



3. Shipbuilding, new orders and ship recycling

Shipbuilding

China, the Republic of Korea and Japan maintained their traditional leadership in shipbuilding, representing 92.5 per cent of the newbuilding deliveries in 2019

	Country or territory of ownership	Number of vessels			Dead-weight tonnage				
		National flag	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of total
1	Greece	671	3 977	4 648	60 827 479	303 026 753	363 854 232	83.28	17.77
2	Japan	909	3 001	3 910	36 805 225	196 329 652	233 134 877	84.21	11.38
3	China	4 569	2 300	6 869	99 484 023	128 892 849	228 376 872	56.44	11.15
4	Singapore	1 493	1 368	2 861	74 754 209	62 545 517	137 299 726	45.55	6.70
5	Hong Kong, China	883	807	1 690	72 505 185	28 452 208	100 957 393	28.18	4.93
6	Germany	205	2 299	2 504	8 340 596	81 062 481	89 403 077	90.67	4.37
7	Republic of Korea	778	837	1 615	14 402 899	66 179 736	80 582 635	82.13	3.93
8	Norway	383	1 660	2 043	1 884 535	62 051 275	63 935 810	97.05	3.12
9	Bermuda	13	529	542	324 902	60 088 969	60 413 871	99.46	2.95
10	United States	799	1 131	1 930	10 237 585	46 979 245	57 216 830	82.11	2.79
11	United Kingdom	317	1 027	1 344	6 835 508	46 355 337	53 190 845	87.15	2.60
12	Taiwan Province of China	140	850	990	6 636 271	44 255 009	50 891 280	86.96	2.48
13	Monaco		473	473		43 831 888	43 831 888	100.00	2.14
14	Denmark	25	921	946	31 435	42 683 049	42 714 484	99.93	2.09
15	Belgium	113	188	301	10 040 106	20 658 108	30 698 214	67.29	1.50
16	Turkey	449	1 079	1 528	6 656 989	21 433 413	28 090 402	76.30	1.37
17	Switzerland	26	401	427	1 113 387	25 365 225	26 478 612	95.80	1.29
18	India	859	183	1 042	16 800 490	9 035 433	25 835 923	34.97	1.26
19	Indonesia	2 132	76	2 208	22 301 493	1 604 369	23 905 862	6.71	1.17
20	Russian Federation	1 403	339	1 742	8 292 932	14 812 631	23 105 563	64.11	1.13
21	United Arab Emirates	118	852	970	480 283	20 271 823	20 752 106	97.69	1.01
22	Islamic Republic of Iran	238	8	246	18 245 935	353 441	18 599 376	1.90	0.91
23	Netherlands	700	492	1 192	5 584 365	12 437 918	18 022 283	69.01	0.88
24	Saudi Arabia	137	132	269	13 303 057	4 126 462	17 429 519	23.68	0.85
25	Italy	499	179	678	11 005 343	6 400 010	17 405 353	36.77	0.85
26	Brazil	302	94	396	4 963 496	8 984 821	13 948 317	64.42	0.68
27	France	106	333	439	898 897	12 448 289	13 347 186	93.27	0.65
28	Cyprus	141	165	306	4 958 311	6 659 094	11 617 405	57.32	0.57
29	Viet Nam	910	150	1 060	8 390 791	2 357 014	10 747 805	21.93	0.52
30	Canada	222	159	381	2 723 583	7 247 389	9 970 972	72.68	0.49
31	Malaysia	464	156	620	6 378 887	2 164 848	8 543 735	25.34	0.42
32	Oman	5	51	56	5 704	8 069 314	8 075 018	99.93	0.39
33	Qatar	59	67	126	1 056 669	6 054 422	7 111 091	85.14	0.35
34	Sweden	88	213	301	929 401	5 580 520	6 509 921	85.72	0.32
35	Nigeria	182	74	256	3 227 668	3 031 686	6 259 354	48.43	0.31
Subtotal, top 35 shipowners		20 338	26 571	46 909	540 427 639	1 411 830 198	1 952 257 837	72.32	95.33
<i>Rest of world and unknown</i>		<i>3 037</i>	<i>3 015</i>	<i>6 052</i>	<i>36 513 130</i>	<i>59 204 480</i>	<i>95 717 610</i>	<i>61.85</i>	<i>4.67</i>
World total		23 375	29 586	52 961	576 940 769	1 471 034 678	2 047 975 447	71.8	100.0

Source: UNCTAD calculations, based on data from Clarksons Research.

