

SHIPBUILDING POLICY AND MARKET DEVELOPMENTS IN SELECTED ECONOMIES 2022

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Shipbuilding policy and market developments in selected economies 2022

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Abstract

The past two decades have seen steady growth in global ship deliveries by countries that are not members of the OECD Council Working Party on Shipbuilding (WP6). Non-WP6 economies made up 47.4% of worldwide deliveries in 2021, mostly driven by the rapid growth of Chinese ship completions that reached a share of 41.1% of global completions. This report presents information on shipbuilding market developments in eleven of the largest non-WP6 shipbuilding economies and provides an overview of their support measures to the sector.

Keywords: Shipbuilding, Industrial policy

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1. Executive summary

Over the last twenty-one years, the share of non-WP6 economies in global ship deliveries has been steadily increasing, reaching 47.4% of world total in 2021. This rise was mostly driven by the rapid growth of Chinese ship completions, which reached 41.1% of global completions in 2021.

People's Republic of China's (hereafter 'China') share of ship deliveries by non-WP6 economies also more than doubled, from 42.0% in 2001 to 84.6% in 2021. This is attributable to the large-scale expansion of facilities by China's shipbuilders during the historic boom period from 2003 to 2008 and the Chinese government's policy efforts to promote the shipbuilding industry as a major strategic export industry since 2001 for all major shiptypes including bulkers, containerships and tankers. About half of new orders between 2018 and 2021 came from Chinese ship-owners. In 2021, China remained the largest shipbuilding economy in terms of both ship completions and new contracts. The shipyards owned by Chinese State Shipbuilding Corporation (CSSC), the state-owned shipbuilding conglomerate, accounted for about 35% of all ship completions in China.

Eleven non-WP6 members ranked in the top economies in terms of ship completions and new orders in terms of compensated gross tonnes (CGT). The Secretariat analysed the shipbuilding market developments in these selected eleven economies including the China the Philippines, Viet Nam, Indonesia, France, Chinese Taipei, United States, the Russian Federation (hereafter 'Russia'), Spain, Malaysia and Bangladesh.

Since the mid-2010s, Philippines, Indonesia, Chinese Taipei and Malaysia have experienced a substantial decline in their production of seagoing vessels. By contrast, Viet Nam and Bangladesh's shipyards performed relatively well in the last five years.

In contrast, Russian shipbuilders' activity increased significantly in 2020 driven by new orders for LNG carriers and icebreakers related to Russia's Arctic oil and gas exploration and exploitation. However, the international sanctions on Russia following Russia's aggression against Ukraine are expected to limit the capacity to operate for the Russian fleet and will probably lead to a reduction in new orders and completions at Russian yards.

Table 1. Completions and new contracts of seagoing vessels in terms of CGT by selected non-WP6 economies, 2018-2021

Completions			Contracts		
	Economy	Million CGT		Economy	Million CGT
1	China	44.3	1	China	52.15
2	Viet Nam	1.76	2	Russia	1.93
3	Philippines	1.69	3	Viet Nam	1.38
4	Indonesia	1.44	4	Philippines	1.1
5	Chinese Taipei	0.74	5	Indonesia	0.69
6	United States	0.68	6	Chinese Taipei	0.46
7	Russia	0.66	7	United States	0.31
8	Malaysia	0.37	8	Spain	0.25
9	Bangladesh	0.37	9	Malaysia	0.24
10	Spain	0.36	10	Bangladesh	0.19
11	France	0.28	11	France	0.16
Others (29 economies)		2.25	Others (26 economies)		1.33
Total (40 economies)		54.9	Total (37 economies)		60.19

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

The report also lists support measures taken by selected non WP6-members.

The total number of support measures found by the Secretariat (See Table 2 below) is similar than during the previous year (22 after 21). Research of support measures is difficult given the lack of official information in most economies. The Secretariat needs to lean on indirect sources which are often press articles. It means that there is a high risk that many support measures taken by non-WP6 economies are not mentioned in this Document given the fact that information on them is not publicly available or has not been found by the Secretariat.

China used the largest number of support measures (9), followed by the United States (5). The economies for which the Secretariat found support measures this year were also included in economies having recourse to support measures the previous year except for Bangladesh which implements a support scheme to attract FDI by providing lands at preferential conditions and the United Kingdom which has set up a Shipbuilding strategy including several support measures.

Looking at previous editions of the Inventory of support measures taken by non-WP6 members, it seems that economies can use all types of support measures depending on their needs and are not using specific types of support for a given economy. The only significant trend is the constant use by China of domestic orders to protect its local market (category M).

In terms of categories, as last year, the most frequent type of the support measures are the six measures to protect the domestic market (category M) meaning in most cases the required purchase of ships at domestic yards which can hamper international competition. They are followed by four support measures found for each of the categories A (Direct transfer of funds by Governments) and O (Other official regulations and practices) which can be also very distorting for the international shipbuilding markets and are twice as many as in the 2020/21 edition of this report.

Table 2. Number of support measures reported in the WP6 Inventory of non-WP6 members*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total
Bangladesh									1							1
China									1		1		4		3	9
India	1												1	1		3
Philippines															1	1
United Kingdom	2										1					3
USA	1			1				2					1			5
Total	4	0	0	1	0	0	0	2	2	0	2	0	6	1	4	22

* In alphabetical order

Source: OECD calculations

2. Introduction

As agreed in its Programme of Work and Budget (PWB) for 2021 and 2022 by the Council Working Party on Shipbuilding (WP6), this report provides an overview of the measures supporting the shipbuilding industry, as well as an analysis of the development of the shipbuilding market in selected non-WP6 members.

The Secretariat extended the reporting of support measures in this report as compared to previous reports on support measures taken by non-WP6 members ([C/WP6\(2020\)4/REV1](#), [C/WP6\(2019\)4/REV2](#)) by adding an analysis of shipbuilding market developments in non-WP6 members.¹

The analysis of the shipbuilding market in non-WP6 economies focuses on the recent activity of the shipbuilding industry in selected economies, but also provides brief information on the structure of each economy's shipbuilding industry. This analysis is based on publicly available information as well as information provided by data service providers to which the Secretariat has access, including Clarksons' World Fleet Register and IHS' SeaWeb.

¹ We would like to thank Caroline Bräten who contributed to the policy part of this report

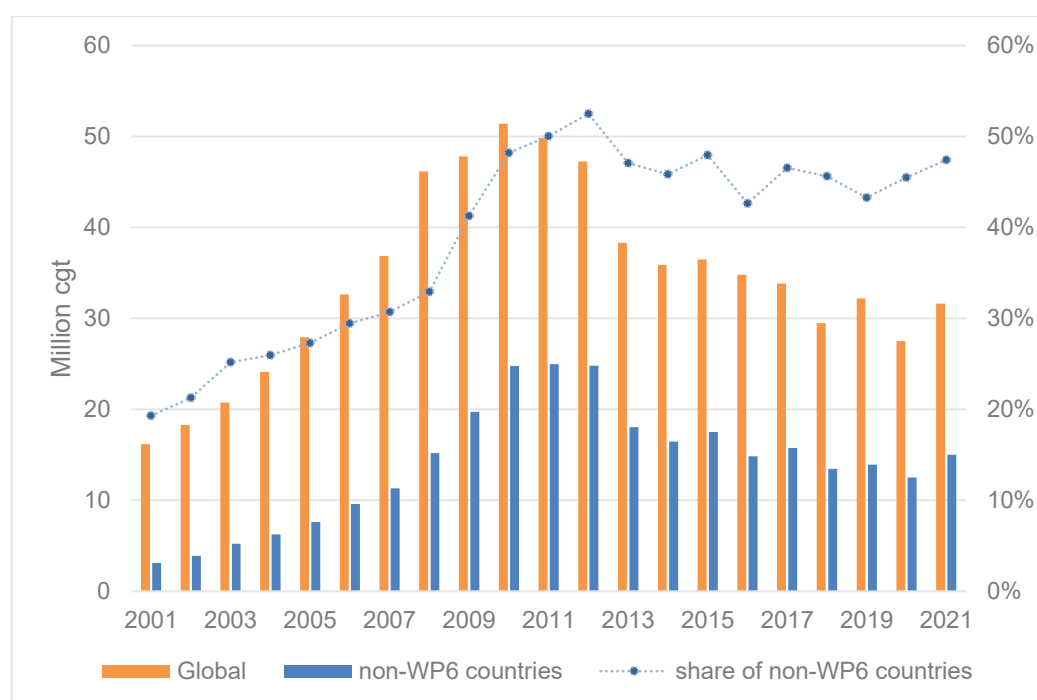
3. Shipbuilding market developments in non-WP6 economies

3.1. Overview

Over the last twenty years, the global market share of non-WP6 economies has been steadily increasing (Figure 1). The global share of ship completions by shipyards in non-WP6 economies increased from 20.8% in 2001 to 52.6% in 2012 and has fluctuated around 40-50% since then. In 2021, ship completions by non-WP6 economies amounted to 15.0 million CGT, accounting for 47.4% of world total.

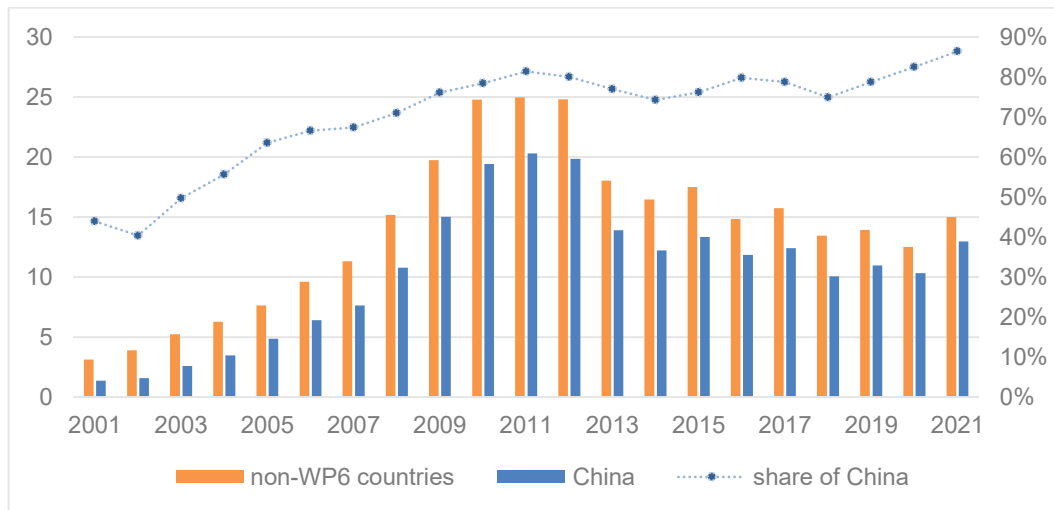
The increase in the share of non-WP6 economies in global ship completions is largely due to the rapid growth of China's ship production since 2000 (Figure 2). From 2001 to 2010, the thirteen-fold increase of China's ship production led China to become the world's largest shipbuilding economy in 2010. This is attributable to the large-scale expansion of facilities by China's shipbuilders during the historic boom period from 2003 to 2008 and the Chinese government's policy efforts to promote the shipbuilding industry as a major strategic export industry since 2001. Accordingly, China's share of ship completions in non-WP6 economies also nearly doubled from 42.0% in 2001 to 79.5% in 2010. In 2021, China remained the largest shipbuilding economy with seagoing vessel completions amounting to 13.0 million CGT, representing 41.1% of the world total. China's share of non-WP6 economies reached 84.6% in 2021.

Figure 1. Completions in CGT and global market shares, 2001-2021



Note: This Figure includes all seagoing vessels from 100 GT. WP6 economies include WP6 members at the end of 2021.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Figure 2. Share of China in non-WP6 economies in terms of CGT, 2001-2021

Note: This Figure includes all seagoing vessels from 100 GT. WP6 economies include WP6 members at the end of 2021. Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

At the end of 2021, the orderbook of non-WP6 economies' shipyards included 2 518 vessels on order, amounting to 43.6 million CGT and representing 50% of the world total (Table 3). China accounted for 82.9% of the orderbook of non-WP6 economies in terms of CGT. Russia and France followed China with 4.1% and 3.4% of the orderbook of non-WP6 economies, respectively.

Table 3. Orderbook of selected non-WP6 economies, December 2021

Economy	Number of ships	Million CGT	% of total CGT
WP6 economies	1492	43.66	50.0%
non-WP6 economies	2518	43.62	50.0%
China	1721	36.16	41.4%
Russia	110	1.81	2.1%
France	11	1.48	1.7%
Viet Nam	83	0.83	1.0%
Philippines	52	0.82	0.9%
Singapore	41	0.35	0.4%
United States	52	0.33	0.4%
Spain	37	0.26	0.3%
Indonesia	82	0.21	0.2%
India	33	0.19	0.2%
Bangladesh	53	0.16	0.2%
Chinese Taipei	7	0.13	0.1%
Malaysia	49	0.12	0.1%
Unknown	24	0.14	0.2%
Others(24 economies)	167	0.59	0.7%

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2. Recent market developments of selected shipbuilding economies

According to Clarksons' World Fleet Register, during the last four years (2018-2021), 40 non-WP6 economies have built more than one seagoing vessel (100 GT or more) and 37 economies have received more than one new order.

Eleven of these economies ranked in the top economies for ship completions and new orders in terms of CGT (Table 4). The secretariat analysed the shipbuilding market developments in these eleven economies including China, Philippines, Viet Nam, Indonesia, France, Chinese Taipei, United States, Russia, Spain, Malaysia and Bangladesh.

Table 4. Completions and new contracts of seagoing vessels in terms of CGT by selected non-WP6 economies, 2018-2021

Completions			Contracts		
	Economy	Million CGT		Economy	Million CGT
1	China	44.3	1	China	52.15
2	Viet Nam	1.76	2	Russia	1.93
3	Philippines	1.69	3	Viet Nam	1.38
4	Indonesia	1.44	4	Philippines	1.1
5	Chinese Taipei	0.74	5	Indonesia	0.69
6	United States	0.68	6	Chinese Taipei	0.46
7	Russia	0.66	7	United States	0.31
8	Malaysia	0.37	8	Spain	0.25
9	Bangladesh	0.37	9	Malaysia	0.24
10	Spain	0.36	10	Bangladesh	0.19
11	France	0.28	11	France	0.16
Others(29 economies)		2.25	Others(26 economies)		1.33
Total(40 economies)		54.9	Total(37 economies)		60.19

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.1. China

China's shipbuilding companies can be classified into three broad categories according to ownership structure: state-owned enterprises (SOEs), private domestic shipbuilding enterprises, and joint ventures of foreign and domestic companies (Table 5). In terms of completions in CGT, 46 of the largest 100 Chinese shipyards are owned by the central and local governments and thus are State-Owned Enterprises (SOEs). The top 100 Chinese shipyards represented about 98% of all CGT delivered in China in 2020.

Table 5. Ownership structure of the top 100 Chinese shipyards in 2020

Ownership Type	SOEs		Private companies	
	National government	Local government	Domestic owner(s) only	Foreign owner(s)
Number of shipyards	36	10	47	7
Completions in CGT ('000s)	6 343	653	3 345	583
% of completions	58.1%	6.0%	30.6%	5.3%

Note: This table includes all seagoing vessels from 100 GT. The ownership type is based on the information on yard administration (meaning a majority state ownership) in World Fleet Register of Clarkson Research Services.

Source: OECD calculations based on Clarkson Research Services Limited (February 2021), World Fleet Register, <https://www.clarksons.net/wfr>.

