.

[242] R Michael M'Gonigle and Mark W Zacher, Pollution, Politics and International Law: Tankers at Sea (n 220) 115: Even if developing states chose not to ratify MARPOL, they would still suffer from the rise in import costs as foreign vessels were responsible for importing goods to these States.

[243] Ibid 112.

[244] MARPOL 73/78, art 3: These technical annexes included controls on noxious liquid substances in bulk, packaged forms of harmful substances, sewage, garbage, and air pollution; as well as special control areas for stricter regulation of operational emissions or discharges.

and its amendments in Annex 1.[245] In respect of reception facilities, MARPOL 73 required all ports where tankers and non-tankers discharged oil residues to provide reception and treatment facilities. This was a reversal to the original mandate of OILPOL 54 which stated that states were to 'undertake to ensure the provision' of reception facilities.[246] Many states, however, did not view this provision as binding and accepted the provision on this basis, whilst other states approved without any intention to ever ratify the convention.[247] There was a strong shared sentiment by states, even those who had accepted the provision as binding, that the costs of reception facilities should not be borne by states but by industry.[248] The value of the provision was thus largely lost.

However, the ratification of MARPOL was a slow process because of technical difficulties and defects with the regime, most of which survived from OILPOL 54. The non-ratification of the convention was becoming a major cause for concern. The technology required to comply with MARPOL was not yet available as MARPOL required advanced separators, reception facility infrastructure, and monitoring systems.[249] There were also issues surrounding the interconnectedness of Annex I and Annex II and the mandatory requirements for states regarding certain chemicals under Annex II.[250] Additionally, there were environmental concerns surrounding Regulation 13 of Annex I, which made segregated ballast tanks mandatory for new vessels over 70,000 deadweight tonnes. At the time, economic growth in the industry was slowing and new vessels were not being built at consistent rates.[251] The industry was therefore still relying on old tankers, which escaped the requirement. The economic pressures accelerated the call for the requirement of segregated ballast tanks to be extended to existing vessels as well as new builds. The decline in the market meant that fewer ships were being utilised, resulting in idle ships that were causing huge losses.[252] Because the instillation of segregated ballast tanks would reduce the carrying capacity of the vessel, more vessels would be needed to transport the same quantities of oil.[253] Therefore more ships would be required on the waters and these idle ships could be put back into use and generate profits. The OECD also firmly believed that segregated ballast tanks would economically boost the maritime sector.[254]

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[245] MARPOL 73, art 2 para 3 now includes 'harmful substances or effluents containing such substances, means any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying'. Other "discharges", including 'any release howsoever caused from a ship and includes any escape, disposal, spilling, leaking, pumping, emitting or emptying were included in an additional five annexes. MARPOL also added a specified requirement for continuous monitoring of oily discharges and added requirements for governments to establish reception and treatment facilities at ports and oil terminals. Perhaps the most noteworthy and contentious provision introduced by MARPOL 73 was the mandated use of segregated ballast tanks for all new tankers over 70,000 deadweight tonnes

[246] MARPOL 73, Annex I, reg. 12(1).

[247] R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (n 220) 116.

[248] Ibid; Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 132.

[249] R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (n 220) 123-4.

[250] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 134.

[251] Ibid.

[252] Ibid; R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (n 220) 123-4.

[253] Ibid.

[254] Ibid.

At the same time that the ratification of MARPOL was being delayed, a number of tanker accidents occurred in 1976-1977, predominantly within or near USA waters. These included the Argo Merchant which was grounded off Massachusetts in December 1976. Although it was a small tanker, it carried 27,000 tons of oil and posed a massive threat to resorts in New England and Georges Bank fishing ground. Although the USA had previously remained silent regarding the segregated ballast tank debates, it now took the lead in proposing further regulations for safety to the Council in May 1977.[255] The Carter Administration in the USA, which was becoming well known for its strong environmental stance, called for a number of measures including the ratification of MARPOL whilst threatening unilateral action if the international community were unable to cooperate in regulating tanker oil pollution. [256]

The American pressure and threat of unilateralism saw the Council agreeing to convene a Conference on Tanker Safety and Pollution Prevention from 6 to 17 February 1978.[257] The Council convened a working group whilst the MSC and the MEPC collaborated to prepare the documents for the conference. The demands of the USA, however, were somewhat concerning for other actors and saw objections from a number of delegations pertaining to the high cost of fitting fleets with additional tanks.[258] The oil sector and maritime states thus formulated an alternative proposal known as crude oil washing, whereby a tanker's oil tanks are cleaned with crude oil between voyages, thus they are cleaned with the cargo itself.[259] Crude oil also saved oil by preserving the amount of oil which would be thrown away. A rise in oil prices and the added expense of installing additional ballast tanks, meant that crude oil washing became an immensely attractive option for the industry. There was thus an industry push to replace the segregated ballast tank requirement with crude oil washing procedures instead.[260]

The USA's demands resulted in polarised views amongst the delegates of the 1978 Conference. The UK was a firm industry supporter as it sympathised with the plight of ship operators, however the environmental agenda was being strongly pushed by the USA to take costlier measures.[261] The USA was also supported by ship-building interests who would profit from retrofitting, yet polarities even existed within the USA delegation as there were practical issues with wide-scale retrofitting. The US Treasury, in fact, opposed wide-scale retrofitting because of the huge cost implications.[262] As a compromise between opposing factions, it was agreed by the Conference that new oil tankers over 20,000 deadweight tons were required to use both segregated ballast tanks and crude oil washing.[263]

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[255] Tammy M. Alcock, '"Ecology Tankers" and the Oil Pollution Act of 1990: A History of Efforts to Require Double Hulls on Oil Tankers' (1992) 19 Ecology Law Quarterly 97-145.
[256] Such as the instillation of segregated ballast tanks for all tankers above 20,000 deadweight tons as well as international requirements for tanker construction, inspection, and certification
[257] Tammy M. Alcock, '"Ecology Tankers" and the Oil Pollution Act of 1990: A History of Efforts to Require Double Hulls on Oil Tankers' (n 255) 128.
[258] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (note 98) 136.
[259] IMO, *Crude Oil Washing* https://www.imo.org/en/OurWork/Environment/Pages/Crude-Oil-Washing.aspx accessed 15 September 2021.
[260] Alan Khee-Jin Tan *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 136: Oil dissolves the oil residues on the walls of the tanks far more effectively than water does, thereby evading water and oil mixes and the need to discharge them.
[261] Ibid; Tammy M. Alcock, '"Ecology Tankers" and the Oil Pollution Act of 1990: A History of Efforts to Require Double Hulls on Oil Tankers' (n 255) 127-129.
[262] Ibid.
[263] MARPOL 73/78, Annex I, regs. 13(1), 13(6) and 13B.

MARPOL 73 previously imposed a higher 70,000 deadweight ton limit, meaning that far more tankers would now fall within the regulatory requirement. Non-crude oil carriers above 30,000 deadweight tons also required segregated ballast tanks,[264] whilst existing crude oil tankers above 40,000 deadweight tons could choose between installing segregated ballast tanks or crude oil washing.[265]

The USA thus successfully obtained the stricter requirements it sought, whilst ship operators were relieved that no mandatory retrofitting would be required for existing tankers.[266] States who didn't want to shoulder the costs of port reception facilities were also pleased as the required methods would reduce oily ballast discharges and relieve them of the responsibility of treatment facilities.[267] In order to address the technical difficulties with Annex II, the Conference opted to separate Annex I and Annex II and defer implementation of Annex II for three years after entry into force of the MARPOL Convention. This seemed logical as the 78 Conference focused on oil, whilst Annex II dealt with technological innovations and perhaps by a later stage those technical issues could be resolved.[268] It was also agreed that the 1973 Convention and the subsequent 1978 Protocol should be consolidated and ratified as a single instrument, hence the ratification of MARPOL73/78 - as it is commonly known.[269]

The irony of segregated ballast tanks forming the basis for the 1978 Conference has been commented on.[270] The conference was catalysed by the need to discuss and manage international oil pollution accidents, yet an operational measure became the primary subject of controversy and debate. The final instrument which came into force five years after the conference is a testament to the negotiation powers of the USA and its environmental agenda. Whilst the previous OILPOL 54 agreement was driven by the UK, the USA soon overtook on the green front and pushed for more stringent requirements despite industry opposition. The UK, at this stage, had become more sympathetic to the cost concerns of the sector, yet industry input was still largely at the mercy of state agendas and the threat of unilateral law making of the big maritime nations. MARPOL 73/78 ultimately led to a reduction in intentional oil discharges as more vessels were required to adopt measures that they otherwise would not have implemented. However, the implementation of Annex 1 was not without criticism as the enforcement of the regulatory regime relied heavily upon mandatory system checks and accurate record keeping. Shipowners were faced with the conversion expenses and owners of existing tankers, in comparison to new tankers, could not amortise the costs of compliance over a ship's life.[271] A depressed market also meant that resale prices could not be raised.[272]

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[264] MARPOL 73/78, Annex I, reg. 13(1).
[265] MARPOL 73/78, Annex I, regs. 13(7) and 13B.
[266] R Michael M'Gonigle and Mark W Zacher, *Pollution, Politics and International Law: Tankers at Sea* (n 220) 140–2.
[267] Ibid.
[268] MARPOL Annex II's implementation only became effective on 2 October 1986, due to the two-year delay of MARPOL entering into force.
[269] 1978 Protocol to the International Convention for the Prevention of Pollution from Ships, 1341 UNTS 3; 17 I.L.M. 546 (1978) (entered into force 2 October 1983).
[270] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 138.
[271] Jeff B. Curtis, 'Vessel-Source Oil Pollution and MARPOL 73/78: An International Success Story?' (1985) 15(4) Environmental Law (Lewis & Clark Law School) 679 – 710, 704.
[272] Ibid.

2.1.3 Double Hulls and Further Developments

Another massive tanker disaster resulted in the amendment of Annex 1 following the adoption of the 1978 Protocol. The Exxon Valdez, containing 1,264,155 barrels of crude oil, ran aground in Alaskan waters in March 1989.[273] The Exxon Valdez accident meant that the USA would no longer be compromising on the issue of double hulls.[274] The unilateral action of the USA and the public outcry regarding pollution meant that the IMO had to take up the issue once again. [275]

However double hulls were not without unresolved concerns as there were obvious cost implications and divided scientific opinion.[276] The current industry possessed little experience with double hulls and there were further concerns relating to corrosions, leakages, accessibility for inspection and ease of maintenance.[277] The MEPC conducted a major study into the effectiveness of the double-hull design and finally concluded on an outcome for the upgrading and phasing out of existing tanker ships depending on their age.[278] In January 1992, it was decided that both the double hull and mid-deck can be viewed as equivalent pollution prevention designs, despite each giving varying outflow performance in certain conditions. [279] The US was steadfast in its opposition to alternative designs to the double-hull as the Exxon Valdez incident had swayed public opinion in firm favour of the double-hull as the only viable design solution.[280] The US Congress was also being pressurised by ship-building interests to exclusively advocate for the double hull design.[281] The Friends of the Earth International was the only other delegation at the MEPC to adamantly oppose mid-deck tankers.[282] Despite the strength of this opposition, the MEPC chose to approve the mid-deck tanker design as an alternative to double hulls. The MEPC also agreed that alternative designs shown to provide 'equivalent protection' against potential polluting accidents would also be acceptable, with the approval of the

[273] It spilled one fifth of its oil cargo, resulting in the devastating pollution to ecologically sensitive environment around Prince William Sound.
[274] See Tammy M. Alcock, '"Ecology Tankers" and the Oil Pollution Act of 1990: A History of Efforts to Require Double Hulls on Oil Tankers' (n 255): A number of environmental lobbyists and the USA Congress started taking a hard approach and were calling for stringent regulations following the oil spill catastrophe in the immaculate Alaskan marine environment.
[275] The US Congress acted swiftly and enacted the Oil Pollution Act of 1990, requiring both existing and new tankers within US waters and ports, to be retrofitted with double hulls as part of a phasing-out programme which would transform all vessels by 2015.
[276] Tammy M. Alcock, '"Ecology Tankers" and the Oil Pollution Act of 1990: A History of Efforts to Require Double Hulls on Oil Tankers' (n 255) 107.
[277] Submission of France, MEPC Doc. 32/7/11 (1992).
[278] Report of IMO Comparative Study on Oil Tanker Designs, attached to MEPC Docs. 32/7/15 (1992) and 32/7/17/Add.1 (1992): As part of the study, the MEPC also undertook to investigate alternative designs to the double-hull if they were to make double-hulls mandatory for the industry.
[279] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (note 98) 144; National Academies of Sciences, Engineering, and Medicine, 'Environmental Performance of Tanker Designs in Collision and Grounding: Method for Comparison -- Special Report 259' (The National Academies Press, Washington DC, 2001) 32.
[280] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 145.
[281] Drewry Shipping Consultants, *Marine Pollution and Safer Ships: Implications for the Tanker Industry* (London, HP Drewry Shipping Consultants 1992).
[282] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 145.

MEPC. [283] This regulation applying to new vessels was fairly uncontroversial.[284] Regulation 13G made provision for an enhanced inspections and surveys of existing tankers.[285] As an alternative option, both new and existing tankers could opt other protective designs proven to provide equally adequate protection.[286]

Despite the fact that the USA had initiated the amendment process and negotiations, it did not ratify the 1992 amendments as it hung firmly to its demand that all ships be fitted with a double hull.[287] The action of the USA in insisting on amendments and then reserving its position, was in fact more exasperating than anything else and had the effect of alternative designs being economically unfeasible if any trade were to occur in US waters.[288] This has consequently resulted in flagrant non-compliance with Regulation 13F and 13G outside of USA waters where ship operators chose to avoid double-hulls or any alternative for that matter, on the basis that alternatives are now impractical and difficult to install compared to their double-hull counterpart.[289] The double-hull amendments are testament to the fact that the IMO's legislative process is often dictated to by political forces. The 1992 amendments saw the USA bullying the international community and industry into complying with their unilateral standards, despite cheaper and equally effective alternatives being available to the industry.[290] The 1992 double-hull saga unfortunately did not prevent the IMO's ordinary reactive law-making cycle from recurring. Despite hopes that the IMO's rule-making powers might display evidence of forward-thinking as opposed to mere reactionary panic, the same processes were once again played out by subsequent shipping disasters.

In December 1999, the Erika sunk off the coast of France and led to an accelerated phase-out plan for ships without a double-hull design.[291] Three major changes were called for: an expedited phasing-out of single-hull tankers, better control over classification societies and a stronger port state powers and control mechanisms.[292] EU law successfully dealt with the second two proposals, whilst the IMO was

[283] MARPOL 73/78, Annex I, reg. 13G(4): The amendments introducing the double hull requirements or their equivalent alternatives, were contained in the old Regulation 13F (today's Regulation 19) and Regulation 13G (now Regulation 20) for the prevention of oil pollution due to collision or running aground. Regulation 13F applied to new tankers, meaning those delivered from 6 July 1996 onwards, and required those over 5,000 deadweight tons were to meet the double hull requirement Existing tankers were exempted and needed only to comply with the requirements of Regulation 13F by no later than 30 years following the date of their delivery. Tankers needing to comply with Regulation 13F would need to be fitted with double bottoms and wing tanks extending the entire depth of the ship's side or with the alternative mid-deck and double-sided hulls.

[284] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 145.

[285] MARPOL 73/78, Annex I, reg. 13G(3)(a).

[286] MARPOL 73/78, Annex I, reg. 13F(5).

[287] Report of MEPC's 32nd session, MEPC Doc. 32/20 (1992).

[288] This was a somewhat confusing retaliation since the USA had essentially gotten what it wanted with the compromise of alternative yet equally effective designs. The 1992 amendments have done little for improved compliance and uniformity since the USA still requires double hulls in its waters, forcing those it trades with to comply strictly with its unilateral standards.

[289] Ibid.

[290] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 146.

[291] Regulation 13G of MARPOL was to be revised in accordance with French and European demands to tighten the safety standards for ships.

[292] Known as the "Erika 1 Package"; Commission communication of 21 March 2000 to Parliament and the Council on the safety of the seaborne oil trade [COM(2000) 142 final - Not published in the Official Journal].

tasked with dealing with the phasing-out programme.[293] As the USA's Oil Pollution Act of 1990 did not coincide with the requirements of MARPOL, single-hull tankers could still operate outside of US waters and essentially drove sub-standard ships into other seas. Europe was of the opinion that it needed to equally strengthen its regulatory efforts and also push the agenda for the phasing out of all single-hull tankers within its waters.[294] As a result of EU pressure, Regulation 13G was amended by the IMO to accelerate the phasing out of single-hull tankers and bring forward the final deadline.[295] European states called for rigorous action, whilst developing nations had obvious difficulties with such a proposal.[296] Ironically, the USA supported uniformity and multilateral law making by the IMO, over unilateral EU regional laws.[297] Finally a compromise, mainly negotiated by Denmark, the UK and the Netherlands, was agreed upon to include certain shared interests, such as the availability and price of fuel, and a smooth transition in scrapping old ships and replacing them without a shortage in available tonnage. [298]

The amendments, which entered into force on 1 September 2002, provided deadlines for the phasing out of tankers according to category.[299] Although these deadlines were in fact more generous than the European Commission's initial demands, they still didn't quite meet the request of shipping interests to have the deadline for Category 2 tankers deferred to 2017.[300] Category 2 tankers were in fact still relatively new at this time, thus MEC agreed to a 2015 phase-out date but gave flag state administrations discretionary powers to allow Category 2 tankers to continue trading until their 25th year, even after 2015 if they were to comply with certain technical requirements.[301] At the same time, port states would be allowed to deny vessels complying with such time extensions into their ports or offshore terminals.[302] In such circumstances, the port state being party to the Convention shall have to communicate this decision to the Organisation to circulate the particulars thereof for their information.[303] This was huge leap for port state authorities and saw a number of EU-member states and aspiring EU-member states publicising their intentions to deny all single-hull tankers entrance into their ports.[304] This would mean that Category 2 vessels would be certified for operation, however would still be denied entry into European Ports. This was a massive concern for shipping interests, and

[293] Directive 2001/105/EC, 2002 OJ (L 19) 9 (amending Directive 94/57 - Classification Societies); Directive 2001/106, 2002 OJ (L 19) 17 (amending Directive 95/21/EC - Port State Control).
[294] Regulation (EC) No 417/2002 of the European Parliament and of the Council of 18 Feb 2002 on the accelerated phasing-in of double hull or equivalent design requirement for single hull oil tankers and repealing Council Regulation (EC) No 2978/94; see also Lucie Thébault, 'Maritime Safety Culture in Europe' (2004) 46(1) Managerial Law 1-59.
[295] Report of MEPC's 46th session, MEPC Doc. 46/23 (2001).
[296] Ibid.
[297] Joseph Angelo, 'Erika Aftermath: Developments at IMO on Double Hulls (a US Perspective)' in M H Nordquist & J N Moore (eds) *Current Marine Environmental Issues and The International Tribunal for The Law of the Sea* (Martinus Nijhoff Publishers, Hague, 2001) 309.
[298] Report of MEPC's 46th session.
[299] Resolution MEPC.95(46): All 'Category 1' tankers (pre-MARPOL) would be phased out between 2003 and 2007; whilst 'Category 2' tankers (post-MARPOL) would be phased out between 2003 and 2015. 'Category 3' tankers (those above 5,000 deadweight tons but not falling within Category 1 and 2) would also be phased out between 2003 and 2015. The phase-out deadlines of each category also depended on the date of delivery of the vessels within those categories
[300] Communication on the Safety of the Seaborne Oil Trade, COM(2000) 142 final.
[301] Regulation 13G(5)(a)(iv) in Resolution MEPC.95(46).
[302] Regulation 13G(8)(b) in Resolution MEPC.95(46).
[303] Ibid.
[304] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 149.

it has even been argued that a uniform prohibition on all single hull tankers beyond 2015 would be preferable.[305]

Alas, the ink was still fresh on the ratification on the 2001 Amendments when the Prestige oil tanker became distressed 30-miles off the coast of Spain.[306] As a result of the Prestige incident, the IMO met in December 2003 to revise and once again amend double hull requirements (Regulation 13).[307] The EU believed that its initial proposals following the Erika incident should never have been compromised on and demanded that the IMO further accelerate the phasing-out programme for single-hull tankers.[308] The IMO thus resolved to bring forward the deadlines for final-phasing out.[309] Another significant change was that the Regulation's 'Condition Assessment Scheme' would now apply to all single-hull tankers more than 15 years old, regardless of their design.[310] As pointed out by Brazil and INTERTANKO, this would mean that Category 2 and 3 tankers which were still relatively new and in good condition would also be phased out unreasonably early.[311] Brazil and INTERTANKO were also of the opinion that these amendments would come too soon after the recent changes and it was still uncertain how the shipping industry would cope with the sudden abandonment of all single-hull tankers and the construction needs of building double-hull vessels so quickly.[312] Despite these concerns, the IMO went ahead with the 2003 Amendments.[313]

Some European states had enacted their own national laws prohibiting the carriage of heavy grade oil by single-hull tankers into their ports. [314] Such law-making was controversial in light of UNCLOS, arts 25(2) and 211(3) for the rights of free passage. Thus, the EU Parliament called for the revision of the UNCLOS to specifically allow for coastal states to take such action.[315] The threat of unilateral criminal sanctions by the EU also went beyond MARPOL 73/78 and international law to impose further duties

[305] Ibid.
[306] Reuters, 'Spain Court Clears Captain, Merchant Navy in Prestige Oil Spill' (2013) https://www.rigzone.com/news/oil_gas/a/130109/Spain_Court_Clears_Captain_Merchant_Navy_in_Prestige_Oil_Spill accessed 15 September 2021. The result was 77 thousand tonnes of fuel impacting 200 kilometres of the Galician coast. The Spanish government suspended all fishing activities along a 100 kilometre stretch and closed all fisheries, resulting in devastation for both the environment and local fishing communities. Ironically, this incident occurred shortly after the tanker was denied entry into Spanish, Portuguese or French ports and the vessel crew had little option but to drift around aimlessly after it had been damaged by a storm.
[307] MEPC.111(50) Amendments to regulation 13G, addition of new regulation 13H and consequential amendments to the IOPP Certificate of Annex I of MARPOL 73/78.
[308] MEPC Doc. 49/16/1 (2003); see also European Commission, 'Maritime safety: IMO introduces new double-hull requirements at world-wide level to close the gap with new EU safety rules' (Press Release, 5 December 2003) https://ec.europa.eu/commission/presscorner/detail/en/IP_03_1667 accessed 15 September 2021.
[309] MEPC.111(50) adopted on 4 December 2003: that 'Category 1' tankers would be phased out by 2005, and 'Category 2' and 'Category 3' tankers by 2010
[310] Regulation 13G(g) of MEPC.111(50).
[311] Submissions of Brazil in MEPC Docs. 50/2/10 (2003) and INTERTANKO, in MEPC Docs. 50/2/11 (2003).
[312] Ibid.
[313] The new Regulation 13H banned the carriage of heavy grades of oil by single-hull tankers over 5,000 deadweight tonnes after April 2005 (MEPC.111(50)). Under Regulations 13G(8)(b) and 13H(8)(b), port states would have the right to deny entry of single-hull tankers carrying heavy grade oil.
[314] The Spanish government Royal Decree-law of 13th December 2002 codified the Malaga Agreement between France, Spain and Portugal banning all single-hulled tankers transporting heavy fuels, crude oil, and amongst other substances from entering Spanish ports after 1st January 2003. Italy similarly banned single-hull carriers carrying oil from Italian ports. See Gard, 'Oil tankers - Life after the PRESTIGE' (INSIGHT 170, 2003) https://www.gard.no/web/updates/content/53351/oil-tankers-life-after-the-prestige accessed 15 September 2021.
[315] Commission Communication on action to deal with the effects of the Prestige disaster, COM(2003) 105 final, at 11.

on member states. [316] Similar to the Erika incident, the emphasis was once again placed on structural and equipment requirements, despite both these incidents occurring due to navigational and human error, as well as poor maintenance.[317] Single hulls once again became the scapegoat for larger issues, with industry having to cover the costs of rash and extreme political decision-making.

Like the Erika disaster, the Prestige incident became heavily politicised.[318] Shipping forums like BIMCO were able to point out that the real issue with these incidents was not the fact that the tankers had single hulls, but due to other mistakes such placing heated cargo tanks next to uncoated ballast tanks.[319] Perhaps drastic and strict construction specifications were more appealing to public concerns. Politicians hoped to gain favour in making quick responses to public outcries over environmental devastation. The issues of cost-effectiveness and surviving a competitive market of sub-standard shipping was ignored.[320] Tan has noted that the regulatory actions following the Erika and Prestige incidents meant that sub-standard shipping was driven into third-world territorial seas and shipping interests were largely ignored.[321]

2.1.4 Sulphur Limits

In 1991, the IMO Assembly first addressed the matter of air pollution from vessels by adopting Resolution A.719(17) on the prevention of air pollution from ships. The Assembly recognised 'the urgent necessity of establishment of a policy on prevention of air pollution from ships, and development of reduction objectives and measures to achieve the objectives for control of emissions of *all* the elements of air pollution including ozone-depleting CFCs and halons, exhaust gases resulting from harmful fuel components and incineration and combustion processes, and volatile organic compounds'.[322] This process was influenced by a number of instruments which had been adopted to tackle emissions from terrestrial sources, such as the Montreal Protocol on Substances that Deplete the Ozone Layer 1987 and the Convention on Long-range Transboundary Air Pollution 1979.[323] The resolution stated that it would be best to prevent air pollution from ships by adding a new annex to MARPOL which would 'provide rules for restriction and control of emission of harmful substances from ships into the atmosphere'.[324] The Assembly requested the MEPC along with the MSC to 'establish fuel oil quality requirements with regard to environmental aspects and to reduce the sulphur content'.[325]

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[316] The EU's drastic package of responsive measures to the Prestige incident also included inter alia the criminalisation of the illegal discharges of polluting substances by intention or gross negligence within EU waters (COM(2003) 92 final); the strengthening of port state inspection powers and procedures in Europe, the creation of an IMO third tier compensation fund; the revision of the CLC/FUND civil liability regime (COM(2003) 92 final (note 150); and the lobbying of the IMO in October 2004 to establish a Particularly Sensitive Sea of their Atlantic coasts. It was against this highly politicised backdrop that the 2003 meeting took place.

[317] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 154.

[318] Justine Wene, 'European and International Regulatory Initiatives Due to the Erika and Prestige Incidents' ((2005) 19 MLAANZ Journal 56 – 73.

[319] MEPC Doc. 49/16/7 (2003).

[320] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 154.

[321] Ibid 155.

[322] Preamble of Res. A.719(17).

[323] Both instruments are mentioned in the Preamble of Res. A.719(17).

[324] Preamble of Res. A.719(17).

[325] Ibid para 1(e).

Europe had already been exploring sulphur measures for shipping, however imposing a sulphur cap only in Europe would affect the region's competitiveness in the bunker supply market. [326] There were thus strong regional economic reasons for Europe to propel uniform and global sulphur laws for the industry. However, Europe's call for a global approach was opposed by both the oil and shipping industry, especially developing oil nations.[327] There were obvious economic consequences of the introduced sulphur cap, primarily because low sulphur content fuels were more expensive. Fuel costs and bunkers accounted for a large percentile of a ship's operational costs. The sulphur cap would inevitably result in higher freight rates and reduce the competitiveness of shipping in comparison with other transportation. It also placed additional pressures on classification societies and tanker crews who had to now additionally analyse fuel deliveries for compliance with sulphur standards. Oil producers in countries where the crude oil resources contained high levels of sulphur would also be affected as oil refineries in such countries would need to bear the cost of constructing desulphurisation plants, hence increasing production costs and affecting the entire supply chain. Thus, the Persian Gulf States were adamantly opposed to the proposed cap, whilst countries producing low-sulphur crude oils such as the North Sea States would obviously benefit. [328]

As a compromise, the oil industry was willing to support the special areas regime for stricter limits in control areas, but a less strict global standard.[329] Shipping companies and flag states were less willing to support the special areas concept because of the obvious complications of having to switch fuels or change operations when entering these areas. The ICS pointed out that ships which only occasionally entered special areas would have to practically store different grades of fuel, thus reducing their cargo capacity, whilst the use of different grades of oil could lead to an engine breakdown. [330] The ICS also had concerns over unilateral declarations by states of special areas and the effects thereof on market competition.[331]

Despite industry concerns, MARPOL Annex VI was adopted in 1997 to limit the main air pollutants contained in ships exhaust gas, namely sulphur oxides (SOx) and nitrous oxides (NOx), as well as ozone depleting substances (ODS). The Annex also regulated shipboard incineration, and the emissions of volatile organic compounds (VOC) from tankers. Annex VI was the result of lengthy discussions and difficult negotiations within the MEPC and it was decided that sulphur emissions would be controlled by a global cap and the designation of 'special areas'. A global cap of 4,5% sulphur content for oil fuels used by ships was set, as well as the designation of special areas deemed sulphur emission control areas (SECAs), in which a lower limit of 1,5% sulphur content was prescribed for fuel oil. The requirements of SECAs could also me met through the implementation of an exhaust gas cleaning system or equivalent technological methods for emission reduction.[332]

Overall, the European interests gained victory in both the implementation of a global cap and special control areas. The oil industry's acceptance of the 'special areas' concept did not have the outcome of the global cap being subverted as it initially hoped. As with many IMO agreements, the shipowner came out short. Environmentalist campaigners were also disappointed with the "generous" 4.5%

[326] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 156.
[327] Ibid 157.
[328] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 157.
[329] Ibid.
[330] Submission of ICS, MEPC Doc. 37/13/14 (1995).
[331] Ibid.
[332] Reg. 14(4) of MARPOL 73/78 Annex VI 1997.

sulphur content cap and believed that the special areas posed enforcement issues.[333] At the end of the day, the shipowner bore the burden of sourcing compliant fuels and meeting different standards when entering SECAs. The overall unhappiness with the lenient global cap also saw a further proliferation of unilateral action. The USA, believing the global sulphur cap to be wholly insufficient in protecting its waters, successfully appealed to the IMO on July 17, 2009 to amend MARPOL Annex VI to designate an ECA up to 200 nautical miles off its coasts, ensuring that ships that affect US air quality meet stringent NOx and fuel sulphur requirements while operating within the designated area.[334] The USA could achieve this through exerting its political power and influence at the IMO. The EU deviated from MARPOL by envisaging the early implementation of a North Sea ECA; it introduced a sulphur fuel limit of 1.5% for passenger ships and introduced a 0.1% maximum sulphur requirement for ships at berth in EU ports. [335] None of this was stipulated by MARPOL.

In 2005, at MEPC 53, a member state coalition of European States (consisting Finland, Germany, the Netherlands, Norway, Sweden and the United Kingdom) made the proposal to start the process of revising MARPOL Annex VI.[336] Friends of the Earth International provided two submissions (MEPC 53/4/1 and MEPC 53/4/8) pertaining to a document entitled, 'Reducing Shipping Emissions of Air Pollution – Feasible and Cost-effective Options' produced by a coalition of NGOs. A review of MARPOL Annex VI was not due until five years after it entered into force on 19 May 2005, but it was proposed that human health concerns should expedite the process. During MEPC 53, the subcommittee on Bulk Liquids and Gases was tasked with the development of proposals and the setting up of correspondence groups.

INTERTANKO was initially in agreement with ICS, BIMCO, the International Association of Dry Cargo Shipowners (INTERCARGO), and the International Council of Cruise Liners (ICCL), in stating that there was 'a need to verify, to the extent possible, the environmental needs to make MARPOL Annex VI provisions more stringent'.[337] However, by a later intercessional meeting, INTERTANKO had changed its position to promote a uniform reduction on the global sulphur cap to 0.5% by 2015 by way of a fuel content reduction and not by use of alternative abatement technologies such as scrubbers.[338] This created a proliferation of industry opinions with INTERTANKO being the only outright supporter of stricter regulations. The oil interests, namely OCIMF and the International Petroleum Industry Environmental Conservation Association (IPIECA), were obviously opposed to strengthening regulations as this would result in additional costs for necessary upgrades to their refineries or losses stemming from an industry move to LNG fuels. In support of the oil interest's position, OCIMF and IPIECA opted for environmental language and used the "net environmental impacts" argument in proposing that large scale residue desulphurisation or conversion of residue to distillate fuel will significantly increase global refinery CO_2 emissions'.[339] In a more market-related argument, ICS argued

[333] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 158.
[334] The United States and Canada submitted a joint proposal (MEPC59/6/5) to the IMO.
[335] Article 2(3g) and 4a(4) of Council Directive 1999/32/EC of 26 April 1999 relating to a reduction in the sulphur content of certain liquid fuels and amending Directive 93/12/EEC (OJ 1999 L 121, 13), as amended by Directive 2005/33/EC of the European Parliament and of the Council of 6 July 2005 (OJ 2005 L 191, 59) ('Directive 1999/32').
[336] Submission MEPC 53/4/4.
[337] ICS et al, 'Review of MARPOL Annex VI and the NOx Technical Code: MARPOL Annex VI Revision – The Shipping Industry Perspective', (London: IMO 2006) BLG 10/14/5.
[338] INTERTANKO, 'Revision of MARPOL Annex VI, the NOx Technical Code and Related Guidelines: Proposed Amendments to MARPOL Annex VI' (London: IMO 2006) BLG-WGAP 1/2/5.
[339] IPIECA and OCIMF, 'Revision of MARPOL Annex VI and the NOx Technical Code: Environmental Impact of

that 'there would be unclear and ill-defined impacts of adopting a sweeping requirement for low-sulphur distillate fuels', with major impacts that will effect 'ship propulsion modes, intermodal transport balances, refining capacity and supply, generation of greenhouse gases and perhaps even the global balance of trade'.[340]

INTERTANKO's proactive approach proved very influential in the adoption of a stricter sulphur limits. Although having its headquarters in Oslo meant that it was somewhat susceptible to Norway's political agenda, it was probably economic reasons that drove it to take such forceful action on the matter. Most of INTERTANKO's membership comprises of owners operating in the North Sea who were undoubtedly concerned about the fuel changes required for the SECAs and wanted to level the playing field globally.[341] INTERTANKO's proposal gained support from Norway, which had previously declared that a sulphur cap would be unnecessary, and other countries such as Sweden and the USA that declared that there was merit in the INTERTANKO proposal and its public health and welfare benefits.[342] INTERTANKO was therefore a key player in mobilising the impetus for a stricter sulphur cap, despite concerns over fuel availability. INTERTANKO was also strategic in aligning itself with the environmental agenda, as the Secretary-General of IMO had stated in his welcoming address that, 'shipping's environmental credentials [are] under sharper scrutiny than ever before' and it is vital to 'ensure that its activities were environmentally friendly and sustainable'.[343]

In October 2008, MEPC 70 adopted an amendment to MARPOL Annex VI to reduce the global sulphur cap to 0.5% from 1 January 2020, with an interim cap of 3.5% globally from 1 January 2012.[344] The SECA caps were also strengthened, whilst ships may use exhaust gas cleaning systems ("scrubbers") to comply with the new standard. This drastic reduction was decided upon in 2016 by the MEPC. The decision by MEPC took place three years before entry into force of the 0.5% limit, which the IMO intended to be sufficient time for member states and industry to prepare.[345]

In setting the stricter standard, the IMO commissioned a study into the availability of compliant fuels for the 2020 deadline.[346] This study was carried out by an independent research agency, CE Delft, and then submitted to IMO member states at MEPC 70. However, the study was based on data from 2012 and was heavily criticised for its predictions of availability of alternative fuels in 2020.[347] In the North

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SOx emissions from international shipping and considerations on the supply of low sulphur bunker fuels' (London: IMO 2006) BLG-WGAP 1/2/13.

[340] ICS, 'Revision of MARPOL Annex VI and the NOx Technical Code: A goal-based approach to emission reduction, (London: IMO 2007) BLG 10/5/8, 2.

[341] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 38; see also INTERTANKO, 'Revision of MARPOL Annex VI, the NOx Technical Code and Related Guidelines: Proposed Amendments to MARPOL Annex VI' (London: IMO 2006) BLG-WGAP 1/2/5.

[342] Norway (2007) BLG 11/5/24; Sweden (2007) BLG 11/5/19; United States (2007) BLG 11/5/15.

[343] Secretariat, 'Report to the Maritime Safety Committee and the Marine Environment Protection Committee' (London: IMO 2006) BLG 10/19.

[344] Res. MEPC.280(70).

[345] IMO, 'IMO 2020 – cutting sulphur oxide emissions' https://www.imo.org/en/MediaCentre/HotTopics/Pages/Sulphur-2020.aspx accessed 15 September 2021.

[346] A contract to undertake such a study was awarded to CE Delft in September 2015, whilst EnSys and Navigistics (EnSys) undertook a supplementary study. Both studies were made available at MEPC 70, but reached drastically different conclusions. CE Delft submitted that industry could produce sufficient amounts of low-sulphur fuels (MEPC 70/5/3), whilst EnSys concluded that there would be extreme difficulty and infeasibility to supply such fuel (MEPC 70/5/5).

[347] BIMCO assisted in the funding of the EnSys study, see Offshore Energy 'BIMCO Calls IMO Study on Low Sulphur Fuel Availability in 2020 'Flawed' (Green Marine, October 11, 2016) https://www.offshore-energy.biz/bimco-calls-imo-study-on-fuel-oil-availability-in-2020-flawed/ accessed 15 September 2021.

American Marine Environment Protection Association (NAMEPA) Ramsey Report, it was pointed out that the IMO's final report concluded that in order to produce sufficient low-sulphur fuel, refineries 'need' to expand their capacities.[348] However, NAMEPA's Ramsey Report criticises this finding for simply asking the question 'can' the market adapt, not 'will' the market adapt. The IMO's final report assumed that refineries would adapt, however there is evidence from the IMO's supplementary report that refineries would be reluctant to invest in expansion projects in the face of uncertainty going forward. The Ramsey Report highlighted that many refineries would take a 'wait and see' approach, whilst some would meet demand, and some would not. Many ships already using LSF are facing complications with supply and engine compatibility.

The US Energy Information Administration (EIA) also published a number of forecasts and projections related to IMO 2020 sulphur cap, its effects on global markets, and how the refining and shipping sectors would react globally.[349] The EIA pointed out that regulation has been designed as an open policy without the designation of one compliance method. Market participants are thus able to decide for themselves how to best comply. This openness combined with the vast number of participants and the technological and economic complexities of implementation, has limited the advantages ordinarily gained by 'first-movers' in heading towards compliance. As there is little first-mover advantage, stakeholders were slow to provide clear plans and intentions of their future methods for compliance as more knowledge is required to develop these strategies. Furthermore, the IMO has stated its intention to implement additional standards and regulations on pollution from ships in the future. This increases reluctance to make huge structural changes to engines and ships if further regulations might require different fuels with the result that current modification projects may become redundant.[350]

Nevertheless, the 2020 sulphur cap was certainly overshadowed by the Covid-19 pandemic in early 2020.[351] In the first quarter of 2020, there were few reports of non-compliance as the IMO secretary-general announced only 10 cases of compliant fuel unavailability in the first 20 days.[352] However, this optimistic announcement could not foresee the unprecedented fall in shipping demand that was to proceed. The lower bunker prices may have been good news for charterers, with the exception of those who purchased bulk fuel at previous peak prices. On the other hand, shipowners who had installed or who were planning to install scrubbers will have a much longer wait for any return on investment. Delays in inspection and enforcement within ports and by classification societies, coupled with the new prioritisation of health protocols, means that it is still probably too soon to conclude on the success of the implementation of the 2020 sulphur cap.[353]

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[348] Michael Ramsey, 'Low Sulphur Fuel in 2020: An overview of the projected maritime energy market' (2017) https://namepa.net/s/The-Ramsey-Report-Low-Sulfur-Fuel-2020.pdf accessed 15 September 2021.
[349] EIA, 'The Effects of Changes to Marine Fuel Sulfur Limits in 2020 on Energy Markets' (2019) https://www.eia.gov/outlooks/studies/imo/pdf/IMO.pdf accessed 15 September 2021.
[350] Ibid 11.
[351] Safety4Sea, 'IMO 2020 overshadowed by COVID-19, but challenges remain' (21 July 2020) https://safety4sea.com/imo-2020-overshadowed-by-covid-19-but-challenges-remain/ accessed 15 September 2021.
[352] Seatrade Maritime News, 'IMO Sec-Gen hails 'successful' implementation of IMO 2020' (22 January 2020) available at https://www.seatrade-maritime.com/regulation/imo-sec-gen-hails-successful-implementation-imo-2020 accessed 15 September 2021.
[353] See North, 'Call for Clarity on the Enforcement of the Sulphur Cap' (18 May 2021) https://www.nepia.com/articles/call-for-clarity-on-the-enforcement-of-the-sulphur-cap/ accessed 15 September 2021.

2.2 Current and Future Role: Facilitation of a Sustainable Maritime Transport System

Most recently on its environmental agenda, the IMO has committed itself to the 2030 Agenda for SD, including 17 SDGs and has delineated its goals in achieving its ideal of a SMTS.[354] This is a considerable expansion since its inception, with recent developments undeniably testing the scope of "maritime" activities and IMO jurisdiction. The IMO still derives its mandate predominantly from Article 1 of its Convention,[355] which suggests that its mission is confined to marine pollution from ships. However, in its Strategic Plan for the period 2016–2021, the IMO's environmental mission is envisioned under the broader principles of 'sustainable shipping', as well as 'effective implementation of IMO instruments with a view to their universal and uniform application'.[356]

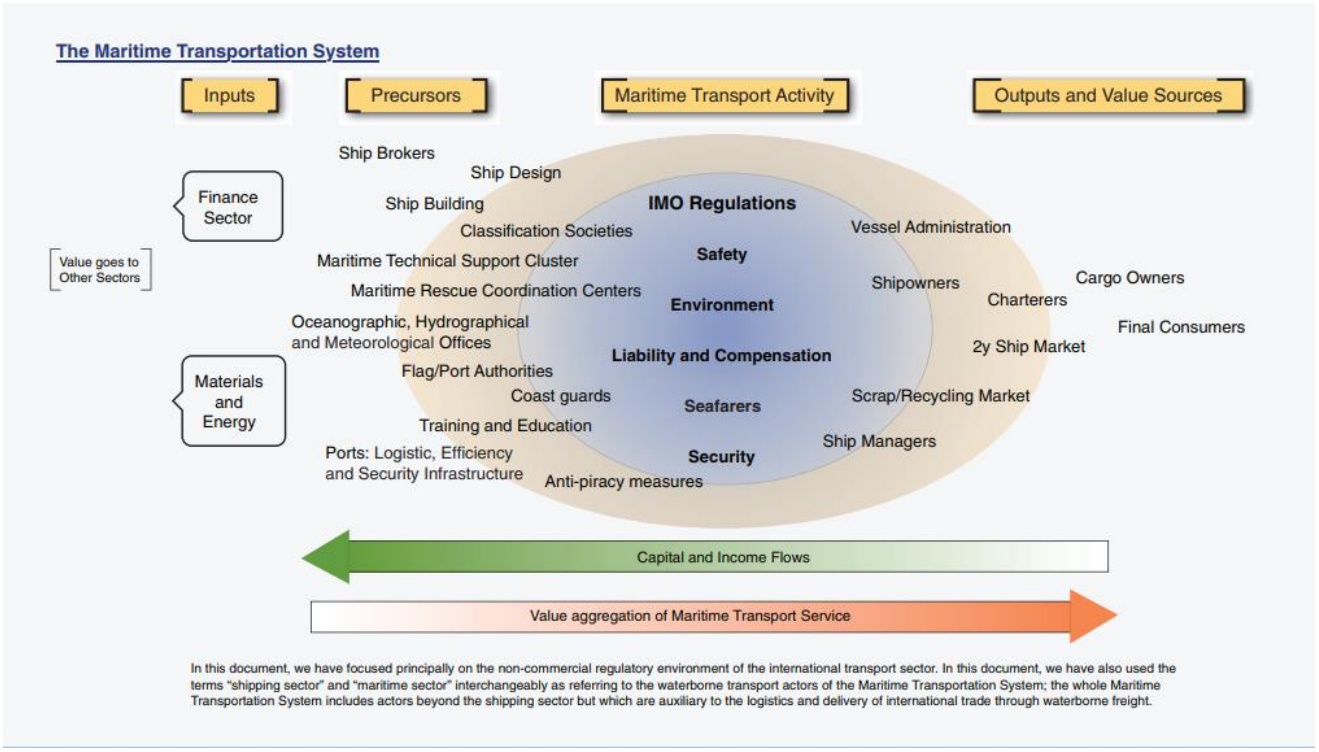
In its Strategic Plan for the period of 2018-2023, the IMO's mission reiterates these sentiments, but goes further to include a vision plan which addresses the need to meet the 2030 Agenda for SD. It also aims to support member states in their implementation of the 2030 Agenda for SD. The previous 2016-2021 Strategic Plan also refers to the 2030 Agenda for SD, in recognising the challenges of the IMO in respect of "Globalization and sustainable development" and adopting the strategic direction of contributing to the realisation of the relevant SDGs. The 2018-2023 Agenda goes one step further in broadening this strategy by providing two strategic direction goals entitled "Respond to Climate Change" and "Engage in Ocean Governance".[357] Thus the IMO mandate can be said to be broadening with each updated Strategic Plan to encompass a range of regulatory issues that might fall outside of the scope of a strict understanding of 'technical matters of all kinds affecting international shipping engaged in international trade' or 'prevention and control of marine pollution from ships'.[358]

Prior to it's the adoption of these Strategic Plans, the IMO purported to define the concept of a SMTS and what role this system has to play in the attainment of SD at its Symposium on Sustainable Maritime Transportation System on World Maritime Day on 26 September 2013. The IMO has stated that, '[t]he broad scope of its mandate means that [it] is well placed to support the cohesion and good functioning of the Maritime Transportation System and to contribute to its sustainable development throughout the world'.[359] In considering what actors are involved in the shipping value chain and how it can contribute to their sustainability practices, the IMO has said the following:

> *… while IMO's mandate is principally focused on vessels engaged in international trade, there are real opportunities for the Organization to play a meaningful and important role in facilitating coordination of relevant policies… [I]t can assist with coordination of the different actors in the Maritime Transportation System. It can also provide valuable feedback on the effects of measures as they are implemented throughout the System*.[360]

[354] IMO, 'Concept of a Sustainable Maritime Transport System' (n 21).
[355] IMO Convention ATS 1958 No 5 (n 117).
[356] Strategic Plan for the Organization (2016–2021), Assembly Resolution A.1097(29) 1 December 2015.
[357] Strategic Direction 3 and 4 respectively, in A 30/Res.1110.
[358] As provided for in Art 1(a) of the IMO Convention.
[359] IMO, 'Concept of a Sustainable Maritime Transport System' (n 21).
[360] Ibid 8.

The IMO identifies actors involved in the Maritime Transportation System and the scope of its existing regulatory reach in accordance with the following diagram:



(Source: IMO) [361]

'Maritime Transport activity', over which the IMO exerts current regulatory influence, is not extended to 'input' actors and certain 'outputs and value sources'. The IMO thus recognises that its role in sustainable maritime governance is currently limited to those actors which are directly involved in shipping or 'maritime transport' activities. In this regard, the IMO is described as a 'sectoral' organisation with a dedicated focus on the shipping industry. However, the IMO's most recent mandates and its adoption of the principle of SD have stretched this understanding of 'maritime' to include actors beyond its traditional sectoral scope. The IMO foresees its work expanding for the achievement of a truly SMTS. The IMO believes that a SMTS must necessarily incorporate a wide range of activities, even those which the IMO has traditionally only had marginal influence.[362] It defines this concept into a number of categories for 'goals and actions', which are summarised as follows:

1. Safety culture and environmental stewardship: Promotion of a safety culture that **goes beyond mere regulatory compliance** and which minimises the environmental impact of shipping and maritime activities.
2. Education and training in maritime professions and support for seafarers: Properly trained and educated seafarers and non-sea-going maritime professionals.
3. Energy efficiency and ship-port interfaces: Exploration of ways to further reduce fuel consumption. Efficiency must extend beyond the ships themselves to shore-based entities (ports and maritime infrastructure, **as well as other entities in the logistics chain** pertaining to cargo handling, vessel traffic management and routeing protocols).

[361] Ibid 7.
[362] Ibid 11.

4. Energy supply for ships: **Global distribution and availability of marine fuels** (both conventional and clean such as LNG and low sulphur fuel oils) must be ensured.
5. Maritime traffic support and advisory systems: Requires co-operation and harmonization for systems of navigation, pilotage and ice breaking, as well as intelligent routeing systems and aids for weather routeing, including e-navigation.
6. Maritime security: Seafarers, ships and shipping lanes must be protected from the threats posed to sea trade.
7. Technical cooperation: Development of new and sustainable **funding sources** and partnerships for technical cooperation
8. New technology and innovation: Vessels should be increasingly sophisticated in terms of design, construction and operation, while existing ships will meet stricter regulatory standards.
9. Finance, liability and insurance mechanisms: A SMTS should be supported with available, sound **financing** for construction, conversion and modification and regulations governing liability and compensation.
10. Ocean governance: Any reallocations of ocean uses must be properly understood and agreed by all concerned.

These 10 areas of development are to support the IMO's understanding of sustainable maritime transport. The IMO intends to achieve a SMTS through partnering with ***other actors*** in the system, even those that are not ordinarily within the scope of Maritime Transport Activities. Many of these areas for action and goals (as emphasized above), now require meaningful engagement with input actors and output or value source actors. If the IMO is to take its mandate to meet the 2030 Agenda for SD seriously, then its scope to initiate policy and even regulate on certain matters might expand significantly. For example, if the IMO is to promote energy efficiency to all entities in the logistics chain, then it could see itself prescribing measures for actors who fall within national jurisdiction beyond port control. Some of these actors might be situated in landlocked countries that do not ordinarily partake in maritime activities. Similarly, national institutions which finance shipping infrastructure might also fall further down the chain of actors than those influenced by the IMO.

It seems as though an expansion of the IMO's work is supported by the UNCLOS, in that it places a duty on states to achieve cooperation for the protection and preservation of the marine environment. States can do this either directly or through international organisations and treaties which are supported by the IMO's broad environmental mandate. The more appropriate question therefore is not whether the IMO has stretched its understanding of 'maritime' issues too far, but whether it is competent to achieve all it has set out to do. In reality, the IMO cannot take exclusive responsibility for international private initiatives for environmental ocean governance. Its structure and competency is designed merely to respond to issues 'concerning the effect of shipping on the marine environment' referred to it by other United Nations organs and agencies.[363] It not only relies on states to implement its regulations and policies, but ***private actors*** who it deems **necessary** to achieve its goal of SMTS.

Two examples are examined below to determine whether the IMO is progressively evolving its role in practice. Although its vision and mandate have undergone significant changes, such principles will take time to permeate its functions and activities. The next two sections look at recent regulatory action by the IMO. Where the IMO has made more progressive strides towards precautionary law-making and a consideration of SD is in respect of Ballast Water management – the Ballast Water Management

[363] IMO Convention, art 1(d).

Act and its supporting guidelines came about as a result of extensive negotiations and input from ***industry actors***. This resulted in implementation delays until both industry and states expressed 'buy-in' to its provisions. However, the climate change agenda including decarbonisation efforts, perhaps needs to be met with more urgency than the issue of aquatic organisms. The matter of GHG emissions has seen the IMO criticised by both states and industry alike.[364]

2.1.1 Lessons from Ballast Water Management

In 1993, the IMO adopted international guidelines on the problem of harmful aquatic organisms.[365] Under the heavy influence of Australia, the MEPC began to draft regulations for ballast water management and in 1997, a revised set of IMO guidelines was issued.[366] Governments were asked to use the guidelines as a basis for any proposed national measures until such time that mandatory regulations were in force. Thus, the national measures would be consistent with future international norms. In February 2004, the IMO succeeded in adopting the International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) in order to prevent the spread of invasive organisms and pathogens. However, the treaty only entered into force on 8 September 2017. The Convention's entry into force was dependent on enough ratifications by states, as the BWM Convention stated that it would enter into force 12 months after ratification by a minimum of 30 states, representing 35% of world merchant shipping tonnage. This was only achieved by 8 September 2016. The IMO believed that there were not enough suitable ballast water management systems available and thus guidelines would need to support the BWM Convention and aid its ratification. In order to accelerate ratification and support research and innovation, the IMO initiated the IMO GloBallast Partnerships Programme, run jointly with the Global Environment Facility and the United Nations Development Programme (2000-2017), which aimed to assist developing countries in reducing the transfer of harmful aquatic pathogens as ballast water was originally seen as a developed nation concern.

Although the BWM Convention signified pioneering regulatory efforts in the face of scientific uncertainty, there were initially many concerns raised by industry and maritime states as to how to comply with the Convention. The BWM Convention has come to represent a compromise which illustrates the IMO's intended collaborative approach. As seen with some of the IMO's previous responses to heed environmental calls, the IMO was not always interested in delaying international standards to reach a reasonable compromise. In 2012, there were some primary concerns with the Convention. Both the ICS and a group of other stakeholders (including Liberia, the Marshall Islands, Panama, BIMCO, INTERTANKO, CLIA, INTERCARGO, InterManager, IPTA, NACE and WSC) submitted documents to the MEPC illustrating the problems with the effective implementation of the BWM Convention.[367] These submissions focused on the inadequacy of the G8 Guidelines which were

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[364] Jasmina Ovcina, 'IMO's carbon measures face backlash as too weak' (*Offshore Energy*, 16 June 2021) https://www.offshore-energy.biz/imos-carbon-measures-face-backlash-as-too-weak/ accessed 15 September 2021. The USA and EU, in particular, have called the IMO's latest efforts 'cosmetic', prompting a move forward with their own decarbonisation plans for the sector, see Jonathan Saul, 'U.N. adopts new measures to cut ship emissions, critics call for more' (Reuters, 18 June 2021) https://www.reuters.com/business/energy/un-adopts-new-measures-cut-ship-emissions-critics-call-more-2021-06-17/ accessed 15 September 2021.

[365] IMO Assembly Resolution A.774(18) (1993) on International Guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges.

[366] IMO Assembly Resolution A.868(20) (1997) setting out Guidelines for the Control and Management of Ships' Ballast Water to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens.

[367] MEPC 64/2/17 and MEPC 64/2/18.

intended to establish an orderly process whereby candidate technologies are tested in land based and shipboard tests and certified by IMO member states if they meet the required discharge criteria. However, there were cases in which IMO approved ballast water treatments systems failed to meet the D-2 standard when additionally tested or evaluated.

ICS Director of Regulatory Affairs, David Tongue, said in a press briefing in 2012 that:

> '*Given that the costs of fitting the treatment equipment may be in the order of 1 to 5 million dollars a ship, it does not make economic sense for older ships approaching the end of their lives to incur this huge expenditure. However, the impact on the environment of exempting them would be negligible since these ships will still be required to perform deep water ballast exchange at sea for the 2 or 3 remaining years that most of them will continue to operate'*.[368]

The submissions to the MEPC also commented on the 'lack of robustness' of the G8 Guidelines and suggested six areas as a basis for amendment. Although the MEPC did not agree to amending the G8 Guidelines as requested by the industry, it passed a resolution in May 2013 which added additional test result information which was to be reported to the IMO when the member state certifies a type of ballast water treatment technology. [369] These were welcome changes, yet industry was still dissatisfied with the G8 Guidelines.[370] Shipowner and operator associations filed another submission to the MEPC in April 2014 to once again address the problems with the G8 Guidelines.[371] ICS, BIMCO, INTERTANKO, INTERCARGO and WSC submitted that although grateful for the pragmatic approach of the IMO, '[t]he shipping industry has little confidence that its investment of many billions of dollars in equipment that is type approved under the Guidelines (G8) would facilitate compliance with the Convention's discharge standards worldwide'.[372]

Just prior to the next MEPC session (MEPC 67) in July 2014, the ICS put out a press statement in May 2014 that:

> '*The shipping industry maintains that the legal changes needed to make the ballast regime truly global and fit for purpose – such as making IMO Guidelines on type-approval mandatory – are relatively straightforward and could still be agreed in principle by governments quickly. In a constructive response to the IMO's decision, the industry therefore intends to make another full submission outlining concerns and proposing a possible way forward to the next IMO MEPC meeting. In the meantime, the shipping industry cannot recommend that further member states ratify the BWM Convention until confidence building measures on resolving implementation concerns have been set in place*.' [373]

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[368] Offshore Energy, 'UK: ICS Seeks Crucial Changes to IMO Ballast Water Regime' (July 30, 2012, Business & Finance) https://www.offshore-energy.biz/uk-ics-seeks-crucial-changes-to-imo-ballast-water-regime/ accessed 15 September 2021.

[369] MEPC 65 (May 2013) passed Resolution MEPC.228(65)

[370] Seatrade Maritime News, 'Industry welcomes IMO ballast water changes' (22 May 2013) https://www.seatrade-maritime.com/americas/industry-welcomes-imo-ballast-water-changes accessed 15 September 2021.

[371] MEPC 66/2/11.

[372] MEPC 66/2/11 para 8.

[373] ICS, 'Serious Ballast Water Management Convention Problems Still Need to be Resolved by IMO' (8 May 2014 Press Release) https://www.ics-shipping.org/press-release/serious-ballast-water-management-convention-problems-still-need-to-be-resolved-by-imo/ accessed 15 September 2021.

The Committee's response was not to review and amend the G8 Guidelines, but to conduct a multi-year study on the implementation of the D2 standard as well as assessing the industry's submitted recommendations for changes to the G8 Guidelines. This was a notable response from the IMO as they fully acknowledged that available technologies required further research before hard regulations could be practicable. In the following MEPC meeting in October 2014 (MEPC 67), shipowner and operator associations recommended that that an MEPC Resolution be adopted to address the industry's remaining concerns with the Convention.[374] These concerns included:

1. The G8 Guidelines fail to provide confidence that IMO type-approved equipment will meet the D2 standard, there is thus investment uncertainty for vessels that may be traded globally.
2. The industry parties do not believe that the study proposed by the IMO will be completed timeously and will extend beyond the date of entry into force of the Convention. The G8 Guidelines need to be reviewed as soon as possible.
3. Vessels which install 'first generation' IMO type-approved technology should receive some sort of "grandfathering" to protect their early uptake of the technology.
4. Port state enforcement and sampling should be appropriate and should not penalise owners who in good faith have fitted and conscientiously operated IMO type-approved equipment correctly.

The MEPC took these industry concerns, which were shared by many member states, more seriously and adopted a MEPC resolution that agreed to a review and revision of the G8 Guidelines.[375] The MEPC agreed that 'early mover' shipowners who have installed IMO type approved systems should not be penalised and that shipowners should not suffer port state control sanctions or operational delays during the trial period following entry into force. MEPC 67 also established a correspondence group to initiate the review of the G8 Guidelines and to report recommended changes at MEPC 68. MEPC 67 also adopted another resolution for *Guidelines for port State control inspection for compliance with the BWM Convention*. The Guidelines note that port authorities should make every effort to avoid any undue delays to the ship. The industry viewed the outcome of MEPC 67 as a success but was still concerned about the parameters of the "grandfathering" provision to protect early adopters' ballast water treatment system investments.[376]

At MEPC 68, the status of BWM Convention, which was close to receiving sufficient ratifications, was reviewed. The MEPC considered the interim report of the correspondence group set up to review the guidelines. This group was then re-established to continue their work on the review. *A Roadmap for the Implementation of the BWM Convention* was agreed to, emphasizing that 'early movers' would not be penalised. The MEPC also drafted amendments to the Convention which provided an appropriate timeline for ships to comply with the D2 standard. The study regarding the D2 Report initiated by MEPC 67 was to be continued as a collaboration between IMO Secretariat in partnership with the World Maritime University (WMU), and an online survey was been launched.[377] The final study report was to be submitted to MEPC 69 in 2016.

At the MEPC's 71st session (3-7 July 2017) it agreed to a compromise proposal submitted by a number of member states. This included an amendment to the timeline for implementation to phase-in the

[374] MEPC 67/2/6.
[375] MEPC 67/20.
[376] Safety for Sea, 'Shipowners' concerns with Ballast Water Management' (*Opinion* 29 May 2015) https://safety4sea.com/shipowners-concerns-with-ballast-water-management/ accessed 15 September 2021.
[377] See MEPC Briefing Note 08/2015 on MEPC 68 (11-15 May 2015).

use of ballast water management systems which could achieve the D-2 standard. The compromise recognised the industry's need to be given sufficient preparation time for the installation of ballast water management technology on ships and for a greater number of IMO type-approved systems to become available. The agreement essentially grants a two-year reprieve to owners of existing vessels to comply BWM Convention requirements. In practice, this means some existing vessels will have until 2024 to fully comply.

Two things are noteworthy about the development and implementation of the BMW Convention in respect of the IMO's evolution. The first is that the IMO was for the first time guided by the precautionary principle in drafting laws in the face of scientific uncertainty instead of its usual reactionary approach. Its response to industry concerns was unique in that it displayed an openness to further research and compromise, which had not yet been shown before. The second noteworthy consideration is the "undue delay" clause of the Convention which recognises the need for economic efficiency. Both of these factors illustrate a shift in IMO thinking to one that recognises the overarching commitment to SD and industry collaboration as a contemporary theme.

To further facilitate the process of ballast water management, a number of guidelines have been implemented by member states and a unique amount of outputs have been formulated by the MEPC. In this regard the IMO is responsible for some pioneering work in looking for solutions to a multi-disciplinary and scientifically complex issue. BWM cannot only be understood as a technical or design requirement, but one involving a number of precautionary measures to minimise the transference of harmful aquatic organisms and sediments.[378] The Guidelines have been researched and compiled by the IMO in the face of much uncertainty about the consequences of the transportation of aquatic organisms and how best to minimise such uptake and relocation thereof. These strides reflect a shift in normative values as this kind of law making would have been unimaginable in the early days of the Organisation.[379]

The other aspect of the BWM Convention is its attempt to balance competing interests. Article 12 makes provision for the undue detention or delay of ships in stating that, 'all possible efforts shall be made to avoid a ship being unduly detained or delayed under Article 7.2, 8, 9 or 10.' Article 9 also reiterates that port states may not unduly delay ships in carrying out inspections. In carrying out water ballast sampling, 'the time required to analyse the samples shall not be used as a basis for unduly delaying, the operation, movement or departure of the ship'.[380] If through sampling a ship's ballast and sediment, it is shown that the ship 'poses a threat to the environment, human health, property or resources', the port state 'shall prohibit such ship from discharging Ballast Water until the threat is removed.'[381] Article 10 refers to the detection of violations and control of ships and allows port authorities to warn, detain, or exclude any ship if a violation against the BWM Convention is detected. The port state may also permit the vessel to leave the port to discharge its ballast water if doing so 'does not present a threat of harm to the environment, human health, property or resources'.[382] However, Article 10 is subject to Article 12 which prohibits undue detention and delay.

[378] Matej David & Stephan Gollasch, 'Ballast water management options for vessels, Final report' (2015) *BALMAS Project,* 77.
[379] Alan Khee-Jin Tan, *Vessel-Source Marine Pollution: The Law and Politics of International Regulation* (n 98) 174.
[380] Article 9(1)(c).
[381] Article 9(1)(c).
[382] Article 10(2).

The BWM Convention thus prohibits undue detention and delay and even provides compensation for any damage or loss suffered by a vessel for being 'unduly detained or delayed'.[383] Article 12 thus implies some sort of costs analysis when a port state determines the risk of the invasive species against the risk of compensation for undue delay. Although this analysis might seem straightforward in theory, there is little guidance on what the word 'unduly' means. The term 'undue delay' has not been defined by the IMO in terms of the BWM Convention nor in relation to other IMO applications.[384] This lack of clear guidance has created an internal tension for port authorities as Article 12 has the 'potential to undermine the port state's ability to board the vessel and enforce the provisions of the Convention'.[385]

Although the IMO has provided no clear interpretation of the word "undue" in the BWM Convention, Article 12 shows a recognition on the part of the IMO to balance scientific factors with the economic needs of shipping. Acknowledging this tension is probably the IMO's first recognition of the economic pillar of SD in a legal instrument. Although further guidance is needed, the underpinning balancing exercise reflects the SD mandate and an appreciation of the economic implications of BWM.

2.1.2 Focus on Decarbonisation

Currently, the IMO's main contribution to reducing CO_2 emissions is through another technical standard-setting mechanism aimed at the usual target of maritime environmental regulation: shipowners. MARPOL Annex VI does not cap carbon emissions, which are currently tackled by voluntary or unilaterally prescribed mitigation targets set by states based on international conventions. The IMO rejects this approach of patchwork voluntary efforts and regional laws and intends to implement a global standard. Despite promoting the necessity of an international uniform standard, the IMO has yet to implement one and seems presently satisfied that its energy efficiency design standards for new ships will steadily contribute to a reduction of emissions in the industry. In April 2018, the MEPC confirmed its vision to reduce GHG emissions from shipping in adopting an initial strategy to phase out GHG emissions this century.[386] In its submission to the UNFCC Talanoa Dialogue, the MEPC outlined levels of ambition and guiding principles which it considers a "first milestone" in developing a comprehensive Strategy on reduction of GHG emissions from ships.[387] Under identified 'levels of ambition', the IMO's initial strategy is for GHG emissions to peak as soon as possible and to then reduce total annual GHG emissions from the sector by at least 50 percent by 2050 in comparison with 2008, whilst still driving strong efforts to phase them out completely.

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[383] Article 12.

[384] S Gollasch and others, 'Critical review of the IMO international convention on the management of ships' ballast water and sediments' (2007) 6(4) Harmful Algae 585-600: This lack of clear guidance has created an internal tension for port authorities as Article 12 has the 'potential to undermine the port state's ability to board the vessel and enforce the provisions of the Convention'. Article 12 could inherently contradict the general obligation standard embedded in Article 2 of the Convention that 'the practices used ... do not cause greater harm than they present to their environment, human health, property or resources or those of other states'. Ballast water sampling may require time, depending on a port's capacity, available technology and scientific expertise. Port states with less sophisticated infrastructure may cause undue delay merely because they are restricted by the realities of a developing economy.

[385] John R Bobka, 'Defining "Unduly": Resolving Inherent Textual Ambiguity in the IMO's Ballast Water Management Convention' (2018) 60(1) William & Mary Law Review 267-296.

[386] IMO, 'Cutting GHG emissions from shipping - 10 years of mandatory rules', (2021) https://www.imo.org/en/MediaCentre/PressBriefings/pages/DecadeOfGHGAction.aspx accessed 15 September 2021.

[387] IMO, 'Note by the International Maritime Organization to the UNFCCC Talanoa Dialogue' (13 April 2018), https://unfccc.int/sites/default/files/resource/250_IMO%20submission_Talanoa%20Dialogue_April%202018.pdf accessed on 15 September 2021.

The IMO's technical measure is the Energy Efficiency Design Index (EEDI) which was made mandatory for new ships 2011, whilst the Ship Energy Efficiency Management Plan (SEEMP) was made mandatory for all ships at MEPC 62 (July 2011).[388] This regulation was the first legally binding climate change treaty to be adopted since the Kyoto Protocol. The EEDI is a performance-based mechanism aimed at reducing carbon emissions from fuel usage and leaves the choice of technologies and specific ship design to the industry. Granted that the energy efficiency level is attained, ship designers and builders have free reign in sourcing and using the most cost-efficient solutions in order to comply with the regulations.