Notes: Propelled seagoing vessels of 1,000 gross tons and above, as at 1 January 2020. For the purposes of this table, second and international registries are recorded as foreign or international registries, whereby, for example, ships belonging to owners in the United Kingdom registered in Gibraltar or on the Isle of Man are recorded as being under a foreign or an international flag. In addition, ships belonging to owners in Denmark and registered in the Danish International Ship Register account for 45 per cent of the Denmark-owned fleet in dead-weight tonnage, and ships belonging to owners in Norway registered in the Norwegian International Ship Register account for 27.4 per cent of the Norway-owned fleet in dead-weight tonnage. For a complete listing of nationally owned fleets, see <http://stats.unctad.org/fleetownership>.

Table 2.4 Top 25 ship-owning economies, as at 1 January 2020
(Million dollars)

	Country or territory	Bulk carriers	Oil tankers	Offshore vessels	Ferries and passenger ships	Container ships	Gas carriers	General cargo ships	Chemical tankers	Other /not available	Total
1	Greece	34 426	37 873	187	2 404	7 936	12 238	189	1 064	468	96 785
2	Japan	34 027	9 981	4 713	3 030	11 805	15 173	3 482	4 937	9 150	96 298
3	China	30 108	13 278	10 189	5 089	17 243	4 267	5 244	3 126	3 008	91 553
4	United States	3 352	6 308	20 392	52 130	1 190	1 458	1 122	1 971	732	88 655
5	Norway	4 213	6 217	23 156	3 088	1 852	7 847	950	2 423	3 002	52 748
6	Singapore	12 860	13 975	5 189	25	6 845	4 428	1 043	4 695	566	49 626
7	Germany	5 857	2 121	630	9 630	17 211	1 966	3 429	791	360	41 996
8	United Kingdom	3 760	4 106	13 226	4 575	4 592	5 318	920	1 457	2 581	40 535
9	Hong Kong, China	10 209	7 239	601	2 723	10 082	1 173	898	282	1 027	34 234
10	Bermuda	4 826	5 895	5 779		2 079	8 431		375	62	27 447
11	Republic of Korea	7 319	5 999	264	366	2 400	4 914	710	1 595	2 816	26 383
12	Denmark	1 412	4 008	2 373	999	10 642	2 014	752	971	111	23 282
13	Switzerland	813	821	3 244	10 243	7 337	225	236	213	9	23 142
14	Netherlands	747	535	13 457	619	386	753	3 411	1 228	1 938	23 076
15	Italy	1 162	2 319	2 655	8 944	4	305	2 068	553	504	18 515
16	Brazil	145	1 029	15 345	69	298	131	35	84	1	17 138
17	Monaco	3 292	7 232		32	997	3 712		32	30	15 327
18	Taiwan Province of China	7 057	1 668	37	79	4 088	396	632	156	105	14 219
19	France	374	130	5 393	1 813	4 174	521	179	141	224	12 949
20	Turkey	3 208	1 433	691	346	1 290	145	1 892	1 121	42	10 168
21	Russian Federation	246	3 966	1 456	74	72	1 489	1 227	633	849	10 014
22	Malaysia	166	239	6 409	14	73	1 897	138	142	166	9 245
23	Belgium	1 515	4 070	88		262	1 221	811	167	529	8 663
24	Indonesia	838	2 091	849	1 942	790	517	1 105	348	47	8 528
25	United Arab Emirates	1 530	2 300	3 051	59	216	473	75	584	72	8 359
	Other	13 157	19 676	23 857	12 120	3 135	15 552	8 345	4 169	3 317	103 328
	World total	186 622	164 511	163 232	120 413	116 998	96 568	38 894	33 258	31 718	952 213

Source: UNCTAD calculations, based on data from Clarksons Research, as at 1 January 2020 (estimated current value).