The largest Chinese shipbuilding conglomerate is the China State Shipbuilding Corporation (CSSC), which was created in 2019 by the merger of the two largest state-owned shipbuilders, China Shipbuilding Industry Corporation (CSIC) and CSSC. As of 2021, the shipyards owned by CSSC accounted for 35.2% of all CGT delivered in China.

Another major shipbuilding conglomerate is COSCO Shipping Heavy Industry, which is a subsidiary of the COSCO shipping group (*i.e.* the largest state-owned shipping operator in China). COSCO Shipping Heavy Industry owns nine shipyards. Major shipyards under its direction are COSCO HI (Zhoushan), COSCO HI (Yangzhou), COSCO HI (Guangdong), COSCO HI (Dalian), Nantong COSCO KHI, and Dalian COSCO KHI. As of 2021, the shipyards of COSCO shipping heavy industry accounted for 11.5% of all CGT delivered in China.

The Yangzijiang Shipbuilding Group, established in 1956, is China's largest private shipbuilder. The group owns four shipyards, which are located along the Yangtze River in the province of Jiangsu. These yards are Jiangsu New Yangzi Shipbuilding, Jiangsu Yangzi Xinfu Shipbuilding, Jiangsu Yangzijiang Offshore Engineering, and Jiangsu Yangzijiang shipbuilding. As of 2021, the shipyards of Yangzijiang Holdings accounted for 9.2% of all CGT delivered in China.

Table 6. Ship completions of major shipbuilding groups of China in 2021

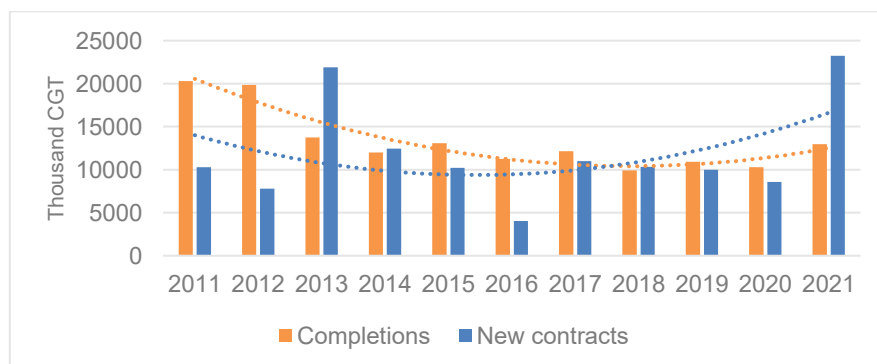
Group	Ownership	Completions	
		CGT('000)	% of total
CSSC	State-owned	4,562	35.2%
COSCO shipping HI	State-owned	1,424	11.0%
China Merchants	State-owned	552	4.3%
Yangzijiang Holdings	private	1,188	9.2%
New Century Shipbuilding	private	683	5.3%
Others		4,547	35.1%
Total		12,956	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Despite the weak demand in the global shipbuilding market and the restructuring of the Chinese shipbuilding industry, China's seagoing vessel production has been fluctuating between 11 million and 14 million CGT per year since 2014 (Figure 3). In 2021, China remained the largest shipbuilding economy in both ship completions and new contracts. China represented 46.4% of all CGT delivered world wide and 49.2% of all CGT contracted in 2021, an approximately 10% point rise compared to 2020.

Figure 3. Completions and new contracts of seagoing vessels by Chinese shipyards, 2011-2021



Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

China's shipyards have been producing almost all kinds of vessel types in the past eleven years (Table 7). Bulk carriers, tankers and container ships are the main ship types manufactured by Chinese shipbuilders, accounting for 78.1% of total CGT delivered in China for the past eleven years.

Table 7. Completions of seagoing vessels by ship type in China, 2011-2021

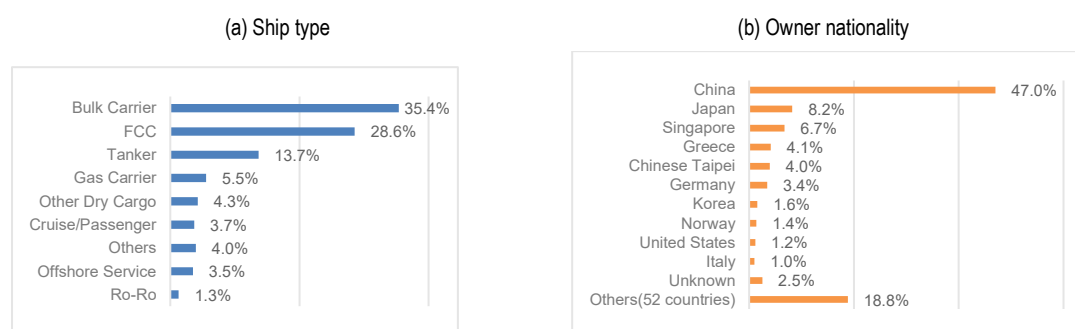
Type	CGT('000)	% of share
Bulk Carrier	71,116	47.0%
Tanker	27,112	17.9%
FCC	20,024	13.2%
Offshore Service	9,270	6.1%
Other Dry Cargo	9,287	6.1%
Gas Carrier	4,703	3.1%
Cruise/Passenger	3,222	2.1%
Cruise	59	0.0%
PCC	1,883	1.2%
Ro-Ro	932	0.6%
Reefer	398	0.3%
Others	3,472	2.3%
Total	151,418	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Recent new orders to Chinese shipbuilders have been concentrated in three major ship types; bulk carriers, tankers and containerships account for 77.7% of total CGT contracted between 2018 and 2021. Chinese shipbuilders won new orders from 62 economies in the last four years. About half of the new orders came from Chinese ship-owners. In 2021, China's ship-owners owned the second largest fleet in the world, after Greece, representing 349 million dead weight tonnes (DWT), and accounting for about 16.5% of the world tonnage². Most of China's shipping companies are SOEs.

Figure 4. New contracts in Chinese shipyards by ship types and by ship owner nationalities, 2018-2021, in terms of CGT



Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT and China includes Hong Kong. Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

² UNCTAD Handbook of Statistics 2021 - Maritime transport https://unctad.org/system/files/official-document/tdstat46_FS14_en.pdf

3.2.2. Philippines

According to the Maritime Industry Authority (MARINA) of Philippines, there are 115 registered shipbuilding and ship repair entities in Philippines as of 2019: 6 large, 15 medium and 94 small shipyards. There are also many service providers that are not labelled as shipyards by MARINA in Philippines, but are listed as contractors or afloat repair.

Most of the medium and small sized shipyards are domestic companies. Most of the large and export-oriented shipyards are foreign-owned. Among the six largest shipyards in Philippines, four are subsidiaries of foreign shipbuilding companies (Table 8).

Table 8. Major Shipbuilding companies in Philippines

Company name	Location	Ownership	Facilities	Manpower
Herma Shipyard	Bataan	Philippines	Graving dock: 15 000 GT Floating dock: 1 600 GT	Permanent: 60 Contract: 353
Keppel Subic shipyard	Subic	Singapore	Graving dock: 550 000 DWT	Permanent: 152 Contract: 300
Subic Drydock Corporation	Subic	USA (Subsidiary of Cebros Marine Corp)	Floating dock: 18 000 DWT 4 000 DWT	Permanent: 35 Contract: -
Keppel Batangas Shipyard	Batangas	Singapore	Graving dock: 400 000 DWT	Permanent: 170 Contract: 187
F.F. Cruz & Co.	Iloilo	Philippines	Floating dock: 500 GRT	Permanent: 43 Contract: 35
Tsuneishi heavy industries (Cebu)	Cebu	Japan	Floating dock: 20 000 DWT 8 500 ton	Permanent: 75 Contract: 804

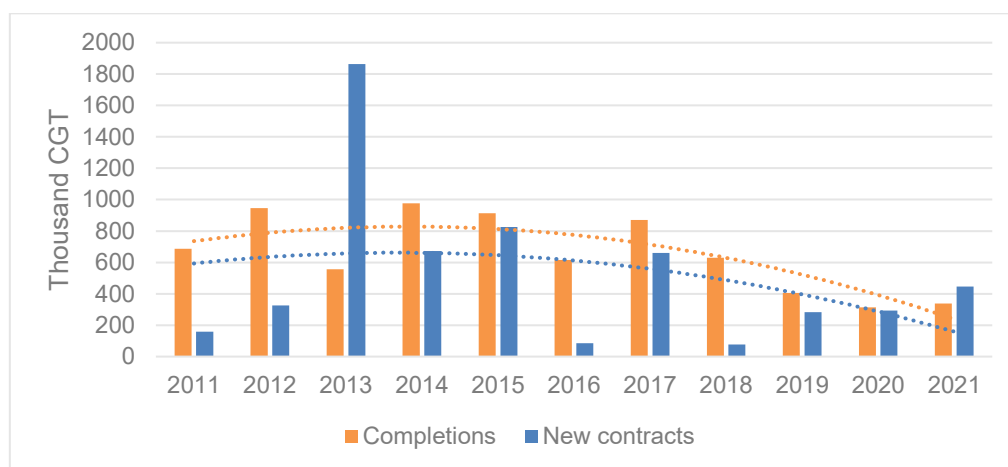
Note: Manpower includes skilled and technical employees.

Source: MARINA and Websites of each company.

The large shipyard of Hanjin Subic, which was one of the major shipyards that contributed to Philippines success to become one of the major shipbuilding economies in the world, filed for court receivership in January 2019. There were plans that Austal, which is Australia's global shipbuilder and defence prime contractor, and the US-based Cerberus would operate this shipyard³. Austal Philippines, a subsidiary of Austal group, currently builds high-speed ferries, workboats and other commercial vessels in its Balamban shipyard in Cebu.

Over the last eleven years, production of seagoing vessels in the Philippine and new orders to Philippine shipyards have been fluctuating in response to the developments in the global shipbuilding market (Figure 5). In terms of ship completions in CGT, their production sharply decreased by more than half from 871 926 in 2018 to 401 779 in 2019, reflecting the bankruptcy of Hanjin Subic shipyard. Hanjin Subic shipyard delivered 11 seagoing vessels (535 484 CGT) in 2018, accounting for 61.8% of all CGT completed in Philippines, but delivered only two ships (126 832 CGT) in 2019. However, new orders have been oriented upwards since 2018 based on CGT. The new contracts almost doubled from 294 054 CGT in 2020 to 447 259 CGT in 2021, and are all from Tsuneishi heavy industries.

³ <https://www.manilatimes.net/2020/09/22/business/business-top/australian-us-firms-to-take-over-hanjin-shipyard/770551/>

Figure 5. Completions and new contracts of seagoing vessels by Philippines' shipyards, 2011-2021

Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Philippines' shipyards have been producing a variety of vessel types over the last eleven years, including bulk carriers, container ships, tankers, gas carriers, passenger ships, reefer vessels and offshore service vessels (Table 9). Bulk carriers and container ships have been the main ship types made by Philippine shipyards, accounting for nearly 90% of total CGT delivered for the past eleven years.

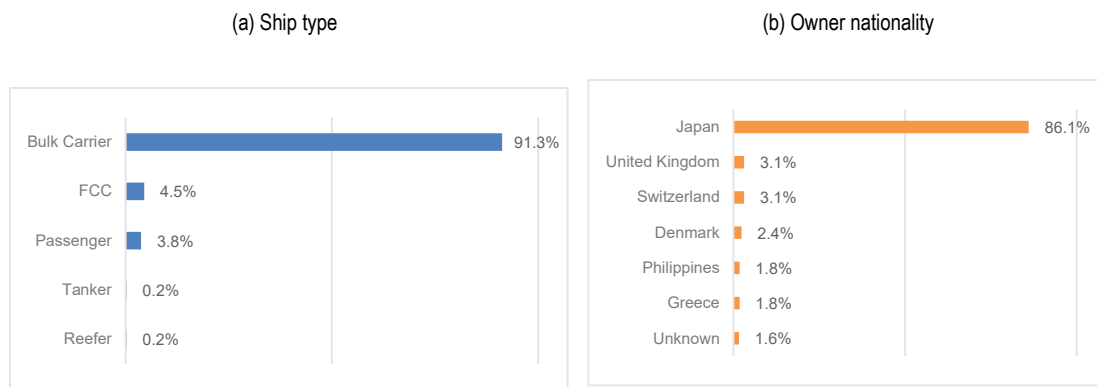
Table 9. Completions of seagoing vessels by ship type in Philippines, 2011-2021

Type	CGT('000)	% of total
Bulk Carrier	4358	60.1%
FCC(Fully Cellular Container)	2120	29.2%
Tanker	436	6.0%
Gas Carrier	163	2.2%
Passenger	119	1.6%
Reefer	31	0.4%
Offshore Service	15	0.2%
Others	12	0.2%
Total	7253	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (February 2021), World Fleet Register, <https://www.clarksons.net/wfr>.

During the last four years (2018-2021), Philippines' shipyards have won orders for total 1101 131 CGT seagoing vessels. More than 90 percent of these new contracts were concentrated in bulk carriers. Japanese ship owners accounted for 86.1% of these new contracts in terms of CGT (Figure 6).

Figure 6. New contracts in Philippines' shipyards by ship types and by ship owner nationalities, 2018-2021, in terms of CGT

Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.3. Viet Nam

Viet Nam's shipyards can be divided into three categories: subsidiaries of the Shipbuilding Industry Cooperation (SBIC), other state-owned enterprises, and foreign invested enterprises (Table 10). The SBIC is the largest state-owned shipbuilding corporation in Viet Nam, which produces various types of vessels, including tankers, bulk carriers, container ships, car carriers and passenger ships.

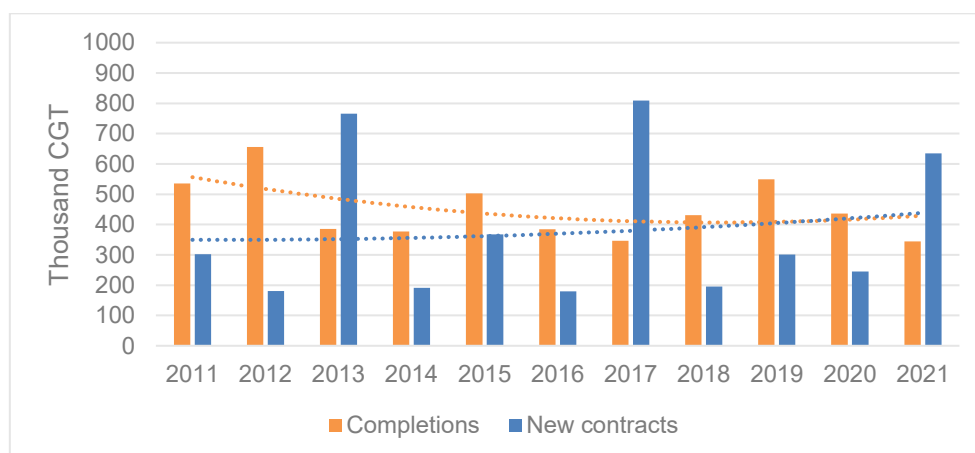
Table 10. Major shipyards in Viet Nam

Category	Name of Shipyard
SBIC	Ha Long Shipbuilding, Pha Rung Shipyard, Nam Trieu Shipbuilding Industry, Bach Dang Shipbuilding Industry, Song Cam Ship, Thinh Long Shipyard, Cam Ranh Shipyard, Saigon Shipbuilding Industry, Saigon Shipbuilding and Maritime Industry, 76 Shipyard
Other SOEs	Lilama Shipyard, Dung Quat Shipyard, PTSC Mechanical and Construction, PV shipyard, Hong Ha Shipyard, Z189 Shipyard, Ba Son Shipyard, Song Thu Shipyard
Foreign Invested Enterprises	Damen Song Cam Shipyard, Hyundai Viet Nam Shipbuilding, Strategic Marine Shipyard, Piriou Viet Nam, Vard Viet Nam, Oshima Shipbuilding Viet Nam

Source: "Viet Nam Maritime Industry", Presentation at ASEF 9th Forum⁴.