The IMO's Fourth Greenhouse Gas Study, released in August of 2020, showed that shipping's share of global anthropogenic emissions increased from 2.76% in 2012 to 2.89% in 2018.[389] As part of its initial IMO GHG Strategy, the IMO decided to build upon current mandatory energy efficiency requirements to further reduce greenhouse gas emissions from shipping by agreeing to new draft mandatory measures. The amendments were developed by the seventh session of the Intersessional Working Group on Reduction of GHG Emissions from Ships held on 19-23 October 2020. The MEPC approved the amendments at its 75th session in November 2020 and forwarded the draft amendments for assessment of their impact on IMO member states at the MEPC's 76th session in 2021.[390] The MEPC also agreed the terms of reference for assessing the possible impacts on states, with a particular focus on the needs of developing countries, small island developing states (SIDS) and least developed countries (LDCs).

At MEPC 76 in June of 2021, the MEPC adopted amendments to MARPOL Annex VI, introducing mandatory goal-based technical and operational measures to reduce carbon intensity of international shipping. These include the Energy Efficiency Existing Ship Index (EEXI);[391] the enhanced Ship Energy Efficiency Management Plan (SEEMP);[392] and an operational Carbon Intensity Indicator (CII) rating scheme, taking effect from 1 January 2023. These technical and operational measures combined are to affect both how the ship is retrofitted and equipped and how the ship operates. However, these measures are considered rather 'weak' by certain member states as only an 11% reduction in GHG emissions by 2026 in comparison to 2019 is the target; whilst the US, UK and EU were envisioning a 22% reduction.[393]

From an environmental perspective, certain actors are growing frustrated with the IMO's delay in imposing stricter carbon controls on the industry. On 15 September 2020, the European Parliament voted to include greenhouse gas emissions from ships over 5,000 gross tonnes in its emissions trading system (EU ETS) by 2022.[394] Parliament adopted its position on the Commission's proposal to revise

[388] Along with the adoption of amendments to MARPOL Annex VI (resolution MEPC.203(62)), by Parties to MARPOL Annex VI.
[389] MEPC 75/7/15: 'Reduction of GHG Emissions from ships' (2020) *Fourth IMO GHG Study Final Report.*
[390] MEPC 76/1 Provisional Agenda.
[391] Applicable from the first annual, intermediate or renewal IAPP survey after 1 January 2023.
[392] Approved SEEMP needs to be kept onboard from1 January 2023.
[393] Safety4Sea, 'IMO adopts 'weak' CO2 intensity reduction measures despite criticism' (15 June 2021) https://safety4sea.com/imo-adopts-weak-co2-intensity-reduction-measures-despite-criticism/ accessed 15 September 2021; Fatima Bahtić, 'ICS proposes 1st global carbon levy to speed up industry decarbonisation' (Offshore Energy, 6 September 2021) https://www.offshore-energy.biz/ics-proposes-1st-global-carbon-levy-to-speed-up-industry-decarbonisation/ accessed 15 September 2021.
[394] European Parliament, 'Parliament says shipping industry must contribute to climate neutrality' (16 September 2020, Press Release) https://www.europarl.europa.eu/news/en/press-

the EU Regulation on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport (EU MRV Regulation).[395] The members of the European Parliament agreed that EU and IMO reporting obligations should be aligned, but that the IMO has made insufficient progress in reaching the global agreement on greenhouse gas emissions.[396] On 14 July 2021, the EU Commission proposed to amend the EU MRV Regulation to include shipping but with a phased approach to the requirement to purchase and surrender allowances over a four-year period.[397] Shipping companies will be required to implement systems to monitor and report their emissions, which must be approved by an administering authority. It is not suggested that new reporting systems will be introduced, but it is proposed that the MRV Regulation will be supplemented to ensure that all necessary data is captured.[398] Shipping companies will be required to surrender allowances (i.e. "carbon credits") in respect of their aggregated emissions for all applicable voyages at the end of each reporting period. The monies raised from selling carbon allowances to international shipping companies will be used to help the EU support its post Covid-19 recovery.[399]

The IMO's latest amendments to MARPOL Annex VI are also unlikely to appease other critics. In 2017, the British not-for-profit think-tank InfluenceMap published a report entitled 'Corporate capture of the UN IMO: How shipping lobbies to stay out of the Paris Agreement on climate'.[400] The report was scathing of the industry's influence over the IMO as a specialised UN Agency, stating that:

> '*The three main industry trade associations represented at the IMO are the International Chamber of Shipping, BIMCO and the World Shipping Council. They have lobbied to delay GHG emissions reduction measures for shipping until 2023 and rejected any binding greenhouse gas emissions targets. They have also collectively opposed ambitious energy efficiency standards and appear unsupportive of a price on carbon*'.[401]

They have also found that at the MEPC sessions, 31% of nations were represented in part by direct business interests. However, the methodology of the InfluenceMap report has been noted as 'questionable' and 'overly simplistic', painting a somewhat skewered picture of industry's support for tackling climate change.[402] The shipping associations were scored according to their support of c.limate change policy, energy efficiency regulations and carbon pricing policies. Data sources for measuring the 'level of support' was taken from the associations': 1) main websites and social media,

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room/20200910IPR86825/parliament-says-shipping-industry-must-contribute-to-climate-neutrality accessed 15 September 2021.

[395] Regulation (EU) 2015/757 of the European Parliament and of the Council of 29 April 2015 on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC.

[396] European Parliament, 'Parliament says shipping industry must contribute to climate neutrality' (n 189).

[397] Proposal for a Directive of The European Parliament and of The Council amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union, Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emission trading scheme and Regulation (EU) 2015/757 EU, COM(2021) 551 final.

[398] Ibid 2.

[399] Marcus Hand, 'EU extension of ETS to shipping will fund post-Covid recovery, warns ICS' (Seatrade Maritime News, 9 November 2021) https://www.seatrade-maritime.com/regulation/eu-extension-ets-shipping-will-fund-post-covid-recovery-warns-ics accessed 15 September 2021.

[400] InfluenceMap, 'Corporate Capture of the IMO: How shipping lobbies to stay out of the Paris Agreement on climate' (n 225).

[401] Ibid.

[402] See Harilaos N. Psaraftis & Christos A. Kontovas, 'Influence and transparency at the IMO: the name of the game' (n 17).

2) consultation documents and related evidence, 3) media reports, and 4) CEO messaging.[403] The report was rather quick to classify such data as 'actively not supporting' certain IMO policies, targets and regulations, therefore having 'marks deducted', without stipulating that there may be underlying reasons for these companies not making statements aligned with a commitment to the IMO. Therefore, if any company statement were to question the IMO strategies, EEDI, or EU ETS (fuel levying), then such statements are automatically computed by the software to be in 'negative' opposition. However, the report did perhaps point out that the shipping sector lags behind other sectors in terms of climate reporting and disclosure.

On the other hand, shipping interests have remained concerned over the financial and technical implications of decarbonising shipping. On the 11th of September 2019 at an ICS conference during London's International Shipping Week, the chair of the UK's Energy Transitions Commission (ETC) stated that a zero carbon emission target by 2050 would require freight rates to double. [404] He stated that, '[s]hipping is one of the most expensive sectors of the economy to decarbonise,' and will require additional revenue to finance the costs of cleaner and more expensive fuels, as well as related technology.[405] This statement was made pursuant to the ETC's report entitled 'Mission Possible: Reaching net-zero carbon emissions from harder-to-abate sectors by mid-century' which explored various decarbonisation strategies for sectors collectively representing 30% of all global emissions, including cement, steel, plastics, trucking, shipping and aviation.[406] The emission contribution of these sectors could increase to 60% by 2050 if other sectors meet their targets for lower emissions. The ETC Report came shortly after the Lloyds Register and University Maritime Advisory Services (UMAS) study which was conducted specifically for shipping. [407] The ETC's findings showed staggering costs. Even decarbonising new-builds with very low renewable energy electricity prices, is predicted to cost at least USD 150 per tonne and up to USD 300 resulting in significantly increased freight rates.[408] Although the ETC uses a predictive model and cannot account for all future market changes and renewable energy developments, its findings - along with the Lloyds and UMAS study – indicate that the low-carbon or zero-carbon shipping is perceived by industry stakeholders as impractically expensive.

The MEPC 76 amendments to MARPOL therefore bring their own set of challenges to shipowners who are already dealing with changing sulphur requirements. The ambiguity surrounding what any future standards will bring, also means that there are challenges in ordering new ships – particularly when it

[403] InfluenceMap, 'Corporate Capture of the IMO: How shipping lobbies to stay out of the Paris Agreement on climate' (n 225) 35-36.
[404] Paul Gunton, 'Could doubling freight rates hasten carbon-free shipping?' (ShipInsight 2019) https://shipinsight.com/articles/could-doubling-freight-rates-hasten-carbon-free-shipping accessed 15 September 2021.
[405] Ibid.
[406] ETC, 'Mission Possible: Reaching net-zero carbon emissions from harder-to-abate sectors by mid-century: Sectoral Focus –Shipping' (2019) 19 https://www.energy-transitions.org/publications/mission-possible/ accessed 15 September 2021.
[407] Lloyd's Register Group Limited and UMAS (2017) 'Zero-Emission Vessels 2030: How do we get there?', *Part of the Low Carbon Pathways 2050 Series*. These survey results indicated that shipowners did not desire vessel costs being increased by more than 10% due to zero-emission shipping. The study then analysed the capital cost increases for seven types of zero-emission technologies and more specifically, the capital cost increase per type of vessel in accordance with each technology.
[408] ETC, Sectoral Focus –Shipping (n 406) 19.

is unclear as to what fuel will comply with future regulations.[409] To avoid the problems associated with a proliferation of available technologies and a lack of scientific data, the IMO will have to tread carefully if it is to achieve its collaborative mandate. In this regard, the IMO can learn from the level of stakeholder engagement and consultation that it employed in respect of ballast water management – generally considered a success for IMO law-making. However, it must also be considered that decarbonisation forms part of a greater SD mandate. This mandate is set to enrol numerous state and non-state actors. The IMO cannot tackle all aspects of the green shipping conundrum alone.

2.3 Environmental Agenda of Industry Actors

The ambiguity surrounding decarbonisation standards, mounting government pressure, and new developments in the financial sector are seeing industry actors take a more hands-on approach to problem-solving for green issues in shipping. Chapter 3 of this thesis deals specifically with the legal aspects of financial incentives for shipping actors to align themselves with sustainability targets, report on energy efficiency, reduce emissions, and engage in environmental protection strategies. A notable discussion in Chapter 3 consists of the Poseidon Principles and other banking frameworks which are channelling investments to green shipping on the basis of energy efficiency, reporting on emissions, and strict environmental regulatory compliance. The banking sector therefore has a key role to play in driving sustainable shipping as it can choose the terms upon which to advance finance to shipping activities.

At the same time, the major shipping associations are realising that decarbonisation of the sector is going to require an unprecedented technological revolution in vessel propulsion. Fossil fuels will require a complete phasing out if the sector is to reach carbon neutrality. Eight international shipping associations, including BIMCO, CLIA, INTERCARGO, INTERFERRY, ICS, INTERTANKO, IPTA, and WCS, have proposed the establishment of an International Maritime Research and Development Board (IMRB), a non-governmental R&D organisation which would fall under the supervision of member states, namely the IMO's MEPC.[410] The co-sponsors of IMRB propose in their submission to the IMO that, 'core funding would be provided via a mandatory R&D contribution per tonne of fuel oil purchased for consumption which will be necessary to maintain an appropriate level of funding and to maintain fair competition between shipping companies'.[411] The proposed core funding would amount to approximately 5 billion dollars over the life of the programme to invest in R&D for identifying technical pathways that can lead to the introduction of zero-emission vessels. The proposal lays out the structure of the IMRB as operating under a Charter approved by the IMO.[412] The actual research would be conducted by qualified third-party research institutions and entities, who would be contractually constrained to specific deliverables and requirements (e.g. compliance with appropriate intellectual property principles).[413]

The IMO gave initial consideration to this proposal in November of 2020, with governments expressing concerns over the pressure that the contributions would put on the sector as well as organisation

[409] O'Melveny, 'Maritime Environmental Law Update (March 2020 Edition)' https://www.omm.com/resources/alerts-and-publications/alerts/maritime-environmental-law-update-march-2020-edition/ accessed 15 September 2021.
[410] 'Proposal to establish an International Maritime Research and Development Board (IMRB)' MEPC 75/7/xx (pre-session public release) 18 December 2019; 'Additional comments on proposal to establish an IMRB' MEPC 76/7/45.
[411] Ibid, *Executive summary* of IMRB Proposal.
[412] Ibid para 17.
[413] Ibid para 20.

structure of the IMRB.[414] A number of countries welcomed the plan, such as Greece and Japan, yet other countries such as China believe that the plan was 'under-developed' and Norway opined that this proposal should form part of the discussions for a next package of measures. The IMRB has now become part of the ongoing debates surrounding market-based measures (MBM). Critics of the EU's inclusion of shipping in its EU ETS have said that it will result in shipping being hit by too many measures, making a global MBM hard to achieve whilst adding the administrative burden of purchasing and surrendering carbon allowances.[415] The IMRB is thus joining the ranks of other controversial schemes aimed at decarbonising the sector. However, as an industry-led initiative, its value cannot be understated. Whilst other MBMs are being met with criticisms, the IMRB has the full backing of the major shipping associations which sponsored it.

The IMRB is also a major leap in terms of unifying shipping associations to tackle climate change in a practical and expeditious matter. The sponsors have called for implementation by 2023. Whilst governments are focusing on MBMs, it is clear that industry is concerned about paving out ways for new green technologies to meet the onslaught of changing and fragmented regulatory regimes. The IMRB proposal thus represents a new age of activism of industry players to contribute to accelerated efforts to tackle climate change, especially where the IMO is trying to balance state interests and receiving criticism for not taking meaningful decarbonisation action. It is clear that industry is on-board in respect of sustainability issues, however the way forward remains unclear. This thesis proposes that there are avenues for accelerating industry efforts through a deep consideration of the market transactions that shipping actors are involved in. Where actors decide to take additional steps to implement green behaviour, there is a proliferation of contractual tools which could drive such efforts in a way that *supplements* state-backed regulation or even *exceeds it* in terms of implementation and enforcement.

2.4 Conclusion

This Chapter has set out to provide both a theoretical justification for a contract governance approach to a green shipping solution – one that recognises the role of ***all*** actors in the law-making process yet justifies a focus on *private actor* ***transactions***. This Chapter has also elucidated the normative framework of this study. The IMO recognises the need for a pluralistic approach to the green transition and the achievement of an SD mandate. This includes areas of development where it can influence internal structures and industry actors, whilst acknowledging that it cannot regulate on everything necessary for green shipping (e.g. market transactions based on green decision-making) nor can it allocate funds to finance wide-scale green technology uptake. A *collaborative* environmental agenda should recognise the limits of the IMO, thus prompting efforts in private law-making to drive greener transactions. Despite its expanding mandate, it is important to bear in mind that the IMO is confined by its UNCLOS mandate to make international laws, establish best practices and provide policy guidance. An evolution of its vision and the expansion of its objectives cannot, practically speaking, be stretched too far. The IMO is limited by its own internal structure and place in the greater UN network of organs, as well as the voting powers exercised by its member states. An historical viewpoint has

[414] Lloyds List, 'Shipping's proposed $5bn research fund endures IMO scrutiny' (20 November 2020) https://lloydslist.maritimeintelligence.informa.com/LL1134783/Shippings-proposed-$5bn-research-fund-endures-IMO-scrutiny accessed 13 July 2021.
[415] Bunkerspot, 'Trade Terms' (February/March 2021) https://www.bunkerspot.com/features-environment/item/trade-terms accessed 7 March 2021.

illustrated, that the IMO is often at the mercy of political pressures which are not always aligned with practical environmental solutions.

At present, the IMO does not have the financial resources nor manpower to provide for a comprehensive incentive scheme for the rapid energy transition of the shipping industry. Its approach has always been one of a "stick as opposed to a carrot" as it must necessarily exercise its indirect prescriptive powers as an international regulatory body. In adopting the SD Agenda, the IMO is fully cognisant that it cannot exclusively handle the monumental task of addressing climate change factors from international shipping. It therefore calls for the enrolment of all actors in both regulatory and non-regulatory efforts. The 'new era' of the IMO's work therefore requires greater consultation and collaboration with all relevant stakeholders, states and industry players alike.[416] There is a strong call for *all actors* to take up the SD agenda whilst the public law mandate must be appreciated for its normative influence and not only its standard-setting prescriptive powers.

This Chapter has therefore served to illustrate the need for ***additional*** legal efforts within a private law context as part of an overall **synergistic solution** to green shipping. This thesis does not propose that private law mechanisms necessarily supersede the public regulatory regime in effectiveness. Rather, in accordance with the overarching theoretical framework, it views green shipping as requiring various forms of state-led ***and*** private regulation. Ensuing Chapters therefore view the market transactions which drive shipping against the backdrop of the IMO's work and historical processes. The efforts of private actors in shipping are therefore informed by a 'bigger picture' of the various sites of agency for the development of the law to achieve a green transition.[417] The IMO can assist in instilling values and fostering norms throughout the market as it has done previously in its historical standard-setting role. Now, the IMO has a more transformative role to play in creating a clear and accepted normative framework wherein private actors can exercise their autonomy in a manner aligned with a green mandate. The next three chapters of this thesis have therefore identified essential transactions where private actor agency can be exercised in such a manner: 1) loan agreements, 2) charter parties, and 3) dismantling and recycling contracts. These transactions are not devoid of political factors as they clearly operate within a global political and regulatory landscape,[418] but they also afford a level of ***private autonomy*** over green matters. These relationships signify a sphere of *private environmental governance* that requires green frameworks and legal tools for implementation and enforcement. The incentive and mandate to implement green solutions is clear, but a comprehensive package of **contractual** tools and the **modernisation of contractual norms** is necessary to facilitate and drive this process.

[416] Further discussion on the IMO's less traditional and non-regulatory efforts could expand this Chapter's inquiry into the role of the IMO; this includes assisting in the circulation of information, providing training, sharing expertise, and guiding research and development projects.
[417] Ritu Birla, 'Law as Economy: Convention, Corporation, Currency' (n 183).
[418] Section 1.1.5 of Chapter 1 of this thesis defines the 'international legal system'.

3. CHAPTER THREE: PRE-VOYAGE - GREEN FINANCE FOR SHIPPING

Obtaining **finance** is an essential first step for shipping companies or shipowners who order vessels from shipyards to provide fleet capacity. As the customers of shipyards, these actors need funds in order to re-finance their debts, sustain their working capital and acquire newbuilds or second-hand vessels. 'Ship finance' is therefore a broad term used to encapsulate these transactions which enable shipping companies to *access* necessary funds. Under normal capital budgeting approaches, different projects compete for funds; with conventional ships (i.e. those without green or energy efficiency technologies) competing with green ships - often with unproven and riskier technologies that are not considered cost-effective.[419] This poses an immense obstacle to green shipping which requires sizeable capital injections to meet strengthening environmental standards. According to a recent study conducted by the University Maritime Advisory Services (UMAS) and Energy Transitions Commission (ETC), it is estimated that a cumulative investment of approximately USD 1-1.4 trillion will be needed from 2030 – 2050 to halve shipping's carbon emissions by 2050.[420] This is roughly USD 50-70 billion annually for 20 years. If shipping were to aim for a zero-carbon emissions target by 2050, this would require an additional USD 400 billion over the 20-year period, bringing the total investment needed up to between USD 1.4-1.9 trillion dollars. The sector will therefore require *immense capital* injections from a number of sources to adopt and implement new technologies which can achieve these global targets. This Chapter analyses existing green finance schemes with the aim of enhancing their potential for advancing necessary capital to the maritime sector with the end goal of achieving greener practices. It views the role of financial regulators, state institutions and private financial institutions (i.e. banks) in creating an accessible system with streamlined financial products for shipowners which can effectively ***incentivise*** them to adopt greener practices.[421] Green financial instruments recognise that financial barriers can hinder participants' willingness to engage in sustainable practices or the uptake of green technologies, therefore incentive schemes to access necessary capital are crucial to shipping's green transition.[422] Targeted support is required to mobilise private finance to reduce the risks of green investments to the same levels as those faced by conventional investments.[423]

The *law* governing green finance for shipping is important in two respects: 1) the financial sector (particularly institutions involved in ship financing) requires a *clear legal framework* for governing the eligibility of actors for financial offerings; and 2) green finance arrangements will necessarily be facilitated by commercial actors through *private law mechanisms* - these must necessarily translate framework criteria into binding environmental obligations which limit financial risks and advance a

[419] Jasper Faber and others, *Technical Support for European Action to Reducing Greenhouse Gas Emissions from International Transport* (Oude Delft 180, 2611 HH Delft, The Netherlands 2009).
[420] Global Maritime Forum, 'The scale of investment needed to decarbonize international shipping' https://www.globalmaritimeforum.org/news/the-scale-of-investment-needed-to-decarbonize-international-shipping accessed 14 July 2021. See also ETC, 'Mission Possible: Reaching net-zero carbon emissions from harder-to-abate sectors by mid-century: Sectoral Focus –Shipping' (n 406); Lloyd's Register Group Limited and UMAS (2017) 'Zero-Emission Vessels 2030: How do we get there?' (n 407).
[421] A definition of 'incentivise' is provided in Section 1.3 of Chapter 1.
[422] G20 Green Finance Study Group, *G20 Green Finance Synthesis Report* (2016).
[423] World Economic Forum, 'Unlocking Private Finance' in *The Green Investment Report: The Ways and Means to Unlock Private Finance for Green Growth 2013* https://reports.weforum.org/green-investing-2013/ accessed 15 September 2021.

'green' convergence of objectives between lender and borrower (i.e. bank and shipowner).[424] Without the development of these structures and mechanisms, the purpose which green finance seeks to achieve and the benefits for all parties involved is somewhat diminished. This Chapter therefore argues for the ***development*** of a green financial framework that recognises the particular nature and regulatory requirements of ships as 'financial and technical assets that operate in an international and intra-jurisdictional framework'.[425] It discusses the increasing benefits of 'sustainable' or 'green' finance, whilst seeking to ***effectively implement*** green finance frameworks between parties to maximise both their **normative value** and provide **effective enforcement mechanisms** in commercial relationships.

At the outset, **Section 3.1** considers the current *frameworks* for green finance to elucidate the challenges of green finance taxonomies more generally. It also illustrates that the shipping sector is a very recent addition to such frameworks; whereby shipping is either yet to be included any significant detail or has been alluded to in a vague manner using non-specific criteria that fail to consider the unique technical concerns of green shipping technology.[426] The European Investment Bank's (EIB) Green Shipping Programme is used as an example of pioneering green-shipping products that are hindered by some of the teething problems posed by green financing more generally. This section also considers the diversification of private voluntary and certification standards which are helpful in the absence of any clear state-imposed frameworks yet require consistency and a common language.

Section 3.2 then looks to the implementation of a green financial framework for shipping, especially amongst private commercial actors who operate on the primary basis of profitability. Here, the question of *why* commercial lenders (i.e. private banks) should be interested in green finance is posed. In providing green incentives for shipping, these actors also require a set of incentives to promote green ideals and incorporate environmental factors into their decision-making processes. New business opportunities and a changing landscape in terms of Corporate Social Responsibility (CSR), Environmental and Social Governance (ESG) and an emerging eco-conscious investor base (Section 3.2.1), coupled with prudent environmental risk management (Section 3.2.2), are becoming increasingly important for banks.

Section 3.3 is more technical in assessing the ***contractual legal mechanisms*** which will achieve effective implementation of green frameworks. It deals with the contractual aspects of how financial institutions (state and non-state) can *incorporate* a set of green terms into their loan agreements to achieve a desired level of enforcement. These can range from a mere statement of converged environmental objectives, to a binding set of conditions affording extensive legal remedy. This Section looks specifically at ship finance loan agreements in terms of the integration of green principles (Section 3.3.1), remedies for aggrieved parties (Section 3.3.2) and considerations of how to achieve a desired level of enforcement based on individual objectives (Section 3.3.3). The classification of contractual terms and the legal remedies discussed in this section also provides an understanding for the contract law discussions in following Chapters, hence a classification of terms in English contract law will ***not*** require repetition in other transactional contexts.[427]

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[424] The overarching contract governance approach to this thesis justifies how contracts may be *governed* and how they can *govern* green finance efforts for a transnational commercial sector such as shipping. See Chapter 1.

[425] Ibid.

[426] See Pia Rebelo, 'Green Finance for a Sustainable Maritime Transport System: Developing a Universal Vernacular for Green Shipping' (2020) 34 (1) Australian and New Zealand Maritime Law Journal 15.

[427] I.e. chartering (Chapter 4) and sale of vessels for recycling (Chapter 5).

Finally, **Section 3.4** addresses shipbuilding contracts to a limited extent, but within the context of the vessel having received green finance within the scope of a green finance framework. Although not a major focus of this chapter, the greening of shipbuilding is necessary to paint a complete picture of the pre-voyage phase of a vessel's lifespan. The English law contractual tools will remain the same as those applied to loan agreements with a follow-through of the principles and obligations that permeate green finance frameworks into shipbuilding activities. This is in order to ensure compliance with the enabling green finance framework in question.

3.1 Green Taxonomies: A Key Tool for scaling up Green Finance

From a policy perspective, the IMO recognises governments, industry, the UNCTAD, and financial sectors as its partners in ensuring fair access to sound financing and to promote financial mechanisms to ensure regulatory compliance. This is aligned with the UN SDGs to endorse green finance as 'all the initiatives taken by private and public agents (e.g. businesses, banks, governments, international organizations, etc.) in developing, promoting, implementing and supporting projects with sustainable impacts through financial instruments'.[428] The United Nations Global Compact also recognises financial intermediation by banks as critical in creating a link between global capital and private financial solutions for the realisation of the SDGs. In its 2019 report, it states that 'private loans and bank credit facilities are critical for both listed and non-listed companies transitioning to clean energy or other environmentally sound practices'.[429] A major driving factor for states has been the G20 initiative of aligning financial systems with SD as co-chaired by the People's Republic of China and the United Kingdom.[430] A primary aim of the G20 Green Finance Study Group is to 'identify institutional and market barriers to green finance, and based on country experiences, develop options on how to enhance the ability of the financial system to mobilize private capital for green investment'.[431] In developing green financial markets, it was identified that a ***major obstacle*** for participants has been a lack of transparency and understanding as to what constitutes 'green'.

It was noted in 2016 that green finance generally lacks a set of cohesive principles and uniform understandings of scope. The 2016 G20 Green Finance Synthesis Report states that, '[i]n many countries and markets, the lack of clarity as to what constitutes green finance activities and products (such as green loans and green bonds) can be an obstacle for investors, companies and banks seeking to identify opportunities for green investing'. [432] Both the EIB and the People's Bank of China (PBoC)[433]

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[428] ITC, 'What is Green Finance?' http://www.intracen.org/What-is-green-finance/ accessed 15 September 2021.

[429] UN Global Compact, *Scaling SDG Finance for the Sustainable Development Goals: Foreign Direct Investment, financial intermediation and public-private partnerships* (Report 2019) https://www.unglobalcompact.org/library/5721 accessed 15 September 2021, 23.

[430] See G20 Green Finance Synthesis Report (UNEP July 2017) http://unepinquiry.org/wp-content/uploads/2017/07/2017_GFSG_Synthesis_Report_EN.pdf accessed 15 September 2021.

[431] Ibid.

[432] G20 Green Finance Study Group, *G20 Green Finance Synthesis Report* (n 422) 10.

[433] China Green Bond Endorsed Project Catalogue (2015 Edition, translated by ICMA) http://www.greenfinance.org.cn/displaynews.php?cid=79&id=468 accessed 15 September 2021. In respect of maritime activities, the Catalogue includes 'Waterway Transport' which is divided into subcategories including 'Waterway Regulation' and 'Vessel Purchase'. As Waterway Regulation is concerned with inland waterway dredging projects, commercial shipping is only directly referred to under 'vessel purchase'. Vessel purchase is: 'specific to the phase-out of old vessels, and purchase of standardized inland-waterway vessels, and vessels transport on costal water and ocean which fully meet the latest international guidance, agreements and standards'. MARPOL73/78 is also referred to in the adjacent explanatory notes. Therefore, it seems as though

have also identified the shortcomings with the language used in green financing globally.[434] A joint research report by the EIB and the Green Finance Committee of China Society for Finance and Banking, calls for a 'common language' for green finance as a 'lack of clarity as to what constitutes green finance activities prevents a univocal definition for the use of proceeds'.[435] Evidence was also presented illustrating that numerous and diversified taxonomies obstruct accountability and comparability.[436] Primary indicators for similar activities cannot be established and market participants cannot clarify whether a product is comparably aligned with policy objectives.[437] Both the OECD and the High-Level Expert Group on Sustainable Finance have stated that a lack of a common definition of 'green' is brought up frequently in investor surveys when asked to identify the main barriers to green investing.[438] It was found that a wide range of definitions can make selecting assets for green products difficult, hamper transparency and may even result in 'greenwashing'.[439]

The World Bank has recognised a green taxonomy as a key tool consisting of both strategic and technical dimensions. In 2020, it published its Guide for Developing a National Green Taxonomy to assist various jurisdictions in determining what activities and projects can be labelled as 'green'.[440] The World Bank suggests six key steps for a national green taxonomy: 1) identify a country's strategic goal; 2) select environmental objectives relevant to the country's SD priorities; 3) specify relevant sectors; 4) select specific investments; 5) identify intended taxonomy users and beneficiaries; and 6) outline reporting guidelines for actors.[441] The development of a green taxonomy should be done jointly by the financial sector regulatory authorities and other national authorities responsible for environmental protection and climate action. Technical input and expertise are required at an early stage from scientists, stakeholders, industrial corporates and financial service providers.

In order to provide a robust decision-making framework for green finance and to achieve the European Green Deal aimed at creating a circular economy and restoring biodiversity; the EU has established a classification system for sustainable activities known as its Taxonomy Regulation. The EU recognises that appropriate definitions are necessary for companies, investors and policymakers to participate in environmental sustainability as such working definitions 'create security for investors,

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shipping activities aligned with compliance with MARPOL 73/78 would be considered 'green' for the purposes of the bond catalogue. Arguably vague in respect of technology selection and eligibility.

[434] European Investment Bank & Green Finance Committee of China Society for Finance and Banking, *The need for a common language in Green Finance: Towards a standard-neutral taxonomy for the environmental use of proceeds* (White Paper Phase I Report 2017).

[435] Ibid 12.

[436] The report also drew a comparison between the Chinese standards of the Green Bond Catalogue, the MDB-IDFC standard, and the EIB standard and taxonomy. It was claimed that although the Chinese green bond catalogue is fairly consistent with the widely accepted Green Bond Principles of the International Capital Market Association, it is broader in scope than the MDB-IDFC and EIB standards and includes 'environmental protection' as opposed to a solely climate-change focus. At the same time, the MDB-IDFC standard includes a number of categories not included in the Chinese or EIB standard, whilst the EIB standard is extended to nuclear power activities not found in the Chinese or MDB-IDFC standard.

[437] Ibid.

[438] OECD, *Defining and Measuring Green Investments: Implications for Institutional Investors' Asset Allocations* (2012); *High-Level Expert Group on Sustainable Finance, Financing a sustainable European economy* (Interim Report 2017).

[439] Ibid. 'Greenwashing' is the process whereby false or misleading information is made public pertaining to the environmental performance or true sustainability of a product or business practice.

[440] World Bank Group, *Developing a National Green Taxonomy: A World Bank Guide* (June 2020) http://documents1.worldbank.org/curated/en/953011593410423487/pdf/Developing-a-National-Green-Taxonomy-A-World-Bank-Guide.pdf accessed 15 September 2021.

[441] Ibid.

protect private investors from greenwashing, help companies to plan the transition, mitigate market fragmentation and eventually help shift investments where they are most needed'.[442] The Taxonomy Regulation came into force on 12 July 2020 and will apply a Framework to Facilitate Sustainable Investment from 1 January 2022, at the earliest, that is intended to further clarify an EU-wide classification system in identifying environmentally sustainable economic activities and providing technical screening criteria.[443] In achieving necessary energy transitions, the EU recognises that a Taxonomy Criteria is a necessary tool to help plan and report the development of the regional economy in a manner consistent with its environmental objectives. The establishment and proposed text of a Taxonomy Regulation was agreed upon by the European Council and the European Parliament in 2019.[444] This is part of the European Commission's Action Plan on Financing Sustainable Growth envisions a unified classification system which will prevent fragmentation of different EU bodies and Member States, reorients capital flows to achieve sustainable and inclusive growth, and avoids 'greenwashing'.[445] Article 3 of the Taxonomy Regulation provides four overarching criteria for environmentally sustainable economic activities.[446] Determining the degree to which an investment is environmentally sustainable is measured according to whether the economic activity:

1) Contributes to one or more of the environmental objectives set out in Article 9 (in accordance with Articles 10 to 16);[447]
2) Does not significantly harm any of the environmental objectives (set out in Article 9 in accordance with Article 17);
3) Is carried out in compliance with the minimum safeguards (laid down in Article 18);[448] and
4) Complies with technical screening criteria that have been established by the Commission (in accordance with Article 10(3), 11(3), 12(2), 13(2), 14(2) or 15(2)).

Following the release of the EU's Action Plan, the Commission set up a Technical Working Group on Sustainable Finance (TEG) to assist in the development of the taxonomy which categorised environmentally sustainable activities. In its report, technical screening criteria is provided for 67 activities which are deemed to make substantial contributions to environmental sustainability.[449]

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[442] European Commission, 'What is the EU Taxonomy' https://ec.europa.eu/info/business-economy-euro/banking-and-finance/sustainable-finance/eu-taxonomy-sustainable-activities_en accessed 15 September 2021.

[443] Proposal for a Regulation of the European Parliament and of the Council on the establishment of a framework to facilitate sustainable investment COM/2018/353 final.

[444] Directive 2014/95/EU, under which companies have to publish information in respect of environmental protection, social responsibility and treatment of employees, respect for human rights, anti-corruption and bribery, diversity on company boards (in terms of age, gender, educational and professional background).

[445] The Action Plan also initiated an amendment to the Benchmarks Regulation on law carbon and positive carbon impact benchmarks (Regulation (EU) 2019/2089 of the European Parliament and of the Council of 27 November 2019).

[446] Regulation (EU) 2020/852.

[447] These are: (a) climate change mitigation; (b) climate change adaptation; (c) the sustainable use and protection of water and marine resources; (d) the transition to a circular economy; (e) pollution prevention and control; (f) the protection and restoration of biodiversity and ecosystems.

[448] The minimum 'shall be procedures implemented by an undertaking that is carrying out an economic activity to ensure the alignment with the OECD Guidelines for Multinational Enterprises and the UN Guiding Principles on Business and Human Rights, including the principles and rights set out in the eight fundamental conventions identified in the Declaration of the International Labour Organisation on Fundamental Principles and Rights at Work and the International Bill of Human Rights' (Article 18).

[449] EU Technical Expert Group on Sustainable Finance, *Taxonomy: Final report of the Technical Expert* (18 June 2019).

Unfortunately, maritime transport along with a few other sensitive activities were not included in the TEG's initial report, namely mining, glass manufacturing, paper and pulp manufacturing, aviation or maritime transport. This report has since been updated in March 2020 to include an updated Part F for a full list of technical screening criteria.[450] The TEG's final report is aimed at setting out its final recommendations to the European Commission regarding the overarching design of the Taxonomy, as well as guidance for users on Taxonomy disclosures.[451] The Taxonomy Regulation is to be supplemented by delegated acts, informed by the recommendations of the TEG, containing technical screening criteria which will be developed in two phases.[452] The first technical screening criteria will cover activities that contribute to climate change mitigation or adaptation.[453] A draft (the Draft Delegated Act) was published on 20 November 2020 and will be adopted as soon as possible after public consultation and feedback from relevant stakeholders. The second technical screening criteria will encompass activities aimed at the other four environmental objectives in Article 9, i.e. sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control and protection of healthy ecosystems. The second criteria will be adopted by the end of 2021 and will apply from the end of 2022.

The Draft Delegated Act, was published including the following documents:[454]

- A draft Delegated Regulation (15 pages)
- An annex for climate change mitigation objective (Annex I - 233 pages)
- An annex for climate change adaptation objective (Annex II - 281 pages)

Compared to the TEG's March 2020 report, the Draft includes further details on the classification of activities in manufacturing, energy, **transport,** and building sector.[455] Criteria and metrics have been developed for these activities, which now reach a total of 90 activities assessed for mitigation and 98 for adaptation, compared to a previous 70 and 69 respectively in the previous version. Maritime transport (including related infrastructure) has now been included in Annex 1 and Annex 2 for the below categories:

- Inland passenger water transport;
- Inland freight water transport;

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[450] Taxonomy Report, Technical Annex (March 2020) https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy-annexes_en.pdf accessed 15 September 2021.

[451] The Taxonomy regulation is to go hand in hand with the Disclosure Regulation, which together will require firms to disclose information pertaining to the degree of environmental sustainability of funds and products which are promoted as environmentally friendly, include disclaimers where they are not, and to require firms which are subject to the Non-Financial Reporting Directive (Directive 2013/34/EU as regards disclosure of non-financial and diversity information by certain large undertakings and groups, as amended).

[452] The EIB is the first issuer to have aligned its Climate Awareness Bonds and Sustainability Awareness Bonds with the EU Taxonomy in order to extend loan eligibilities in line with adapting legislation.

[453] For a summary of the process, see Herbert Smith Freehills, 'European Commission Consultation on Draft Delegated Regulation Supplementing the Taxonomy Regulation' (2021) https://sites-herbertsmithfreehills.vuturevx.com/20/24346/landing-pages/european-commission-consultation-on-draft-delegated-regulation-supplementing-the-taxonomy-regulation.pdf accessed 15 September 2021.

[454] Find these documents along with consultation feedback at European Commission https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC_WORKFLOW accessed 15 September 2021.

[455] Sub-categories have been created within existing sectors, as well as additional new sectors such as: 'Information & communication', 'Professional, scientific & technical activities', 'Financial & insurance activities', 'Education', 'Human health & social work activities', and 'Arts, entertainment & recreation'.

- Retrofitting of inland water passenger and freight transport;
- Sea and coastal freight water transport;
- Sea and coastal passenger water transport;
- Retrofitting of sea and coastal freight and passenger water transport; and
- Infrastructure for water transport.

For sea and coastal freight water transport, those activities listed for contributing to climate mitigation are those which comply with one or more of the following criteria:[456]

a) *'the vessels have zero direct (tailpipe) CO_2 emissions;*
b) *until 31 December 2025, hybrid vessels use at least 50 % of zero direct (tailpipe) CO_2 emission fuel mass or plug-in power for their normal operation;*
c) *until 31 December 2025, and only where it can be proved that the vessels are used exclusively for provision of coastal services designed to enable modal shift of freight currently transported by land to sea, the vessels have direct (tailpipe) CO2 emissions, calculated using the International Maritime Organization (IMO) Energy Efficiency Design Index (EEDI) 50 % lower than the average reference CO_2 emissions value defined for heavy duty vehicles (vehicle sub group 5-LH) in accordance with Article 11 of Regulation 2019/1242;*
d) *until 31 December 2025, the vessels have an attained Energy Efficiency Design Index (EEDI) value 10 % below the EEDI requirements applicable on 1 January 2022'.*

Furthermore, vessels dedicated to the transport of fossil fuels are excluded. This will effectively disincentivise investments in tonnage and infrastructure based on the transportation of fossil fuels and serves as a blanket disqualifier which has been criticised as 'problematic for the transitional period'.[457] This will be particularly challenging for fossil fuel types that have been advanced to meet the 2020 sulphur cap, and transitional fossil fuels (generally those with lower CO_2 emissions) coupled with carbon capture technologies, such as LNG fuel and carbon capture systems. As pointed out by the Norwegian government in its feedback:[458]

> '*Norway welcomes the inclusion of sea and coastal transport activities in the annexes to the draft regulation. However, a too narrow definition of what is considered a dedicated vessel for the transportation of fossil fuels, could potentially provide disincentives to a green transition in the sector. We see the need for the Commission to clarify some aspects of the draft technical screening criteria, including how to interpret the criterion of vessels not being "dedicated to the transport of fossil fuels" and the criterion for hybrid vessels*.'

The EU Taxonomy Regulation's inclusion of commercial shipping and accompanying technical screening criteria are a welcome development for driving green finance in the sector. It will also enhance participant's access to green financial products and drive technological developments towards carbon neutrality. These frameworks are also important for a clear set of legal obligations and requirements for participants. However, as pointed out by the Norwegian government, too many

[456] Annex 1 at 188 – 189.
[457] Hellenic Shipping News, 'The EU Taxonomy for Sustainable Investments – Transport' (12 February 2021) https://www.hellenicshippingnews.com/the-eu-taxonomy-for-sustainable-investments-transport/ accessed 15 September 2021.
[458] Norwegian Government, Ministry of Finance, 'Taxonomy – Norway's response to the consultation on the draft delegated regulation' (17 December 2020) https://www.regjerinen.no/contentassets/ffd845da24fd4dfbb0806af5dd5ef2d4/taxonomy_norways_comments.pdf accessed 15 September 2021.

stringent parameters and overly comprehensive criteria may result in the counter-productive result of limiting access to green finance.[459]

In contrast to a stringent quantitative approach, the UK seems likely to adopt a more qualitative approach within its forthcoming green finance taxonomy. In November 2020, the UK Government announced that following its departure from the EU, it will implement its own green taxonomy for determining environmentally sustainable activities.[460] The Green Technical Advisory Group (GTAG), comprising of financial and business stakeholders, taxonomy and data experts, academic subject matter experts, NGOs, the Environment Agency, the Committee on Climate Change, and chaired by the Green Finance Institute, has been appointed as the independent expert group to deliver the Green Taxonomy.[461] The minutes of the GTAG's first meeting on 23 June 2021 reflect that a key issue is the 'need for the taxonomy to be applied in a way that is decision-useful and easy to apply for investors as well as real economy actors'.[462] It realises that there may be a divergence from the EU Taxonomy, but this is necessary to address UK-specific needs. Although, this does not say much about the metrics or methods employed to determine eligible projects and little information is available as of yet.

The UK's green finance taxonomy forms part of a comprehensive package of measures set out in the Green Finance Strategy of 2019, which aims to align private sector flows with environmentally sustainable and resilient growth.[463] The Strategy comprises three chapters - 'Chapter 1: Greening Finance'; 'Chapter 2: Financing Green', and 'Chapter 3: Capturing the Opportunity'. The first chapter focuses on readying the markets and integrating climate and environmental factors into mainstream financial decision-making. The second chapter aims to accelerate finance towards delivering on low carbon targets within the UK and internationally. Finally, the third chapter concentrates on seizing opportunities arising from green finance, including data analytics and new financial products and services. This Strategy was informed by the previous Treasury Committee's inquiry into the decarbonisation of the UK economy and green finance in June 2019 wherein it received evidence on its terms of reference, including: 'the potential economic opportunity offered by decarbonisation, the Treasury's strategy in facilitating clean growth and its response to the Climate Change Committee's net-zero recommendation, and green finance'.[464]

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[459] Critics of the EU Taxonomy have also said that it reinforces ideas that 'niche is not mainstream', it encourages laziness and doing the bare minimum to achieve labelling, and that it inflates a green asset bubble. The scientific competence of the TEG has also been called into question. See Ben Caldecott, 'Encourages laziness and disincentives ambition' (*Responsible Investor*, 14 June 2019) https://www.responsible-investor.com/articles/encourages-laziness-and-disincentives-ambition-ben-caldecott-shares-his-tho accessed 15 September 2021.

[460] HM Treasury, 'Chancellor sets out ambition for future of UK financial services' (9 November 2020) https://www.gov.uk/government/news/chancellor-sets-out-ambition-for-future-of-uk-financial-services accessed 27 August 2021 accessed 15 September 2021.

[461] HM Treasury, 'New independent group to help tackle 'greenwashing'' (9 June 2021) https://www.gov.uk/government/news/new-independent-group-to-help-tackle-greenwashing accessed 15 September 2021.

[462] Green Technical Advisory Group (GTAG) Meeting Notes, Meeting 1: 23rd June 2021 https://www.greenfinanceinstitute.co.uk/wp-content/uploads/2021/08/GTAG-Meeting-1_Public-minutes_23rd-June-2021.pdf accessed 15 September 2021.

[463] HM Government, *Green Finance Strategy Transforming Finance for a Greener Future* (July 2019).

[464] Treasury Select Committee, 'Committee launch inquiry into decarbonisation of the UK economy' https://old.parliament.uk/business/committees/committees-a-z/commons-select/treasury-committee/news-parliament-2017/decarbonisation-uk-economy-launch-17-19/ accessed 15 September 2021.

8 Treasury Select Committee, 'Decarbonisation of the UK economy and Green Finance terms of reference', https://old.parliament.uk/business/committees/committees-a-z/commons-select/treasury-

Apart from establishing a green finance taxonomy, the 2019 Green Finance Strategy also set out its expectation that all listed companies and large asset holders disclose in line with Task Force on Climate-related Financial Disclosures (TCFD) recommendations by 2022.[465] In ascertaining how to approach disclosure and mandatory reporting effectively, the TCFD launched two consultations with the UK Financial Conduct Authority (FCA) on 22 June 2021. The two consultations focus on: 1) introducing climate-related financial disclosure rules and guidance for asset managers, life insurers, and FCA-regulated pension providers; and 2) extending the application of its climate-related disclosure requirements to issuers of standard listed equity shares whilst seeking views on ESG in the capital markets.[466] On 19 July 2021, the FCA also published its 'anti-greenwashing principles for the 'design, delivery and disclosure of ESG and sustainable investment funds'.[467] All of these developments are very likely to inform the UK's green finance taxonomy to achieve the aims of the 2019 Green Finance Strategy. Green project selection within the taxonomy may also be strongly aligned with the UK Government Green Financing Framework 2021 that sets out how government intends to finance expenditures through the issuance of green gilts and the retail Green Savings Bonds.[468] The first green gilt is to be issued in September 2021.[469] This Framework for the identification, selection, verification and reporting of projects eligible for government support was developed in accordance with the Green Bond Principles of the ICMA. The framework therefore relies on a number of 'green' categories of projects fulfilling taxonomy objectives and UN SDGs. The HM Treasury will chair an Inter-departmental Green Bond Board that is to prepare an initial list of potential Eligible Green Expenditures by consulting with departments and reviewing the allocation of expenditure on an annual basis. The flexibility in this approach to government expenditure is indicative that the UK's green finance framework may afford a more qualitative identification of eligible green finance projects for the private sector, however, much work is yet to be done and there remains little indication of what metrics or system the taxonomy may utilise. Even less is certain about channelling funds directly to international green shipping, yet clean transportation and the achievement of zero emissions is high priority with the UK setting even more ambitious targets to reduce emissions 'by the fastest rate of any major economy'.[470]

A certain flexibility in project selection is undeniably more business-friendly as critics of the EU Taxonomy are quick to point out that hard and fast binary 'green'/'not green' assessments do not reflect reality.[471] The UK will have to be careful to not lock users out of the system nor deter acceptance through cumbersome red tape. Prior to the development of the EU Taxonomy Regulation

committee/inquiries1/parliament-2017/decarbonisation-of-uk-economy-and-green-finance-17-19/ accessed 15 September.

[465] HM Government, *Green Finance Strategy* (n 463).

[466] CP21/17: Enhancing climate-related disclosures by asset managers, life insurers and FCA-regulated pension providers; and CP21/18: Enhancing climate-related disclosures by standard listed companies.

[467] FCA, 'Guiding principles on design, delivery and disclosure of ESG and sustainable investment funds' https://www.fca.org.uk/news/news-stories/guiding-principles-on-design-delivery-disclosure-esg-sustainable-investment-funds accessed 15 September 2021.

[468] HM Treasury, *UK Government Green Financing Framework* (June 2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1002578/20210630_UK_Government_Green_Financing_Framework.pdf accessed 15 September 2021.

[469] HM Treasury, *Budget 2021* (March 2021) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966868/BUDGET_2021_-_web.pdf accessed 15 September 2021.

[470] HM Government, 'UK sets ambitious new climate target ahead of UN Summit' https://www.gov.uk/government/news/uk-sets-ambitious-new-climate-target-ahead-of-un-summit accessed 15 September 2021.

[471] Ben Caldecott, 'Encourages laziness and disincentives ambition' (n 459).

and its accompanying technical screening criteria, the EIB implemented a sectoral specific green financing scheme for shipping in recognition of the fact that shipowners are limited to traditional financing structures to meet increasing regulatory demands. However, as illustrated by the following section, criticisms of the EIB reveal that too much bureaucracy and red tape can stifle access to funds and can ultimately hinder innovation. The programmes have also met some challenges regarding a lack of precise and clear definitions for eligible green shipping projects. This ultimately results in commercial uncertainty and a lack of clear guidance in setting out borrower obligations and duties in relation to the allocated funds. The shortcomings of the EIB's programmes, along with its pioneering examples of accelerating funds to green shipping, can serve as an illustrative example for private banks on how to implement frameworks or design shipping-specific products that are clearly communicated and user-friendly.

3.1.1 EIB green shipping programme

The practical realities of trying to place shipping within a larger legal and policy matrix in order to determine the green eligibility of transportation projects is no easy task where no framework or taxonomy guidance is given. By way of example, the EIB's Green Shipping programme which has provided targeted financial products for the retrofitting of vessels illustrates the complexity of determining green shipping activities.

In respect of green shipping, the EIB finances projects in three ways: [472]

1) Under its traditional lending programme with large shipping corporates
2) Under the umbrella of the European Fund for Strategic Investments (EFSI): Green Shipping Loan Programme
3) Under the umbrella of the Connecting Europe Facility (CEF): new financial instruments to further support Green Shipping investments, including the Green Shipping Guarantee Programme (GSGP)

Although such instruments are helpful in directing funds specifically to green shipping projects, they are yet to be aligned with the overarching Taxonomy Regulation and presently fall within the ambit of general EIB governing legislation and the EU transport policy matrix.[473] The scope of shipping projects eligible for finance therefore requires some analysis - a difficult task for shipowners requiring expedient access to funds. There are also multiple challenges for translating overlapping policy objectives into contractual clauses for a clear allocation of obligations to be imposed on eligible shipowners and projects.

As a starting point, the EIB introduced a set of proforma contract terms in 2014 which provide template clauses for their green financing and financial support agreements. These include the following obligations and undertakings, to: (i) implement and operate the project in compliance with Environmental Law, (ii) obtain and maintain requisite Environmental Approvals for the project, and

[472]The EIB, together with Dutch Bank, ING, signed an agreement to provide monetary support for a number of green projects in the European shipping market; see EIB, 'Netherlands: ING and EIB provide EUR 300m to finance green shipping' (2018) https://www.eib.org/en/press/all/2018-036-ing-and-eib-provide-eur-300m-to-finance-green-shipping accessed 15 September 2021.

[473] The ambiguity surrounding green frameworks and objectives also has bearing on a normative system for 'greening' the private law. Where states, regions, and the IMO fail to set clear normative directions for the maritime sector, it becomes harder to integrate green contractual mechanisms into contracts. Chapter 4 discusses the need for a cohesive green framework to underpin contract law more generally and specifically contracts of carriage.

(iii) comply with any such Environmental Approvals.[474] The environmental standard imposed on borrowers is therefore one of applicable national and EU law, including principles and standards, national laws and regulations, and applicable international treaties – all 'of which a principal objective is the preservation, protection or improvement of the Environment'.[475] The next question is how this EU legal framework applies to the EIB's green shipping schemes.

In this respect, it is important to note that the EIB is an institution which furthers the objectives of the EU and is constrained by its own legislation which gives it its competence to grant loans.[476] EIB Investments should 'be carried out in the territories of Member States' and 'to the extent that funds are not available from other sources on reasonable terms'.[477] The criterion of 'reasonable terms' is a matter of policy and commercial consideration.[478] This is informed by the EIB Transport Lending Policy 2011, which sets out lending policy and selection criteria.[479]

In terms of the EIB Transport Lending Policy, the EIB applies general operational criteria to maritime transport,[480] which states that 'Lending for inland waterway, port, logistics and maritime projects are also prioritised in support of sustainable transport solutions'.[481] The EIB Transport Lending Policy stipulates that EU transport policy is currently articulated primarily through the 2011 Transport White Paper, which envisions a maritime 'blue belt' and market access to ports in terms of shipping activities. Shipping is discussed in relation to easing encumbrances on maritime transport within the Union, which does little to classify maritime projects in alignment with EU sustainability objectives. However, it does recognise the need for a regulatory framework for technology innovation and deployment which standardises and regulates 'appropriate standards for CO_2 emissions of vehicles in all modes'.[482]

The EIB Transport Lending Policy also outlines a commitment to the Trans-European Transport Network (TEN-T)[483]; which is committed to a gradual incorporation of climate change considerations in all its transport and related activities.[484] The TEN-T policy focuses on the development of two main transport pillars: the 'Motorways of the Sea' (MoS), and the European Railway Transport Management

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[474] Clause 1(a) of 'EIB template contractual clauses on environmental matters' (2014) https://www.eib.org/attachments/documents/eib_standard_contractual_clauses_on_environmental_information_en.pdf accessed 15 September 2021.
[475] Ibid, Clause 1(g).
[476] Article 16 of the Consolidated version of the Treaty on the Functioning of the European Union Protocol (No 5) on The Statute Of The European Investment Bank OJ C 202, 7.6.2016, p. 251–264 (EIB Statute), read in conjunction with art 309 of the Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union (TFEU) [2016] OJ C202/1; Article 18(1) also restricts these competencies.
[477] Art 16, EIB Statute. This adds two important requirements, centred on two concepts: 'territories' and 'reasonable terms'.
[478] See Jason Chuah, 'Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes' (n 78); and EU Parliament and Council in a Decision No 1080/2011/EU of the European Parliament and of the Council of 25 October 2011 which specifically states the competency of the EU to finance projects outside the Union (in particular Recital 8).
[479] EIB, *EIB Transport Lending Policy* (13 December 2011) https://www.eib.org/attachments/strategies/transport_lending_policy_en.pdf accessed 15 September 2021.
[480] Ibid 4: 'In aggregate, the implication of the prioritisation outlined above, and the guiding principles implies the following operational selection criteria for each mode/activity'.
[481] Ibid.
[482] Ibid, Initiative 26 of *EIB Transport Lending Policy* (n 479).
[483] European Commission, *The TEN-T project* (2013) https://ec.europa.eu/inea/en/ten-t/ten-t-projects accessed 15 September 2021 ; based on Regulation (EU) No 1315/2013 of the European Parliament and of the Council of 11 December 2013 on Union guidelines for the development of the trans-European transport network and repealing Decision No 661/2010/EU Text with EEA relevance
[484] EIB, *EIB Transport Lending Policy* (n 479) 3.

System.[485] The MoS initiative is undoubtedly more relevant to the EIB's advancement of funds 'on reasonable' terms to maritime projects under the Connecting Europe Facility. The MoS consists of 'short-sea routes, ports, ports, associated maritime infrastructures, equipment, facilities and relevant administrative formalities'.[486] The primary aim of the MoS it to accomplish a 'European Maritime Transport Space without barriers, connecting Core Network Corridors by integrating maritime links with hinterland'.[487] Although clean shipping and CO_2 reductions are considered integral to the MoS concept, [488] the ultimate priority is one of development and infrastructure to facilitate economic growth. The 2013 TEN-T Guidelines define MoS projects as: a) maritime links between ports; b) port facilities, freight terminals and logistic platforms; and c) infrastructure for land and sea access.[489] This stands in seeming contrast to the purported environmental objectives of MoS as advertised on the relevant EU MoS official website.[490]

Article 32 of the TEN-T Guidelines refers to 'Sustainable Freight Transport Services', where the environmental aspect of sustainability envisions 'reducing carbon dioxide emissions and other negative environmental impacts'.[491] However, the core inclusions of MoS, as seen above, are entirely development focused whilst, '[p]rojects of common interest for motorways of the sea *may also include* […] activities for improving environmental performance' (emphasis added),[492] without being a necessary objective. 'Projects of common interest' are those which either establish maritime-based MoS links or elaborate on 'wider benefit actions'.

If the EIB were to be guided by the TEN-T Guidelines for green shipping projects, particularly considering the objective of MoS, it remains somewhat ambiguous how strong a commitment there is to green shipping with the only guidance for project eligibility being underpinned by a purported focus on the 'promotion of alternative fuels and energy-efficient maritime transport, including LNG'.[493] This hardly provides much in the way of comparison as to what 'green' versus 'less green' shipping activities look like. Furthermore, MoS is majorly concerned with activities which overcome transport congestion and such activities require a link to EU ports or infrastructure. This excludes many smaller maritime activities which are not involved in large-scale port and infrastructure activities.[494] Actors exclusively involved in oceanic shipping might also be excluded from a MoS policy interpretation if not connected to port development or infrastructure.

Although not explicitly stated in any policy document, the types of projects eligible for EIB green shipping schemes is best evidenced by projects which have received funding under the Green Shipping Guarantee Programme,[495] these include LNG newbuilds, scrubber retrofitting, research and

[485] European coordinators were appointed to lead the harmonised realisation of these projects for which work plans were drawn up in 2015. These plans are to be updated regularly to account for progress, with the next major review to take place in 2023.
[486] European Commission, *Motorways of the Sea* https://ec.europa.eu/transport/themes/infrastructure/motorways-sea_en accessed 15 September 2021 ('MoS website').
[487] Ibid.
[488] Ibid.
[489] Regulation (EU) No 1315/2013.
[490] MoS website (note 484).
[491] Regulation (EU) No 1315/2013, Article 32.
[492] Ibid, Article 21(3).
[493] Ibid, Article 23(d).
[494] For a further analysis of the MoS eligibility criteria see Jason Chuah, 'Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes' (n 78) 143.
[495] Ibid 143-144.

development projects, ballast water management systems, and hull design.[496] It would be hard to place ballast water management within the MoS policy context as this particularly deals with environmental protection as opposed to CO_2 emissions in the context of climate change. Some policy or regulatory guidance on the eligibility for projects would go a long way in assisting users and encouraging investors.

The matrix of governing EU environmental law, EIB governing law, and EU transport policies has led to criticisms of the EIB's green shipping schemes as being 'too demanding' on users; [497] whilst additionally requiring that shipowners/promoters are already well-established with significant experience and necessary competences.[498] Furthermore, the administrative complexity of the programmes, would mean that many shipowners are ineligible for EIB support.[499] Including green shipping activities within the Taxonomy Regulation will therefore provide much needed clarity on which projects are eligible, without having to interpret overlapping laws and policy. The EIB Green Shipping Finance Facility is therefore a pioneering effort to assist the industry that can be learned from – the ***main lesson*** highlighting the need for implementation of the Taxonomy Regulation and its delegated shipping-specific technical criteria.

3.1.2 Voluntary Frameworks for Green Shipping Finance

To fulfil some of the gaps created by taxonomy diversification or the underdevelopment thereof, private banking initiatives have emerged to largely assess green activities from an environmental risk assessment perspective. A prominent early example is the Equator Principles, which initiated a framework for determining, assessing and managing environmental and social risk in projects and have established minimum standards for due diligence and monitoring to support sustainable risk decision-making.[500] Subsequently, the Loan Market Association's Green Loan Principles and the Sustainability Linked Loan Principles have also advanced the concept of green financing globally.[501] Hapag-Lloyd recently relied on the LMA's Green Loan Principles for acquiring a USD 417 million syndicated green loan with a 12-year maturity, to finance three of six 23,500 TEU containerships, with the remaining three vessels financed by a lease financing agreement.[502] Both of these debt transactions fulfil the Green Loan Principles of the LMA, illustrating that voluntary green frameworks are already being used by shipping actors to access capital.[503]

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[496] More specifically, these projects include the following: 'Honfleur' (LNG) dual fuel powered ferry; the Finnlines environmental retrofit of scrubbers on 22 RoRo & RoPax vessels and propulsion and hull efficiency measures on 11 vessels; Fincantieri RDI investment plan for research and development in technological solutions and design optimisation; and more recently, the Spliethoff Shipping Retrofit project comprising the retrofitting of scrubbers and ballast water management systems to 42 Multi-purpose, Heavy Lift and RoRo vessels of the Promoter's fleet.

[497] Monitor Deloitte, *EU Shipping Competitiveness Study: International benchmark analysis*, (Study commissioned by the European Community Shipowners' Associations, February 2017).

[498] Ibid 46.

[499] Ibid; Other criticisms include that the EIB Transport Lending Policy focuses heavily on supporting inland water transport, ports and logistics, whilst only providing funding to vessels flying an EU state flag.

[500] Equator Principles, https://equator-principles.com/ accessed 15 September 2021.

[501] Loan Market Association, 'About Us' https://www.lma.eu.com/about-us accessed 15 September 2015.

[502] Marc Allen, 'DNV supports Hapag-Lloyd's milestone green financing' (Maritime Direct, 4 March 2021) https://maritime.direct/en/2021/03/04/dnv-supports-hapag-lloyds-milestone-green-financing/?utm_source=rss&utm_medium=rss&utm_campaign=dnv-supports-hapag-lloyds-milestone-green-financing accessed 15 September 2021.

[503] DNV GL acted as the independent expert in order to provide second party opinion for verification under the terms of the green financing. According to Hapag, the new vessels ordered in December 2020 are extremely

In mobilising the immense capital required for the realisation of the SDGs, other major frameworks or guiding principles from various initiatives have emerged. In 2015, the Common Principles for Climate Change Adaptation Finance Tracking were developed by a group of Multilateral Development Banks (MDBs)[504] and the International Finance Development Finance Club (IDFC), to work towards an improved and harmonised set of working definitions, understandings, and principles for climate change adaptation finance tracking.[505] The Common Principles guidelines provide lists of activities and details on quality control procedures which are to be prioritised by each institution, without covering aspects of implementation.[506] The guidelines provide a list of activities eligible for classification as 'climate mitigation finance' - these are broadly defined as those activities which promote 'efforts to reduce or limit GHG emissions or enhance GHG sequestration'.[507] Transport features on this list of eligible activities, yet it seems that urban transport modal change, transport oriented urban development, and inter-urban transport are the only further sub-categories. Shipping may be placed within those activities categorised as 'energy-efficiency', in particular under the subcategory of 'vehicle energy efficiency fleet retrofit' which refers to '[e]xisting vehicles, rail or boat fleet retrofit or replacement (including the use of lower-carbon fuels, electric or hydrogen technologies, etc.)'.[508] This is not particularly helpful in addressing the broad range of environmental impacts from shipping *in addition* to the emission of greenhouse gases. In any event, ocean-going vessels do not seem to be targeted as a form of transport.

The International Capital Market Association (ICMA) has published a Handbook on Harmonized Framework for Impact Reporting which is specific to its Green Bond Principles.[509] The Handbook recognises that 'by explicitly specifying the environmentally beneficial projects to which the bond proceeds are allocated, Green Bonds allow investors to assess and allocate capital to environmentally sustainable investments'.[510] The Handbook purports to harmonise the MDBs - IDFC Common Principles (above) and successive frameworks for Green Bonds, with the objective of enhancing the usability of the initial documents and to avoid repetitions. Once again, it requires some investigation as to whether maritime activities are considered by the guidelines as eligible projects. Clean Transportation activities are directed by an 'Avoid-Shift-Improve (ASI)' method that envisions avoiding the need to travel or reducing the length of travel, moving people or freight to a more sustainable and less polluting means of transportation, and reducing the emissions (both GHG and local pollutants) of vehicles or the transport system, respectively. The Handbook goes further than the MDBs - IDFC

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fuel efficient, containing high-pressure dual-fuel engines that can provide a 15 – 25% reduction in CO2 emissions.

[504] Consisting of the African Development Bank (AfDB); the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD); the European Investment Bank (EIB); the Inter-American Development Bank (IDB); and the International Finance Corporation (IFC) and World Bank (IDA/IBRD) from the World Bank Group (WBG).

[505] Mainstreaming Climate Action within Financial Institutions Emerging Practices https://www.mainstreamingclimate.org/wp-content/uploads/2017/03/fi_mainstreaming_epp_en-1.pdf accessed 15 September 2021.

[506] Common Principles for Climate Mitigation Finance Tracking (Version 2 – 15th June 2015) https://www.eib.org/attachments/documents/mdb_idfc_mitigation_common_principles_en.pdf accessed 15 September 2021.

[507] Ibid.

[508] Ibid.

[509] ICMA, *Handbook Harmonized Framework for Impact Reporting* (April 2020) https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/Handbook-Harmonized-Framework-for-Impact-Reporting-220520.pdf accessed 15 July 2021.

[510] Ibid 4; the ICMA has published the Green Bond Principles (GBP), along with its Social Bond Principles (SBP) and the Sustainability Bond Guidelines (SBG).

Common Principles in recognising that an indicator of clean transportation can also be a 'reduction of air pollutants: particulate matter, sulphur oxides, nitrogen oxides, carbon monoxide (CO), and non-methane volatile organic compounds (NMVOCs)'. It also recognises benchmark standards for Clean Transport, including MARPOL by way of example as well as the EURO VI Standard and World Health Organisation (WHO) guidelines for particulate matter concentration. Therefore, shipping is covered by the category of clean transportation insofar as pollution reduction is concerned, however the 'other sustainability indicators' do not provide much in the way of specifics and seem predominantly land focused.

The Climate Bonds Initiative (CBI) certification standard provides standards and guidance to its programme members as well as banks, non-governmental organizations, other stakeholders and government bodies.[511] In addition to working on market intelligence and the dissemination of information and data, its core work is focused on developing a trusted standard and providing policy models and advice. Its trusted standard has been the development of a Climate Bonds Taxonomy which clearly defines what projects are climate aligned and will drive a low carbon economy. The CBI uses a traffic light system for projects included in its taxonomy; namely 'green light' (meaning automatically compatible), 'orange light' (meaning compatible if compliant with a screening indicator), or 'red light' (not compatible).

Due to the 2020 sulphur cap and IMO targets for carbon reduction, the CBI announced early in 2019 that its Shipping Technical Working Group (TWG) and Industry Working Group (IWG) would develop a framework criterion for shipping investments. The Shipping Criteria form part of the Climate Bonds Standard and provide concise decision rules for determining the compatibility of shipping projects and assets with a low carbon, climate resilient economy, and are therefore eligible for certification under the Climate Bonds Standard. The TWG and IWG received input from a number of representatives from 'academia, civil society, ship owners, operators, investors and international policy bodies from around the world'.[512] The CBI Shipping Criteria can also be used to certify related infrastructure that is dedicated to recharging and refuelling zero emissions (e.g. charging stations and fuel bunkering for eligible fuels). The CBI includes the following table of activities in its Shipping Criteria Document.

