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ANNO CXXII – TERZA SERIE FASCICOLO III – LUGLIO - SETTEMBRE 2020

IL DIRITTO MARITTIMO

RIVISTA TRIMESTRALE DI DOTTRINA GIURISPRUDENZA LEGISLAZIONE ITALIANA E STRANIERA FONDATA NEL 1899 DA FRANCESCO BERLINGIERI

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Vessel-source pollution in the Belt and Road Initiative: green finance as a regulatory tool for environmental sustainability

Scritto sottoposto a doppio referaggio anonimo – This writing has been submitted to double blind peer review

VESSEL-SOURCE POLLUTION IN THE BELT AND ROAD INITIATIVE: GREEN FINANCE AS A REGULATORY TOOL FOR ENVIRONMENTAL SUSTAINABILITY

PIA REBELO*

ABSTRACT

In comparison with other global initiatives, the Belt and Road Initiative (BRI) does not have any formal governance principles nor a secretariat. Rather, it is founded on five 'goals': policy coordination, facilities connectivity, unimpeded trade, financial integration, and people-to-people bonds. What we do know about the BRI, is that it is integral to China's economic development plans and will be supported by Chinese banks which will continue to finance BRI projects and related industries, such as shipping. Increased fleet capacity for shipping will likely continue being funded by China's long-term development banks, such as the Bank of China, Export-Import Bank of China (China Eximbank) and the China Development Bank (CDB) – all regulated by People's Bank of China. The establishment and expansion of an extensive maritime network is said to dramatically increase the demand for shipping services, which can significantly increase shipping's contribution to global pollution and carbon emissions. Although China hopes to become a significant player in green shipping, there is no present policy nor legislation specific to ship financing in China, which falls under general financing laws, regulations and policies. These laws are largely insufficient in acknowledging the nature of shipping assets, as 'ships are financial and technical assets that operate in an international and intra-jurisdictional framework'. There is also significant difference between ships and 'development projects'.

This Paper aims to elucidate the basis upon which China finances ship building and vessel retrofitting for the advancement of its 'ecological civilisation'. What policies guide 'green' development projects and how are these extended to shipping? Is there a workable taxonomy for the financing of green ships? State Owned Enterprise's will inevitably base their strategies on state policy, therefore it becomes important to interpret what China means by 'green finance' as this will be a dominant regulatory tool for vessel source-pollution.

Summary: 1. Introduction. -2. A Green BRI and maritime expansion. -3. Chinese Banks: Green Finance and Shipping. -4. Conclusion.

^{*} Ph.D. candidate and Graduate Assistant at City, University of London.

1. Introduction

The Belt and Road Initiative (BRI) foresees significant investments in not only infrastructure and energy development, but also modes of transport to facilitate the unprecedented levels of world trade that China plans to achieve. Second only to energy production, the transport sector (both terrestrial and marine) account for 30% of BRI investments and is responsible for about 15-20% of global greenhouse gas emissions. Supporting modes of green transport is therefore essential in meeting global climate change targets and to protect the natural environments of BRI countries. To achieve such goals, the Chinese Ministry of Environment along with four other ministries released the "Guidance on Promoting Green Belt and Road" to implement an ecological civilisation in the the Silk Road Economic Belt and the 21st-Century Maritime Silk Road¹. This will require the formulation of a green financial system and will push China's financial institutions and multilateral development agencies to adopt principles of voluntary environment risk management. Despite transport accounting for a substantial portion of BRI investments, green shipping has not enjoyed the same attention as land-based transport or 'green urban transport' within the BRI². The establishment and expansion of an extensive maritime network will inevitably increase the demand for shipping services, which can significantly increase shipping's contribution to global pollution and carbon emissions. Although China hopes to become a significant player in green shipping and envisions a 'Green BRI', it is unclear whether and on what basis finance will be advanced to the shipping sector in alignment with green objectives. Currently, there is no policy nor legislation specific to ship financing in China, which falls under general financing laws, regulations and policies³. These laws are largely insufficient in acknowledging the nature of shipping assets, as 'ships are financial and technical assets that operate in an international and intra-jurisdictional framework'4. China's long-existing commercial maritime mandate is also distinguishable from its BRI investment plan, however both are aimed at establishing Shanghai as a powerful international shipping centre for the achievement of the maritime silk road.

The purpose of the Paper is to elucidate the strategies that guide China's plan for maritime growth and the extent to which these are reconciled with plans for a 'Green Belt and Road'. Chinese banks which continue to advance loans to its state owned enterprises (SOEs), base their strategies on a wider matrix of evolving policies aligned with China's five-year plans. As maritime expansion is supported and dependent on

4 Ibidem.

¹ Guidance on Promoting Green Belt and Road (2017 trans English) http://english.mee.gov.cn/Resources/Policies/policies/Frameworkp1/201706/t20170628_416864.shtml (accessed 8 May 2020).

² C.N. WANG, *Belt and Road Initiative & Sustainable Transport*, 2020 https://green-bri.org/wp-content/uploads/2020/04/Nedopil-Wang-2020_Belt-and-Road-Initiative-and-Sustainable-Transport.pdf (accessed 8 May 2020).

³ H. JIN and O. SCHINAS, Ownership of Assets in Chinese Shipping Funds', in Int. J. Financial Stud., 2019 7(4), 69; https://doi.org/10.3390/ijfs7040069.

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such finance, it therefore becomes important to interpret what China means by 'green finance' in the context of shipping. The terms upon which green finance is advanced can become a powerful regulatory tool for vessel source-pollution. This Paper also argues for a more concrete legal framework for the advancement of finance to green shipping activities, one with clear legal requirements which can provide commercial clarity for all participating states and non-state actors involved the 21st Century Maritime Silk Road component of the BRI.

Structurally, this Paper first addresses the importance of Chinese BRI plans in the context of green shipping and why China's maritime mandate is so important in respect of meeting global targets. This is viewed against the greater background of China's dominance in the world market and how it has sought to pursue Chinese interests through a strategic use of commercial policy and laws. Second, this Paper attempts to draw together the green finance policies applicable to shipping and what China means by 'green' in the maritime sector. Finally, this Paper argues for a shipping specific framework for the advancement of green shipping to include a number of financial tools that are aligned with a universal understanding of green maritime activities. This will enhance environmental governance strategies that are accessible to all stakeholders across private and public sectors, including countries and actors intending to collaborate with Chinese Banks in the BRI. A legal approach to environmental management, one which recognises its increasing pervasiveness in private relationships, is a primary premise of this Paper. Transparent and clear environmental governance can also strengthen BRI collaborations between China and various maritime authorities and actors.