Despite the downturn in global shipbuilding market, the production of seagoing vessels in Viet Nam has remained rather stable around 0.4 million CGT per year since 2013 (Figure 7). New orders to Viet Nameese shipyards show an increasing pattern since 2018. Orders increased by more than 60% from 244 606 CGT in 2020 to 634 985 CGT in 2021.

⁴ <https://www.asef2015.com/asef-forum/pdf/NO18.%20SBIC%20Presentation%20on%20VIET%20NAM%20MARITIME%20INDUSTRY.pdf>

Figure 7 Completions and new contracts of seagoing vessels by Viet Nameese shipyards, 2011-2021

Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Viet Nameese shipyards have been producing a variety of vessel types over the last eleven years, including tankers, bulk carriers, other dry cargo ships, offshore service vessels, cruise/passenger ships, container ships, car carriers and gas carriers. Tankers and bulk carriers have been the main ship types produced by Viet Nameese shipyards, accounting for 68% of total CGT delivered for the past eleven years.

Table 11. Completions of seagoing vessels by ship type in Viet Nam, 2011-2021

Type	CGT('000)	% of total
Tanker	2142	43.3%
Bulk Carrier	1227	24.8%
Other Dry Cargo	569	11.5%
Offshore Service	409	8.3%
Cruise/Passenger	168	3.4%
FCC(Fully Celluar Container)	62	1.3%
PCC(pure car carrier)	29	0.6%
Gas Carrier	20	0.4%
Others	321	6.5%
Total	4948	100.0%

Note: This table includes all seagoing vessels from 100 GT.

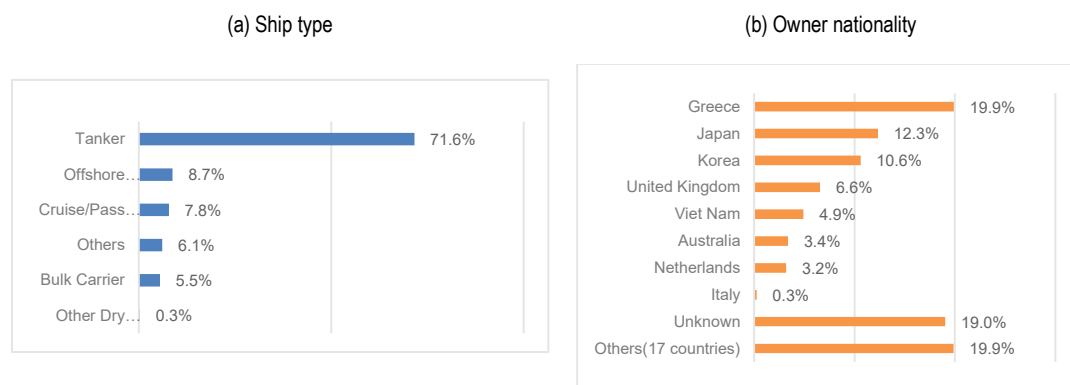
Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

During the last four years (2018-2021), Viet Nameese shipyards have received new orders for a total of 634 985 CGT seagoing vessels. Tankers made up the largest category in these new contracts, accounting for 72% of total CGT contracted in Viet Nam with Hyundai Viet Nam Shipbuilding Corporation receiving all the orders of tankers (18 vessels of about 50 000 DWT). Hyundai Viet Nam Shipbuilding was established in 1999 as a joint venture between SBIC and Hyundai Mipo Dockyard (HMD) of Korea and has become the leading shipyard in Viet Nam with an annual capacity of 20 vessels⁵.

⁵ <https://www.hellenicshippingnews.com/hyundai-Viet-Nam-shipbuilding-company-exports-ships-to-16-countries/>

In the last four years, Viet Nameese shipyards have received new orders from 25 economies; about 49% of the total CGT contracted was from ship owners in Greece, Japan, Korea and the UK (Figure 8). The share of domestic orders was only 4.9%.

Figure 8. New contracts in Viet Nameese shipyards by ship types and by ship owner nationalities, 2018-2021, in terms of CGT



Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.4. Indonesia

Two hundred-fifty shipyards are located in Indonesia, mostly centred in Batan, Jakarta, Lampung and East Java. Total annual production capacity of Indonesian shipyards is about 1 million DWT for new shipbuilding and about 12 million DWT for ship repair. Almost 80% of the shipyards are categorized as small and medium sized shipyards, with production facilities up to 5 000 DWT.

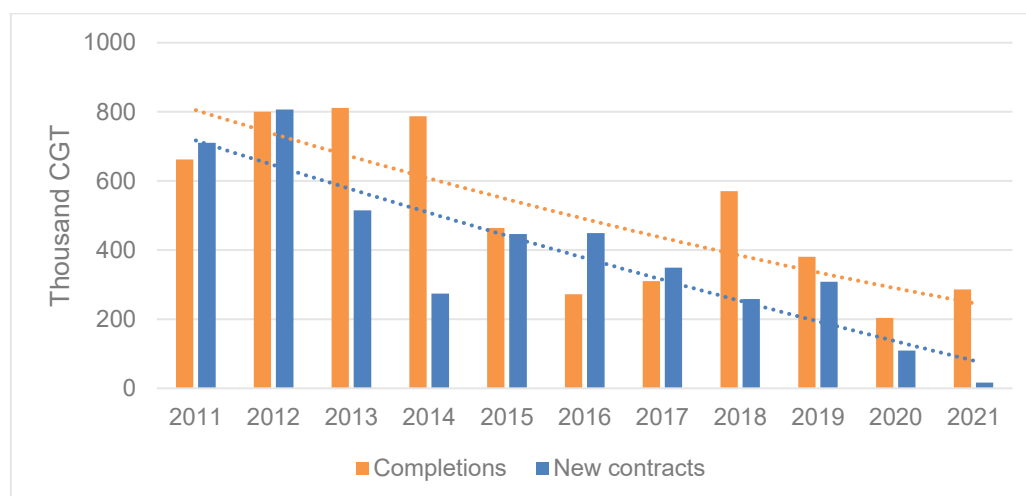
The two largest shipbuilders in Indonesia are PT PAL and PT Dok Dan Perkapalan Kodja Bahari, both of which are state-owned and build ships for commercial and military purposes.

Table 12. Overview of the two major shipyards in Indonesia

Name	Ownership	Facilities
PT PAL Indonesia (https://pal.co.id)	State-owned	- Naval shipbuilding, commercial shipbuilding and ship repair - Production capacity of 1 600 ton per month, or the equivalent of 3 ships per year (two 30 000 DWT tankers and one 17 500 DWT tanker) - Bulk Carrier up to 50 000 DWT, Container ships up to 1 600 TEUs, Tankers up to 30 000 DWT, Passenger ships up to 500 PAX, etc.
PT Dok Dan Perkapalan Kodja Bahari (Persero) (https://dkb.co.id)	State-owned	- Commercial shipbuilding and ship repair, naval shipbuilding - Shipbuilding up to 17 500 DWT and ship repair up to 30 000 DWT

Source: Websites of each company.

Over the last eleven years, production of seagoing vessels in Indonesia and new orders to Indonesian shipyards have been steadily declining based on CGT (Figure 9). However, in 2021, completions increased by 82 116 CGT compared to the previous year while contracts decreased by 91 436 CGT.

Figure 9. Completions and new contracts of seagoing vessels by Indonesian shipyards, 2011-2021

Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Indonesian shipyards have been producing a variety of vessel types over the last eleven years, including tugboats, passenger ships, offshore service vessels, tankers, dry cargo ships, bulk carriers, buoy/lighthouse tenders and work/repair vessels (Table 13). Tugboats accounted for 53% of total CGT delivered in Indonesia. These tugs are typically used in smaller ports where regular sized vessels cannot access.

Indonesia was the largest tugboat producer worldwide in the past eleven years, followed by China and Malaysia (Table 14). Due to high demand for inter-island transportation of bulk materials, Indonesia has the world's largest tug fleet at around 3 600 vessels, and domestic tug numbers are expected to grow over the next five years as ports are upgraded and population growth drives demand for bulk product transportation, particularly coal⁶. Therefore, the high domestic demand for tugboats seems to have contributed significantly to the growth of Indonesian tugboat builders.

Table 13. Completions of seagoing vessels by ship type in Indonesia, 2011-2021

Type	CGT('000)	% of total
Tug	2921	52.6%
Passenger	962	17.3%
Offshore Service	593	10.7%
Tanker	480	8.7%
Other Dry Cargo	466	8.4%
FCC(Fully Cellular Container)	44	0.8%
Bulk Carrier	9	0.2%
Buoy/Lighthouse Tender	35	0.6%
Work/Repair Vessel	33	0.6%
Others	6	0.1%
Total	5548	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

⁶ <https://www.rivieramm.com/opinion/opinion/indonesia-has-20-of-the-global-tug-fleet-26858>

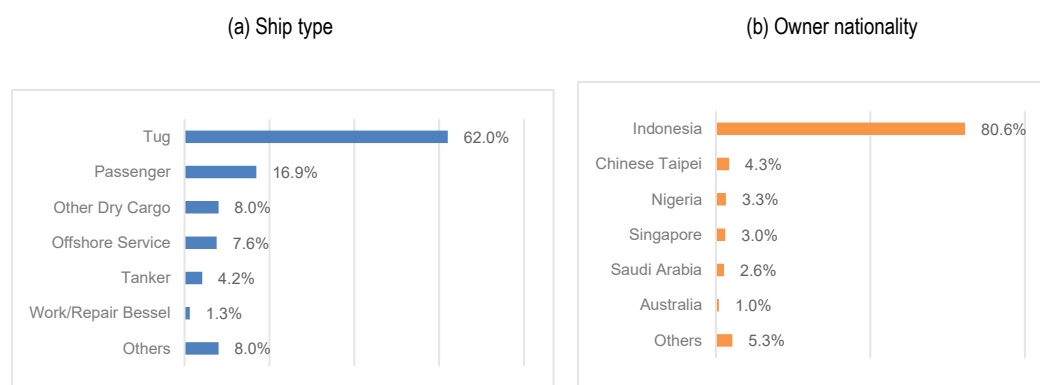
Table 14. Completions of tugs by building economies, 2011-2021

Economy	CGT('000)	% of world total
Indonesia	2918	27.9%
China	1953	18.7%
Malaysia	1127	10.8%
United States	657	6.3%
Turkey	617	5.9%
Netherlands	352	3.4%
Viet Nam	315	3.0%
Japan	303	2.9%
Brazil	241	2.3%
Spain	187	1.8%
Others(44 economies)	1788	17.1%
Total	10458	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

More than half of the new orders at Indonesian shipyards in the past four years were tugboats (Figure 10). In addition, unlike neighbouring economies such as Philippines and Viet Nam, about 81% of all new orders to Indonesian shipyards were from domestic ship owners.

Figure 10. New contracts in Indonesian shipyards by ship types and by ship owner nationalities, 2018-2021, in terms of CGT

Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.5. France

As of 2018, the total turnover of French shipbuilding companies amounted to EUR 11.4 billion, of which 44% was exported; the total number of employees was 47 200. The defence sector accounted for about half of the activity of the French shipbuilding industry: 53% of total turnover and 52% of total employment.

Table 15. Key figures of the French shipbuilding industry in 2018

1. Turnover: 11.4 billion Euros	
· Civil sector: 5.4 billion	· Defence sector: 6 billion
- Construction: 1.65 billion	- Construction: 2.4 billion
- Repair: 0.3 billion	- Maintenance & overhaul: 1.05 billion
Product/Service/Equipment: 6 billion	
2. Direct employment: 47 200	
· Civil sector: 22 600	· Defence sector: 24 600
- Construction: 4 100	- Construction: 8 000
- Repair: 1 400	- Maintenance & overhaul: 5 100
Product/Service/Equipment: 28 600	

Note: Civil sector includes merchant ships, service vessels, fishing ships and mega yachts.

Source: GICAN (the French marine industry group) activity report 2019-2020.

The main shipyards in France are listed in Table 16 by their main business activities. Chantiers de l'Atlantique, the largest shipyard in France, was planned to merge with Fincantieri of Italy, the largest cruise shipbuilder worldwide. However, in January 2021, the French and Italian governments announced that they would not proceed with the deal between the two state-owned enterprises - which would have led Fincantieri to take a majority stake in the Chantiers de l'Atlantique - mainly due to the current economic situation and the COVID-19 impact on the cruise shipbuilding market⁷.

Table 16. Main shipyards in France

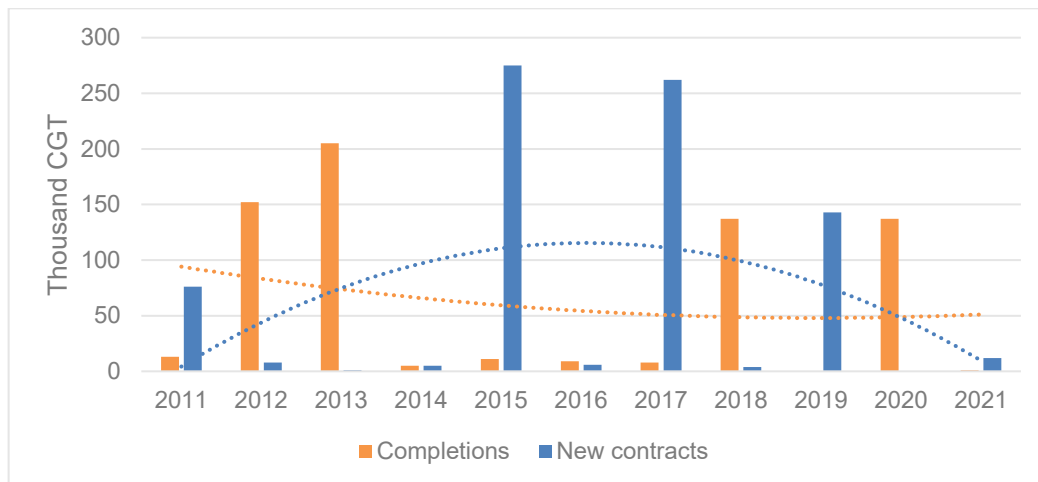
1. Cruise and passenger shipbuilder - Chantiers de l'Atlantique, PIRIOU, CMN (Constructions Mécaniques de Normandie), Neopolia marine	3. Ship repair yard - Chantier Naval de Marseille, Damen-France, Clemessy services, Socarenam, PIRIOU
2. Defence - Naval group, Kership, Socarenam, CMN	4. Other ship type - Leisure boat: Beneteau - Mega yacht: OCEA

Source: "France and the shipbuilding industry", Belon trade consulting, 2018.

Despite the sluggish movement of the global shipbuilding market after the global financial crisis, French shipyards' activity has been recovering quickly (Figure 11). Chantiers de l'Atlantique (formerly STX France) received successive orders for large cruise ships since 2010. However, in 2020 and 2021, French shipyards did not receive any orders for seagoing vessels (over 100 GT), because of the impact of the COVID-19 pandemic on the cruise shipbuilding market⁸.