Assets	Example Use of Proceeds	Mit.	Adapt.
Ships above 5,000 GT for which data is collected under the EU MRV[513] and/or IMO DCS data collection regimes.[514]	Ships classified as Bulk Carriers, Chemical Tankers, Containers, General Cargo, Ferry-pax only, Cruise, Ferry-RoPax, Refrigerated Bulk, Ro-Ro and Vehicle, and are not in the list of excluded assets in Table 2 below.		
Ships below 5,000 GT **if zero emissions.**	Zero emissions ships which are propelled and powered by batteries, or zero-emissions fuels and are not in the list of excluded assets in Table 2 below.[515]		
Infrastructure that is dedicated to refuelling or	Charging stations and refuelling assets that are dedicated for storing and delivering chemical or		

[511] See CBI Climate Bonds Taxonomy (October 2021) https://www.climatebonds.net/ accessed 15 September 2021.
[512] CBI, *Shipping* (2020) https://www.climatebonds.net/standard/shipping accessed 15 September 2021.
[513] The EU MRV data regime is available for voyages that include ports within EU member states.
[514] The IMO DCS data regime for ships performing international voyages.
[515] These fuels are listed in "Managed Reduction Plan" guidance on page 9 of the Shipping Criteria Document.

recharging zero emissions ships	electric energy to power and propel ships, consistent with the definition of zero-emissions fuels.		

(Source: climatebonds.net)[516]

Also, in the context of shipping, a major banking initiative has been the Poseidon Principles which began work in November of 2017 and completed a set of Principles by February 2019. A group of banks led by Citi, Société Générale and Danske Bank, across a series of workshops, noted the pivotal enabling role that financing plays for the shipping sector and therefore decided on a framework to integrate climate considerations into lending decisions with the objective of achieving decarbonisation in the industry.[517]

The Poseidon Principles is aimed at aligning the shipping industry with the IMO 2050 Strategy through requiring signatories to assess the sustainability of vessels within their shipping portfolios using an annual efficiency ratio of grams of CO_2 per ton-mile. Signatories will commit to disclosure requirements on whether their shipping portfolios are aligned with the Poseidon Principles, meaning that 'bank liquidity will be prioritised for those clients supporting IMO target levels'.[518] A commitment to elevating the Poseidon Principles beyond mere aspirational goals will require the gradual implementation of contractually enforceable obligations with all the consequences that follow from a breach of agreement. Currently, compliance with the Poseidon Principles is to be incorporated into contractual agreements between signatories, clients and partners, through standardised covenant clauses (SCC) which will be continuously updated in the annual review process. [519]

Although the Poseidon Principles does not specifically define a set of 'green shipping activities', it uses a carbon efficiency metric which measures 'Climate alignment' being the 'degree to which a vessel, product, or portfolio's carbon intensity is in line with a decarbonisation trajectory that meets the IMO ambition of reducing total annual GHG emissions by at least 50% by 2050 based on 2008 levels'.[520] This tool could perhaps advance a comparability system which is more effective than merely listing certain activities, although detailed technical guidance on each activity could achieve the same level of comparability.

The enforceability of green principles in finance agreements has wider relevance as private environmental governance is increasingly explored in the context of climate change targets for international shipping.[521] The provision of a globally unified 'taxonomy', 'framework' or comparability tool for green shipping projects, is vital for channelling investment into the environmental transition of the sector.[522] However, such tools should remain flexible yet certain enough to attain commercial clarity in the context of long-term financing arrangements. In this regard, it has been contended that

[516] Shipping Criteria Document https://www.climatebonds.net/standard/shipping accessed 15 September 2021.
[517] Poseidon Principles, https://www.poseidonprinciples.org/ accessed 15 September 2021.
[518] Paul Taylor, Global Head of Shipping & Offshore, Société Générale CIB was quoted as making this statement at the launch of the Poseidon Principles in New York, June 2019, as reported by Barry Parker, 'The Poseidon Principles and a 'green transformation' of shipping' (*Seatrade Maritime Review*, 20 June 2019) https://www.seatrade-maritime.com/americas/poseidon-principles-and-green-transformation-shipping accessed 15 September 2021.
[519] Poseidon Principles, *Technical Guidance* (2019) https://www.poseidonprinciples.org/wp-content/uploads/2019/07/Poseidon_Principles.pdf accessed 15 September 2021, 24.
[520] Ibid.
[521] Jane Lister, 'Green Shipping: Governing Sustainable Maritime Transport' (n 42).
[522] Pia Rebelo, 'Green Finance for a Sustainable Maritime Transport System: Developing a Universal Vernacular for Green Shipping' (n 426).

'green finance should prefer neither a narrow nor a wide definition'.[523] Instead, it is more useful to map the interconnected areas of core and secondary activities which can positively contribute to sustainability agendas.[524] This would envision 'degrees' of greenness with clear categorisations. These definitions become important when trying to conceptualise environmentalism in contracts for the clear allocation of duties and obligations. A common language for green shipping activities will promote investor confidence and assist the banking sector in mobilising the significant finances required for an energy transition.

3.2 Implementation of Green Frameworks: Private Banks and Green Shipping

As with most international industrial sectors, there are strong private governance arguments to be made for the management of the environmental damage from transboundary activities.[525] Both private regulation and contract governance models identify the pressures which influence company behaviour other than state regulation, whilst being more flexible, easier to implement, and less costly to individual interests.[526] Political concerns and issues of state-sovereignty are also less relevant to private relationships, which are premised on the freedom of contract. This is similarly true in the context of shipping, which has for many years confronted the inadequacies surrounding flags of convenience and the challenges posed for environmental governance. Although international organisations, financial regulators and state banks have a significant role to play in spearheading investment in green technology, many private banks that boast large shipping portfolios are already powerful determinants of industry behaviours.[527] Commercial banks have maintained their dominance, despite Chinese leasing companies and the Korean Development Bank expanding their prominence in the ship finance market over the last twenty years.[528] Whereas 70-75% of the total capital invested in new-builds consisted of bank loans in the ship-lending boom between 1976 and 1973; today, bank debt in the sector for new-builds is around 50-60%.[529] This remains a significant share of the market, which can drive efforts to transition the sector whilst simultaneously stabilising banking through prudential risk management in accordance with the Basel III and IV frameworks.[530]

Banking relationships therefore remain vital to the prolonged commercial sustainability of shipping. Banks have also expressed an increasing willingness to commit to SD and green mandates. In September 2019, the Principles for Responsible banking were adopted by 130 banks during the Annual UN General Assembly.[531] These banks recognised that, in the wording of a joint commitment:

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[523] Jason Chuah, 'Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes' (n 78) 135.
[524] UNEP, *Definitions and Concepts: Background Note. Inquiry Working Paper 16/13* (2016) 8 https://wedocs.unep.org/bitstream/handle/20.500.11822/10603/definitions_concept.pdf?sequence=1&amp%3BisAllowed= accessed 15 September 2021.
[525] Martin Herberg, 'Private authority, global governance, and the law' (n 157).
[526] Michael P Vandenbergh, 'Private Environmental Governance' (n 159).
[527] Such as the Citigroup, Breakwater Capital, JP Morgan, DNB, Berenberg Bank – all within the Lloyd's top 10 in ship finance for 2020 https://lloydslist.maritimeintelligence.informa.com/LL1135066/Top-10-in-ship-finance-2020 accessed 15 September 2021.
[528] See *Petrofin Global Index of top 40 International Shipfinance banks* (July 2020) https://www.petrofin.gr/petrofin-index-for-global-ship-finance/ accessed 15 September 2021.
[529] Fotis Giannakoulis, 'Overview of ship finance' in Manolis Kavussanos & ID Visvikis, *The International Handbook of Shipping Finance* (Palgrave Macmillan 2016) 71 - 94.
[530] Ibid.
[531] UNEP Finance Initiative, *Principles for Responsible Banking* (2019) https://www.unepfi.org/wordpress/wp-content/uploads/2019/07/FINAL-PRB-Signature-Document-2-Interactive-22-07-19.pdf accessed 15 September 2021.

> *Our success and ability to remain profitable and relevant is intrinsically dependent on the long-term prosperity of the societies we serve. We believe that only in an inclusive society founded on human dignity, equality and the sustainable use of natural resources, can our clients and customers and, in turn, our businesses thrive.*

This commitment by the signatory banks presents a commercial understanding that SD and the longevity of the banking sector go hand-in-hand. In its Global Sustainable Investment Review 2018, the Global Sustainable Investment Alliance (GSIA) similarly recognised that 'sustainable investing' assets in five major markets (Europe, the United States, Canada, Japan, and Australia and New Zealand) had increased by 34% over 2016 and 2017, to stand at USD 30.7 trillion at the start of 2018.[532] Responsible investment therefore commands a significant share of professionally managed assets and presents a major force across global markets. Financial institutions are key players in mobilising capital for the maritime sector to meet increasing environmental regulatory demands, yet an adoption of a green agenda is also beneficial from a banker's perspective for two primary reasons: 1) banks are able to access a new eco-conscious investor base which prioritises responsible environmental decision making, coupled with optimistic returns; and 2) banks need to effectively manage environmental risk and maintain a positive public image.

3.2.1 Opportunities for Banks

Environmental and Social Governance (ESG) investing, often interchangeable with or similar to 'sustainable' investing, places 'ethical business practices' as a top priority over other good governance categories such as 'strong management'.[533] Although related to, it is not the same thing as 'Socially Responsible Investment' (SRI) which directs company practices to specific areas of interest, generally using a negative screen which would exclude the company from engaging in activities which are undesirable. These might involve arms trade, tobacco, mineral conflicts, gambling or even countries with histories of human rights abuses, such as South Africa under the apartheid regime.[534] There are also other terms for emerging investment practices, such as 'impact' investing, termed by the Rockefeller Foundation, which seeks to directly focus on achieving a specific influence on a social or environmental issue.[535] Whilst 'Mission Investing' focuses more on the specific investment activities of charities or religious funds which are directed to a particular social, spiritual or environmental purpose.[536] Environmental concerns can fall under the auspices of any of the above mentioned forms of investment, with a rapidly increasing emergence of green investment strategies taking place and applicable to all types of investments: government bonds, hedge funds, ETFs (exchange-traded funds), and others. 'ESG investing' is the general term used to encompass green strategies, with more specific tools including 'green bonds' or 'sustainable bonds'.

However, despite these emerging investment strategies, it is important to note that ESG investing or sustainable investment strategies did not always see comparable returns in comparison to their conventional counterparts (those which do not consider ESG factors).[537] Less relevant to this

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[532] GSIA, *Global Sustainable Investment Review 2018* http://www.gsi-alliance.org/wp-content/uploads/2019/06/GSIR_Review2018F.pdf accessed 15 July 2021.
[533] John Hill, *Environmental, Social, and Governance (ESG) Investing* (Academic Press, 2020) 1.
[534] Ibid, 'Chapter 2 - ESG, SRI, and impact investing', 14.
[535] Ibid; one of the most notable initiatives was the development of the Rise Fund by the Texas Pacific Group (TPG) which raised USD 2 billion for impact investing in 2017 whilst developing a methodology to tackle concerns that impact investments are often poorly reported or unmeasured.
[536] John Hill, *Environmental, Social, and Governance (ESG) Investing* (n 533) 14.
[537] Ibid 26.

discussion, but worth noting, is that socially responsible investing and impact investing in fact fared considerably worse in comparison to conventional funds in previous years.[538] And whilst ESG might be growing, it still only enjoyed some attention from minority investors, particularly in the USA with 75% of investments still remaining in conventional portfolios.[539] Yet, 2020 proved to be a turning point insofar as these trends are concerned and the dominance of conventional investing in the private sector has been significantly undermined. The Covid-19 pandemic has spurred a completely different set of interests for relevant stakeholders – one which envisions a sustainable future and focuses on human rights.

The year 2020 has been termed a 'watershed' year for ESG investing, with the Covid-19 pandemic accelerating sustainability trends in global markets.[540] According to the Calastone Fund Flow Index, throughout the year of 2020, one-third of the money going into global funds was directed to funds focused on ESG investing.[541] Mainstreaming and integration of disclosure standards was an undeterred trend in 2020 with over 90% of the S&P 500 responding to at least one ESG framework.[542] Although this has been accounted to the growing percentage of 'woke' investors who prioritise ESG, sustainable investments are also showing the greatest returns and holding up strongly through the economic crisis caused by the pandemic. Research by Trustnet found that an impressive 41.25% of ESG and sustainable funds made the top-quartile return in 2020 by the end of July, whilst another 25.63% of such funds made second-quartile returns – evidence that Trustnet has challenged the misconception that sustainable investing means taking additional risks and sacrificing returns.[543]

Despite the huge inflows into green investments reflecting the preferences of a more eco-conscious investor base, the business bottom line will inevitably be dependent on returns on those green investments. As mentioned previously, green bonds are in fact outperforming their counterparts and in ways surpassing even optimistic predictions. In a report entitled 'How Does European Sustainable Funds' Performance Measure Up?', including 4900 funds domiciled in Europe and 745 sustainable open-end and exchange-traded funds, data was used to illustrate that there are no performance trade-offs associated with sustainable funds.[544] In fact, the following key takeaways were provided in the report on the optimistic outlook for ESG investing:

- Data collected over the last 10 years up to 2020, illustrates that 59% of surviving sustainable funds have beaten their surviving counterparts across various categories.

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[538] Ibid.
[539] Ibid.
[540] Trustnet, '2020 has been a watershed year for ESG funds – but what does the future hold?' (14 August 2020) https://www.trustnet.com/news/7465877/2020-has-been-a-watershed-year-for-esg-funds--but-what-does-the-future-hold accessed 15 September 2021.
[541] Calastone, 'Global ESG Funds see highest Inflows on record, giving hope for active managers as equity funds overall suffer outflows in July' (10 August 2020) https://www.calastone.com/global-esg-funds-see-highest-inflows-on-record-giving-hope-for-active-managers-as-equity-funds-overall-suffer-outflows-in-july/ accessed 15 September 2021.
[542] Green Finance Platform, 'Undeterred by Pandemic: Four trends in global climate action to watch in the coming decade' (4 January 2021) https://www.greenfinanceplatform.org/blog/undeterred-pandemic-four-trends-global-climate-action-watch-coming-decade accessed 15 September 2021.
[543] Trustnet, 'Has it been worth holding an ESG fund in 2020?' (18 July 2020) https://www.trustnet.com/news/7464986/has-it-been-worth-holding-an-esg-fund-in-2020 accessed 15 September 2021.
[544] MorningStar, 'How Does European Sustainable Funds' Performance Measure Up' (June 2020) https://www.morningstar.com/content/dam/marketing/emea/shared/guides/ESG_Fund_Performance_2020.pdf accessed 15 September 2021.

- More sustainable funds have survived in the last 10 years with a 72% survival rate compared to 45.9% of traditional funds.
- Sustainable fared far better during the Covid-19 sell-off, delivering superior returns in all except one category.

Even prior to the Covid-19 pandemic, the green bond market was already illustrating the huge potential for green investment as green bond issuance surpassed USD 100 billion in 2019, showing a 31% increase from the previous year.[545] This is reflective, once again, of a shifting set of priorities amongst investors. 2020 has catalysed the sustainable and green bond market even further, with the pandemic pushing strategies for the social dimension of ESG in particular. The social bond market grew at a record rate in the first half of 2020, widening the objectives of ordinary 'vanilla' green bonds to issuance focusing on health, mental health, and employment.[546]

In a survey conducted to gauge the state of the bond market and ascertain reasons for investor commitment to green bonds, it was found that institutional investors participate in the green bond market at the request of their retail investors, for positive branding and related benefits, and the perception of lower risk; whilst for corporates, green bonds signal a strong focus on environmental factors and can increase the company's environmental performance and ratings.[547] It was also found that green bonds are a good communicative tool towards customers, employees and other stakeholders. Green issuance is a considered to evidence careful investment strategies with a focus on various social impacts. It can also boost a company's public image, demonstrate investor confidence and commitment to environmental stewardship - all of which increase the company's ability to raise new funds for further projects considered sustainable.[548] There is also increasing peer pressure in certain industries, such as the beverage industry, as well as the view that issuing a green bond can be a powerful instrument to foster company pride and commitment amongst employees – especially amongst the millennial generation which favours sustainable investments prioritising environmental protection, climate change, social welfare, and responsible consumerism.[549]

The final reason for tapping into the green bond market involves developing trust and good faith within the banking sector, something which still needs rebuilding following the 2008 Financial Crisis. Environmental solutions are one way in which common goals can be obtained and objectives can be converged. 'Trust and relationship banking' is something which is traditionally recognised in ship financing, but automation services and artificial intelligence are beginning to erode a sense of

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[545] Pauline Deschryver and Frederic de Mariz, 'What Future for the Green Bond Market? How Can Policymakers, Companies, and Investors Unlock the Potential of the Green Bond Market?' (2020) 13(3) Journal of Risk Financial Management 1 – 26, 18.

[546] According to Bloomberg, social bond issuance across emerging market sovereign and corporate borrowers more than doubled by May 2020 to USD 5.2 billion, compared with USD 2.3 billion in 2019. Bloomberg, 'Green, Social Debt Surges to Record as Borrowers Tackle Coronavirus' (29 July 2020) https://www.bloomberg.com/news/articles/2020-07-29/social-debt-surges-to-record-as-borrowers-tackle-coronavirus accessed 15 September 2021.

[547] Pauline Deschryver and Frederic de Mariz, 'What Future for the Green Bond Market? How Can Policymakers, Companies, and Investors Unlock the Potential of the Green Bond Market?' (n 545): Figure 1: survey based on interviews with 11 experts across issuers, investors, and intermediaries, conducted in December 2019. See also Caroline Flammer, 'Corporate Green Bonds' (14 April 2020) Journal of Financial Economics (JFE), SSRN: https://ssrn.com/abstract=3125518 (forthcoming) accessed 15 September 2021.

[548] Ibid 5 of 26.

[549] Ibid; see all World Economic Forum, 'The green bond market, explained' (July 2017) https://www.weforum.org/agenda/2017/07/what-are-green-bonds-explainer/ accessed 15 September 2021.

customer service.[550] Bond issuers are keen to foster and strengthen relationships with investors by incorporating a number of factors: 1) transparency; 2) a deeper investor understanding of business processes and operations; and 3) long-term visions and sustained partnerships.[551] Given the long-term nature of ship financing schemes, these ideals are well suited to the commitments required for 'greening' the sector. Although green bonds are a growing market, they still present challenges which are symptomatic of the greater framework and enforcement problems with green finance more generally. The aforementioned study on the state of the bond market also noted that the green bond market requires clear standards, universal taxonomies, regulation, and certification schemes. Green bonds still only represent 0.5% of the total outstanding bonds globally, which remains a drop in the ocean for the overall bond market.[552]

Despite these recognised gaps in green bond frameworks, the IFC was optimistic about green investments in its '2018 Climate Investment Opportunities in Cities' Report, whereby it predicted a climate investment opportunity of USD 29.4 trillion across six key sectors in emerging market cities up until 2030.[553] Main areas for opportunity included green buildings (USD 24.7 trillion), electric vehicles (USD 1.6 trillion), public transport infrastructure (USD 1 trillion), climate-smart water (USD 1 trillion), renewable energy (USD 0.8 trillion), and municipal solid waste management (USD 0.2 trillion). The IFC also notes that financial institutions as bond issuers can benefit from participation in the market if they:[554]

- '*Provide an additional source of green financing*
- *Match maturity with project life (in the case of green project bonds)*
- *Improve investor diversification and attract buy and-hold investors*
- *Enhance issuer reputation*
- *Attract strong investor demand, which can lead to high oversubscription and pricing benefits*
- *Support issuers with environmental risk management'*

Recent industry surveys have provided evidence of an investor preference for sustainable investments and data is also supporting the considerable returns on green investments in comparison to traditional counterparts. This presents an immense opportunity for banks to offer new products and tap into a growing market of investors who align their money with their values and who believe in making positive impacts on the world.

In the USA, the Morgan Stanley Institute for Sustainable Investing conducted a survey whereby it found that 85% of all American investors are interested in sustainable investment.[555] In its Sustainable

[550] Marko Jakšič and Matej Marinč, 'Relationship banking and information technology: the role of artificial intelligence and FinTech' (2019) 21(1) Risk Manag 1–18.
[551] Caroline Flammer, 'Green Bonds Benefit Companies, Investors, and the Planet' (22 November 2018) https://hbr.org/2018/11/green-bonds-benefit-companies-investors-and-the-planet accessed 15 September 2021.
[552] Pauline Deschryver and Frederic de Mariz, 'What Future for the Green Bond Market? How Can Policymakers, Companies, and Investors Unlock the Potential of the Green Bond Market?' (n 545).
[553] IFC, 'Climate Investment Opportunities in Cities - An IFC Analysis' (2018) https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/climate+business/resources/cioc-ifc-analysis accessed 15 September 2020.
[554] Ibid 10.
[555] Morgan Stanley Institute for Sustainable Investment, *Sustainable Signals: Individual Investor Interest driven by Impact, Conviction and Choice* (2019) https://www.morganstanley.com/pub/content/dam/msdotcom/ideas/sustainable-investing-offers-financial-

Signals Report, the Institute made 4 key findings regarding sustainable investing: 1) investor interest continues to rise; 2) investors want products that match their interests; 3) investor conviction outweighs financial trade-off concerns; and 4) investors want more product choices. The Legg Mason Global Investment Survey of 2018 surveyed 17,000 investors across 17 markets globally and found that millennial investors are led and influenced by their ethics.[556] The survey report also noted that ESG investing has gained significant attention and almost half (49%) of investors say that they choose funds or companies in accordance with ESG considerations; 54% of investors say that they avoid businesses with dubious reputations or controversial track records, whilst 89% of investors believe that company managers should ensure that their companies act responsibly.[557] An American Century Survey found similar findings, noting that 7 out of 10 (or approximately 72%) of millennials find 'impact investing' very appealing, whilst only 49% of Baby Boomers find impact investment appealing.[558] Therefore, the new generation of investors present considerable opportunities for banks to align sustainability issues with profitability.

The Legg Mason Survey noted that the biggest barrier to what they term the 'Blue Planet Effect' is a knowledge gap pertaining to ESG investing. The main question facing investors and funders is 'What is ESG investing?'. This has caused considerable confusion despite growing enthusiasm, with one of the main challenges being how to determine investments which would qualify as 'ESG' or 'Sustainable'. This is once again reflective of the previously highlighted framework challenges, whereby sustainable, green, ESG or clear CSR initiatives require uniform and consistent taxonomies to encourage investor willingness.

Unfortunately, international shipping has not gained adequate attention in terms of 'ESG, Sustainable, Green, or Climate' investments. This is also largely due to the neglect that shipping has received in global governance frameworks for green finance and various taxonomies for the categorisation of 'green' shipping activities. However, gaps present opportunities and green shipping frameworks can learn from the teething problems that current green finance schemes are facing in relation to other sectors. Green shipping presents a monumental investment opportunity if banks can overcome the issues of framework alignment, which means not falling into the diversity trap of a sheer abundance of ESG reporting standards, as well as issues of integration, implementation, enforcement, as well as concerns surrounding legitimacy. Currently, many private actors are self-reporting and using different ESG metrics. This is often done without audits to determine the accuracy of the data, making the results difficult to compare.[559] Previous sections of this Chapter have spoken to the point on legitimacy of standards, whereby government organisations have a significant role to play in affording vernacular guidance in green finance. The upcoming EU Taxonomy Regulation has already contributed

performance-lowered-risk/Sustainable_Reality_Analyzing_Risk_and_Returns_of_Sustainable_Funds.pdf accessed 15 September 2021.

[556] Legg Mason, *Rise of the Conviction Investor: Ethics and the search for outperformance driving trends in 2019* (Global Investment Survey 2018) https://www.gestiondefortune.com/attachments/article/5660/Etude%20Legg%20Mason.pdf accessed 15 September 2021.

[557] Ibid.

[558] American Century Investments, 'The Growing Appeal of Impact Investing Contrasting U.S. and UK Attitudes' (October 2019) https://corporate.americancentury.com/content/dam/ac/pdfs/corporate/flyer/2019-impact-investing-study.pdf accessed 15 September 2021.

[559] Tensie Whelan, 'Making a Better Business Case for ESG' (*Stanford Social Innovation Review*, 17 August 2020) https://ssir.org/articles/entry/making_a_better_business_case_for_esg# accessed 15 September 2021.

significantly to significant inflows into green investments.[560] Taxonomy alignment and development will also overcome questions of legitimacy, giving banks more confidence to implement environmental standards which might be procedurally burdensome.

3.2.2 Risk Management

Private financial institutions have for a long time acknowledged the concept of 'environmental risk'. Environmental risks generally have three aspects: credit risk, lender liability, and reputational risk.[561] Credit risk is influenced by the growing body of restrictive environmental regulations imposed on borrowing companies which weakens their position to repay loans, whilst security offered in the form on real property[562]can mean impaired value of collateral and saleability if non-compliance occurs.[563] Lender liability is directly linked to the bank's own governing environmental legislation which can result in costly rehabilitation, clean-ups and damages caused by the bank's borrowing companies. Reputation risk refers to the public's perception of the bank, as well as by its key stakeholders who significantly contribute to the long-term viability of the institution.[564] Green finance is therefore equally linked to protectionist strategies in light of increasing environmental litigation, as it is to obtaining a set of environmental objectives to attract a growing client base.

In respect of green technologies in the shipping sector, the prevailing rhetoric is that 'eco-friendly vessels are high-risk vessels with significant initial investment in technological development and initial commercialization'.[565] However, to not adopt eco-friendly technologies for shipping poses a far greater legal risk to the industry and a substantial credit risk for banks – together with potential lender liability and reputational damage. Banks have to prepare for the increasing regulatory burden that the maritime sector will need to endure as well as the demand-side risks of consumer preferences for green supply chains.[566] Simply put, ships cannot continue to rely on fossil fuels with poor energy efficiency, resulting in high fuel consumption. Ships built with such short-term investor perspectives typically underperform and have a much higher risk of depreciating and becoming illiquid.[567] This consequently poses a risk of ships becoming stranded assets – a phenomenon which usually occurs during times of an oversupply market whereby ships lose 'economic value well ahead of... anticipated

[560] See Sara Feijao, 'Green recovery in sight as one in four infrastructure funds expect to grow green assets more than a fifth by 2022' (Linklaters, 28 July 2020) https://sustainablefutures.linklaters.com/post/102h1fq/green-recovery-in-sight-as-one-in-four-infrastructure-funds-expect-to-grow-green accessed 15 September 2021.
[561] Yinshuo Xu and others, 'The Impacts of Environmental Risks on Bank Loan Covenants and the Cost of Bank Loans: an Australian Case Study and the Implications for China' in *Proceedings of the 2018 International Conference on E-Business and Applications* (ICEBA 2018).
[562] For example, contaminated land in respect of terrestrial activities or a vessel which can only use HFO's.
[563] Phil Case, *Environmental risk management and corporate lending: a global perspective* (Woodhead Publishing Limited, Cambridge 1999).
[564] Katherine Taken Smith, Murphy Smith, and Kun Wang, 'Does brand management of corporate reputation translate into higher market value?' (2010) 18(3) Journal of Strategic Marketing 201- 221.
[565] Taehee Lee and Hyunjeong Nam, 'A Study on Green Shipping in Major Countries: In the View of Shipyards, Shipping Companies, Ports, and Policies' (2017) 33(4) The Asian Journal of Shipping and Logistics 253-262, 262.
[566] Share Action, 'Changing Course: Bank Financing of the Shipping Industry' (May 2019 *Investor Briefing*).
[567] UMAS, *Navigating Decarbonisation: An approach to evaluate shipping's risks and opportunities associated with climate change mitigation policy* (2017) https://rmi.org/wp-content/uploads/2017/03/Shipping_Navigating_Decarbonization_Report_2017.pdf accessed 15 September 2021.

useful life'.[568] In fact, the high exposure that Banks face in respect of their shipping portfolios has often led to opinions that 'shipping and banking don't mix' and that capital sources such as sovereign wealth funds, financial conglomerates, and pension funds are better suited to handle the risks and cyclicity of the industry.[569]

This perception needs changing as other markets have illustrated that incorporating environmental factors into lending decisions and banking relationships actually contributes to more successful risk management. In a White Paper compiled by Morgan Stanley, the performance of sustainable funds was compared with that of traditional funds.[570] It was found that sustainable funds provided returns in line with their traditional counterparts whilst doing better at reducing downside risk. Furthermore, during periods of extreme volatility, there was strong statistical evidence that sustainable funds are more stable. There is also a growing awareness within the financial sector that climate change risks are becoming real financial risks as opposed to mere reputational risks.[571] Banks have traditionally dealt with climate change and environmental protection as core components of their CSR mandates, which can assist the bank with regulatory compliance, adherence to best practice, and overall enhancement of its public image. The European Commission has recognised and defined CSR as, '[a] concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis'.[572] Stakeholders are demanding transparency and accountability within company structures and disclosure reporting has renewed the emphasis on the 'triple bottom line'—environmental, social and economic impacts. ESG reporting is becoming increasingly important in global trade, with certain stock exchanges, such as the Johannesburg Stock Exchange and Singapore Exchange SGX, requiring listed companies to provide disclosures on sustainability issues.

The risk of climate change litigation, criminal and administrative fines, as well as investor withdrawal, poses an increasing threat to banks. These so-called 'climate risks' can generally be divided along the lines of 'physical risks' and 'transition risks'. Physical risks refer to severe weather patterns, sea levels rising and resource shortages; whilst transition risks are those associated with the transition to a low-carbon economy.[573] In its 2017 Final Report, the TCDF recognises 'transition risks' as:

- Policy and legal risks: emerging policies such as carbon pricing, and legal litigation risks, environmental fines, and other punitive measures.

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[568] Generation Foundation, *Stranded Carbon Assets: Why and How Carbon Risks Should Be Incorporated in Investment Analysis* (2013) https://www.genfound.org/media/1374/pdf-generation-foundation-stranded-carbon-assets-v1.pdf accessed 15 September 2021.

[569] Zam Kahn, 'It's time we faced the fact that banks and shipping don't mix' (*TradeWinds* 20 September 2019) https://www.tradewindsnews.com/opinion/it-s-time-we-faced-the-fact-that-banks-and-shipping-don-t-mix/2-1-670495 accessed 15 September 2021.

[570] Morgan Stanley Institute for Sustainable Investing, *Sustainable Reality: Analysing Risks and Returns of Sustainable Funds* (2019) https://www.morganstanley.com/pub/content/dam/msdotcom/ideas/sustainable-investing-offers-financial-performance-lowered-risk/Sustainable_Reality_Analyzing_Risk_and_Returns_of_Sustainable_Funds.pdf accessed 15 September 2021.

[571] Oliver Wyman, *Climate Change: Managing A New Financial Risk* (2019) https://www.oliverwyman.com/content/dam/oliver-wyman/v2/publications/2019/feb/Oliver_Wyman_Climate_Change_Managing_A_New_Financial_Risk_paper.pdf accessed 15 September 2021.

[572] Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions A Renewed EU strategy 2011-14 for Corporate Social Responsibility, COM/2011/0681 final.

[573] Oliver Wyman, 'Climate Change: Managing A New Financial Risk' (n 571).

- Technology risk: production and distribution costs of renewable energy technologies, and the demand for their products and services from end users.
- Market risk: shifts in supply and demand.
- Reputation risk: customer and community perceptions. [574]

Although these risks might be complex considerations for banks to manage and overcome, they also present real opportunities to adapt and offer increasingly competitive products. Banks can improve credit quality and loan portfolio resilience by effectively identifying climate-related risks. Through promoting energy efficiency in lending practices, banks can enhance the quality of collateral thus raising recovery rates in the event of default. This is because the energy efficiency of a ship influences its asset value in the second-hand market in a number of ways: 1) by restoring profit margins, where fossil energy prices are expected to increase, 2) by increasing competitiveness because charterers and end users are conscious of damaging environmental practices, and 3) the environmental profile of an asset may translate into how the vessel is used, e.g. energy efficient vessels may have less idle time between contracts.[575] In the same way, retrofits can also improve the quality of assets to assist ship portfolios in minimising risk. This should be accompanied by standardised reporting amongst banks so as to not affect competition by certain banks offering 'relaxed' reporting measures.

The Poseidon principles have provided a useful framework for banks with shipping portfolios to manage risk by ensuring that green principles be applied in all business activities that are credit secured and where the vessel falls under the regulatory standards of the IMO. The four principles are as follows:[576]

- Assessment of climate alignment: Signatories will measure the carbon intensity and assets the climate alignment of their shipping portfolios on an annual basis
- Accountability: Signatories will rely on Classification Societies and IMO-recognised Organisations for data and information sources
- Enforcement: Signatories will use standardised covenant clauses in contracts with clients to ensure access to high-quality data
- Transparency: Climate alignment scores will be published annually meaning that signatories will make their status public knowledge

This presents a useful framework for the shipping sector until such time as shipping is adequately included in 'green finance' schemes and universal taxonomies. Once decisions pertaining to risk management, sustainability performance and chosen frameworks are settled, the next step is for banks to find ways in which green principles can have real effect in governing their commercial relationships. The following section deals with contractual mechanisms for the integration of green principles into shipping loan agreements. In respect of both public and private banks, a contractual understanding of parties' rights and obligations will be necessary in determining the extent to which a borrower needs to adhere to a set of environmental commitments.

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[574] TCDF, *Final Report on the Recommendations of the Task Force on Climate-related Financial Disclosures* (June 15, 2017) https://www.fsb-tcfd.org/wp-content/uploads/2017/06/FINAL-2017-TCFD-Report-11052018.pdf accessed 15 September 2021.

[575] Roar Adland, Pierre Cariou, and François-Charles Wolff, 'Does energy efficiency affect ship values in the second-hand market?' (2018) ffhalshs-01706627f https://halshs.archives-ouvertes.fr/halshs-01706627/document accessed 15 September 2021.

[576] See *Poseidon Principles: A global framework for responsible ship finance* https://www.poseidonprinciples.org/download/Poseidon_Principles.pdf accessed 15 September 2021.

Here, the financial institution adopts either a state-mandated or voluntary framework, such as the Poseidon Principles. These frameworks provide two key functions in addition to assisting banks draft clear terms: 1) to set normative ideals and goals; and 2) to familiarise stakeholders with a 'green shipping vernacular'. If adherence to the framework requires more than soft obligations and climate risks need tighter controls, banks can pursue a wide array of contractual clauses with resultant remedy. It might be argued that banks have a duty to uphold the strictest level of compliance with environmental objectives given the urgency of the climate change mandate. However, banks will necessarily operate within a greater context of commercial practicalities, transitional technology implications, as well as regulatory demands, internal green policies, and client interests. There is a need to strike a balance between user access and the green mandates set by regulators and voluntarily adopted initiatives. The EIB was a prime example of how too many stringent criteria can deter users from available schemes. The goal here is to ***promote*** access to capital on a set of green terms thus ***incentivising*** better environmental performance, not to lock users out of these frameworks.

3.3 Contractual integration of Green Finance Frameworks and Enforcement Mechanisms

As green principles become increasingly pervasive throughout the shipping industry and the financial sector, green policy frameworks for international shipping (such as the Poseidon Principles) will have to be incorporated into financing agreements between financiers and shipowners. Banks are not new to the integration of CSR policies into financial instruments, this can take place in many ways including sustainability clauses, codes of conduct, or environmental and social covenants.[577] Many types of contracts and standardised forms govern various financial product offerings, whilst it is also important to note that other forms of financing are also available to shipowners, such as the capital markets and mezzanine financing. This Section is concerned with bank debt-financing as the prevailing norm for ship finance, which is traditionally described as follows. [578]

> *'The bank advances to one or more owning companies a large sum of money. It of course requires security. It will take a mortgage on the ship for that security. It may take other mortgages on other ships for the same security. If the ship, as often happens, is about to be time chartered, then the bank will take an assignment of the time charter in order that the bank as assignee can benefit from the time charter in order to reduce the mortgage debt. In addition it will almost invariably in my experience take an assignment of insurance policies and P & I Club cover in order that in the event of total or partial loss of the ship the bank as the lender may be suitably secured.'*

Loan agreements therefore govern the basis upon which finance is advanced from the bank to the shipowner, usually with an undertaking to register a first priority mortgage over the vessel in favour of the lender/bank. This Section will address how contractual terms can be used to translate green shipping principles into loan agreements for a desired level of enforcement. Whilst green finance frameworks are concerned with ***governing*** contracts (both in respect of defining project eligibility and

[577] Katerina Peterkova Mitkidis, 'Sustainability Clauses in International Supply Chain Contracts: Regulation, Enforceability and Effects of Ethical Requirements' (2014) 1(3) Nordic Journal of Commercial Law.
[578] *Citibank NA v Hobbs, Savill & Co (The Panglobal Friendship)* [1978] 1 Lloyd's Rep. 368, 371; other forms of financing consist of the capital markets for equity, bond finance, and mezzanine financing.

providing a normative direction), this section is concerned with how contracts can ***govern*** a set of behaviours that are aligned with the overarching financial framework.[579]

3.3.1 Loan Agreement Terms and integration of Green Obligations

The clauses particular to Loan agreements can be summed up in a 'term sheet' and are later formalised into the binding Loan Facility Agreement which has typical inclusions such as 'Events of Default and Acceleration' clauses.[580] The Poseidon Principles framework suggests that its signatory banks make use of the Standard Covenant Clause (SCC) for relevant vessel financing documents between signatories and borrowers as an enforcement mechanism.[581] This SCC makes direct reference to Annex VI of MARPOL and mandates compliance with Regulation 22A for collection and reporting of ship fuel oil consumption data for a ship's SEEMP. Specific environmental covenants, which now form common part of industry practice, are ordinarily aimed at environmental risk exposure with a consistent view that the environmental covenant comprises a promise by the borrower to undertake or avoid certain environmental-related activities.[582] These covenants typically involve legal compliance with applicable legislation, regulations or standards;[583] and periodic reporting requirements pertaining to the borrower's environmental performance.[584]

However, covenants are only one particular type of loan agreement clause, other sections of the loan agreement can also include a binding set of environmental obligations. These include:

Conditions Precedent: A set of pre-conditions and requirements which must be satisfied as a conditionality upon which disbursement of the proceeds of the loan is contingent.[585] These may include proof of certain valid permits, certificates or government-requested documents. They may also include corrective actions plans and mitigation measures. In shipping loan agreements, condition precedents would ordinarily relate to the security of the parties, the vessel and legal opinions.[586] This would include various vessel certificates, constitutional documents of the borrower and any corporate guarantor, copies of any charterparty of the vessel, and the memorandum of agreement by which the borrower agrees to buy the vessel.

Representation and Warranties: A series of statements of fact on the basis of which the parties enter into the agreement. Loan agreements will often contain a warranty that the financier has been furnished with a full set of complete and accurate documents pertaining to the purchase of the specified property and that relevant environmental laws have been complied with. However, in

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[579] This forms the basis of a contract governance approach to contract theory, see Section 1.5.1 (Chapter 1).
[580] Sarah Paterson and Rafal Zakrzewski (eds), *McKnight, Paterson and Zakrzewski on The Law of International Finance 2nd ed* (Oxford University Press 2017) 1.1. Preliminary Points.
[581] Poseidon Principles, *Technical Guidance* (2021) https://www.poseidonprinciples.org/wp-content/uploads/2019/07/Poseidon_Principles.pdf accessed 15 September 2021, 24.
[582]Mohammed A Bekhechi, 'Some observations regarding environmental covenants and conditionalities in World Bank lending activities' in Av Bogdandy & R Wolfrum (eds), *Max Planck yearbook of United Nations law*, (Kluwer Law International Ltd, Leiden 1991) 287-314.
[583] Ibid 301.
[584] Yinshuo Xu and others, 'The Impacts of Environmental Risks on Bank Loan Covenants and the Cost of Bank Loans: an Australian Case Study and the Implications for China' (n 561).
[585] *Wickman Machine Tool Sales Ltd. v. L. Schuler A.G.* [1974] A.C. 235, 235, 250H; *Total Gas Marketing Limited v. ARCO British Limited and Others* [1998] UKHL 22, [1998] CLC 1275 at 1281-2; Stefan Otto and Thilo Scholl, 'Legal Treatment of Ship Finance Loans: Analysis of the Ship Loan Contract' in Orestis Schinas, Carsten Grau, and Max Johns (eds), *HSBA Handbook on Ship Finance* (Springer, Berlin, Heidelberg 2015).
[586] Dora Mace-Kokota & Danaë Hosek-Ugolini, 'The Financing of Second-Hand Vessels' in Stephenson Harwood, *Shipping Finance: A Practical Handbook* (Globe and Law Business 2018).

the context of shipping loan agreements, representations and warranties specifically relating to the vessel may also be included in the in the mortgage, or in the mortgage only.[587]

Covenants/Undertakings: These include actions to be taken by the borrower and may include compliance with prevailing environmental laws and standards, reporting on environmental performance, or notification of environmental accidents and incidents of non-compliance. Positive covenants in shipping loan agreements have traditionally included the responsibilities of the borrower to, inter alia, comply with the terms and conditions of their financial obligations, to register the ship in a ship register acceptable to the lender and to provide any information in the event of default.[588] Negative covenants are also considered a form of undertaking, these require the borrower to refrain from taking certain actions. In shipping loans, these generally include obligations not to encumber any assets with a liens, transfer or dispose of the vessel, of enter into any further agreements relating to the operation or chartering of a vessel.[589]

Event of Default: Most loan agreements contain a comprehensive list of events that upon occurrence, would entitle the lender/bank to cancel the transaction and declare the outstanding balance of the loan as well as accrued interest repayable. It is important that these clauses make clear that it is not the event itself that accelerates the loan, but the financial institution's declaration or notice - this is to avoid the borrower pleading limitation as a defence in future litigation whereby the financier claims the outstanding amounts. [590] In shipping loans, the most common events of default include if the vessel is sold or encumbered, registration of the ship or the mortgage is challenged, the vessel becomes a loss and the loan is not repaid within the agreed period.[591]

These techniques are rooted in and understanding of English contract law whereby terms of a contract can be classified as either conditions, warranties or intermediate/innominate terms.[592] These distinctions are important insofar as determining what remedies are available to aggrieved parties in disputes. It follows logically that the stronger the obligation, the stronger the remedy. A condition is any term that is said to 'go to the root of' a contract.[593] The breach of a condition entitles the aggrieved party to either repudiate the contract (i.e. to be released from performance) and claim for damages for any losses, or to uphold/maintain the contract and claim for damages. A warranty, on the other hand, is a statement or promise that a current or future condition is true. The breach of a warranty only entitles the aggrieved party to damages.[594]

Intermediate or innominate terms are a third category of terms, the breach of which may result in damages only or termination of the entire contract.[595] Whether a party may reasonably repudiate a

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[587] Julie Clegg, 'The Ship Mortgage – Introduction' in Stephenson Harwood, *Shipping Finance: A Practical Handbook* (Globe and Law Business 2018).
[588] Stefan Otto and Thilo Scholl, 'Legal Treatment of Ship Finance Loans: Analysis of the Ship Loan Contract' (n 585) 64.
[589] Ibid.
[590] Dora Mace-Kokota and Danaë Hosek-Ugolini, 'The Financing of Second-Hand Vessels' (n 586) 98.
[591] Ibid.
[592] For more on contractual terms, see Paul S Davies, *JC Smith's The Law of Contract* (2016, Oxford University Press); see also LexisNexis® Practical Guidance, 'Contract interpretation—conditions, warranties and intermediate terms', *Practice Note: Commercial, Dispute Resolution* (2020, LexisNexis, UK).
[593] *Poussard v Spiers and Pond* (1876) 1 QBD 410.
[594] *United Scientific Holdings Ltd v Burnley Borough Council* [1978] AC 904 (HL).
[595] *Hong Kong Fir Shipping Co. Ltd. v Kawasaki Kisen Kaisha Ltd*., [1961] 2 Lloyd's Rep 478 (CA).

contract based on a breach of an intermediate term should be determined by whether the occurrence of the breach deprived the aggrieved party 'substantially of the whole benefit' which would be obtained under the contract.[596] The uncertainty about the remedies available following the breach of intermediate terms can be solved by the use of an express termination right in a contract. It must be noted however, that an express termination clause will not transform an intermediate term into a condition.[597] Furthermore, exercising the express termination right under a contract will not deprive an innocent party of the common law remedies available where there has been a repudiatory breach.[598] It therefore follows that where the aggrieved party has exercised a termination right, but there was no repudiatory breach, then certain common law remedies such as compensation for loss of a bargain will not be available unless agreed to as a contractual damage in the contract.[599]

Covenants are distinct from conditions and warranties and could be classed as one such innominate term. It is unusual to find the term "covenant" in English contract law literature, whereas in American literature it is more clearly defined. This is because a covenant is essentially an express undertaking for future action or inaction and does not really permit its own species of term under English Law. It seems similar to a warranty in that it is a promise of a future condition, however, if the covenant is material enough it could afford more than compensatory damages and may give rise to a right of termination. Other remedies could also include injunctive relief or specific performance.

Similarly, the term "default" is not a clearly defined legal term in English law. In respect of ship mortgages, "default" is generally construed as including any failure to abide by the contract on the part of the shipowner.[600] More commonly in modern commercial practice, "default" now applies within a loan agreement context to those defined 'events of default' in a facility agreement.[601] Covenant defaults will occur when the mortgagor or borrower breaches one of the undertakings specified in the relevant agreement, after which a default will occur if the shipowner has not remedied the default within a stipulated time period.[602] Loan agreements, as well as ship mortgage documentation, is drafted to expressly provide that upon occurrence of an event of default, the mortgagee's rights become exercisable or the lender is entitled to legal remedy.

It is also important to note that terms can be 'implied', although the vast majority of terms will be expressed in the contract itself. Terms can be implied as a matter of fact, whereby an 'officious bystander' test determines that certain things are 'so obvious that it goes without saying'.[603] Therefore adherence to a green framework (e.g. the Poseidon Principles) and compliance with environmental standards could also be implied into loan agreements if not expressly stated. However, it remains far more satisfactory to provide express provisions for the sake of clarity and a clear allocation of obligations. There is also an argument to be made that an overarching 'green principle' or a normative framework can be implied as a matter of law. Here, the courts will have regard to duties which prima

[596] Ibid 495.
[597] *Spar Shipping AS v Grand China Logistics Holding (Group) Co Ltd* [2016] EWCA civ 982, [2016] 2 Lloyd's Rep 447.
[598] Ibid
[599] Ibid.
[600] *Doe ex dem. Gertrude Baroness Dacre v Mary Jane Roper Dowager Lady Dacre* 126 ER 887 (CCP), (1798) 1 Bos & P 250, 258.
[601] David Osborne, Graeme Bowtle, and Charles Buss, *The Law of Ship Mortgages* (n 81) 221.
[602] Ibid 223.
[603] *Shirlaw v Southern Foundries* (1926) Ltd [1939] 2 KB 2016.

facie occur in certain types of contracts, as guided by matter of policy and reasonableness.[604] Although the courts have not yet dealt with the emergence of 'green obligations' in loan agreements, there is the potential for environmental rights to become more pervasive in private relationships as the climate change agenda is afforded priority status in public law regimes.[605] Similarly, such terms could become customary in loan agreements and many environmental lawyers would argue for the elevation of an environmental duty to become tantamount to the principle of good faith. This could easily occur in jurisdictions that recognise environmental rights in their constitutional documents, and which enjoy horizontal application.[606] Climate change litigation between private parties could increasingly explore the pervasiveness of environmental rights and norms to hold businesses accountable for their contributions to environmental damage or global warming. Chapter 4 elaborates on this argument in the context of contract law more generally.

3.3.2 Remedies in the event of default

Because most covenants and events of default are expressly worded in loan agreements, it is unnecessary to require a breach of covenant to be material or repudiatory in order for the non-breaching party to be afforded adequate remedy. The English law classification of loan agreement clauses into conditions, warranties and innominate terms therefore may have little relevance to the lender's enforcement rights.[607] However, it is expressly because of this understanding of how contractual terms are interpreted, that it is extremely rare to find a situation where a lender/mortgagee is entitled to repudiate a contract without an express event of default having occurred on which the lender/mortgagee could also rely to exercise its rights. On the other hand, the borrower would not be able to challenge a lender's reliance on an express event of default to repudiate a contract on the grounds that the breach merely amounted to a breach of warranty and not a breach of condition or an innominate term of a serious nature. Therefore, courts are seldom faced with situations where they have to apply discretion in assessing the seriousness or materiality of an event of default in order to accelerate and enforce remedies, including taking possession of the ship if it is mortgaged and selling it to enforce the mortgage.[608]

However, the Privy Council did somewhat assess the merits of certain events of default in respect of granting the borrower/mortgagor relief against forfeiture in *Cukurova Finance Ltd v Alfa Telecom Ltd*.[609] This case concerned a loan agreement which was secured by charges over a number of shares. The lender (Alfa Telecom) had said that a number of events of default, as specified in the loan facility, had occurred and therefore they were entitled to appropriate the secured shares. The Privy Council assessed the merits of these events of default in order to grant the borrower relief from forfeiture. The Privy Council found that 'the Award, giving rise to an event of default relating to 'material adverse effect', involved a decision on a strongly contested issue' and the lender was kept fully aware of this claim.[610] Furthermore, the other events of default relied on by the lender, 'even if they had all been

[604] These terms are generally seen in employment contracts or contracts for the supply of goods or services, see *Ashmore v Corporation of Llyod's* (No2) [1992] 2 Lloyds Rep 620.
[605] The implication of green obligations is discussed in more detail in Chapter 4, Section 4.3
[606] The 'greening' of contract law as well as a set of sustainability norms in private law more generally, is discussed at length in Chapter 4.
[607] *Ashmore v Corporation of Llyod's* (No2) (n 604) 226, where the same argument is applied to a mortgagee's enforcement rights in the event of default.
[608] Ibid 217, 226.
[609] *Cukurova Finance International Ltd & Anor v Alfa Telecom Turkey Ltd (British Virgin Islands)* [2013] UKPC 2 (30 January 2013).
[610] Ibid 125.

established, demonstrate no bad faith' on the part of the Cukurova Group and 'caused no significant damage' to Alfa'.[611] Although the facts of this case were complicated, the Privy Council essentially considered issues of "serious damage" and "good faith" in determining that the mere occurrence of an event of default will not necessarily result in the range of remedies afforded by the loan agreement, namely the enforcement of a mortgage and appropriation of security. The relevance this has for environmental covenants might be that claims against the borrower for violations of environmental standards, could not be as clear cut as initially thought. Where such a claim against the borrower results in an event of default for breach of an environmental covenant, the lender might have to provide evidence that it has been prejudiced and damaged by the covenant violation. If a single environmental covenant, such as the Poseidon Principle's SCC, were the only contractual enforcement mechanism included in a loan agreement, a bank/lender could find itself having limited remedies where a breach did not result in "serious damage". A lender could seek specific performance to enforce the green covenant coupled with damages, however the quantification of damages would be a difficult task without evidence of damage.[612]

In order for the lender to claim damages for the breach of covenant, it would need to either claim damages in the conventional way, showing that it has lost profit or incurred additional expenses;[613] or illustrate that negotiating damages can be awarded where, 'the loss suffered by the claimant is appropriately measured by reference to the economic value of the right which has been breached or considered an asset' and 'the breach of the contract results in the loss of a valuable asset created or protected by the right which was infringed'.[614] Where a bank's reputation has been impugned by a non-compliant shipowner, but no economic loss is proven, it could be difficult to extend the term 'valuable asset' to reputational rights. The 'valuable assets' referred to by negotiating damages are ordinarily proprietary rights or rights such as intellectual property rights and rights of confidence.[615] A lender/bank would have a difficult time trying to argue that its green image is tantamount to a right which is lost through the breach of the contract, unless the law is extended in this way.

The notion of 'stigma damages' has been presented and considered as a possibility before the House of Lords in respect of an employee's contractual damages as a result of the breach of an implied term.[616] In the case of *Malik v BCCI* it was held that a bank owed an implied obligation to its employees not to conduct a 'dishonest or corrupt business'.[617] Employees of the bank were therefore able to sue for loss of reputation as a contractual breach, despite the fact that no parallel claim existed in Tort Law as the bank had not made any defamatory statements regarding the employees. However, it was crucial that this loss of reputation resulted in actual loss as the employees would struggle to gain future employment due to their affiliation with the bank and the bank's breach of contractual duty. Lord Steyn interpreted previous case law to find authority that a party can claim 'stigma damages', where there is a breach of a contractual term (even an implied one), actual pecuniary loss is suffered by the claimant, the loss was caused as a result of the breach, and the loss is not too remote.[618] The violation of green principles in loan agreements, whether by way of express of implied term, would

[611] Ibid 125.
[612] See *Priyanka Shipping Limited v Glory Bulk Carriers Pte Limited* (n 96) where an injunction and damages were claimed in respect of breach of an undertaking.
[613] *Morris-Garner and another v One Step (Support) Ltd* [2018] UKSC 20 95(1) – (9).
[614] Ibid 95(10).
[615] *Priyanka Shipping Limited v Glory Bulk Carriers Pte Limited* (n 96) 193.
[616] *Malik v. Bank of Credit and Mahmud v. Bank of Credit SA* [1997] UKHL.
[617] Ibid
[618] Ibid 535.

therefore offer little in the way of remedy where the breach results in reputational loss only and no damages are proven. Stigma damages are also usually confined to employment disputes and their application to other aspects of banking relationships is yet to be seen.

In *Malik v BCCI* a term of mutual trust and confidence for the bank to not 'without reasonable and proper cause, conduct itself in a manner calculated and likely to destroy or seriously damage the relationship of confidence and trust between employer and employee' was implied into the contract.[619] A duty of mutual trust and confidence could be implied by law as an incident of all contracts of employment. This Author contends that a mutual green duty could be implied into credit facility arrangements offered by a bank, as it is arguable that in certain circumstances the lending bank has a fiduciary relationship with its customer,[620] or at the very least, there is a relationship of dependence between them. It follows that the bank has a fiduciary or significant duty to its customers to protect them from specific environmental risks (as prevalent in a highly regulated shipping sector). Moreover, there is an express commitment by the bank to actively promote environmental stewardship in maritime chains. The customer enters in the relationship aware that by committing themselves to these standards, they too would go some distance at meeting their own legally binding ESG requirements. Thus, the green commitments are mutual. That said, it remains better practice to include express provisions for adherence to a set of environmental obligations rather than having to rely on an implied term.

3.3.4. Level of integration and enforcement

Various terms and resultant remedies are available to banks in their enforcement of green principles and obligations. Although certain frameworks, such as the Poseidon Principles, only suggest the use of a single SCC for now, a long-term outlook might see green objectives integrated into every aspect of the loan agreement. As a useful example, the Equator Principles (EPs) have provided guidance for the Equator Principles Financial Institutions (EPFIs) in incorporating environmental and social considerations into loan documentation.[621] Guidance is given to EPFIs on how to apply the EPs for four financial products: Project Finance Advisory Services, Project Finance, Project-Related Corporate Loans, and Bridge Loans.[622] The Guidance states that although it is not a requirement to include the EPs Action Plan as an Annex in any loan agreement, the loan agreement should contain reference to this plan. The Guidance also states that the inclusion of environmental and social provisions will largely depend on context, but it suggests a number of ways to include these clauses in the key components of a loan agreement. The Guidance then goes on to provide template clauses for every aspect of the loan agreement, with a heavy emphasis on reporting and monitoring. For example, as a condition precedent to all disbursements, the borrower has to furnish the lender with a certificate certifying that the project is operational and complies with all environmental requirements, as well as a completeness status for the actions referenced in the Principles Action Plan. There are also lengthy reporting requirements, including the furnishing of progress reports, operational reports and public reporting for projects emitting over 100,000 tonnes of CO_2 equivalent annually. Many of these

[619] Ibid 531. Also, *Scally v Southern Health and Social Services Board (British Medical Association, third party)* [1991] 4 All ER 563 at 572.
[620] *Scally v Southern Health and Social Services Board* (n 619) 572.
[621] Equator Principles, 'Guidance for EPFIs on Incorporating Environmental and Social considerations into Loan Documentation' (December 2020) https://equator-principles.com/wp-content/uploads/2021/01/Final-EP4-Guidance-Note-Dec-2020-Loan-doc-UPDATE.pdf accessed 15 September 2021.
[622] Ibid.

reporting requirements should be included to varying extents in the loan agreement's conditions precedent, warranties and covenants. Events of default include any non-compliance with or breach of environmental or social covenants, as well as any proof that a representation or warranty was incorrect or misleading. Claims brought against the borrower which could reasonably be expected to result in 'Material Adverse Effect' on the implementation or operation of the project in accordance with applicable requirements, is also considered an event of default under the EPs contractual guidance.

It is not submitted that shipping loans should involve these kinds of burdensome reporting standards. The EPs apply to project financing, which will often occur within the jurisdictional boundaries of a state. There are therefore various national, provincial and municipal standards and regulations which will require countless permits and authorisations depending on the environmental management framework in which the borrower's project finds itself. However, the EP Guidance on loan agreements adopts a "belts and braces" approach to the attainment of its environmental objectives, which can provide useful guidance to institutions applying a green shipping framework. It incorporates environmental and social clauses into all key areas of the loan agreement, which take the form of conditions, warranties, representations and covenants – the breaches of which are *also* addressed under events of default. The lender can therefore rely on common law principles for breaches of various terms if it is alleged that an event of default has not resulted in "significant damage" to the lender or is based on a "contentious" matter, as seen in the *Cukurova Finance Ltd v Alfa Telecom Ltd* case.

Therefore, as an initial way to implement a normative set of ideals the *Definitions* and *Interpretation* section of a loan agreement should include an explanation of the applicable green shipping framework and its objectives. Definitions should include appropriate and universal vernacular, including reference to the applicable international, regional and laws. As most loan agreements usually contain a section named "The loan and its purpose", this section should outline clear co-operation and the alignment of objectives between the lender and borrower to achieve joint environmental commitments. Although these introductory statements run the risk of being viewed as mere soft obligations,[623] they will not have the deterrent effect of imposing too heavy a burden on shipowners. At the same time, and especially in the event of grievous non-compliance, a signatory can still rely on legal arguments that a set of environmental objectives go to the heart of the contract or can even argue for the breach of an implied term, if environmental obligations are not explicitly stated beyond the purview of the "Purpose" section. Although it is still far better to stipulate express environmental obligations, these should not be too onerous or should provide time frames for meeting targets and strict compliance.

If banks want to elevate the importance of green obligations, they can include a number of reporting requirements or proven patterns of behaviour as Conditions Precedent. This could be a Statement of Compliance, design documents for a new vessel, an International Energy Efficiency (IEE) Certificate, or any other relevant documentation. As seen in the Equator Principles' loan agreement guidance, the borrower can warrant that it has produced to the lender all relevant reports and information on environmental matters, and that this information has been confirmed by a recognised organisation or independent consultant.[624] A possible warranty could also include that the vessel is compliant with

[623] As noted in a previous discussion of the World Bank's early use of environmental covenants; see Mohammed A Bekhechi, 'Some observations regarding environmental covenants and conditionalities in World Bank lending activities' (n 582).

[624] Equator Principles, 'Guidance for EPFIs on Incorporating Environmental and Social considerations into Loan Documentation' (n 621) 16.

prevailing international, regional and state laws under which the vessel shall operate as evidenced by an 'opinion' issued by counsel and acceptable to the lender. In addition to the recommended Poseidon Principles SCC, negative covenants could also be included to the effect that the borrower will not violate any prevailing environmental standards at various regulatory scales. Furthermore, that the borrower shall not partake in any activities which may impugn upon the "green reputation" of the lender and bring into question the environmental integrity of the lender's shipping portfolio.

Finally, an 'event of default' provision should provide for express legal consequence and remedy if any of the aforementioned terms are violated by the borrower. By including contractual terms of all types into the loan agreement, the borrower cannot question the materiality of a set of green obligations on both parties. The lender will be able to rely upon a number of breaches, as recognised in the common law, as well as those which are listed as events of default. Contractual clauses are therefore powerful enforcement tools for banks with shipping portfolios in managing credit risk, lender liability, and reputational risk.

3.4 Follow-on effect for the greening of Shipbuilding Contracts

Although not a major focus of this Chapter, shipbuilding contracts are obviously vital to the pre-voyage phase of a ship's operational life as the finance obtained by a lender will go towards the construction of the actual vessel. If a shipowner is to obtain green finance, then the next issue becomes one of ensuring that the vessel adheres to the requirements of the applicable green finance framework. Most shipbuilding projects originate with a buyer's decision to commission a newbuild to either add to or replace vessels within its existing fleet.[625] Detailed discussions will then ensue regarding commercial and technical requirements that define the size, type and standard of outfitting of the vessel. Buyers usually seek the assistance of shipbrokers with relevant expertise of the market. Brokers are key actors in this process as they have extensive contacts with shipbuilders and can advise the buyer on the availability of constructions berths, the price of the contract, reasonable delivery times that are suitable to the buyer and the terms likely to be offered by shipbuilders in the market.[626] In accordance with the broker's advice, the buyer will then authorise the broker to approach a shipbuilder that the broker has likely recommended. If the shipbuilder has already developed a standardised design for the vessel that the buyer is seeking, the builder will be in position to immediately furnish the buyer with its specifications, knows as 'Principal Particulars'.[627] It is important that no misrepresentations are made at this stage pertaining to the green attributes of the vessel that the shipbuilder is proposing to build.

Once a buyer has provisionally selected a shipyard, the negotiation phase commences. This stage of pre-contractual exchanges is complex as the shipbuilder must conduct research in respect of the design, performance, and regulatory compliance of the vessel – all within ambit of the buyer's needs. This requires expert consultation, running model tests, and consultation with classification societies, legal advisers, and regulatory authorities.[628] Although not relevant to the green operation of the vessel once constructed, it may also be required of the buyer and financier that the shipyard only makes use

[625] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (5th ed Informa Group Ltd, 2020) 8 also noting that newbuildings constructed for the builder's account (i.e., without a pre-existing contract of sale) are rare.
[626] Ibid 8.
[627] The broker may also submit an 'invitation to tender' to a number of shipbuilders recommended by the broker.
[628] Ibid.

of green suppliers and ethically sourced materials. A zero-emission vessel cannot attain a high degree of 'greenness' if, for example, its metal components are sourced from mines that widely deforest and contaminate natural habitats. The carbon emissions used in its manufacturing may also outweigh its operational benefits to the environment.[629] This may involve additional research on the part of the builders. Green ship building yards may also want to independently join green labelling and certification schemes, as well as advertising their internal CSR mandates to potential and existing buyers and publishing a list of their approved green suppliers.[630] These development costs are usually borne by builder on the basis that the buyer will reimburse the costs if the project does proceed. Even if not expressly agreed, the builder may be entitled to restitutionary remedies for its expenses, especially where a benefit has accrued to the buyer for work done by the builder.[631]

In order to protect the interests of each party, it is common to execute a 'letter of intent' setting out mutual understandings.[632] Whether such a letter has contractual effect will be viewed against the 'factual matrix' in which it was prepared and executed.[633] In construing such a document, one should

> '… look at the document itself, at the surrounding circumstances, and at what happened when [the letter of intent] was brought into existence. The fact that it has the particular label that it has does not brand it at the outset as a contractual document or as a non-contractual document.[634]

Although such a letter does not usually give rise to obligations in contract, they can still constitute misrepresentations in tort or under the Misrepresentation Act 1967. It would be important that the builder accurately describes its ability and capacity to construct a green vessel in accordance with the buyer's requirements. If a builder is unwilling to carry out substantial preliminary work only on the assurance of a letter of intent, it may insist on a bridging contract under which it provides design and technical services in relation to the project for a fee.[635] Such arrangements are ordinarily subsumed by the main shipbuilding contract expressly, and impliedly where no express provision is made.[636] A buyer should ensure that the builder's liability under any design warranties (express or implied) are not discharged by termination of the bridging contract unless stipulated again and re-affirmed in the shipbuilding contract itself.[637]

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[629] Electric motor cars have been similarly criticised. It has also been shown that although electric cars produce zero-tailpipe emission, they produce the most GHG after taking energy generation, transmission and charging efficiency into accounts, see AE Pg Abas and others, 'Techno-Economic Analysis and Environmental Impact of Electric Vehicle' (2019) 7 IEEE 98565-98578.

[630] For example, Green Marine certification requires that participants (including shipowners, shipyards, terminals, and ports) self-evaluate their green performance, the annual self-evaluation report, and submit results to an accredited Green Marine verifier every 3 years. See Green Marine, Certification Policy: Green Marine Environmental Program (2021) https://green-marine.org/certification/ accessed 2 September 2021.

[631] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625).

[632] Ibid.

[633] Lord Wilberforce in *Reardon Smith Line Ltd v. Yngvar Hansen Tangen (The "Diana Prosperity")* [1976] 2 Lloyd's Rep. 621 at 625.

[634] *Wilson Smithett & Cape (Sugar) Ltd v. Bangladesh Sugar and Food Industries Corporation* (1985) 1 Lloyd's Rep. 378 at 379.

[635] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 13: These arrangements are common in the oil and gas industry where the construction of highly specialised vessels and structures for off-shore use are required.

[636] *British Steel v. Cleveland Bridge* [1984] 1 All E.R. 504.

[637] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 13.

After such primary work is completed by the builder, final negotiations will commence, usually in the presence of the broker, and specifications will need to be looked over by both parties. Thereafter, the parties usually conclude the main agreement in accordance with the framework of a standard contract form as amended to meet any specific needs. Common standard forms include: Shipbuilders' Association of Japan 1974 (SAJ Form), BIMCO's Standard Newbuilding Contract (NEWBUILDCON), People's Republic China's CMAC Standard Newbuilding Contract (Shanghai Form),the Community of European Shipyards' Association's "AWES Form" 1999, and the Standard Form Norwegian Shipbuilding Contract 2000.[638] The integration of the same green principles that permeate green finance frameworks as well as the vessel specifications for eligible projects will have to be carried through into these transactions. Although the standardised forms may have differences, they are largely similar in structure and stipulated obligations. Such forms usually include:[639]

1. Preamble
2. Allocation of the Design Risk
3. Description and Class of the vessel (design, characteristics, technical specifications)
4. Subcontracting (where the builder requires part of the work to be subcontracted, including direct payments to subcontractors)
5. Performance Guarantees
6. Regulatory Compliance (safety and environmental) and Classification Requirements
7. Quality Assurance
8. Terms of Payment
9. Registration (customary for the buyer to bear all of the costs of registration under the chosen flag)
10. Liquidated Damages provisions[640]

Usually, the buyer acquires financing to make all payments under the agreement on the basis that the contract is paid in full by the time of delivery of the vessel.[641] If the vessel is to be constructed as a 'green' vessel in accordance with a green finance framework, then the buyer needs to ensure that the vessel meets the terms of its loan agreement in respect of performance and targets. This would require that the builder is aware of these terms by way of reference, or that it is given clear specifications on how the vessel is to perform. It is very unlikely that the financier/bank will dictate detailed design specifications. The loan agreement, as seen with the Poseidon Principles SCC, is far more likely to stipulate that the vessel be MARPOL compliant with the necessary software to report and monitor emissions. More stringent frameworks may advance funds on the basis of net carbon emissions or the exclusive use of green supply chains and green construction. Incorporation by way of reference to the particular framework would solidify the green intention of the buyer and provide a normative direction for the actions of the builder when designing and constructing the vessel. This can be done in the preamble as its primary purpose is to identify the "Buyer" and the "Builder" and set out the scope of the project, its general terms, and to identify the shipyard where construction is to

[638] For substantial differences in these forms, see Andrew Tettenborn, 'Contracting by numbers: the different characteristics of the main shipbuilding contracts' in Baris Soyer and Andrew Tettenborn (eds) *Ship Building, Sale and Finance* (Informa Law, 2015) 3.
[639] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 19.
[640] Liquidated damages are dealt with extensively in Section 5.3.2 of Chapter 5. *Cenargo Ltd v. Empresa Nacional Bazan de Construcciones Navales Militares S.A.* (2002) EWCA Civ 524 confirmed that liquidated damages were applicable in respect of two shipbuilding contracts, however, the general principle espoused by Longmore L.J may present confusion. Nevertheless, liquidated damages pursuant of a legitimate interest are usually enforceable, see *Jobson v. Johnson* [1989] 1 All E.R. 621.
[641] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 44.

take place. Although the enforceability of the preamble may not always be straightforward, a London arbitration award in 2010 found that the description and identity of the shipyard named in the preamble was a condition of the contract.[642] It was therefore impermissible for the builders to move construction to another yard.[643] The selection of shipyard is important if the financier requires that the construction take place at a certified or green labelled shipyard.