2. A Green BRI and maritime expansion

China's maritime growth has run parallel to increasing international regulation and ambitious targets set by the International Maritime Organisation (IMO). In addition to the 2020 Sulphur Cap, the IMO has also set levels of ambition for CO₂ emission reductions which are consistent with the Paris Climate Change Agreement. This initial strategy adopted by the IMO's Marine Environment Protection Committee (MEPC) sets out to halve global emissions from shipping by 50% by the year 2050 in comparison to 2008 levels and to phase them out completely within this century⁵. Meeting these targets will require huge commitments from China in respect of both implementation and enforcement. Against these global climate change considerations, China's mandate for green maritime expansion is imperative for three reasons: 1) it is the biggest exporter of products globally, hence the title 'the World's Factory'; 2) it is the largest shipbuilder in the world (along with South Korea and Japan, it builds 90% of new vessels)⁶; and 3) its unprecedented plans for the BRI, including a 21st-century

⁵ Initial IMO Strategy on Reduction of GHG Emissions from Ships, Resolution MEPC.304(72), adopted on 13 April 2018.

UNCTAD, Review of Maritime Transport 2019.

'maritime silk road', in which Chinese firms are set to build and operate 42 ports in 34 countries.

In terms of regulatory development, China has done significant work in terms of emission controls and has taken a number of complimentary measures to drive green shipping. As of January 2019, new domestic regulations came into force requiring all ships operating within 12 nautical miles of China's coastline to burn fuel with a sulphur content of less than 0.5%7. This area is known as the domestic emission control area (DECA) and as of January 2020, ships that make use of the inland river DECAs were required to use fuel with a sulphur content not exceeding 0.1%. The declaration of DECAs was part of a Chinese commitment to IMO standards and environmental action within the shipping sector. Unlike the IMO's Emission Control Areas, the national DECA makes provision for a comprehensive set of mandates for on-shore power which will assist in controlling ship emissions at berth. The regulations also provide for a review, at an appropriate time, to assess the feasibility of requiring all ships in the DECAs to burn 0.1% sulphur fuel by 2025 and to have all Chinese flag ships which are built or retrofitted after 1 January 20204 to meet IMO Tier III standards8. Supplementary measures have included government grants to build onshore power infrastructure, local government incentives aimed at encouraging ship owners to use onshore power, incentive programmes for LNG inland vessels and pilots for advanced new energy vessels. Therefore, from a regulatory perspective, China has shown a strong commitment to environmental standards and objectives in the sector - albeit, this was mainly to achieve safe atmospheric conditions for its port cities.

On a wider policy level, China has committed itself to building an 'ecological civilization' (shentai wenning)⁹. This concept considers nature to be an integral part of life, rather than a resource for unfettered exploitation and provides a normative underpinning for Chinese political visions of modern ecological socialism¹⁰. The concept of an ecological civilisation is integrated throughout China's 14th Five-Year Plan (covering 2021-25), which is a crucial policy determinant of how China sets out to shape its economic growth and geopolitical strategies for development¹¹. These 5-

Chinese Ministry of Transport, Action plan to establish a national emission control area for ship emission control, 2018, http://www.mot.gov.cn/xiazaizhongxin/ziliaoxiazai/201901/P020190 108523315116731.pdf (accessed 12 May 2020).

⁸ International Council on Clean Transportation, *Action Plan for Establishing China's National Emission Control Area*, March 2019, *Policy Update* https://theicct.org/sites/default/files/publications/DECA_China_policy_update_20190304.pdf (accessed 12 May 2020).

⁹ Ministry of Ecology and Environment, The People's Republic of China (2011) *Chinese Ecological Civilization Research and Promotion Association Founded*,14 Nov 2011, http://english.mee.gov.cn/News_service/infocus/201111/t20111123_220428.shtml (accessed 16 November 2019).

¹⁰ B. KUHN, Sustainable Development Discourses, in P.R. China. Journal of Sustainable Development, 2016, 9(6), pp. 158-167 http://www.ccsenet.org/journal/index.php/jsd/article/view/64807 (accessed 13 May 2020)

¹¹ I. NEUWEG - N. STERN, *China's 14th Plan, sustainable development and the new era - Paper for the 20th China Development Forum*, 2019, 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.

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year plans have been instrumental in uplifting millions of Chinese citizens out of low socio-economic circumstances to uppermiddle-income status over the last four decades, however physical resources and consumerism were at the core of this economic transformation. The latest 5-year plan emphasises sustainability and wellbeing – encouraging propositions in the modern era where climate change is at the forefront of public concern along with the structural inadequacies highlighted by the COVID-19 pandemic. However, China's forthcoming plans are certainly not limited to the confines of its geographical borders and domestic waters. China has further responded to a deceleration in economic growth by reaffirming its global strategy and planning to boost extensive investment in infrastructure projects¹². In what has been deemed an ambitious plan for China to dominate global trade and extend China's power, President Xi Jinping announced in 2013 the launch of both the Silk Road Economic Belt and the 21st Century Maritime Silk Road¹³.

The BRI is set to include Chinese investments in 70 nations estimated to total US \$4 trillion. He comparison with other global initiatives, the BRI does not have any formal governance principles nor a secretariat. Rather, it is founded on five 'goals': policy coordination, facilities connectivity, unimpeded trade, financial integration, and people-to-people bonds Is. In 2014, the Leading Group for Advancing the Development of One Belt One Road was announced, however little further information has been provided. Although there are no clear governance structures, many institutions have been employed to assist with the BRI, including: Chinese Financial institutions Institutio

The World Bank global economic outlook released in January 2019 states that China's growth is "projected to decelerate to 6.2 percent in 2019, slightly below previous projections as a result of weaker exports." World Bank, *Global Economic Prospects*, 2019, Washington DC.