⁷ <https://www.bloomberg.com/news/articles/2021-01-27/france-italy-are-said-to-call-off-fincantieri-chantiers-merger>

⁸ In 2021, there were two vessels contracted, however those were Ferries and Dredger, not Cruise ships.

Figure 11. Completions and new contracts of seagoing vessels by French shipyards, 2011-2021

Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Cruise ships are the main ship type built by French shipyards, accounting for 88% of total CGT delivered for the past eleven years. France is the fourth largest cruise shipbuilder worldwide after Italy, Germany and Finland (Table 18). 86.4% of new orders for cruise ships came from American ship owners.

Table 17. Completions of seagoing vessels by ship type in France, 2011-2021

Type	CGT('000)	% of total
Cruise/Passenger	629	92.8%
Cruise	598	88.2%
Tug	18	2.7%
Offshore Service	7	1.0%
Others	24	3.5%
Total	678	100.0%

Note: This table includes all seagoing vessels from 100 GT.

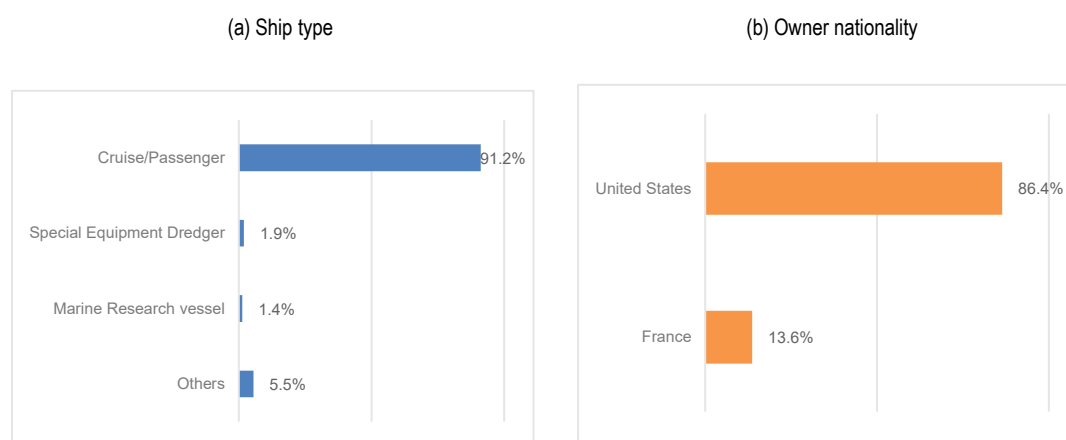
Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Table 18. Completions of cruise ships by building economies, 2011-2021

Economy	CGT('000)	% of Total CGT	GT('000)	% of Total GT
Italy	4335	45.0%	3983	45.8%
Germany	2806	29.1%	2835	32.6%
Finland	697	7.2%	630	7.2%
France	598	6.2%	583	6.7%
Norway	468	4.9%	237	2.7%
Japan	266	2.8%	254	2.9%
Others(10 economies)	466	4.8%	172	2.0%
Total	9638	100.0%	8693	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Figure 12. New contracts in French shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT

Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.6. Chinese Taipei

According to the Ministry of Economic affairs of Chinese Taipei, as of 2018, Chinese Taipei has 188 shipbuilding establishments employing 7 389 employees⁹. Of these, 86% are small businesses with fewer than 50 employees (Table 19).

The Taiwan International Shipbuilding Corporation (CSBC) is the largest shipbuilder in Chinese Taipei with two large shipyards in Keelung and Kaohsiung. It was partly privatised through an Initial Public Offering (IPO) in 2008, but the Chinese Taipei government is still the largest shareholder.

Table 19. Classification of Chinese Taipei shipbuilding industry

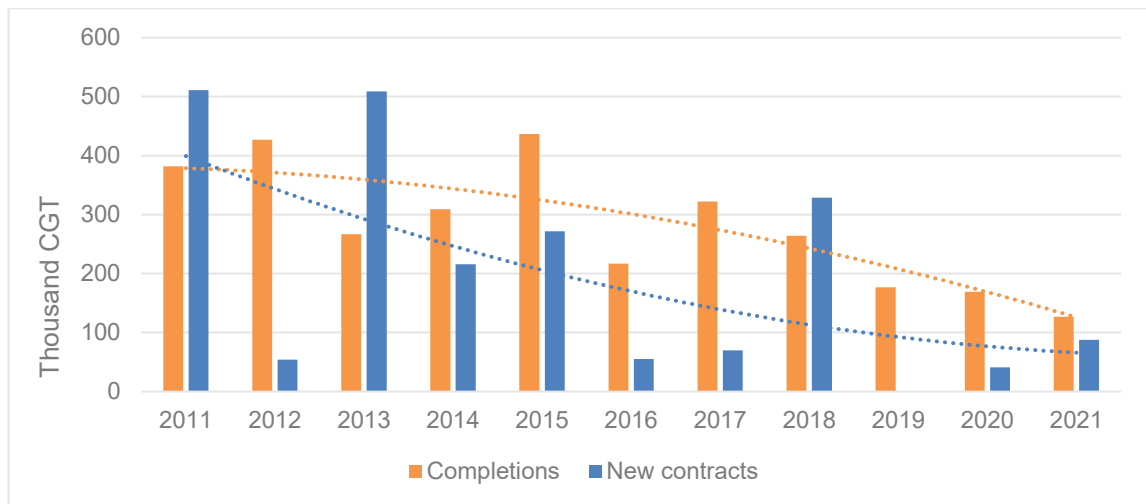
Classification	Shipyards	Business items
Large	Kaohsiung and Keelung of CSBC	Building container ships, bulk carriers, oil tankers, military and police ships.
Medium-sized	CITIC, Coating, Longde, Sanyang, Xinshengfa, Jiahong, and Unilai	Building official ships, bulk carriers, transportation ships, port service ships, work ships, yachts and fishing boats.
Small	-	Engaged in the production of fishing boats and ship repairs.

Source: Taiwan Shipbuilding Industry Association (<https://www.tsba.org.tw>)

Over the last eleven years, completions of seagoing vessels in Chinese Taipei and new orders to Chinese Taipei's shipyards have been declining in terms of CGT (Figure 13). Compared to 2011, completions in 2021 decreased by 66% and new orders in 2021 by 83%.

⁹ It is the result of factory operation census conducted by MOEA. It includes ship builders, boat builders, and floating structure manufactures

(https://www.moea.gov.tw/MNS/english/content/ContentMenu.aspx?menu_id=32940).

Figure 13. Completions and new contracts of seagoing vessels by Chinese Taipei shipyards, 2011-2021

Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

1. The ship types produced in Chinese Taipei between 2011 and 2021 were container ships, bulk carriers, offshore service vessels, tankers, tugboats, dry cargo ships, reefer vessels, and passenger ships (Table 20). While Chinese Taipei's shipbuilders have been producing a variety of ship types, the Chinese Taipei shipbuilding industry is particularly known for the CSBC's ability to build large-capacity cellular container ships at comparative prices. The CSBC has built 85 container ships (2.3 million CGT) over the last ten years, which has led Chinese Taipei to become the world's fourth largest containership building economy, after Korea, China and Japan (

Table 21).

Table 20. Completions of seagoing vessels by ship type in Chinese Taipei, 2011-2021

Type	CGT('000)	% of total
FCC(Fully Cellular Container)	2435	78.6%
Bulk Carrier	313	10.1%
Offshore Service	149	4.8%
Tanker	77	2.5%
Tug	34	1.1%
Other Dry Cargo	26	0.8%
Reefer	23	0.7%
Passenger	18	0.6%
Others	24	0.8%
Total	3099	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

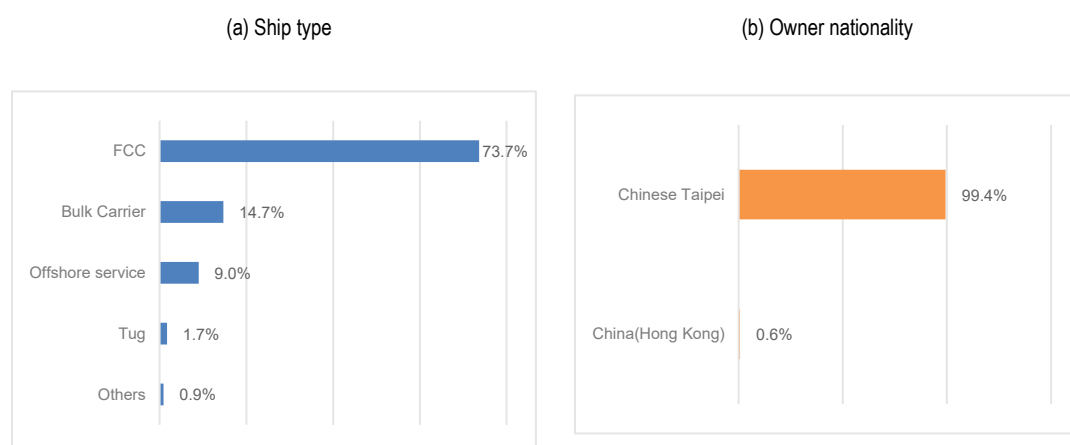
Table 21. Completions of FCCs by building economies, 2011-2021

Country	CGT('000)	& of total
Korea	25078	45.9%
China	19395	35.5%
Japan	4824	8.8%
Chinese Taipei	2212	4.0%
Philippines	2120	3.9%
Romania	596	1.1%
Others(12 economies)	467	0.9%
Total	54692	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (February 2021), World Fleet Register, <https://www.clarksons.net/wfr>.

Recent orders to Chinese Taipei shipyards were concentrated in container ships, bulk carriers, and offshore service vessels (Figure 14). In particular the CSBC received the contracts of containerships and bulk carriers. Almost 100% of the orders was from Chinese Taipei ship owners (Figure 14). In 2019, Taipei owned the 12th largest fleet in the world, representing 51 million DWT¹⁰.

Figure 14. New contracts in Chinese Taipei's shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT

Note: This Figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (February 2021), World Fleet Register, <https://www.clarksons.net/wfr>.

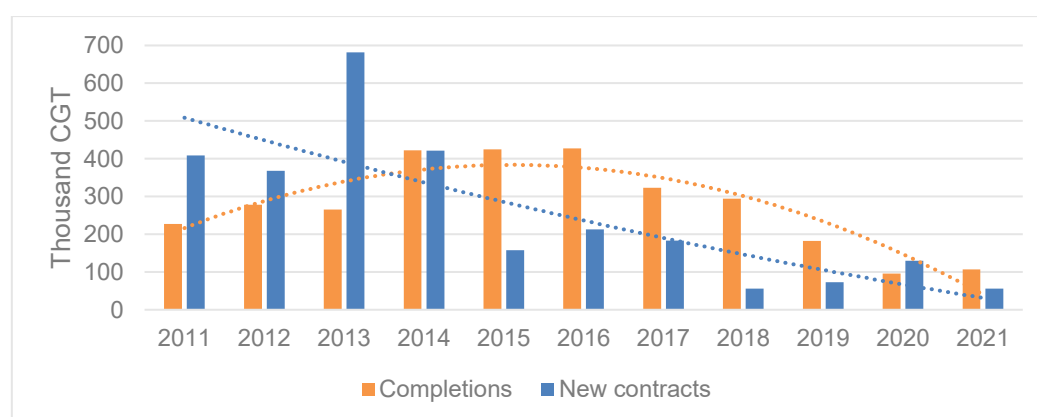
¹⁰ See Table 2.3. Ownership of world fleet ranked by carrying capacity in dead weight tons, 2020, UNCTAD, Review of Maritime Transport 2020.

3.2.7. The United States

According to the U.S. Maritime administration, as of 2013, there were 123 active shipyards across 26 states and more than 200 shipyards engaged in ship repair or capable of building ships but not actively engaged in shipbuilding. In 2013, total revenues of the American shipbuilding and repair industry amounted to USD 25.7 billion. About 70% of the revenues came from military shipbuilding and repairs¹¹.

Over the last eleven years, completions of seagoing vessels in the United States peaked at 425 794 CGT in 2015 and has been declining since then. New orders to American shipyards have also been oriented downwards since 2013 (Figure 15).

Figure 15. Completions and new contracts of seagoing vessels by American shipyards, 2011-2021



Note: This figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

The ship types produced in the United States over the last eleven year were offshore service vessels, tugboats, tankers, cruise/passenger ships, roll-on/roll-off (Ro-Ro) vessels, container ships and dredgers (Table 22).

Table 22. Completions of seagoing vessels by ship type in the United States, 2011-2021

Type	CGT('000)	% of total
Offshore Service	1239	40.6%
Tug	657	21.6%
Tanker	551	18.1%
Cruise/Passenger	280	9.2%
Ro-Ro(roll-on/roll-off)	140	4.6%
FCC(Fully Cellular Container)	104	3.4%
Dredger	48	1.6%
Others	29	1.0%
Total	3048	100.0%

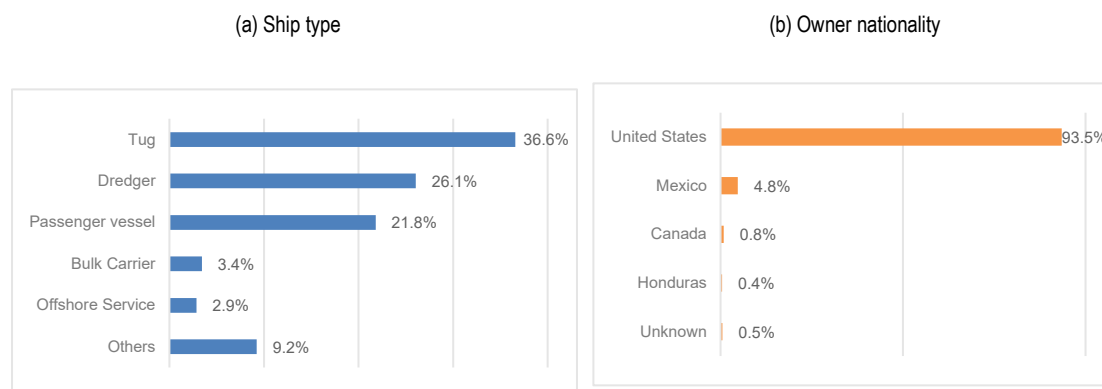
Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

¹¹ <https://www.maritime.dot.gov/sites/marad.dot.gov/files/docs/resources/3641/maradeconstudyfinalreport2015.pdf>

Recent orders to American shipyards were concentrated in tugboats, dredgers and passenger ships. These ship types accounted for 85 % of total CGT ordered between 2018 and 2021. Most of the orders were from American ship owners (Figure 16).

Figure 16. New contracts to American shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT



Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.8. Russia

The Russian shipbuilding industry is highly dependent on the military sector, which accounts for about 90% of Russian shipbuilding production measured in RUB¹². The largest shipbuilding holding company in Russia is the United Shipbuilding Corporation (USC), all shares of which are owned by the Russian government. It was established in 2007, incorporating more than 80% of the design and production capacities of the Russian shipbuilding industry. It owns about 40 shipyards and employs nearly 95 000 workers.

The Zvezda shipbuilding complex project, is under construction in the bay of Bolshoy Kamen in the Far East of Russia and would be the largest shipbuilding site in Russia. The project is implemented in several stages and scheduled to be completed in 2024.