Whilst the preamble may generally describe the vessel, the 'Description and Class' of the vessel will lay out strict parameters for its design and construction. This description traditionally includes length, breadth and depth, gross tonnage, hold/tank capacity, draught and method of propulsion. However, special requirements for fuel choices, scrubber installations, or battery capacity can all be included. The parties are also free to allocate design risk as they see fit.[644] Problems with design of a newbuild generally emerge much later after the vessel has commenced trading.[645] Express provision should be made for design risk, however, the builder's fundamental commitment to manufacture the vessel will usually entail an obligation to ensure that she meet safety requirements and performance criteria as stipulated under the contract.[646]

It would also be prudent to include the green objectives in the contract in a first clause. A prominent 'Clause 1' outlining the green objectives of the buyer would make it explicit that the environmental performance of the vessel or the environmentally sound sourcing of its materials are material. It would also clarify the factual matrix wherein the contract is situated if the courts are required to interpret and ascertain the objective intention of the parties when interpreting other obligations.[647] Clause 1(a) of BIMCO's NEWBUILDCON specifically states that, 'the Builder shall design, construct, test and survey, launch, equip, complete, sell and deliver the Vessel to the Buyer all in accordance with good international shipbuilding and marine engineering practice'.[648] The NEWBUILDCON also provides that the Builder shall:[649]

'*Endeavour to take due account of the Vessel's ultimate disposal when designing and constructing the Vessel by:*

(i) using materials which can be recycled safely and in an environmentally sound manner; and

(ii) by minimising the use of materials known to be potentially hazardous to health and the environment.'

Such a provision clearly imposes a duty on the builder to warrant that the vessel is designed and constructed in accordance with the contract, taking into account regulatory environmental requirements. A preamble or other relevant clause could go even further to spell out the green

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[642] The tribunal relied on *Reardon Smith Line Ltd v. Yngvar Hansen-Tangen* (The "Diana Prosperity") [1976] 1 W.L.R. 989. This arbitration

[643] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 21.

[644] The SAJ form makes no allocation of design risk, it merely states builder shall 'build, launch, equip and complete' and 'sell and deliver' her to the buyer.

[645] In *The Amoco Cadiz* [1984] 2 Lloyd's Rep. 304, an Illinois court found that the shipbuilders were jointly liable with the owners of the tanker for the pollution damage resulting from her stranding.

[646] See *Aktiebolaget Gotaverken v. Westminster Corporation of Monrovia and Another* [1971] 2 Lloyd Rep. 505. However, where a builder is given a design and instructed merely to build the vessel in accordance with given plans, no warranty can be implied that she must be fit for purpose (*Dixon Kerly Ltd v. Robinson* (1965) 2 Lloyd's Rep. 404).

[647] *Reardon-Smith v Hansen-Tangen* (n 642) 996.

[648] BIMCO, 'NEWBUILDCON' (2007) https://www.bimco.org/contracts-and-clauses/bimco-contracts/newbuildcon# accessed 3 September 2021.

[649] Clause 4(a).

purport of the contract, its adherence to a green finance framework, and the parameters of design and construction more generally as 'a green vessel' achieving 'lower' or 'zero emissions'. How this is to be achieved will be articulated in the vessel specification in extensive detail. The builder also guarantees the stipulated performance of the vessel. These guarantees usually relate to standards of performance (speed, deadweight, and fuel consumption), a breach of which will usually entitle the buyer to claim liquidated damages or even, where severe, reject delivery of the vessel and rescind the contract.[650]

Regulatory compliance of the vessel with applicable environmental laws is also the responsibility of the builder. Green finance frameworks may require more than mere regulatory requirements, yet bare regulatory compliance is almost invariably the responsibility of the builder. Article 1.3 of the SAJ form requires that on delivery, the vessel shall comply with the 'rules, regulations and requirements of other regulatory bodies as described in the Specifications', which is taken to encompass MARPOL and will implicitly provide for the EEDI and SEEMP where relevant. Clause 3(a) of the NEWBUILDCON similarly requires that the vessel be delivered in compliance with the regulations of the 'Regulatory Authorities'. Other environmental clauses in standardised forms include Protective Coating Clauses and Source of Origin Clauses.[651] If buyers want to impose additional requirements on the builder for outperforming regulatory standards, these would be expressly provided for in the vessel design specifications, whilst performance guarantees may be adjusted accordingly.

As they stand, the common forms used for shipbuilding do not go far enough to implement a set of green objectives. Furthermore, they would need additional terms for alignment with a green finance framework if applicable to the buyer's attainment of finance to make necessary payments under the shipbuilding contract. In a similar manner that the above sections propose express terms in a loan agreement for the advancement of funds administered under green frameworks (Sections 3.3.1 – 3.3.4), green terms will need to be inserted into all aspects of the shipbuilding contract. This would include an overall green objective in the preamble, along with detailed design, manufacturing and source specifications. Hence, clear green finance frameworks and terminology become paramount in subsequent contractual relationships for the construction of a vessel. If a vessel is to be categorised as 'green' then a shipbuilder needs to know the performance parameters and consequent design requirements of what constitutes a 'green vessel' in accordance with the framework. Although this section only views shipbuilding contracts with a view to green finance framework alignment, there is undeniably an argument to be made for the insertion of sustainability clauses in shipbuilding contracts regardless of the buyer's loan terms.[652]

3.5 Conclusion

The taxonomy dilemma enunciated in Section 3.1 of this Chapter poses challenges for directing investment towards green shipping. Navigating the waters of 'green' financing can be particularly difficult for a shipping sector which must position itself within a dimension of tools that lack specificity and an adequate categorisation of activities. Green finance for shipping requires its own set of universally recognised definitions or performance indicators for the sake of commercial clarity, accountability and comparability. States will need to include shipping within existing taxonomies in a

[650] Simon Curtis, Ian Gaunt, and William Cecil, *The Law of Shipbuilding Contracts* (n 625) 28.
[651] Protective Coating Clauses are found in Clause IV(2) Shanghai Form and Clause 5 NEWBUILDCON. Source of Origin clauses are found in Clause IV(3) Shanghai Form and Clause 6 of the NEWBUILDCON.
[652] Sustainability as a pervasive norm and the provision of express sustainability clauses are discussed in more detail in Section 4.3 (Chapter 4).

universal and consistent manner in order for financiers to effectively mobilise investment for the greening of the sector. The EIB is doing pioneering work, which is an important step in encouraging the banking sector to offer green products for shipping. However, the inclusion of shipping in the EU Taxonomy Regulation will greater assist the EIB and other banks to channel funds towards the transition of the sector to achieve carbon reduction and environmental protection goals.

That said, there are immense opportunities for green shipping to receive the necessary capital for a green transition. Section 3.2 of this Chapter illustrates that green investments are enjoying significant inflows, higher survivability rates, and better returns in comparison to traditional investment funds. The IMO has already created a regulatory agenda which will legitimise funds directed towards equipping the sector to meet increasing standards and carbon neutral goals. Banks with extensive shipping portfolios could seize sizeable opportunities by incorporating environmental considerations into their offerings. Here, the Poseidon Principles has provided an extremely useful framework in filling the green finance gap in respect of shipping.

On the other hand, the inclusion of environmental factors is a significant component of effective risk management for financial institutions. This is where contractual enforcement mechanisms take centre stage, as discussed in Section 3.3. The costs of environmental non-compliance, climate change litigation and reputational risk means that adhering to a green framework can significantly benefit all parties to a loan agreement. Financing arrangements can strongly contribute to the elevation of 'green principles' in contract law which might eventually be tantamount to other principles such as 'good faith' and 'co-operation'. Various techniques for upholding a set of green standards in credit facilities also become relevant to other bilateral agreements between the shipowner and subsequent commercial actors. If a shipowner receives a 'green loan' contingent of a set of environmental commitments and standards, then these principles and standards must both govern the shipbuilding process and its inherent transactions. These commitments will also necessarily infiltrate chartering arrangements and agreements with suppliers or sub-contractors. The following Chapter of this thesis focuses on how green finance frameworks, and their translation into loan agreement obligations, need to be carried through to the operational phase of a vessel's life span. One of the major arguments presented in the next chapter is that charterparties lack a normative framework for environmental sustainability – something which financiers can provide from an inception stage to guide forthcoming transactions between shipowners and charterers. For example, a natural follow-on from the Poseidon Principles has been the Sea Cargo Charter which propels energy efficiency norms and standards along the transactional chain to govern charter parties.

4. CHAPTER FOUR: VOYAGE- CARRIAGE OF GOODS BY SEA AND ENVIRONMENTAL OBLIGATIONS

Based on a traditional understanding of the private law; whereby contract law serves parties only to the extent that they need to solve disputes amongst themselves – the need for green obligations in chartering arrangements has been largely negated.[653] However, as discussed in previous Chapters, the cracks in this theory are widening as environmental regulatory efforts and sustainability policies are starting to permeate the ways in which businesses have to 'self-govern' and manage external risks. Shipping firms and cargo owners are no exception as upstream and downstream actors are increasingly concerned with the looming threat of climate change and the promotion of eco-conscious behaviour - from the financier to the consumer. A traditional understanding of contract law has therefore reached its breaking point, with sustainability being a driver of decision-making amongst all private actors along supply chains. Some signs of this understanding are emerging in the latest transport law convention, the Rotterdam Rules, however environmental issues are only very briefly mentioned in the context of liability thus leaving much room for further development.[654] This Chapter concerns the 'greening' of ***time charters*** and ***voyage charters***. This Chapter asks '*how*' and '*how should*' these formal agreements become a key mechanism for environmental governance in the shipping sector. Analysing these ***market transactions*** is a natural follow-on from the financing agreements discussed in Chapter 3. Financiers, along with state financial institutions, have a foundational role to play in establishing both a **normative framework** for green shipping whilst also providing *precise definitions, standards, and targets*. These concepts *must* be carried through into a vessel's operational phase to enforce green financing prescriptions and to avoid misleading practices.

In terms of scope, this inquiry is limited to time charters and voyage charters as contracts for the hire of a vessel wherein meaningful negotiation pertaining to environmental factors *should* take place.[655] Charterparties are contracts that are negotiated in a free market with bargaining power dependant on the prevailing factors influencing supply and demand.[656] Bills of Lading on the other hand, whilst able to be a contract of carriage,[657] generally reflect the terms of an antecedent contract such as a charterparty and are often used in the traditional sense as a receipt for the goods shipped.[658] Furthermore, in liner shipping, the practical realities on the industry place carriers in a dominant position to determine their own obligations and liability through the bill of lading prepared by them. This is done on a "take-it-or-leave-it" basis, which might appear as a unilateral contract given that the shipper has little bargaining power and cannot negotiate the terms which are almost always boilerplate clauses.[659] Therefore, the discussion contained in this Chapter analyses *commercial arrangements*

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[653] Y.H. Venus Lun and others, 'Environmental governance mechanisms in shipping firms and their environmental performance' (2015) 78 Transportation Research Part E: Logistics and Transportation Review 82-92, 84.

[654] Ellen Eftestøl-Wilhelmsson, 'European Sustainable Freight – The Role of Contract Law' (n 122) 8 (Subsection 3.2).

[655] Demise charter parties or bareboat chareterparties are excluded from this enquiry as they are not essentially contracts of carriage, but rather lease agreements of the vessel. See Anthony Rogers, Jason Chuah & Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (n 86) 105.

[656] Ibid 13; see also UNCTAD, *Charterparties*, Report from the Secretariat of the UNCTAD, (United Nations 1974).

[657] *Electrosteel Castings v Scan-Trans Shipping & Chartering Sdn Bhd* [2003] 1 Lloyd's Rep 190.

[658] *Rodoconachi v Milburn* (1886) 18 QBD 67, CA.

[659] Melis Ozdel, 'Enforcement of arbitration clauses in bills of lading: where are we now?' (2016) 33(2*) Journal of international arbitration* (0255-8106) 151.

between **charterer** and **shipowner** for the payment of hire or freight, wherein a set of obligations pertaining to the environmental compliance and performance can be agreed upon.[660]

This Chapter focuses on charterparties (time and voyage) to identify suitable ways for the integration of environmental sustainability into such agreements as a joint commitment between actors. **Section 4.1** of this Chapter investigates the existing contractual regime and potential international conventions that govern charterparties to identify whether any environmental obligations or blatant disincentives for sound environmental decision-making exist. **Section 4.2** of this Chapter addresses how regulatory compliance can be incorporated into charterparties, with various proposals already put forth by shipping associations in terms of ballast water management and sulphur requirements. These clauses assist parties in determining how rights and responsibilities for regulatory compliance are to be distributed between charterer and shipowner; however, they do not go far enough to elevate environmental sustainability beyond issues of compliance. **Section 4.3** proposes that charterparties follow the emerging sustainability trends of other categories of commercial relationships to elevate environmental sustainability to a ***pervasive norm***. Once such a *green norm* or *custom* is established as a tenet of chartering arrangements, as is the case in supply chain governance and aspects of trade, there are relevant rules from English contract law which can both *imply* green commitments and make use of *express* green terms in chartering agreements. This section necessarily investigates how English law may recognise and apply a green principle in contract law and the judicial tools available for interpreting an SD agenda that applies horizontally between private actors. **Section 4.4** evaluates the starting point for the conceptualisation of express green clauses in chartering arrangements.

4.1 Environmental Obligations in the Existing Regime

Presently, the existing regime only recognises forms of liability where one party is harmed by the unsound environmental behaviour of the other. If the damage is solely dangerous to the environment, then it remains the exclusive concern of the prevailing environmental public law regime. However, the underlying pressures and incentives that an innocent party might experience in relation to its commitment to environmental sustainability are increasingly expanding a traditional understanding of 'harm'. Incentives for environmentally sound behaviour extend beyond merely avoiding regulatory penal provisions but include access to green finance schemes (as discussed in Chapter 3), cost reductions, reputational gains, and other state-driven incentives such as port fare reductions or carbon credits. Limiting 'harm' should therefore be viewed against this backdrop of an emerging 'green' commitments as both contracting parties need to view green behaviour as *aligned* with their own interests.[661] This section views contracts of carriage (specifically voyage and time charters) and the regimes ***governing*** them with a view to seeking out whether any environmental obligations presently exist. It is argued that these provisions are minimal and insufficient, and at times, can deter environmentally sound behaviour.[662]

[660] Niche transportation contracts are not included in this discussion, however, green obligations could equally be inserted into such agreements.
[661] Ellen Eftestøl-Wilhelmsson, 'European Sustainable Freight – The Role of Contract Law' (note 122) 17.
[662] This provides a contextual underpinning as to whether these contracts *should be governed* for the elevation of green objectives in shipping in accordance with the contract governance theoretical framework (see Section 1.5.1 of Chapter 1).

Generally, charterparties are ***not*** governed by international conventions but by the common law.[663] Such agreements are premised on freedom of contract with some degree of judicial intervention to ensure fair play. Freedom of contract, as governed by the common law, operates well where both charterer and shipowner have equal bargaining power.[664] However, in the case of contracts of carriage (e.g. bill of lading contracts) that are made between an economically less powerful shipper or cargo interest and a large carrier, unconstrained freedom of contract could result in economic oppression. Thus, a number of rules came into existence to bring fairness to the regime. In 1924, the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading (the 'Hague Rules') was adopted and introduced into English law, with some minor differences, by the Carriage of Goods by Sea Act 1924. The Hague Rules were subsequently amended in 1968 by the Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading and this amended version became colloquially known as the 'Hague-Visby Rules'.[665] The Carriage of Goods by Sea Act 1971 was passed in the UK to give effect to these amendments. Since then, more radical changes have been called for, with the result being the UN Convention on the Carriage of Goods by Sea ("Hamburg Rules")[666] in 1978 and the UNCITRAL Convention on Contracts for the International Carriage of Goods Wholly or Partly by Sea ("Rotterdam Rules")[667] in 2008. These rules are currently not binding in the UK.[668]

Charterparties are expressly excluded from the application of the Hague-Visby Rules as the Rules only apply to contracts of carriage 'covered by a bill of lading or similar document of title'.[669] However, Art V states that, '[t]he provisions of these Rules shall not be applicable to charter parties, but if bills of lading are issued in the case of a ship under a charter party they shall comply with the terms of these Rules'. As the Hague-Visby Rules only apply to bills of lading, and the Hamburg Rules and Rotterdam Rules are not binding, it may seem a futile exercise to investigate whether environmental obligations are imposed on parties to a charterparty by these regimes. However, these regimes are worth mentioning alongside the prevailing common law regime as they may be expressly adopted by the parties in a clause paramount.[670] The clause paramount may incorporate a convention by reference - this can be either the convention *stricto sensu* or the national legislation that adopts the instrument.[671] The English courts will give effect to a clause paramount provided that the charterparty, whether voyage or time, makes it clear that it is the parties' intention to incorporate a clause paramount into the agreement.[672] This may involve some creative interpretation and manipulation of the wording of

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[663] Jason Chuah, 'Chapter 8: International Conventions on Carriage of Goods by Sea' in *Law of international trade: cross-border commercial transactions* (6th ed, Sweet & Maxwell, London, 2019) 647-648.
[664] Ibid.
[665] A final amendment was made in 1979 by the Protocol Amending the International Convention for the Unification of Certain Rules of Law Relating to Bills of lading (adopted 21 December 1979; in force 14 February 1984). Many countries did not adopt the Hague–Visby Rules and stayed with the 1924 Hague Rules; whilst some countries which chose to upgrade to the Hague-Visby Rules subsequently failed to adopt the 1979 protocol.
[666] (adopted 31 March 1978, in force 1 November 1992) A/CONF.89/13.
[667] (New York, 2008).
[668] Anthony Rogers, Jason Chuah & Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (n 86) 152.
[669] Hague-Visby Rules, Art I.
[670] As a result, the expressly chosen regime would not amount to governing law, but the internal terms of the contract that govern party rights and duties.
[671] For an analysis of paramount clauses, see Jonatan Echebarria Fernández, 'Paramount Clause and Codification of International Shipping Law' (2019) 50(1) Journal of Maritime Law and Commerce 45-89.
[672] Yvonne Baatz, 'Chapter 13: Clauses Paramount' in Bariş Soyer and Andrew Tettenborn (eds) *Charterparties:*

the clause paramount, even it means that some of the Rules referred to in the clause paramount should be ignored.[673] Therefore, these international regimes are also assessed with a view to seeking out present green commitments or deterrents for green behaviour.

Like the Hague-Visby Rules, the Rotterdam Rules also exclude charterparties and indeed any other contract for the use of a ship or space on a ship from the scope of its application.[674] However, unlike the Hague-Visby rules which apply "tackle to tackle", the Rotterdam Rules apply to contracts of the carriage of goods "wholly or partly by sea" and could apply on a "door to door" basis.[675] The Rotterdam Rules thus extend their scope of application to multimodal transport, albeit in a limited away, including any relevant provisions related to environmental responsibilities. As it would follow that a clause paramount would be sufficient to incorporate the Rotterdam Rules in the parties' carriage arrangements, this aspect of the Rotterdam Rules' reach is interrogated below.

Article 17(3)(n) of the Rotterdam Rules shows some limited potential for the inclusion of environmental considerations in contracts of carriage in providing that a carrier will be relieved from liability for loss of or damage to the goods, as well as for delay in delivery during its period of responsibility, if it can be proven that 'reasonable measures to avoid or attempt to avoid damage to the environment' caused or contributed to the damage or loss.[676] This is encouraging insofar as it will not deter a carrier from pursuing delays or alternative routes where there is a risk to the marine environment. This could include salvage operations or other measures to protect against environmental damage.[677] Therefore, although the Rotterdam Rules do not impose environmental duties on carriers to make sustainable choices, they do make progress in respect of liability regimes which promote responsible environmental behaviour. This is significant because the UN Convention on Multimodal Transport of Goods 1980 is also silent on imposing environmental obligations on 'multimodal transport operators', despite governing a series of choices for the performing or procuring of transport which could reflect green preferences.[678] However, at present, there is little hope of the Rotterdam Rules being ratified as some countries still continue to show a preference for the Hague-Visby Rules.[679] The current conventions governing carriage of goods by sea are therefore somewhat outdated in that they focus solely on balancing interests between shipowners and cargo owners. This approach is in line with traditionalist or autonomist views that the private law is, '…a realm with its own inner intelligibility, isolated from the social, economic cultural, and political realms'.[680]

The current common law regime, (along with international conventions where applicable), might in fact impose obligations that deter good environmental performance. Certain obligations are quite

Law, Practice and Emerging Legal Issues (Informa Law from Routledge, London, 2017) 258.

[673] *Anglo-Saxon Petroleum Co., Ltd. v. Adamastos Shipping Co., Ltd. (The Saxon Star)*, [1958] 1 Lloyd's L.Rep. 73 (H.L.); *The Satya Kailash,* [1984] 1 Lloyd's L. Rep. 588 (C.A. 1983).

[674] Rotterdam Rules, Art 6.

[675] See Preamble to the Rotterdam Rules (especially paras 5 and 6); also Art 5.

[676] Rotterdam Rules, Art 17(1) read with Art 17(3)(n).

[677] Ellen Eftestøl-Wilhelmsson, 'European Sustainable Carriage of Freight – The Role of Contract Law' (n 122).

[678] The United Nations Convention on Multimodal Transport of Goods 1980 (Geneva) (never entered into force) art 1.2.

[679] For example, Malaysia's recent The Carriage of Good by Sea (Amendment) Bill 2019 will incorporate the Hague-Visby Rules into domestic law.

[680] Hanoch Dagan, 'The Limited Autonomy of Private Law' (2008) 56(3) The American Journal of Comparative Law, Special Symposium Issue: "Beyond the State: Rethinking Private Law" 809-833.

problematic, such as laycan and demurrage clauses. The time permitted for loading and discharging operations is called 'laytime', whilst 'demurrage' charges are essentially penalty charges which are applied after an allotted time has run out. These clauses allow a ship under a charter-party to be delivered for the charterer's use within a certain number of days (lay-days), but the charterer is entitled to cancel the contract if the vessel has not arrived by the end of that period (the cancelling date). It also needs to be considered that there is an inherent undertaking in every contract of carriage which requires the shipowner or carrier to perform his contractual obligations with reasonable dispatch.[681] There is thus an implied undertaking in a voyage charter that the vessel will embark on the voyage, load and discharge within a reasonable time or at the agreed time if stipulated.[682] Intentional unreasonable delays might result in committing a deviation, which is ordinarily only permissible under common law for saving a life or to avoid damage to the ship or cargo.[683] These clauses encourage enhanced speed and might hinder the concept of 'slow-steaming' or a commitment to fuel reductions. [684]

Vessel description and the concept of 'seaworthiness' also have environmental implications. [685] There is an important initial obligation of the shipowner in both a voyage charter and a time charter as to the proper description of the vessel. In a voyage charter, the description of the vessel is less detailed than that included in a time charter.[686] This is because during a time charter period, the charterer hires the vessel with its associated services. It is thus important for the charterer to have accurate information regarding the vessel so as to form an opinion about the commercial value of the vessel. Whilst describing the vessel, it is important that the shipowner makes truthful and accurate representations. If the shipowner makes a fraudulent representation during negotiations which induces the charterer to sign the charter party, then the charterer may rescind the charter party and ask for damages. If, on the other hand, the shipowner makes an innocent representation, then the charterer will be able to sue for damages unless it can be shown that the shipowner had reasonable grounds for believing that the facts presented were true at the time the contract was made.[687] There is also an implied undertaking that a ship will be seaworthy for that particular voyage (voyage charters) or that it will be delivered in a seaworthy condition and maintained in such order for the duration of the charter period (time charter). The notion of 'seaworthiness' does necessarily incorporate a set of environmental standards; however, this understanding is limited to mere compliance with the prevailing public law regime.

The undertaking of seaworthiness is both absolute and relative.[688] The standard which must be met is relative, but once it is defined in the contract then the shipowner's obligation to meet the standard is absolute.[689] It is not a valid excuse that the owner was unaware of the defect or that he undertook to

[681] John F Wilson, 'Implied obligations in a contract of affreightment' in *Carriage of Goods by Sea* (7th ed, Pearson Education Ltd, 2010) 15.
[682] Ibid.
[683] *Scaramanga v Stamp* (1880) 5 CPD 295 at p 304; *The Teutonia* (1872) LR 4 PC 171.
[684] Art IV rule 4 of the Hague/Visby Rules.
[685] Such operational measures and applicable contractual clauses are discussed in forthcoming sections.
[686] Evi Plomaritou and others, *Shipbroking and Chartering Practice*, (Informa Law, 2017) 350.
[687] Evi Plomaritou, 'A Review of Shipowner's & Charterer's Obligations in Types of Charter' (2014) 4 Journal of Shipping and Ocean Engineering 307-321, 308.
[688] *Steel v State Line Steamship Co* (1877) 3 App Cas 72; see also Anthony Rogers, Jason Chuah, and Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (n 86) 73.
[689] Ibid.

ensure that the ship was fit for voyage.[690] Art III (1) of the Hague-Visy Rules modifies this aspect of common law doctrine, whereby the 'carrier'/owner shall exercise due diligence in making the ship seaworthy; properly manning, equipping and supplying the ship; and making 'the holds, refrigerating and cool chambers, and all other parts of the ship in which goods are carried, fit and safe for their reception, carriage and preservation'. The classic 'ordinary careful and prudent owner' test is not the only test in deciding whether a ship is unseaworthy.[691] It can also be alternatively asked whether the ship, at the relevant moment, was 'reasonably fit to meet the perils of the voyage'.[692] Unseaworthiness can relate to a number of deficiencies or malfunctions relating to the vessel, competency of the crew or to the documentation carried.[693] These reasons can range from trivial to serious failings, however not every defect will necessarily make a vessel unseaworthy.[694] In respect of compliance issues, adequate documentation is an important part of seaworthiness. This becomes especially important where adequate documentation is necessary for the vessel to carry on her business without hindrance.[695]

Seaworthiness necessarily considers external circumstances. Even on a traditional interpretation, seaworthiness requires that, 'a ship must have that degree of fitness which an ordinary careful and prudent owner would require his vessel to have at the commencement of her voyage having regard to all the probable circumstances of it'.[696] This can arguably be extended to having the appropriate technology and equipment to adhere to the prevailing environmental standards in order for the vessel to operate along certain routes without delays.

In a *voyage charter*, the seaworthiness undertaking is two-fold: 1) the vessel must be seaworthy at the time of sailing; and 2) the vessel must be fit to receive the specified type of cargo at the loading time. [697] The seaworthiness undertaking is not breached if a condition of unseaworthiness arises after the cargo has been shipped.[698] In a *voyage charter*, ship owners are responsible for supplying fuel and factor the cost thereof into the freight rate, which is often referred to as a bunker adjustment factor (BAF). In an environmental compliance context, the same allocation of risk and responsibility is applicable to fuel type and sulphur content. Responsibility for compliance will almost always rest with the owner unless exceptional circumstances are proven.

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[690] *McFadden v Blue Star Line* [1905] 1 KB 697.

[691] The classic definition of seaworthiness is contained in the judgment of Lord Justice Scrutton in *FC Bradley & Sons Ltd v Federal Steam Navigation Co* (1926) 24 Ll L Rep 446 at 454: 'The ship must have that degree of fitness which an ordinary careful and prudent owner would require his vessel to have at the commencement of her voyage having regard to all the probable circumstances of it. To that extent the shipowner… undertakes absolutely that she is fit, and ignorance is no excuse. If the defect existed, the question to be put is, would a prudent owner have required that it should be made good before sending his ship to sea had he known of it? If he would, the ship was not seaworthy…'

[692] Anthony Rogers, Jason Chuah, and Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (n 86) 73.

[693] From a leaking hull: *Lyon v Mells* (1804) 5 East 428; to inadequate charts and navigation aids: *The Isla Fernandina* [2000] 2 Lloyd's Rep 15.

[694] *The Fjord Wind* [1999] 1 Lloyd's Rep 307 319; *The Pride of Donegal* [2002] EWHC 24 (Comm); [2002] 1 Lloyd's Rep 659. The prudent shipowner might leave some defects to be rectified during the voyage or at a later day.

[695] *Alfred C Toepfer v Tossa Marine, The Derby* [1985] 2 Lloyd's Rep 325, CA.

[696] *FC Bradley & Sons Ltd v Federal Steam Navigation Co* (n 691).

[697] Channell J in *McFadden v Blue Star Line* (n 690) 704; *Maxine Footwear Co Ltd v Canadian Government Merchant Marine* [1959] AC 589, 603.

[698] *McFadden v Blue Star Line* (n 690) 697.

In *time charters*, it is not only important that the ship is delivered in seaworthy condition but that it will be kept in such a condition throughout the charter party period. Generally, the shipowner is not obligated to ensure that the vessel is perfectly fit for purpose at all times under the contract and the obligation attaches only at the time of delivery of the vessel under the charterparty.[699] However, the seaworthiness undertaking is usually supplemented by a maintenance clause in which the shipowner would be expected to rectify defects and 'keep the vessel in a thoroughly efficient state in hull, machinery, and equipment for and during the service'.[700]

The obligation of seaworthiness is considered an innominate term. Diplock LJ highlighted in *Hong Kong Fir Shipping Co v Kawasaki* that such an undertaking 'can be broken by the presence of trivial defects easily and rapidly remediable as well as by defects which must inevitably result in a total loss of the vessel'.[701] Therefore the breach of the obligation of the owner to deliver a seaworthy vessel could have variable results. Whilst damages are always available to the charterer for breach, repudiation would only be available where the breach deprived him 'of substantially the whole benefit which it was intended that he should obtain from the contract'.[702] Whether environmental performance could deprive the charterer of substantially the whole benefit of the contract remains to be seen and the obligation is generally underpinned by commercial interests to deliver the cargo safely and without undue delay.[703] Arguably, a vessel which is non-compliant with IMO standards (e.g. ballast water management, energy efficiency equipment or the installation of a scrubber) could amount to the substantial deprivation of the whole benefit of the contract if delays, detainments or other penalties could hinder the commercial efficacy of the agreement. However, the rationale behind 'seaworthiness' remains an economic one.

Art III, r 1 and 2 of the Hague and Hague-Visby rules, contains an obligation to exercise due diligence in making the ship seaworthy, and to 'properly and carefully load, handle, stow, carry, keep, care for, and discharge the goods carried'.[704] The Hamburg rules also indirectly refer to 'due diligence' under its liability provision, whereby damage or delay attributable to fault or neglect of the carrier will be actionable.[705] If the carrier is liable for any damage, loss or delay of the cargo when it receives the cargo into custody, then it follows that the carrier has a duty to handle the goods with due care. Unfortunately, there is little scope to extend 'due diligence' to any environmental factor. This traditional approach is also reflected in the Rotterdam Rules, whereby the main obligation is constrained to delivering the goods to the consignee and to 'properly and carefully receive, load, handle, stow, carry, keep, care for, unload and deliver the goods'.[706] This view is maintained unless agreed otherwise between the contracting parties.[707] Because of the multimodal application of the Rotterdam Rules, the primary obligation of the carrier is extended to an obligation to 'receive and deliver' as opposed to the mere 'load and discharge' obligation in the Hague-Visby Rules. The

[699] Simon Baughen, *Shipping Law* (4th ed, London and New York: Routledge Cavendish, 2009) 163.
[700] See NYPE 93 form, clause 6.
[701] [1962] 2 QB 26.
[702] Ibid 69.
[703] Oana Adăscăliţei, 'An Overview on the Implied Obligations in a Contract of Affreightment' (2013) 92 Procedia - Social and Behavioural Sciences 7-15.
[704] An equal provision is found in the Rotterdam Rules, Art 14.
[705] Hamburg Rules, Art 5(7) and also Art 5(1) (carrier must take reasonable steps to avoid loss or damage to the goods transported).
[706] Rotterdam Rules, Art 11 and Art 13(1). See also Theodora Nikaki, 'The fundamental duties of the carrier under the Rotterdam Rules' (2008*)* 14 Journal of International Maritime Law 512-523.
[707] Rotterdam Rules, Art 13(2).

Rotterdam Rules do not include any environmental obligation in organising a transport chain between one or more modes.[708]

Although beyond the purview of this Chapter, it is also worth noting that a third species of charter party exists called the *bareboat charter*. In these agreements, the owner delivers the ship and its entire commercial employment and operation to the charterer who will then act as 'quasi-owner' for the agreed period. However, a bareboat charter is essentially a lease agreement as opposed to a contract of carriage.[709] The charterer appoints a master and crew (usually subject to the owner's approval) and is responsible for all running costs while the owner remains responsible only for the ship as an asset along with is depreciation, capital repayments, and sometimes also the survey costs.[710] The remuneration payable by the charterer is called hire, which will not be payable if the vessel is unable to trade for an 'off-hire' period due to the fault of the owner. The charterer pays all operating expenses including handling costs, whilst the shipowner is only responsible for capital costs associated with the ship as an asset. Generally, a charterer will not be able to make any structural or other changes unless agreed upon. There is thus a general duty on the owner to deliver a seaworthy vessel and for the charterer to return the vessel in the same condition. The charterer may in certain cases remove or install equipment subject to the client's needs. In terms of environmental compliance, it can be agreed that the charterer is responsible for any modifications necessary depending on the requirements of the administrative authority which has jurisdiction over the vessel. In terms of sulphur content requirements, the charterer may be obligated to install a scrubber.

In the context of transport more generally and multi-modal contracts, Eftestøl-Wilhelmsson argues that a 'modern, harmonised liability regime that aims to enhance sustainable carriage of goods should cover rules on the environmental duties of transport integrators, the logistical service providers that procure and perform multimodal contracts of carriage, such as carriers and freight forwarders'.[711] The Norwegian Maritime Committee, in its proposal for an interpretation rule of the Rotterdam Rules, has similarly called for a deeper consideration of environmental factors in stating that, '[i]t should be assumed that the transport must be planned and implemented with due regard for the environment' (translation).[712] At present, there is limited potential for the existing rules governing the contracts of carriage to incorporate a set of environmental obligations. In fact, as shown, there are instances where the traditional rules are somewhat problematic. One exception is the expansion of the notion of 'seaworthiness', which has practically necessitated that environmental regulatory standards are adhered to despite the exclusive commercial underpinnings of the obligation. In addition, (and if expressly adopted by a clause paramount) neither the Hague-Visby nor Rotterdam Rules make express provision for environmental considerations. However, the governing environmental law regime has made it necessary for prudent parties to include these standards in their agreements for the clear allocation of duties and liability. Shipping associations have been instrumental in incorporating

[708] Ellen Eftestøl-Wilhelmsson, 'European Sustainable Freight – The Role of Contract Law' (n 122) 10.
[709] Anthony Rogers, Jason Chuah, and Martin Dockray, *Cases and Materials on the Carriage of Goods by Sea* (n 86) 105.
[710] Lord Esher stated in *Baumwoll v Gilchrest* [1892] 1 QB 253 at 259 that the test of whether the charter is by demise depends on whether the owner has '… parted with the whole possession and control of the ship and to this extent, that he has given to the charterer a power and right independent of him, and without reference to him to do what he pleases with regard to the captain, the crew, and the management and employment of the ship'.
[711] Ellen Eftestøl-Wilhelmsson, *European Sustainable Carriage of Goods: The Role of Contract Law* (1st ed, Routledge 2015) 130.
[712] Ibid 144; Norge Offentlige Utredninger (NOU) 2012: 10 Gjennomføring av Rotterdamreglene I Sjøloven; translation and discussion provided by Ellen Eftestøl-Wilhelmsson.

appropriate terms to clarify such duties between owner and charterer. However, the mainstream approach remains one of viewing charterparties as exclusive commercial bilateral agreements that are insulated from the public law regulatory regime – therefore excluded from the pervasiveness of green norms and environmental law principles.

4.2 Integration of Regulatory Requirements into Time and Voyage Charters

This section briefly identifies some of the current international environmental law requirements for the shipping sector and how these standards have been dealt with in modern charterparties. In particular, the incorporation of *ballast water management* and *sulphur requirements* into shipping contracts are analysed. Both ballast water management and the sulphur requirements of vessels are similar in their allocations of rights and responsibilities for environmental compliance. As with all charter parties, there is an obligation for the owner to provide a vessel that is **seaworthy**, which extends to requisite certificates and suitable equipment in the context of environmental compliance. Charterers, on the other hand, must take into account the time for monitoring and compliance of the ship's environmental performance and must undertake necessary obligations (for example, fuel requirements or ballast water exchange).

This section aims to elucidate how charterparties can (and currently do) *control* the behaviours of charterers and shipowners in respect of environmental obligations. This method identifies contractual enforcement techniques that provide a clear articulation of rights, responsibilities and consequent liabilities. Although the suggested clauses by shipping associations are very successful in providing suitable clauses for this purpose, it becomes apparent that they are very narrowly focused on party interests as bilateral commercial arrangements. This view fails to acknowledge two major factors:

1) There is an assumption that non-compliance will be attributed to the behaviour of either of the contracting parties. This fails to consider the interventions of third parties, such as equipment manufacturers or procedurally inaccurate port inspection schemes.
2) These contractual clauses deal with issues of environmentalism as a regulatory hindrance, as opposed to a convergence of ideals. Traditional contractual enforcement provisions are an important part of governance, but they do not go far enough to influence real change and expectation.

It has been previously explained why this traditional view of 'contract law in isolation' is becoming inadequate in dealing with the complexities of contemporary global agendas.[713]

4.2.1 Ballast Water Management

The International Convention for the Control and Management of Ships' Ballast Water and Sediments, 2004 (BWM Convention) entered into force globally on 8 September 2017. The BWM Convention consists of 22 Articles, an Annex containing 24 regulations divided into five sections (A, B, C, D and E) and two Appendences to the Annex which provide the form of International Ballast Water Management Certificate and form of Ballast Water Record Book. The Articles stipulate the development, ratification, enforcement and implementation of the Convention, whilst the Annex Regulations provide the technical standards that need to be adhered to. All member states are required to directly verify compliance of all ships which call at their ports, by conducting inspections, verifying certificates and carrying out ballast water sampling in accordance with the guidelines.

[713] See Chapter 1 (Section 1.5.1) on a contract governance theoretical framework.

Section D of the Annex provides standards for ballast water management. The BWM Convention prescribes two standards, the D-1 standard and the D-2 standard. D-1 relates to ballast water exchange and requires ships to conduct an exchange of ballast water such that at least 95% of water by volume is exchanged far away from the coast. On the other hand, the D-2 standard specifies criteria for the maximum amount of viable organisms allowed to be discharged, including specified indicator microbes harmful to human health.

From the date of enforcement, all ships must have:

- A ballast water management plan;
- A ballast water record book; and
- An International Ballast Water Management Certificate.

All new ships must meet the D-2 standard, whilst all existing ships must meet at least the D-1 (ballast water exchange) standard and have the option to install a ballast water management system or meet the D-2 (discharge) standard, although the D-2 standard will not be mandatory until the corresponding compliance date. This date is linked with the renewal survey of the ship associated with the International Oil Pollution Prevention Certificate under MARPOL Annex I. By 2024, all ships, new and existing, will have to conform to the D2 standard.

4.2.1.1 Who is responsible for installation (i.e. who pays)?

These requirements for ballast water management systems raise the question of who bears the responsibility for installing type-approved systems and which parties are most affected by the regulations, especially where there are risks associated with non-compliance. The simple answer is that shipowners will ultimately bear the cost of water ballast management. However, charterers should also be careful in considering how ballast water management systems will impact the ordinary operations of a ship and what time considerations need to be factored into leasing agreements.

In charterparties, it is generally the owner who warrants that the various requirements of the BWM Convention are met. This is because in terms of the Convention, owners need to ensure that their vessels comply with the various surveys for certification in order to avoid detention and fines. Charterers might want express clauses to protect them in the event of non-compliance, especially where non-compliance results in time lost, whereas shipowners might want to compromise for a reasonable endeavours obligation. It is also important to consider whether owners have only warranted that the vessel meets the BWM Convention's requirements at the time of entering into the contract or if compliance is warranted for the entire duration of the charter.

In balancing the interests of owners and charterers, INTERTANKO endorsed two broadly worded clauses for dealing with ballast water management in respect of both voyage charters and time charters.[714]

*INTERTANKO Ballast Water Management Clause for **Voyage Charters***

1. *Owners shall maintain a ballast water management plan in accordance with the vessel's flag state requirements and carry out ballast water operations in accordance with such plan.*

[714] INTERTANKO, 'Ballast Water Management Clauses' (2012) https://www.intertanko.com/info-centre/model-clauses-library/templateclausearticle/ballast-water-management-clauses accessed 15 September 2021.

2. *If Owners fail to comply with the obligations in 1, Owners shall bear any additional costs, expenses and penalties. Any time lost shall not count as laytime or time on demurrage.*

3. *If Owners have complied with the obligations in 1, but additional ballast water operations are required, then:*

   a. the validity of the Notice of Readiness shall not be affected,
   b. any time lost due to such additional ballast water operations shall count as laytime or time on demurrage, and
   c. any additional costs, expenses and penalties shall be for Charterers' account.

INTERTANKO Ballast Water Management Clause for ***Time Charters***

1. *Owners shall maintain a ballast water management plan in accordance with the vessel's flag state requirements, and carry out ballast water operations in accordance with such plan.*

2. *If Owners fail to comply with the obligations in 1, Owners shall bear any additional costs, expenses and penalties and the vessel shall be off hire for any time lost.*

3. *If Owners have complied with the obligations in 1, but additional ballast water operations are required, then the vessel shall remain on hire and any additional costs, expenses and penalties shall be for Charterers' account.*

These clauses protect charterers in the event that the vessel does not meet ballast water requirements as mandated by the BWM Convention and the flag state administration. On the other hand, the owner is protected from claims for time lost where they have complied with ballast water obligations. Here, the liability is determined by compliance.

4.2.1.2 Approved systems and manufacturing faults

At present, there are many developed ballast water treatment systems designed for meeting the D-2 standard. These involve a number technological methods, involving mechanical separation and chemical treatment. The BWM does not prescribe specific technology, however, the system must be tested against the IMO evaluations procedure in order to obtain a Type Approval Certificate (TAC) issued by the flag state administration or recognised authorisation body. All systems therefore need to meet the D-3 requirements which are guided by the G8 Guidelines (Approval of Ballast Water Management Systems). Those systems using active substances also need to undergo the Procedure for Approval of Ballast Water Management Systems that make use of Active Substances in terms of the G9 guidelines. The G8 and G9 guidelines are intended to ensure that the BWM treatment technologies used are sufficient in tackling the environmental threat in a way that does not cause any ancillary damage and is safe and suitable. BWM systems therefore need to be type-approved in accordance with the guidelines. [715]

[715] The original IMO Guidelines (G8) (MEPC.174(58)) were revised and on 28 October 2016 (MEPC.279(70)). Installations installed on or after 28 October 2020, shall comply with the Res. MEPC.279(70) or the BWMS Code adopted by Res. MEPC.300(72) and shall have a type approval accordingly.

Once such a system is installed, an installation survey of the system is required to check that the system has been properly installed in accordance with its design, is readily operable, and complies with the TAC. Once this survey is completed, a Ballast Water Management Certificate may be issued. The latest IMO update on BWM system approvals shows that there are 59 and 43 systems which have received basic and final approval respectively from the IMO.[716] An additional 76 BWM systems have received type approval from their respective Administrations.

Another important consideration is that of ships operating in US waters. The US is not a signatory to the BWM Convention and has its own federal regulations for the allowable concentration of living organisms discharged into US waters, as well as specific requirements for type approval of BWM systems. National legislation is found in the United States Coast Guard (USCG) Final rule[717] and the Environmental Protection Agency's (EPA) Vessel General Permit 2013 (VGP 2013). The USA's legislation has a significant impact on the international shipping industry because of its complexity and far more stringent protocols than the IMO. The US type approval process for BWM systems is strictly regulated and can only be conducted by USCG approved Independent Laboratories.[718] The IMO has more lenient testing procedures which places the choice of laboratory with the flag administration and manufacturer.

Manufacturers must receive type approval from their administrations, which might lead to the logical assumption that ballast water treatment systems released onto the market are guaranteed to work and meet port inspection requirements. However, certain systems have been withdrawn from the market for fears of non-compliance.[719] If the owner is liable for any losses resulting from ballast water operations due to a manufacturing default, which would be the case under the INTERTANKO clauses, then the question is posed whether the manufacturer is required to guarantee the effectiveness of the equipment and can be held liable as a consequence. This will depend on the terms of the supply contract, however a prudent vessel owner will need to consider the knock-on effect of liability under the charterparty agreement. The manufacturer's terms are likely to exclude many of the types of losses that a shipowner would suffer from delays, fines, loss of hire, dry-docking costs or even installation of a new system with a different manufacturer if trust is completely lost.

Therefore, owners need to adopt a bigger picture 'supply-chain thinking' in sourcing a BWM system. Here, external factors and access to information are once again key. If owners select high-quality systems from reputable vendors with favourable terms in respect of manufacturer's liability, then this information can be conveyed to charterers in incentivising their hire of the vessel.

4.2.1.3 Port Authorities and Risks

There are also enforcement considerations for shipowners and operators. Enforcement of the BWM Convention is carried out through inspections by port states or flag states as applicable. Article 9

[716] DNV, 'Type-approved, USCG-compliant ballast water treatment systems now widely available' (*Industry Insights,* 30 September 2019) https://www.dnv.com/expert-story/maritime-impact/Ballast-water-management-type-approved-USCG-compliant-treatment-systems-now-widely-available.html accessed 15 September 2021.

[717] Final rule entitled *Standards for Living Organisms in Ships' Ballast Water Discharged in US Waters*, published March 2012 and became effective on 21 June 2012

[718] US testing requirements specified in Code of Federal Regulations (46 CFR 162.060) and the EPA's Environmental Technology Verification21 (ETV) Protocol.

[719] In 2017 Evonik and TeamTec decided to withdraw PERACLEAN® Ocean and consequently the AVITALIS™ BWTS from the market.

provides that a ship may be subject to inspection in any port or offshore terminal of another contracting party, with the inspection being limited to:

- Verification of an onboard valid international ballast water management certificate;
- inspection of the ballast water record book; and
- sampling of the ship's ballast water, although analysis of such samples should not be used as a basis for unduly delaying the operation, movement or departure of the ship.

Where a ship does not carry a valid certificate, or there are clear grounds for believing that the ship's equipment does not correspond to the certificate, or the master or crew are not familiar with the BWM, then port state control officers may take necessary steps to ensure that the ship does not discharge ballast until it can do so without presenting a threat to the environment. Article 9 provides for sampling of ballast water at an initial inspection, however the Guidelines for port State control under the BWM Convention envisage a four-stage inspection where sampling usually takes place at a third stage where initial inspections were not satisfactory.[720]

Where a ship has violated the Convention, the port state control officers may take steps to warn, detain or exclude the ship, or allow the ship to discharge its ballast water elsewhere or seek maintenance. The Guidelines for port state control provide a non-closed list of deficiencies which are of a serious enough nature to warrant detention of the ship. Such deficiencies include, the absence of Convention documentation (e.g. BWM plan, BW record book, BWM certificate), no nomination of a designated officer or failure to pass sampling tests. Fines can also be imposed for these violations.

This raises the question of whether failure to pass port inspections makes the owner strictly liable for all losses arising out of the violation. BIMCO takes the view that a valid BWM certificate should be sufficient initial evidence of compliance with the BWM convention and that shipowners should not be held liable for the time and costs of sampling and testing by port authorities or national administrations unless non-compliance on the part of the shipowner is proven.[721] In BIMCO's Standard Barge Charterparty, its ballast water provision is more favourable to the owner, for the obvious reason of being a demise charter, in stating that 'all costs arising from the compliance with legislation including… a ballast water management plan…., shall be for the account of the Charterers'.[722] The charterparty also provides that '[s]hould ballast water have to be treated or discharged into another vessel or ashore, the costs and time of such activities will be for the account and responsibility of the Charterers'.

BIMCO also maintains the view that sampling and testing should not interfere with a ship's operations.[723] This opinion is somewhat shared by the IMO as it forms the basis of the 'undue delay' provision in the BWM Convention. Article 9 of the Convention authorises port state control inspections in order to determine a vessel's compliance with ballast water management requirements, however Article 12(1) provides that all possible efforts should be made to avoid undue detention or delay.

[720] Guidelines for port State control under the Ballast Water Management Convention adopted by IMO MEPC 67 by way of resolution MEPC.252(67).
[721] BIMCO, 'BIMCO Statement on Ballast Water Management' (2019) https://www.bimco.org/about-us-and-our-members/bimco-statements/02-ballast-water-management accessed 15 September 2021.
[722] BIMCO, 'Standard Barge Charterparty' (2008) https://www.bimco.org/-/media/BIMCO/Contracts-and-Clauses/Contracts/Sample-copies/Sample-copy-BARGEHIRE-2008.ashx accessed 19 July 2021.
[723] BIMCO, 'BIMCO Statement on Ballast Water Management' (n 721).

Where a vessel is unduly detained or delayed, Article 12(2) entitles it to compensation for 'any loss or damage suffered'. This is another important consideration for owners and charters in deciding how this compensation is to be handled. What if the time lost is for the charter's account, but the owner has the right to claim for 'any loss or damaged suffered'? Should the owners thus claim on the charterer's behalf? Owners and charterers should consider appropriate clauses to deal with delays.

It also needs to be considered whether any time lost due to inspection should count towards laytime or time on demurrage for voyage charters and whether the vessel would remain on hire for time charters. The inclusion of ballast water discharge, port inspections and other delays due to the implementation of the BWM Convention should be provided for in a charterparty. For example, the ASBATANKVOY tanker voyage charterparty provides that: [724]

> *7. HOURS FOR LOADING AND DISCHARGING. [...] If* ***regulations of the Owner or port authorities prohibit loading or discharging of the cargo at night****, time so lost shall not count as used laytime; if the Charterer, shipper or consignee prohibits loading or discharging at night, time so lost shall count as used laytime. Time consumed by the vessel in moving from loading or discharge port anchorage to her loading or discharge berth,* ***discharging ballast water*** *or slops, will not count as used laytime.* [emphasis added]

Although this clause looks specifically at ballast water and cargo tank slops, it also needs to be considered that ballast water tank sediments are required to be discharged into suitable facilities, something which might add additional time. Prudent parties should therefore decide beforehand whether time should continue to run during these discharges *at the outset*. The increasing changes to environmental legislation and the patchwork of varying laws in different port jurisdictions also means that parties should reconsider their trading limits. Owners might want to include bespoke clauses whereby charterers agree to only operate the vessel in suitable ports for which the vessel meets all international, regional and national laws.

These suggested BWM clauses are therefore helpful but do little in the way to incentivise behaviour beyond the scope of liability between charterers and owners. Third parties such as manufacturers and port authorities have key roles to play in determining contractual responsibilities. This requires actors to look beyond the scope of their traditional bilateral arrangements. A continuation of green and informed thinking is required from shipbuilding and BWMS installation to the everyday functions of the vessels when traversing different ecosystems and entering ports. Environmental protection is not limited to the public law regime and state administrations but can translate into civil liabilities and disputes. However, on the other hand, compliance and scientifically-informed BWM performance can also translate into real opportunities for shipowners. Charterers will exercise certain choices to hire a vessel if sound information on the vessels BWMS is communicated and guaranteed.

4.2.2 MARPOL Annex VI Prevention of Air Pollution from Ships and Contractual Provisions

In 2005, Annex VI Prevention of Air Pollution from Ships entered into force which for the first time sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts. It also prohibits deliberate emissions of ozone depleting substances and set designated emission control areas with more stringent standards for SOx, NOx and particulate matter. Since 2005, the IMO has progressively lowered the limits on sulphur oxides. From 1 January 2020, the sulphur limit in fuel used by ships

[724] Association of Ship Brokers and Agents (USA) Inc. (ASBA) October 1977. BIMCO and ASBA released a revised edition called the ASBAGASVOY (2020) to provide clauses regulating technical issues unique to gas carriers.

operating outside of the designated emission control areas was reduced from 3.50% m/m (mass by mass) to 0.50% m/m.[725] The previous limit of 3.50% was in effect since 1 January 2012. It is therefore essential that owners deal with both charterparties spanning the date of compliance and those falling entirely under the new regime.

The IMO has recognised that fuel meeting its more stringent sulphur standards might not always be available, thus Regulation 18.2 of Annex VI provides that in the event of local non-availability of required fuel, the shipowner must have made his 'best efforts to attempt to obtain compliant fuel' and evidence the steps which have been taken to 'locate alternative sources for such fuel oil'. Regulation 18 sets out factors to be taken into consideration by a member state and port authorities in situations where a ship is non-compliant with sulphur standards. These factors include the steps taken by the ship to mitigate non-compliance, namely a record of evidence of its best efforts to obtain compliant fuel. Where, despite its 'best efforts', a master becomes aware that a vessel is unable to obtain compliant fuel, its flag state and the port administration of its next port should be notified immediately through the submission of a Fuel Oil Non-Availability Report (FONAR). The FONAR is not intended as a waiver or exemption from compliance with IMO regulations, but it will be a key document in assessing whether non-availability of fuel is the reason for non-compliance and therefore acceptable to relevant authorities. The FONAR will also assist in collecting data to monitor the availability of complaint fuel as ships are required to upload the FONAR to an online system. Evidence submitted in the FONAR will likely be assessed by port state control, which should include communications with suppliers.

The MEPC has given guidance to shipowners, managers, charterers and other stakeholders in a circular aimed at encouraging ships to arrange and itemise critical tasks required for the new sulphur limit.[726] These tasks include fuel change risk assessments and mitigation plans, fuel system modifications and tank cleaning, procurement of compliant fuel, cold-flow properties, switch-over plans and timing, and documentation and reporting. This plan is not a statutory requirement and does not require approvals from the flag state administration nor classification societies; it will significantly assist in making a smoother transition to compliant low sulphur fuels and the necessary onboard systems and processes. Preparing such plans will also illuminate what modifications to vessels are required and whether adjustments to the engines and boilers are needed. Ultimately, vessels are presented with two major options for compliance: 1) changing fuels and modifying their systems accordingly; or 2) installing marine exhaust gas cleaning systems known as scrubbers.

In May 2019 both BIMCO and INTERTANKO released contractual guidance for vessels which are to be fitted with scrubbers for compliance with the 2020 standard. The guidance looks at key issues which both owners and charterers should consider in contractual negotiations. In respect of time charters, the two associations recommend including at least a clause providing for compliance with the new Annex VI Regulations (namely Regulations 14.1, 14.3, and 18) as well as a clause describing the type of fuel oil mandated for charterers which includes a maximum sulphur content consistent with the scrubber's warranty. Other important factors to consider, as raised by the associations, are:[727]

- description of scrubber system including the warranted maximum sulphur limit for fuel oil used and the sulphur content emission level to be achieved

[725] Adopted by resolution MEPC.320(74).
[726] MEPC.1/Circ.878.
[727] BIMCO, 'BIMCO and INTERTANKO Joint Guidance: Contractual Issues for Scrubber-Fitted Ships' (2019) https://www.bimco.org/BIMCO-INTERTANKO-Scrubber-QA accessed 15 September 2021.

- indemnity for liabilities associated with off-specification fuel and or non-compliance including delays and detentions
- removal of off-specification fuel
- allocation of responsibility from disposal of waste from a closed-loop scrubber
- scrubber impact upon performance warranties
- dry-dock clauses in connection with installation of the scrubbers
- scrubber breakdown, allocation of scrubber maintenance costs

For voyage charters, the associations recommend that parties consider and review:

- indemnity provisions for non-compliance covering loss of time, fines, penalties, and damages resulting from the non-compliance
- liberty and deviation clauses providing for the event where compliant fuel is unavailable at the contemplated port and associated expenses
- review of Bunker Adjustment Factor Clauses if part of the Contract of Affreightment (CoA)
- laytime and demurrage clauses in the event of scrubber breakdown and non-compliance.

The ensuing sections look at how BIMCO and INTERNTANKO have tried to consider the aforementioned factors in their charterparty sulphur clauses. Much of the discussion below also looks retrospectively at the transitional provisions for a 1 January 2020 fuel transition and the 1 March 2020 Carriage Ban. Although the focus is on *current* compliance as the 2020 sulphur standard has been in effect for over a year now, the transitional clauses are also mentioned with a view to analysing the apportionment of responsibility. Disputes may still arise for charterparties that are ongoing and have spanned this period.

4.2.2.1 BIMCO Clauses

For vessels not using scrubbers, but seeking rather to make use of compliant fuels, BIMCO has formulated two clauses, the **2020 Marine Fuel Sulphur Content Clause** and the **2020 Fuel Transition Clause**.[728] The former replaces the previously applicable BIMCO Fuel Sulphur Content Clause of 2005, whilst the latter deals with making a switch between fuel with a maximum sulphur content of 3.50% and fuel with a maximum sulphur content of 0.50% by 1 January 2020. BIMCO's suggested clauses deal solely with sulphur compliance and separate the issues of sulphur content and transitional aspects of fuel switching.

The **BIMCO 2020 Marine Fuel Sulphur Content Clause for Time Charter Parties**[729] includes a warranty by the owner that the vessel shall be compliant with 'Sulphur Content Requirements'.[730] On the other hand, the charterer shall supply compliant fuel and warrant that bunker suppliers, bunker craft operators and bunker surveyors used by the charterers are also compliant with the requirements. A similar provision appeared in BIMCO's 2005 version of the clause with the intent that charterers

[728] Both of these clauses were drafted for Time Charters as it the charterer is responsible for supplying compliant fuel bunkers.
[729] BIMCO, '2020 Marine Fuel Sulphur Content Clause for Time Charter Parties' (2020) https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/2020_marine_fuel_sulphur_content_clause_for_time_charter_parties accessed 15 September 2021.
[730] 'Sulphur Content Requirements' means any sulphur content and related requirements as stipulated in MARPOL Annex VI.

exercise care in selecting bunker suppliers.[731] It is difficult for a charterer to guarantee this when he does not exercise complete control over the third party.

If the charterer fails to comply with such provisions, the owner is indemnified from 'any or all losses, damages, liabilities, delays, deviations, claims, fines, costs, expenses, actions, proceedings, suits, demands arising out' of this failure. This is essentially an indemnity against any losses where a third party responsible for bunkering operations fails to comply with the prevailing regulations. This is a comprehensive indemnity which further provides that 'the vessel shall remain on hire throughout'. Whilst the intention protects the owner from the charterer placing the vessel off-hire for delays relating to non-compliant fuel, what happens in circumstances where the vessel cannot be on hire? For example, if the vessel is detained by port authorities after redelivery at the end of the charter period. Clearly the vessel cannot remain on hire if it has been redelivered. Detention of a vessel might arise after redelivery for having non-compliant fuel on board, thus the vessel might miss a laycan for an upcoming fixture. Adequate consideration needs to be given to these potential circumstances.

As charterers are the party responsible for supplying compliant bunkers and communicating with bunker suppliers, it would be prudent to add specific requirements for charterers in respect of the evidence required by Regulation 18 for a FONAR. Surprisingly, this is not included by BIMCO in its sulphur content clause. Owners should be able to request full and complete evidence regarding the 'best efforts' made by charterers to obtain compliant fuel where it is found that the vessel will not be able to obtain compliant fuel. It remains uncertain how port authorities will interpret the Regulation 18 requirement and where the FONAR will be a non-delegable duty or not. It might be required that charterers inform owners immediately upon becoming aware that compliant fuel is unavailable and that owners should also partake in 'best efforts' to obtain the necessary fuel from bunker suppliers.

An express provision requiring charterers to provide owners with all evidence mandated by Regulation 18.2 and an indemnity in the event that port authorities are not satisfied with the 'best efforts' made to obtain fuel, would improve BIMCO's sulphur content clause. This becomes particularly important where an owner is required to provide reasons for non-compliant fuel on board after such time that the vessel has been redelivered. Charterer's obligations to provide evidence therefore might need to extend beyond the redelivery date.

Even where a scrubber is in place, the owner will still need to warrant that the vessel is in compliance with the MARPOL Annex VI Regulations. A compliance clause can therefore equally help to avoid disputes about who provides low sulphur fuel in the event of a scrubber breakdown or where low sulphur fuel is not available. A general compliance provision is thus applicable to all Time Charterparties, both those using alternative fuels and those fitted with scrubbers.

On the other hand, **BIMCO's 2020 Fuel Transition Clause for Time Charterparties** was designed specifically for ships that are not fitted with scrubbers but are required to switch to 0.5% m/m sulphur content by the 1 January 2020 deadline.[732] BIMCO's clause clearly defines two key dates, the Effective Date and the Carriage Ban Date. Carriage Ban Date means 1 March 2020, after which the carriage of

[731] BIMCO, 'Bunker Fuel Sulphur Content Clause For Time Charter Parties 2005' (2005) https://www.bimco.org/contracts-and-clauses/bimco-clauses/earlier/bunker_fuel_sulphur_content_clause_for_time_charter_parties_2005 accessed 17 September 2021.

[732] BIMCO, '2020 Fuel Transition Clause for Time Charter Parties' (2020) https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/2020_fuel_transition_clause_for_time_charter_parties accessed 15 September 2021.

use of non-compliant fuels is prohibited. The Effective Date means the 1 January 2020. The suggested clause is intended for charterparties spanning the 1 January 2020 deadline and is worded as a set of requirements which allocates risk and responsibility to charterers and owners in the carrying out of transitional fuel arrangements.

The clause "requires" that:

(i) Before the Effective Date, the Charterers shall have supplied the Vessel with fuel so that on the Effective Date the Vessel shall have sufficient Compliant Fuel to reach the ***nearest bunkering port where Compliant Fuel is available****.*

(ii) No later than the Carriage Ban Date there shall be no Non-Compliant Fuel carried for use by the Vessel.

Notwithstanding the carriage ban, both owners and charterers were also required to cooperate and use reasonable endeavours so that the vessel does not carry non-compliant fuel by the Effective Date. In order to meet these requirements, the charterer bore the risk, time and cost of ensuring that all non-compliant fuel onboard after the Effective Date was discharged and that bunker tanks are cleaned out by the Carriage Ban Date or the redelivery date of the vessel, whichever occurs first. Owners bore the risk, time and cost of ensuring that tanks are fit to receive compliant fuel taking into account the type of fuel which will be loaded into such bunker tanks. Compliant fuel was not be loaded into the tanks until both charterer and owner had carried out such requirements in respect of the bunkers. Once bunker tanks are fit for purpose, non-compliant fuel was loaded.

The clause also requires that charterers shall dispose of non-compliant fuel in accordance with any applicable local regulations at the charterers' risk, time and cost. Unless otherwise agreed, it is also required that each supply of compliant fuel will be bunkered into empty and segregated tanks. Part (b)(i) of the clause sets out the charterers' obligation to ensure that by 1 January 2020, they would have supplied the vessel with enough compliant fuel to reach the 'nearest bunkering port where Compliant Fuel is available'. Part (d) of the clause stipulates that '*Charterers shall dispose of such fuel in accordance with any applicable local regulations at Charterers' risk, time and cost*'. Charterers bear the risk, time and cost of disposing non-compliant fuel and shall do so in accordance with any applicable local regulations. However, this clause provides no indemnity in the event that charterers could not dispose of the non-compliant fuel.[733]

4.2.2.2 INTERTANKO Clauses

INTERTANKO also has an all-encompassing model 'Bunker Compliance Clause' for time charterparties which takes a broader approach to MARPOL Annex VI and other requirements, including references to industry best practices.[734] The clause has 'bolt on' transitional provisions which could have been used to deal with the lead up to 1 January 2020 and necessary actions thereafter. The INTERTANKO clause was ready for immediate use by owners and operators in 2018. Like the BIMCO clause, it allocates responsibilities to both charterers and owners in complying with the MARPOL Annex VI Regulations.

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[733] At the time, this raised obvious concerns in the event that the vessel is unable to proceed directly to the nearest bunkering port that houses compliant fuel. There would be implications in open seas if Charterers did not carry the bare minimum amount of compliant fuel necessary to proceed to the nearest bunkering port.

[734] INTERTANKO, '2020 Bunker Clauses INTERTANKO Bunker Compliance Clause for Time Charterparties' (2018) www.intertanko.com/images/topics-issues/documentary/2018/Bunkers_Compliance_web_10_12.pdf accessed 15 September 2021.

The INTERTANKO clause provides that charterers will warrant that they will supply bunkers of sufficient quality and quantity to meet a number of requirements. These include compliance with global sulphur limits under Regulation 14.1; compliance with the 0.1% m/m sulphur content in ECAs under Regulation 14.3-4; compliance with fuel quality requirements in terms Regulation 18.3; compliance with SOLAS; compliance with any other local, regional or national laws or regulations which relate to the sulphur content of fuel oils, bunker specification, and bunkering procedures; and to avoid fuel non-compatibility with any fuel oil previously supplied to the vessel. Furthermore, the charterer must warrant that bunkers will be supplied in accordance with the latest International Organisation for Standardisation specifications (latest version of ISO 8217) at the time of supply or any other specifications contained in the charterparty. The charterer also warrants that bunkers will be supplied that are fit for purpose and suitable for burning in the main and auxiliary engines of the vessel.

Charterers will also ensure that their bunker suppliers shall provide a bunker delivery note in accordance with Appendix V of MARPOL Annex VI; as well as a representative sample of the bunkers delivered in accordance with Regulation 18.8.1 the guidelines set out in IMO Resolution MEPC.182(59). Charterers also warrant that any bunker supplies are registered if required in compliance with Regulations 14 and 18, including the provisions relating to sampling and bunker delivery notes. Owners are indemnified from any loss, liability, damage, fines, delay, deviation, cost or expense arising from or connected to charterers' failure to comply with the Clause.

Like the BIMCO clause, owners must warrant that the vessel itself is compliant with MARPOL Annex VI Regulations. This warranty extends to any applicable local, regional or national laws or regulations relating to the limits on sulphur content of bunkers and bunkering procedures applicable in the operational areas of the vessel. The owner also warrants that the vessel shall be able to use compliant bunkers, that any bunkers supplied will be kept segregated, and that they participate in a recognised fuel testing programme. Charterers are indemnified by the owners for any loss, liability, damage, fines, delay, cost or expense arising from or connected with owners' failure to comply with the Clause.

INTERTANKO provided additional clauses for vessels to be redelivered in 2019 and for vessels to be redelivered after 31 December 2019. If the vessel is to be redelivered between the date stipulated and 31 December 2019, then the charterers warranted on redelivery that any non-compliant fuel remaining on board will not exceed a stipulated amount and there will be a minimum stipulated amount of compliant fuel on board to safely reach the next bunkering port (if after 1 January 2020) at which compliant bunkers are available. Charterers must also allow owners to prepare the vessel to receive compliant fuels at the owner's expense provided that it does not interfere with the charterer's operations.