Note: Value is estimated for all commercial ships of 1,000 gross tons and above.

(table 2.7). Each country specializes in different shipping segments. China is the leading builder of bulk carriers (56.2 per cent), offshore vessels (58 per cent) and general cargo ships (34.6 per cent); the Republic of Korea, of gas carriers (62.8 per cent), oil tankers (59.4 per cent) and container ships (41.7 per cent); and Japan, chemical tankers (54.1 per cent).

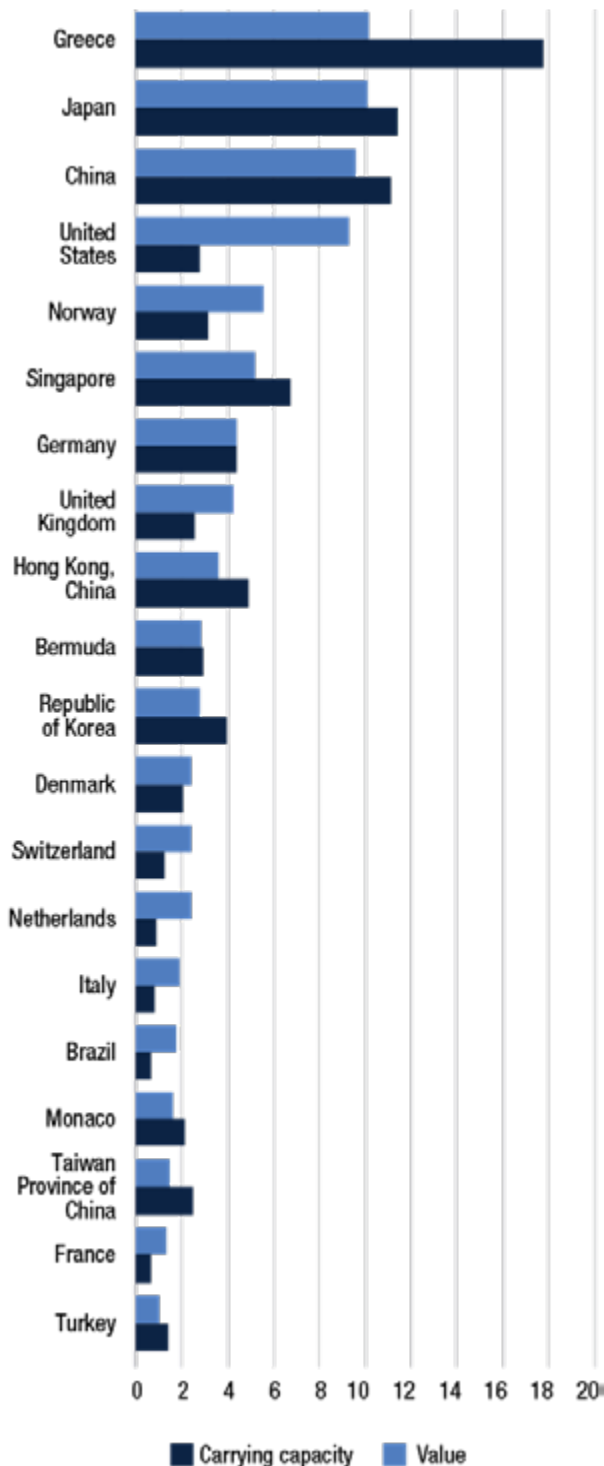
Compared with 2019, the market share of the Republic of Korea increased by 7.7 percentage points, whereas that of China decreased by 5.1 percentage points. Bulk carrier and oil tanker newbuildings registered the largest increases (7.8 and 5.2 percentage points, respectively) whereas container ships and gas carriers registered

the greatest decreases (-2 and -3.2 percentage points, respectively).

New orders

In early 2020, the world order book had declined with respect to dry bulk carriers, oil carriers, container ships and general cargo ships (figure 2.4). Orders for three of these shipping segments have been shrinking since 2017 (except for dry bulk carriers, which increased in 2019). Widening disparity between newbuilding prices and earnings, geopolitical instability, persistent financing challenges and broad uncertainty over fuel and technology choices explain this trend (Barry Rogliano Salles, 2020).