¹³ R. SCOTT, China's seaborne trade and shipping update, in China Maritime Lookout, No. 5, 2019.

UN Environment, Information note: UN Environment's on-going and potential engagement on Greening the Belt and Road Initiative https://www.oecd.org/env/outreach/2017_OECD-GATF_UNEP%20Room%20Doc%20BR%20rev.pdf 8accessed 14 May 2020).

¹⁵ The Green Belt and Road Initiative Centre, *Belt and Road Initiative Quick info* https://green-bri.org/belt-and-road-initiative-quick-info (accessed 2 April 2020).

¹⁶ Ibidem

¹⁷ Including the Silk Road Fund, China Development Bank, China Exim Bank.

¹⁸ Including the Asian Infrastructure and Investment Bank (AIIB) and the New Development Bank (NDB).

 $^{^{19}}$ Including the Industrial and Commercial Bank of China (ICBC), China Construction Bank, or the Agricultural Bank for China.

The State Council governs all ministries and special commissions in China and establishes the overall blueprint for overseas investments (ODI) from China, or the China Banking and Insurance Regulatory Commission (CBIRC) that approves ODI projects by Chinese banks and oversees China's insurance industry.

Governs monetary policy and manages foreign exchange reserves.

aim to support green development through: green finance, green transport, green innovation, green urbanization, and green standards²².

Investments along the Belt and Road can assist China's trade and development partners achieve sustainable development. However, the scale of development needed to advance the infrastructure of many of China's poorer partner countries could have detrimental impacts on the surrounding environment if based on fossil-fuel consumption and irresponsible environmental management. If BRI partner countries obtain similar levels of income per capita that China experiences today within the next twenty years, then we will certainly see a global temperature increase which far surpasses 3°C^{23} . Green investment is therefore a pivotal mechanism in ensuring that BRI partners develop in a sustainable manner without significantly contributing to global emissions, other forms of pollution, habitat destruction, and biodiversity losses. China's 14^{th} 5-year Plan will therefore need to consider BRI partnerships and the terms upon which finance is advanced for BRI infrastructure.

In respect of shipping, however, it is important to note that the BRI is distinguishable from the commercial maritime campaign that Chinese state owned enterprises (SOEs) and COSCO are driving. SOEs aimed at establishing a global maritime network are increasingly funded by China's long-term development banks as opposed to the institutions that have been set up to assess and finance BRI infrastructure projects. However, the two strategies are certainly not mutually exclusive. The establishment and expansion of an extensive BRI maritime network will increase the demand for shipping services and this demand will surely be supplied by Chinese state owned enterprises (SOEs) who are already ordering large numbers of ships from ship builders²⁴.

To understand China's growing dominance in commercial shipping, it is important to note that China and its enterprises operate as a Super State – where the lines between State, financial institutions, shipbuilders, and its biggest shipping firms are heavily blurred. The Communist Party of China has increasingly allowed the markets to determine resource allocation in China since its liberal reforms, however China's state-owned enterprises (SOEs) are more closely connected with government strategies while retaining some limited flexibility and responsiveness that a consumption-oriented economy requires²⁵. China houses 109 corporations on the Fortune Global 500, however, only 15% of these are privately owned²⁶. These SOEs enjoy preferential access to loans, can lobby for regulations and ultimately drive out competition. Without their government backing, they might not survive in an innovation-driven market and

²² Ibidem.

²³ I. NEUWEG - N. STERN, *op. cit*.

²⁴ See Clarksons' Research Data for Chinese ship orders presented in UNCTAD, Review of Maritime Transport 2019 https://unctad.org/en/PublicationsLibrary/rmt2019_en.pdf (accessed 19 April 2020).

²⁵ A. GULUZADE, *Explained, the role of China's state-owned companies* in *World Economic Forum* 2019 https://www.weforum.org/agenda/2019/05/why-chinas-state-owned-companies-still-have-a-key-role-to-play/ (accessed 8 May 2020).

²⁶ Ibidem.

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be able to compete with Western enterprises. For private companies who have to compete in a shipping overcapacity industry, there is little hope to be able to continue after prolonged losses. The situation is different for SOEs who are favoured by government support and easily obtained capital injections. China COSCO Shipping Corporated Limited (COSCO) managed to emerge from recent period of economic turmoil with one of the largest fleets of commercial vessels. Even prior to any concrete BRI plans, Chinese SOEs have been in the process of creating the most extensive maritime network through the strategic acquisition of port assets throughout the European Union, the Middle East, the Indian Ocean and Latin America. Chinese SOEs are also developing ports across the globe that can accommodate very large container ships to create economies of scale in seabourne trade, thus providing China with a reliable and easily controlled logistics network to promote its own economic interests²⁷. COSCO has received major attention since it gained control of Piraeus (a Greek port) in 2016, which enabled it to essentially exercise its maritime-development powers under the national government of an EU state.

The situation of overcapacity and the negative financial impacts on shipping and port revenue has enabled Chinese SOEs to acquire port assets and to provide the capital necessary to build and upgrade commercial terminals. Container traffic is then directed to these acquired ports through shipping lines controlled by the port's parent company or indirectly through companies in alliance with Chinese port owners²⁸. Chinese firms and financial institutions have dramatically increased capital deployed to port assets, including actual seaports, container and cargo terminals, as well as portoperating concessions. Although there remains a lack of transparency as to the actual cost of these transactions, high evaluations of COSCO's contracts to obtain these port assets suggest that there are other driving factors in addition to anticipated profits.

Chinese SOEs were able to grow to this magnitude and maintain dominance through strategic use of China's antitrust law, such as the blocking of the P3 Alliance consisting of Western shipping companies that would have potentially threatened China's strategy to consolidate maritime power²⁹. Not long after refusing regulatory approval of the 3P Alliance, OCEAN Alliance comprising of China's own COSCO Shipping, CMA CGM, Evergreen Marine, and Orient Overseas Container Line Limited (OOCL) was successfully formed despite having a similar characteristics to that of the proposed P3 Alliance – namely a central 'operations centre' which would monitor its operation and collect market information as well as a significant market share³⁰. OCEAN Alliance was also formed to compete with the formation of another

²⁷ C. O'DEA, Ships of State?, in Naval War College Review, 2019, Vol. 72, p. 63.