If the vessel was to be redelivered on or after 31 December 2019, then INTERTANKO provided additional applicable provisions. These require that:

- the owner and charterer discuss in good faith the procedure for cleaning/flushing the tanks to prepare for compliant fuel by the date stipulated in the Ship Implementation Plan or 1 October 2019
- charterers make arrangements which are satisfactory to the owner to supply sufficient compliant bunkers and to enable the vessel to reach the next bunkering port after 1 January 2020

- owners may burn any low sulphur fuel from 1 December 2019 or from the date stipulated in the Ship Implementation Plan in order to prepare the vessel for the introduction of the new cap

If charterers failed to advise owners on how they intend to make arrangements that are satisfactory to the owner in supplying sufficient compliant bunkers for the vessel to reach the next bunkering port, then the owners have the right to arrange an additional supply of compliant bunkers between the specified date and 31 December 2019 at the charterer's expense, provided that this did not interfere with the charterers' operations. Charterers were therefore responsible for preparation of bunker tanks prior to 1 January 2020, including cleaning or flushing with gas oil as necessary, to owner's satisfaction in order to receive compliant bunkers; and to remove and dispose all HFO non-compliant fuel prior to redelivery. These costs are for the charterer's account. If tank cleaning for receiving compliant bunkers is required, then it shall be carried out at a time and place determined by the owner and at the owner's expense; and the vessel will be off-hire.

4.2.2.3 Bunker problems

What the aforementioned compliance and transitional clauses focus on are a clear allocation of rights and responsibilities. Although they cannot account for every sort of dispute, they are helpful in determining fault and apportioning liability in the event that an obligation is breached. They are still limited, however, in that port state inspections and supplier activities cannot be guaranteed. It might be neither party's fault if all measures are taken to comply with the sulphur standards and all parties have acted in accordance with the charter party, yet a port state arbitrarily detains a vessel or a supplier fails to perform. Parties will ultimately have to decide who bears the risk in these instances and seek remedies where there are possible unforeseen events.

A major concern leading up to the 1 March 2020 carriage ban was the issue pertaining to low sulphur fuels and resultant operational problems. Between 24 February and 6 May 2020, BIMCO, ICS, INTERCARGO and INTERTANKO conducted an industry survey aimed at ascertaining how the industry has experienced the transition to low-sulphur fuel oil from 1 January.[735] The survey found that shipowners were experiencing a number of problems such as 'increased sludge discharge, clogging of fuel pipes, preheaters, fuel separators and fuel filters, fuel pumps getting stuck, problems with fuel injection and poor ignition of fuel oil'.[736] The survey also highlighted other issues such as wax appearance, increased wear and tear of cylinder liners, propulsion problems, and/or blackout. Commercial testing of fuel samples after bunkering also revealed that sulphur content is the most frequent parameter to be off specification.

Off-spec fuels have previously caused major problems, most notably in the US Gulf region in what became known as the "Houston Problem". Contaminated fuels provided a serious problem for shipowners as engines were severely damaged and the safety of the ship was therefore compromised.[737] The majority of these bunkers were supplied under contracts which stipulated that the fuel was compliant with the ISO 8217 parameters.[738] ISO 8217 contains a 'Table 2' of test

[735] BIMCO, '2020 Fuel Oil Quality and Safety Survey' (2020) https://www.bimco.org/news/priority-news/20200819-industry-survey accessed 15 September 2021.
[736] Ibid; BIMCO media summary of Survey.
[737] Hellenic Shipping News, 'Contaminated bunkers: "the Houston problem"' (26 September 2018) https://www.hellenicshippingnews.com/contaminated-bunkers-the-houston-problem-2/ accessed 15 September 2021.
[738] ISO 8217:2017 Petroleum products — Fuels (class F) — Specifications of marine fuels.

requirements – which test for water content, aluminium, sulphur, and other chemicals. The problem with these contaminated 'Houston Problem' supplies was that they were on specification for these Table 2 parameters. This raised obvious legal questions for owners as to who is contractually obliged to de-bunker the vessel, liability for the associated loss of time, and the losses caused by engine damage. Where a time charter party is in place, the charterer is obligated to provide fuel for the vessel with an implied warranty that the fuel is fit for consumption and will not damage the vessel. Houston Problem fuel would therefore be in breach of this obligation; namely for charterers to supply fuel compliant with ISO 8217.

Charterers and owners alike, depending on whether a charter agreement is a voyage charter or time charter, therefore need to consider *another* contractual relationship with third parties very carefully: **bunker supply contracts**. With the abovementioned 'Houston Problem' supplied fuel, the only way of really knowing if the fuel contained no contaminants was to conduct specialised testing known as GC–MS testing, which very few laboratories in the world could conduct. Would the responsibility therefore lie with the party who purchases the bunkers to ensure its compliance; as is the case for charterers in the BIMCO and INTERTANKO sulphur content clauses for charter parties? Would this require an additional burden of independently testing the fuel and not merely taking the Bunker Supply Agreement on face value where it guarantees the quality of the fuel?

Under English law, the sale of bunkers is governed by the Sales of Goods Act 1979. Section 14(3) provides that 'there is an implied condition that the goods supplied under the contract are reasonably fit for that purpose'. Owners could also argue that charterers are therefore under an implied obligation to source bunkers which are 'fit for the purpose intended'.[739] In an unreported arbitration case, 'fit for purpose' was considered in the context of bunkers which were provided within specification by DNV, but were found to have poor ignition qualities.[740] The tribunal found that there was an implied term in the charterparty that bunkers had to be fit for the purpose intended, and that due to the engine damage caused, the bunkers could not have been fit for purpose.

An engine-damage claim similarly arose in 2021, wherein Maersk filed a suit in the Southern District of New York to hold commodities trader Glencore liable for supplying off-spec fuel to the company's vessels.[741] In Maersk's papers, it reports that it completed a fuel swap with Glencore for 24 000 barrels of fuel to be supplied to Maersk in Panama in February 2018. The Maersk Aras experienced engine failure two days after using the fuel, causing a diversion to Mexico for fuel replacement; whilst the Sofie Maersk experienced a pump failure and main engine failure two weeks later from using fuel from the same shipment. Testing of the fuel showed that it was heavily contaminated and off-spec.[742] Maersk claimed USD 6 million in damages from Glencore; following Glencore's 2019 attempt to have the court block Maersk from filing suit.

Although this chapter does not permit an extensive discussion of Bunker Supply Agreements in extensive detail, they are extremely relevant to the operational phase of ship's lifespan. The bunker

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[739] Clyde & Co, 'Bunker Quality Claims in 2020 – Issues to Consider' (2 January 2020) https://www.clydeco.com/en/insights/2020/01/bunker-quality-claims-in-2020-issues-to-consider accessed 15 September 2021.

[740] UK Defence Club, 'Bunker contamination claims in the US Gulf' (August 2018) https://www.ukdefence.com/fileadmin/uploads/uk-defence/Documents/Soundings/2018/1111-UKDC-Soundings-Bunker-contamination-claims-v7.pdf accessed 15 September 2021.

[741] *Maersk Oil Trading Panama S.A. et al v. Glencore Ltd.* (Case no: 1:2021cv01063).

[742] Court documents filed showed evidence of that the fuel contained traces of plastic, fibres, black gum, paraffins, and fatty acids.

supplier may try to insert terms and conditions that are heavily weighted in its favour. Many of these agreements take place on the supplier's standard forms, which may make the supplier's sample testing of the fuel binding. They may also seek to place very limited time bars for notification of claims (usually 7 days), whilst limiting their liability for any losses caused by the fuel.[743] BIMCO has tried to balance the interests of buyer and seller more evenly in its standard BIMCO Bunker Terms 2018 form.[744] Clause 4 of the form allows buyers or their representatives an opportunity to have the sampling carried out in their presence at an agreed point. Clause 6 also allows the master of the vessel to make appropriate remarks or issue a letter of protest following delivery.

4.2.2.4 Port Enforcement

Another problem, often beyond the control of either charterer or owner, is the diversity of enforcement schemes. Topali and Harilaos have investigated the numerous challenges presented by different schemes, of which port inspections are only one.[745] Although these challenges are viewed from a state enforcement perspective, such as problems surrounding the falsification of logbooks or delays in lab testing, they do highlight the need for a harmonised global fine system.[746] Various case studies showed that most fine systems present negligible maximum amounts in comparison to calculated profits earned for burning non-compliant fuels.[747] Although detention has not yet been used for sulphur violations, it will prove a major risk for carriers as well as potential loss of insurance. Another, more likely consequence, will be banning vessels from re-entry into ports where violations have been detected.

One of the first vessels to be banned entry into a port and territorial waters was the MSC Mediterranean Shipping Company's container ship, Johanna, which was banned by the Federal Transport Authority of the United Arab Emirates (FTA) for over one year following a violation of the carriage ban.[748] Although the FTA said that the vessel had been warned to offload HSFO before its departure, MSC told World Maritime News that the HFO was carried in a sealed tank and was intended for future testing of a new exhaust gas cleaning system. This therefore indicated that all vessels carrying HSFO for whatever reasons, and without a scrubber, would be in violation of the carriage ban.

There is a strong reliance here on port inspections and reception facilities. The Covid-19 pandemic saw far less port inspections taking place from April of 2020 due to a reluctance of inspectors wanting to go onboard vessels. On the 8 April 2020, the IMO met with 10 representatives of the 10 Port State

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[743] Other considerations for an Owner may be that the Owner may be exposed to an arrest where a Charterer fails to pay for the bunkers, see *Saetta* [1993] 2 Lloyds Rep 268.

[744] BIMCO, 'Bunker Terms' (2018) https://www.bimco.org/contracts-and-clauses/bimco-contracts/bimco-bunker-terms-2018# accessed 15 September 2021.

[745] Dimitra Topali and Harilaos Psaraftis, 'The enforcement of the global sulfur cap in maritime transport' (2019) *Maritime Business Review*. 10.1108/MABR-12-2018-0050.

[746] Ibid: Proposed alternatives to port inspection schemes include UAV, fixed stations monitoring, and *in situ* emissions monitoring (taken from the plume of the ship).

[747] The suggestion made by this article is that vessel detention in port is a far more effective deterrent because failing to deliver the cargo on time could result in contractual damages, whilst operative costs will still need to be covered for the duration of the detainment by the Charterer. Appealing a fine will not have a similar impact on costs.

[748] World Maritime News, 'UAE Bans MSC-Operated Boxship for Violating Carriage Ban' (16 March 2020) https://www.offshore-energy.biz/uae-bans-msc-operated-boxship-for-violating-carriage-ban/ accessed 15 September 2021.

Control regimes covering world oceans.[749] The representatives reported taking a 'pragmatic, practical and flexible' approach due to the issues arising from the pandemic, such as delays to surveys, audits, and renewing certificates. Some ports were also accepting flag state exceptions for vessels with delayed ballast water treatment system installation caused by dry-dock delays. Covid-19 also meant that many vessels were still carrying HSFO due to inability to have the fuel debunkered. There were also considerable delays in scrubber installations and problems surrounding safe bunkering.[750]

Despite initial industry concerns, the IMO has stated that fuel transition for the sector has gone 'extremely smoothly'.[751] The Maritime & Port Authority of Singapore (MPA) reported that 96% of vessels calling at its port in the first quarter of 2020 were compliant with the new regulations.[752] Concerns over fuel availability were allayed as the 2020 saw an increase in demand, driving suppliers to produce more low sulphur fuels.

From an industry perspective, the IMO 2020 standard only incentivised compliance at the last minute. The best long-term strategy for contracts of carriage would therefore be a shift away from mere compliance to the achievement of sustainability in a manner that is forward-looking and informed by a clear framework for eventual decarbonisation, the achievement of zero toxic emissions, and enhanced environmental protection. Although these compliance clauses are important in the clear demarcation of rights and responsibilities between charterer and shipowner, their main prerogative is not to incentivise enhanced environmental performance. Real incentivisation will stem from innovations that exceed the regulatory standards in a guaranteed and proven manner, thus minimising all potential risks for port detainments. Environmentalism therefore needs to be more creatively construed within contracts of carriage to afford shipowners and charterers real solutions for driving green shipping.

4.3 SD Objectives as an Aid to Contract Interpretation and the Implication of Terms

The previous section identified how shipping associations have dealt with the uncertainty of increasing environmental regulations. However, these contractual approaches are merely ways of reinforcing the status quo without pushing real incentives for behavioural change. In order to drive necessary change, the industry requires a stronger 'nudge' than mere regulatory compliance.[753] This requires a choice architecture for making decisions which are aligned with environmental sustainability.[754] Although the theory of *nudging* is more concerned with optimal schemes for accurate data and information-sharing, the same sort of decision-making guidance needs to permeate contractual relationships. Current

[749] IBIA, ''Pragmatic approach' by port State inspection authorities during COVID-19 pandemic' (17 April 2020) https://ibia.net/2020/04/17/pragmatic-approach-by-port-state-inspection-authorities-during-covid-19-pandemic/ accessed 15 September 2021.
[750] The International Bunker Industry Association (IBIA) offered some practical advice in March 2020 for precautionary measures for bunkering operations.
[751] Argus Media, 'IMO says sulphur cap transition extremely smooth' (29 January 2021) https://www.argusmedia.com/en/news/2181988-imo-says-sulphur-cap-transition-extremely-smooth accessed 15 September 2021.
[752] Seatrade Maritime News, 'Two vessels detained for non-compliant fuel in Singapore port during Q1' (27 April 2020) https://www.seatrade-maritime.com/regulation/two-vessels-detained-non-compliant-fuel-singapore-port-during-q1 accessed 15 September 2021.
[753] Ellen Eftestøl-Wilhelmsson and Suvi Sankari, 'Chapter 7: Nudging a behavioural change in maritime carriage of goods – the role of information' in Jason Chuah (ed), *Research Handbook on Maritime Law and Regulation* (Edward Elgar Publishing, Cheltenham, 2019) 170–185; Richard H Thaler & Cass R Sunstein, *Nudge. Improving Decisions about Health, Wealth, and Happiness* (Yale University Press 2008) 4.
[754] Ibid.

charterparties are designed in such a way as to emulate the existing paradigm by assigning responsibility of the vessel's construction, including energy design efficiency modifications, to the shipowner. This approach separates interests and places them in opposition to each other, with the result that energy efficiency or green technology fails to be included in negotiations. [755] Furthermore, reference to the bunker's quality is often included merely to assist the charterer in avoiding claims and indemnities arising from engine damages.[756] For green objectives and standards to enjoy a heightened priority status, especially where corporate codes of conduct and applicable policies mandate environmental sustainability, it is essential that green issues permeate charterparties in a more holistic manner. Charterparties require an underpinning green framework or a set of norms to guide the performance of contractual duties. Therefore, the question is not necessarily one of drafting appropriate clauses, but one of ***interpretive guidance*** for an existing set of obligations and whether green values can be ***implied*** into charter party agreements.

4.3.1 Greenness as a Pervasive Norm in Contracts

First and foremost, a green convergence of ideals and interpretive guidance requires the recognition of environmental protection, or its inclusion in the broader notion of 'sustainability', as a pervasive principle governing private relationships.[757] For example, in a European context, seven principles of EU civil law are generally recognised: the principle of protecting the 'weaker party', the principle of 'framed' autonomy, the principle of non-discrimination, the principle of balancing, the principle of proportionality, the emerging principle of good faith (still in question), and the prohibition of abuse of rights (also still debatable).[758] Although EU law recognises SD as one of the Union's goals and the Charter of Fundamental Rights (CFA) states that the EU should promote SD, the question of whether SD is relevant to contract law remains unclear.[759] There are no present principles of contract law that recognise environmental issues or sustainability. In 2010, the Principles for Responsible Contracts were submitted by the Special Representative to the United Nations Human Rights Council as an addendum to the 'Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework'.[760] As part of this process, the Sherpa Association submitted that the concept of 'sustainable contracts' be introduced into international regimes to serve as an original juridical tool which 'would focus on translating the new borders of the public interest - induced by the ever-growing intervention of private operators - into international contractual obligations'.[761] It was advocated that such a tool would serve a triple purpose as:

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[755] In a study of more than 50 standardised contracts, is was shown that the coding sub-categories in description and performance clauses failed to mention energy saving devices; see George Adamantios Psarros, 'Focused Coding: Content Analysis of Charter Party Contracts' in *Energy Efficiency Clauses in Charter Party Agreements: Legal and Economic Perspectives and Their Application to Ocean Grain Transport*, (n 134) 38.

[756] Bunker specifications will also necessarily conform to sulphur content standards as mandated by MARPOL Annex VI.

[757] The horizontal application of environmental rights in jurisdictions with constitutionally embedded rights to a healthy environment are a strong catalyst for the intersections between private law and public law norms; see section 24 of the Constitution of South Africa, 1996; the Charter for the Environment incorporated into the French Constitution in 2005; Article 69(2) of the Constitution of Kenya, 2010. Generally, the Global South (in particular African states with post-colonial constitutions) have led the way in terms of the direct and indirect horizontal application of environmental constitutional rights.

[758] Norbert Reich, *General Principles of EU Civil Law* (1st ed, Intersentia, 2014).

[759] Article 3(3) of TEU read with Article 3 of CFA (2007/C 303/01), 14 December 2007, C 303/1.

[760] The Human Rights Council endorsed the Guiding Principles in its resolution 17/4 of 16 June 2011.

[761] Yann Queinnec, *Sustainable Contracts: Concept's outlines and exploration tracks [submission to John Ruggie, UN Special Representative on business & human rights]* (Sherpa Association January 2010).

1) Interpretation tool – allowing judges and arbitrators to comprehend contracts against the backdrop of SD, thus ending a situation where companies implement and freely interpret sustainability factors in a discretionary manner. It could also inform the different stages of contractual relations.
2) Decision support tool – to provide assist companies in providing standards to aid decision-making when confronted with issues of social and environmental sustainability. It could also serve as performance evaluating tool connected the "triple bottom line".
3) Full contractual tool – contractual standards to be incorporated into international laws on contractual obligations, organising a balance between the economic, social and environmental pillars of SD.

The recognition that contract law regimes are lacking meaningful intersections with public discourses on sustainability is therefore not entirely new. Libertarian theories of contract law, whereby individuals do not concern themselves with the fate of the environment or human rights, are being eroded in favour of 'contractual social justice' – a concept, which in turn, is also being stretched beyond its traditional application to current humanity and is extended to future generations, to incorporate inter-generational equity.[762]

Other jurisdictions have begun the process of 'greening' the private law, such as the People's Republic of China where a "Green Principle" (Art 9) has been included in the General Provisions of Civil Law as a basic principle, which is distinct from other prevailing normative principles like equality, fairness and good faith.[763] However, the General Provisions contain only general principles and special laws shall regulate the details. In the Contract Law part of the Civil Code of the People's Republic of China,[764] three articles are related to Article 9 of the Provisions. Article 509 of the Contract Law states that, '[t]he parties shall fully perform their obligations in accordance with the agreement […]. In the process of performing the contract, the parties should avoid damage to the ecological environment, polluting the environment and waste resources', whilst recycling is included in Articles 558 and 625 of the Contract Law. In the Tort Law component of the Civil Code of the People's Republic of China, there is an entire chapter VII entitled, 'Environmental pollution and damage to the ecological environment.[765] There is also an interplay between the concept of good faith in the General Provisions and the green principle as environmental activities should be carried out in good faith.[766]

In respect of having a legislative or constitutional mandate to promote environmental sustainability in all areas of the law, post-liberation democracies in the Global South are at a significant advantage in firmly recognising a right to a healthy environment. The constitutional enshrinement of an environmental right provides a powerful tool for the horizontal application of an environmental obligation between private parties. Kenya easily accepted the horizontal application of constitutional

[762] Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (2016) 12 ERCL 339.
[763] General Provisions of the Civil Law of the People's Republic of China (GPCC) adopted by the 13th National People's Congress on 28 May 2020 and entered into effect on 1 January 2021. On 15 March 2017, the Fifth Session of the 12th National People's Congress passed the General Part of the Civil Code. Article 9 thereof introduced the "Green Principle".
[764] The contract law part of the Civil Code of the People's Republic of China, May 2020, entered into effect on 1 January 2021.
[765] Also entered into force on 1 January 2021. See also Igor Szpotakowski, 'The new Chinese Civil Code and its contribution to sustainable development' (2020) 3 Transformacje Prawa Prywatnego 233-246.
[766] Ibid.

environmental rights as early as 2010, in the case of *Abdalla Rhova Hiribae and Others v. Attorney General and Others*.[767] Similarly, South Africa's environmental right as per section 24 of its 1996 Constitution, places South Africa in an ideal position for the horizontal application of environmental rights – a monumental advantage in imposing green values into private law systems.[768] In relation to contract law in the South Africa, the Constitutional Court in *Barkhuizen v Napier* stated that, 'courts have a constitutional obligation to develop common law, including the principles of the law of contract, so as to bring it in line with values that underlie our Constitution. When developing the common law of contract, courts are required to do so in a manner that "promotes the spirit, purport and objects of the Bill of Rights"'.[769]

Ethical contract law is already suggested in the widely accepted principle of 'good faith'. 'Good faith and fair dealing' is a fundamental principle of the UNIDROIT Principles of International Commercial Contracts (UNIDROIT Principles), first published in 1994 with its fourth edition being published in 2016 (UNIDROIT Principles 2016).[770] The UNIDROIT Principles represent a non-binding codification of the general aspects of international contract law. There is an argument to be made that good faith in the UNIDROIT Principles carries with it a particular code of ethics. However, the concept's expansion to include SD or sustainability issues is yet to be tested. In fact, by their own account, the UNIDROIT Principles view themselves as ordinarily not conflicting with overriding 'mandatory' domestic laws, as these laws would be 'public in nature' – including environmental protection laws.[771] The application of UNIDROIT in transnational contracts and dispute resolution, therefore seems to exclude 'public law' norms and values, which would form the basis of relevant domestic laws which the UNIDROIT Principles may serve to interpret or supplement. Thus 'good faith' as an inherent ethical code may not yet be ripe for environmental considerations.[772]

Furthermore, vessel chartering is rooted in a system of English common law which has never had a general doctrine of good faith, but it is accepted that good faith should from a basic principle of all contractual negotiations.[773] Therefore, expanding this concept to include sustainability might not have the intended effect of 'greening' aspects of the private law. However, the common practice of resolving disputes arising out charter parties through arbitration indicates that the same standard of good faith that is necessary for the arbitration process and is also required of earlier negotiations in shipping contracts. Although good faith is a hard concept to define, it is generally accepted in legal

[767] HCC No. 14 of 2010; this case concerned allegations that private entity respondents had violated the petitioners' rights to life and a healthy environment.
[768] Section 8(2) of the Constitution declares that the Bill of Rights is binding for natural and juristic persons, 'if and to the extent that, it is applicable, taking into account the nature of the right and the nature of any duty imposed by the right'. See the case of *McCarthy v Constantia Property Owners Association and Others* 1999 (4) SA 847 (C) for the horizontal application of the environmental right specifically.
[769] (CCT72/05) [2007] ZACC 5.
[770] Article 1.7 of UNIDROIT Principles states: '(1) Each party must act in accordance with good faith and fair dealing in international trade. (2) The parties may not exclude or limit this duty'.
[771] UNIDROIT, 'Model Clauses for the Use of the UNIDROIT Principles of International Commercial Contracts' (2019) https://www.unidroit.org/instruments/commercial-contracts/upicc-model-clauses accessed 15 September 2021.
[772] Good faith has been broadly interpreted in some jurisdictions to incorporate transformative constitutionalism and even indigenous principles such as 'ubuntu' in a South African context; see Andrew Hutchison, 'Good Faith in Contract: A Uniquely South African Perspective' (2019) 1 Journal of Commonwealth Law 227-271.
[773] William Tetley, 'Good Faith in Contract: Particularly in the Contracts of Arbitration and Chartering' (2004) 35(4) Journal of Maritime Law & Commerce 561.

discourse that it is a principle which should underpin all legal relationships.[774] Good faith is a malleable concept which is closely connected to legal rules regarding honesty, fairness, and reasonableness.[775] In the case of *Yam Seng Pte Limited v International Trade Corporation Limited*, Lord Justice Leggatt took the view that the background against which contracts are made include not only matters of fact, but also a shared value system and behavioural norms.[776] Legatt LJ stated that:[777]

> '*Some of these are norms that command general social and business acceptance. Many such norms are naturally taken for granted by the parties when making any contract without being spelt out in the document recording their agreement … A paradigm example of a general norm which underlies almost all contractual relationships is an expectation of honesty. That expectation is essential to commerce which depends critically on trust*.'

His Lordship therefore found that it would not be inconceivable that a duty to act in good faith or honestly could be implied. Leggatt LJ noted the substantial body of academic literature on the question of whether English law should recognise a duty of good faith but found that there was an absence of any binding decisions on the matter. His conclusion was that English law is not ready to recognise a requirement of good faith as duty which can be implied by law into all commercial contracts. Therefore, *Yam Seng* should not be interpreted as providing authority for the imposition of a general duty of good faith into English contract law.[778] The duty of good faith, however, retains relevance and its construction must necessarily be informed by the *bones mores* of the time; a strengthening of this concept as a pervasive norm could aid parties in obtaining mutually beneficial outcomes.[779]

Although the expansion of good faith to include green ideals is one option, a better option is to have a distinct green principle which governs chartering practices – the legitimacy of which would be unquestionable in the current era. Considerable progress has been made in the context of CSR and commitments to economic, social, and environmental values are increasingly mentioned in trade agreements using express terms.[780] Perhaps the most well-known initiative pertaining to the express integration of sustainability principles into commercial agreements is the UN Global Compact (UNGC) which requests that its participants engage with suppliers in a way that promotes ten SD principles.[781] The UNGC practical guide on supply chain sustainability suggests that a code of conduct communicating CSR be integrated into supplier contracts.[782] Express terms for environmental obligations are also suggested by the UN Protect, Respect and Remedy Framework and Guiding

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[774] Paul J Powers, 'Defining the Indefinable: Good Faith and the United Nations Convention on the Contracts for the International Sale of Goods' (1999) 18 J.L. & Com. 333, 333: describes good faith as an 'elusive term best left to lawyers and judges to define over a period of time as circumstances require'.
[775] J.F O'Connor, *Good Faith in English Law* (Aldershot 1990) 102.
[776] [2013] EWHC 111 (QB).
[777] Ibid para 134.
[778] Jason Chuah, 'Chapter 3: Contents', in Michael P Furmston (ed) *Butterworths Common Law Series: Law of Contract* (Lexisnexis London 2015).
[779] Mariana Pargendler provides some key comparisons between common law jurisdictions and civil law jurisdictions - a main observation being that there is a stronger duty of good faith in the civil law, see the 'The Role of the State in Contract Law: The Common-Civil Law Divide' (2018) 43(1) Yale Journal of International Law 143, 2018, NYU Law and Economics Research Paper No. 17-01.
[780] Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (n 762).
[781] UNGC, 'The Ten Principles of the UN Global Compact' www.unglobalcompact.org/what-is-gc/mission/principles accessed 15 September 2021.
[782] UN Global Compact Office and Business for Social Responsibility, Supply Chain Sustainability: A Practical Guide for Continuous Improvement (2010) 23.

Principles,[783] as well as the OECD Guidelines for Multinational Enterprises (2011)[784]. The ISO 26000 Guidance on Social Responsibility provides that an organisation should recognise its social responsibility within its sphere of influence and have the ability to affect the decisions or activities of other parties with whom it has political, contractual, economic or other relationships.[785] Although the ISO 26000 is not a management system standard, nor should it be used for certification purposes or regulatory or contractual use, it is possible to reword any of the ISO 26000 commitments into agreed requirements. Express Sustainability Contractual Clauses (SCCs) are also used with increased frequency to make codes of conduct binding on parties and can be defined as, 'provisions in commercial contracts that cover social and environmental issues, which are not directly connected to the subject matter of the specific contract'.[786] SCCs have thus pushed the boundaries of a traditional understanding of supply chain contracts which are concerned with regulating the exchange of goods/services and money between two parties – exclusively commercial interests.[787] However, these sorts of express clauses are not yet found in standardised charter agreement forms, despite having made significant progress in respect of other supply-chain related activities. Shipping practices are integral to the functioning of supply chains and should not lag behind in the incorporation of green values and standards. Previous sections show that the responsibility for environmental compliance in chartering arrangements is framed in a traditional way as the 'cost and risk' of one party. A greater overarching commitment to SD - and specifically its environmental pillar – is not provided for in any express wording in standardised charterparty forms. Thus, the main question is one of whether a commitment to environmental sustainability can be ***implied*** as having emerged from regular practice or international trade usages.[788]

In the context of international trade, more specifically the sale of goods between parties whose places of business are in different states, there is a growing recognition that environmental factors can be implied into certain contractual agreements.[789] Article 9(1) Convention on Contracts for the International Sale of Goods (CISG)[790] indeed recognises that, 'parties are bound by any usage to which they have agreed and by any practices which they have established between themselves'. Therefore, even where an express term pertaining to certain values is missing in the agreement, parties can be expected to respect values to which they have previously agreed and established through consistent use. Article 9(2) also refers to international trade usages, whereby, 'parties are considered, unless otherwise agreed, to have impliedly made applicable to their contract or its formation a usage of which the parties knew or ought to have known and which in international trade is widely known to, and regularly observed by, parties to contracts of the type involved in the particular trade concerned'. Poncibò notes that scholars of the CISG generally accept this to mean that a usage 'becomes an implied term if it is widely known to, and regularly observed by the majority of traders (objective element)

[783] John Ruggie, 'Protect, Respect & Remedy: A Framework for Business and Human Rights' (2008) 3 Innovations: Technology, Governance, Globalization 189-212.
[784] OECD, 'Commentary on General Policies' in *OECD Guidelines for Multinational Enterprises* (OECD Pub 2011) paras 18, 19 and 21.
[785] ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies) offering guidance instead of requirements, https://iso26000.info accessed 15 September 2021.
[786] Katerina Peterkova Mitkidis, 'Sustainability Clauses in International Business Contracts' (n 577).
[787] Pia Rebelo, 'Sustainable Supply Chain Finance: The Incorporation of Green Principles into SCF Agreements (2020) 26(4) International Trade Law and Regulation 260 – 277.
[788] Ibid; Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (n 762) 342.
[789] Pia Rebelo, 'Sustainable Supply Chain Finance: The Incorporation of Green Principles into SCF Agreements (n 787).
[790] Vienna, 11 April 1980.

involved in a particular area of trade and the parties knew, or ought to have known about it (subjective element).[791] Despite divided opinions on whether international trade usages function by operation of law *per se*,[792] or whether they fill in contractual gaps as implied terms;[793] ethical standards are undoubtedly considered trade usages.[794] Environmental protection and sustainability are concretely enshrined in CSR practices, therefore they are widely accepted as international trade usages in this context.[795]

What this could mean for chartering agreements is that where the obligation of 'seaworthiness' (for example) is not explicitly expanded upon to include certain documentation or environmental fitness, there is already a growing recognition that seaworthiness must necessarily include a standard of environmental performance. This is particularly true when a shipowner or charterer has received financing on condition that it complies with a set of environmental standards. Shipowners obtaining 'green finance' are already provided with a foundational basis upon which to guide chartering negotiations. The normative value of green finance frameworks cannot stop with loan agreements but should be carried through to **all activities** of the vessel. Seaworthiness is not a stagnant obligation and can be seen to include both express technical requirements as well as implied duties, such as good faith and its correlation to environmental sustainability. Both 'seaworthiness' and a prevailing understanding of 'good faith' in contracts must necessarily consider the external milieu. It is arguable that the regulatory scene of shipping activities already dictates that 'it goes without saying' that a vessel must be environmentally compliant, and that owners and operators should adhere to international rules.[796]

The contract governance framework employed by this study therefore proposes that a "green norm" in chartering be driven by both public and private efforts. Although these norms have not yet been given the same scope and definition of "green" that is prevalent in the financial sector, there is already a vertical public law mandate that promotes sustainable development as a core objective in shipping activities generally.[797] For English judges to interpret and apply this mandate horizontally between private actors to both interpret existing obligations and to imply green duties into contractual arrangements, the SD mandate should be seen as part of the factual matrix that must necessarily be considered to make a contract work. Much in the same way that judges in the Global South have a constitutional mandate to view the private law through a human rights prism, English judges are given similar, yet somewhat lesser, tools in considering the external milieu in which commercial relationships arise. In times of increasing climate risk and regulatory uncertainty, shipping actors require a normative cooperative framework for green performance that will guide commercial

[791] Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (n 762) 343.
[792] As interpreted by a USA Federal Court in *Geneva Pharmaceuticals Tech. Corp. v. Barr Labs. Inc* Federal District Court, New York, 10 May 2002 (201 F.Supp.2d 236) at [25]: 'The usages and practices of the parties or the industry are automatically incorporated into any agreement governed by the Convention, unless expressly excluded by the parties. CISG Art. 9'.
[793] See Juana Coetzee, 'The role and function of trade usage in modern international sales law' (2015) 20(2-3) *Uniform Law Review* 243.
[794] Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (n 762) 343.
[795] Ibid.
[796] *Shirlaw v Southern Foundries* (1926) Ltd [1939] 2 KB 2016: officious bystander test for implied terms.
[797] Chapter 3 of this Thesis already highlights the fact that financiers can implement a set of green behavioural norms or frameworks within the shipping sector, such as the Poseidon Principles, within the inception stages of a vessel's operational lifespan. A natural extension of the Poseidon Principles has been the Sea Cargo Charter which carries green objectives shared between the financier and owner to the charterer.

decisions, from technology selection to operational decisions about speed and fuel efficiency.[798] It is recognised in marketing science and economic literature that cooperative norms are needed to enhance supplier performance in times of transactional uncertainty.[799] Alongside the SD impetus of the IMO and states, shipping associations (e.g. BIMCO) are instrumental in setting out the 'law of standard agreements' which can comprise a number of norms recognising that such forms serve as instruments for extensive autonomous law making.[800] Standard form agreements are, 'generally speaking, the most important instrument nowadays for norm creation in business'. [801] The elevation of a green norm could be inferred from the totality of the environmental commitments expressed in such forms and could be heightened by reference to international standards, soft law, and voluntarily adopted commitments to decarbonisation targets.[802]

An SD business norm would assist arbitrators in implying green commitments by *way of fact* in determining the intentions of the parties where clauses are omitted. The following sections of this chapter aim to elucidate how a green principle can be contractualised and practically implemented. This can be done either *expressly* or *impliedly*. However, despite affording greater commercial certainty and enhanced protection, the absence of expressly agreed terms in standard charterparty forms for environmental obligations (other than those dealing directly with regulatory compliance), makes the question of whether environmental principles can be deemed to be *implied* of greater importance.

4.3.3 Environmental Sustainability as an Implied Term in Charterparties

The law governing contracts of carriage by sea maintains the traditional objective of making the markets more effective as opposed to achieving sustainability; whilst efforts to align contract law with SD goals in the EU and within English Law have generally excluded transport from their scope. Certain scholars have advocated for international solutions which would harmonise the laws applicable to multimodal contracts of cargo (including by sea) which would radically transform liability regimes to new ones based on the CISG 1980.[803] However, even proposals for the governance of multimodal transport have not included discussions of environmental protection, despite the 'polluter pays' being recognised as an important international policy tool.[804] Environmental protection only became part of EU common transport policy in its 1992 White Paper, but is yet to make its way into any contractual liability regime.[805] It is therefore extremely difficult to reconcile contracts of carriage with environmental mandates unless agreed to expressly by the parties. Thus, despite supply chain

[798] Performance deteriorates when contracts are not supported by norms, yet in times of stability and certainty, cooperative norms become increasingly redundant; see Joseph P Cannon, Ravi S Achrol, and Gregory T Gundlach, 'Contracts, norms, and plural form governance' (2000) 28(2) Journal of the Academy of Marketing Science 180-194.
[799] Ibid.
[800] Ulf Bernitz, 'Commercial Norms and Soft Law' (2013) 58 Scandinavian Studies in Law 29-43.
[801] Ibid 41.
[802] Express terms which could achieve a convergence of objectives on environmental matters are discussed in Section 4.4 of this thesis.
[803] Jan Ramberg, 'The Future Law of Transport Operators and Service Providers' (2004) 46 Scandinavian Studies in Law 135–151, 150.
[804] Jutta Brunnee, 'Of Sense and Sensibility: Reflections on International Liability Regimes as Tools for Environmental Protection' (2004) 53 International and Comparative Law Quarterly, 351–368.
[805] White Paper, The Future Development of the Common Transport Policy, A global approach to the construction of a Community framework for sustainable mobility COM (92) 494 Final.

management and international trade showing scope for expressly and impliedly incorporating CSR commitments into agreements, these efforts still need to be transferred over into contracts of carriage and chartering. Establishing a set of 'green' commitments between parties in a charterparty where not expressly agreed to, will depend on the English legal principles pertaining to implied terms. As summarised by Lady Hale in *Geys v Société Générale*,[806] there are two types of implied terms in contracts. The first, is a term which is implied into a specific contract based on the express terms, commercial common sense, and the facts known to both parties at the time the contract was concluded (implied ***by fact***).[807] The second type of implied term can arise, unless expressly excluded, ***by law*** which imposes certain terms in certain types of agreements – either through statute or the common law.

As illustrated in Section 4.1 above, the existing regime (and international conventions where applicable) governing charterparties do not presently impose any contractual environmental obligations on parties by way ***of law***. In the absence of expressly agreed terms between charterer and shipowner, the provisions of customary law step in to impose a number of contractual obligations on the contracting parties. These obligations pertain to: seaworthiness, reasonable dispatch, nominating a safe port, not to carry dangerous goods, and not to deviate from the agreed route. Terms can be implied on the basis of an established custom or usage particular to a relevant market or trade practice.[808] The parties to the contract need not have knowledge of the custom, but it must be notorious as stated in *Hutton v Warren*: '[i]t has long been settled, that in commercial transactions, extrinsic evidence of custom and usage is admissible to annex incidents to written contracts on matters on which they are silent'.[809] Thus far, no court has confirmed that environmental sustainability nor CSR principles are customary in chartering practices. In order for any practice to be elevated to a 'custom or usage' that will be implied into appropriate contracts, it must be:[810]

> '*certain, in the sense that the practice is clearly established; it must be notorious, in the sense that it is so well known in the market in which it is alleged to exist, that those who conduct business in the market contract with the usage as an implied term; and it must be reasonable*.'

The common law has implied other certain terms into charterparties, such as owner's indemnities against damages for decisions taken by the charterer.[811] Arbitration proceedings have similarly implied a term as to 'fitness for purpose', ordinarily applicable to sale and supply of goods and services by statute,[812] in respect of the bunkers supplied by the charterer.[813] In addition to customary law, neither the Hague-Visby rules nor the Rotterdam Rules impose any environmental obligations on shipowners

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[806] [2013] 1 AC 523, para 55.

[807] Article 5.1.2 of the UNIDROIT Principles similarly provides that implied obligations stem from: (a) the nature and purpose of the contract; (b) practices established between the parties and usages; (c) good faith and fair dealing; (d) reasonableness.

[808] *Hutton v Warren* (1836) 1 M & W 466; *Novorossisk Shipping Co v Neoptera Co Ltd* [1990] 1 Lloyd's Rep 425 at 431.

[809] Ibid 475–476.

[810] *Cunliffe-Owen v Teather and Greenwood* [1967] 3 All ER 561, [1967] 1 WLR 1421 at 1438.

[811] *Triad Shipping Co v Stellar Chartering & Brokerage Inc (The "Island Archon")* [1993] 2 Lloyd's Rep 388; *Action Navigation Inc.v.Bottigliere Di Navigazione S.p.A. (The "Kitsa")* [2005] EWHC 177 (Comm).

[812] Sale of Goods Act 1979; Sale and Supply of Goods and Services Act 1994.

[813] London arbitration 13/04: The Charterers had paid for the bunkers but had failed to do so in an authorised manner, thus making the vessel susceptible to detention. Therefore, out of commercial necessity, a term would be implied into the Charter that bunkers supplied to the vessel during the charter should be lawfully purposed

and charterers in respect of the environment, with the exception of the Rotterdam Rules' allowance of deviations for purposes of environmental protection (albeit, the Rotterdam Rules are not widely accepted).[814]

Therefore, until such time as an international law instrument addresses sustainability factors in contracts of carriage by sea, as done in the context of international trade agreements, environmental sustainability terms cannot be implied by law unless regulatory compliance is encompassed by existing obligations such as seaworthiness or supplying bunkers 'fit for purpose'. To be implied by the common law, the test of implication would be whether the term is considered necessary to a particular and definable type of contractual relationship.[815] Green commitments dictating terms as to environmental protection, emission reductions, or ballast water management, could pass the test of necessity in respect of chartering arrangements as a specific category of relationships requiring prudent consideration of IMO standards and long-term policy objectives. This would stem from the necessary implication that a vessel should be fit to proceed with its voyage unencumbered by fines, detentions and undue delays which would flow from non-compliance. However, mere regulatory compliance does little in respect of providing a normative framework to guide decision-making processes or providing an underlying contractual 'spirit' between the parties.

On the other hand, implying sustainability commitments as a matter ***of fact*** requires that the 'intention of the parties (objectively ascertained) is sought',[816] and 'collected from the words of the agreement and the surrounding circumstances'.[817] Traditionally, the tests employed for determining whether a term could be implied into a contract by fact were the 'officious bystander' test or the 'business efficacy' test. The classic officious bystander test was enunciated in *Shirlaw v Southern Foundaries Ltd* by Mackinnon LJ:[818]

> '*Prima facie that which in any contract is left to be implied and need not be expressed is something so obvious that it goes without saying; so that, if while the parties were making their bargain an officious bystander were to suggest some express provision for it in the agreement, they would testily suppress him with a common "Oh, of course*".'

The 'business efficacy' test implies terms into business contracts to make them effective and was stated *The Moorcock* as:[819]

> '*the law is raising an implication from the presumed intention of the parties, with the object of giving to the transaction such efficacy as both parties must have intended that at all events it should have. In business transactions such as this what the law desires to effect by the implication is to give such business efficacy to the transaction as must have been intended at all events by both parties*.'

In order for a term to be implied by fact it must be necessary to give business efficacy to the agreement, i.e. whether 'it is such a term that it can confidently be said that if at the time the contract

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[814] These conventions would only be relevant where expressly included in a clause paramount, see Section 4.1.
[815] *Scally v Southern Health and Social Services Board* [1992] 1 AC 294; *Malik v Bank of Credit and Commerce International SA* [1997] 3 All ER 1.
[816] *Liverpool City Council v Irwin* [1977] AC 239, Lord Edmund-Davies at 266.
[817] *Ali v Christian Salvesen Food Services Ltd* [1997] 1 All ER 721, Waite LJ at 726.
[818] [1939] 2 KB 206.
[819] [1889) 14 PF 64.

was negotiated' if the parties were asked about a possible event, they would respond, '[o]f course, so and so will happen; we did not trouble to say that: it is too clear'.[820] This illustrates a clear overlap with the officious bystander test. However, the test for terms implied by fact has changed in scope since *Moorcock* and *Shirlaw*. Lord Simon in *BP Refinery (Westernport) Pty Ltd v Hastings Shire Council* explained that the following conditions must be satisfied to imply a term as matter of fact into contract: [821] (1) it must be reasonable and equitable; (2) it must be necessary to give business efficacy to the contract, so that no term will be implied if the contract is effective without it; (3) it must be so obvious that 'it goes without saying'; (4) it must be capable of clear expression; (5) it must not contradict any express term of the contract.

However, in a later judgment given by Lord Hoffmann in *Attorney-General of Belize v Belize Telecom Limited*, he stated that Lord Simon's conditions were not separate tests, but a rearticulation of a central idea. [822] Lord Hoffmann found that implying terms in fact is a matter of construction and the traditional tests should serve as indicators of the parties' intentions. He stated the there is only one question for the implication of terms as a matter of fact: [823]

> '*the question for the court is whether such a provision would spell out in express words what the instrument, read against the relevant background would reasonably be understood to mean*.'

Lord Hoffmann therefore attempted to re-base the doctrine of implied terms within the principles of construction of contracts.[824] The *Belize* approach was applied in *Mediterranean Salvage & Towage Ltd v Seamar Trading & Commerce Inc (The Reborn)*, wherein Lord Clarke MR stated that Lord Hoffmann's analysis in *Belize* 'will soon be as much referred to as his approach to the construction of contracts'; yet re-emphasised that the central question is whether the implication of a term is 'necessary to make the contract work' rather than to give effect to the reasonable expectations of the parties.[825] Lord Justice Cooke applied both the *Belize* decision and the *Reborn* decision in *SNCB Holdings v UBS AG*[826] and stated that the basic question to be followed from *Belize* is, 'what the instrument read as a whole against the relevant background would reasonably be understood to mean' therefore the proposed implied term must spell out what the contract actually means.[827] Similarly, *Torre Asset Funding Ltd & Anor v The Royal Bank of Scotland Plc*[828] stated that any implied term had to be sufficiently precise to operate with reasonable certainty, otherwise it would be difficult to objectively infer that the parties intended that the contract should contain the term.

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[820] *Reigate v Union Manufacturing Co (Ramsbottom)* [1918] 1 KB 592.
[821] (1977) 52 ALJR 20.
[822] [2009] UKPC 10, [2009] 2 All ER (Comm) 1.
[823] Ibid [21].
[824] In accordance with the principles he adopted in *Investors Compensation Scheme v West Bromwich Building Society* [1998] 1 All ER 98. Articles 4.1 to 4.7 of the UNIDROIT Principles deal with the interpretation of contracts in the strict sense, whilst Article 4.8 allows for the supply of an omitted term. 'In order to determine what is appropriate, regard is first of all to be had to the intention of the parties as inferred from, among other factors, the terms expressly stated in the contract, prior negotiations or any conduct subsequent to the conclusion of the contract'; see 'Comment on Supplying an Omitted Term' https://www.unidroit.org/instruments/commercial-contracts/unidroit-principles-2010/398-chapter-4-interpretation/934-article-4-8-supplying-an-omitted-term accessed 20 July 2021.
[825] [2009] EWCA Civ 531, [2010] 1 All ER (Comm) 1.
[826] [2012] EWHC 2044 (Comm).
[827] Ibid para 62.
[828] [2013] EWHC 2670 (Ch).

Most recently, the Supreme Court decision of *Marks and Spencer plc v BNP Paribas Securities Services Trust Company (Jersey) Ltd* has attempted to clarify the test for implied terms.[829] Lord Neuberger explicitly rejected Lord Hoffmann's approach from *Belize* and stated that interpretation of the contract is not the same as the implication of terms. Lord Neuberger said that *Belize* is to be taken as 'a characteristically inspired discussion rather than authoritative guidance on the law of implied terms'.[830] He affirmed the test for implied terms expressed by Lord Simon in *BP Refinery (Westernport)* as consisting of five conditions and added his comments on each.[831] He confirmed that the implication of a term is 'not critically dependent on proof of an actual intention of the parties' when negotiating the contract':[832]

> '*If one approaches the question by reference to what the parties would have agreed, one is not strictly concerned with the hypothetical answer of the actual parties, but with that of notional reasonable people in the position of the parties at the time at which they were contracting*.'

On the requirement of reasonable and equitable (first requirement):

> '*a term should not be implied into a detailed commercial contract merely because it appears fair or merely because one considers that the parties would have agreed it if it had been suggested to them. Those are necessary but not sufficient grounds for including a term. […] [I]t is questionable whether Lord Simon's first requirement, reasonableness and equitableness, will usually, if ever, add anything: if a term satisfies the other requirements, it is hard to think that it would not be reasonable and equitable*'.

On the requirements of business necessity and obviousness (second and third requirements), they 'can be alternatives in the sense that only one of them needs to be satisfied' and 'in practice it would be a rare case where only one of those two requirements would be satisfied'.[833] In addition, it was held that necessity for business efficacy involves a value judgment. The test is not one of "absolute necessity" – 'a more helpful way of putting Lord Simon's second requirement is […] that a term can only be implied if, without the term, the contract would lack commercial or practical coherence'.[834] Therefore, the Supreme Court effectively reaffirmed the officious bystander and business efficacy tests. These comments by the *Marks and Spencer* judgment were revisited by the Supreme Court in *Trump International Golf Club Scotland Limited v The Scottish Ministers*, where it was reaffirmed that interpretation is not the same as an implication of terms and it must be shown that a term is necessary to make the contract work.[835]

Therefore, the test for implying sustainability terms into chartering agreements ***by fact*** is one of necessity, not to be confused with the test for implication ***by law***, where the term is considered necessary to a particular and definable type of contractual relationship.[836] The fundamental difference

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[829] [2015] UKSC 72.
[830] Ibid para 31.
[831] Ibid para 18 – 21.
[832] Ibid para: affirming Lord Steyn in *Equitable Life Assurance Society v Hyman* [2002] 1 AC 408 at 45.
[833] Ibid.
[834] Ibid para 21.
[835] [2015] UKSC 74 para 35.
[836] *Bank of Nova Scotia v Hellenic Mutual War Risk Association (Bermuda) Ltd* [1989] 3 All ER 628 at 665.

between implication *by fact* and implication *by law* is that: the former seeks to give effect to the parties' intentions and acts as gap-fillers depending on the particular circumstances;[837] whilst the latter is attached to standardised contractual relationships of common occurrence, e.g. employment, sale of goods, construction contracts, etc. In respect of chartering, terms have been implied by fact in previously mentioned cases, such as *The Moorcock* where the Court of Appeal held the defendants liable on the basis that there was an implied undertaking that anchorage of the vessel would, so far as reasonable care could provide, not endanger the vessel.[838] However, in *The Reborn*, the Court of Appeal found on similar facts, that an undertaking for the charterers to nominate a safe berth at the agreed load port could not be implied as it was not necessary to make the contract work and the owners were well aware of the conditions at the agreed port.[839] The implication of a term was therefore decided in each case on the specific facts, not by virtue of the type of contractual relationship.

Arguably, environmental regulatory compliance to avoid detainment and delays would be necessary in a chartering agreement. If a charterer were to supply non-compliant bunkers or the owner's ballast water management system were not type-approved, a breach of an implied term could arise if the aggrieved party were to argue that compliance was necessitated by both the business efficacy and officious bystander tests. To avoid disputes, it would be better for environmental regulatory compliance to be implied by way of law to all chartering agreements (obviously, the best option would be the use of express clauses). However, implication by fact is an alternative where no implication by law is available. This could be deduced on the facts in accordance with the surrounding information available to the parties and their underlying intentions. However, whilst mere regulatory compliance may be deemed necessary for a voyage charter or time charter to work, a greater commitment to environmental sustainability is a more tenuous suggestion. There may also be circumstances where deviations or delays caused by actions taken to prevent environmental damage would not be permissible as an implied undertaking to protect the marine environment could directly contravene other express terms pertaining to the scope for deviation or delay.[840] Furthermore, there may be little evidence based on the surrounding circumstances that both parties have 'signed up' to sustainability mandates, whilst the 'parol evidence' rule may prevent adding terms to a contract altogether.

The parol evidence rule dictates that the 'evidence cannot be admitted to add to, vary or contradict a deed or other written document',[841] and has worked to prevent 'great inconvenience and troublesome litigation in many instances'.[842] This would exclude ancillary oral statements or written documents from being included in the main agreement, unless an exception can be shown. Terms implied by law or by custom have been seen to be beyond the scope of this rule.[843] Another exception to the parol evidence rule is collateral contracts. These are agreements, either statements or documents, made outside of the main contract. Whether a collateral contract should be enforceable depends on

[837] *Shell UK v Lostock Garages* [1977] 1 All ER 481, Lord Denning MR at 487; *El Awadi v BCCI* [1989] 1 All ER 242, Hutchinson J at 253.
[838] (1889) 14 PD 64.
[839] *The Reborn* (n 825).
[840] *County Homesearch Co (Thames & Chilterns) Ltd v Cowham* [2008] EWCA Civ 26, [2008] 1 WLR 909, [2008] All ER (D) 281 (Jan).
[841] *Jacobs v Batavia and General Plantations Trust* [1924] 1 Ch 287; *National Westminster Bank Ltd v Halesowen Presswork and Assemblies Ltd* [1972] AC 785 at 818–819.
[842] *Mercantile Agency Co Ltd v Flitwick Chalybeate Co* (1897) 14 TLR 90, Lord Halsbury at 90.
[843] *Gillespie Bros & Co v Cheney Eggar & Co* [1896] 2 QB 59; *Burges v Wickham* (1863) 3 B & S 669.

whether it was the parties' intention that the main contract would not have been made without it.[844] In certain circumstances, it can even contradict the main contract.[845] Not only can a collateral contract avoid the effect of the parol evidence rule, it can also avoid the effect of privity of contract.[846] A collateral contract, like all contracts requires an intention to be bound[847] and consideration.[848] The consideration for the promise in the collateral contract is usually the entering into the main contract, as stated by Lord Moulton in *Heilbut, Symons & Co v Buckleton*:

> '*It is evident, both on principle and on authority, that there may be a contract the consideration for which is the making of some other contract. "If you will make such and such a contract I will give you one hundred pounds," is in every sense of the word a complete legal contract. It is collateral to the main contract, but each has an independent existence, and they do not differ in respect of their possessing to the full the character and status of a contract*.'

Therefore, green terms can circumvent the parol evidence rule by being implied by law or through being contained in a collateral contract. It has already been said that implication by law would be the far better solution over implication by fact, although regulatory compliance could arguably pass the officious bystander and business efficacy tests. Implication *by law* would see sustainability commitments implied into all chartering agreements between owner and shipowner due to the category of contractual relationship. An implied green term would serve to guide the parties where environmental obligations are absent or do not go far enough to consider every possible event. However, as seen with the duty of good faith,[849] it may be a step too far to use the means of an implied term to impose duties in performance on the basis that it would make the contract 'fairer or more reasonable'[850] – and in this case, more 'green'. It may become useful to adopt a more 'civil law approach' to viewing chartering agreements as a specific category of contracts – as recognised by comparative authors:[851]

> '*[c]ivil law contract epistemology, as its first operation when approaching a contractual agreement, categorizes every consensual transaction as a 'type' of contract (or as a hybrid of such 'nominate' types), which automatically places the agreement in question within a context of certain (default) rules applicable to the pertinent 'type' of transaction […] the civilian approach tends to engender an understanding of a contractual agreement as more deeply intermeshed and woven into a normative fabric of codal (default) rules and standards of 'good faith' which, therefore, do not have to be 'imported' into the contract by means of a doctrine of implication of terms; contracts rather give rise to a more comprehensive normative relationship between the parties…*'

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[844] *Hamed El Chiaty & Co v Thomas Cook Group Ltd, The Nile Rhapsody* [1992] 2 Lloyd's Rep 399, 407.
[845] *City & Westminster Properties Ltd v Mudd* [1959] Ch 129, see *Wedderburn* [1959] CLJ 58, 83–84.
[846] *Webster v Higgin* [1948] 2 All ER 127; *Andrews v Hopkinson* [1957] 1 QB 229; *Shanklin Pier Ltd v Detel Products Ltd* [1951] 2 KB 854.
[847] *Heilbut, Symons & Co v Buckleton* [1913] AC 30, Lord Moulton at 45–46.
[848] Ibid 47.
[849] Jason Chuah, 'Chapter 3: Contents', in Michael P Furmston (ed) *Butterworths Common Law Series: Law of Contract. Butterworths Common Law Series* (n 778).
[850] *Attorney-General of Belize v Belize Telecom Ltd* [2009] UKPC 10 at [16].
[851] Helge Dedek, 'Art 6:102: Implied Terms' in Nils Jansen and Reinhard Zimmermann (eds) *Commentaries on European Contract Laws* (Oxford University Press 2017) 806 – 807.

Such an understanding is similar to the English law notion of implication *by law*, but provides for a stronger normative conceptual framework exclusively for contracts of carriage by sea, and more specifically, chartering arrangements. This thesis calls for a strong normative 'green' basis for chartering arrangements. Indeed, the IMO has mandated a commitment on the part of all actors to attain goals of carbon neutrality. Given the infiltration of sustainability principles into other contractual relationships, the progress of shipping cannot be hindered by outdated private liability regimes which view the private law in isolation from the global milieu of climate change discourse and interrelated human rights issues. These customs are already underway in ship financing with initiatives that seek to provide normative frameworks such as the Poseidon Principles, which is extended to chartering through the Sea Cargo Charter.[852]

4.4 Express Terms for Environmental Sustainability and Energy Efficiency

The integration of express environmental commitments has been discussed in some detail in Chapter 3 in the context of loan agreements. It is therefore unnecessary to reiterate a classification of contractual terms and resultant remedies for breaches thereof. Besides the aforementioned shipping association suggested clauses for the sulphur transition and BWM (namely those drafted by BIMCO and INTERTANKO), additional clauses aimed at improved energy efficiency have been proposed by scholars and the IMO. Whilst having green norms in chartering is a useful interpretive tool and affords potential remedy where agreements are silent on the occurrence of events that are juxtaposed to the interests of environmental sustainability; it is still better yet to *expressly* agree to a set of environmental commitments and actions which are aligned with the prevailing normative (*implied*) framework. This section seeks out solutions for energy efficiency as a negotiated term, especially where emission reduction decisions are made.

Agreeing to speed and fuel consumption (or energy efficiency) is not an entirely new concept. Time charters have for a long time included fuel consumption and performance warranties. However, these warranties are yet to make any sort of provision for environmental interests and have been the source of frequent disputes between owner and charterer. Most standard forms include a clause whereby the owner will warrant the vessel's speed and fuel consumption. Clause 24 (a) of the standard form charter known as SHELLTIME 4, states that the 'Owners guarantee that the speed and consumption of the vessel shall be as follows', as seen in the diagram extract of such form below:

[852] Sea Cargo Charter https://www.seacargocharter.org/ accessed 15 September 2021. Arguably, environmental commitments can also be contained in collateral contracts, but the Charterer would need to specifically agree to this set of duties. For a Shipowner to allege that an awareness that the vessel is financed with green finance disbursements, therefore binding the charterer to the same commitments, may push the boundaries of privity of contract; see *Shanklin Pier Ltd v Detel Products Ltd* [1951] 2 KB 854 for doctrine of privity of contract.

Detailed Description and Performance

24. (a) Owners guarantee that the speed and consumption of the vessel shall be as follows:-

Average speed in knots	Maximum average bunker consumption per day	
	main propulsion fuel oil/ diesel oil	auxiliaries fuel oil/diesel oil
Laden	tonnes	tonnes
____	____/____	____/____
____	____/____	____/____
____	____/____	____/____
Ballast		
____	____/____	____/____
____	____/____	____/____

The foregoing bunker consumptions are for all purposes except cargo heating and tank cleaning and shall be pro-rated between the speeds shown.

This document is a computer generated SHELLTIME 4 form printed by authority of BIMCO. Any insertion or deletion to the form must be clearly visible. In event of any modification being made to the pre-printed text of this document which is not clearly visible, the text of the original BIMCO approved document shall apply. BIMCO assumes no responsibility for any loss, damage or expense caused as a result of discrepancies between the original BIMCO approved document and this computer generated document.

If the vessel fails to achieve the performance guaranteed, then deduction from hire may be made according to an adjusted performance calculation. Charterers frequently claim against owners for underperformance or overconsumption – meaning that the vessel is either not complying with the speed specifications described or the vessel is using more fuel per day than specified in the charterparty.[853] Owners therefore require accurate and comprehensive data to determine the speed and consumption of the vessel. This presents a major issue when such data is inaccurate, and the charterer and owner dispute the vessel's actual performance. The disputes surrounding these clauses are also helpful in construing how energy efficiency clauses can avoid such disputes where an environmental objective represents a convergence of interests.

In *SK Shipping Europe PLC v (3) Capital VLCC 3 Corp (5) Capital Maritime and Trading Corp (The C Challenger),*[854] the charterer purported to rescind a long-term time charter on the basis that the owner had fraudulently misrepresented the ship's fuel consumption.[855] Alternatively, the charterers alleged that the owners had made the statements negligently, or without reasonable grounds for believing them to be true as per s 2(1) of the Misrepresentation Act 1967.[856] The owner in this case, SK Shipping Europe, did not ordinarily charter its vessels under time charters as it had been in the business of chartering out its vessels on the spot market through consecutive voyage charters. Under the long-period time charter, the owner was required to offer warranties as to speed and performance – something it had never previously done. An agreement was concluded and after delivery of the vessel, it became clear that the vessel consumed bunkers in excess of the warranted consumption and that the information circulated in the negotiation stages pertaining to the vessel's fuel performance was inaccurate. The charterer, being aware of the over-consumption, threatened to terminate the charterparty, but continued to employ the ship under a 'reservation of rights'. Later that year, the charterer purported to rescind the charterparty on the basis of misrepresentation or to terminate it for repudiatory breach. The charterer stated that the, 'negotiations for the "C CHALLENGER" which included the Owner's representations […] formed part of the inducement for the Charterer's to

[853] For speed performance, it is generally accepted that owners are given a 0.5 knot margin. This "rule" is generally applied in London arbitrations, but is not actually mandated by law. Legally, the margin 'must be tailored to the ship's configuration, size, draft and trim etc' (*The Al Bida* [1987] 1 LLR 124).
[854] [2020] EWHC 3448 (Comm).
[855] Ibid para 111.
[856] Ibid.

ultimately contract on the terms of the Charterparty'.[857] The charterer also said that the, 'Owners' guaranteed speed and consumption of the vessel were false and negligently made and as a result the Charterers are entitled to rescind the Charterparty…'.[858]

Therefore, the main argument put forward by the charterers was that the circulated details of the vessel's consumption constituted a representation of fact that was substantially inaccurate. Justice Foxton held that when the owner offered a continuing speed and consumption warranty in a charterparty, it could not be assumed to make an implicit representation as to the vessel's current or recent performance.[859] He clarified a few principles on such a warranty, that the 'language of an undertaking, a warranty is inherently promissory, and is expressed in relation to the future (performance during the chartered service)'; implying such a representation gives difficulty in determining the date at which any level of performance is said to be represented; speed consumption warranties are subject to a degree of margin – this is not the case involving representations as to the vessel's actual consumption; and the warranty given is not so much a warranty given as the vessel's capability at any particular point, but as to its average performance over a longer period.[860] Yet, the charterers also argued that the owners had sent a letter containing the historical speed and consumption data which was not reasonably consistent with the average performance of the vessel over its last three voyages and was therefore untrue. Justice Foxton was willing to accept that the statement based on the three recent voyages amounted to material representation, but there was no inducement and therefore no right to rescind.[861] If SK shipping had made the same warranty, but made no representation as the vessel's historic or recent performance, the same charterparty would have been concluded on the same terms.

Despite the charterers 'reserving rights' pertaining to the misconduct of the owners, they proceeded to fix a voyage with a sub-charterer expecting the owners to execute this voyage, bringing the owner into contractual relations with third parties under which the owner would be liable for cargo claims.[862] Justice Foxton held that these actions of the charterers were not consistent with an attempt to reserve rights to rescind the charterparty and set it aside *ab initio* for misrepresentation.[863] The charterers also argued that the owners had breached a number of clauses pertaining to obligations as to the condition of the vessel on delivery, as to maintaining the vessel, consistent breach of the consumption warranty, as well as unjustified demands for payment of hire and refusing to make deductions of hire, and asserting that the charterer was in breach.[864] However, although Foxton J accepted that these were breaches of the contract, the terms breached were deemed to be innominate terms. The cumulative breaches complained of had not substantially deprived the charterers of the whole benefit that they intended to receive under the charterparty for payment of hire, nor did they 'go to the root of the contract' of the charterparty.[865] Therefore, the charterers were not entitled to terminate the charterparty and their communication to that effect was a renunciation in and of itself, thus entitling the owners to damages.[866]

[857] Ibid para 101.
[858] Ibid.
[859] Ibid para 129.
[860] Ibid.
[861] Ibid para 191.
[862] Ibid para 221.
[863] Ibid para 222.
[864] Ibid para 273.
[865] Ibid para 305.
[866] Ibid para 311.

In an earlier case, *Imperator I Maritime Company v. Bunge SA (The "Coral Seas")*[867] a performance warranty was considered where underperformance was caused by underwater fouling following the charterer's orders. In this case, the Coral Seas (a new-build vessel) was chartered to Bunge SA on an amended NYPE 1946 form; it was then sub-chartered by Bunge SA to C Transport Panamax. The Head Charterparty and the Sub-Charterparty contained a rider clause, Rider clause 29(a), that set out the vessel's speed and fuel consumption warranties:[868]

> *Speed/consumption (expected as a new building) … All details given in good faith as per shipbuilders' plans and as a new building vessel can be described….*

Rider clause 29(b) additionally stated:

> *Throughout the currency of this charter, owners warrant that the vessel shall be capable of maintaining and shall maintain on all sea passages, from sea buoy to sea buoy, an average speed and consumption as stipulated in clause 29(a) above, under fair weather condition not exceeding Beaufort force four and Douglas sea state three and not against adverse current.*

Initially, there were no problems with the vessel meeting her warranted performance, however, one year into the charter, the charterers ordered the vessel to proceed to Guaiba Island, Brazil. The vessel awaited one month to load in the tropical waters, and it became immediately clear upon departure that its performance had significantly worsened. This was due to heavy fouling of the propeller by barnacles due to the warmer waters. The arbitrators found in favour of the charterers, that, on a true construction of the charterparties, clause 29(b) applied to all sea voyages, 'including those after a prolonged wait in tropical waters and that it was the Owners/Head Charterers who had assumed the risk of a fall-off in performance as a result of bottom fouling consequential upon compliance with the Head Charterers'/Sub Charterers' lawful orders'.[869] The owner appealed on the basis that it was a defence that the underperformance of the vessel resulted from orders made by the charterer, namely to send the vessel to Guaiba for a month.[870]

The court set out the law relating to liability arising from a charterer's orders. Shipowners have an implied indemnity against a time charter in respect of the consequences of the charterer's orders.[871] However, it is well established that this indemnity does not extend to the usual perils of the voyage in respect of which the owner must accept the risk.[872] Lord Justice Phillips relied on Lord Sumpton's approach to the owner's indemnity in *ENE Kos 1 Ltd v Petroleo Brasileiro SA (No 2)*:[873]

> '*The owners are not entitled to an indemnity against things for which they are being remunerated by the payment of hire. There is therefore no indemnity in respect of the ordinary risks and costs associated with the performance of the chartered service. The purpose of the*

[867] [2016] EWHC 1506 (Comm).
[868] Ibid para 4.
[869] Ibid para 9.
[870] The Owners relied on *The Pamphilos* [2002] 2 Lloyd's Rep. 681 per Colman J at 690.
[871] *The Coral Seas* (n 867) para 15.
[872] *The Island Archon* [1994] 2 Lloyds Rep 227 CA.
[873] [2012] 2 AC 164 para 11; see also *The Kitsa* [2005] 1 Lloyd's Rep 432; *The Rijn* [1981] 2 Lloyd's Rep 267 at 272.