Figure 2.3 Top 20 ship-owning economies in terms of value and carrying capacity of the global fleet, 2020 (Percentage)



Source: UNCTAD calculations, based on data from Clarksons Research.

Note: Value is estimated for all commercial ships of 1,000 gross tons and above.

Ship recycling

Bangladesh remains the country with the largest global share of recycled tonnage, accounting for more

than half of the ships recycled in 2019. Together with India and Turkey, these three countries represented 90.3 per cent of the ship recycling activity in 2019. The same year, bulk carriers constituted most of the recycled tonnage (about one third), followed by container ships and oil tankers (table 2.8). Since 2016, global volumes of recycled tonnage have been on the wane. Volumes fell to 29,135 thousand gross tons in 2016, 23,138 thousand gross tons in 2017, 19,003 thousand gross tons in 2018 and 12,218 thousand gross tons in 2019. Steel price developments in scrapping destinations and expectations concerning the evolution of freight rates are factors underpinning these trends (Hellenic Shipping News Worldwide, 2019).

The only country among the top five scrapping destinations that increased its ship-recycling volumes in 2019 was Turkey (figure 2.5), linked reportedly to certification of Turkish shipyards by the European Union, enabling them to be on the list of approved facilities for the recycling of ships flying European Union flags (Hellenic Shipping News Worldwide, 2018). In 2019, Turkey also ratified the Hong Kong [China] International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 of IMO. Among the other countries, the reduction in the share of Pakistan was most significant, motivated by adverse conditions related to taxation and exchange rates (The Maritime Executive, 2019). In 2019, bulk carriers increased their percentage share in global recycling volumes by 172 per cent; container ships, by 145 per cent; and offshore vessels, by 88 per cent. By contrast, oil tankers and gas carriers registered significant decreases of 71 and 55 per cent, respectively.

Impacts of the coronavirus disease pandemic, responses and prospects: Labour shortages affect newbuilding and ship recycling and weak investor sentiment affects ordering

The pandemic led to reductions and delays in newbuilding delivery and to a standstill in ship recycling. This can be attributed to lockdown-induced labour shortages in the shipbuilding and ship recycling industries. In addition, other measures implemented to reduce the spread of the pandemic, such as travel restrictions, made it impossible for owners to arrange visits or obtain a crew for final delivery. Port closures also affected tonnage arrival into scrapping destinations on the Indian subcontinent (Hellenic Shipping News Worldwide, 2020b).

The pandemic also had a significant impact on the manufacturing segments of the maritime supply chain. In February 2020, deliveries from China fell to their lowest level in 15 years, with only four ships delivered. As lockdowns were gradually lifted, industrial activity resumed. China was reported to have returned to 50 per cent of its 2019 output average in March 2020