⁸ Ibidem.

²⁹ Ministry of Commerce (MOFCOM) Announcement No. 46 in 2014, on the Banning of the Formation of the Network Composed of Maersk, MSC, and CMA CGM under Anti-Monopoly Review Regarding Concentrated Operations, Ministry of Commerce of the People's Republic of China (MOFCOM).

DLA PIPER, Antitrust Update: Chinese antitrust regulator prohibits P3 shipping alliance, 2014. https://www.dlapiper.com/en/belgium/insights/publications/2014/06/chinese-antitrust-regulator-prohibits-p3/ (accessed 8 May 2020). See also MOFCOM Announcement No. 46 in 2014, op. cit.

Western alliance, 2M, consisting of Denmark's Maersk Line and Switzerland's Mediterranean Shipping Co SA. The inclusion of COSCO Shipping in the OCEAN Alliance also came shortly after a massive merger between China Cosco Group and China Shipping Group merged to form China Cosco Shipping Corporation which was called a "shipping leviathan" by the Wall Street Journal³¹. The merger was aligned with Chinese attempts to reform its SOEs to create national business mega forces which can compete abroad. The merger effectively created the world's fourth largest container-shipping carrier after the AP Moller Maersk Group, Mediterranean Shipping Co. and CMA CGM SA.

China has also demonstrated that it is a ruthless in its pursuit of supply-chain control and its geopolitical interests. In this regard, the commercial strategies and state interests of Chinese Shipping SOEs have been compared to the Vereenigde Oost-Indische Compagnie (VOC) (Dutch East India Company)³². Like the VOC, they are commercial enterprises that operate with full financial and military support from their state. They can thus be viewed as 'ships of state' which are multi-functional instruments used to promote Chinese political, economic, and even military strategies³³. The Vale and China dispute³⁴ is a prime example of how China uses leverage to exert its own policy goals and economic interests. In attempts to bring down the costs of the costs of voyages from Brazil to China, in comparison with the shorter route from Australia, the Brazilian ore giant Vale established a fleet of very large ore carriers or VLOCs (also known as Valemax). In an attempt to win China's favour, Vale's company executives gave most of the work to Chinese yards and signed long-term charter contracts with a number of smaller independent firms who had placed similar orders. China initially supported this plan and Chinese banks even provided some of the finance. However, on their first return voyage to China and loaded with ore, the Valemax vessels were banned from unloading in China on safety grounds, despite having docked safely in other countries.

This dispute resulted in a three-year deadlock, during which Valemax vessels were unable to unload in China. Vale initially fought back by refusing to Charter vessels from major Chinese firms and was forced to move its cargo onto smaller vessels at transhipment points in Malaysia and the Philippines before moving it onwards to China. This incurred increased costs, which coupled with falling freight rates, caused Vale to surrender and sell four of its Valemax vessels to a Chinese shipping SOE. Shortly thereafter, it sold 12 more vessels to China VLOC, China Ore Shipping and ICBC Leasing. These ships were then all chartered back to Vale, with the prediction that they would now be allowed to dock in Chinese ports. In 2015, following the

³¹ C. PARIS, China Cosco Shipping Merger is Expected to Kick off Further Consolidation in Industry, Wall Street Journal https://www.wsj.com/articles/china-cosco-shipping-merger-expected-to-kick-off-further-consolidation-in-industry-1454598139 (accessed 10 May 2020).

³² Ibidem.

³³ Ibidem.

³⁴ T. MITCHELL, *China lifts ban on giant Valemax ships, Financial Times* https://www.ft.com/content/10a4f69e-213f-11e5-ab0f-6bb9974f25d0 (accessed 30 April 2020).

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three-year ban, China's Ministry of Transport issued notices approving the berthing of the VLOCs and the first full cargo of iron ore from Brazil was unloaded. Vale's difficulties with exporting to China illustrates how China furthers it interests through controlling the entire supply chain, from financing and building vessels, to controlling ports and then forcing ship sales and leasing back. The Ministry of Transport cited 'technical reasons' for implementing the ban, which it had been lobbied to do so by SOE's such as China COSCO, which was on the brink of being delisted from the Shangai stock exchange³⁵.

As the BRI runs parallel to China's plans for maritime dominance and trade control, it can be expected that Chinese shipyards and Chinese SOE's will retain an aggressive presence in the Maritime Silk routes. In respect of reaching global targets it becomes important to know what policies guide 'green' maritime expansion. The BRI has placed Green Finance at the core of its project functions and is developing a green light to evaluate BRI investments in regard to their environmental performance³⁶. What we do know about the BRI, is that it is integral to China's economic development plans and will be supported by Chinese banks which will continue to finance BRI projects and related industries, such as shipping. Increased fleet capacity for shipping will likely continue being funded by China's long-term development banks, such as the Bank of China, Export-Import Bank of China (China Eximbank) and China Development Bank (CDB) – all regulated by People's Bank of China. Traditional bank loans still dominate the market, however alternative lending such as leasing is also becoming a major component of China's shipping finance sector. Commercial banks, such as the Industrial and Commercial Bank of China (ICBC), the Bank of Communications, and 23 other financial institutions are all involved in ship lease finance along with China State Shipbuilding Corporation (CSSC) and COSCO Shipping. China's aggressive control of supply chains, will only gain momentum with its BRI efforts to create an overarching framework which will serve its policy objectives including the direction of shipping finance.

The following section aims to elucidate how green finance is incorporated into the financial policies of banks which will finance maritime transport in the BRI, specifically what frameworks apply to shipping. These Chinese maritime powers could have major impacts on shipping's contribution to vessel source pollution if continued growth is planned on such a scale. For the reasons presented in this section, it is important to know upon what basis China finances ship building. We know that China has already made significant regulatory strides in terms of sulphur emissions and on-shore power, but how will capital be advanced to ships operating along Maritime Silk routes?

³⁵ Ibidem.

³⁶ C.N. WANG, op. cit.