> *indemnity is to protect them against losses arising from risks or costs which they have not expressly or implicitly agreed in the charterparty to bear. What risks or costs the owners have agreed to bear may depend on the construction of other relevant provisions of the contract, or on an informed judgment of the broad range of physical and commercial hazards which are normally incidental to the chartered service, or on some combination of the two. The classic example of a loss within the indemnity, and probably the commonest in practice, is one which arises from the master complying with the charterers' direction to sign bills of lading on terms of carriage more onerous than those of the charterparty …*'.

Lord Justice Phillips held that the owners had assumed this risk because marine fouling is usual and expected in the legitimate deployment of the vessel. The owners can therefore not avoid liability on the warranty in relation to risk they have assumed, to do so would be unfair and would 'flout common sense'.[874]

Against this backdrop of performance and fuel consumption warranties and implied indemnities for owner's liability where the risk exceeds what is to be ordinarily expected; it is apparent that problems will arise in the context of energy efficiency, slow steaming, or just-in-time arrival. As stated in Section 4.1 of this thesis, the current regime can in many ways deter environmentally responsible behaviour in favour of commercial interests. Under a performance warranty, the owner and charterer will be in disagreement as to deductions or increases to hire where the vessel fluctuates in performance. However, such decisions may be necessary in the context of energy efficiency, where a vessel is exceeding emission standards or the master is instructed to slow steam to reduce pollution outputs. Slow-steaming may also have unforeseen impacts on the engine, which may impact performance once the vessel returns to usual speed. Would this be a risk assumed by the owner, or is he indemnified against unforeseen charterer's orders? Furthermore, if a vessel enters an ECA, is this a foreseeable risk assumed by the owner who guarantees speed performance regardless of the voyage? Although a normative green framework to interpret the true construction of these contracts would be helpful, new types of express clauses need to balance interests in terms of energy efficiency.

One proposed solution is to include energy efficiency as a negotiated term from the inception stages of the chartering process as providing an incentive for environmental commitment from both parties.[875] Additionally, it provides a means for distributing energy efficiency costs and rewards as well as providing clarity on the rights and responsibilities of the parties.[876] Negotiating such a clause can be instrumental in empowering parties with differing interests to share a common green objective. It would also stimulate continued improvement of the vessel's energy efficiency which encourages continued investment on green technology upgrades. Such a clause could also help parties determine the legal status of the obligation to comply with emission regulations.[877] The inclusion of energy efficiency clauses in charterparty arrangements would be expected to include compliance with prevailing environmental regulations and, more notably, should make reference to the vessel's EEDI (for new ships) and the SEEMP (for old ships). There is also a strong argument that the inclusion of design energy efficiency clauses as a legally operative rider clause could more clearly demarcate duties

[874] Ibid para 28.
[875] George Adamantios Psarros, *Energy Efficiency Clauses in Charter Party Agreements: Legal and Economic Perspectives and Their Application to Ocean Grain Transport* (n 134) 44.
[876]Ibid: Key finding of economic research conducted.
[877] Ibid.

and responsibilities in the event of civil lawsuits for environmental pollution and damage, as seen with oil pollution cases, especially given the increase in climate change litigation over recent years.[878]

In proposing a workable contractual mechanism, economic research using game theory has been done to propose an Energy Efficiency Investment Sharing Scheme (EEISS).[879] This mechanism, as supported by the findings of Psarros, is summarised here in plain language. The EEISS essentially aims to achieve the optimum reward for energy efficiency which determines a fair payment and resolves the level of contribution between the contracting parties. In ordinary negotiations, an initial bid from the shipowner would include certain details about the vessel, its capacity and date of readiness, as well as the owner's reservation. On the other side, the charterer would state the size and type of cargo, readiness and laycan dates and the charterer's reservation price (expected market price). Once a match is found between a vessel and the cargo, the shipowner (the seller) can estimate the costs of the voyage and negotiations become increasingly detailed. Obviously, the rate is subject to market behaviour and vessel availability and it is possible that the rate may change by the end of this process. Negotiating a sharing scheme for energy efficiency investments can also be included in this negotiation process. Both parties may not be fully aware of the vessel's energy efficiency performance. The seller is in a better position to know the energy efficiency details of the ship in question. Parties can thus enhance their position through disclosing optimal information. Clauses are included to reflect the parties' asymmetric information of a variety of issues including costs, performance and environmental attributes. Thus, an owner who has an honest reputation of disclosing accurate information of high levels of energy efficiency offers a competitive advantage and might have a higher reservation price. Thus, it also becomes important to specify fiduciary obligations in the sharing scheme.

It is a matter of common sense that it is in the best interests of sellers (owners), who bear the cost of installing innovative technology, when providing a level of efficiency beyond the minimum to alert buyers (charterers) to the fact that they have done so. Thus, when bargaining the energy efficiency sharing scheme, it must be stipulated that evidence shall be provided with respect to the vessel's performance taking into account available data on the vessel's condition and monitoring systems.[880] Contractual provisions will also have to take into account how slow steaming influences the operation of the installed energy efficiency equipment and safety of the vessel. The barriers to slow-steaming and virtual arrival can thus be eliminated where a clear and legitimate environmental agenda is pursued, and the obligations of the parties are clarified and agreed upon.

Furthermore, due diligence should be exercised so as not to conflict with other provisions of the contract.[881] Contracting parties will also have to establish the basis of measurements, what constitutes breach, remedies for violations, and other protection mechanisms. The most important aspect of this EEISS is that it will unify the objectives of both parties to achieve greater levels of energy efficiency and environmental protection. This solution offered by Psarros firmly recognises that current available technologies impose huge capital costs on owner with imperfect data on certainty of performance. In order to pay back their loans for financing green technology, owners would have to increase freight rates and justify this to charterers. Thus, to give owners a competitive advantage, external factors

[878] George Adamantios Psarros, *Energy Efficiency Clauses in Charter Party Agreements: Legal and Economic Perspectives and Their Application to Ocean Grain Transport* (n 134) 36 – 38.
[879] Ibid.
[880] Ibid.
[881] Ibid 64.

other than a costs equilibrium between capital investment and fuel savings have been included in the calculation. An owner's transparency, goodwill, and disclosure of information can also act as a *nudge* for better environmental performance.[882]

Other specific cost sharing schemes include those which more directly integrate financial incentives into chartering. Examples of these initiatives include Save as You Sail (SAYS),[883] developed by the finance workstream of the Sustainable Shipping Initiative (SSI) together with Deloitte, Holman Fenwick Willan (HFW) and University College London, and the Self-Financing Fuel-Saving Mechanism (SFFSM),[884] developed by stakeholders, including the Carbon War Room, PwC, and University College London. Under the SAYS scheme, the owner of a vessel takes out a loan with the finance provider and agrees to a regular fixed SAYS fee with the time charterer on top of their charter rates. The owner is thus apportioned some of the cost savings made by the charterer which can be used to offset loan payments for the retrofitting. The SFFSM essentially works as a tripartite contractual agreement between the financier, the technology partners and the fuel payer. This financial model has two important features: 1) a guarantee of fuel savings from the technology vendors, and 2) a refined data collection methodology which continuously monitors equipment to accurately quantify and verify fuel savings.

SAYS and SFFSM models therefore overcome split incentives to afford more innovative cost-sharing schemes. In addition, they can overcome the problem of uncertainty surrounding the performance data of green technologies as the technology provider must be able to guarantee that their technologies will deliver a certain percentage of fuel savings and the owner must accurately verify those savings to charterers. Cost sharing schemes also achieve a stronger convergence of objectives between owner and charterer which must be aligned with the terms of the underlying finance agreement for the retrofitting of the vessel. This alignment will necessarily see the norms and commitments of the applicable green finance agreement being strongly carried over into the chartering agreement. In fact, as seen with SAYS and SSFSM, the charterer can also be bound to the terms set forth by the financier.

If an activity such as slow steaming for fuel conservation is foreseeable or planned, then it is important for the shipowner and charterer to draft suitable clauses to avoid the implied undertaking of reasonable dispatch. Instructions to slow steam may be incorporated under a time charter, but the legal obligations of shipowners to follow these instructions whilst honouring their other obligations needs to be ironed out. In 2011, BIMCO undertook to draft a time charter clause for slow steaming and in 2012 it published a clause applicable to voyage charters.[885] In respect of time charter parties, the charterers may at their discretion provide, in writing to the master, instructions to reduce speed or and/or adjust the vessel's speed to meet a specified time of arrival at a particular destination. In respect of voyage charter parties, the owners shall be entitled to give instructions to the master to

[882] Ellen Eftestøl-Wilhelmsson and Suvi Sankari, 'Chapter 7: Nudging a behavioural change in maritime carriage of goods – the role of information' (n 753) 181.
[883] Sustainable Shipping Initiative, *Save As You Sail* https://www.ssi2040.org/news/call-for-ship-owners-to-join-pilot-of-innovative-save-as-you-sail-technology-financing-model/ accessed 15 September 2021.
[884] Victoria Stulgis and others, *Hidden treasure: Financial models for retrofits* (The Carbon War Room / UCL Energy Institute, London, UK 2014) 32-33.
[885] BIMCO, 'Slow Steaming Clause for Time Charter Parties' (2011) https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/slow_steaming_clause_for_time_charter_2011 accessed 15 September 2021; 'Slow Steaming Clause for Voyage Charter Parties' (2012) https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/slow_steaming_clause_for_voyage_cp_2012 accessed 15 September 2021.

reduce the vessel's speed provided that the speed shall not fall below stipulated knots. Both these charterparty clauses can be used to implement slow steaming for the purposes of fuel conservation.

The IMO has already noted in its Just-In-Time (JIT) Arrival Guide that barriers for the implementation of JIT Arrival exist at the contractual phase.[886] JIT arrivals have a number of benefits, including 'less congestion and traffic in the anchorage areas, reduced risk of accidents/collisions, reduced risk of attacks in areas prone to robbery or piracy (as these occur more frequently at anchorage than en route), [and] reduced hull fouling, especially in tropical waters'.[887] This all equates to less GHG emissions and reduced air pollution in ports as well as fuel savings and emission reductions from allowing the vessel to reduce its speed. The JIT Arrival Guide notes that with time charters, there is no problem as the charterer has the right to direct the ship to proceed at any speed whilst paying for all the bunkers, thus it directly benefits from the fuels savings.

However, in voyage charters, a due despatch clause obliges the ship's master to proceed to the next port with utmost despatch, regardless of whether a berth is available or not. This is further complicated when the vessel is carrying goods belonging to multiple owners under numerous contractual agreements. Cargoes may also be traded many times between the load and discharge port, therefore contracts must be redrafted for each new owner. Even if a contractual solution is sought (such as the BIMCO Virtual Arrival Clause for Voyage Charter Parties)[888], the calculation of any costs/revenues from the implementation of JIT Arrival can be difficult. JIT Arrival would need to be incentivised by significant financial gains with a reduced demurrage rate for the delay period not providing sufficient incentive as the sales contract between charterer and the terminal often includes a provision for demurrage as well, which allows the charterer to pass any demurrage costs down to the terminal (as the terminal is considered to cause the delay). Adaptations of charterparty agreements are often met with stakeholder reluctance where new and unfamiliar arrangements have to be made.[889] This strengthens the proposition that certain environmentally friendlier practices should be incorporated into the overarching liability regime more generally or enforced by a port authority.

Regardless of how parties negotiate these matters, the value of a 'green' or 'sustainability' normative framework cannot be overstated. Where certain actions are taken to protect the marine environment by either charterer's orders or owner's orders; there should be no punitive contractual measures where the actions are proven to have benefitted the environment. Such a custom should be implied or expressly stated at the outset. The next Chapter of this thesis (Chapter 5) provides extensive reference to the RECYCLEON ship recycling form to govern sale agreement of end-of-life vessels sold exclusively for dismantling and recycling. This form contains a preamble which imposes an undertaking on parties to carry out their duties 'in a safe and environmentally sound manner consistent with international law and relevant guidelines'.[890] A similar preamble in chartering forms would go a long

[886] GEF-UNDP-IMO GloMEEP Project and members of the GIA, 'Just In Time Arrival Guide – Barriers and Potential Solutions' https://greenvoyage2050.imo.org/wp-content/uploads/2021/01/GIA-just-in-time-hires.pdf accessed 15 September 2021.
[887] Ibid 5.
[888] BIMCO 'Virtual Arrival Clause for Voyage Charter Parties' (2013) https://www.bimco.org/contracts-and-clauses/bimco-clauses/current/virtual_arrival_clause_for_voyage_charter_parties_2013 accessed 15 September 2021.
[889] The IMO endorses a top-down approach whereby JIT Arrival is enforced through the port authority.
[890] BIMCO, 'RECYCLECON' (2012) https://www.bimco.org/contracts-and-clauses/bimco-contracts/recyclecon#:~:text=RECYCLECON%20is%20a%20standard%20contract,safe%20and%20environment

way to elevate the green intentions of the parties. If the vessel is already subject to a green finance framework (e.g. the Poseidon Principles), then the preamble can contain a reference to this framework and state that the owner and charterer agree to uphold the objectives of the green framework and will exercise their duties in a manner consistent with responsible and sound environmental behaviour.

Alternatively, a chartering specific framework can exist to carry green objectives through from financing to chartering. The Sea Cargo Charter has been mentioned previously in this Chapter, but requires some further explanation on how it has extended the work of the Poseidon Principles down the value chain. On 7 October 2020, the Sea Cargo Charter was launched during the Global Maritime Forum Virtual High-Level Meeting.[891] The Sea Cargo Charter is the equivalent of the Poseidon Principles framework for charterers – it contains the same four core principles, but the frameworks employ different metrics. Signatories are to abide by the following principle:

> '*We will ensure ongoing compliance with the Sea Cargo Charter for new chartering activities through contractual means by using the Sea Cargo Charter Clause in charter parties. We will contribute to the update and addition of the Sea Cargo Charter Clause through the annual review process*'.[892]

To enforce this principle, a Sea Cargo Charter Clause is recommended for voyage data reporting, along with a data reporting template.[893] It contains the following obligations:

> *a) The head owner or disponent owner (as appropriate) shall provide a duly completed fuel emission report in the format appearing in the table below within seven (7) days after completion of the voyage. Such a report shall be sent by email to: (to be completed by the Signatory)*
> *b) Nothing in the aforementioned provision shall affect any other rights or obligations under the relevant contract.*
> *c) In the event of a conflict with any other contractual provisions, such other provisions shall prevail.*

Like the Poseidon Principles, the obligations herein are hardly revolutionary and mirror activities mandated by prevailing international law standards in any event. However, as noted in Chapter 3, such a clause is a starting point for a range of other commitments which could permeate a contractual relationship depending on the specific green objectives and commitments of the parties. The Sea Cargo Charter serves as a fundamental turning point in 'greening' chartering to assist in the elevation of a green objective. Its contribution to the development of such a norm can serve as a baseline for a host of environmental express terms to be employed as the normative framework takes root.

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ally%20sound%20manner.&text=The%20latest%20edition%20of%20this,RECYCLECON%20is%20held%20by%20BIMCO accessed 15 September 2021.

[891] Sea Cargo Charter, 'How did we get here' https://www.seacargocharter.org/about/how-did-we-get-there/ accessed 20 July 2021. The Sea Cargo Charter was developed by a group of cargo owners – Anglo American, Cargill, Dow, Total, Trafigura – and shipowners – Euronav, Norden, Stena Bulk – in collaboration with Stephenson Harwood (expert support provided by the Global Maritime Forum, UMAS and Smart Freight Centre).

[892] Ibid.

[893] 'Sea Cargo Charter Clause' (2021) https://www.seacargocharter.org/wp-content/uploads/2020/10/Sea-Cargo-Charter-Clause.pdf accessed 15 September 2021.

4.5 Conclusion

Construing environmentalism in commercial agreements is not a unique challenge for chartering arrangements. Other categories of contracts are already implementing sustainability frameworks, incorporating environmental standards, introducing pervasive norms, and moving away from traditional libertarian views of contract law. Environmental factors are not prevalent in the existing civil liability regimes governing contracts of carriage by sea, whilst the present rules may in fact deter environmentally sustainable behaviour in favour of commercial interests. This Chapter has set out to elucidate that the achievement of environmental sustainability requires more than the incorporation of regulatory compliance clauses for the allocation of risk and responsibility. Shipping associations have drafted meticulous clauses for the allocation of duties between shipowner and charterer, however these clauses merely reinforce the status quo without proposing new ways of conceptualising green issues in contracts.

To more effectively incorporate environmental commitments into charterparties, it is argued that the contractual regime must necessarily elevate environmental sustainability to a pervasive norm. A framework for green decision-making is required which exceeds mere objectives for regulatory compliance and is aligned with the greater rationales underpinning the public law framework. Judges would be able to imply green obligations into charterparties by considering the SD mandate as part of the factual matrix that determines parties' intentions. Green norms or customs may, in any event, already bind a shipowner who has obtained green finance. The owner thus needs to adopt a similar green thinking in chartering the vessel, as seen with the extension of the Poseidon Principles into the Sea Cargo Charter. Finally, the continuity of green mandate needs to be carried through from a vessel's financing and operation to its final voyage. Green chartering is therefore a vital component of the vessel's 'greenness' and will no doubt have implications for how the vessel is dismantled. An operationally compliant and environmentally safe and sound vessel is likely to present less risk when it is dismantled and recycled. The same normative framework governing financing and chartering provides an underlying value system for shipping activities holistically – hence, a life-span viewpoint is required.

5. CHAPTER FIVE: END-OF-LIFE SHIPS - DISMANTLING AND RECYCLING

Previous Chapters have considered the pre-operational and operational phases of a vessel's life in order to identify how key shipping transactions in these phases can be viewed against a SD backdrop. This calls for deeper *integration* of green objectives into contractual relationships. However, despite a more global focus on operational pollutants in shipping, one can no longer ignore the '**end-of-life**' (EOL) phase of a commercial vessel. Dismantling and recycling practices have significant impacts on the marine and coastal environment – something that the international community is paying increasing attention to.[894] The reason that ship-recycling practices are so harmful to humans and the surrounding environment is two-fold. First, because in addition to the re-usable materials which are gathered, many of the older vessels which are 'dumped' contain heavy metals, asbestos, heavy oils, polychlorinated biphenyl, polyaromatic hydrocarbons, organotins and glass wool, etc – all of which are released into the surrounding environment and pose immense health risks for workers. [895] Second, because of the sheer physical risks involved for unskilled migrant workers with high rates of severe accidents and fatalities.[896] It is clear that shipbreaking, as presently carried out, poses a worrying package of intertwined environmental and human rights abuses. The stark absence of safety standards, the frequent occurrence of lethal accidents, and the long-term health implications for workers have led the International Labour Organisation (ILO) to declare shipbreaking as 'amongst the most dangerous occupations, with unacceptably high levels of fatalities, injuries and work-related diseases'.[897] Shipbreaking has been described as a 'pollution haven' industry and has created a exploitative system of 'ecological unequal exchange' – a system whereby wealth flows from resource-rich, lesser-developed nations in exchange for 'anti-wealth' in the form of pollution and risks from wealthier states.[898] The legacy of the Exxon Valdez, requiring ships to have double hulls, saw a new market emerging for the scrapping of older non-compliant vessels on the pristine shores of India, Bangladesh, Pakistan, and other jurisdictions where environmental controls are either lacking or not effectively implemented. It has become effectively too expensive for big shipping interests to dispose of their vessels safely, thus prompting them to externalise these costs to less regulated 'periphery' countries. [899] This is coupled with an international demand for steel and other recycled resources.

Despite the developments in environmental management of hazardous waste, the end of a commercial ship's life is a contemporary topic from a public regulatory point of view. This is because the practical realities of the global ship dismantling and recycling business reflect that broader legal

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[894] Attention was first brought to the harmful environmental and labour practices of ship scrapping in 1998, when two journalists from the Baltimore Sun won the Pulitzer Prize in Investigative Reporting for a series of articles revealing the immense dangers posed by shipbreaking; see the 1998 Pulitzer Prize Winner in Investigative Reporting, Gary Cohn and Will Englund of *The Baltimore Sun* (1997) https://www.pulitzer.org/winners/gary-cohn-and-will-englund accessed 15 September 2021.

[895] Anand M. Hiremath, Sachin Kumar Pandey, and Shyam R. Asolekar, 'Development of ship-specific recycling plan to improve health safety and environment in ship recycling yards' (2016) 116 Journal of Cleaner Production*, Volume*, 279-298, 280.

[896] Ibid.

[897] ILO, 'Ship-breaking: a hazardous work' (1996-2020) https://www.ilo.org/safework/info/WCMS_110335/lang--en/index.htm?ssSourceSiteId=global#:~:text=It%20is%20amongst%20the%20most,and%20safety%20and%20health%20hazards accessed 15 September 2021.

[898] R Scott Frey, 'Breaking Ships in the World-System: An Analysis of Two Ship Breaking Capitals, Alang-Sosiya, India and Chittagong, Bangladesh' (2015) 21(1) Journal of World-Systems Research 25-49.

[899] A Greenpeace-FIDH Report in Cooperation With YPSA, *End-of-life-ships. The Human Cost of Breaking Ships*, (2005) 5 https://www.fidh.org/IMG/pdf/shipbreaking2005a.pdf accessed 15 September 2021.

instruments, like the Basel Convention on the Control of Trans Boundary Movement of Hazardous Wastes and their Disposal (Basel Convention)[900], are largely circumvented by maritime actors and face a number of implementation challenges. The result has been wide-scale non-compliance and the persistence of unsound and unsustainable shipbreaking practices. This Chapter, however, is more concerned with the ***private law dimension*** of shipbreaking activities. It sets out to investigate avenues for implementing a set of environmental obligations between private parties, which can overcome some of the inadequacies of the public law regime in respect of implementation and enforcement.

At the outset of this Chapter, the public law regime is briefly discussed with a view to highlighting the problems of compliance and enforcement arising from the in-practice sale of vessels for recycling. This discussion is also important because it lays out certain requirements that private parties should not only adhere to but could perhaps more effectively enforce through an array of contractual clauses. Much of the public law terminology has also made its way into the RECYCLECON contract for private ship recycling transactions.[901] Acknowledging weaknesses in the public law regime is in line with a contract governance theoretical framework that calls for an integrated view of contract drafting.[902] External influences on the contractual setting such as public regulation are a part of 'governance' and the public/private divide becomes meaningless if we view all areas of law as a single organism comprising different institutions and actors with similar goals - yet recognising that certain institutions/actors can achieve these goals more effectively.[903]

Second, this Chapter analyses the scope of contractual liability as a means of regulating the **sale agreement** between seller and buyer for the purposes of recycling a vessel. In keeping with a contract governance approach, both dimensions: *governing* contracts and contracts *govern*, are dealt with. The former addresses whether prescribed key provisions and the use of standardised forms could regulate the substantive content of contracts for the furtherance of environmentally safe and sound recycling practices. On the other hand, a desired outcome must be achieved by the substantive clauses within sale agreements for EOL vessels. Contractual protections are also important for owners in strengthening the incentive to recycle vessels *safely and sustainably*. Here, sellers can govern a set of outcomes by drafting clauses which consider the realities of the industry through effective enforcement mechanisms. Sections 5.2, 5.3, and 5.4 identify *how* contract law can afford a seller a set of enhanced protections through effective enforcement of green clauses in the recycling agreement (i.e. those clauses which promote and control environmentally safe and sound recycling). Where English contract law falls short of adequately dealing with the particular realities of ship recycling, these sections advance arguments for the ***modernisation*** of contract law to adapt to its external normative milieu. As explained in previous chapters, liberal ideas of contract law as occupying a different dimension to state-made environmental laws and international sustainability norms, can no longer prevail.

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[900] Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1989, 22 March 1989, U.N.T.S. 126 (entered into force 5 May 1992); for further information see www.basel.int accessed 20 July 2021 and the Basel Action Network ("BAN") Amendment 1995 (the "BAN Protocol").

[901] Henning Jessen, 'Safe and Environmentally Sound Ship recycling – Is there a case for Civil Liability Claims?' in Barı Soyer and Andrew Tettenborn (eds) *Maritime Liabilities in a Global and Regional Context* (2019 London: Informa Law from Routledge 2019).

[902] Stefan Grundmann and others, 'Contract Governance: Dimensions in Law and Interdisciplinary Research' (n 151).

[903] Ibid; See Chapter One for the theoretical framework applied by this study.

5.1 Problems arising out of the Public Law Regime

The international instruments adopted to either include ship recycling, or specifically deal with EOL vessels, are unable to adequately address the practicalities of commercial shipping and the global ship recycling business. This is due to the international and cross jurisdictional nature of the industry, insufficient implementation and enforcement, as well as intentional circumvention of international and domestic environmental management laws. Shipbreaking and recycling can, in principle, be dealt with under the Basel Convention, as well as national environmental laws applicable to industries which engage in shipbreaking activities. However, it is arguably better to adopt instruments which are specifically aimed at regulating the shipbreaking industry to clarify the illegality of certain shipbreaking practices and to effect real behavioural change. This idea is supported by the IMO, the ILO, and the Secretariat of the Basel Convention in calling for the ratification of the Hong Kong Convention for The Safe and Environmentally Sound Recycling of Ships (HK Convention).[904] Despite efforts to ratify the HK Convention, the main international instrument dealing ship recycling remains the Basel Convention, which categorises EOL vessels as 'waste'. The Basel Convention and subsequent Ban Amendment prohibits the export of hazardous wastes for final disposal and recycling/recovery operations from countries listed in Annex VII of the Convention (Lichtenstein, EU and OECD Member States) to non-Annex VII countries (all other Parties to the Convention).[905]The Hong Kong Convention, on the other hand, provides regulations for 'the design, construction, operation and preparation of ships so as to facilitate safe and environmentally sound recycling, without compromising the safety and operational efficiency of ships; the operation of ship recycling facilities in a safe and environmentally sound manner; and the establishment of an appropriate enforcement mechanism for ship recycling, incorporating certification and reporting requirements'.[906]

At the same time, the EU took a significant lead in environmental regulation of ship recycling when it implemented its Ship Recycling Regulation (EU SRR) in 2013.[907] The Regulation aims to enforce the substantive requirements of the HK Convention ahead of its time, whilst going beyond the HK Convention in respect of its standards and requirements.[908] Unlike its predecessor, the EU Waste Shipment Regulation, the EU SRR is not based on the concept of 'waste'.[909] The EU Waste Shipment Regulation was the EU's implementation of the provisions of the Basel Convention as well as the OECD Decision concerning the control of transboundary movements of wastes destined for recovery operations.[910] The EU Waste Shipment Regulation includes a ban on the export of hazardous wastes to non-OECD countries and a ban on the export of waste for disposal.

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[904] Hong Kong International Convention for The Safe And Environmentally Sound Recycling Of Ships, 2009 SR/CONF/45 (HK Convention).
[905] The Ban Amendment was adopted by the Basel COP by Decision III/1 (1995) as an amendment to the Basel Convention.
[906] IMO, 'Recycling of Ships' (2019) https://www.imo.org/en/OurWork/Environment/Pages/Ship-Recycling.aspx accessed 15 September 2021.
[907] 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.
[908] Cedric Ryngaert and Lukas Waardenburg, 'Tackling extra-territorial ship-breaking: from the EU Waste Shipment Regulation to the EU Ship Recycling Regulation: reflections after the Rotterdam District Court's judgment in SeaTrade' (2018) 24(3) Journal of International Maritime Law 226 - 231
[909] Regulation (EC) No 1013/2006 of 14 June 2006.
[910] Decision of the OECD Council C(2001)107/FINAL as amended by C(2004)20.

5.1.1 Ships as 'Waste': The problem of intention

In applying the Basel Convention to ships, 'a ship may become waste as defined in Article 2 of the Basel Convention and … at the same time it may be defined as a ship under other international rules'.[911] Consequently, Parties are called to 'fulfill their obligations under the Basel Convention where applicable, in particular their obligations with respect to prior informed consent, minimization of transboundary movement of hazardous wastes and the principles of environmentally sound management'.[912] Environmentally Sound Management (ESM) requires, 'taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against the adverse effects which may result from such wastes'.[913]

Despite the affirmation of ships being included as 'waste' at the Basel Conference of the Parties (COP) of 2004, coupled with the Basel Technical Guidelines of 2002, opinions still remain polarised as to whether the Basel Convention is appropriate for EOL ships.[914] Despite these arguments pertaining to the original intention and purport of the Basel Convention, a ship becomes hazardous waste within the scope of the Convention from the moment the owner decides to dispose of it – regardless of whether it remains seaworthy or navigable.[915] 'Waste' is defined in the Convention as, 'substances or objects which are disposed of or are *intended to be* disposed of or are required to be disposed of by the provisions of national law (emphasis added)'.[916] This general definition must be applied to a vessel in order to bring it within the ambit of the Convention, thus *intention to dispose* by the owner/operator plays a crucial role. Practically, determining when a vessel becomes waste is difficult for regulatory authorities to discern. Ships might carry cargo for their final voyage, or such an intention may be formulated at a time convenient to circumventing the definition of 'waste', such as in high seas or once the vessel has already reached the recycling state.[917] Where there is no transboundary transport of 'waste', the Basel Convention cannot be applied. This issue is best illustrated by *Seatrade* case, whereby the issues surrounding the definition of 'waste' in the EU Waste Shipment Regulation, was highlighted as well.[918]

The case involved the sending of four refrigerated cargo ships from Hamburg and Rotterdam for scrapping in Turkey, India and Bangladesh in 2012. Three out of the four reefers were carrying cargo at the time that they left the European ports. The Dutch prosecution authority brought proceedings against the company owning the vessels, Seatrade, for breaching the prohibition on shipments of hazardous wastes from European ports to non-OECD countries under the Waste Shipment Regulation. Seatrade relied on arguments that the ship cannot be classified as waste because the ships were operational when they left Europe and they still had significant monetary value. Therefore, the decision to scrap them was only taken much later, following departure from Europe. However, the prosecution presented email evidence that negotiations prior to the vessels' voyages from Europe had

[911] Conference of the Parties to the Basel Convention, Decision VII/26, 7th meeting, Geneva, 25-29 October 2004, UNEP/CHW.7/33.
[912] Ibid.
[913] Basel Convention, Art. 2.8.
[914] Ishtiaque Ahmed, 'The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: A Legal Misfit in Global Ship Recycling Jurisprudence' (2020) 29 WASH. INT'L L.J. 411, 419.
[915] Conference of the Parties to the Basel Convention, Decision VII/26 (n 911).
[916] Article 2(1) of the Basel Convention.
[917] Saurabh Bhattacharjee, 'From Basel to Hong Kong: International Environmental Regulation of Ship Recycling Takes One Step Forward and Two Steps Back' (2009) 1(2) Trade L. & Dev. 193, 214.
[918] *Prosecutor v X (The Seatrade),* The District Court of Rotterdam, 15 March 2018, ECLI:NL:RBROT:2018:2108.

taken place to discuss the scrap value of each vessel, whilst crew were also instructed to arrive at the final destination with as little fuel on board as possible. The court was therefore persuaded that an intention to scrap the vessels had been made prior to their departure from Hamburg and therefore fell within the ambit of 'waste'. The court was scathing of the Seatrade directors and imposed a 12-month suspension on each of the two directors as well as a of EUR750,000 in lieu of prison sentences.

Similar issues arise when determining the 'export' state for the purposes of applying the Basel Convention to EOL ships. A state of export refers to the, 'Party from which a transboundary movement of hazardous wastes or other wastes is planned to be initiated or is initiated'.[919] This also requires a determination of when the 'intention' to dispose of the ship was formed, as the export state is responsible for the environmentally sound management of hazardous wastes.[920] The export state also facilitates the obligation of prior informed consent in that 'the State of export shall notify […], the competent authority of the States concerned of any proposed transboundary movement of hazardous wastes or other wastes'.[921] With ships, the export state can be the state where the intention to dispose is formed or the most recent port state that the vessel called at before reaching the recycling destination. Flag state jurisdiction can therefore be easily evaded for the purposes of the Basel Convention if the vessel does not sail directly from its flag state to the final state for dismantling.[922] The generator of waste, i.e. the state of the shipowner, can therefore similarly find ways to escape the obligations of the Basel Convention, whilst Annex VII countries could in the same way export waste vessels to non-Annex VII countries. The difficulties of the elements of the prior informed consent requirement and the particular issues that arise in the 'unique context of ships' was recognised at the Basel COP Decision VII/26 of October 2004, whilst it was also noted that the IMO's MEPC was working towards 'the possible development of a mandatory scheme for ship recycling, including a reporting system for ships destined for recycling'.

From a practical and commercial perspective, a number of challenges are also posed by the Basel Convention's 'prior informed consent' regime. Failure to comply with these provisions amounts to 'illegal trafficking' with the consequence of criminal liability.[923] Where multiple transit states are involved, the export state has a duty to notify each state and all parties may respond to the export state (i.e. the Notifier) within 60 days, 'consenting to the movement with or without conditions, denying permission for the movement, or requesting additional information. The State of export shall not allow the transboundary movement to commence until it has received the written consent of the State of transit'.[924] An EOL ship must therefore wait at berth or at sea pending the permission of each transit state, which although suited for shore-based hazardous waste, is entirely unfeasible for ocean-going vessels for obvious economic reasons.[925] Problems can arise where there are multiple transit states or where a decision to retire a vessel is taken in haste - often times during a voyage, thus resulting in significant additional demurrage costs.[926]

[919] Article 2(10) of the Basel Convention.
[920] Article 4(10) of the Basel Convention.
[921] Article 6(1).
[922] Saurabh Bhattacharjee, 'From Basel to Hong Kong: International Environmental Regulation of Ship Recycling Takes One Step Forward and Two Steps Back' (n 917) 214.
[923] Article 9 of the Basel Convention.
[924] Article 6(4).
[925] Ishtiaque Ahmed, 'The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal: A Legal Misfit in Global Ship Recycling Jurisprudence' (n 914) 423. .
[926] Ibid.

One simple solution to all these problems is presented in cash buying, whereby an intermediary allows the owner to dispense of these regulatory requirements by purchasing the ship 'as is, where is' or 'upon delivery'.[927] Purchasing the vessel in line with the former means that the cash buyer is responsible for collecting and operating the vessel to the breaking yard, whilst the latter refers to a sale upon arrival at an agreed location (normally quite close to the breaking yard). In both cases, the original shipowner has fully formed an intention to dispose of the vessel yet can allege that the subsequent owner made the sole decision to scrap the vessel. The shipowner will deregister the vessel and the cash buyer does not reregister the vessel nor obtain certification from a flag state if the final voyage occurs within domestic waters. If the vessel is to cross international borders to reach its recycling destination, the cash buyer reregisters the vessel, crews the ship, and obtains certificates for a short duration. A number of open registries or flags of convenience, mainly those grey or blacklisted nations as published annually by the Paris Memorandum of Understanding, are favoured for EOL voyages.[928] Cash buyers can then sell the vessel on to scrap yards in the Indian sub-continent whilst simultaneously avoiding the requirements of the Basel Convention altogether.[929] The three major centres for shipbreaking in South Asia are Alang in India, Chittagong in Bangladesh, and Gaddani in Pakistan, as they contain natural yards that make for inexpensive beaching.[930] The transaction between shipowner and cash buyer is described in greater detail below in Section 5.2.

Until the HK Convention is ratified, the Basel Convention remains the only international instrument governing ship recycling, with concerns raised as to whether the HK Convention does in fact provide an 'equivalent level of protection' to the Basel Convention.[931] Unfortunately, efforts targeted at closing the loopholes of the Basel Convention in respect of ocean-going ships and the problem of beneficial ownership have been largely abandoned in favour of endorsing the ratification of the HK Convention.

5.1.2. Hong Kong Convention: Problems of Cash Buying and Re-flagging persist

The HK Convention was adopted in May 2009 in response to the inadequacies of managing EOL vessels as 'waste'.[932] However, to date, only fourteen countries have ratified the Convention thus far.[933] The HK Convention will only enter into force 24 months after at least 15 states, representing 40% of world merchant shipping by gross tonnage, with a combined maximum annual ship recycling volume not less than 3% cent of their combined tonnage, ratifies it.[934]

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[927] NGO Shipbreaking Platform, 'Cash Buyers' https://www.shipbreakingplatform.org/our-work/the-problem/cash-buyers/#:~:text=Cash%20buyers%20purchase%20a%20ship,close%20to%20the%20breaking%20yard accessed 15 September 2021.

[928] Ibid; Nikos Mikelis, *The Recycling of Ships* (GMS 2018) https://www.gmsinc.net/gms_new/assets/ads/folder.pdf accessed 15 September 2021.

[929] Emil Mathew, 'Ship recycling, market imperfections and the relevance of a consortium of ship recycling nations in the Indian subcontinent' (2021) 5(2) Journal of International Maritime Safety, Environmental Affairs, and Shipping 23-31.

[930] Ibid 25.

[931] This is a requirement for any instrument aiming to replace the Basel Convention.

[932] HK Convention (n 904).

[933] Belgium, Denmark, Estonia, France, Germany, India, Japan, Malta, Netherlands, Norway, Panama, Republic of the Congo, Republic of Serbia, Turkey.

[934] MEPC.178(59) on Calculation of Recycling Capacity for Meeting the Entry-Into-Force Conditions of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (adopted on 17 July 2009).

The HK Convention considers the early stages of ship design all the way to the ship recycling facility. It specifically seeks to reduce waste at the outset, by requiring parties to prohibit and/or restrict the installation of hazardous materials listed in Appendix 1 (asbestos, ozone depleting substances, polychlorinated biphenyls (PCB), and anti-fouling compounds and systems).[935] Therefore less waste and hazardous material finds its way to the dismantling stages of a ship's life.[936] Ship Recycling Facilities are also to comply with the Convention. Regulation 16 requires that the facility is authorised by a competent authority of the Recycling State, recognising the guidelines provided by the IMO. This extends to document verification and site inspection.[937] For the operational life-span of the vessel, it should have an Inventory of Hazardous Materials (IHM) which is also referred to as a 'green passport'.[938] The IHM must contain any such materials listed in Appendices 1 and 2 if present on-board. This enables the flag state to verify that the facility for which the vessel is destined for disposal, has the technical and operational capacity to manage the waste on board in an environmentally sound manner.[939] Despite the comprehensive 'life-cycle' approach of the IMO's HK Convention, it has been criticised as falling short in comparison to the Basel Convention for a number of reasons.[940] These include having a narrower scope in respect of chemicals covered, a weaker notification system than 'informed prior consent', not criminalising the illegal traffic of waste, and less comprehensive reporting obligations.[941]

The EU SRR has effectively implemented the same requirements as the HK Convention. [942] The requirements for the IHM under the EU SRR are based almost entirely on the correlating requirements for an IHM under the Hong Kong Convention, with the addition of two materials:

- Perfluorooctane sulfonic acid (PFOS) (for EU-flagged ships only)
- Brominated Flame Retardant (HBCDD) (for new EU-flagged ships only)

These requirements apply from 31 December 2018 for new EU-flagged ships to be dismantled, and from 31 December 2020 for all existing EU-flagged ships and ships flying the flag of a third country which calls at a European port or anchorage. As of 31 December 2018, EU-flagged large commercial seagoing vessels may only be recycled in safe and sound ship recycling facilities which appear on the authorised European List of ship recycling facilities. Any ship recycling facility, regardless of its location, needs to comply with multiple safety and environmental standards in order to be included on European List. The Commission issued technical guidelines for these requirements in April 2016.[943]

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[935] HK Convention, art. 1.5 (n 904).
[936] HK Convention, regulation 4.
[937] Hong Kong Convention, Chapter 3 – Requirements for Ship Recycling Facilities.
[938] Regulation 5.
[939] Many of these substances were already banned in other conventions.
[940] Saurabh Bhattacharjee, 'From Basel to Hong Kong: International Environmental Regulation of Ship-Recycling Takes One Step Forward and Two Steps Back' (n 917) 223; Centre for International Environmental Law (CIEL), 'Shipbreaking and the Basel Convention: Analysis of the Level of Control Established Under the Hong Kong Convention' (2011) https://www.ciel.org/Publications/Shipbreaking_22Apr11.pdf accessed 15 September 2021.
[941] Ibid.
[942] Regulation (EU) No 1257/2013 (n 907).
[943] Requirements and procedure for inclusion of facilities located in third countries in the European List of ship recycling facilities - Technical guidance note under Regulation (EU) No 1257/2013 on ship recycling (2016/C 128/01).

Although the EU SRR is deemed more comprehensive than the HR Convention, both instruments are challenged by cash-buying and resultant re-flagging concerns. Both have tried to overcome this problem by extending the same responsibilities of the shipowner in terms of responsible recycling to the cash buyer intermediary, by defining "Shipowner" as follows:

> '…the person or persons or company registered as the owner of the ship or, in the absence of registration, the person or persons or company owning the ship or any other organization or person such as the manager, or the bareboat charterer, who has assumed the responsibility for operation of the ship from the owner of the ship. However, in the case of a ship owned by a State and operated by a company which in that State is registered as the ship's operator, "owner" shall mean such company. This term also includes *those who have ownership of the ship for a limited period pending its sale or handing over to a Ship Recycling Facility*'.[944]

In extending this definition, the IMO and the EU Parliament have avoided specifying whether the owner or the cash buyer, will be responsible for selecting an approved yard, finalising the IHM, receiving the Ship Recycling Plan, requesting a final survey, and for delivering the ship for recycling in accordance with the regulations. Dictating a separate set of obligations for each could arguably result in overly complicated legislation with inflexible commercial arrangements. However, merging the two roles into that of 'shipowner', means that the process of sale for recycling purposes is insufficiently covered.

Therefore, a critical question becomes one of: what if the cash buyer falls outside the scope of the HK Convention or the EU SSR? When a ship is sold, it is de-registered by the seller and the seller's flag state has no further governing control of the vessel. The HK Convention seems to assume that the new flag state will also be a party to the HK Convention. If a vessel is sold "as-is-where-is", then it will be delivered to the cash buyer at a destination away from the recycling yard, and the cash buyer will have to reflag the ship for its final voyage to the recycling yard. If the new flag state is not a party to the Convention, then the vessel has effectively moved outside of its regulatory control.[945] On the other hand, if the vessel is sold "as delivered" to the cash buyer at an anchorage at the recycling yard, there is no need to re-register the vessel for a final voyage. The de-registered vessel no longer has valid certificates, such as the one pertaining to IHM or a Ready for Recycling Certificate - which are presumably invalidated on de-registration. Similarly, under the EU SRR, where a ship is sold to a cash-buyer on a "as-is-where-is" basis, the cash buyer can re-register the vessel and avoid the SSR by selling the ship to a yard which is not on the European list of authorised recycling facilities. If a ship is sold on a "delivered" basis, and delivered at anchorage, it can then be taken to any facility – whether on the European list or not.[946]

In foreseeing this potential problem, the first version of the EU SSR tried to hinder re-flagging by placing penalties on ships that are sold, 'and within less than six months after the selling, is sent for

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[944] Regulation 1(8). The equivalent provision is found in Article 3(14) of the EU Regulation No 1257/2013.

[945] See Patrizia Heidegger, Ingvild Jenssen, Delphine Reuter, Nicola Mulinaris and Francesca Carlsson, 'What a difference a flag makes: Why ship owners' responsibility to ensure sustainable ship recycling needs to go beyond flag state jurisdiction' (2015 Briefing Paper, NGO Shipbreaking Platform) https://www.shipbreakingplatform.org/wp-content/uploads/2019/01/FoCBriefing_NGO-Shipbreaking-Platform_-April-2015.pdf accessed 15 September 2021.

[946] Nikos Mikelis, 'The shipowner, the Cash Buyer, and the new European Regulation' (BIMCO's Bulletin No. 6/2013).

recycling in a facility which is not included in the European list'.[947] However, the impracticalities of imposing penalties on a ship no longer under EU jurisdiction were noted during negotiations and the provision was subsequently removed.[948] Evasion of the EU SSR is therefore inevitable. Research conducted by the NGO Shipbreaking Platform shows that whilst 22% of the global operational fleet of ships are registered under a European flag, less than 8% of ships sold for breaking still fly a European flag.[949] The reasons for owners wanting to circumvent these laws is fairly obvious: it saves time and money. According to research collected by DNV GL, Ecorys, and Erasmus University in 2014, the cost of sending an EOL ship to an EU-approved facility amounts to an additional 34%, or about €17 per ldt additionally.[950]

The European Economic and Social Committee, also found that the dismantling of ships in higher quality shipyards, such as those in the EU, can average around €2 million.[951] EU shipyards also face capacity constraints as there is no real dismantling industry established on the continent.[952] This stands in stark contrast to selling a vessel to a cash buyer who will then resell the vessel for recycling to a yard in Asia. In response to these notable failures of the current regime, the EU has considered the feasibility of a ship recycling licence as a financial instrument to incentivise environmentally sound and safe ship recycling.[953] This would require all ships (EU-flagged and third country flagged) calling at EU ports to obtain a prior licence. To obtain such a licence, shipowners will pay an annual contribution for each of their ships, calculated according to the characteristics of the vessel. The contributions would be paid to a new or existing European Agency, which would then return all of the contributions collected for a ship at the end of its life, provided that the vessel is dismantled in a recycling facility on the European list. Thus, vessels are incentivised to use an approved facility, because they would lose all rights acquired under the licence otherwise and the funds would be retained by the European Agency. However, if and when this licence is to be implemented, is yet to be seen.[954]

Therefore, the public law regime poses some very problematic legal issues which are unlikely to be amended through creative legislative drafting for as long as the UNCLOS regime of flag states and ship registering remains. Parties intending to evade ship recycling laws will undoubtedly find ways to escape the regulatory regime. However, there is an increasing global awareness of these harmful practices which has recently provided an impetus for private shipping companies to refrain from

[947] Article 23(5) of Proposal for a Regulation of the European Parliament and of the Council on Ship Recycling /* COM/2012/0118 final - 2012/0055 (COD) */.
[948] Nikos Mikelis, 'The shipowner, the Cash Buyer, and the new European Regulation' (n 946).
[949] Patrizia Heidegger et al, 'What a difference a flag makes: Why ship owners' responsibility to ensure sustainable ship recycling needs to go beyond flag state jurisdiction' (2015 Briefing Paper, NGO Shipbreaking Platform).
[950] European Commission, ECORYS-DNVGL-Erasmus University of Rotterdam, 'Financial instrument to facilitate safe and sound ship recycling' (Final Report, June 2016) https://ec.europa.eu/environment/pdf/waste/ships/financial_instrument_ship_recycling.pdf accessed 15 September 2021.
[951] Economic, Social and Environmental Council opinion, 'The European maritime transport policy with respect to sustainable development issues and climate commitments', CESE11, April 2017 at 47.
[952] Ibid.
[953] European Commission, 'Report from the Commission to the European Parliament and the Council on the feasibility of a financial instrument that would facilitate safe and sound ship recycling', Brussels, 8.8.2017, COM (2017) 420 final. See also the study commissioned by the European Commission, ECORYS-DNVGL-Erasmus University of Rotterdam, 'Financial instrument to facilitate safe and sound ship recycling' (n 950).
[954] See more on the feasibility of the licence in Caroline Devaux and Jean-Philippe Nicolaï, 'Designing an EU Ship Recycling Licence: A Roadmap' (2020) 117 Marine Policy, 103826.

unauthorised shipbreaking practices. Private companies increasingly need to protect their own public images and maintain ethical standards for a number of commercial reasons. The following sections discuss how private law mechanisms can develop a level of enforcement and control from a private governance perspective.

5.2 Regulating the Sale of Vessels for Recycling

Shipowners generally exercise one of two choices when selling a ship for recycling: contracting with the ship recycling facilities directly or using the services of a broker or cash buyer. Certain specialist services are emerging as a third option, whereby the service provider will assist in selecting a yard that meets regulatory requirements and will supervise the process of preparing the vessel for recycling and its delivery to the facility.[955] Direct sales to a ship recycling facility are sometimes less feasible because they require extensive knowledge about the recycling market, information on the environmental regime of the recycling country, and specific knowledge about the recycling facility and its record of fitness and compliance. There are also limitations on certain financial practices in some recycling countries, such as payment via letter of credit. This option is therefore more likely to be used by bigger shipping companies with these sorts of knowledge resources. Most medium to smaller owners will sell their EOL vessels to a cash buyer. Until the HK Convention comes into force, the legal responsibilities and obligations of a shipowner will terminate once the vessel is transferred to the cash buyer. However, under the EU SSR, cash buyers are already responsible for delivering the ship for recycling in accordance with the regulations if the vessel remains registered with a member state following its sale.

Once an owner has decided to have a particular ship recycled in accordance with one of the abovementioned transactional methods, the procedure begins quite similarly to that of a tender procedure on the ship building market – an offer is drafted and circulated to potentially interested parties.[956] Generally, there was no common or standard procedure for a ship recycling contract as cash buyers and brokers would generally use their own forms.[957] However, the BIMCO DEMOLISHCON and RECYCLECON are 'often, though not invariably used when vessels are sold for scrap'.[958] A number of relevant factors may influence the overall price, such as the number of ships in the market available for recycling, suitability of the vessel for recycling (dependant on ship characteristics), local and regional demand for recycled materials, ownership record and traded cargoes, and the availability of recycling capacity.[959]

Suggestions have been made to regulate this process, namely the sale of vessels which fly the flag of an EU member state or those falling under the jurisdiction of the HK Convention if it is ratified.[960] This approach would place conditions on individual sales arrangements between buyers and sellers. Supervisory obligations could be imposed on the seller regarding appropriate recycling conditions and time restrictions in which the vessel must be recycled following the sale. The seller could be restricted

[955] ICS, *Shipping Industry Guidelines on Transitional Measures for Shipowners Selling Ships for Recycling, Second Edition* (n 93).
[956] Urs Daniel Engels, 'Entry-into-Force Provision' in (n 94).
[957] Currently GMS Leadership is the biggest facilitator of ship sales for recycling, using a GMS Responsible Ship Recycling Program (RSRP) based on the guidelines provided by the HK Convention.
[958] *Priyanka Shipping Limited v Glory Bulk Carriers PTE Limited* (n 96) para 7.
[959] Urs Daniel Engels, 'Entry-into-Force Provision' (n 94) 71.
[960] European Commission, 'An EU strategy for better ship dismantling', EU-doc. COM(2008) 767, para. 5.2.

to selling the ship only once an assurance has been obtained that the ship will be registered with another member state or a third state with equivalent recycling standards.[961] A mandatory standardised sale contract could also be imposed on all ships, prescribing particular standards, and making reference to the HK convention or relevant guidelines.

The UK's Department for Environment, Food and Rural Affairs said in its UK Ship Recycling Strategy that the Government will negotiate for the inclusion of the following provisions pertaining to the new owner's responsibilities for the vessel when it reaches end-of-life:

- *'To ensure that the vessel's Green Passport is updated throughout the remainder of its service and passed to the recycling facility;*
- *Not to dispose of the vessel without prior consent in writing of the UK Government;*
- *To demonstrate that the vessel will be recycled in accordance with all applicable legislation, and with reference to the International Maritime Organisation Guidelines on Ship Recycling and the Basel Convention Guidelines for the Environmentally Sound Management of the Full and Partial Dismantling of Ships;*
- *To take appropriate steps to ensure the facility where the recycling is to take place abides by acceptable environmental, health and safety standards.'*[962]

However, these sorts of efforts on an international or regional scale are yet to be seen, whilst cash buying remains a popular choice for shipowners needing to dispose of EOL vessels. Thus far, the most plausible solution would be the use of BIMCO's RECYCLECON contract, which can ensure that the buyer adheres to the seller's requirements on environmentally sound and safe recycling of ships in approved facilities. Incentives for shipowners/sellers to comply with the public law regime has thus far come from the threat of punitive penalties, reputational damage, and financial exclusion from capital sources. Most notably, in 2018, the fund manager Norges Bank excluded four shipping companies from the Norwegian Government Pension Fund Global, representing the world's biggest sovereign wealth fund.[963] The four companies were excluded on the proposal of the bank's Council on Ethics in June 2017, after it was discovered that they had knowingly 'beached' vessels for scrapping in Bangladesh and Pakistan.[964] Although incentivisation might stem from these aforementioned risks, the risk of civil claims for shipowners following the sale of a vessel for recycling has not yet been fully explored. Civil liability can generally arise from a number of contractual breaches or breaching a torts duty of care. The ensuing sections of the Chapter explore whether standardised contracts can regulate ship breaking activities or whether the present milieu calls for a ***creative advancement*** of contractual mechanisms and new ways of protecting the green interests of a seller who is potentially exposed to emerging avenues of tortious liability.

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[961] Ibid.

[962] DEFRA, *UK Ship Recycling Strategy* (February 2007) https://webarchive.nationalarchives.gov.uk/20081106061206/http://www.defra.gov.uk/environment/waste/strategy/pdf/shiprecycle-strategy.pdf accessed 15 September 2021.

[963] ShippingWatch, 'Why the Norwegian oil fund blacklisted carriers for beaching' (17 January 2018) https://shippingwatch.com/carriers/article10210736.ece accessed 15 September 2021.

[964] Norges Bank, 'Decisions on observation and exclusion from the Government Pension Fund Global: Norges Bank has decided to exclude nine companies from the Government Pension Fund Global. In addition, one company has been placed under observation (16 January 2018 Press Release) https://www.nbim.no/en/the-fund/news-list/2018/decisions-on-exclusion-and-observation-from-the-government-pension-fund-global/ accessed 15 September 2021.

5.2.1 RECYCLECON: Standard Contract for the Sale of Vessels for Sustainable Recycling[965]

The RECYCLECON contract provides a standardised document for the sale of vessels for recycling a vessel in 'a safe and environmentally sound manner consistent with the international and national law and relevant guidelines'.[966] This contract thus covers vessels sold for recycling *only*; it does not cover previous trading arrangements prior to the vessel being recycled.[967] This contract can bind buyers to the HK Convention, as Clause 17 requires that the buyer 'undertake and warrant that the Vessel will be recycled at a Ship Recycling Facility in accordance with the Ship Recycling Facility Plan and the Ship Recycling Plan'. The Ship Recycling Plan is defined with reference to the IMO Guidelines for the Development of a Ship Recycling Plan as required by regulation 9 of the Annex to the Hong Kong Convention.[968] Clause 18 of RECYCLECON provides that the buyers, on the seller's request, shall provide a copy of the Ship Recycling Facility Plan (or an attestation that the Facility has such a Plan) and that the buyers should allow the sellers to visit the Facility to verify its compliance. However, as the HK Convention is not in force, facilities are unlikely to be certified as compliant as of yet. It is more likely that facilities have sought approval for inclusion on the European approved list. Some ship recycling yards have privately sought authorisation in conformity with the HK Convention already; this might be granted by a state agency or independent verifier.

Other key obligations under Clause 18 the RECYCLECON include that sellers shall provide the buyers with Part I of the IHM as soon as possible after the date of the contract; and the remainder Parts II and III of the IHM upon delivery of the vessel. The information contained in the IHM is given to the best of the seller's knowledge 'but always without guarantee'. Therefore, if the seller provides incomplete or inaccurate information, it may be difficult for the buyer to have any sort of legal recourse.[969] The buyer needs to provide evidence that the seller did not provide information 'to the best of his knowledge'. This information is important to the buyer in preparing a Ship Recycling Plan as to how materials listed in the IHM will be sustainably recycled. If a buyer does not receive accurate information, this could delay the Ship Recycling Plan, which needs to be provided with 'undue delay'. Therefore, disputes could arise where a seller does not provide accurate information and the buyer.

Although the RECYCLECON cannot account for every possible situation, it does effectively place sustainability at the core of parties' intention – thus unequivocally stating sustainable recycling goes 'to the root of the contract'.[970] It would be challenging for a buyer to argue that recycling a vessel in an irresponsible manner, not within an agreed and suitable facility, does not amount to repudiatory breach. For the buyer to not recycle the vessel in a *safe and environmentally sound manner* deprives the seller of 'substantially of the whole benefit' which would be obtained under the RECYCLECON.[971] It is clear that by using such a standardised form, the seller intends to sell his vessel to a buyer who can fulfil such obligations, whilst at the same time the contract is priced to enable the buyer to still make a profit. Therefore, if a buyer does not produce a Ship Recycling Plan, such a breach could amount to termination – however, the contract does not specify what should happen in this event

[965] BIMCO, 'RECYCLECON' (n 890).
[966] Ibid, *Preamble*.
[967] Clause 17.
[968] Resolution MEPC.196(62) (Adopted on 15 July 2011).
[969] Henning Jessen, 'Safe and Environmentally Sound Ship recycling – Is there a case for Civil Liability Claims?' (n 901) 97.
[970] *Poussard v Spiers and Pond* (1876) 1 QBD 410.
[971] Ibid 495.

and whether the buyer should be given notice to rectify. Similarly, the contract does not state what shall happen if the seller, upon inspection of the Ship Recycling Facility, finds it to be unsatisfactory and non-compliant with the HK Convention. The Default Clauses (Clause 20 and 21) are limited to the buyer's failure to pay as per instructed; and the seller shall be in default if it fails to issue a Notice of Readiness and execute the transfer of the vessel. A more prudent set of default provisions would consider the breaches of Clauses 17 and 18 in dealing effectively with sustainability considerations. This leads to the following question regarding available remedies for the buyer's breach in the event that it is too late for termination.

5.2.2. Repudiatory Breach

Repudiatory breach, as discussed in former Chapters, arises as the result of a ***significant*** contravention of the agreement. An unsustainable recycling process (i.e. contravening the provisions of RECYCLECON coupled with the HK Convention) could, with good argument, amount to a fundamental breach. The language used in English Contract Law is inconsistent, and fundamental breach is often used interchangeably with 'repudiatory breach', from which termination rights stem.[972] Presently, the right to terminate following a repudiatory breach occurs in the following circumstances: 1) substantial or serious failure to perform;[973] 2) the breach of a condition; and 3) repudiation. A *substantial or serious failure perform* can be expressed as: a breach that 'goes to the root of the contract';[974] frustrates the purpose of the innocent party in making the contract;[975] or deprives the innocent party of substantially the whole benefit of the contract.[976] The *breach of a condition* is based on a classification of terms, with a condition being a term that is so significant that it goes to the heart of the transaction.[977] *Repudiation* is failing to provide due performance,[978] or evincing an intention of repudiating one's obligations in some essential respect through words or conduct (i.e. a 'renunciation').[979] In the latter case of evincing an intention, such repudiation is known as 'anticipatory breach'.

On any interpretation of RECYCLECON's Articles 17 and 18, as supported by the form's preamble, the undertaking to 'recycle the Vessel in a safe and environmentally sound manner consistent with international and national law and relevant guidelines' is undeniably 'substantial and serious' and a fundamental *condition* of the contract. If the buyer does not dispose of the vessel accordingly, it would deprive the seller of substantially the whole benefit of the contract. Furthermore, if the buyer were to evince an intention to breach the contract, the seller would be afforded all the remedies stemming from repudiatory breach. In respect of remedies, the case of *Howard-Jones v Tate*[980] provides a useful summary of the remedies available for repudiatory breach. On interpreting relevant authorities, the

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[972] See section 3.1.1 of Chapter 3 for conditions and breach terms in loan agreements.
[973] *Boone v Eyre* (1779) 1 Hy Bl 273n; *Poussard v Spiers and Pond* (n 970).
[974] *Heyman v Darwins Ltd* [1942] AC 356 at 397, [1942] 1 All ER 337 at 360, HL; *Suisse Atlantique Société d'Armement Maritime SA v NV Rotterdamsche Kolen Centrale* [1967] 1 AC 361 at 422, [1966] 2 All ER 61 at 86; see also Chapter 3 (Section 3.1.1) for an English law classification of terms.
[975] MacAndrew v Chapple (1866) LR 1 CP 643 at 647–648; *Stanton v Richardson* (1872) LR 7 CP 421 at 433, 437; *Jackson v Union Marine Insurance Co* (1874) LR 10 CP 125 at 145, 148; *Astley Industrial Trust Ltd v Grimley* [1963] 2 All ER 33 at 47, [1963] 1 WLR 584 at 599, CA.
[976] *Hong Kong Fir Shipping Co Ltd v Kawasaki Kisen Kaisha Ltd* [1962] 1 All ER 474 at 485.
[977] *Ark Shipping Co LLC v Silverburn Shipping (IoM) Ltd* (M/V 'ARCTIC') [2019] EWCA Civ 1161.
[978] *Mersey Steel and Iron Co v Naylor, Benzon & Co* (1884) 9 App Cas 434 at 438.
[979] *Stocznia Gdanska SA v Latvian Shipping Co* [2002] EWCA Civ 889 at [96]; *Bunge SA v Nidera BV* [2015] UKSC 43.
[980] [2011] EWCA Civ 1330.

Appeal Court summarised the position as follows. Where a party does not comply with a contractual term that goes to the heart of the contract, the innocent party can either:

1. View the breach as the wrongdoer having repudiated the contract, accept the repudiation and claim for damages. The result being that both parties are discharged from further performance and the innocent party can no longer seek specific performance; or
2. "Affirm" the contract and seek to hold the wrongdoer to its obligations therein. Provided that the contract is still enforceable, the innocent party can apply for an order of specific performance and seek damages for delay.[981]

Howard-Jones v Tate draws an important distinction between repudiatory breach and rescission *ab initio* 'from the beginning' (which results in cases of mistake, fraud or lack of consent).[982] Acceptance of repudiation means:[983]

- that the contract is not rescinded from the beginning and there is no effect on the rights and obligations which have already been performed;
- both parties are absolved from future performance of the contract;
- there is substituted for the unperformed obligations of the wrongdoer an obligation to compensate the injured party for the loss caused by the future non-performance of the wrongdoer's obligations.[984]

Thus the correct approach in determining damages is not to put the claimant back into the position he would have been in had the contract never been entered into; but rather to identify the loss which the claimant had suffered as a result of the defendant's breach.[985] Therefore, in respect of RECYCLECON, the seller has one of two options if a buyer fails to recycle the vessel in a sustainable manner (i.e. breaching clauses which 'go to the heart of the contract'):

1. Accept the buyer's breach and claim loss suffered *as a result* of the buyer's breach.
2. Affirm the contract and seek an order for specific performance ordering the buyer to recycle the vessel as agreed and sue for damages stemming from the delay.[986]

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[981] Ibid para 13.

[982] Dixon J in *McDonald v Dennys Lascelles Ltd* (1933) 48 CLR 457 at 476 – 477.

[983] Qiao Liu, 'Claiming Damages upon an Anticipatory Breach: Why Should an Acceptance Be Necessary' (2005) 25 Legal Stud 559, defends the English rule 'that an anticipatory breach does not automatically give rise to a right of action for damages unless and until it is 'accepted''.

[984] *Howard-Jones v Tate* (n 980) para 15; in *Photo Productions v Securicor Transport Ltd* [1980] AC 827 (H.L.), rev'g [1978] 1 W.L.R. 856 (C.A.). The House of Lords similarly disapproved of the notion that a fundamental breach brought the contract to an end either ab initio or from the date of the breach. M. H. Ogilvie notes the extensive academic commentary that *Photo Production* has provoked, including, among others: G Samuel, 'Note' (1979) 95 L.Q.R. 25; Len Sealy, 'Contract - Farewell to the Doctrine of Fundamental Breach' (1980) 39 Cambridge L.J. 252; Melville, 'The Nature of Fundamental Breach' (1980) 130 New L.J. 307; Norman Palmer and David Yates, 'The Future of Unfair Contract Terms Act, 1977' (1981) 40 Cambridge L.J. 108; John Atkin, 'Fundamental Breach and the Nature of Exclusion Clauses' (1981) 9 Sydney L.R. 434 (for more see M. H. Ogilvie 'The Reception *of Photo Production Ltd. v. Securicor Transport Ltd* on Canada: Nec Tamen Consumebatur' (1982) 27 McGill L. J. 424) 426.

[985] *Howard-Jones v Tate* (n 980) paras 31 -35.

[986] It is important for Sellers to bear in mind the "prevention principle" whereby 'a party cannot insist on the performance of a contractual obligation by the other party if it is itself the cause of the non-performance"; see Nicholas Dennys and Robert Clay, *Hudson's Building and Engineering Contracts*, (13th ed Sweet & Maxwell, 2015), 737-738, para.6-025 referring to Crispin Winser, 'Shutting Pandora's Box: The Prevention Principle After *Multiplex v Honeywell*' (2007) 23 Const. L.J. 511.

Ideally, in honouring its environmental obligations under prevailing environmental laws, the seller would want to enforce the contract and seek an order for specific performance which would compel the buyer to recycle the vessel in accordance with the RECYCLECON agreed form. An order for specific performance is a powerful equitable remedy which can result in contempt of court proceedings for the buyer if it fails to abide by it.[987] However, specific performance is an exceptional remedy and will only be granted where damages would not be an adequate remedy.[988] Given the policy considerations and resultant criminal charges that may face the seller, damages may hardly seem adequate. That said, affirming the contract and seeking an order of specific performance is only helpful if the seller monitors the vessel closely following the conclusion of the sale and immediately reacts in response to an anticipated breach. The importance of quick action is discussed in more detail in the ensuing discussion on injunctions.

The more likely and more devastating outcome for the seller would be to receive knowledge that the vessel has already been scrapped in an unsustainable manner. Accepting such a repudiatory breach and seeking damages might also afford the seller little remedy if it cannot be shown that any loss was suffered by the seller *as a result of* the breach. It is entirely possible that following the sale of the vessel, the seller incurs no losses due to the incorrect and unsustainable recycling methods employed by the buyer. On the other hand, the buyer's dismantling and recycling costs will be far less than originally estimated if the vessel is simply beached or taken to an unauthorised yard. This raises the question of non-compensatory damages and whether the seller would be entitled to the profits obtained by breaching the contract. In limited but exceptional circumstances, the court may order a defendant to account to the claimant for any profits obtained for the breach of contract.[989] In *Esso Petroleum Co Ltd v Niad*[990] the court awarded the claimant an account of profits and stripped the defendant of the gains it made from the breach of the contract. However, in *The Sine Nomine,*[991] in an unusual decision to report their decisions, the arbitrators emphasized the point that an account of profits is not a welcome remedy. In deciding on a matter regarding the withdrawal of a ship from the claimant's service, the arbitrators said the following:[992]

> '*It is by no means uncommon for commercial contracts to be broken deliberately because a more profitable opportunity has arisen. Or the contract-breaker takes an over-generous view of his rights, knowing that the law may ultimately be against him. In such a case he may have little or nothing to lose by taking the chance; the downside at worst is that he will have to pay the costs of both sides. International commerce on a large scale is red in tooth and claw. We do not say that the Respondents' action was either deliberate or cynical wrongdoing in this case; they had a respectable argument on liability, although a commercial judge refused their application for leave to appeal*.'

Although an 'account of profits' does not seem to be an available award in English law, remnants of such an approach live on in the form of a 'hypothetical bargain' measure of damages. These are different from the 'loss of bargain damages' which might accrue to a seller if it can be shown that *the*

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[987] Paul S Davies, *JC Smith's The Law of Contract* (n 592) 459.
[988] *Co-op Insurance Society Ltd v Argyll Stores Ltd* [1998] AC1, HL.
[989] *Attorney General v Blake* [2001] 1 AC 268.
[990] [2001] All ER (D) 324.
[991] [2002] 1 Lloyd's Rep 805.
[992] Ibid para 9.

loss resulted from the breach.[993] A 'hypothetical bargain' measure of damages reflects the fact that the defendant may have to pay the claimant the correct sum he would have had to pay, had he bargained for the right to not perform his contract immediately prior to breach.[994] These also became known as *Wrotham Park* damages (named after *Wrotham Park Estate Co Ltd v Parkside Homes Ltd* [1974] 1 WLR 798), 'negotiating damages', or 'licence fee' damages and have been restricted quite significantly by the case of *Morris-Garner and another v One Step (Support) Ltd* [2018] UKSC 20. A discussion of negotiating damages are dealt with in the following section in a case which deals specifically with the buyer's failure to recycle the vessel in accordance with the sale agreement.[995]

Therefore, the seller is limited in seeking damages where it obtains knowledge of the buyer's breach *after* the vessel has been scrapped, as such a claim would need to prove *loss as a result* of the buyer's breach – factually, such loss may never occur. Even in the event of repudiatory breach, the seller might be left with little recourse if an order for specific performance is not practical due to the vessel already being scrapped.