Table 23. Overview of Zvezda shipbuilding complex project

Location	Bolshoy Kamen in the Russian Far East
Schedule	In 2016, the project started under the authority of the government of the Russian Federation and consortium of JSC Rosneftegaz, Rosneft and Gazprombank. In 2015, Zvezda Shipbuilding Complex Limited Liability Company was established. In 2016, the ceremonial start-up of the new shipyards production took place. The step-by-step commissioning of the entire complex will be completed by the end of 2024.
Production	Designed for construction of large-capacity vessels (ex. Aftamax and VLCC tankers, large-capacity gas carrier), ice-class vessels with a displacement of up to 350 000 DWT, special purpose vessels, and other marine products.
Major shareholders	United Shipbuilding Corporation (over 50%), JSC Rosneftegaz, Rosneft and Gazprombank.

Source: Website of Zvezda Shipbuilding Company and OECD Secretariat

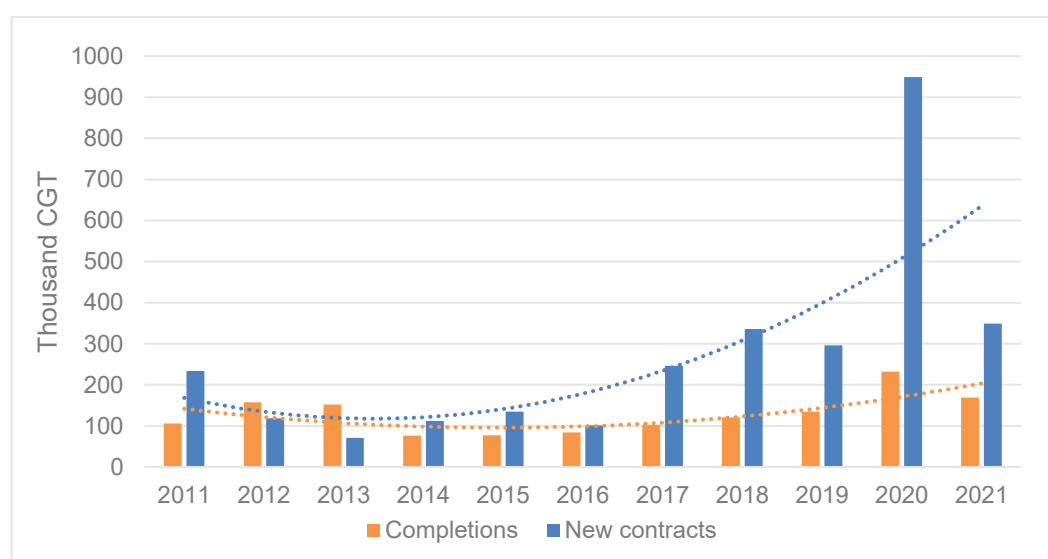
¹² Share of civilian products in Russian shipbuilding(%) : (2015) 9.4, (2016) 13.3, (2017) 12.4,

see https://www.centrumbalticum.org/files/4341/BSR_Policy_Briefing_5_2019.pdf

Russia's completions of seagoing vessels and new contracts have been on the rise since 2016 (Figure 17). Ship completions sharply increased from 84 142 CGT in 2016 to 231 820 CGT in 2020; new contracts strongly grew from 99 969 CGT to 947 659 CGT during the same period. In 2021, the completion and new contracts decreased significantly compared to 2020, but both remained on an upward trend since 2016 except for the drop in 2020.

Russia accounted for 0.53% of global vessel completions in 2021. However, the international sanctions on Russia following Russia's aggression of Ukraine will limit the capacity to operate for the Russian fleet and will probably lead to a reduction in new orders and completions at Russian yards.

Figure 17. Completions and new contracts of seagoing vessels by Russian shipyards, 2011-2021



Note: This Figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2021), World Fleet Register, <https://www.clarksons.net/wfr>.

The ship types produced in Russia over the last eleven years were tankers, dry cargo ships, icebreakers, tugboats, offshore service vessels, passenger ships, dredgers and reefer vessels (Table 24). Russia is the largest icebreaker producer worldwide, accounting for 77% of global completions in terms of CGT for the past eleven years (Table 25). In particular, in 2020, the Baltic shipyard (a subsidiary of the USC) delivered a nuclear-powered icebreaker (called “Arctic”) to Atomflot, the Russian operator that maintains the world’s only fleet of nuclear-powered icebreakers. It is the first of Russia’s new nuclear-powered “Project 22220” icebreakers¹³.

Table 24. Completions of seagoing vessels by ship type in Russia, 2011-2021

Type	CGT('000)	% of total
Tanker	528	37.4%
Other Dry Cargo	541	38.3%
Icebreaker	121	8.6%
Tug	86	6.1%

¹³ See <https://www.thedrive.com/the-war-zone/36637/russias-new-icebreaker-the-worlds-largest-is-heading-to-the-arctic-for-the-first-time>

Passenger	63	4.5%
Offshore Service	40	2.8%
Dredger	21	1.5%
Reefer	2	0.1%
Others	9	0.6%
Total	1412	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

Table 25. Completions of Icebreaker by building economies, 2011-2021

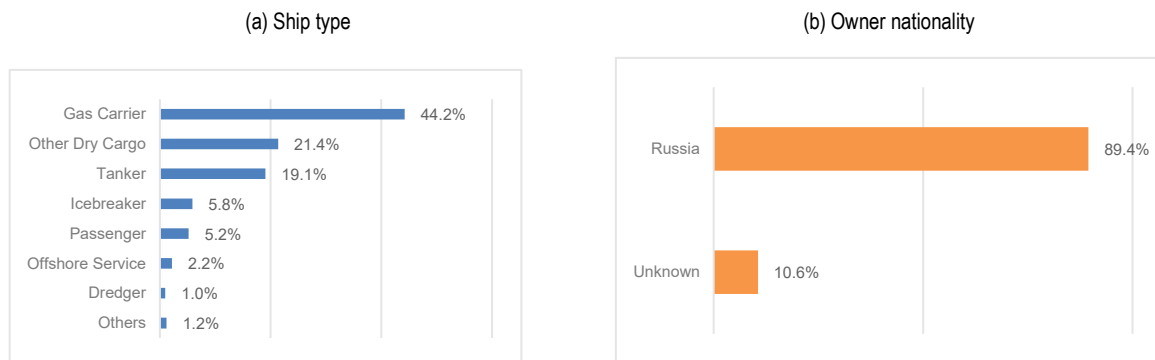
Economy	CGT('000)	Number of ships	% of CGT total
Russia	121	7	77.1%
Finland	32	3	20.4%
Poland	5	4	3.2%
Total	157	14	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

Recent orders to Russian shipyards were concentrated in gas carriers, dry cargo ships, tankers and icebreakers. Those ship types accounted for 91% of total CGT contracted between 2018 and 2021. In particular, in 2020, Zvezda shipyard has signed a contract to build 10 LNG carriers for Novatek, Russia's second largest natural gas producer. All recent orders to Russian shipyards were from Russian ship owners.

Figure 18. New contracts in Russia shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT



Note: This Figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.9. Spain

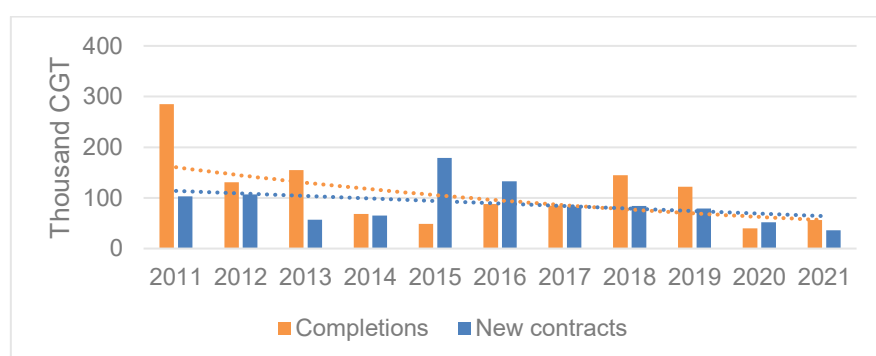
The largest shipbuilding company in Spain is Navantia, a state-owned enterprise with a focus on the naval sector. As of 2019, its revenue was EUR 1.2 billion and its labour force amounted to 3 864 employees¹⁴. Spain's private shipbuilding sector consists primarily of

¹⁴ https://www.navantia.es/wp-content/uploads/2021/02/Navantia_memoria-2019-ingle%CC%81s_BAJA.pdf

medium sized shipbuilders, many of which are family businesses that have been operating for generations¹⁵.

Over the past eleven years, completions of seagoing vessels in Spain and new orders to Spanish shipyards has fluctuated significantly (Figure 19). In 2020, under the impact of COVID-19 pandemic, the completions decreased by 71% in terms of CGT compared to 2019, and new orders decreased by 40%. Completions increased slightly in 2021 compared to 2020, but the new orders decreased continually.

Figure 19. Completions and new contracts of seagoing vessels by Spanish shipyards, 2011-2021



Note: This Figure includes all seagoing vessels from 100 GT. Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

The ship types produced in Spain over the last eleven years were offshore service vessels, tugboats, passenger ships, tankers, dredgers, dry cargo vessels, bulk carriers and gas carriers. Of these, offshore service vessels ranked first, accounting for 40% of total CGT delivered in Spain between 2011 and 2021.

Table 26. Completions of seagoing vessels by ship type in Spain, 2011-2021

Type	CGT('000)	% of total
Offshore Service	490	40.1%
Tug	187	15.3%
Passenger	215	17.6%
Tanker	139	11.4%
Dredger	119	9.7%
Other Dry Cargo	42	3.4%
Bulk Carrier	7	0.6%
Gas Carrier	7	0.6%
Others	16	1.3%
Total	1,222	100.0%

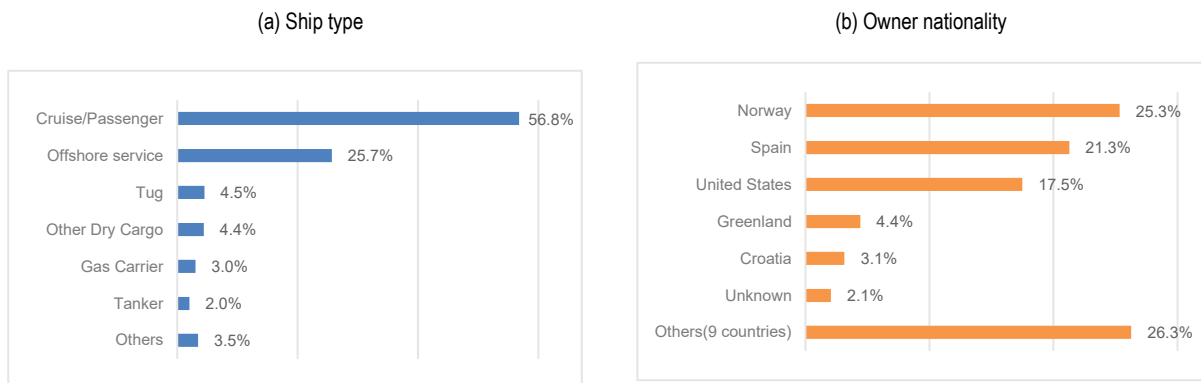
Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

Recent orders to Spanish shipyards were concentrated in passenger ships (including one cruise ship) and offshore service vessels, accounting for about 83% of total CGT contracted between 2018 and 2021. About 64% of recent orders were from Spanish, Norwegian and American ship owners.

¹⁵ <https://pymar.com/es/sector/presentaci%C3%B3n-del-sector>

Figure 20. New contracts in Spain shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT



Note: This Figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

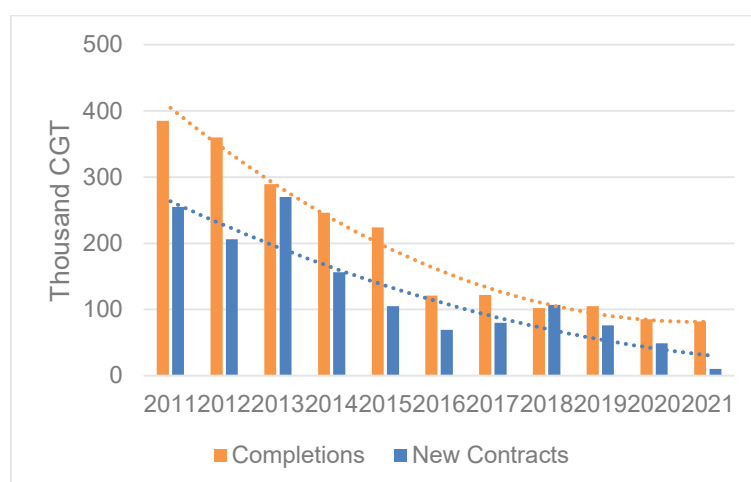
3.2.10. Malaysia

According to the Malaysian Investment Development Authority¹⁶, there are 99 registered shipyards undertaking Shipbuilding and Ship Repair Industry activities in Malaysia. Among them, 31 shipyards are located in Peninsular Malaysia and 68 shipyards are located in the states of Sabah and Sarawak. The largest shipbuilding company in Malaysia is Malaysia Marine and Heavy Engineering (MMHE), a state-owned enterprise. MMHE belongs to Petronas Group, a Malaysian oil and gas company owned by the Government of Malaysia. As of 2021, the total yard size is 2 005 540 m²; the revenue was RM 13.1 million and the labour force amounted to 2 649 employees¹⁷.

Over the past eleven years, production of seagoing vessels in Malaysia and new orders to Malaysian shipyards have been steadily declining in terms of CGT (Figure 19). Compared to 2011, completions in 2021 decreased by 79% and new orders in 2021 decreased by 96% compared to 2020.

¹⁶ <https://www.mida.gov.my/industries/manufacturing/transport/>

¹⁷ [MHB-Integrated-Annual-Report-2021-website.pdf](https://www.mmb.gov.my/annual-report-2021-website.pdf)

Figure 21. Completions and new contracts of seagoing vessels by Malaysian shipyards, 2011-2021

Note: This Figure includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

Tugs, offshore vessels and dry cargo vessels are the main ship types produced in Malaysia over the last eleven years. Of these, tugs ranked the first, accounting for 53% of total CGT delivered in Malaysia between 2011 and 2021. Malaysia is the third largest tugs shipbuilder worldwide after Indonesia and China (Table 14).

Table 27. Completions of seagoing vessels by ship type in Malaysia, 2011-2021

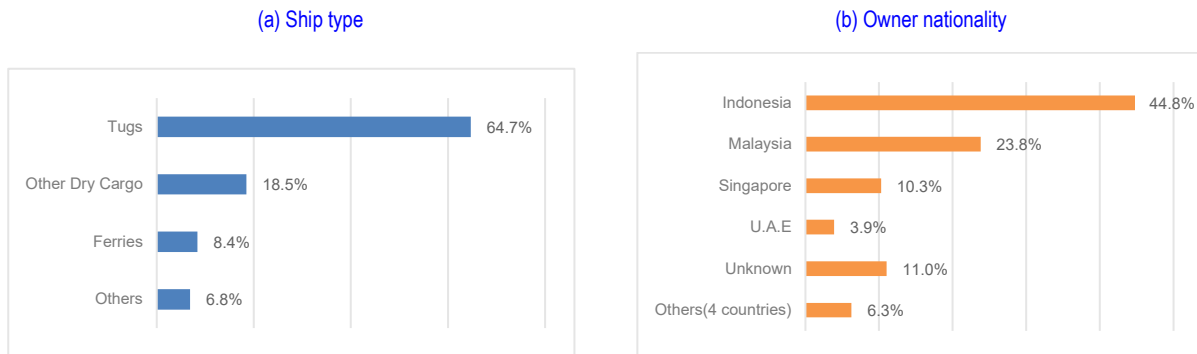
Type	CGT('000)	% of total
Tug	1128	53.2%
Offshore	505	23.8%
Other Dry Cargo	244	11.5%
Passenger	65	3.1%
Tankers	49	2.3%
Bulk carrier	38	1.8%
Dredger	32	1.5%
Ro-Ro	11	0.5%
Others	46	2.2%
Total	2120	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

Recent orders to Malaysian shipyards were concentrated in tugs, accounting for about 65% of total CGT contracted between 2018 and 2021. About 79% of recent orders were from Indonesia, Malaysia and Singapore ship owners.