3. Chinese Banks: Green Finance and Shipping

Green Finance in China is consistent with its 13th Five-Year Development plan, which focuses ensuring that modes of production and ways of life will become more 'eco-friendly and low-carbon' with an emphasis on greater energy efficiency, controlled land use for construction, reduced emission of pollutants, and building eco-barriers for eco-security³⁷. The Belt and Road Initiative Green Coalition (BRIGC), as supervised by the Chinese Ministry of Ecology and Environment, has announced that it intends to develop a 'green light' framework to evaluate BRI investments in regard to their environmental performance³⁸. It appears that maritime transport will be included in this framework as the BRIGC has establishes a thematic partnership with Chinese and international stakeholders in the maritime community 'with a shared future and marine environment governance'39. If this is the case, then shipping will fall under an overarching commitment to the 'BRI Green Investment Principles' - a pledge by all financial institutions and corporations financing BRI projects to uphold the the UN 2030 Sustainable Development Goals and the Paris Climate Change Agreement⁴⁰. The BRI Green Investment Principles include, inter alia, the utilisation of green financial instruments and embedding sustainability into corporate governance⁴¹. However, until such time as green maritime transport is a stronger focus under the BRI with clear green shipping objectives and definitions; shipping, for the most part, remains within the ordinary Chinese financial framework. Determining how finance is distributed to green shipping activities therefore requires a look into China's general policy for green finance and whether within this framework any sectoral-specific policy or mechanism for advancing ship finance on the basis environmental objectives is alluded to.

The financial institutions supporting the Chinese maritime sector are regulated by the People's Bank of China (PBoC) – tasked with the drafting and enforcing of relevant laws for the regulation of the financial market, formulating and implementing monetary policy in accordance with law, and preventing and managing financial risk⁴². In order to mobilise and incentivise investment in green sectors and projects, the People's Bank of China and six other government agencies issued a set of 'Guidelines for Establishing the Green Financial System' in 2016⁴³. These Guidelines outline a number of steps to implement the *Opinions of China's Central Party Committee and*

³⁷ The 13th Five-Year Plan for Economic and Social Development of the People's Republic of China, 2016-2020.

³⁸ Ibidem.

³⁹ Ibidem.

⁴⁰ Green Investment Principles for the Belt and Road (2018) http://www.gflp.org.cn/public/ueditor/php/upload/file/20181201/1543598660333978.pdf (accessed 18 April 2020).

¹¹ Ibidem.

⁴² Peoples Bank of China, *Purposes and Functions* http://www.pbc.gov.cn/en/3688066/3688080/index.html (accessed 14 May 2020).

⁴³ Yinfa 2016 Doc No 228 (hereafter 'Guidelines').

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the State Council on Accelerating the Development of Ecological Civilization⁴⁴ and the Overall Plan for the Structural Reform for Ecological Civilization⁴⁵, as well as to advance the development of the concepts of 'innovation, harmony, greenness, openness and sharing'⁴⁶. The aim is also to develop a green financial system and to 'vigorously develop green lending' to transition to a green economy. The Guidelines refer to 'green finance' as:

[F]inancial services provided for economic activities that are supportive of environment improvement, climate change mitigation and more efficient resource utilization. These economic activities include the financing, operation and risk management for projects in areas such as environmental protection, energy savings, clean energy, green transportation, and green buildings⁴⁷.

Green transportation therefore falls within the scope of projects for which Chinese banks are called upon to develop strategies for financing. This is in line with an understanding that 'sustainable' or 'green' projects in a Chinese context usually refers to investments which support low-carbon development, assist in creating a circular economy, or contribute to achieving a specific environmental objective such as the reduction of SOx or rehabilitation efforts.⁴⁸ The Guidelines call for the development of a policy incentives and actions in several areas: 1) green bonds, 2) green lending, 3) green development funds, 4) green insurance, 5) markets for pollution control rights, 6) local government initiatives, and 7) international cooperation⁴⁹.

In developing a working taxonomy for industry activities which are considered 'green' and therefore eligible for green finance, the most noteworthy progress has been made in respect of green bonds. Since 2015, China has grown its green bond market from a baseline of zero green bond schemes to the biggest in world in2016 and 2017. China has rapidly advanced this sector through international collaborations to establish green bond policy and certification standards. In 2015, the PBoC published its 'Green Bonds Endorsed Project Catalogue' to 'initiate the top-level design for the national green financial system' ⁵⁰. As a starting point, the Catalogue acknowledges that:

'finance lays a foundation for resource allocation, and plays a significant role in the industrial restructuring and the transition to a green economy. However, the direct

⁴⁴ Zhongfa [2015] No.12.

⁴⁵ Zhongfa [2015] No.25.

Guidelines, op. cit.

⁴⁷ Guidelines, op. cit.

⁴⁸ Xinhua News Agency, CPC Central Committee and State Council on accelerating the construction of ecological civilization, 2015, Retrieved from Xinhua News Agency, http://news.xinhuanet.com/politics/2015-05/05/c_1115187518_3.htm (accessed 1 April 2020).

⁴⁹ Ibidem.

Announcement No.39 of 2015 of the People's Bank of China.

financing market in China is currently lacking of explicit defining criteria and catalogue for green investment projects, which goes against the purpose of encouraging investors from home and abroad to reinforce green investment and take social responsibilities'51.

Therefore encouraging investment in the sector is premised on the idea of an internationally aligned set of criteria for projects and activities which promote the transitioning of the Chinese economy. The Catalogue covers six main categories of green bond projects for green financial bonds within the inter-bank market⁵²:

- energy saving
- pollution prevention and control
- resource conservation and recycling
- clean transportation,
- clean energy
- and ecological protection and climate change adaptation

Once again, there is a focus on 'clean transportation' as its own category, which is further divided into four sub-categories: Railway Transportation; Urban Rail Transit; Public Urban and Rural Transportation; Waterway Transportation; Clean Fuel; New Energy Automobile; Internet Application on Transportation. On a further reading of the subcategory descriptions, investments for shipping seem to fall exclusively within 'Waterway Transportation' with other potential categories of inclusion like 'Clean Fuel', or 'Internet Application on Transportation' focusing more on manufacturing processes. 'Waterway Transport' (a subcategory level II) is then further divided into level III categories including 'Vessel Purchase' and 'Waterway Regulation'. Waterway regulation is 'specific to the high-quality inland waterway dredging projects' and therefore would not cover commercial ocean shipping, which leaves 'vessel purchase'. Vessel purchase is:

'specific to the phase-out of old vessels, and purchase of standardized inlandwaterway vessels, and vessels transport on costal water and ocean which fully meet the latest international guidance, agreements and standards'⁵³.