5.2.3. Non-Repudiatory Breach: Injunction and Damages

A non-repudiatory breach may occur from unsustainable recycling of the vessel, where parties do not use a RECYCLECON form or an environmental commitment does not go to 'the root of the contract'. Here, the recycling of the vessel is merely an undertaking but the main purpose of the agreement is for the sale and transfer of ownership of the vessel. The *Priyanka Shipping Limited v Glory Bulk Carriers PTE Limited (Priyanka)*[996] case illustrates this point and found that the only available remedy to the seller was an injunction. In this case, the buyer completely failed to recycle the vessel and instead used it for further fixtures, stating that it would potentially trade the vessel in the future. The buyers had purchased the vessel under a Memorandum of Agreement, which specifically stated:

> '*19. The vessel is sold for the **purpose of demolition only** and the Buyers hereby guarantee that they will not trade the Vessel further nor sell the vessel to a third party for any purpose other than demolition and will, on completion of demolition, furnish to the Sellers a certificate stating that the vessel has been totally demolished*' (emphasis added).[997]

Due to changes in the market and lack of demand for recycled materials, the buyer, instead of recycling the vessel as it originally intended, concluded two fixtures over the vessel. The claimant in this matter, was in fact the buyer, who sought a declaration that the seller was entitled to no more than nominal damages for a breach of the above clause 19, by way of concluding fixtures for the chartering of the vessel or for any further fixture of the vessel for trading. The Court had to accordingly determine the following main issues:

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[993] For loss of bargain following repudiatory breach, see *Phones 4U Limited v EE Limited* [2018] EWHC 49 (Comm).
[994] *Burrows Investments Ltd v Ward Homes Ltd* [2017] ESCA Civ 1577 para 48; termed "negotiating damages" by Neuberger LJ in *Lunn Poly* [2006] 2 EGLR 29, para 22.
[995] Yevhenii Shevchuk, 'Negotiating damages for breach of contract after *Morris-Garner v One Step*' (2019) 19(2) Oxford University Commonwealth Law Journal 284-297.
[996] *Priyanka Shipping Limited v Glory Bulk Carriers PTE Limited* (n 96).
[997] Ibid para 7.

1. Damages Declaration: the buyer's claim for a declaration that previous and future breaches of Clause 19 would only entitle the seller to nominal damages;
2. Injunction Counterclaim: the seller's claims for a final injunction preventing any further use of the vessel by the buyer for trading;
3. Damages Counterclaim: the seller's claims for damages at common law, damages in addition to an injunction, or damages in lieu of an injunction.[998]

It was undisputed that clause 19 included a 'negative covenant', and a failure to demolish the vessel was not investigated as a substantial or serious failure to perform. The High Court noted that similar clauses are used in the standard BIMCO DEMOLISHCON and RECYCLECON forms.[999] However, no argument was raised that a failure to demolish the vessel would deprive the seller of essentially the whole benefit of the contract. It was clear that the 'benefit' deriving to the seller was financial – the seller wanted to scrap the vessel to reduce the oversupply of tonnage in the market which impacted on its revenues through depressed charter rates.[1000] However, the seller did not argue that a repudiatory breach had occurred, nor did it seek an order of specific performance to have the vessel scrapped. Clause 19 was treated merely as a negative undertaking to not trade the vessel further and remedies were therefore discussed accordingly. It is worth noting that the outcome may not have differed if repudiatory breach were proven, as this still depends on establishing *actual loss*. Additionally, and order for specific performance would also present a high threshold.

On the matter of the injunction, David Edwards QC (sitting as a Judge of the High Court) addressed the approach under English law to the enforcement of negative covenants as well as adequacy of damages in the relevant context.[1001] In interpreting various authorities, the learned judge drew out the following principles relating to breach of a negative covenant and concluded that the seller was entitled to an injunction enforcing Clause 19.[1002] The remedy of an injunction was available to the seller as the buyer could not satisfy the court that the ordinary position should not apply, nor would the granting of an injunction be 'unconscionable or oppressive', the buyer has simply made a bad bargain which does not relieve it from Clause 19.[1003] Furthermore, discussions surrounding the adequacy of damages are not always relevant to deciding whether a negative covenant should be enforced by way of injunction. Although the prima facie position is that one does 'not obtain injunctions to restrain actionable wrongs for which damages are the proper remedy';[1004] there is a strong policy position supported by authorities in favour of enforcing contracts, and a defendant should not be able to buy the privilege of infringing the claimant's contractual rights.[1005] The question of adequacy of damages will depend of the circumstances of case, including a consideration of whether the case involves the breach of an agreed negative covenant.[1006]

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[998] Ibid para 51; excluded from this hearing was a consideration of any liability or damages pertaining to the claimed breach of the exclusive jurisdiction clause (as breached by the Seller by first bringing proceedings in India) and the alleged breach of another clause which required the Buyer upon delivery to alter the Vessel's funnel markings.
[999] Ibid para 8.
[1000] Ibid para 13.
[1001] Ibid para 62.
[1002] Ibid para 120 -121; relying on *Doherty v Allman* (1878) 3 App. Cas. 709; *Sharp v Harrison* [1922] 1 Ch. 502
[1003] Ibid para 123; *Insurance Co v Lloyd's Syndicate* [1995] 1 Lloyd's Rep. These injunctions are now known as "freezing orders" under the Civil Procedure Rules 1998, CPR 25.1(1)(f).
[1004] *London and Blackwall Railway Co. v Cross* (1886) 31 Ch. D. 354, 369
[1005] *Priyanka Shipping Limited v Glory Bulk Carriers PTE Limited* (n 96) para 95.
[1006] Ibid para 96.

In respect of ship recycling contracts more generally, it therefore seems rather cemented in English law that an injunction is an available remedy where a negative covenant is breached, whilst the buyer bears the burden of proving that this ordinary remedy should not be applied by the courts as it would be unconscionable or oppressive in the particular circumstances. In the practical scenario of a seller obtaining knowledge that the buyer is not purchasing the vessel for 'recycling only' (as per Clause 17 of the RECYCLECON form), an injunction will inevitably become available. The same would apply if it comes to the seller's attention that the vessel is not to be recycled at the stipulated Ship Recycling Facility. However, as previously mentioned, the ship might have already been beached, in the process of dismantling, or already scrapped by the time any such knowledge reaches the seller. As illustrated by the facts of *Priyanka* case, once an injunction is granted to stop the buyers from pursuing any alternative arrangements, a claim in damages would require showing some sort of loss. Furthermore, how would the seller enforce the positive obligations on the buyer to recycle the vessel in an environmentally responsible and sound manner?

The *Priyanka* case spoke on the issue of damages in respect of the counterclaims of both the buyer and seller. The learned Judge found that damages could not be claimed in lieu of an injunction, as the injunction was granted to prevent future breaches. Therefore, the damages claim could only arise from previous breaches of the MoA,[1007] namely the previously concluded fixtures. Ordinarily, damages for a contractual breach are awarded on the basis of actual loss to the aggrieved party.[1008] In this instance:

> *'The Seller is entitled to be placed, so far as money can do it, in the same position it would have been in if the Buyer had not breached clause 19 of the MOA. But, in the circumstances described above, it is not obvious how any further trading of the Vessel by the Buyer, albeit in breach of clause 19, could cause the Seller any loss.'*

Thus, ordinary damages for contractual breach were not available to the seller, however the seller measured its loss and damage as the difference in economic value of the price paid for the vessel (as restricted for recycling only) in comparison with the market value of the vessel (without any use restrictions). The estimated difference was said to be USD 2.4 million. The seller essentially sought 'negotiating damages', which is the 'the economic value of the right which had been breached' as taken from the recent case law authority *One Step (Support) Ltd v Morris Garner*.[1009] The buyer argued that due to the Clause 19 restriction being enforced by way in injunction, the seller had lost the entire right to difference in value.

In order for the claimant to be entitled to negotiating damages, based on a hypothetical negotiation, the seller 'would need to show that the breach of contract results in the loss of a valuable asset,

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[1007] Ibid para 135.

[1008] *Robinson v Harman* (1848) 1 Exch. 850, 855.

[1009] [2018] UKSC 20, [2019] AC 649 (*One Step*). The failure of the UK Supreme Court adequately to engage with academic literature in *One Step*, even at a superficial level, has been criticised in comparison to other jurisdictions; see Ivan Sin, 'Not Getting Lost in the "Park": Wrotham Park Damages Demystified' (2019) Singapore Journal of Legal Studies 464–476 for how the Singaporean case of *Turf Club Auto Emporium Pte Ltd v Yeo Boong Hua* [2018] 2 SLR 655 (CA) was more assertive in propounding three rigorous requirements to award negotiating damages (1) unavailability of orthodox compensatory damages and specific relief; (2) breach of a negative covenant; and (3) hypothetical bargain between the parties for the release of the relevant bargain must not be irrational or incredible.

created or protected by the right, which was infringed'.[1010] The problem here is that the seller no longer had any right to the vessel which could be considered an asset. Negotiating damages are usually applicable to breaches of a restrictive covenant over land, a contractual right to control the use of the land, breaches of intellectual property rights, or a breach of a confidentiality.[1011] Therefore negotiating damages do not apply to breaches of any type of agreement or covenant. As the seller no longer had any proprietary or financial interest in the vessel which would amount to 'an interest or valuable asset'. The court was therefore willing to grant the buyer a declaration that the seller would only be entitled to 'nominal damages', however the court was not willing to extend such a 'comfort to a buyer' for any future breaches.[1012] In the event of future breaches, the seller could still claim for damages in the conventional way showing that loss has occurred.

Priyanka illustrates that in order for the remedy of damages to be available to a seller in such a situation - where a negative covenant restricting the use of the vessel is in place – 'the claimant needs to establish that a loss has been incurred, in the sense that he is in a less favourable situation, either economically or in some other respect, than he would have been in if the contract had been performed'.[1013] Although the facts of *Priyanka* do not present a situation of unsound environmental practices, it is a very important case in a new era of environmental regulation where shipowners *need* to take a factual interest in the forthcoming events concerning property sold. The need to do this is becoming increasingly important, as seen from Norway's Government Pension Fund Global's decision to blacklist four companies. The Fund's Ethics Council said the following:

> '*It must be considered common knowledge in the shipping sector, that the environmental and working conditions of beaching are very poor. That ships are still sent to be dismantled at the Chittagong beach in Bangladesh or on the beaches in Gadani in Pakistan is the consequence of an active choice, which the company that owned the ships has made to maximize its profit. There are better ways to scrap vessels available to the company, but they cost more'*.[1014]

This is reflective of the international business community's and the financial sector's policy views on the issue. Therefore, the reputational damage done to a seller could arguably constitute a far less economically favourable position for the seller who may lose out on future opportunities. However, damages may not be *too* remote – i.e. they either arise naturally from the breach, or are within the reasonable contemplation of the parties as being a 'not unlikely' result of the breach at the time the parties entered into the contract.[1015] Whether the magnitude and general scope of loss that a seller could potentially suffer as the result of the buyer's breach is within contemplation at the time of contracting would need to be proven. Additionally, the 'loss of a chance approach' applies where causation is dependent on the activities of one or more third parties in future hypothetical situations.[1016] It is important to note, however, that the contractual damages afforded to a claimant

[1010] *Priyanka* (n 96) para 95(10).
[1011] See *Wrotham Park Estate Co Ltd v Parkside Homes Ltd* [1974] 1 WLR 798.
[1012] *Priyanka* (n 96) para 200.
[1013] *Priyanka* (n 96) para 95(7).
[1014] ShippingWatch, 'Why the Norwegian oil fund blacklisted carriers for beaching' (n 963).
[1015] *Hadley v Baxendale* [1843-60] All ER Rep 461; *Victoria Laundry (Windsor) v Newman Industries* [1949] 2 KB 528, [1949] 1 All ER 997; *Koufos v C Czarnikow* [1969] 1 A.C. 350
[1016] *Wellesley Partners LLP v Withers LLP* [2015] EWCA Civ 1146, [2015] All ER (D) 146 (Nov) paras [98]–[99]; *Perry v Raleys Solicitors* [2019] UKSC 5, [2019] 2 All ER 937 para [20]; *Allied Maples Group Ltd v Simmons & Simmons (a firm)* [1995] 4 All ER 907.

are not for a loss of opportunity to trade profitably in a general sense – there must be an identifiable third party as a person or entity who is 'together with the claimant, for practical purposes, a unity or is so closely connected or associated with the claimant as to justify the third party's hypothetical conduct being judged on balance of probabilities'.[1017] A seller would therefore have to identify a third party, such as a specific investor with whom it had already established a relationship, that *but for* the buyer's breach, the seller would have secured necessary finance.[1018]

Given these potential types of losses, from reputational damage to the loss of contract and profits, the question of how sellers can control a buyer's behaviour becomes ever more important. It is also an important consideration in incentivising sellers to choose appropriate avenues for EOL vessels. A seller should not be exposed to risk for choosing to use a RECYCLECON form or an equivalent MoA which complies with the overarching regulatory regime. Furthermore, expecting a seller to monitor the vessel post-sale and act quickly in the event of a rogue buyer, is also practically cumbersome.

Although 'beaching' is no longer considered an ideal practice, BIMCO's former DEMOLISHCON[1019] (the predecessor of RECYLECON) for the sale, demolition and recycling of ships, contained a specific provision on beaching and the controls vested in each party over this final process. Clause 10 of the DEMOLISHCON actively involves the buyer in delivering the vessel to the final site of demolition:

> '*Following payment and delivery of the vessel the Sellers shall assist the Buyers in the beaching of the Vessel at the Buyer's designated demolition plot. The Vessel shall be delivered with sufficient useable/pumpable fuel, water and provisions for one day's steaming and nine day's idling. The Sellers shall arrange for crew according to the safe manning certificate to remain with the Vessel for a period of up to 10 days after delivery in order to assist with the aforesaid beaching. The beaching of the Vessel, which shall include the moving of the Vessel from the outer anchorage to the beaching plot, shall be for the Buyer's risk and expense. However, the Master shall co-operate with the Buyers in achieving the best possible draft and trim for the beaching.*
> *The Buyers shall use their best endeavours to assist in the safe disembarkation of the crew after beaching. The Sellers shall pay the wages and arrange P&I insurance cover on their crew involved in the beaching operation*.'

In this way, the seller maintains possession of the vessel up until the moment of delivering it to the facility. Although beaching is no longer an acceptable practice, it illustrates that sale upon delivery at a Ship Recycling Facility is perhaps a better option for environmentally prudent sellers. For obvious reasons, no equivalent provision is provided by RECYCLECON, however, greater controls could be put in place to ensure that the vessel is taken directly to an authorised facility by the buyer. It could be agreed that a representative of the seller and qualified member of crew could stay onboard the vessel for its final voyage to the Recycling Facility, in order to immediately notify the seller of any breach or anticipated breaches of the contract.

[1017] *Assetco Plc v Grant Thornton UK LLP* [2019] EWHC 150 (Comm) paras 450–460.
[1018] *Connaught Income Fund series 1 (in liquidation) v Hewetts Solicitors* [2016] EWHC 2286 (Ch) paras [225]–[228].
[1019] BIMCO, 'DEMOLISHCON' (2001) https://www.bimco.org/contracts-and-clauses/bimco-contracts/demolishcon accessed 15 September 2021.

In conclusion to the greater discussion on regulating sale contracts for EOL vessels, the following key considerations can be derived:

1. RECYCLECON forms (or contractual forms with equal purpose and inclusion of environmental clauses) are useful in establishing that a repudiatory breach has occurred in the event of unsustainable recycling practices.
2. Where a seller wishes to enforce the contract, it can seek an order of specific performance. However, this would be dependent on quick action following *immediate information* of the past breach or the evincing of an intention of a future breach.
3. Where a seller accepts the buyer's repudiation, damages are only available when *the loss results from the breach.*
4. Even if the Sale Agreement *does not* place safe and environmentally sound recycling 'at its core', then the seller can still enforce a negative covenant by way of injunction. Damages will only be available where *actual loss* is shown. Injunctions to prevent unsafe practices going ahead are also dependant *prior knowledge* of the buyer's intention to breach the contract.
5. Negotiating damages will not be available as the seller has no longer has any interest or valuable asset – i.e. the seller no longer owns the vessel.
6. If the seller 'loses' an opportunity due the buyer's breach, it must establish a strong causal link such as an existing relationship with an identifiable third party.

An analysis of the current sale practices for EOL vessels reveals that these agreements are largely insufficient in affording the seller protection and enforcing environmental protection – something which needs to change in light of the evolving views of the international business community. The present common law remedies offer limited recourse where negative environmental covenants are breached, whilst remedies available for repudiatory breach depend heavily on proving loss. Therefore, more creative mechanisms are required which might push the boundaries of traditional theories of contract law. The following sections investigate new ways of construing ship recycling agreements and the possibility of introducing environmental rights into private agreements. Ways to adequately protect a seller who acts in good faith to sell a vessel strictly for recycling purposes also needs to be explored as sellers will be reluctant to enter green transactions where they are exposed to risk.

5.3 New Ways of construing Ship Recycling Contracts

This section reiterates the sentiment that current common law mechanisms under English law, together with the standardised RECYCLECON form, are inadequate in dealing with the situation of the deviant or rogue buyer who does not dispose of and recycle a vessel in an environmentally sound way. Much depends on the seller *anticipating* the breach, which in and of itself poses difficulties in proving; whilst adequate damages awards are dependent on showing *actual loss*. However, freedom of contract permits that parties to a ship recycling agreement (like all contracts) may agree to additional protections than those ordinarily considered under the RECYCLECON. Section 5.3.1. below illustrates the problems surrounding anticipatory breach. It seeks out ways to introduce new innovations informed by a sustainability mandate and aimed at protecting the seller who upholds an environmental commitment. These include an application of the doctrine of assurance and moral conduct clauses that should afford the seller with termination rights if the buyer evinces questionable conduct prior to the vessel's disposal. Section 5.3.2, on the other hand, looks at the extent of available liquidated damages should it come to light that the vessel was not disposed of in accordance with the

agreement. Although punitive damages are not generally accepted in English law, the question is posed whether the *bones mores* of society may permit such punitive clauses for urgent normative mandates - arguably the *bones mores* of society extends to an SD agenda and climate action.

A major premise of this thesis is that the internal principles of contract law must necessarily 'catch up' to adequately reflect its external frameworks – these are driven by state-led mandates such as the SDGs and climate action, NGO activism, CSR practices and consumer pressure.[1020] Chapter 4 of this thesis has discussed the need for a sustainability normative framework in shipping contracts – something which financial institutions are beginning to implement at the foundational level of a ship's existence and which can determine a set of green objectives for the remainder of its life span.[1021] However, the policy frameworks provided by financial institutions are largely focused on decarbonisation, for example, both the Poseidon Principles and the Sea Cargo Charter focus on climate alignment and the energy efficiency objectives of the IMO. However, ship recycling should also be included in ESG to cover the entire value chain. A number of banks have recognised the Responsible Ship Recycling Standards (RSRS) for ship financing in which banks agree not to advance finance to unsustainable shipping practices, to only finance those vessels which carry an IHM and are compliant with international laws and guidelines, and to create awareness on sustainable ship recycling.[1022] Just as green finance objectives aligned with IMO law and policy inform the normative basis for loan agreements, public law policy should inform a normative framework for increased transparency and sustainable business practices in the context of EOL sale agreements. In this regard, there is already a multilateral Convention in place to provide an objective for all state and non-state activities: the HK Convention which aims to ensure that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risks to human health, safety and to the environment.

5.3.1 The doctrine of assurance and moral clauses

Some of the ways in which a seller may anticipate a breach of the buyer have been previously discussed as situations wherein a buyer 'by words or conduct, evinces an intention not to perform, or expressly declares that he is or will be unable to perform his obligations under the contract in some essential respect'.[1023] Such conduct can include previous behaviour by the promisor which would allow the promisee, on a balance of probabilities, to draw an inference that the promisor is likely to commit a breach when the time arrives to perform an obligation under the contract.[1024] As stated previously under repudiatory breach, this leaves the promisee with two choices: 1) affirm the contract and seek an order of specific performance; or 2) accept the renunciation, after which the contract will be

[1020] Indeed, contract governance theories advocate the modernisation of contract law in such a way.
[1021] See Chapter 3 on Green Finance. As noted in in Chapter 4, the 'greening' of private relationships is already taking place in the torts domain. A rights-based turn in private litigation is fuelling the horizontal application of environmental rights on a global level; see the landmark case of *Gbemre v. Shell Petroleum Development Co.*, Suit No. FHC/CS/B/153/2005 (*Gbemre*) for substantive engagement with environmental rights as applied between private parties.
[1022] RSRS (2017) available at https://www.ing.com/Sustainability/ING-ABN-AMRO-and-NIBC-present-the-responsible-ship-recycling-standards.htm accessed 15 September 2021.
[1023] *Mersey Steel and Iron Co Ltd v Naylor, Benzon & Co* (n 960) *Bradley v H Newsom Sons & Co* [1919] AC 16; *Brinkibon v Stahag Stahl und Stahlwarenhandels GmbH* [1980] 2 Lloyd's Rep 556 (CA).
[1024] *Johnstone v Milling* (1886) 16 QBD 460 (CA), 467.

terminated, obligations will be discharged, damages can be sought immediately,[1025] and the duty to mitigate will be brought forward to the time at which the anticipatory breach was accepted.[1026]

The theoretical underpinnings of anticipatory breach are beyond the scope of this discussion, however, it has been noted that anticipatory breach can present a trap.[1027] In uncertain times, the promisee may not be able to 'justify a firm inference that there would be a further breach', whilst the criteria of a fundamental breach need to be satisfied in order for the contract to be terminated – thus requiring the anticipation of a fairly serious breach ahead of time.[1028] Furthermore, the principles of anticipatory breach in English contract law have seen the courts arrive at different results on fairly similar facts. In *Gulf Agri Trade FZCO v Aston Agro Industrial AG* the seller was contracted to ship 6,000 metric tonnes of Russian Feed Barley during the period 10 August to 10 October 2004.[1029] On the basis that the seller had not yet made a shipment by the end of September 2004, the buyer drew the inference that it would not be possible for the seller to deliver the shipment in a timely manner and thus declared a notice of default to the seller demanding 'amicable settlement in order to close this file.[1030] The GAFTA Appeal Board held that the notice of termination was premature and thus unjustified as the buyer, 'could not reasonably have concluded' that the seller was in 'anticipatory breach of the contract through impossibility or renunciation'.[1031]

In *Universal Cargo Carriers Corporation v Citati,*[1032] the charterparty provided that the vessel should load 6000 metric tons of scrap iron in Basrah and deliver it to Buenos Aires. Lay days were to expire on 21 July 1951. The vessel arrived in Basrah on 12 July, but the cargo was not loaded by the 18 July, the day on which the shipowners cancelled the charter and re-chartered her to another charterer.[1033] The owners justified the cancellation by stating that the charterer's conduct 'evinced an intention not to perform the charter in accordance with its terms'.[1034] The charterer denied any breach and submitted that although unable to perform the contract, it was not unwilling to do so. In an overly complicated sequence of hearings, the matter went to arbitration wherein the arbitrators found in the owner's favour subject to the court's finding on the question of law: 'Whether on the facts found and on the true construction of the charter-party, the owners were entitled to treat the charterparty as discharged and the charterer in breach, so that they could claim damages accordingly'.[1035] The matter went before Devlin J, who found that the question of the charterer's inability to perform the charter had not been raised in arbitration proceedings and he therefore could not draw inferences of fact and reserved his judgment, forcing the shipowners to apply for remission of the case to the arbitrators. The charterer appealed against the Order for remission and the matter then went before the Court of Appeal.[1036] The Court of Appeal held that the charterer's inability had been raised in arbitration and dismissed the appeal after which the arbitrator answered the question remitted to it

[1025] *Synge v Synge* [1894] 1 QB 466; *Lep Air Services Ltd v Rolloswin Investments Ltd* [1973] AC 331, 356.
[1026] *Hochster v De la Tour* (1853) 2 E & B 678.
[1027] Reza Beheshti, 'Anticipatory breach of contract and the necessity of adequate assurance under English law and the Uniform Commercial Code' (2018) (2) Lloyd's maritime and commercial law quarterly (0306-2945) 276.
[1028] *Chilean Nitrate Sales Corp v Pansuiza Cie de Navigacion SA (The Hermosa)* [1982] 1 Lloyd's Rep 570, 580.
[1029] [2008] EWHC 1252 (Comm) para [5].
[1030] Ibid.
[1031] Ibid para 23.
[1032] [1958] 2 Lloyd's Rep 17; [1957] 2 QB 401.
[1033] Ibid 17.
[1034] Ibid; they also relied on the charterer's failure to provide cargo at Basrah or to nominate a berth there.
[1035] [1957] 1 Lloyd's Rep. 174.
[1036] [1957] 2 Lloyd's Rep. 191.

in the shipowner's favour. The matter then went back to Devlin J who answered the question in the owner's favour but found that the owners should pay the costs of the remission. The question of costs was then appealed before Lord Chief Justice Goddard, Parker LJ and Lloyd-Jacob J[1037] and the appeal was allowed. The complications which arose from the facts are reflective of the inadequacies on the law of anticipatory breach. The lines are somewhat blurred as the shipowner had to prove frustration *in fact* – Devlin J was hesitant to draw inferences from the unlikelihood or improbability of the charterers being able to perform on time.

In the similar case of *SK Shipping (S) Pte Ltd v Petroexport Ltd (The Pro Victor)*,[1038] the charterparty provided that the vessel should commence loading in Karachi port on 27 August with three consecutive lay days. However, before the vessel arrived in Karachi, the charterer experienced difficulties securing the load (of naphtha) from the supplier and finding a customer, and therefore ordered the vessel to slow steam. In addition, it did not return a signed copy of the charterparty to the owner. Upon finding out that the charterers had experienced hardship in securing a buyer and that it may not proceed with the charterparty, the owner tried to ascertain via email correspondence whether the charterer would perform the contract. These attempts were met with elusive answers after which the owner sent a final email to declare termination in response to the charterer's alleged renunciation.[1039] The Commercial Court held in favour of the owner's decision to terminate and recharter the vessel, however it highlighted the confusion as to whether a claimant must *subjectively* believe that the defendant's words or conduct evinced an intention not to perform the contract, or whether the test is *objective* in that defendant's conduct 'would be reasonably calculated to have upon a reasonable person' the impression of renunciation.[1040]

The law on anticipatory breach thus creates a problematic situation in the context of ship recycling where the stakes are significantly high for a seller of a vessel whose reputation, banking benefits, and commercial relationships depends on its environmental behaviour and the responsible recycling of its fleet. The evincing of an intention to not fulfil the sustainability provisions of the recycling agreement (subjectively or objectively assessed) remains unclear – what level of evidence is required to show that the buyer will in fact breach the contract so as for the seller not to fall into a 'trap' of early termination? If a buyer were to engage in dubious activities with other third parties or fails to make arrangements with authorised recycling yards, the seller has a difficult task of proving impossibility or renunciation. It therefore follows that the seller cannot rely on the common law doctrine of anticipatory breach alone for adequate protection. Therefore, either accepting repudiation or rejecting it may not be available along with the consequential remedies of either claiming damages immediately or seeking to enforce the contract. In this regard, the doctrine of assurance or a 'moral clause' may assist the seller in terminating the contract where proper performance seems improbable.

It has been proposed by Beheshti that:

> 'adequate assurance is a logical corollary of the doctrine of anticipatory breach of contract. Because the latter doctrine is utilised only when a purported repudiation occurs with utmost clarity, it is difficult for the promisee to meet this requirement in situations

[1037] *Universal Cargo Carriers Corporation v Citati (No. 2)* [1957] EWCA Civ J0725-2.
[1038] [2009] EWHC 2974 (Comm); [2010] 2 Lloyd's Rep 158.
[1039] Ibid paras 30–38.
[1040] Ibid para 93.

> where promisors exhibit inconsistent conduct. In such situations, the doctrine of adequate assurance can be applied to determine with sufficient certainty whether the promisor intends and is able to perform the contract'.[1041]

The doctrine of adequate assurance is accepted by the American Uniform Commercial Code ("UCC") § 2-609. The origins of the doctrine illustrate its appropriateness for this specific context of vessel recycling. Llewellyn, the legal realist who led the drafting of the UCC, was a strong proponent of designing rules which could deal with commercial parties in troubled times and believed that the law is an instrument to achieve social ends.[1042] He aimed to place prevailing norms at the centre of legal rules that are 'clear, sane and safe'.[1043] Section 2-609 of the UCC provides the following mechanism:

1. *A contract for sale imposes an obligation on each party that the other's expectation of receiving due performance will not be impaired. When reasonable grounds for insecurity arise with respect to the performance of either party the other may in writing demand adequate assurance of due performance and until he receives such assurance may if commercially reasonable suspend any performance for which he has not already received the agreed return.*
2. *Between merchants the reasonableness of grounds for insecurity and the adequacy of any assurance offered shall be determined according to commercial standards.*
3. *Acceptance of any improper delivery or payment does not prejudice the aggrieved party's right to demand assurance of future performance.*
4. *After receipt of a justified demand failure to provide within a reasonable time not exceeding thirty days such assurance of due performance as is adequate under the circumstances of the particular case is a repudiation of the contract.*

Although helpful, these clauses are not without uncertainty and need further contextualisation. For example, 'reasonable grounds for insecurity' in the ship recycling setting, may mean that the buyer has not yet engaged with an authorised yard, has perhaps engaged with a non-compliant yard, has undertaken plans to beach the vessel, or intends to sell the vessel on. 'Adequate assurance' also presents some ambiguity, yet the seller may dictate what sort of assurance it would require. It is generally considered that 'adequate assurance' involves resolving a promisee's suspicion about future performance such that he would resume fulfilling his contractual duties.[1044] However, adequate assurance has been said to be incompatible with English law's requirement of consideration as it requires that the promisor should furnish the promisee with something additional to that which was contractually agreed by the parties.[1045] This problem has been addressed by conceptualising the benefit to the promisor as the opportunity to undergo a costs analysis between the costs of non-performance and the cost of damages as a commercial benefit in exchange for furnishing or declining the assurance.[1046] Whether such a cost analysis can amount to a commercial advantage' and therefore good consideration, was raised in *MWB Business Exchange Centres Ltd v Rock Advertising Ltd*.[1047]

[1041] Reza Beheshti, 'Anticipatory breach of contract and the necessity of adequate assurance under English law and the Uniform Commercial Code' (n 1027) 299.
[1042] K Llewellyn, 'Some Realism about Realism-Responding to Dean Pound' (1931) 44 HLR 1222.
[1043] State of New York Law Revision Committee Report, Hearing on the Uniform Commercial Code (1954), 113
[1044] MW Sargis, "The Uniform Commercial Code Section 2-609: a Return to Certainty" (1980) 14 *JMLR* 113, 120.
[1045] Reza Beheshti, 'Anticipatory breach of contract and the necessity of adequate assurance under English law and the Uniform Commercial Code' (n 1027) 293.
[1046] Ibid.
[1047] [2018] UKSC 24.

Here, the Supreme Court declined to rule on the issue of whether an oral variation had been met with good consideration where a clause in a contract required modifications to that contract to be in writing and signed by the parties. Whether the 'practical benefits' of the variation could amount to consideration was not decided upon, but conflicting authorities were discussed and the Court noted that the case was 'probably ripe for re-examination.[1048] Therefore argument would need to be put forth that the promisor obtains good consideration through some benefit for furnishing the promise with assurance.

On the other hand, adequate assurance is said to be compatible with anticipatory breach in that it emanates from the recognised policy of mitigation.[1049] *British Westinghouse Electric and Manufacturing Co Ltd v Underground Electric Railways Co of London Ltd* provides a basis for the mitigation principle in stating that a promisee who fails to take reasonable steps to mitigate its loss should not be able to recover losses which can reasonably be avoided.[1050] However, the principle is less clear cut in situations of factual uncertainty where a promisor simply acts suspiciously with regards to fulfilling its obligations. In *Zodiac Maritime Agencies Ltd v Fortescue Metals Group Ltd* [1051] it was held that the injured party has no obligation to embark on any action to mitigate that involves him in unreasonable expense or inconvenience. Furthermore, the burden rests on the defendant to prove that the claimant has not taken reasonable steps to mitigate its losses;[1052] and it should be noted that provided the claimant's attempts to mitigate loss are reasonable at the time, it is irrelevant if they are insufficient.[1053] In the context of anticipatory breach, the rules create some problems as there is no duty to mitigate while the claimant treats the contract as still subsisting.[1054] The *Alaskan Trader* attempts to restrict the duty to mitigate in cases of anticipatory breach only where the plaintiff elects to treat the contract as at an end.[1055] Therefore, under English law, there is no duty to mitigate – a claimant is only under a duty to take reasonable steps to mitigate the loss, and if it fails to do so then it will not be compensated for those losses which could have been avoided by taking reasonable

[1048] Ibid para 18 (per Lord Sumption). Nevertheless, the oral variation was decided to be invalid.
[1049] *Hochster v De La Tour* (1853) 2 E & B 678, 690 provides that the doctrine of anticipatory breach facilitates the mitigation of loss.
[1050] [1912] AC 673, 689; see also *Hussey v Eels* [1990] 2 QB 227, 232–233; *Hooper v Oates* [2013] EWCA Civ 91; [2014] Ch 287; *Thai Airways International Public Co Ltd v KI Holdings Co Ltd* [2015] EWHC 1250 (Comm); [2016] 1 All ER (Comm) 675.
[1051] [2010] EWHC 903 (Comm).
[1052] *Payzu Ltd v Saunders* [1919] 2 KB 581 held at 581: 'what is reasonable for a person to do in mitigation of his damages cannot be a question of law, but must be one of fact in the circumstances of each particular case'. This declaration was viewed as 'refreshing' for its case-by-case approach by Ralph W Ailger (Ed) 'Recent Decisions' (1919-1920) 18 Mich L Rev 693 at 702. It has also been considered that *Payzu* is in line with the 'better view' in American law, see 'Obligation of Aggrieved Contracting Party to Accept New Offer of Defaulter to Obviate Avoidable Damage' (April 1920) 33 (6) Harvard Law Review 854-857.
[1053] *Gebruder Metelmann GmbH & Co KG v NBR (London) Ltd* [1984] 1 Lloyd's Rep 614.
[1054] *White & Carter (Councils) Ltd v McGregor* [1962] AC 413; [1962] SC (HL) 1: The minority view (per Lords Morton and Keith) stated that the appellants, having rejected the repudiation claimed 'a kind of inverted specific implement of the contract. They first insist on performing their part of the contract, against the will of the other party, and then claim that he must perform his part and pay the contract price for unwanted services. In my opinion, the appellants' only remedy was damages and they were bound to take steps to minimize their loss, according to a well-established rule of law'. The minority view is supported by authors such as Robert Gordon McKerron, 'Effect of election not to accept anticipatory repudiation of contract: *White and Carter v. McGregor*', (1962) 79(3) S. African L.J. 309.
[1055] [1984] 1 All ER 129.

steps.[1056] Therefore, the argument that mitigation necessitates the doctrine of adequate assurance in instances of anticipatory breach might be tenuous.

Nevertheless, making provision in a recycling agreement for adequate assurance would undeniably solve some of the issues stemming from the inadequacies of anticipatory breach. If the buyer were to act suspiciously or 'immorally' in simultaneous commercial relationships, then the seller would be able to demand assurance and have termination rights if the buyer fails to assure. Thus, the seller would not need to meet the strict criteria of proving impossibility of performance, but could act according the provision of assurance or failure to provide adequate assurance. If adequate assurance is not provided, the seller could incorporate a 'reversion-of-title' clause to guide the outcome. Guidance from CMS Law (an international law firm) calls this 'rescuing the vessel' and suggests that this may be achieved by one or a combination of the following:[1057]

I. *'a reversion of title to the vessel;*
II. *a right to take a charter and/or loan of the vessel for the purposes of scrapping/recycling it; or*
III. *the right to appoint a different decommissioning contractor to scrap/recycle the vessel on the Contractor's behalf, with an obligation on the Contractor to do all such things as to facilitate such work, including the transfer of title in the vessel to the new contractor.'*[1058]

Assurance clauses coupled with rescuing the vessel provisions could be agreed to at the outset, thereby avoiding issues of consideration if such contractual duties form part of an *initial* agreement for an agreed fair price, therefore not amounting to 'extra' promises falling outside of the scope of the main agreement.

Another possible solution stems from what is termed a 'moral clause'. Moral clauses are generally used in brand endorsement deals to provide corporations with express and unfettered termination rights to cancel a contract where the endorser acts in such a way that is deemed socially reprehensible by the corporation.[1059] Similarly, supply chain management practices have made use of a 'Code of Ethics' which all contracting parties must agree to in order to transact with the seller. The integration of codes of ethics that contain environmental sustainability provisions is already common place in supply chain agreements.[1060] CSR practices have typically introduced "Codes of Conduct" into sustainable supply chain management processes. These can be incorporated by way of reference, for example, '*the Supplier will agree to the Code of Conduct annexed hereto (Annexure A)*'; alternatively, the Code can be translated into express terms, for example, '*the Supplier will refrain from engaging in any conduct which violates relevant labour law standards*'.[1061] Whether a shipping company elects to

[1056] See *Payzu Ltd v Saunders* (n 1052).
[1057] CMS Law-Now, 'Oil & Gas: Contractual protections in scrapping decommissioned assets' (5 May 2020) https://www.cms-lawnow.com/ealerts/2020/05/oil-gas-contractual-protections-in-scrapping-decommissioned-assets accessed 15 November 2021.
[1058] However, CMS Law-Now notes that this remedy is still problematic if the vessel has already been on-sold by to a bona fide third party (i.e. "Equity's Darling").
[1059] Todd J Clark, 'An Inherent Contradiction: Corporate Discretion in Morals Clause Enforcement' (2017) 78 La L Rev 1.
[1060] Pia Rebelo, 'Sustainable Supply Chain Finance: The Incorporation of Green Principles into SCF Agreements' (n 787).
[1061] Seira Shin-Clayton, 'The enforcement of corporate social responsibility through contractual terms in business to business contracts through the supply chain' (2018) 24 Te Mata Koi: Auckland University Law Review 231–257, 244.

use such codes and clauses is not really a legal enquiry, but more a corporate governance decision. The full scope and content of such clauses is therefore not within the purview of this discussion but forms a potential exploration for future research. If environmental sustainability constitutes a strong commitment for a shipping firm, then moral clauses, as informed by a doctrine of assurance or mitigation, can form an effective tool for granting the firm termination rights to protect its own reputational interests.

Such mechanisms are undoubtedly becoming necessary to protect sellers, especially given increased ESG reporting standards.[1062] ESG is largely comprised of risk management. Chapter 3 of this thesis focuses on green and sustainable finance whilst considering ESG investing as one of the biggest topics on the current finance agenda. There is a growing cognisance of creditor risk linked to climate change impacts, protection of the marine environment, crew welfare, health and safety, business ethics and corporate responsibility.[1063] Although ESG performance is fairly novel for shipping firms and is thus far linked to traditional risks (e.g. oil pollution, crew accidents, piracy), it is increasingly considering corporate structures and the overall value chain of the sector. The myriad of investors which a shipping firm would rely on (financial institutions, insurers, asset managers, funds, or private equities) view ESG performance data as a vital component of risk assessment and informed decision-making. Shipping firms are therefore under increasing external pressure to manage environmental impacts. Therefore, a shipowner absolutely needs to ensure compliance with the HK Convention and environmentally safe and sound vessel recycling practices. As illustrated above, this is difficult when traditional contractual principles, such as the problems surrounding anticipatory breach, do not afford adequate protection to the seller. Furthermore, commercial shipping and ship recycling do not yet comprehensively fall within existing green frameworks which have guided other projects and activities. Thus, the problems discussed in Chapter 3 surrounding green frameworks for shipping persist beyond a vessel's operational life. Despite a strong global normative framework for climate alignment, green principles are yet to sufficiently permeate English contract law, whilst shipping's exclusion from major definitive frameworks have presented further difficulties in greening shipping transactions. The following section discusses the influence of external normative agendas - even in the absence of a clear green shipping framework at a financing, reporting and disclosure level – to modernise the internal rules of contract law in achieving marine protection in the ship recycling context.

5.3.2 Green damages: Liquidated damages or punitive damages?

Another possible way for the seller to incentivise adherence to the green purpose and obligations of an agreement, is to introduce a liquidated damages clause for breach. In this way, the buyer will not have to prove loss as a fixed amount is already agreed to for violations of certain contractual provisions. Such a clause is also beneficial for the buyer, because it provides certainty and allows the buyer to know the extent of its potential liability and to make decisions accordingly. This section argues that although there are complications arising out of the potential punitive nature of a 'green damages' clause, the SD mandate provides a strong normative justification for the development of

[1062] John Snyder, 'ESG becoming a 'centrepiece' of shipping valuations' (8 October 2020 Riviera) https://www.rivieramm.com/news-content-hub/news-content-hub/esg-becoming-a-lsquocentrepiecersquo-of-shipping-valuations-61219 accessed 15 September 2021.

[1063] Hellenic Shipping News, 'Momentum is gaining in linking the monitoring and reporting of ESG performance to shipping finance', (27 May 2020) https://www.hellenicshippingnews.com/momentum-is-gaining-in-linking-the-monitoring-and-reporting-of-esg-performance-to-shipping-finance/ accessed 15 September 2021.

contract law to apportion liability in this way. To avoid being struck down on a traditional application of English contract law principles, such a clause should be based on a cost analysis of environmental remediation and damage to a seller's reputation. This section also argues for a justification of the deterrent value of a green damages clause based on a substantive legal justification informed by the SD mandate and climate change agenda.

The English courts have retained their jurisdiction to oversee such clauses due to the controversy surrounding the distinction between liquidated damages clauses and penalty clauses (the latter being those with an underlying intention to punish).[1064] This distinction has traditionally been an important one, as penalty clauses are not accepted in English law and would not be enforced by the court beyond the actual loss of the party seeking to rely on the clause.[1065] The distinction would rest on the intention of the parties and is a question of substance not form – punitive damages being a sum of money which exceeds a genuine pre-estimation of loss - with the courts setting out a number of rules to determine the nature of the clause.[1066] However, these rules were criticised by Lord Neuberger and Lord Sumption for being a 'quasi-statutory code' in *Cavendish Square Holding BV v Talal El Makdessi and ParkingEye Ltd v Beavis*.[1067] The majority of the Supreme Court found that the 'real question' to be asked in the future is whether the agreed damages clause 'is penal, not whether it is a pre-estimate of loss'.[1068] Therefore the critical question has moved away from being one of a genuine or reasonable pre-estimation of loss, to asking whether the clause is in fact a penalty. The two Law Lords stated that a penalty clause is 'a secondary obligation which imposes a detriment on the contract-breaker out of all proportion to any legitimate interest of the innocent party in the enforcement of the primary obligation'.[1069] Thus determining a penalty clause is two-fold: 1) it imposes a detriment which is 'out of all proportion', and 2) the detriment needs to be compared with any 'legitimate interest' of the aggrieved party in enforcing the contract.[1070]

The outcome of *ParkingEye v Beavis* has essentially given contracting parties a greater level of freedom in setting a damages amount to be payable upon breach of a contract without considerable scope for judicial intervention.[1071] It has also been submitted that the Supreme Court requires a very high degree of disproportion whilst a 'legitimate' interest does not need to be financial.[1072] Indeed, the Supreme Court held in *ParkingEye v Beavis* that the smooth running of a car park, without customers overstaying their paid period to allow for a steady flow of customers, was a legitimate interest.

[1064] There is no equivalent broad ban on penalty clauses in the civil law tradition, in fact, penalty clauses are explicitly recognised and regulated in some civil codes. Some civil codes even go so far as to say that a penalty sum may be collected in addition to ordinary damages; see Solène Rowan, *Remedies For Breach Of Contract: A Comparative Analysis Of The Protection Of Performance* (2012 Oxford University Press) which makes a comparison between English and French law. See also Mariana Pargendler, 'The Role of the State in Contract Law: The Common-Civil Law Divide' (2018) 43(1) Yale Journal of International Law 143, 2018, NYU Law and Economics Research Paper No. 17-01.

[1065] *Jobson v Johnson* [1989] 1 All ER 621

[1066] Ibid.

[1067] [2015] UKSC 67; [2016] AC 1172 (two cases were heard as part of the same appeal).

[1068] Ibid 31.

[1069] Ibid 32.

[1070] For further commentary on a 'legitimate interest', see Solène Rowan, 'The "Legitimate Interest in Performance in the Law on Penalties' (2019) 78(1) Cambridge Law Journal 148–174.

[1071] Ewan McKendrick, *Contract Law 13th ed* (Macmillan Law Masters 2019) 412.

[1072] Ibid.

However, the courts still retain jurisdiction to determine that 'disproportionate' sums are unenforceable.[1073]

There are clever ways to avoid the penalty rule, such as acceleration of a present debt,[1074] stipulating a sum payable on an event that is *not* a breach,[1075] or avoiding specifying a sum but instead providing that breach of a clause will violate the essence of the contract thus allowing for termination rights and the calculation of a loss of bargain. Albeit, the final option does not afford the convenience of liquidated damages nor does labelling a term a condition necessarily make it one.[1076] The acceleration of a debt could perhaps help in the context of a ship recycling sale agreement if the buyer is contracted to pay the seller in instalments. However, this would not amount to a recovery of loss, but merely the enforcement of the primary obligation of a 'present debt, which by reason of an indulgence given by the creditor is payable either in the future, or in a lesser amount, provided that certain conditions are met'.[1077] The second option for stipulating a sum payable on an event that is *not* a breach, may be helpful. This rests on the idea that 'the penalty rule regulates only the remedies available for breach of a party's obligations, not the primary obligations themselves'.[1078] In *Bridge v Campbell Discount Co Ltd*, Lord Denning noted that this creates an 'absurd paradox' because it grants relief (via the no-penalty rule) to the man who breaks his contract, but would penalise the man who keeps it.[1079] If, however, a court focuses on the substance of the term rather than its form, it could reason that the term is penal and thus unenforceable if the obligation to pay only arises where there has been an apparent default of some kind by the party who is obligated to make payment.[1080] Although the situation remains unclear as to how to assess whether a sum is 'in reality' payable on the breach of the contract.

In a ship recycling context, a seller who wants to incentivise a buyer to abide by the contract, may therefore disguise a penalty through articulating that liquidated damages will arise in respect of a primary obligation. This may possibly pass judicial scrutiny if, for example, the seller ***instead*** of stipulating that:

> *Amount X will be payable in the event of the Buyer's default in respect of Clause 1.1 (i.e. relating to environmentally sound management)…*

rather drafts a clause along the following lines:

> *The purchase price has been determined in accordance with the costs of environmentally sound recycling of the vessel, therefore, should the Buyer dispose of the vessel in an unauthorised manner, the purchase price shall increase by an additional amount of X.*

[1073] *Wall v Rederiaktiebogalet Luggude* [1915] 3 KB 66 states that an innocent party may still recover actual loss if a liquidated damages clause is classified as 'penal' and therefore unenforceable, however this case remains contentious.
[1074] *The Angelic Star* [1988] 1 Lloyd's Rep 122; *O'Dea v Allstates Leasing System (WA) Pty Ltd* (1983) 57 ALJR 172, 174; *Edgeworth Capital (Luxembourg) Sarl v Ramblas Investments BV* [2015] EWHC 150 (Comm).
[1075] *Alder v Moore* [1961] 2 QB 57.
[1076] *Lombard North Central Plc v Butterworth* [1987] 1 AII ER 267; *Financings Ltd v Baldock* [1963] 2 QB 104.
[1077] *O'Dea v Allstates Leasing System* (n 1074).
[1078] *ParkingEye v Beavis* (n 1067) 13.
[1079] [1962] A.C. 600, 629.
[1080] *Vivienne Westwood Ltd v Conduit Street Development Ltd* [2017] EWHC 350 (Ch).

In such a way, the amount payable is in respect of a primary obligation and does not become a secondary obligation triggered by a breach. It could be argued that there is no good reason why a contractual provision which 'increases the consideration payable under an executory contract upon the happening of a default should be struck down as a penalty if the increase could in the circumstances be explained as commercially justifiable, provided always that its dominant purpose was not to deter the other party from breach'.[1081]

The complexity of penalty clauses is illustrated by *Associated British Ports v Ferryways NV5*[1082] which concerned an agreement for handling cargo containers at a port. One of the clauses pertained to a minimum throughput obligation which provided that if the number of units (being trailers, freight containers, or other parcels) fell below a certain number in the relevant year, then the customer would have to pay a fixed fee. The customer argued that this was a penalty clause and therefore void.[1083] The court found, however, that the aim of the clause was to provide the supplier with an annual revenue stream by reference to a fixed number of units and not to penalise the customer. The obligation was therefore not a secondary one triggered by breach but was instead a primary obligation given in exchange for the promise by the supplier to create a new linkspan, and 'as such cannot be a penalty.[1084] This case was later appealed, but only on the third issue raised by the facts: whether MSCB (a third party) could be liable to pay the sums due from Ferryways to Associated British Ports due to a letter of agreement whereby MSCB assumed full responsibility for ensuring that Ferryways, '(i) has and will at all times have sufficient funds and other resources to fulfil and meet all duties, commitments and liabilities entered into and/or incurred by reason of the Agreement as and when they fall due and (ii) promptly fulfils and meets all such duties commitments and liabilities.[1085] The Court of Appeal was asked to rule on whether the letter of agreement was a guarantee or an indemnity, the difference being crucial in that a guarantee is only enforceable if the borrower fails to meet its obligations to the creditor and would fall away if the original agreement between borrower and creditor is varied (as happened here).[1086] On the other hand, an indemnity is independent of the enforceability of the underlying obligations and would remain valid if the original agreement is set aside or varied.[1087] Lord Justice Maurice Kay of the Court of Appeal came to the same conclusion as Field J in the High Court that the letter amounted to a contract of guarantee and therefore MSCB was discharged from its obligation to pay for sums owing to Associated British Ports by Ferryways as the original agreement between borrower and creditor was varied.[1088] The matter on the enforceability of the penalty provision was therefore left unaltered and did not feature in the appeal hearing at all.[1089]

[1081] *Lordsvale Finance plc v Bank of Zambia* [1996] QB 752, in passages approved by the Court of Appeal in *Euro London Appointments v Claessens International* [2006] 2 Lloyds Reports 436 at 442-3.
[1082] 2 Lloyd's LR 2008 355.
[1083] Ibid 44.
[1084] Ibid 50.
[1085] Ibid para 24.
[1086] *Associated British Ports v Ferryways NV & Anor* [2009] EWCA Civ 189.
[1087] An indemnity is therefore defined as a type of primary liability whereas a guarantee imposes a secondary liability. Therefore a guarantee is usually discharged by a bilateral variations of the contract between borrower and creditor.
[1088] *Associated British Ports v Ferryways NV & Anor* [2009] (n 1086).
[1089] For the importance of the guarantee/indemnity distinction, see Gautam Bhattacharyya, George Hoare and Victoria Walker, 'Guaranteeing Certainty' (2009) 24(11) Journal of International Banking Law & Regulation 580.

Similarly, *M&J Polymers Limited v Imerys Minerals Limited* concerned a supply agreement for dispersants (chemicals used to break down clay and other materials).[1090] The controversy surrounded a 'take-or-pay' clause which provided that, '[t]he Buyers collectively will pay for the minimum quantities of Products … even if they together have not ordered the indicated quantities during the relevant monthly period'.[1091] Mr Justice Burton found that, strangely, 'there is no previous authority as to whether a take or pay clause amounts to or can amount to a penalty' and had to decide the matter *de novo*.[1092] He found that take-it-or-pay clauses are analysed as primary obligations and are therefore: 'commercially justifiable', do 'not amount to oppression', and are 'negotiated and freely entered into between parties of comparable bargaining power' without 'the predominant purpose of deterring a breach of contract nor amount to a provision "in terrorem"'.[1093]

Most recently on the issue of liquidated damages clause, the Supreme Court attempted to resolve the uncertainty regarding the right to claim liquidated damages for a supplier's delay in completing work under a contract that it has terminated prior to completion. In *Triple Point Technology, Inc v PTT Public Company Ltd*, the "orthodox approach" was affirmed as the Supreme Court overruled the finding of the Court of Appeal that liquidated damages for delay can only be claimed for work that is accepted, but not for further delay up until termination.[1094] Before explaining the facts of this case, it is important to highlight its relevance in a shipbuilding context. One solution in applying liquidated or 'green' damages in a ship recycling sale agreement, may be to adopt a phased approach to the obligations imposed on the buyer. For example, phase 1 may set a date for the seller to furnish the buyer with details of an approved facility and ship recycling plan. Clause 18 of the RECYCLECON, for example, provides that the Buyer shall 'on the Seller's request (i) either provide a copy of the Ship Recycling Facility Plan or attestation that the Ship Recycling Facility has a Ship Recycling Facility Plan and (ii) allow the Sellers to visit the Ship Recycling Facility…'. If the buyer fails to provide the seller with such information by a certain date, the seller may have elected to insert a clause that withholds a payment until all duties under such a phase are performed and may also insert a liquidated damages clause for each day that such an action is late. This is usually done in supply, construction or technology installation agreements, where an employer has a strong interest in the timeous completion of the work by a contractor. This was seen in the *Triple Point* case which concerned an agreement for the design, implementation, provision of ongoing support, and maintenance of a software system.

In this case, PTT, a Thai state-owned oil and gas company, entered into software contract with Triple Point Technology for the provision of a software-based business system. The project was split into phases and payments were to be made by reference to "milestones" in the contract that specified that certain work was complete.[1095] The contract contained the following key articles, with Triple Point being the "CONTRACTOR":

> **Article 5.3** stipulated that, '[i]f CONTRACTOR fails to deliver work within the time specified and the delay has not been introduced by PTT, CONTRACTOR shall be liable to pay the penalty at

[1090] [2008] EWHC 344 (Comm).
[1091] Ibid 4: Clause 5.5 of the Agreement.
[1092] Ibid 40.
[1093] Ibid 46.
[1094] [2021] UKSC 29 (*Triple Point* case).
[1095] Ibid para 2; Lady Arden delivered the majority judgment, with whom Lords Leggatt and Burrows agreed. Lord Sales only partly dissented relating to the interpretation of the word "negligence" with whom Lord Hodge agreed.

> the rate of 0.1% (zero point one percent) of undelivered work per day of delay from the due date for delivery up to the date PTT accepts such work'.
>
> **Article 12.1** provided that 'CONTRACTOR shall exercise all reasonable skill, care and diligence and efficiency in the performance of the Services under the Contract'.
>
> **Article 12.3** capped Triple Point's liability to 'the Contract Price received by CONTRACTOR with respect to the services or deliverables involved under this contract' and 'except for the specific remedies expressly identified as such in this Contract, PTT's exclusive remedy for any claim arising out of this Contract will be for CONTRACTOR … to use best endeavour to cure the breach at its expense, or failing that to return the fees paid to CONTRACTOR for the Services or Deliverables related to the breach'. Importantly, Article 12.3 added that 'this limitation of liability shall not apply to CONTRACTOR'S liability resulting from fraud, negligence, gross negligence or wilful misconduct of CONTRACTOR'.

Phase 1 was completed with significant delays and work did not commence for Phase 2 at all. PTT paid Triple Point the sum owing for an initial invoice in respect of Phase 1 work, but disputes arose as to whether subsequent invoices from Triple Point should be paid by PTT. Triple Point thereafter refused to do further work and PTT gave its notice of termination of the contract. As a result, Triple Point instituted action against PTT in the Technology and Construction Court for an alleged failure to pay its invoices for the software, whilst PTT counterclaimed for 'wasted costs in respect of hardware purchased prior to termination, liquidated damages under the terms of the contract up to the date of termination and, as termination loss, the costs of procuring a replacement system plus interest pursuant to statute'.[1096] At first instance, Jefford J dismissed Triple Point's claim as she found that delay in performance of the contract was caused by Triple Point's breach of Article 12.1 to exercise 'all reasonable skill, care and diligence and efficiency' in performance of the contract.[1097] Jefford J held that PTT was entitled to liquidated damages for delays prior to termination, for wasted costs of hardware purchases prior to termination and termination loss for the costs of procuring a replacement system from a new contractor. Whilst the liquidated damages were not capped by Article 12.3, the wasted costs and termination loss did fall within the ambit of Article 12.3 and was therefore capped.

The Court of Appeal overturned this decision and, quite controversially, decided that PTT was only entitled to liquidated damages in respect of works completed by Triple Point and accepted by PTT prior to the termination of the contract. Furthermore, the Court of Appeal found that the liquidated damages were further subject to a limitation on liability pursuant to article 12.3. The Court of Appeal also found that the exception to the limitation on liability under Article 12.3 for 'negligence' did not apply to Triple Point's breach of its obligation to exercise reasonable skill and care, but only applied to instances of 'freestanding torts or deliberate wrongdoing.[1098]

[1096] Ibid para 19.

[1097] Jefford J found that this was done through 'failing carefully to plan, programme and manage the Project or delays in the Project; failing to provide sufficient numbers of suitably qualified staff; failing to conduct adequate business analysis and production of business blueprints required under the terms of the CTRM Contract; and, failing to follow internationally recognised and applied methodologies for the design, development and implementation of software' (Ibid para 20).

[1098] Ibid para 23.

The first issue dealt with by the Supreme Court was whether liquidated damages were payable under Article 5.3 where work was never completed or accepted. On this question, the Court of Appeal identified three possible outcomes to this question:

1) The clause does not apply.[1099]
2) The clause only applies up to termination of the first contract.[1100]
3) The clause continues to apply until the second contractor achieves completion.[1101]

Sir Rupert Jackson, when giving judgment for the Court of Appeal, noted that option (2) is treated as the "orthodox approach" to liquidated damages, however, such an interpretation is 'not free from difficulty' and the question of whether the liquidated damages clause ceases to apply or continues to apply up to termination must depend on the wording of the clause itself. His Lordship accordingly interpreted Article 5.3 to apply 'up to the date' when PTT accepted the completed work from Triple Point. Therefore, Article 5.3 'has no application in a situation where the contractor never hands over completed work to the employer'.[1102] In the Supreme Court, Lady Arden called this a 'radical re-interpretation of the case law on liquidated damages clauses' and is 'inconsistent with commercial reality and the accepted function of liquidated damages' which aims at ensuring that an employer does not have to expend time on the difficult task of quantifying its actual loss.[1103] In this particular instance, the reference to acceptance of works in Article 5.3 was '… to stand in addition to and not in substitution for the right to liquidated damages down to termination'.[1104] Lord Leggatt recognised the same position that a liquidated damages clause will apply for any period of delay in completion up to the date of termination, but not beyond.[1105]

The second issue raised in the Supreme Court was whether damages for Triple Point's negligent breach of contract fell within the Article 12.3 exception to the limitation of liability for negligence. Lady Arden held that the Court of Appeal erred in its interpretation that 'negligence' referred to an independent tort as it would be 'incoherent and inappropriate to interpret the carve-out by reference to unrealistic examples of independent torts'.[1106] Lord Leggatt agreed that "negligence" must be given its straightforward and ordinary legal meaning and his Lordship reinforced the general principle that clear words are needed to restrict valuable rights.[1107] The third and final issue was whether the liquidated damages are subject to the Article 12.3 cap. In the Court of Appeal, Sir Rupert Jackson found that the words '[e]xcept for the specific remedies expressly identified as such in this contract' in article 12.3 included reference to any liquidated damages under article 5.3. The cap is one on total liability, encompassing damages for defects, delay and any other breaches. On this point, the Supreme Court

[1099] Relying on *British Glanzstoff Manufacturing Co Ltd v General Accident, Fire and Life Assurance Corpn Ltd* [1913] AC 143; *Chanthall Investments Ltd v F.G. Minter Ltd* 1976 SC 73; *Gibbs v. Tomlinson* (1992) 35 Con LR 86.
[1100] Relying on *Greenore Port Ltd v Technical & General Guarantee Company Ltd* [2006] EWHC 3119 (TCC); *Shaw & Anor v MFP Foundations and Pilings Ltd* [2010] EWHC 1839 (TCC); *LW Infrastructure Pte Ltd v Lim Chin San Contractors Pte Ltd* [2011] SGHC 163; *Bluewater Energy Services BV v Mercon Steel Structures BV & Ors* [2014] EWHC 2132 (TCC).
[1101] Relying on *Hall & Anor v Van Der Heiden (No 2)* [2010] EWHC 586 (TCC); *Crestdream v Potter* (2013) HCCT 32/2013; *GPP Big Field LLP & Anor v Solar EPC Solutions SL* [2018] EWHC 2866 (Comm).
[1102] *Triple Point* case (n 1094) para 31.
[1103] Ibid paras 33-36.
[1104] Ibid para 36.
[1105] Ibid para 86.
[1106] Ibid para 55.
[1107] Ibid para 106-106.

unanimously agreed with the Court of Appeal and confirmed that the Article 12.3 cap embraced liquidated damages (save for those related to Triple Point's negligent breach of contract), and comprised part of the maximum damages recoverable under the cap.[1108]

The *Triple Point* decision by the Supreme Court confirms that liquidated damages for delay are available for delays *until the termination* of the contract. A prudent seller in a ship recycling context would specify as such in a liquidated damages clause so as to avoid the confusion of whether the clause applies where work is not accepted, as seen in *Triple Point*. However, the liquidated damages for delay must still pursue a legitimate or commercial interest to avoid any possibility of being considered 'punitive', although English courts have shown increasing flexibility in allowing parties to set their own damages. This "interest" may be somewhat abstract as the expedient recycling of a vessel may not be comparable to an interest in the timeous completion of construction work or software provision and implementation. However, there is a strong green argument to make that an EOL vessel at berth or anchored at sea poses imminent risks to the environment and should therefore be recycled quickly and efficiently.

A commercial interest is not inherently different from a 'legitimate interest'.[1109] Here, an argument can be made that the seller of an EOL vessel, has a legitimate business interest in environmental protection stemming from the prevailing norms, its business reputation, access to favourable finance, and even protection from liability stemming from third party claims. Environmental or sustainable interests have not yet been similarly explored in the context of contractual damages and would therefore have to equate to the aforementioned types legitimate business interests. As discussed previously, this is because contract law has predominantly been viewed in isolation of SD normative frameworks. Only with developments in green finance and ESG reporting, have contracts had to consider pursuing high levels of environmentally responsible behaviour. Other agendas such as **fair** contract terms and **consumer protection** have successfully provided avenues for judicial intervention in striking down and interpreting clauses in alignment with 'fairness' and 'reasonableness'.[1110] Tests of business efficacy and trade usages have also made their way into contract law based on a normative underpinning that contracts must pursue commercial viability and certainty.[1111] If an approach of judicial activism was taken by a court or tribunal, they could easily justify the concept of 'green damages' if environmental harm is foreseen as a result of one party contravening its obligations under a contract. English contract law *should* adopt a sustainability agenda as a 'legitimate interest' - the reasons for doing so are trite. Not only do states and financial institutions have a role in providing standards and accountability for the shipping sector, but contract law should more generally govern market transactions in a way that enhances the spirit and purport of SD and other widely accepted principles of international environmental law.

It has been previously argued in Chapter 4 that liberal theories of contract law are being eroded. Global constitutional developments have already seen various jurisdictions constitutionalise environmental protection, extend judicial capacity to deal with climate change matters, and interpret

[1108] Ibid paras 69 -71.
[1109] Which could in any event justify a liquidated damage amount without deliberation on the notion of primary and secondary obligations
[1110] See Consumer Rights Act 2015 and Unfair Contract Terms Act 1977.
[1111] See Chapter 4 on contractual norms and contractual customs (Section 4.1).

the private law against a backdrop of constitutional rights.[1112] These developments are having rapid consequences for private obligations, with torts litigation leading the way in promoting the horizontal application of environmental rights and imposing the climate change agenda on the private law.[1113] Possibly because of a 'first wave' of private climate change litigation having its roots in the USA, based on the law of nuisance, the USA has found ways to argue for causation of a number of pollution impacts based on advancements in attribution science. Against this backdrop, US construction law has noted the importance of green damages in the contractual management of projects. The Green Building Law & Justice Project within the USA has recommended a set of clauses for green contracts.[1114] The Tips for Drafting Green Clauses states that liquidated damages can include a forecast of any 'potential costs associated with a project's failure to meet an intended green goal (e.g., loss of tax credit or other funding source, consequences of noncompliance with a green building law, etc.)'. A proposed clause for Green Liquidated Damages in a construction contract appears as follows:

> *Contractor shall be liable for all damages, losses, costs and expenses (collectively, "Green Damages") incurred by Owner that arise out of or relate to failure of the Project to [obtain LEED Certification] [comply with the Green Programs] to the extent caused by or arising out of negligence in performance of the Work or failure to comply with the Contract Documents by the Contractor or any subcontractors. However, Contractor's liability for Green Damages shall in no case exceed _____[Insert amount of money owner may lose if requirements of Green Programs are not met]*[1115]

Provided that the amount stated is a proportionate amount, having some regard to an actual pre-estimate of the losses and the legitimate interest of the innocent party, then green liquidated damages could be enforced by English courts. Green liquidated damages are therefore a useful mechanism to incentivise buyers in ship recycling contracts to adhere to the sustainability purposes of the contract. Whilst the usual common law remedies would, at the most, allow for a 'loss of bargain'; proving loss in the ordinary way could pose significant hurdles for the seller where the buyer's breach has no measurable impact on the seller's financial position. Longer-term potential losses, such as reputational damages or exclusion from green financial schemes, would prove hard to quantify and can result in lengthy and long-term litigation.

Implementation of the doctrine of assurance, moral clauses, codes of conduct, and green damages are all novel concepts against the backdrop of English law. Although freedom of contract is a fundamental basis of all agreements, many of these tools are yet to be tested and certainly have not yet been utilised for promotion of environmental sustainability. However, if the ordinary internal rules of English contract law do not provide an adequate solution, then contract governance calls for a modernisation of the law to achieve the contemporary goals of society. Principles of international

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[1112] Geetanjali Ganguly, Joana Setzer, and Veerle Heyvaert, 'If at First you don't Succeed: Suing Corporations for Climate Change' (n 50).

[1113] Joana Setzer and Rebecca Byrnes, *Global trends in climate change litigation: 2019 snapshot* (2019 policy report, London: Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science).

[1114] Brooklyn Legal Services Corporation A, 'The Green Building Law & Justice Project: Tips on Drafting Green Contracts' (2013) http://www.bka.org/wp-content/uploads/2013/07/GBLJ-Tips-on-Drafting-Green-Contracts.pdf accessed 12 August 2021.