Figure 22. New contracts in Malaysian shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT



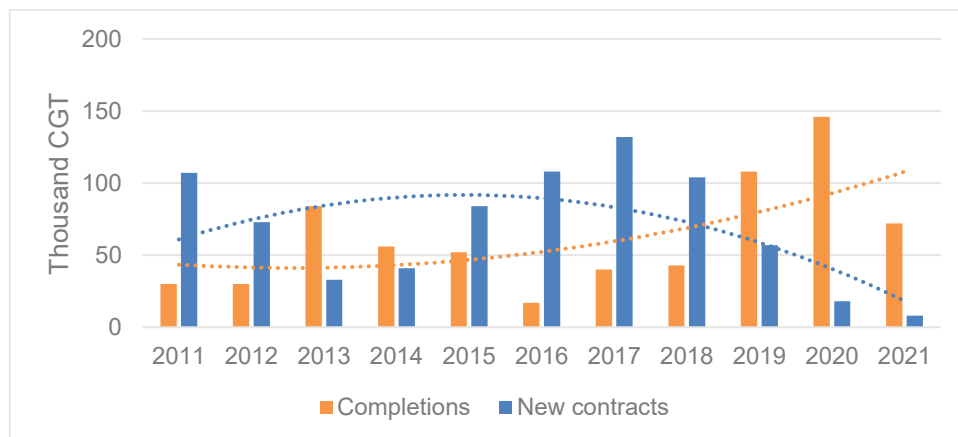
Note: This Figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.
Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

3.2.11. Bangladesh

The two largest shipbuilders in Bangladesh are Western Marine Shipyard (WMS) and Ananda Shipyard and Shipways Limited (ASSL), both being state-owned and producing various types of vessels. The yard of Western Marine Shipyard stands over 42 acres of land, and the production area of ASSL is 80 000 square meters¹⁸.

Over the past eleven years, completions of seagoing vessels in Bangladesh and new orders to Bangladeshi shipyards have fluctuated significantly (Figure 19). Completions in Bangladesh have been growing between 2016 and 2020, although they decreased by 51% in 2021. New contracts of seagoing vessels in Bangladesh peaked at 132 311 CGT in 2017 and have been declining since then.

Figure 23. Completions and new contracts of seagoing vessels by Bangladeshi shipyards, 2011-2021



Note: This figure includes all seagoing vessels from 100 GT.
Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>.

¹⁸ <http://www.wms.com.bd/>, <http://www.anandashipyard.com/>

The Bangladeshi shipyards have been producing a variety of vessel types over the last eleven years including dry cargo vessels, tankers, gas carriers, dredgers and passenger ships. Of these, dry cargo vessels and tankers are the main ship types, accounting for 88% of total CGT delivered in Bangladesh between 2011 and 2021.

Table 28. Completions of seagoing vessels by ship type in Bangladesh, 2011-2021

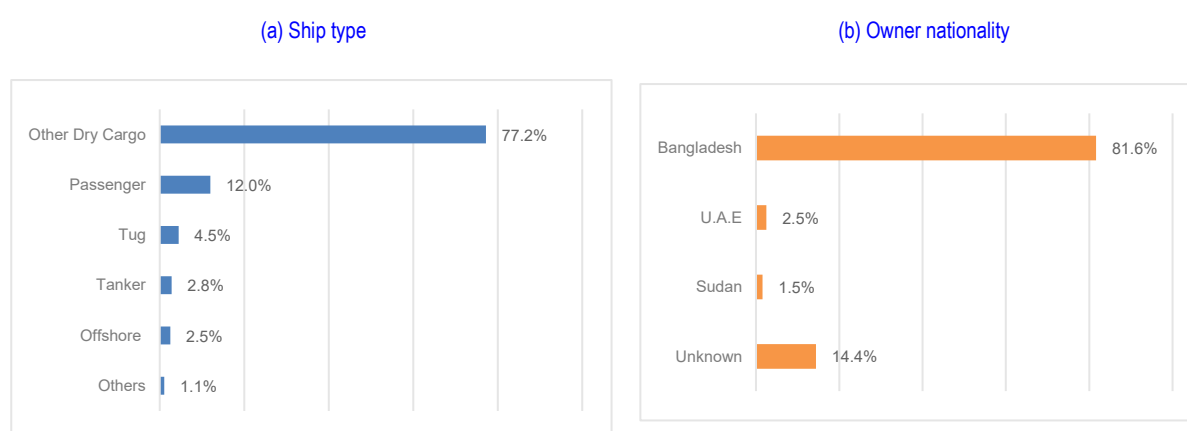
Type	CGT('000)	% of total
Other Dry Cargo	362	53.5%
Tankers	230	34.0%
Gas carrier	43	6.4%
Dredgers	18	2.7%
Ferries	8	1.2%
FCC	7	1.0%
Others	6	0.9%
Total	677	100.0%

Note: This table includes all seagoing vessels from 100 GT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

Recent orders to Bangladeshi shipyards were concentrated in dry cargo vessels, accounting for about 77% of total CGT contracted between 2018 and 2021. About 82% of recent orders were by domestic ship owners.

Figure 24. New contracts in Bangladeshi shipyards by ship types and by ship owner nationalities, 2018-2021, in term of CGT



Note: This figure includes all seagoing vessels from 100 GT. The percent share is based on CGT.

Source: OECD calculations based on Clarkson Research Services Limited (March 2022), World Fleet Register, <https://www.clarksons.net/wfr>

4. Policy developments in selected non-WP6 economies

4.1. Criteria for including support measures in the report

In preparing the list of support measures, the Secretariat used the following criteria:

- The categories of support measures are the same as in the WP6 Inventory exercise ([C/WP6\(2020\)3](#)) (please see categories in the Table below);

Table 29. Types of support measures covered in the WP6 Inventory

Type	Description
A	Direct transfer of funds by Governments
B	Indirect transfer of funds by Governments
C	Loans on terms and conditions more favourable than those commercially available
D	Loan guarantees that support loans on terms and conditions more favourable than those commercially available
E	Export or Home Credits
F	Governments taking over, or otherwise absolving the industry from debts
G	Government acquisition of interest in a yard or yards
H	Government revenue that is foregone or not collected
I	Provision by government of infrastructure (other than general infrastructure), goods or services on non-commercial conditions
J	The purchase of goods or services from the industry by government at above market rates
K	Support for Research and Development
L	Any form of income or price support
M	Protection of the domestic market
N	Domestic build or domestic content requirements
O	Other official regulations and practices

Source: WP6 Inventory, 2018. [C/WP6\(2018\)19](#)

- Information on support measures is derived from public sources only. This most likely means that not all measures are reported in this document;
- The focus is on support measures that came into force from March 2021 to March 2022;
 - In case no information is found on the actual date at which the support measures were taken, the Secretariat included support measures that are likely to be taken in the considered time period;
 - In case it is expected that certain support measures are terminated, the Secretariat did not include these support measures in this report;
- In case no information is found on the amount of support provided or the authority/agency responsible for the support measures, the relevant fields are left blank;
- The Secretariat made efforts to include selected barriers to trade that may affect the shipbuilding sector (e.g. measures which could lead to the protection of the domestic market) either directly or indirectly, but did not include general and horizontal trade barriers (e.g. foreign direct investment limitations and customs procedures);

- Strategies, objectives or plans for the domestic shipbuilding industry without concrete measures are not included in this report;
- The Secretariat has contacted economies for which support measures have been included in this report and requested comments to the extent possible. The Secretariat is waiting for possible comments, which could be addressed in a revised version of this report.

4.2. Measures by categories and economies

4.2.1. Summary

The total number of support measures found by the Secretariat (See Table 30 below) is similar than the previous year (22 after 21). Research of support measures is difficult given the lack of official information in most economies. The Secretariat needs to lean on indirect sources often press articles. It means that there is a high risk that many support measures taken by non-WP6 economies are not mentioned in this Document given the fact that information on them is not publicly available or has not been found by the Secretariat.

China used the largest number of support measures (9), followed by the United States (5). The economies for which the Secretariat found support measures this year were also included in economies having recourse to support measures the previous year except for Bangladesh which implements a support scheme to attract FDI by providing lands at preferential conditions and the United Kingdom which has set up a Shipbuilding strategy including several support measures.

Looking at previous editions of the Inventory of support measures taken by non-WP6 members, it seems that economies can use all types of support measures depending on their needs and are not using specific types of support for a given economy. The only significant trend is the constant use by China of domestic orders to protect its local market (category M).

In terms of categories, as last year, the most frequent type of support measures are to the six measures to protect the domestic market (category M) meaning in most cases the required purchase of ships at domestic yards which can hamper international competition. They are followed by four support measures found for each of the categories A (Direct transfer of funds by Governments) and O (Other official regulations and practices) which can be also very distorting for the international shipbuilding markets and are twice as many as in 2020/21 edition of this report.

Table 30. Number of support measures reported in the WP6 Inventory of non-WP6 members*

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Total
Bangladesh									1							1
China									1		1		4		3	9
India	1												1	1		3
Philippines															1	1
United Kingdom	2										1					3
USA	1			1				2					1			5
Total	4	0	0	1	0	0	0	2	2	0	2	0	6	1	4	22

* In alphabetical order

Source: OECD calculations

4.2.2. *Measures by categories*

Category A (Direct transfer of funds by Governments) includes two support measures. They aim to directly protect or improve the economic health of the domestic shipbuilding industry.

- New approvals of financial assistance supported by the Shipbuilding Financial Assistance Policy (SBFA) (India)
- A grant programme for small shipyards (United States)
- UK Government to invest £4 billion in refreshed National Shipbuilding Strategy (United Kingdom)
- The British government launches a £20 million competition to propel green shipbuilding (United Kingdom)

Category D (Loan guarantees that support loans on terms and conditions more favourable than those commercially available) includes one support measure.

- The Federal Ship Financing Program (Title XI) promotes U.S. Merchant Marine fleet and U.S. shipyard growth and modernization. (United States)

Category H (Government revenue that is foregone or not collected) includes two support measures.

- The Construction Reserve Fund (CRF), which is a financial assistance program that provides tax deferral benefits to U.S.-flag operators. (United States)
- The Capital Construction Fund (CCF) program encourages construction, reconstruction, or acquisition of vessels through the deferment of Federal income taxes on certain deposits of money or other property placed into a CCF. (United States)

Category I (Provision by government of infrastructure (other than general infrastructure), goods or services on non-commercial conditions) includes two support measures.

- Provision of lands to attract FDI for new shipyards (Bangladesh)
- Expansion plan of the pilot Free Trade Zone (FTZ) Ningbo into a global shipping hub, an influential oil and gas resource allocation center, a supply chain innovation center and a high-quality smart manufacturing demonstration area (China)

Category K (Support for Research and Development) includes one support measure.

- Strategic cooperation between China's Maritime Safety Administration and CSSC focussing on sectors of smart ships and maritime environmental protection. (China)
- The British Government commits £206 million to fund research and development of green technology (United Kingdom)

Category M (Protection of the domestic market) and N (Domestic build or domestic content requirements) share many common points. They aim to increase or protect the domestic shipbuilding industry. There are nine support measures included in these two categories.

- Possible order for six LNG carriers for China National Offshore Oil Corp (China)
- China Development Bank Financial Leasing (CDB Leasing) has a total of 42 ships on order (China)

- Ordering 3 liquefied natural gas carriers by COSCO and CNPC at domestic shipyards (China)
- Ordering 7 containerships by OOCL at domestic shipyards (China)
- Make in India Order (India)
- Right of First Refusal (ROFR) licensing conditions (India)
- Executive order on public procurement to maximize the use of goods produced in, and services offered in, the U.S. – Update (United States)

Category O (Other official regulations and practices) includes four measures.

- Legal guidelines limiting liabilities of shipyards and shipping companies (China)
- Framework cooperation between Guangdong province government and CSSC and CNOOC aimed at reducing emission from the shipping industry (China)
- Decarbonisation deal between China Classification Society (CCS) and China COSCO Shipping Group (China)
- Tax incentives for Shipbuilding investors (Philippines)

4.3. Measures taken by selected non-WP6 economies

4.3.1. Bangladesh

1. Type of the measure of support and its title	
I Provision by government of infrastructure (other than general infrastructure), goods or services on non-commercial conditions <i>The government provides land to attract FDI for new shipyard</i>	
2. Authority/agency responsible for the measure and legal authority	
Bangladesh Steel and Engineering Corporation (BSEC)	
3. Outline/explanation of the measure	
Bangladesh is aiming to become a shipbuilding nation and in 2020 drafted the Shipbuilding Industry Development Policy which includes thirteen actions to be implemented between 2021 and 2026 where the target is to have a growth of USD 4 billion by 2026 in the Shipbuilding sector. The emphasis is on developing entrepreneurship and private investments in the shipping industry. In January 2022, it was presented to Singapore and Australia-based Gentium Solutions and Netherlands-based Damen Shipyards Group a finance proposal of USD 1.58 billion. Minister Nurul Majid Mahmud Humayun says the Ministry of Industries or Bangladesh Steel and Engineering Corporation will procure land in the area close to the Payra Port once the proposed project is finalised. Moreover, the government has already allocated around 101-acre land adjacent to the Payra port.	
4. Estimated value	\$1.58 billion FDI
5. Start and end date	Start date : 2022 ; End date : unknown
6. References	
Newspaper The Daily Star (2022): “\$1.58b FDI in the offing for shipbuilding” https://www.thedailystar.net/business/economy/news/158b-fdi-the-offing-shipbuilding-2946696, accessed on 23 March 2022. Newspaper The Business Standard (2022): “Biggest FDI for state-of-the-art shipyard in Patuakhali proposed”. https://www.tbsnews.net/economy/govt-build-world-class-shipyard-near-payra-port-tk14000cr-361777, accessed on 23 March 2022. Newspaper The Daily Star (2021): “The New Shipbuilding Policy: Anew future ahead”. https://www.thedailystar.net/law-our-rights/news/the-new-shipbuilding-policy-new-future-ahead-2234336, accessed on 23 March 2022.	