	Flag of registration	Number of vessels	Share of world vessel total (percentage)	Dead-weight tonnage (thousand dead-weight tons)	Share of total world dead-weight tonnage (percentage)	Cumulated share of dead-weight tonnage (percentage)	Average vessel size (dead-weight tonnage)	Growth in dead-weight tonnage 2020 over 2019 (percentage)
1	Panama	7 886	8	328 950	16	16.0	41 713	-1.3
2	Liberia	3 716	4	274 786	13	29.3	73 947	13.0
3	Marshall Islands	3 683	4	261 806	13	42.0	71 085	6.5
4	Hong Kong, China	2 694	3	201 361	10	51.7	74 744	1.3
5	Singapore	3 420	3	140 333	7	58.5	41 033	8.3
6	Malta	2 207	2	115 879	6	64.2	52 505	4.7
7	China	6 192	6	100 086	5	69.0	16 164	3.0
8	Bahamas	1 381	1	77 869	4	72.8	56 386	0.1
9	Greece	1 294	1	68 632	3	76.1	53 039	-0.7
10	Japan	5 041	5	40 323	2	78.1	7 999	3.4
11	Cyprus	1 065	1	34 533	2	79.8	32 425	-0.1
12	Indonesia	10 137	10	25 574	1	81.0	2 523	6.9
13	Isle of Man	356	0	24 129	1	82.2	67 779	-13.5
14	Danish International Register	575	1	23 044	1	83.3	40 077	3.0
15	Norwegian International Register	647	1	20 780	1	84.3	32 118	4.8
16	Madeira	526	1	20 698	1	85.3	39 351	6.0
17	Islamic Republic of Iran	877	1	19 700	1	86.3	22 463	362.3
18	India	1 768	2	17 339	1	87.1	9 807	-0.2
19	Republic of Korea	1 889	2	14 942	1	87.8	7 910	14.9
20	Saudi Arabia	376	0	13 554	1	88.5	36 047	3.2
21	United States	3 650	4	11 985	1	89.1	3 284	0.6
22	United Kingdom	945	1	11 962	1	89.6	12 658	-29.8
23	Italy	1 310	1	11 953	1	90.2	9 124	-10.8
24	Belgium	203	0	10 349	1	90.7	50 980	-1.1
25	Malaysia	1 772	2	10 260	0	91.2	5 790	-0.4
26	Russian Federation	2 808	3	9 797	0	91.7	3 489	6.9
27	Viet Nam	1 909	2	9 123	0	92.1	4 779	7.7
28	Germany	606	1	8 468	0	92.5	13 974	-0.9
29	Bermuda	138	0	7 662	0	92.9	55 525	-18.9
30	Turkey	1 216	1	6 993	0	93.3	5 751	-6.5
31	Netherlands	1 200	1	6 982	0	93.6	5 818	-1.4
32	Taiwan Province of China	407	0	6 739	0	93.9	16 557	16.0
33	Antigua and Barbuda	727	1	6 657	0	94.2	9 157	-11.1
34	Thailand	840	1	6 642	0	94.6	7 907	15.7
35	Cayman Islands	163	0	6 636	0	94.9	40 713	-1.1
Top 35 total		73 624	75	1 956 529	95	94.9	26 575	
World total		98 140	100	2 061 944	100	100.00	21 010	4.1

Source: UNCTAD calculations, based on data from Clarksons Research.

Notes: Propelled seagoing merchant vessels of 100 gross tons and above, as at 1 January 2020. For a complete listing of countries, see <http://stats.unctad.org/fleet>.

	Flag of registration	Bulk carriers	Oil tankers	Offshore vessels	Ferries and passenger ships	Container ships	Gas carriers	General cargo ships	Chemical tankers	Other/not applicable	Total
1	Panama	40 369	13 462	17 612	12 037	17 035	10 632	3 899	5 306	7 412	127 765
2	Marshall Islands	27 870	29 606	17 257	1 284	6 150	15 110	515	4 511	2 207	104 511
3	Liberia	23 729	22 944	12 662	150	17 217	5 756	1 010	2 590	1 488	87 544
4	Bahamas	4 950	7 759	23 781	31 330	606	13 295	73	106	2 566	84 466
5	Hong Kong, China	23 280	11 360	289	42	21 030	5 987	1 607	1 878	120	65 592
6	Malta	9 418	11 192	4 758	15 420	12 173	4 929	1 681	1 793	873	62 236
7	Singapore	12 226	14 540	8 748		11 673	7 473	1 066	3 541	1 458	60 725
8	China	14 910	7 012	7 914	4 412	3 456	678	2 880	1 451	2 887	45 599
9	Greece	2 831	10 710	1	1 561	272	5 587	47	77	90	21 176
10	Italy	671	1 064	501	14 235	77	244	2 106	388	504	19 791
Subtotal top 10		160 253	129 650	93 521	80 469	89 689	69 692	14 883	21 642	19 606	679 405
Other		26 370	34 861	69 711	39 944	27 309	26 876	24 011	11 615	12 112	272 808
World total		186 622	164 511	163 232	120 413	116 998	96 568	38 894	33 258	31 718	952 213

Source: UNCTAD calculations, based on data from Clarksons Research, as at 1 January 2019 (estimated current value).

Note: Value is estimated for all commercial ships of 1,000 gross tons and above.