[1115] Mary Jane Augustine, 'Project Owner Strategies for "Greening" Design and Construction Contracts' in *The Green Real Estate Summit 2009: What Attorneys, Developers, Bankers and Lenders Need to Know*, 565 PLI/REAL 121 (2009).

environmental law should be reflected in private obligations, a distinction between the objectives of public and private law is no longer justified in the face of urgent mandates upon which the existence of humans and other species is contingent. Furthermore, private enforcement mechanisms have the benefit of being voluntarily accepted by contracting parties and disputes will fall within the remit of various tribunals without having to establish the jurisdiction of a particular member state to relevant Conventions.

5.4 Limiting Liability for Third Party Claims

The reasons for effective environmental risk management have been discussed in Chapter 3 of this thesis in some detail, noting that exposure to environmental litigation is a major factor in the effective risk management of a shipping firm. The risk of third-party claims is growing considerably with the strengthening awareness of the hazardous nature of the ship recycling industry. Perhaps the most remarkable aspect of the Norway's Government Pension Fund Global's decision to blacklist four shipping companies, is the evolving discussion surrounding the actual knowledge of former shipowners pertaining to the atrocious conditions in Asian shipbreaking yards and the degree of foreseeability of personal injuries or other harmful events occurring.[1116] The Council of Ethics found that the use of cash buyers is completely irrelevant in respect of holding shipowners morally accountable for the detrimental environmental and human rights implications associated with beaching. On this point, the Council said the following:

> '*When a company sells a ship to a cash buyer it is basically clear that the ship is sold for the sole purpose of being scrapped. And it is also clear to both parties that the agreed price depends mainly on two factors: the amount of steel in the vessel and costs related to scrapping. The cheapest shipbreaking method is beaching, and it thus gives the company the highest price for the ship'*.[1117]

This decision provided a strong moral argument that a duty of care towards the environment and workers should be forthcoming. It will undoubtedly provide impetus for the legal development of a duty of care in Torts. The legal test enunciated in *Caparo Industries v Dickman*[1118] to establish a novel duty of care would require that (a) damage must be reasonably foreseeable as a result of the defendant's conduct, (b) the parties must be in a relationship of proximity or neighbourhood, and (c) it must be fair, just and reasonable to impose liability on the defendant.[1119] Although this section is not concerned with tortious liability, it would be remiss to neglect the arguments pertaining to imposing a duty of care on the seller of a vessel for the personal injury of a scrapyard worker in light of the recent case of *Begum v Maran (UK) Ltd.*[1120] The High Court's dismissal of the defendant's application for summary judgment on the matter of a duty of care, indicated that there are real prospects of success for extending the law of negligence to shipowners and their agents for fatal accidents occurring in shipyards - despite transferring ownership and control of the vessel to

[1116] Henning Jessen, 'Safe and Environmentally Sound Ship recycling – Is there a case for Civil Liability Claims?' (n 901) 98.
[1117] [2020] EWHC 1846 (QB).
[1118] [1990] UKHL 2.
[1119] Lord Neuberger, 'Reflections on the ICLR Top Fifteen Cases: A Talk to Commemorate the ICLR's 150th Anniversary at 38' (6 October 2015) https://www.supremecourt.uk/docs/speech-151006.pdf accessed 6 October 2020.
[1120] [2021] 3 WLUK 162.

intermediaries that then sell the vessel to sub-standard shipbreaking yards.[1121] The Court of Appeal unanimously agreed with the High Court that the case can proceed to a trial of the substantive issues in the English courts against an English shipbroker, as the case presents triable issues of breach of a duty of care.[1122] The claimant put forth two arguments (routes) for establishing a duty of care owed to her late husband who was killed in a shipbreaking accident. The first route was based on the vessel being a 'dangerous product' and therefore the principles of *Donoghue v Stevenson* apply.[1123] However, the Court was in agreement with the opinion that the danger arose from the demolition process rather than the vessel itself.[1124] Nevertheless, the Court could not find such a line of argument to be 'so fanciful' as to strike it out and the question should proceed to trial.[1125] The second, and most plausible route for establishing a duty of care (in the Court's opinion), is that the owner/agent is liable on the basis that it is liable for the actions of third parties such as the shipyard and its management, on the basis that it created the source of danger; therefore falling within the exception of the rule that the law does not impose liability on a person for harm caused to another due the interventions of a third party.[1126] This second route was considered arguable and 'not fanciful' and 'may properly be described as an unusual extension of an existing category of cases where a duty has been found, but it would not be an entirely new basis of tortious liability'.[1127]

This case raises an important contractual consideration (not dealt with directly in the *Begum* judgment). It begs the question of what types of contractual clauses could sufficiently express a level of due diligence in shipbreaking agreements – clauses which would satisfy a court or tribunal that the shipowner/agent has acceded ownership and control of the vessel and has taken sufficient steps to ensure that the vessel will be sold on to a reputable yard, thus effectively exempting themselves from further liability. This question becomes crucial given the fact that the MoA in *Begum* under which the vessel was sold, included that the demolition buyer (i.e. cash buyer) would only sell the vessel to a 'ship breaker's yard that is competent and will perform the demolition and recycling of the vessel in an environmentally sound manner and in accordance with good health and safety working practices'.[1128] Lord Justice Coulson, however, was of the view that this clause was insufficient and further steps could have been taken by the defendant to ensure that the vessel was delivered to a reputable yard. He commented that, on the evidence, clauses such as this one are likely to be ignored and that is the 'unhappy reality of the shipbreaking business: everyone turns a blind eye to what they know will actually happen'.[1129] He went so far as to propose that in negotiating the MoA, the shipowner's agent could have sought to link the inter-party payments to the delivery of the vessel to an approved (safer) ship yard.[1130] This is one precaution that a seller could take, yet still raises the question of indemnity. Indemnity clauses, indemnifying the seller from any irresponsible behaviour

[1121] The claimant's husband in this matter was killed whilst working at a Bangladeshi shipyard on a defunct oil tanker. She subsequently brought proceedings against the UK Company which was legally responsible for the tanker and its arrival in Bangladesh, however, the UK company had made use of a cash buyer and applied to have the case dismissed.
[1122] *Begum v Maran* (n 1120) para 140.
[1123] Ibid paras 38 – 50.
[1124] Ibid para 43.
[1125] Ibid para 50.
[1126] Ibid para 51; this rule was established in *Smith v Littlewoods Organisation Ltd* [1987] AC 241, 270.
[1127] Ibid para 65.
[1128] Ibid para 26.
[1129] Ibid 69.
[1130] Ibid 68.

on the part of the buyer, will become necessary if the Law of Torts is to impose civil liability on shipowners in such a way when *Begum v Maran* goes to trial.

5.4.1 Limiting and Excluding Liability: Release of Seller's Liability and Indemnity

Under the Liability Conventions for oil pollution and hazardous waste, it is important to note that these Conventions impose liability on the registered owner of the ship.[1131] Therefore a first fundamental step for a seller is to ensure transfer of title. Title in ship in transferred by delivery of the Bill of Sale from seller to buyer. The Bill of Sale is determined by the laws of the flag state in which the buyer intends to register the ship.[1132] Clause 6 (a) of the RECYCELCON deals specifically with transfer of title and risk, whilst other standard forms also include an equivalent provision.[1133]

However, if the *Begum v Maran* expansion of a duty of care extends to predecessors in title of the vessel where they have 'created the danger', transfer of risk and title will create little in the way of adequate protection for liabilities arising out of torts. In this regard, no contractual limitations nor exclusion of liability clauses to protect the seller have been considered in standard forms for the obvious reason that liability has not been extended in such a way before. Once a ship has been delivered to the buyer, it is generally considered that any risks concerning hull and machinery, war risks, and third-party liabilities are passed to the buyer immediately upon delivery.[1134] The buyer is therefore required to immediately (as confirmed by the Protocol of Delivery and Acceptance) to insure the vessel against such risks. Financiers will usually have an interest in determining that the amount of cover is sufficient to cover outstanding debt. Therefore, the RECYCLECON, and other standard sale agreements forms do not purport to limit the seller's liability arising from the post-delivery actions of the buyer.

Sale Agreements for second-hand vessels thus require additional clauses to deal with the possibility of any third-party claims accruing to the Seller even after the delivery of the vessel. In this regard, Sale of Land agreements have more experience. This is because the escape of contamination and pollution from land can be an ongoing concern, for which there are direct causal links to previous successors in title. In this regard, the environmental provisions in Sale of Land Agreements consider the following clauses:

[1131] 1996 HNS Convention, art 1(3) states that if there is no registration then persons owning the vessel qualify as owners. For state-owned ships registered by a company, the company is the owner. A person includes individuals as well as legal persons at corporate levels as well as states (art 1(2)). The Merchant Shipping Act 1995 art III(1) s 153 makes reference to the 'owner', which is defined as the 'registered owner' under s 170(1). The amendment by the Merchant Shipping (Oil Pollution) (Bunkers Convention Regulations) 2006, SI 2006 No 1244, replaces the word 'owner' with the term 'registered owner' and also amends s 170(1) to point to the new s 153A(7) which states '[I]n this Chapter (except in s 170(1)) 'owner' except when used in the term 'registered owner', means the registered owner, bareboat charterer, manager and operator of the ship'.

[1132] Certain local requirements of the *lex situs* of the ship may also apply. Execution of the Bill of Sale may also include that the document is notarised and legalised or apostilled where necessary.

[1133] See Norwegian Sales Form 1993 (NSF 1993); Norwegian Sales Form 2012 (NSF 2012); Singapore Ship Sale Form 2011 (SSF2011), and Nipponsale 1999; where English law applies the Sale of Goods Act 1979 (as amended) will apply to the sale and purchase of ships unless it is validly excluded or varied.

[1134] See Section 20 of the Sale of Goods Act: 'Unless otherwise agreed, the goods remain at the seller's risk until the property in them is transferred to the buyer, but when the property in them is transferred to the buyer the goods are at the buyer's risk whether delivery has been made or not'.

'**Release of Seller's liability**

The Buyer for itself and its successors in title agrees with the Seller that it shall not seek to recover or claim from the [Seller OR any member of the Seller's Group] any Environmental Losses and the Buyer hereby discharges and releases the [Seller OR any member of the Seller's Group] from and against any liability in respect of any Contamination at, in, on, under or about the Property.

Indemnity covenant

The Buyer for itself and its successors in title to the Property and each and every part thereof covenant to pay to the Seller an amount equal to any Environmental Losses suffered or incurred by the [Seller OR any member of the Seller's Group].'[1135]

This is usually supplemented by a further 'Agreement on liabilities' clause which provides that should any regulatory authority or third-party institute action against the buyer/seller, then the regulatory authority or court should allocate the costs of remediation or other environmental in accordance with the sale agreement. These clauses could be adjusted to fit the Sale Agreement of a vessel.

Whether a seller can exclude liability for negligence in such a way may differ jurisdictionally. In English law, the Unfair Contract Terms Act 1977 (UCTA) applies to liability arising in the course of a business and it regulates terms that seek to exclude liability for negligence or breach of contract. The basic requirement for such terms is the reasonableness, having regard to the surrounding circumstances of when the contract was made or when the liability arose.[1136] In assessing whether the requirement has been satisfied, the court may have regard to a number of factors, including: the relative bargaining powers of the parties; whether the provision was brought to the attention of the other party; whether the other party had a reasonable opportunity of obtaining advice, or entering into a similar contract with other persons and without the provision; the trade history between the parties or customs of that trade; and specifications and practicable nature of relevant conditions.[1137] However, in respect of personal injury and death, it is not possible to exclude liability for death or personal injury resulting from negligence 'by reference to any contract term or to a notice given to persons generally'.[1138] It must be noted, however, that Section 26 of the UCTA places 'international supply contracts' outside the scope of the Act, in many circumstances, sale and purchase contracts (including for the purposes of recycling) for second-hand ships will therefore fall outside the Act.[1139]

Limiting liability is also of particular importance because the seller potentially no longer has an 'insurable interest' in the vessel. This becomes particularly important for seeking ways to indemnify an insured seller for the loss he has incurred from an insured risk. The Marine Insurance Act 1906 (MIA 1906) defines marine insurance as a contract 'whereby the insurer undertakes to indemnify the assured, in manner and to the extent thereby agreed, against marine losses, that is to say, the losses

[1135] Sample clauses provided on Lexis PSL, 'Sale contract—environmental provisions'
[1136] Section 3 of UCTA.
[1137] Section 11 of UCTA read with Schedule 2.
[1138] Section 2(1) of the UCTA.
[1139] *Trident Turboprop (Dublin) Ltd v First Flight Couriers Ltd* [2009] EWCA Civ 290.

incident to marine adventure'.[1140] According to Section 3 of the MIA, 'every lawful marine adventure may be the subject of a contract of marine insurance'. This can include any liability to a third party that 'may be incurred by the owner of, or other person interested in or responsible for, insurable property, by reason of maritime perils'.[1141] Section 5(1) defines persons having an 'insurable interest in a marine adventure' as:

1) 'a person is interested in a marine adventure where he stands in any legal or equitable relation to the adventure or to any insurable property at risk therein' (first limb); and
2) 'in consequence of which he may benefit by the safety or due arrival of insurable property or may be prejudiced by its loss…' (second limb).

The first limb of the test requires a 'legal or equitable' relation. Although such an interest is not restricted to proprietary rights, mere moral obligations or economic relations are not insurable interests.[1142] Although the scope of contractual relations which may suffice as an insurable interest was cast widely in *The Moonacre*,[1143] the House of Lords has preferred a narrow interpretation and has refused to extend the concept to include expected profits and advantages stemming from the object insured.[1144] Having a moral and reputation-based interest in the performance of a sale contract, after the contract is concluded, has not yet been tested as such. In any event, it seems very unlikely that insurers will provide separate last voyage insurance or P&I cover for ships sailing to a recycling facility that does not have a Statement of Compliance with either the HK Convention or EUSRR.

These considerations make it ever more important for sellers to limit their liability and to exercise due diligence when selecting a cash buyer. If the selling of a vessel to a cash buyer for demolition and recycling purposes remains the most viable option for small to medium (and arguably even bigger and well-resourced) shipping firms, then the seller needs adequate contractual protection in protecting its own interests in the environmentally sound management of the buyer's activities.

5.4.2 Knock-for-knock indemnities

Another alternative for clarifying liability would be a 'knock-for-knock' indemnity to apportion liability for environmental harm and personal injury. These indemnities can serve to replace a fault-based liability regime which would apply by operation of law. These are common risk allocation mechanisms in the offshore oil, gas and windfarm energy sectors.[1145] The ship recycling context can certainly learn from these sectors, where similar factors such manual labour, infrastructure, environmental pollution, hydrocarbons and sea conditions create significant risks.[1146] Knock-for-knock contractual provisions usually introduce a regime whereby each party accepts liability for losses to its own property or losses suffered by its own employees and indemnifies the other party in respect of liability arising those

[1140] Section 1 of the MIA.
[1141] Section 3(2)(c).
[1142] *Lucena v Craufurd* (1806) 127 ER 630, (1808) 127 ER 858.
[1143] *Sharp v Sphere Drake Insurance Co (The Moonacre)* (1992) 2 Lloyd's Rep 501.
[1144] *Macaura v Northern Assurance Co Ltd* [1925] AC 619 (HL) 632 (Sumner LJ); *Lucena v Craufurd* (1806) (n 208).
[1145] See BIMCO, 'SUPPLYTIME 2017' (2017) https://www.bimco.org/contracts-and-clauses/bimco-contracts/supplytime-2017# accessed 22 February 2021. Knock-for-knock clauses have also been incorporated into other standard charterparties, such as Towcon 2008 (clause 25) and Towhire 2008 (clause 23).
[1146] *Caledonia North Sea Ltd v British Telecommunications plc* [2002] UKHL 4, Lord Bingham at paras 7–9 and Lord Hoffmann at paras 81 and 82.

losses.[1147] These can extend beyond the contracting parties themselves to subcontractors or affiliates. They have the benefit of applying irrespective of the cause of the loss and irrespective of a party's breach of duty or negligence. Therefore, a seller in a recycling sale agreement would be indemnified against any of the losses which a torts duty of care may extend to it, if the *Begum v Maran* argument succeeds.

In English law, there is a presumption that a party does not intend to abandon its common law rights, therefore clear and unambiguous wording is required to rebut such a presumption.[1148] Clear drafting, as is expected of exclusion clauses, is key as '[t]he more valuable the right, the clearer the language will need to be'.[1149] If liability for negligence is to be excluded, then 'negligence' should be expressly stated in knock-for-knock clause in each aspect to which it applies.[1150] If negligence is referred to in one part of the clause, but is not referred to in another part then 'the disparity must be taken as intentional'.[1151] Furthermore, an exclusion clause or knock-for-knock provision may not deprive the contract of any meaningful obligations and cannot reduce the contract to a mere declaration of intent – if so, the Court may reduce the scope of the clause accordingly.[1152] Although, an application of such principle will be a 'last resort' and will likely only apply 'in cases where the effect of the clause is to relieve one party from all liability for breach of any of the obligations which he has purported to undertake'.[1153] Therefore, whether a knock-for-knock clause has any effect will depend on its wording.

A modern approach to contractual construction applies, in that there is a particular importance placed on the express wording of the contract.[1154] Where the parties enjoy equal bargaining power the contract has been 'negotiated and prepared with the assistance of skilled professionals', (usually the case in the offshore sector), the express wording will have more importance than context in most cases.[1155] The *ejusdem generis* rule therefore operates where the parties have made use of a list. If a knock-for-knock clause provides a number of categories of events or injuries for which liability is excluded and then states that 'and or any other loss', the scope of the catch all phrase may have no effect and the clause shall be limited to the types of loss listed. The *contra preferentem* rule - whereby a term will be construed against the party that put it forward in cases of true ambiguity – was considered in the context of knock-for-knock provisions in *Transocean Drilling UK Ltd v Providence Resources Plc.*[1156] The Court of Appeal said it would not apply the rule where there is no ambiguity and where the disputed clause 'favours both parties equally, especially where they are of equal bargaining power'.[1157]

A seller in a ship recycling therefore needs to draft its clause prudently and may want to exclude any liability for the buyer's gross negligence or wilful misconduct. This will avoid any fault-based liability regime which causally connects the seller to losses caused by the buyer or interventions by third

[1147] These originated in the motor vehicle industry where it became impractical to negotiate small road traffic claim accidents between insurers.
[1148] *Gilbert-Ash (Northern) Ltd v Modern Engineering* [1974] AC 689 at 717.
[1149] *Stocznia Gdynia SA v Gearbulk Holdings Ltd* [2009] EWCA Civ 75.
[1150] *Canada Steamship Lines v The King* [1952] AC 192 (on appeal from the Supreme Court of Canada).
[1151] *Colour Quest Ltd v Total Downstream UK plc* [2009] All ER (D) 152 (Apr).
[1152] *Suisse Atlantique Société d'Armement Maritime SA v NV Rotterdamsche Kolen Centrale* [1967] 1 AC 361.
[1153] *Transocean Drilling UK Ltd v Providence Resources plc* [2016] EWCA Civ 372 at 27.
[1154] *Arnold v Britton* [2015] UKSC 36, at [15] to [23].
[1155] *Wood v Capita Insurance Services Limited* [2017] UKSC 24, at 13.
[1156] [2016] EWCA Civ 372.
[1157] Ibid at 20.

parties. The term 'gross negligence' is not considered different from ordinary negligence in English law, therefore the contents of 'gross negligence' will have to be negotiated and defined clearly if it is to provide the intended clarity of a knock-for-knock provision.[1158] 'Gross negligence' in ship recycling can therefore include the cash buyer's negligence in selecting a facility, pollution and contamination of coastal zones, sea pollution, the release of noxious gases, injury to facility workers or other third parties, the facility's selection of disposal and recycling methods, etc – all would need to be carefully considered, defined, and included based on a comprehensive knowledge of the types of accidents which may occur. Shipping associations would be best placed to draft such knock-for-knock provisions as inclusions in standardised forms as they have the resources to employ the technical expertise required to predict and analyse the risks involved. On the other hand 'wilful misconduct' has been given effect by English courts and can generally be defined as arising when a person deliberately or recklessly carries out a wrongful act or omission, with knowledge that such an act or omission will cause harm or they are reckless as to whether the harm will occur. [1159] However, defining 'wilful misconduct' will provide clarity in terms of the threshold for such conduct and the types of misconduct. The more specific the knock-for-knock clause, the better its effectiveness.

Each party may also indemnify the other for its own consequential losses. These can be undefined or comprehensively listed. Where ambiguity arises, these losses will be construed in the context of the entire liability regime and may include both types of losses in *Hadley v Baxendale*: 1) those damages 'fairly and reasonably be considered as either arising naturally, i.e. from the usual course of things, from the breach of contract itself, or (b) such as may reasonably be supposed to have been in contemplation of both parties, at the time they made the contract, as the probable result of breach of it'.[1160] Parties may also want to consider 'spread costs', as those 'costs of personnel, equipment and services contracted from third parties which were wasted as a result of the delay', as was defined in *Transocean Drilling UK Ltd v Providence Resources plc*.[1161] In the recycling context, this may protect a seller if delivery of the vessel to the buyer is late. However, certain questions are also raised in respect of how the parties intend to limit their liability. For example, is an indemnified party indemnified in respect of 100% of losses; is there any duty to mitigate losses in respect of the indemnity coverage; does remoteness apply in that 'unforeseeable' losses are not covered. All of these considerations should be explored by those drafting the contract for a specific context, in light of prevailing public law standards and the application of civil liability for third party claims.

It must also be borne in mind that casting the exclusion net too wide may render the contract a mere statement of intent. In the case of *Kudos Catering (UK) v Manchester Central Convention Complex*[1162] it was held that a clause labelled 'Indemnity and Insurance' which intended to exclude all liability 'whatsoever in contract, tort (including negligence) or otherwise for any loss of goodwill, business, revenue or profits . . .',[1163] could not exclude loss of profits where the indemnified party repudiated the contract. The Court of Appeal noted that if such a clause did exclude all liability for loss of profit, it would deprive a party any sanction for breach of contract by the other party and would therefore render the contract an unenforceable statement of intent. If it was in fact the intention of the parties

[1158] *Camerata Property v Credit Suisse Securities (Europe) Ltd* [2011] EWHC 479 (Comm) paras [161]–[162].
[1159] *Lewis v Great Western Railway Co* (1877) 3 QBD 195: "Wilful misconduct" means some conduct not necessarily amounting to a criminal act or a trespass, yet other than mere negligence.
[1160] [1843-60] All ER Rep 461.
[1161] [2016] EWCA Civ 372 at [10].
[1162] [2013] EWCA Civ 38.
[1163] Ibid 8.

to exclude liability for loss of profit in the event of refusal to perform the contract, then it should be set out unambiguously in a stand-alone clause.[1164]

This is helpful for a seller wishing to seek to recover certain losses where a buyer fails to perform its duties under a recycling sale agreement. If the buyer repudiates a contract for safe and sound recycling of the vessel, it would not be able to rely on its knock-for-knock indemnity for losses incurred by the seller if it breaches the contract. This would create the absurdity that the contract cannot contain any obligations, but would merely amount to a statement of intent. Furthermore, a prudent seller would not agree to an express stand-alone clause which attempts to exclude liability in the event of non-performance. In a recycling sale agreement, performance of the contract is of utmost importance. There may be an urgency with which an older vessel needs to be scrapped because of the risks it poses to the surrounding environment.

As argued in previous sections, any contractual provision aimed at apportioning liability to the buyer needs to be construed within its normative framework. Knock-for-knock provisions in this context have a dual purpose: commercial clarity *and* environmental sustainability. A seller should therefore not rely on a knock-for-knock liability regime to escape regulatory standards or by 'wiping its hands clean' of all losses where a buyer is negligent through its acts or omissions or shows wilful misconduct. In this regard, the public law standard of 'intent' could see criminal sanctions and administrative penalties being imposed on a seller as a clear intent to scrap the vessel has already been formed. A knock-for-knock liability regime therefore also needs to be founded on due diligence checks by the seller in selecting a cash buyer.

5.5 Conclusion

This Chapter has argued that the problems of implementation and enforcement stemming from the public law framework on the recycling of EOL vessels, require that private law remedies be developed and conceptualised against the backdrop of SD. This necessitates an awareness of the immense dangers arising from shipbreaking practices in India, Pakistan and Bangladesh and the dire need to pressurise shipbreaking facilities to carry out this economic activity safely. The stakes are increasingly higher for shipowners who are found to circumvent international laws on ship dismantling and recycling. It is important that a shipowner is able to impose a strict set of contractual controls over a subsequent owner of the vessel who is charged with its disposal. Affording the shipowner protection and extensive means of controlling the buyer's behaviour is a necessary aspect of incentivising the shipowner to engage in safe and environmentally sound dismantling and recycling practices. This Chapter has analysed ways to enhance the environmental purport of ship recycling agreements to give a wider range of common law remedies, namely those flowing from a material breach. It has also acknowledged the limits of existing remedies, especially given the limited scope of applying such remedies in situations governed by standardised forms such as the RECYCLECON.

This Chapter has also explored whether non-traditional contractual mechanisms (those not widely accepted by English law) could serve the purposes of the seller in aligning itself with environmental sustainability. One of the solutions to the dilemma associated with anticipatory breach, would be an assurance clause or a moral clause to allow for the remedies of breach to be triggered prior to any damage caused by the vessel under the buyer's control. In a similar vein, liquidated damages are

[1164] Ibid para 29.

explored as a deterrent for the rogue buyer. ‘Green damages’ can be implemented in a way to avoid the penalty trap and can be useful for private environmental enforcement.

Finally, civil liability from third party claims has been discussed due to the door left open by *Begum v Maran*. This chapter has considered the contractual options for limiting such liability in the event that sellers may be held liable for the unsound practices of the buyer resulting in third party claims. Further research, beyond the scope of this chapter could explore the full range of arguments for extending a duty of care to the seller in such a way. Policy reasons - including an expanding environmental mandate, the concept of SD, and the promotion of human rights for workers in developing nations – may see this duty of care pass the *Caparo* test, whilst foreseeability and proximity can be proven based the facts of each particular matter. In the same way that the company directors in *Seatrade* could be proven to have formed an ‘intention’ to dispose of the vessel under the EU Waste Regulation and Basel regimes, evidence of purchase price, email correspondence, knowledge of the industry, and trading history can also evidence foreseeability in imposing civil liability.

6. CONCLUSIONS AND FURTHER AVENUES OF RESEARCH

This thesis set out to answer the question: *How contractual mechanisms in private agreements between shipping actors should be developed to facilitate and increase incentivisation of the green shipping transition?* However, this thesis has not presented a rolling investigation of this question without context. It has inserted this question into specific ***transactional relationships*** which characterise commercial shipping. This is in line with the overarching theoretical framework of this study, which is one of **contract governance**. A contract governance approach to contract theory comprises of a comprehensive and holistic approach to a diverse range of issues which impact on contract law.[1165] This theoretical framework was appropriate in recognising that contract law does not exist in a vacuum, but interacts and intersects with *normative* objectives and can achieve a number of governance goals – here the divide between public and private law is viewed as artificial.[1166] This emphasis on market transactions also goes beyond views of private authority or private regulation, as it permits a broader enquiry into *how to* **implement** and **enhance** the effectiveness of voluntary efforts.[1167] A contract governance approach allowed for the insertion of the research question into the following transactional contexts: loan agreements in ship finance; voyage and time charters; and ship recycling sale agreements. As each Chapter presented its own type of transaction and drew its own conclusions, it is not necessary to repeat the findings. Therefore, the main focus of this final Chapter is to answer the extent to which the research question has been answered more generally and to point to avenues of further research and the themes alluded to, but not within the scope of this particular study. Finally, the impact that this research has for a *future outlook* and *policy development* is discussed.

6.1 Extent to Which Research Question Has Been Answered

As stated above, this thesis has placed the research question in three different transactional contexts: ship finance (i.e. traditional bank debt-financing); carriage of goods (i.e. voyage and time charter parties); and sale agreements for EOL vessels (i.e. recycling contracts). The 'greening' of these pivotal relationships between actors has vast impact on whether environmental sustainability can be achieved as they characterise the fundamental activities in a vessel's lifespan. In relation to ship finance, the loan agreement was viewed as a contract between a bank and a shipowner. For the carriage of goods, the shipowner contracts with a charterer. Finally, recycling agreements take place between shipowner and cash buyer or intermediary.

In respect of loan agreements (Chapter 3), contractual mechanisms *should* be used to integrate green finance frameworks into the contractual documents used by the bank. Sections 3.1 and 3.2 of Chapter 3 have sought to highlight the problems with contractual integration where public law and voluntary frameworks are inconsistent or lacking in granularity in respect of shipping activities. As a preliminary inquiry, not necessarily directed to the research question at hand, was the concept of 'green finance' and the importance of financial frameworks for obtaining desired environmental behaviour. Although this point of departure does not speak to contractual mechanisms specifically, it was important to highlight that ambiguous frameworks and imprecise definitions make for bad contractual clauses. It

[1165] Grundmann and others, 'Contract Governance: Dimensions in Law and Interdisciplinary Research' (n 151).
[1166] Ibid.
[1167] For private environmental governance, see Michael P Vandenbergh, 'Private Environmental Governance' (n 159); Martin Herberg, 'Private authority, global governance, and the law' (n 157).

was also important to identify frameworks as a key policy or regulatory tool for mobilising funds for green shipping. Although not a contract law solution, these frameworks are key to the contractualisation of environmentalism in banking. Pro-forma contract clauses, template clauses and standard covenants have been provided by certain frameworks, but they often implement a bare minimum approach to compliance.[1168] Chapter 3 therefore sought to illustrate how green frameworks can be given more teeth. Here, the research question was perhaps answered in the abstract with a focus on 'how can' contractual mechanisms achieve the integration of green frameworks as opposed to 'how should'. A strong value-laden argument could be put forward for the 'how *should*' – environmental interests would opine that the strictest level of contractual controls should govern the environmental behaviour of borrowers.

It was also important to provide a rationale as to *why* banks and other financial actors should adopt these frameworks. The incentive for banks to take up matters of environmental sustainability cannot be neglected and was addressed in some detail with more than mere reference to a moral obligation to protect the marine environment. For the bank, these incentives stem from effective risk management, access to a modern client base, and stable returns. For the shipowner, the incentive is access to capital. Chapter 3 has argued that these incentives can have greater power through air-tight contractual implementation and available remedies that will avoid greenwashing and benefit the reputation and profitability of actors. Here, contract law can *incentivise* green behaviour by ensuring that actor conduct is actually 'green' and consistent with the purport of a sustainability mandate – whatever the adopted framework may be. A purist approach to legal doctrine could not achieve the formulation of the sociological argument put forth by this Chapter. To justify the uptake of green frameworks, the inherent principles of contract law would be largely insufficient as they merely provide the tools for effectively implementing such frameworks. Here, a number of "data" sources pertaining to banking and finance was called upon to support a holistic SD argument that green banking equates to both moral and financially lucrative banking.

In addressing time and voyage charters, a stronger answer is presented to how *should* contractual mechanisms facilitate and incentivise a set of green objectives. Here, a normative framework for the implication of green terms, trade usages or customs is argued for. Certain contractual clauses should 'go without saying' to ensure that actors cannot act irresponsibly towards the marine environment. Sections 4.1 and 4.2 of Chapter 4 answer the research question to the extent that actors *can* and *are presently* incorporating environmental standards into charter parties. These sections have aimed to elucidate why contract law *should* adopt a basis for the implication of terms and interpretive guidance as far as 'green' conduct is concerned. This is also supported by a value-laden argument, as continued from Chapter 3, but implores comparative discussions of rights-based arguments in various jurisdictions and other commercial law areas (e.g. supply chain management) that are integrating green norms into agreements by way of reference to ethical codes or express terms for environmental protection. Section 4.3. called for the modernisation of contract law in this regard, particularly in respect of chartering arrangements, to provide a normative framework, to be used as the baseline for express obligations. If both parties have an understanding of environmental sustainability as a ***pervasive foundation*** of their agreement, then the negotiation of energy efficiency represents a convergence of intentions including environmental protection. Parties can therefore overcome issues of split incentives and performance warranties.

[1168] As seen with the Poseidon Principles standard covenant clause.

Chapter 5 has addressed the research question by seeking out the maximum available level of control and ***remedy*** afforded to sellers (i.e. shipowners) in sale agreements for the recycling of a vessel. This has essentially been an exercise of 'how can' contractual mechanisms *protect* the seller and increase the *incentive value* of potential reputational gains whilst avoiding emerging avenues for personal injury and environmental claims. In answering 'how can', this Chapter employed a doctrinal analysis of available English law mechanisms to acknowledge the limits of English contract law in affording adequate remedy, especially in view of anticipatory breach and non-financial losses. It has also focused on the RECYCLECON by way of example, to illustrate the limits of this standard form, but also to commend its elevation of environmental sustainability as a fundamental intention upon which the agreement is based and therefore elevating the environmental commitment to a 'condition' with remedies for fundamental breach. Here, Chapter 5 has called for creativity in construing new types of mechanisms such as green damages, assurance clauses, and possible indemnity provisions to protect the seller's environmental and related interests. Here, contract law *should* consider innovative mechanisms that test the bounds of a traditional understanding of English contract law. A justification for this is found in the aforementioned Chapter 4, which argues for an overarching pervasive green norm or norms related to the achievement of environmental sustainability.

6.2 Summary of Pervasive Findings

The private agreements underpinning commercial shipping require a ***normative framework*** for environmental sustainability in the sector. Where the IMO has failed to set clear targets or has not expeditiously aligned the sector with the Paris Climate Change Agreement, other actors (state and non-state) can implement frameworks consisting of green commitments.[1169] Although a common language for green shipping is desirable, various framework efforts are nevertheless helpful in laying the groundwork for the pervasiveness of SD (traditionally considered an exclusively public law principle) as a directional norm in the private law. [1170]

Green contractual terms are essential for reaching a desired outcome in respect of environmental behaviour. The contractualisation of environmental principles into commercial agreements requires deep integration of green terms throughout a transaction. *Express terms* provide commercial certainty, allocate obligations, and achieve desired levels of enforcement to effectively reap the benefits of green financial incentives.[1171] Where express terms are ambiguous or lacking, an underpinning normative framework serves as an interpretive guide as to the green intentions of the parties. *Implied terms* for environmental sustainability, as well as trade usages or customs, should form part of the civil liability regimes governing shipping contracts.[1172] Although contract law requires greater intersection with sustainability principles more generally, the transactions that characterise

[1169] Chapter 2 has discussed the role of the IMO, its constraints, and the misconception that it can provide a 'one-stop-shop' for environmental matters in the sector. The IMO has in fact taken on environmental functions in a piecemeal fashion and must consider the interests of a number of stakeholders; something which environmental interests may find frustrating.

[1170] Chapter 3 has focused on the trickle-down effects of green finance frameworks and their role in greening other private transactions in the sector.

[1171] Chapter 3 deals with the integration of green clauses into finance agreements; whilst Chapter 4 speaks to the implication of green frameworks into chartering agreements.

[1172] See Chapter 4.

shipping should also introduce their own set terms *implied by law* with a stronger recognition of 'types' or 'categories' of contracts that can tailor the meaning of sustainability to a particular context.[1173]

The English principles of contract law which are dominant throughout shipping transactions require ***modernisation*** and creativity to implement a SD mandate in shipping. Although not entirely unique to English contract law, a libertarian view as the law of private obligations existing on a separate plane to principles of public environmental law can no longer prevail.[1174] Present standardised forms for shipping transactions perpetuate the status quo by viewing environmental concerns purely from the perspective of allocating the responsibility for regulatory compliance. Environmental sustainability needs to be elevated to a legitimate intention which may push the boundaries of the types of contractual mechanisms and remedies traditionally available to parties.[1175]

These suggestions may seem unrealistic given the profit-driven nature of shipping firms, investors, charterers and other related actors along the value chain. However, environmental risk management, bottom-up pressures exerted by consumers, and the more stringent regulation of the financial markets to include environmental reporting and disclosure, means that all forms of vessel-source pollution are on a fast track to becoming risky and costly activities.[1176] As a legal thesis, it goes without saying that the research question posed has a particular legal lens. This thesis has therefore only briefly considered why banks with shipping portfolios would want to implement environmental sustainability standards from an economic and market perspective, thus prompting other actors down the value chain to adhere to the same frameworks. The larger "why" has been taken for granted from an overarching international law regime which has recognised the legitimacy of environmental principles such as SD, the polluter pays, the precautionary principle, and sovereignty and responsibility.[1177]

6.3 Gaps in Existing Research and Avenues for Further Enquiry

The topic of green shipping has not been addressed in this thesis from a public law regulatory perspective. Chapter 2 provides an historical overview of IMO collaboration with various stakeholders in respect of environmental regulation. It does ***not*** engage in arguments of effective standard setting on various regulatory scales or whether criticisms of the IMO in 'stalling' to implement more stringent measures hold merit.[1178] In light of the EU's proposed amendments to the EU ETS to include shipping emissions following a phased approach from 2023 until 2026;[1179] there are various discourses

[1173] Chapter 4 discusses how the civilian law approach is stronger than the common law at placing agreements in 'within a context of certain (default) rules applicable to the pertinent "type" of transaction'; see Helge Dedek, 'Art 6:102: Implied Terms' (n 851).
[1174] Chapter 4 and 5 discuss how new mechanisms and norms should be established in chartering and recycling agreements respectively.
[1175] Chapter 5 introduces potential solutions not recognised by English law, e.g. the doctrine of assurance and green damages.
[1176] See Chapter 3 (Section 3.2) more specifically as to the "why" banks would want to partake in environmental sustainability.
[1177] See Section 1.2. of Chapter 1.
[1178] See Jane Lister, René Taudal Poulsen & Stefano Ponte, 'Orchestrating Transnational Environmental Governance in Maritime Shipping' (n 3).
[1179] The Commission proposes to phase in the requirement to purchase and surrender allowances over a four-year period, so that shipping companies must purchase allowances as follows: (a) 20 % of verified emissions reported for 2023; (b) 45 % of verified emissions reported for 2024; (c) 70 % of verified emissions reported for 2025; (d) 100 % of verified emissions reported for 2026 and each year thereafter. See COM(2021) 551 final (n 397) 42 (new Article 3(ga)).

pertaining to whether such unilateral actions and a patchwork of voluntary efforts are eroding from uniformity and the effectiveness of the global regime. The efficacy of market-based measures and their legal implication has also been left out of this inquiry as, although they potentially afford financial incentives, they are effectively state-implemented and will require similar consideration by private actors as any other form of public law making. A brief review of some of the ongoing scholarly work regarding the role of private actors in IMO law-making is also considered in Chapters 1 and 2, but not necessarily expanded upon in full detail. This is because the purpose of Chapter 2 on the IMO is limited to a contextualisation and an understanding of the SD mandate in the context of shipping. This thesis has instead focused on the ***private law*** and a ***market transaction*** viewpoint of the activities that comprise commercial shipping. In addition to this particular focus, there is still much to be investigated that will require a myriad of methods in considering legal tools for environmental sustainability in shipping, whilst policy and technological solutions provide lines of inquiry for other disciplines.

6.3.1 Green Finance

Chapter 3 on green finance for shipping has justified its focus on traditional bank debt-financing as it remains a dominant source of ship finance and retains a significant share of the market.[1180] However, the popularity of other forms of vessel financing is growing, with more owners relying on the capital markets for equity, bond finance, mezzanine financing, and leasing companies.[1181] The proliferation of finance sources, including various ways to secure a mortgage (against the ship, the company, shipyard credit, etc), reveals the enormity of the task of integrating green financial frameworks into such a vast array of contractual arrangements. The EU's Draft Delegated Acts to supplement the EU Taxonomy Regulation,[1182] the first of which includes maritime transport, will undoubtedly require commentary and investigation as to how to translate the requirements into a pro forma set of contractual clauses, much in the way the EIB has provided contractual guidance for its EIB green shipping programmes. The banking sector has a mammoth task ahead in construing suitable contractual clauses for a number of their product offerings in order to prevent the 'greenwashing' of assets and projects through limited or ineffective implementation and enforcement. Enforcing green standards and applying green frameworks to the capital markets also comes with its own set of problems due to the small size of some shipping companies, which excludes them from public equity finance. The actual 'greenness' of technology selection can also significantly hamper the legitimacy of certain green finance frameworks without adequate research and development into net environmental impacts.

'Green Finance' more generally, affords a powerful tool for mobilising and channelling funds towards environmental sustainability. However, policy diversification, unquantified risks, a lack of reliable data on the green performance of projects, and the interplay with varying reporting and disclosure requirements, is severely hampering the implementation of intended outcomes.[1183] Green finance as a multi-disciplinary theme is only in its nascent stages of academic consideration. This thesis predicts

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[1180] Fotis Giannakoulis, 'Overview of ship finance' (n 529).

[1181] See Petrofin Global Index of top 40 International Shipfinance banks (n 528).

[1182] European Commission Consultation, Draft Delegated Regulation Supplementing the Taxonomy Regulation https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12302-Climate-change-mitigation-and-adaptation-taxonomy#ISC_WORKFLOW accessed 15 September 2021.

[1183] Klaithem Al-Sheryani and Haitham Nobanee, 'Green Finance: A Mini-Review' (February 15, 2020) SSRN Electronic Journal, https://ssrn.com/abstract=3538696 accessed 15 September 2021: 'Additionally, research and modeling are not considered as integral in the planning and implementation of green projects. As a result, traditional and incompatible models are still deployed in the financial management of green projects leading to unintended consequences. Some of these consequences include misplaced priorities, inadequate risk assessment, and inappropriate allocation and utilization of land as the primary resource'.

that sustainability issues will garner increasing momentum in the regulation of the financial markets and will underpin the ethics of investment and business practices, particularly in light of the Covid-19 pandemic and the stability of the green bond market in 2020. Commercial lawyers will become increasingly concerned with the integration of environmental factors into agreements governing financial products, corporate governance, supply chain management, insurance, and digital technologies. Further research also needs to be conducted into the knock-on effects of green finance frameworks and their impact on the entire transactional value chain. How these frameworks can apply to sub-contractors and subsequent contractual relationships may test an understanding of privity of contract and will require creative solutions. One of these follow-on contractual relationships was that between the buyer (having now obtained green finance) and the shipbuilder tasked with building a green vessel. This thesis has only touched the surface of greening shipbuilding contracts, specifically with a view to aligning the shipbuilding contract with the terms of the buyer's loan agreement.[1184] A much more detailed analysis of shipbuilding contracts and the greening of each clause contained therein presents a further avenue of enquiry. Sustainability clauses and green principles in shipbuilding contracts are going to become a common occurrence as green finance frameworks fuelled by consumer demand, will see owners choosing greener designs and materials sourced from green and ethical supply chains.

6.3.2 The Greening of Contractual Relationships

The contractualisation of environmental sustainability is yet to be given adequate consideration in all market transactions.[1185] The lack of guiding norms, customs, and trade usages, which translate global mandates pertaining to climate change into contractual obligations are lacking, despite an English law regime which permits implication by law as well as civil law regimes which more deeply integrate a system of norms into 'types' and categories of relationships.[1186] This is understandable, given traditionalist views of laissez-faire capitalism and classical contract law. This is specifically why this thesis has diverted from these theoretical frameworks which do not adequately recognise the interplay between contractual relationships and pubic interests. Contract governance perspectives allow for a wide range of contractual innovations which can obtain and converge both public objectives and private intentions. Chapter 4 of this thesis concerns contracts of carriage, and more specifically, voyage and time charters; yet the same argument holds true in varying degrees to all commercial transactions. There are emerging avenues of research for all types of contractual relationships to integrate sustainability norms, despite possible infringement into the comfort zones of common law jurists. This is supported by a growing number of environmental risk management strategies and the growing threat of environmental litigation. Constitutional developments are heralding a 'rights-turn' in private climate litigation, meaning that environmental rights are enjoying increasing horizonal application in recent cases.[1187] The horizontal application of environmental rights to private actors is opening up new doors in the Global South where post-colonial constitutions have embedded special recognition of the right to a healthy environment.[1188] Shipping firms as well as other industrial sectors, should similarly prepare for the litigation risks that fossil fuel companies are

[1184] See Section 3.4.
[1185] Chapter 4 of this thesis discusses how the juridical tools for environmental sustainability in private relationships are lacking. See also Cristina Poncibò, 'The Contractualisation of Environmental Sustainability' (n 762).
[1186] See Section 4.3.1.
[1187] Geetanjali Ganguly, Joana Setzer, and Veerle Heyvaert, 'If at First you don't Succeed: Suing Corporations for Climate Change' (n 50).
[1188] Joana Setzer and Rebecca Byrnes, *Global trends in climate change litigation: 2019 snapshot* (n 1113).

presently navigating; advances in attribution science are overcoming problems of causation and remoteness in determining the extent to which the 'polluter pays'.[1189]

There are also mounting pressures from a corporate governance perspective as commitments to economic, social, and environmental values are requiring express terms whilst more parties are recognising mutually observed trade usages.[1190] It is therefore arguable that existing regimes governing commercial contracts (not just the Hague-Visby Rules or the Rotterdam Rules where applicable) should be revisited for the establishment of recognised implied terms, customs, or trade usages involving aspects of SD. This could include critiques of the UNIDROIT Principles, the Convention on Contracts for the International Sale of Goods[1191], international law customs more generally, and domestic regimes. Consumer preference and pressure has been noted by Eftestøl-Wilhelmsson and Sankari, who have applied the concept of 'nudging' to carriage of goods by sea.[1192] These authors argue that information is key to changing behaviour and increasing pro-environmental choices, but choice architecture or labelling standards are yet to account for the maritime transport emission costs that contribute to a product's overall 'greenness'. Adequate mechanisms are not yet in place to ensure that transport emission information reaches the buyers of transport services and the consumers of products, which could ultimately breach consumer rights and affect transactional decisions. Effective nudging requires the implementation of disclosure requirements for the achievement of transparency and a consumer's right to such information. One suggestion is that an information requirement be integrated into a proposed EU electronic transport document, whilst protecting a consumer's right to such information could fall under the Unfair Commercial Practices Directive (UCPD).[1193]

In respect of English contract law, more specifically, this thesis has not investigated legislative solutions for the establishment of a green normative framework for charterparties and shipping contracts more generally. A public law solution could effectively codify business norms by way of statutory amendment or the enactment of a green code for commercial dealings, as seen with green finance taxonomies in the banking and finance sector. Given the focus of this thesis on private actors, this thesis has not commented on the contents nor form of such statutory provisions. Public law research could explore the structure and potential advantages of a green statutory instrument for English private law.

Alternative fuel contracts will also warrant a contractual analysis in terms of preparing for uncertainty. There are alternative fuel options that presently meet IMO sulphur standards, such as LNG, biofuels and methanol. However, potential future decarbonisation efforts may no longer view these fuels as 'sustainable' since they are not carbon neutral and have other (often very negative) production and supply chain environmental concerns. A systems perspective in evaluating alternative energy carriers that accounts for the upstream processes from the energy source to use on-board is required.[1194] If emissions data only considers the energy conversion of technology on-board, then the data may be

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[1189] Mary Kathryn Nagle, 'Tracing the Origins of Fairly Traceable: The Black Hole of Private Climate Change Litigation' (2010) 85 Tulse Law Review 477.

[1190] See OECD Guidelines for Multinational Enterprises (OECD Pub 2011); UN Global Compact Office and Business for Social Responsibility, Supply Chain Sustainability: A Practical Guide for Continuous Improvement (2010); Katerina Peterkova Mitkidis, 'Sustainability Clauses in International Business Contracts' (n 577).

[1191] Vienna, 11 April 1980.

[1192] Ellen Eftestøl-Wilhelmsson and Suvi Sankari, 'Chapter 7: Nudging a behavioural change in maritime carriage of goods – the role of information' (n 753).

[1193] Ibid 183.

[1194] Karin Andersson, Selma Brynolf, Julia Hansson and Maria Grahn, 'Criteria and Decision Support for a Sustainable Choice of Alternative Marine Fuels' (2020) 12 Sustainability 3623.

misleading. In addition to this scientific uncertainty, regulatory uncertainty and market uncertainty make it impossible to find support for long-term sustainable fuel choices that are economical.[1195] Particularly in respect on LNG, a common theme is one of uncertainty regarding the level of demand or supply and the speed at which technological advancements occur along the value chain.[1196] DNV GL has noted in its study of alternative and available fuels that price is not the only key factor, a future fuel must also be available in sufficient quantity to meet the needs of the industry for the next 10 years, if only minor growth in the sector occurs.[1197] A fundamental uncertainty arises if an alternative fuel becomes so attractive that a significant number of operators adopt it for their vessels within a short period of time. Similar questions regarding significantly constrained supply have arisen from the Covid-19 vaccines shortages, where advance orders have been made for vaccine doses not yet produced. Negotiating contracts under extreme supply uncertainty therefore has consequences for a wide array of contractual negotiations. More specifically, in the context of the Covid-19 pandemic, a major dispute has already arisen between the EU and AstraZeneca for an initial order of 300 million doses of the AstraZeneca vaccine. Interpretation of Clause 5.1 of the EU contract has come under scrutiny since it requires that, 'AstraZeneca shall use its Best Reasonable Efforts to manufacture the Initial Europe Doses within the EU for distribution …'. The meaning of 'best reasonable efforts' as well as exclusions and limitations on liability in advance order contracts opens up a line of inquiry that is equally relevant to the expedient uptake of alternative fuels in a changing regulatory landscape.

In respect of supply chains more generally, sustainability principles are requiring deep integration into supply chain governance and international trade. The Covid-19 pandemic has highlighted the human rights and environmental rights issues pertaining to supply chain regulation and the integration of legal standards into the supply chain. Sustainable supply chains were already a big feature of the UN Global Compact 2010, with 'supply chain sustainability' interpreted as the management of the economic, social and environmental impacts of companies (state or non-state) through good corporate governance practices which holistically consider the lifecycle of goods and services.[1198] The UN Global Compact Strategy for 2021 – 2023 also places a major emphasis on implementing best practices in corporate sustainability into business and supply chains.[1199] In a recent special issue of *International Trade Law & Regulation*, a major discourse was commenced on how to achieve the integration of governance standards into the supply chain.[1200] Although the subject matter is not entirely new, there is a still a lack of consensus on how this integration is to be achieved. The author of this thesis has already contributed to this discussion through analysing the legal mechanisms available for incorporating green principles into supply chain finance agreements.[1201] As technology-enabled and data-driven banking platforms are allowing for a surge in supply chain and trade finance offerings, climate-alignment and green principles will need to be considered for effective

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[1195] Ibid.

[1196] The Oxford Institute for Energy Studies, 'LNG in Transition: from Uncertainty to Uncertainty' (2019) Oxford Energy Forum Issue 119.

[1197] DNV GL, *Assessment of Selected Alternative Fuels and Technologies* (June 2019) https://www.dnv.com/maritime/alternative-fuels-and-technologies-in-shipping/price-and-availability.html accessed 15 September 2021.

[1198] UN Global Compact Office and Business for Social Responsibility, Supply Chain Sustainability: A Practical Guide for Continuous Improvement (2010), 23.

[1199] UN, *UN Global Compact Strategy 2021–2023* https://ungc-communications-assets.s3.amazonaws.com/docs/about_the_gc/UN-GLOBAL-COMPACT-STRATEGY-2021-2023.pdf 24 July 2021

[1200] Jason Chuah, 'Pragmatism and Principle in Supply Chain Governance: Some emerging financing themes' (2020) 26(4) Int. T.L.R. 203.

[1201] Pia Rebelo, 'Sustainable Supply Chain Finance: The Incorporation of Green Principles into SCF Agreements' (n 787).

environmental governance of trans-boundary practices. However, multi-disciplinary research is needed to continue this discussion on finding pragmatic solutions to expediting the sustainability agenda.

Although a massive emphasis of green shipping has been on alternative energy fuels and energy efficiency technologies on board, cold ironing at ports is also considered a green measure in cutting emissions from ships at berth. However, BIMCO has criticised the huge investment costs required to provide adequate cold ironing infrastructure both on shore and on board.[1202] This is because the main part of on-shore power supply would still come from combustible fuels without plans for decreasing coal combustion as a main power source. Therefore, cold ironing would not be a sustainable solution with cost benefits to shippers. Despite the debate as to the actual sustainability of on shore power at port, this practice of cold ironing requires significant public private partnership (PPP) contracts to implement necessary infrastructure. Many port expansion and infrastructure projects are considered PPP, with these types of service contracts requiring attention and scrutiny of their sustainability agenda. As noted by Lawer et al, government-to-government policy transfer has been replaced by non-state actors in mobilising policies for green ports, therefore the implementation and enforcement of certain environmental agendas and sustainability policies merit further academic discussion.[1203] Are decisions for green ports being made by national institutions or is the green agenda within ports being driven by a number of actors and overlapping public and private governance factors? Multiple legal questions arise as to the legitimacy and governance of such PPP agreements.

Finally, as alluded to previously, the theoretical arguments for including sustainability norms and objectives into private commercial agreements also beg the question of whether contract law is 'fit for purpose' in dealing with environmental disputes. Chapter 5 of the thesis has considered contractual remedies that stretch the ambit of English contract law principles. In Chapter 5, the doctrine of assurance and green damages were considered in the context of ship recycling. However, new and creative remedies may be enabled by freedom of contract with the real possibility that quasi administrative penalties and rehabilitation measures be mandated by private actors to protect innocent parties from the consequential losses arising from breach. Whilst this thesis has considered common law remedies for the breach of sustainability obligations, a new normative framework may enable other remedies. This would be a largely doctrinal inquiry into enabling new solutions in an existing regime and is certainly worth exploring from an insurance perspective. Increasing environmental risk cover will be needed if the private law is to mandate additional damages and/or other remedies for environmental harm.

6.3.3 Vessel Recycling: Emerging Avenues and Implications for Private Obligations

Ship Recycling Sale Agreements are probably the most nebulous area of contract law research raised by this thesis, as ship recycling has only just begun to receive attention from a private law perspective. The expansion of a torts 'duty of care' is being explored in the context of shipbreaking, undoubtedly driven by strong moral and policy reasons which are condemning the practices of using cash buyer intermediaries. The case of *Begum v Maran (UK) Ltd*[1204] presents this exact issue in an application by

[1202] BIMCO, 'BIMCO Says Caution Needed on "Cold Ironing"'(28 February 2019) https://www.bimco.org/news/environment-protection/20190228-bimco-says-caution-needed-on-cold-ironing?pn=1 accessed 15 September 2021.
[1203] Eric Tamatey Lawer, Johannes Herbeck, and Michael Flitner, 'Selective Adoption: How Port Authorities in Europe and West Africa Engage with the Globalizing 'Green Port' Idea' (2019) 11 Sustainability 5119.
[1204] *Begum v Maran* (n 1120).

the Defendant in this matter to strike out a claim and for summary judgment.[1205] The Court of Appeal's agreement with the High Court illustrates that there are triable issues of breach of a duty of care in a ship recycling context.[1206] The possibility that Maran is liable on the basis for the actions of third parties such as the shipyard and its management was considered arguable and 'not fanciful' and 'may properly be described as an unusual extension of an existing category of cases where a duty has been found, but it would not be an entirely new basis of tortious liability'.[1207] This is indicative that there are real prospects of success for extending the law of negligence to shipowners and their agents for fatal accidents occurring in shipyards - despite transferring ownership and control of the vessel to intermediaries that then sell the vessel to sub-standard shipbreaking yards. The *Caparo* test may need to be applied by the trial court if it finds this to be a new category of duty, thus *Begum v Maran* will undoubtedly evoke academic speculation and argument.[1208]

With developments in the law of obligations more generally, a number of avenues of contractual enquiry will need to be explored. One creative avenue of exploration may be that sustainable contracts carry with them third party benefits. Shipyard workers, coastal communities and those with vested interests in environmental protection all, in fact, benefit from environmentally sound ship dismantling and recycling practices. This line of argument, however, requires a departure from the doctrine of privity of contract. Determining whether or not third parties fall within one of the exceptions to the doctrine is not a straightforward matter. The complexity in English law arises as a result of the co-existence of both the remaining common law rules and the introduction of the Contracts (Rights of Third Parties) Act 1999. The 1999 Act uses intention as the basis for creating third party rights and creates two circumstances where such a right is created, allowing the third party to sue on the contract. The first is provided for under section 1(1)(a) where 'the contract expressly provides that [the third party] may', which can refer to both a positive obligation (e.g. payment) or reliance on an exclusion or limitation clause.[1209] The second scenario, under section 1(1)(b) is less straightforward in stating that a third party may in his own right enforce a term of the contract if 'the term purports to confer a benefit on him'. This is subject to the qualification that on a proper construction of the contact, it must appear that the parties intended the term to be enforceable by the third party.[1210] Most relevant to the context of shipbreaking, section 2(1) of UCTA renders void any exclusion or limitation clause in respect of death or personal injury caused by the negligence of one of the contracting parties. Where the claim is in respect of damage to property or other loss caused by the negligence of one of the contracting parties, section 2(2) of the UCTA regulates exclusion clauses where the claim is one based on the tort of negligence, but not where the basis is a breach of a contractual duty of care owed to the third party.[1211]

Subsection 1(5) of the 1999 Act provides third parties with all the common law remedies for breach of contract in the same way that would be available to a party of the contract. However, the Law Commission stated that termination is not a judicial remedy and it is therefore for the parties to the

[1205] Summary judgment under CPR Part 24.2 application to strike out under CPR Part 3.5.
[1206] *Begum v Maran* (n 1120) para 140.
[1207] Ibid para 65.
[1208] The global sentiment on this has been clarified from Norway's Government Pension Fund Global's decision to blacklist four companies; ShippingWatch, 'Why the Norwegian oil fund blacklisted carriers for beaching' (n 963).
[1209] See section 1(6) which negates the need for overly complex drafting to allow a third party to rely on an exclusion clause, as illustrated by *New Zealand Shipping Co. Ltd. v. A. M. Satterthwaite & Co. Ltd. (The Eurymedon)* [1975] AC 154.
[1210] Section 1(2).
[1211] See section 7(2) of the 1999 Act.

original contract to decide whether or not to terminate the contract if a repudiatory breach occurs.[1212] In the shipbreaking context, third party rights therefore propose a possible solution to those impacted by ship recycling agreements. A seller of an EOL vessel has an obvious interest in conferring the rights to sue to third parties who may be affected by the buyer's breach. Say, for example, the buyer does not deliver the vessel to an authorised facility, but instead beaches the vessel causing personal injury to workers and damage to the environment. Would it be evident enough from standard ship recycling contracts that there are benefits bestowed on workers and coastal communities which would enable them to sue for loss arising out of the breach of the sale agreement? In respect of the RECYCLECON, the answer is no. Nothing in the RECYCLECON expressly confers such a benefit nor does it identify a specific person or class of persons.[1213] Whether it 'purports to confer a benefit', with a strong presumption in favour of enforcing third party rights, is also a tenuous argument but worth exploration.

The owner's liability would also need to be viewed in the greater context of liability conventions which limit liability stemming from damage caused by incidents. It naturally follows that if liability is to be imposed on sellers (or buyers alike) in ship recycling sale agreements for the environmental damage caused by the buyer, then the next logical question is the extent to which this liability can be limited for incidents which give rise personal injuries and damage to property. Liability of a polluter generally takes one of two forms: civil liability and criminal liability. A number of international conventions limit maritime liability whilst the Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal Basel (Basel Protocol), [1214] which is not yet in force, would only apply to ship disposal under the national jurisdictions of contracting states.

The general liability rule applicable to claims arising from maritime transportation is found in the Convention for Limitation of Maritime Claims, London, 1976 (LLMC), amended by a London Protocol of 1996. In terms of hazardous substances, the International Convention on Liability and Compensation for damage in connection with the carriage of hazardous and noxious substances by sea (HNS) London, 1996 would apply if it were in force, with the exception of hydrocarbons. Damages caused by hydrocarbons are dealt with by the International Convention on Civil liability for Oil Pollution damages (CLC) Brussels 1969, which does not seem to apply to hydrocarbon wastes but could provide some applicable rules. The Court's finding in *Begum v Maran (UK) Ltd* that English law applies to an incident in a foreign jurisdiction is aligned with an increasingly expansive view of English courts to exercise jurisdiction for potential liability for operations in other jurisdictions.[1215]

Finally, if shipyard workers are afforded greater protection under private law mechanisms, the next corollary centres on access to justice. Shipyard workers are unlikely to have the resources to institute cross jurisdictional torts actions and sue on contractual third-party benefits without significant assistance from NGO groups, pro-bono lawyers and State organisations for legal aid.

[1212] The Law Commission, *Privity of Contract: Contracts for the Benefit of Third Parties, Item 1 of the Sixth Programme of Law Reform* (Law Com No 242 July 1996) at 51 (3.33).
[1213] Sections 1(1)(a) and 1(3) respectively.
[1214] 10 December 1999.
[1215] See decision of the Supreme Court in *Vedanta Resources Plc & Anor v Lungowe and Ors* [2019] UKSC 20; and the decision of the Court of Appeal in *Chandler v Cape plc* [2012] EWCA Civ 525.

6.3 Impact of Research

The impact of the findings in this thesis are two-fold: 1) to contribute to a body of scholarship that can influence judicial interpretation of environmental obligations in private shipping transactions; and 2) to influence the regimes governing shipping contracts to elevate a set of environmental norms and considerations. Although these impacts are specific to shipping, this thesis contributes to a wider discussion of the 'greening' of the private law. From a theoretical standpoint, environmental issues have not yet been the focus of contract governance approaches. Contract governance allows for the identification of 'weak spots' within the scheme of collaboration between law-makers and the actors who express a package of environmental behaviours and preferences in a number of transactions.[1216] SD is already a pervasive principle within public international law – one which needs to more strongly permeate commercial dealings. Here, this thesis contributes to a growing cognisance that market transactions *cannot* be viewed as isolated bilateral agreements. This thesis aims to push an agenda that private actors cannot view contractual relationships as influenced by the public law regime only to the extent that 'no illegal actions' can be agreed upon. The artificial divide between public and private actors serves no purpose when the law must serve a set of unified SDGs. This thesis has contributed a unique perspective on environmental obligations in private contracts which calls for the modernisation of contract law to recognise and implement an urgent climate change mandate. This work is already under way in other types of contractual settings, such as supply chain management or the financing of land-based development projects. This thesis therefore provides a series of arguments to be made from a **shipping transaction perspective** – a *single* contribution to the wider panoramic of sustainability issues in contract law more generally. This thesis has called for development of a theoretical paradigm that recognises contracts as environmental governance tools and allows for the incorporation of private green enforcement mechanisms. Although not concerned with the social governance aspect of SD, social governance frameworks could equally employ normative frameworks for the achievement of grater sustainability goals – these can include work standards, labour practices, and other quasi-legal norms which can be similarly implemented to environmental norms.

From a judicial interpretation perspective, this thesis calls for presiding officers (judges, arbitrators, tribunal members) to constructively interpret contractual obligations through a prism of environmental rights (and other related SDGs). English law already has the tools for the implication of terms where necessitated by the external milieu. A horizontal application of the SD public law mandate between private actors is necessary to provide a set of business norms that my guide decision-making in times of uncertainty. Where contractual rights and obligations have effects on the quality of the surrounding environment (atmospheric, marine, or land) – the utmost level of environmental protection should be implicated in such an obligation. It is arguable that other competing interests also deserve consideration in giving effect to commercial obligations, the most obvious being profitability and economic efficiency. However, the urgency of the climate change mandate and the resultant harms posed to humans makes the justification of environmental norms easy to contemplate and apply. More specifically, in a shipping context, this thesis calls for judicial bodies to give effect to more than mere IMO standard setting, but to uphold its long-term vision and goals for decarbonisation. This requires an understanding that international state-bodies can only achieve so much in the context of cross-jurisdictional transactions and agreed conduct in the high seas. The same principles of international environmental law which bind state bodies, should equally apply to all actors along the value chain.

[1216] Grundmann and others, 'Contract Governance: Dimensions in Law and Interdisciplinary Research' (n 151).

From a contract governance regime perspective, a natural corollary is to include environmental customs into the regimes that dictate the contractual contents of certain types of shipping contracts. Although this may be hard to accomplish at an international treaty level, this thesis hopes to intertwine knowledge with politics and persuasion and to influence relevant stakeholders. The impact, like with judicial interpretation, is indirect as this thesis hopes to contribute to a growing movement of stakeholder recognition that their environmental objectives can be achieved through green drafting methods in contractual forms. The incentives accruing to environmental sustainability can be enhanced through creative clauses which reconceptualise the roles and responsibilities of all actors. Shipping associations are well placed to draft standardised forms for the industry which can contractualise environmentalism – this has already begun with the RECYCLECON form that places *environmentally safe and sound practices* 'at the heart' of the agreement. The standardised forms used by owners, charterers, and financiers are one of the ways in which contracts *govern* a set of outcomes. This thesis therefore impacts upon the work of numerous shipping associations which draft standardised forms and clauses for shipping. BIMCO and INTERTANKO (whose standard contractual clauses have been analysed by this thesis) are committed to the IMO's carbon reduction targets yet have a greater role to play in realising the environmental governance potential of their standardised forms. Although this thesis has only analysed the sulphur clauses drafted and endorsed by these associations, as well as BIMCO's RECYCLECON, it calls upon these actors to show a greater commitment to the SD rhetoric by considering not only further green terms but assisting in the establishment of a green normative framework for the legal dimension of shipping.

Both of the abovementioned impacts have a policy underpinning as the lessons drawn from academic research are of considerable value to organisations – both governments and private institutions. This thesis has highlighted some of the gaps in the contractual practices employed to allocate environmental responsibilities between shipping actors. Unlike most public-policy impacts, which call for government intervention, this thesis calls for intervention from all actors that participate in commercial shipping. Companies have their own internal policies which may or may not be determined by a state-body. 'Policy' is therefore broadly defined as the objectives that determine decisions in all relevant institutional contexts. This thesis has challenged but not undermined assumptions about the effectiveness of public regulation as an environmental tool. Rather, the focus has been on the substance of the law and how it can work better – requiring policymaking to introduce new mechanisms as well as to more effectively utilise existing mechanisms to achieve environmental sustainability.

A significant policy impact is for legislators to comprehensively include shipping in green finance taxonomies. In particular, the EU Taxonomy is the subject of ongoing debate as the classification of certain fuels as 'green' is hindering agreement amongst member states.[1217] This thesis has contributed to a recognition of the importance of green finance frameworks and their potential, particularly in shipping and supply chains, to implement a set a green ideals and norms for a wide range of actors – not only borrowers. On a more pervasive level, this thesis aims to contribute to an environmental shift in shipping more generally. Shipping's sustainable reputation has been significantly eroded, whilst the environmental interests of law makers have been polarised with the economic interests of the commercial shipping sector. This thesis has aimed to contribute to a paradigm shift that requires the sector to move away from a reliance on fossil fuel consumption. It has aimed to contribute to a

[1217] Mehreen Khan, 'EU split over delay to decision on classing gas as green investment' (Financial Times 18 April 2021) https://www.ft.com/content/0efef7ec-4fbb-47d0-9776-65b018dea172 accessed 15 September 2021.

growing number of stakeholder efforts to accelerate the decarbonisation of the sector to meet climate change goals. This thesis has presented one small aspect of the legal solutions that can contribute to a package of other incentives and tools in making shipping greener.

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