4.3.2. China

1. Type of the measure of support and its title	
M Protection of the domestic market <i>Possible order for six LNG carriers for China National Offshore Oil Corp (CNOOC)</i>	
2. Authority/agency responsible for the measure and legal authority	
Not applicable	
3. Outline/explanation of the measure	
China is looking for ways to boost its building capacity for LNG carriers and there are two shipbuilders in China that are set to do this. It is expected that the contracts will be signed soon, and the ships delivered in 2025 and 2026. In June 2021, two Chinese LNG giants ordered jointly three LNG carrier newbuildings for \$620m with the aim to charter to CNOOC. These LNG carriers are expected in 2024 and 2025.	
4. Estimated value	unknown
5. Start and end date	Start date : 2022 ; End date : 2026
6. References	
Newspaper Trade Winds (2022): “Chinese yards to snare more domestic LNG carrier orders”, https://www.tradewindsnews.com/gas/chinese-yards-to-snare-more-domestic-lng-carrier-orders/2-1-1180391, accessed on 22 March 2022. Newspaper Trade Winds (2021): “Chinese LNG giants order newbuilding trio for CNOOC”, https://www.tradewindsnews.com/gas/chinese-lng-giants-order-newbuilding-trio-for-cnooc/2-1-1028121, accessed on 23 March 2022.	

1. Type of the measure of support and its title	
K Support for research and development <i>Strategic cooperation between China's Maritime Safety Administration and CSSC</i>	
2. Authority/agency responsible for the measure and legal authority	
Maritime Safety Administration of the Ministry of Transport	
3. Outline/explanation of the measure	
China's Maritime Safety Administration signed a strategic cooperation with China State Shipbuilding Corporation (CSSC) focusing on sectors of smart ships and maritime environmental protection. Under this agreement, cooperation is foreseen on the development of smart ships, a smart transport management system, smart inspection and monitoring systems, as well as a development plan for the smart shipping industry. Further aspects of the collaboration include research and development of new energy-powered ships and energy saving and environmental protection devices.	
4. Estimated value	
5. Start and end date	Start date : 2020 ; End date : unknown
6. References	
Newspaper Hellenic Shipping News (2020): "China to promote smart ships development, maritime environmental protection", https://www.hellenicshippingnews.com/china-to-promote-smart-ship-development-maritime-environmental-protection/, accessed on 16 March 2021. Newspaper Offshore Energy (2020): "Chinese government teams up with CSSC on smart ships", https://www.offshore-energy.biz/chinese-government-teams-up-with-cssc-on-smart-ships/, accessed on 16 March 2021. Newspaper The Maritime Executive (2020): "Chinese Government and CSSC Cooperate to Develop Shipping Technologies", https://www.maritime-executive.com/article/chinese-government-and-cssc-cooperate-to-develop-shipping-technologies, accessed on 16 March 2021.	

1. Type of the measure of support and its title	
O Other official regulations and practice <i>Legal Guidelines limiting liabilities of shipyards and shipping companies</i>	
2. Authority/agency responsible for the measure and legal authority	
Supreme People's Court of China	
3. Outline/explanation of the measure	
The Supreme People's Court of China has issued legal guidelines that limit the liabilities of shipyards and shipping companies affected by the coronavirus pandemic. According to the supreme court's instruction, carriers and shippers can terminate the transport contracts if vessels cannot arrive at loading or discharge ports due to the pandemic. Furthermore, carriers can be exempted from the liabilities for delayed deliveries that result from Covid-19, if they inform the shippers in time. Shipbuilders and repair yards can delay their deliveries due to a shortage of workers or equipment, but lower courts need to take individual situations into consideration. While English law applies to most shipbuilding and international shipping contracts, the supreme court's instruction is expected to affect legal cases governed by Chinese law.	
4. Estimated value	
5. Start and end date	Start date : 2020 ; End date : unknown
6. References	
Newspaper Trade Winds (2020): "China's top court limits coronavirus liabilities for shipping firms and yards", https://www.tradewindsnews.com/law/chinas-top-court-limits-coronavirus-liabilities-for-shipping-firms-and-yards/2-1-829834 , accessed on 16 March 2021.	

1. Type of the measure of support and its title	
M Protection of the domestic market <i>China Development Bank Financial Leasing (CDB Leasing) has a total of 42 ships on order</i>	
2. Authority/agency responsible for the measure and legal authority	
Not applicable	
3. Outline/explanation of the measure	
China Development Bank Financial Leasing has in January 2022 the equivalent to 6% of the current orderbook by Chinese shipowners.	
4. Estimated value	
5. Start and end date	Start date : 2022 ; End date : unknown
6. References	
Newspaper Trade Winds (2022): “CDB Leasing tops newbuilding league table for Chinese owners”. https://www.tradewindsnews.com/shipyards/cdb-leasing-tops-newbuilding-league-table-for-chinese-owners/2-1-1165359 , accessed on 22 March 2022.	

1. Type of the measure of support and its title	
M Protection of the domestic market <i>3 liquefied natural gas carriers orders by Cosco and CNPC - Update</i>	
2. Authority/agency responsible for the measure and legal authority	
Not applicable	
3. Outline/explanation of the measure	
A joint venture consisting of Chinese shipowner COSCO and China National Petroleum Corporation (CNPC) has placed an order for three liquefied natural gas carriers at Hudong Zhonghua Shipbuilding. The price for each of the 174,000 cubic meter LNG carriers is \$185 million. The vessels will be used by CNPC's Hong Kong (China)-listed unit PetroChina. Update: A similar order has been placed and agreed from PetroChina in June 2021 of three more liquefied natural gas carriers from Hudong Zhonghua Shipbuilding. It is mentioned that this co-operation contributes to China hitting its decarbonisation targets as well as securing China's energy supply. December, 2021: COSCO orders three LNG carriers for \$554m at Hudong Zhonghua Shipbuilding, these will also be chartered by PetroChina. The delivery of these carriers are scheduled between October 2023 and April 2024.	
4. Estimated value	\$600 million; \$554 million
5. Start and end date	Start date : 2020 ; End date : 2024
6. References	
Newspaper Offshore Energy (2020): "Cosco, CNPC to order LNG carrier at Hudong", https://www.offshore-energy.biz/cosco-cnpc-to-order-lng-carrier-trio-at-hudong/, accessed on 18 March 2021. Newspaper Offshore Energy (2020): "China COSCO Shipping orders LNG tro at Hudong", https://www.offshore-energy.biz/china-cosco-shipping-orders-lng-trio-at-hudong/, accessed on 18 March 2021. Newspaper Lloyd's List (2020): "Cosco's LNG tanker investment linked to US export projects", https://lloydslist.maritimeintelligence.informa.com/LL1132095/Coscos-LNG-tanker-investment-linked-to-US-export-projects, accessed on 18 March 2021. Newspaper Lloyd's List (2021): "PetroChina to order trio of LNG carriers at Hudong-Zhonghua", https://lloydslist.maritimeintelligence.informa.com/LL1137250/PetroChina-to-order-trio-of-LNG-carriers-at-Hudong-Zhonghua, accessed on 23 March 2022. Newspaper Lloyd's List (2021): "Cosco adds three LNG carriers to orderbook", https://lloydslist.maritimeintelligence.informa.com/LL1139196/Cosco-adds-three-LNG-carriers-to-orderbook, accessed on 23 March 2022.	

1. Type of the measure of support and its title	
M Protection of the domestic market <i>7 containership orders by OOCL – Update</i>	
2. Authority/agency responsible for the measure and legal authority	
Not applicable	
3. Outline/explanation of the measure	
Orient Overseas Container Line Limited (OOCL) has ordered seven 23,000-teu containership newbuildings at two Chinese shipyards. Contracts have been signed with Dalian COSCO KHI Ship Engineering Corporation (Dacks), which will build four vessels costing \$157.71 million each, and Nantong COSCO KHI Ship Engineering Corporation (Nacks), which will construct three ships costing \$157.68 million each. They are expected for delivery between the third quarter of 2023 and the third quarter of 2024. The latest seven orders bring the number of 23,000-teu containerships ordered by OOCL in 2020, with total capital expenditure amounting to more than \$1.88 billion. Update: OOCL has ordered ten eco-friendly 26,000 TEU containerships in September 2021; the newbuildings are worth close to \$1,575.80 million.	
4. Estimated value	\$677.88 million
5. Start and end date	Start date : 2020 ; End date : 2024
6. References	
Newspaper Trade Winds (2020): “OOCL ups mega-size containership tally by seven with new order worth \$1.1bn”, https://www.tradewindsnews.com/containerships/oocl-ups-mega-size-containership-tally-by-seven-with-new-order-worth-1-1bn/2-1-904326, accessed on 18 March 2021. Newspaper Offshore Energy (2020): “OOCL orders 7 more 23,000 TEU boxships in China”, https://www.offshore-energy.biz/oocl-orders-7-more-23000-teu-boxships-in-china/, accessed on 18 March 2021. Newspaper Offshore Energy (2021): “OOCL orders ten eco-friendly 16,000 TEU boxships”, https://www.offshore-energy.biz/oocl-orders-ten-16000-teu-boxships-in-china/, accessed on 23 March 2022. Newspaper Trade Winds (2021): “OOCL strikes \$1.6bn deal for 10 neo-panamax containerships”, https://www.tradewindsnews.com/containerships/oocl-strikes-1-6bn-deal-for-10-neo-panamax-containerships/2-1-1061762, accessed on 23 March 2022.	

1. Type of the measure of support and its title	
I Provision by government of infrastructure (other than general infrastructure), goods or services on non-commercial conditions <i>Expansion of pilot FTZ Ningbo</i>	
2. Authority/agency responsible for the measure and legal authority	
State Council of the People's Republic of China	
3. Outline/explanation of the measure	
In September 2020, the Council of the People's Republic of China released plans for the establishment of new and the expansion of existing Free Trade Zones (FTZs). According to the plan, Ningbo will be allowed to expand its pilot FTZ. The provincial government has made specific plans to build the zone into a global shipping hub, an influential oil and gas resource allocation center, a supply chain innovation center and a high-quality smart manufacturing demonstration area. With a focus on shipping, Ningbo-Zhoushan Port will strengthen the linkage of the sea port, the airport, the inland port and the information port, improve the port's intelligent infrastructure construction, and make efforts to develop high-end shipping services including finance and insurance, international marine affairs, and shipping trade and transactions. It will also build the high energy-level shipping service platforms, and construct the globally first-class port with strong radiation and service functions as well as the important hub of the national comprehensive transportation system. The expansion area in Ningbo will be located in Beilun District, which is home of five-state level development zones.	
4. Estimated value	
5. Start and end date	Start date : 2020 ; End date : unknown
6. References	
The State Council of the People's Republic of China (2020): "Free trade zones rise to 21 with new approvals", http://english.www.gov.cn/policies/policywatch/202009/22/content_WS5f693628c6d0f7257693c63a.html, accessed on 17 March 2021. Newspaper Hellenic Shipping News (2020): "Ningbo to build expansion area for Zhejiang Pilot Free Trade Zone", https://www.hellenicshippingnews.com/ningbo-to-build-expansion-area-for-zhejiang-pilot-free-trade-zone/, accessed on 17 March 2021.	

1. Type of the measure of support and its title	
O Other official regulations and practice <i>Strategic Cooperation between Guangdong Province Government, CSSC and CNOOC - Update</i>	
2. Authority/agency responsible for the measure and legal authority	
Guandong province government	
3. Outline/explanation of the measure	
Guandong province government has signed a framework cooperation with China State Shipbuilding Corporation (CSSC) and China National Offshore Oil Corporation (CNOOC), which is aimed at reducing the emission from the shipping industry. Under the project, the plan is to retrofit approximately 1,500 ships and build 19 LNG fuelling stations in the province by 2025. The project, upon completion, will replace the annual consumption of 390 000 tonnes of fuel products with demand for 400 000 tonnes of LNG. Update: Before the end of 2021, China's Guangdong province plans to begin the construction of six LNG bunkering stations for inland river waterways. Moreover, by 2022 complete the construction of additional eight LNG bunkering stations for the main navigation channels on arterial waterways – including two coastal stations. This was announced November 9 2021 by the Guangdong Development and Reform Commission.	
4. Estimated value	
5. Start and end date	Start date : 2020 ; End date : 2025
6. References	
Newspaper Lloyd's List (2020): "Guandong to convert 1,500 ships to LNG", https://lloydslist.maritimeintelligence.informa.com/LL1132522/Guangdong-to-convert-1500-ships-to-LNG, accessed on 18 March 2021. Newspaper Offshore Energy (2020): "China's Guangdong plans big inland LNG conversion project", https://www.offshore-energy.biz/chinas-guangdong-plans-big-inland-lng-conversion-project/, accessed on 18 March 2021. Newspaper S&P Global (2021): "China's Guangdong to build LNG bunkering stations in inland waterways", https://www.spglobal.com/commodity-insights/en/market-insights/latest-news/lng/111021-chinas-guangdong-to-build-lng-bunkering-stations-in-inland-waterways, accessed on 23 March 2022.	

1. Type of the measure of support and its title	
O Other official regulations and practices <i>Decarbonisation deal between China Classification Society (CCS) and China COSCO Shipping Group</i>	
2. Authority/agency responsible for the measure and legal authority	
Not applicable	
3. Outline/explanation of the measure	
The China Classification Society (CCS) and COSCO Shipping group signed a framework agreement where the aim is to find solutions to reduce greenhouse gas (GHG) emissions in the maritime sector. This is a direct action to assist China's "carbon peak, carbon neutral" development target and both organisations will pool resources to support this. The main commitments of this agreement will be to work together on the development of key core technologies, promoting the establishment of industry standards and build an international cooperation platform.	
4. Estimated value	
5. Start and end date	Start date : 2021 ; End date : unknown
6. References	
Newspaper Trade Winds (2021): "Cosco Shipping Group signs decarbonisation deal with CCS", https://www.tradewindsnews.com/technology/cosco-shipping-group-signs-decarbonisation-deal-with-ccs/2-1-1028503, accessed on 23 March 2022. Newspaper Offshore Energy (2021): "CCS, COSCO team up to support maritime decarbonization", https://www.offshore-energy.biz/ccs-cosco-team-up-to-support-maritime-decarbonization/, accessed on 23 March 2022. Newspaper Hellenic Shipping News (2021): "China Classification Society and COSCO Shipping Group sign new agreement to support maritime decarbonisation", https://www.hellenicshippingnews.com/china-classification-society-and-cosco-shipping-group-sign-new-agreement-to-support-maritime-decarbonisation/, accessed on 23 March 2022.	

4.3.3. India

1. Type of the measure of support and its title	
M Protection of the Domestic Market <i>Make in India Order - Update</i>	
2. Authority/agency responsible for the measure and legal authority	
The Ministry of Shipping	
3. Outline/explanation of the measure	
The Ministry of Shipping has directed all major ports to procure or charter tug boats which are only made in India. All procurements undertaken by major ports would now need to be carried out as per the revised 'Make in India' Order. Update: As of February 19, 2022, the contract for construction of 50ton Bollard Pull Tugs was concluded with the final fourth tug delivered on 24 January 2022 from M/s Hindustan Shipyard Ltd.	
4. Estimated value	
5. Start and end date	Start date: 17 February. End date; 19 February 2022
6. References	
Ministry of Defence (2022): "Delivery of 50ton Bollard Pull Tug "Balbir" to naval dockyard Mumbai by M/s Hindustan Shipyard LTD, https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1792265, accessed on 22 March 2022. Newspaper Baird Maritime (2019): "Hindustan Shipyard To Build Tug Quartet For Indian Navy", https://www.bairdmaritime.com/work-boat-world/tug-and-salvage-world/harbour-tugs-and-operation/hindustan-shipyard-to-build-tug-quartet-for-indian-navy/, accessed on 22 March 2022.	