This significantly narrows down the range of shipping activities which can benefit from green bonds. In the adjacent explanatory notes, a number of policy plans are cross-referenced, including the Implementation Plan of Improving Industrial Structure, Promoting Industrial Transformation and Upgrading for Shipping Industry (2013-2015); Measurement for Subsidy Management of Inland Ship Standardization; Working Focus on Energy Saving and Emission Reduction in Transportation Industry

⁵¹ Ibidem.

⁵² Ihidem

⁵³ China Green Bond Endorsed Project Catalogue (2015 Edition, translated by ICMA) http://www.greenfinance.org.cn/displaynews.php?cid=79&id=468 (accessed 10 April 2020).

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2014; and the International Convention for the Prevention of Pollution From Ships (MARPOL73/78) where ocean shipping is applicable. The Plan for Promoting Industrial Transformation and Upgrading for Shipping Industry is an old policy focused primarily on scrapping old tonnage to the end of 2015 and closing down unauthorised projects – which means that finance could be advanced to new compliant vessels to phase out older non-compliant vessels, although this policy is fairly outdated. It therefore remains quite ambiguous which shipping activities the Catalogue advances green bond proceeds, or on a restrictive interpretation, the Catalogue only endorse shipping activities aligned with the objectives of these policies or for compliance with MARPOL. However, this viewpoint fails to take into account many of China's policy-guided research and development projects which aim to promote green technologies⁵⁴, as well as industry actions such as those taken by COSCO⁵⁵, and a host of domestic policy and legislation aimed at reducing emissions in ports and inland waterways. A harmonisation of these policies with projects eligible under the Green Bond Endorsed Catalogue is therefore needed.

It is also important to note that the Green Bond Endorsed Catalogue only regulates the interbank bond market and bond issuance from financial institutions, accounting for 93% of outstanding bonds in China⁵⁶. Domestic corporate bonds and non-listed companies are subject the *National Development and Reform Commission (NDRC) Green Bond Guidelines*⁵⁷. The NDRC regulates the smaller portion of China's bond market, including corporate bond issuance. The NDRC guidelines are less comprehensive than the PBoC's guidelines as they do not offer criteria for reporting and managing of proceeds⁵⁸. Therefore, the PBoC guidelines can also guide non-financial corporates in respect of guidance on the whole bond issuance process.

As there is no green finance policy in China specific to maritime transport, placing shipping within this policy framework of 'green' projects is the best determinant of what green shipping projects can be regulated by the financial markets. However, as ocean shipping has not received due consideration within this framework,

⁵⁴ China maritime industry, classification society and research institutes are leading the way in energy efficiency technologies, including hybrid power systems, alternative hull designs, and the 2015 in Beijing research project called the 'Core Technology for Round-Trip LNG Vessels', (one of the 863 plans initiated by Hudong-Zhonghua Shipbuilding).

Awarded the Green Gateway Partners by the Port of Seattle in 2014; awarded the Green Flag Award by the port of Long Beach for successibe; participant in the Hong Kong Fair Winds Charter; verified and certified the Clean Shipping Index Certifications by the BSR CCWG; acquired Environmental Ship Index certificates under an umbrella of the International Association of Ports and Harbors for 12 vessel containers; piloted the "Clean Sky" LNG-driven Kamsarmax bulk carrier.

⁵⁶ Climate Bonds Initiative (CBI) and the International Institute for Sustainable Development (IISD), Roadmap for China: green bond guidelines for the next stage of market growth (2016) https://www.iisd.org/sites/default/files/publications/green-bond-guidelines-next-stage-market-growthen.pdf (accessed 18 April 2020).

⁵⁷ NDRC, Green Bond Guidelines Issued by China's National Development and Reform Commission https://greenfinanceplatform.org/financial-measures-database/green-bond-guidelines-issued-chinas-national-development-and-reform (accessed 1 April 2020).

⁵⁸ CBI - IISD, *op. cit.*, p.6.

it becomes imperative for the advancement of the sector that a green maritime transport mandate is formulated or that definitive green shipping criteria are incorporated. In acknowledging some of these vernacular challenges in green finance more generally, China is taking steps to harmonise green finance taxonomies. The 'Development Plan for Building the Standardization System for the Finance Sector (2016-2020)' was launched in 2017 by the PBoC and a number of related Commissions. Under this initiative, both the PBoC Green Bond Project Catalogue and the Green Bond Credit Rating Standard are undergoing Revision. This was coupled with a number of regulatory updates for green bond issuance, management and third-party certification⁵⁹.

In the context of 'green industries', the NDRC and Ministry of Ecology and Environment jointly released '2019 green industry guiding catalogue' on 6th March 2019 to strengthen green industry development. The Catalogue covers six key industries: energy-saving and environmental protection industries, clean production industries, clean energy industries, eco-environmental industries, green upgrading of infrastructure, and green services⁶⁰. Green Services involve several ship sea projects, with the Catalogue mentioning ship manufacturing under the development of energy conservation and environmental protection industries. These include natural gaspowered ships, electric ships, solar energy vessels, wind energy and other technologies for new energy ships, energy conservation and new energy construction ships. The Catalogue also requires green shipping for the prevention and control of pollution from ships and port, including the retrofitting and installation of exhaust pollution control equipment and related port reception facilities. The Catalogue is therefore more specific in respect of 'green shipping' technologies and projects, however alignment is needed with other green financing regulations and policies.

Later in 2019, the NDRC and other ministries released the 'Catalogue for Guiding Industry Restructuring' to phase out industries that it considers 'obsolete' due to their use of outdated technologies, waste of resources, pollution outputs and failure to comply with relevant laws⁶¹. The Catalogue is aimed upgrading industrial infrastructure and transitioning China's economy from rapid growth to advanced and technologically sophisticated development. It consists of three categories of activities: 'encouraged', 'restricted', and 'obsolete'. The 'encouraged' category of activities refers to advanced technologies which promote high-quality economic and social development; these are to be supported by government departments and financial

⁵⁹ EIB - PBoC, The need for a common language in Green Finance: Extending classification of objectives and activities for a shared market-based measurement of environmental impact and risk, White Paper Phase II Report, 2018, p. 8.