1. Type of the measure of support and its title	
N Domestic build or domestic content requirements <i>Update: Make in India order for a high-capacity dredger</i>	
2. Authority/agency responsible for the measure and legal authority	
The Ministry of Shipping	
3. Outline/explanation of the measure	
Update on previously mentioned support measure “Make in India Order” (2021): Initiated by the Make in India programme, the Dredging Corporation of India has signed a contract with Cochin Shipyard on 17 March 2022 for construction of a high-capacity dredger for €104 million.	
4. Estimated value	
5. Start and end date	Announced 16 of March 2022 ; end date unknown
6. References	
Newspaper Business Standard (2022): “Dredging Corporation of India to sign contract with Cochin Shipyard”, https://www.business-standard.com/article/news-cm/dredging-corporation-of-india-to-sign-contract-with-cochin-shipyard-122031600187_1.html , accessed on 22 March 2022. Newspaper Marine Insight (2022): “Historic Agreement Inked For Construction Of India’s Largest Dredger To Be “Made In India””. https://www.marineinsight.com/shipping-news/historic-agreement-inked-for-construction-of-indias-largest-dredger-to-be-made-in-india/ , accessed on 22 March 2022.	

1. Type of the measure of support and its title	
A Direct transfer of funds by Governments <i>New approvals of financial assistance supported by the Shipbuilding Financial Assistance Policy (SBFA)</i>	
2. Authority/agency responsible for the measure and legal authority	
Ministry of Ports, Shipping and Waterways	
3. Outline/explanation of the measure	
The Financial Assistance Policy (FAP) for Indian shipyards was introduced in 2016 for a period of 10 years, and was made available for contracts secured between 01.04.2016 and 31.03.2026. The financial assistance scheme equal 20% of the lower of “Contract Price” or actual payments received of each vessel built by them. The main motivation behind this financial assistance is to increase the competitiveness of the domestic Indian Shipbuilding Industry. The new approvals as of March 2022 amounts to \$20.13 million and supports the building of 47 vessels.	
4. Estimated value	\$20.13 million
5. Start and end date	Start date : 1 April 2016 ; End date : 31 March 2026
6. References	
Newspaper Ship Technology (2022): “Indian Government approves financial assistance for building 47 vessels”, https://www.ship-technology.com/news/india-financial-assistance-vessels/ , accessed on 22 March 2022. Ministry of Ports, Shipping and Waterways (2018): “Financial Assistance Policy Shipyards”, https://pib.gov.in/Pressreleaseshare.aspx?PRID=1523349 , accessed on 22 March 2022.	

4.3.4. *Philippines*

1. Type of the measure of support and its title	
O Other official regulations and practices <i>Tax incentives for Shipbuilding investors</i>	
2. Authority/agency responsible for the measure and legal authority	
Philippine Government	
3. Outline/explanation of the measure	
The shipbuilding sector has been identified by the Philippine government as a strategic sector for economic recovery and is being incentivised to increase investments. As a result, the shipbuilding sector can enjoy economic benefits derived from the Corporate Recovery and Tax Incentives for Enterprises (CREATE) act that took effect on April 11, 2021. The law targets both domestic and foreign shipyards doing business in Philippines and proposes a fiscal relief.	
4. Estimated value	
5. Start and end date	Start date : 11 April 2021 ; End date : unknown
6. References	
Newspaper The Manila Times (2021): “Gov’t dangles fresh incentives to shipbuilders”, https://www.manilatimes.net/2021/09/15/business/maritime/govt-dangles-fresh-incentives-to-shipbuilders/1814751, accessed on 22 March 2022. Newspaper The Maritime Executive (2021): “Philippines Creates Tax Incentives to Attract Shipbuilding Investors”. https://www.maritime-executive.com/article/philippines-to-attract-shipbuilding-investors-with-new-incentives, accessed on 22 March 2022.	

4.3.5. *United Kingdom*

1. Type of the measure of support and its title	
A Direct transfer of funds by Governments <i>UK Government to invest £4 billion in refreshed National Shipbuilding Strategy</i>	
2. Authority/agency responsible for the measure and legal authority	
The Ministry of Defence	
3. Outline/explanation of the measure	
The National Shipbuilding Strategy Refresh was produced by the newly established, cross Government National Shipbuilding Office (a small team of Civil Servants and industry secondees). The £4bn of investment is not entirely composed of new measures. The vast majority of that figure relates to funding over the next three years for shipbuilding programmes in the 30 Year Cross-Government Shipbuilding Pipeline, including the Royal Navy fleet and Border Force vessels to rejuvenate the UK shipbuilding sector with the objective to deliver more than 150 new civil and naval vessels for the next 30 years.	
4. Estimated value	£4bn
5. Start and end date	Announced 10 March 2022
6. References	
Ministry of Defence, Refresh to the National Shipbuilding Strategy (2022): “A refreshed strategy for a globally successful, innovative and sustainable shipbuilding enterprise”, https://www.gov.uk/government/publications/refresh-to-the-national-shipbuilding-strategy , accessed on 22 March 2022. Newspaper Lloyd’s List (2022): “UK relaunched shipbuilding support scheme”, https://lloydslist.maritimeintelligence.informa.com/LL1140116/UK-relaunched-shipbuilding-support-scheme , accessed on 22 March 2022.	

1. Type of the measure of support and its title	
A Direct transfer of funds by Governments <i>The British government launches a £20 million competition to propel green shipbuilding</i>	
2. Authority/agency responsible for the measure and legal authority	
Department for Transport	
3. Outline/explanation of the measure	
The British Government announced on 10th of March 2021 a competition “Clean Maritime Demonstration Competition” (CMDCC) with the aim of developing innovations for a greener shipping future, including clean port infrastructure and zero-emission vessels. The fund consists of £20 million and will assist the development of prototype vessels and port infrastructure that can be rolled out widely. Scientists and academics are encouraged to collaborate with UK shipping, shipbuilders, and ports to enter ambitious proposals into the competition: • driving economic growth • revitalising coastal communities • creating 1000s of jobs • positioning the country as the leader in the field	
4. Estimated value	£20 million
5. Start and end date	Start date; 22 March 2021 End date; 7 June 2021
6. References	
The British Government (2021): “£20 million fund to propel green shipbuilding launched”, https://www.gov.uk/government/news/20-million-fund-to-propel-green-shipbuilding-launched, accessed on 22 March 2022. UK Government (2021): “Clean Maritime Demonstration Competition – Strand 1”, https://apply-for-innovation-funding.service.gov.uk/competition/888/overview, accessed on 23 March 2022. UK Government (2021): “Clean Maritime Demonstration Competition – Strand 2”, https://apply-for-innovation-funding.service.gov.uk/competition/887/overview, accessed on 23 March 2022. Newspaper Offshore Energy (2021): “UK unveils £20M fund to propel green shipbuilding”, https://www.offshore-energy.biz/uk-unveils-20m-fund-to-propel-green-shipbuilding/, accessed on 23 March 2022.	

1. Type of the measure of support and its title	
K Support for Research and Development <i>The British Government commits £206 million to fund research and development of green technology</i>	
2. Authority/agency responsible for the measure and legal authority	
Department for Transport	
3. Outline/explanation of the measure	
The government has launched a new office, UK Shipping Office for Reducing Emissions (UK SHORE), which will receive a funding of £206 million to create skilled jobs across the country and accelerate research into clean maritime technologies. It will implement a comprehensive research and development programme that will include working in partnership with industry in order to tackle supply and demand issues with shipbuilding, support building of greener vessels and include a multi-year CMDC (Clean Maritime Demonstration Competition). Additionally, the unit will support the development of the necessary infrastructure to enable zero emission technologies as well as physical infrastructure essential to power these new-age vessels.	
4. Estimated value	£20 million
5. Start and end date	Announced 10 March 2022
6. References	
UK Government (2022): “DfT launches UK SHORE to take maritime ‘back to the future’ with green investment”, https://www.gov.uk/government/news/dft-launches-uk-shore-to-take-maritime-back-to-the-future-with-green-investment , accessed on 23 March 2022. Newspaper Financial Times (2022): “UK focuses on green tech as it seeks to revive shipbuilding sector”. https://www.ft.com/content/230cd8d8-51cd-40de-b0e2-0ed25e49ede1 , accessed on 23 March 2022.	

4.3.6. *The United States*

1. Type of the measure of support and its title	
A Direct transfer of funds by Governments <i>Small Shipyard Grants - Update</i>	
2. Authority/agency responsible for the measure and legal authority	
U.S. Department of Transportation, Maritime Administration (MARAD)	
3. Outline/explanation of the measure	
Under the Small Shipyard Grant Program, \$20 million is available for grants for: 1) Capital and related improvements to qualified shipyard facilities that will be effective in fostering efficiency, competitive operations, and quality ship construction, repair and reconfiguration; and 2) training projects that would be effective in fostering employee skills and enhanced productivity related to shipbuilding, ship repair, and associated industries. Since 2008, the Small Shipyard Grant Program has awarded more than \$262.5 million through nearly 300 grants. Update: The Consolidated Appropriations Act, 2022 appropriated \$20 million to the Small Shipyard Grant Program. The applicant must be the operating company of the shipyard facility, which may not have more than 1,200 production employees. The shipyard facility must construct, repair, or reconfigure vessels 40 feet in length or greater for commercial or government use, or construct, repair, or reconfigure vessels 100 feet in length or greater for non-commercial vessels. The grants for any eligible project will not exceed 75 percent of the total cost of such project.	
4. Estimated value	USD 20 million in 2022
5. Start and end date	Start date : 2008 ; End date : unknown
6. References	
Magazine Workboat (2022): “Small Shipyard Gran program gets \$20 million in funding” https://www.workboat.com/small-shipyard-grant-program-gets-20-million-in-funding, accessed on 22 March 2022. Congress US (2022): “H.R.2471 – Consolidated Appropriations Act, 2022”. https://www.congress.gov/bill/117th-congress/house-bill/2471/text, accessed on 22 March 2022.	

1. Type of the measure of support and its title	
M Protection of the Domestic Market <i>Executive order on public procurement to maximize the use of goods produced in, and services offered in, the U.S. – Update</i>	
2. Authority/agency responsible for the measure and legal authority	
Executive Office of the President	
3. Outline/explanation of the measure	
The executive order directs agencies to strengthen requirements about purchasing products and services from U.S. workers and businesses. Consistent with applicable law, the United States should use terms and conditions of Federal financial assistance awards and Federal procurements to maximize the use of goods, products, and materials produced in (and services offered in) the United States. Furthermore, the executive order indicates that the United States Government should, whenever possible, procure goods, products, materials, and services from sources that will help American business compete in strategic industries and help America's workers thrive. Additionally, to promote an accountable and transparent procurement policy, each agency should vest waiver issuance authority in senior agency leadership, where appropriate and consistent with applicable law. The executive order reiterates the support for the Jones Act, in the way that "Made in America Laws" include laws requiring domestic preference for maritime transport, including the Merchant Marine Act of 1920 (Public Law 66-261), also known as the Jones Act. Update: In April 2021, the President opened the new Made in America office which reviews proposed waivers of Made-in-America laws and guides agencies on the use of taxpayer dollars to support U.S manufacturing.	
4. Estimated value	
5. Start and end date	Strat date : January 2021; End date : unknown
6. References	
The White house (2021): "FACT SHEET: Biden-Harris Administration Issues Proposed Buy American Rule, Advancing the President's Commitment to Ensuring the Future of America is Made in America by All of America's Workers", https://www.whitehouse.gov/briefing-room/statements-releases/2021/07/28/fact-sheet-biden-harris-administration-issues-proposed-buy-american-rule-advancing-the-presidents-commitment-to-ensuring-the-future-of-america-is-made-in-america-by-all-of-americas/, accessed on 22 March 2022.	

1. Type of the measure of support and its title	
D Loan guarantees that support loans on terms and conditions more favourable than those commercially available <i>Federal Ship Financing Program (Title XI)</i>	
2. Authority/agency responsible for the measure and legal authority	
US Department of Transportation, Maritime Administration (MARAD)	
3. Outline/explanation of the measure	
– The Federal Ship Financing Program promotes U.S. Merchant Marine fleet and U.S. shipyard growth and modernization. Through long term debt repayment guarantees, the Program encourages U.S. ship owners to obtain new vessels from U.S. shipyards cost effectively. It also assists U.S. shipyards in modernizing their facilities for building and repairing vessels. The repayment term allowed under the program generally is much longer and the interest rates are lower than those available from the commercial lending market, because the obligations guaranteed by the U.S. Government. – The approximate subsidy available in 2022 is to be determined and is currently unknown.	
4. Estimated value	TBD in 2022
5. Start and end date	Start date; 1937
6. References	
U.S. Department of Transportation, Maritime Administration (2021): “Federal Ship Financing Program (Title XI)”, https://www.maritime.dot.gov/grants/title-xi/federal-ship-financing-program-title-xi , accessed on 22 March 2022. U.S. Department of Transportation Maritime Administration (2021): “Subsidy Availability & History”. https://www.maritime.dot.gov/grants-finances/title-xi/subsidy-availability-history , accessed on 22 March 2022.	

1. Type of the measure of support and its title	
H Government revenue that is foregone or not collected <i>Construction Reserve Fund</i>	
2. Authority/agency responsible for the measure and legal authority	
US Department of Transportation, Maritime Administration (MARAD)	
3. Outline/explanation of the measure	
– The Construction Reserve Fund (CRF) is a financial assistance program that provides tax deferral benefits to U.S.-flag operators. Eligible parties can defer the gain attributable to the sale or loss of a vessel, provided the proceeds are used to expand or modernize the U.S. merchant fleet. The primary purpose of the CRF is to promote the construction, reconstruction, reconditioning, or acquisition of merchant vessels that are necessary for national defence and to the development of U.S. commerce. – A CRF may be established by any citizen of the United States who owns, in whole or in part, a vessel operating in the foreign or domestic commerce of the United States or in the fisheries. Additionally, a citizen who is operating such vessel or vessels owned by another individual may establish a CRF. The benefits available to the non-owner operator, however, are limited. In the event of sale or actual constructive total loss of a vessel, the CRF allows the non-recognition of gain for purposes of Federal income taxes. Funds deposited in the CRF must be used for the construction, reconstruction, or acquisition of a new vessel constructed or reconstructed in the United States and documented under the laws of the United States.	
4. Estimated value	None performed
5. Start and end date	Start date; 1936
6. References	
US Department of Transportation, Maritime Administration (2019): “Construction Reserve Fund”, https://www.maritime.dot.gov/grants/construction-reserve-fund , accessed on 22 March 2022.	

1. Type of the measure of support and its title	
H Government revenue that is foregone or not collected <i>Capital Construction Fund</i>	
2. Authority/agency responsible for the measure and legal authority	
US Department of Transportation, Maritime Administration (MARAD) US Department of Commerce, National Oceanic and Atmospheric Administration	
3. Outline/explanation of the measure	
– The Capital Construction Fund (CCF) program was created to help owners and operators of United States-flag vessels secure the capital necessary to modernize and expand the U.S. merchant marine. The program encourages construction, reconstruction, or acquisition of vessels through the deferment of Federal income taxes on certain deposits of money or other property placed into a CCF. Participants must meet U.S. citizenship requirements. – Vessels built with CCF funding must be built in the United States and documented under the laws of the United States for operation in the nation's foreign, Great Lakes, short-sea shipping or non-contiguous domestic trade or its fisheries.	
4. Estimated value	\$10 million in 2020
5. Start and end date	Start date; 1970s
6. References	
US Department of Transportation, Maritime Administration (2020): "Capital Construction Fund", https://www.maritime.dot.gov/grants/capital-construction-fund , accessed on 24 March 2021.	