⁶⁰ Seconded European Standardization Expert in China, 2019 Green Industry Guiding Catalogue http://www.sesec.eu/2019-green-industry-guiding-catalogue/ (accessed 16 May 2020).

⁶¹ China Briefing, *China's 2019 Catalogue for Guiding Industry Restructuring*, 2019 https://www.china-briefing.com/news/chinas-2019-catalogue-guiding-industry-restructuring/ (accessed 16 May 2020); Chinese version of Catalogue available at https://fgw.yuncheng.gov.cn/article/18/10/45093.shtml (accessed 16 May 2020).

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institutions through fiscal, tax, land, and credit support. In terms of foreign investment, entry into the Chinese market is regulated by the country's negative lists⁶² and encouraged catalogue⁶³ for foreign investment, used together with the Catalogue of Industries for Guiding Foreign Investment. The 2019 negative lists removed certain restricted areas for foreign investment, allowing international ship freight companies established in China to no longer be a Sino-foreign joint enterprises. International shipping agencies are also no longer required to be Chinese controlled. With the opening up of foreign investment, there also seems to be some control over the shipping activities that can occur from foreign capital – these would clearly have to be 'encouraged' or at the very least 'restricted' in capacity.

Chinese green finance for shipping finds itself within a matrix of policy strategies and plans for green economic expansion. Therefore, it is not an easy task to determine what objectives and maritime activities green finance supports and advances. There are also many regional green finance taxonomies in China, an analysis of which is beyond the scope of this Paper, whilst Chinese regulators are also taking steps to partner with other global organisations to work towards a 'universal taxonomy' for green projects. Until such time as maritime transport is included in these universally aligned taxonomies or under the BRIGC Green Light framework, the basis upon which green finance is advanced to shipping activities in the BRI and on maritime expansion routes remains ambiguous. From China's perspective, this is perhaps unproblematic as policies and regulations remain flexible in meeting the most recent Chinese plans for development. However, if China wants to encourage foreign investment and bolster its green bond market, then it requires a green shipping mandate which is easily translated into commercial agreements. In a joint research report by the European Investment Bank (EIB) and the Green Finance Committee of China Society for Finance and Banking, a growing need for a 'common language' in green finance was highlighted⁶⁴. The report noted that a 'lack of clarity as to what constitutes green finance activities prevents a univocal definition for the use of proceeds'65. Secondly, the report argues that referring to different taxonomies hinders accountability and comparability cannot be achieved⁶⁶. Primary indicators for similar activities cannot be established and market participants cannot clarify whether a product is comparably aligned with policy objectives⁶⁷. Both the OECD and the High-Level Expert Group on Sustainable Finance have stated that a lack of a common

Notice of the Ministry of Commerce of the National Development and Reform Commission on Printing and Distributing the "Negative List of Market Access (2019 Version)"; Fakai Reform [2019] No. 1685.

The Catalogue of Encouraged Industries for Foreign Investment 2019 Version.

⁶⁴ 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).

⁶⁵ Ibidem. p. 12.

⁶⁶ Ibidem.

⁶⁷ Ibidem.

definition of 'green' is brought up frequently in investor surveys when asked to identify the main barriers to green investing⁶⁸. 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'69. A non-standardised and ambiguous set of green financing objectives can lead to arbitrary decision making, which threatens the legitimacy of regional and national schemes for advancement of funds to certain activities.

The Climate Bonds Initiative (CBI) has aimed to fill this taxonomy gap in green finance through creating a standardised international labelling scheme for bonds⁷⁰. The CBI certification standard aims to align green finance strategies through providing standards and guidance to its Programme Members as well as banks, nongovernmental organizations, other stakeholders and government bodies. In addition to its functions surrounding 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. The trusted standard that is uses to do so is the Climate Bonds Taxonomy, which clearly defines what projects are climate aligned and will drive a low carbon economy⁷¹. This is a useful tool for governments and financial institutions in growing their green bond markets.

As far back as 2014 the CBI compiled a report for China's State Council on 'How to Grow Green Bonds in China'72. The Report stated that developing a green bond program in China will require 'developing clear definitions for investments linked to bonds that will qualify as green, along with a government-endorsed system of providing assurance for both investors and regulators about the green claims of corporate bond issuers and to avoid "interpretation" of what is green to suit issuer needs'73. This would also require a 'self-funding and self-policing verification and enforcement system that relies on common standards and criteria set at a central level and a requirement for verification of green claims'. The CBI has attempted to achieve these steps at an international level and China followed suit with its Green Bond Catalogue. However, as seen with the Green Bond Catalogue, maritime transport still remains a conundrum. The CBI has followed a similar trend of focusing on the energy sector and land-based transport. It has not yet included a sectoral focus on shipping

⁶⁸ 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).

⁶⁹ Ibidem.
70 See CBI, Climate Bonds Taxonomy, October 2019 https://www.climatebonds.net/files/ files/CBI_Taxonomy_Tables-Oct19_Final.pdf (accessed 16 November 2019).

The report was prepared for the Development Research Centre (DRC) of the State Council of China as part of a joint project with the International Institute for Sustainable Development (IISD), Greening China's Financial Markets Growing a Green Bonds Market in China: Reducing costs and increasing capacity for green investment while promoting greater transparency and stability in financial markets https://www.climatebonds.net/files/files/growing_green_bonds_en.pdf (accessed 15 May 2020).

⁷³ Ibidem, vii.

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in its Taxonomy which would categorise shipping activities as 'green light' (meaning automatically compatible), 'orange light' (meaning compatible if compliant with a screening indicator), or 'red light' (not compatible). In view of the recent 2020 sulphur cap, increasing IMO commitments to the Sustainable Development Goals and carbon reduction in the sector – the CBI has recently announced the formation of its Shipping Technical Working Group (TWG) and Industry Working Group (IWG) to develop a framework criteria for shipping investments⁷⁴. The CBI aims to develop a sector criteria for freight shipping to provide a framework for decision-making. It will set out rules for determining when shipping assets and infrastructure projects are compatible with a low carbon, climate resilient economy. Projects deemed to be in alignment with this framework will be eligible for certification under the CBI Standard. The TWG and IWG intend to receive contributions and input from a number of stakeholders including academics, governments, law-makers, ship owners, operators, investors, financial institutions and international policy bodies.

Other regions, such as the European Union, have created a specific green shipping scheme⁷⁵. The European Investment Bank Green Shipping Finance Facility falls within a greater EU framework for green financing and provides an exemplar for a set of 'green' objectives. It advances financial support to certain Borrowers on the basis that the Borrower undertakes to: (i) implement and operate the project in compliance with Environmental Law, (ii) obtain and maintain requisite Environmental Approvals for the project, and (iii) comply with any such Environmental Approvals⁷⁶. The environmental standard imposed on borrowers is dependent on applicable national and EU law. However, this legal requirement coupled with the administrative complexity of the scheme has been criticised as 'too demanding', having the effect of locking certain users out of the market⁷⁷. China could have the advantage of greater flexibility in imposing a set of standards as its own SEOs will likely adhere to policy objectives without having to be stringently governed by loan agreements. Chinese banks raising the capital for shipping portfolios could also have a clear and specific way of assuring investors that the proceeds of such funds are being directed to 'green' schemes and therefore offer sustainable returns.

It will also be interesting to see whether Chinese banks involved in shipping will take up the Poseidon Principles as part of a universal movement to 'green' the

⁷⁴ See the CBI's *Shipping sector criteria* available soon at https://www.climatebonds.net/shipping (accessed 18 April 2020).

An analysis of this scheme in context has elucidated the importance of a clear and directional framework for green financing projects, see J. CHUAH, Legal Aspects of Green Shipping Finance – Insights from the European Investment Bank's Schemes, in P. Mukherjee et al. (eds), Maritime Law in Motion. WMU Studies in Maritime Affairs, Vol. 8, 2020.

⁷⁶ Clause 1(a) of EIB, EIB template contractual clauses on environmental matters (December 2014) https://www.eib.org/attachments/documents/eib_standard_contractual_clauses_on_environmental_infor mation_en.pdf (accessed 21 January 2020).

Monitor Deloitte, EU Shipping Competitiveness Study: International benchmark analysis', Study commissioned by the European Community Shipowners' Associations, February 2017.

shipping sector through responsible finance. The Poseidon Principles framework provides a set of principles along which Signatory banks can integrate climate considerations into lending decisions with the objective of achieving decarbonisation in the industry⁷⁸. The Poseidon Principles framework 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 CO₂ 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'⁷⁹.

4. Conclusion

The first part of this Paper recognises that China is pursuing a plan of rampant economic expansion through infrastructure development, which will also increase its dominance as a powerful shipping State and can significantly contribute to global greenhouse gas emissions. China's BRI and commercial maritime expansion started as separate agendas, with maritime expansion occurring long before the BRI was announced. However, these two strategies are becoming increasingly intertwined as they serve the same geopolitical and economic interests. China aims to place Shanghai at the centre of its maritime silk road and will create an extensive network of ports requiring Chinese vessels to facilitate the trade of commodities and products. The fact that China intends to use its own vessels and maintain maritime power is evident from the Vale case as well as its strategic blocking of Western alliances. Most importantly, the BRI is not only a pivotal national strategy, but an investment magnifier which foresees immense leverage for infrastructure development and trade growth⁸⁰.

China cannot control the local environmental laws and agendas of its BRI partners, but it can decide the terms upon which it advances finance. It can also encourage and attract a new investor base of environmentally conscientious parties who want to access the Chinese markets through various products, such as green bonds. Green finance is therefore an imperative tool in building China's ecological civilisation. In respect of green shipping within the BRI, China must realise the aggregation and configuration of shipping resources along a set of green principles. This includes ship yards, all shipping services, innovative ship researchers and developers – all capital intensive enterprises dependant on financing⁸¹. Green finance can therefore be elevated to an important environmental governance mechanism if certain steps are taken to promote the development of green financial frameworks.

Poseidon Principles (2019) https://www.poseidonprinciples.org/ (accessed 16 November 2019).
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 B. PARKER, The Poseidon Principles and a 'green transformation' of shipping, in Seatrade Maritime Review, 20 June 2019.

⁸⁰ H. JIN - O. SCHINAS, op.cit.

L. YANG, Ship Financing and Mortgage, 2003, pp. 66-68.

Vessel-source pollution in the Belt and Road Initiative: green finance as a regulatory tool for environmental sustainability

First and foremost, China needs to develop an accessible and unified 'green language' for shipping activities. Developing an understanding of 'green' shipping activities eligible for finance is crucial to developing a shipping sector which is aligned with both national and international environmental sustainability objectives. This can be done through an expansion of its existing catalogues which it can align with global framework initiatives, such as the Climate Bonds Initiative or Poseidon Principles. Shipping within the Maritime Silk Road can also be included in the BRIGCs green light study. As the COSCO Group and other SOEs will evidently provide substantial fleet capacity for the Maritime Silk Road, it is imperative for BRI partners and investors to know what China means by 'green shipping' in order to protect their own marine resources. This would significantly contribute to a convergence of objectives and streamline collaborative efforts between varying states, as seen with port of Piraeus acquisition which serves both Chinese and EU policy interests and which is necessarily inclusive of environmental standards.

China also has to offer new, innovative financial structures and products which serve both policy goals and private interests. Shipping-specific products, such as the EIB's Green Shipping Finance Facility can offer an example, as well as valuable lessons in the need for administrative simplification in disbursing funds for an urgent climate change agenda⁸². A clear green shipping financial framework can streamline processes to provide capital expeditiously. This can become a complicated task with transnational collaborative efforts as different legal regimes have differing environmental laws and policies. China can therefore exercise a measure of control over both BRI projects and maritime activities within the BRI to meet environmental objectives. Of course, transparency and consistent application of such a framework would be key in advancing its legitimacy.

⁸² J. CHUAH, op.cit.