Vessel type	China	Republic of Korea	Japan	Philippines	Rest of world	Total	Percentage
Bulk carriers	12 773	1 010	7 942	652	338	22 716	34.5
Oil tankers	4 200	11 827	2 811	128	946	9 912	30.2
Container ships	3 712	4 545	2 521	19	94	10 891	16.5
Gas carriers	420	3 888	1 881		1	6 189	9.4
Ferries and passenger ships	214	3	59	3	1 903	2 182	3.3
General cargo ships	452	202	267		387	1 307	2.0
Offshore vessels	651	135	4		332	1 121	1.7
Chemical tankers	368	49	574		71	1 063	1.6
Other	285	12	182	0	50	530	0.8
Total	23 074	21 670	16 242	802	4 122	65 911	100.0
Percentage	35.0	32.9	24.6	1.2	6.3	100.0	

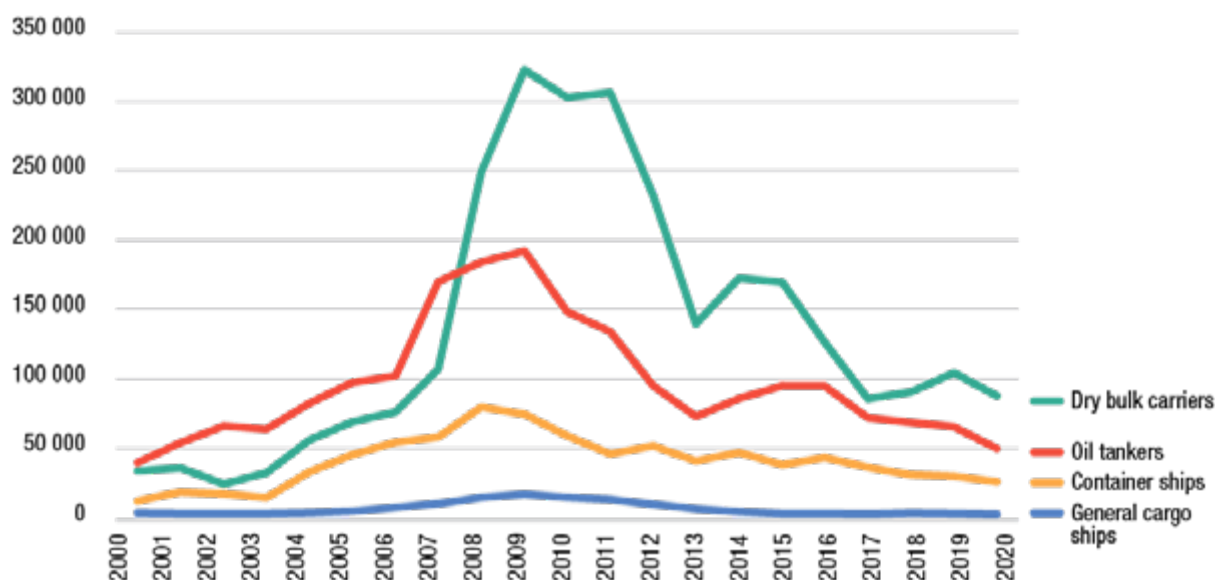
Source: UNCTAD calculations, based on data from Clarksons Research.

Notes: Propelled seagoing merchant vessels of 100 gross tons and above. For more data on other shipbuilding countries, see <http://stats.unctad.org/shipbuilding>.

and to 60 per cent in May. However, by May 2020 global shipbuilding output in dwt was down 14 per cent year over year (Clarksons Research, 2020a). In March, when the pandemic erupted in the Europe and the United States, lockdowns in Bangladesh, India and Pakistan gradually halted ship recycling (Vessels Value, 2020). In June 2020, Indian recycling yards were reported to be operating at just 30 to 40 per cent of full capacity (Clarksons Research, 2020b).

The COVID-19 pandemic has brought widespread uncertainty related to economic performance in 2020 and 2021 (see chapter 1). As a result, strategic investment decisions had to be reconsidered, for instance, newbuilding ordering and repairs were postponed. Ordering contracts were down 53 per cent year over year in July 2020 (Clarksons Research, 2020c). In addition, many companies decided to delay scrubber installation because of the impact of the pandemic

Figure 2.4 World tonnage on order, 2000–2020
(Thousand dead-weight tons)



Source: UNCTAD calculations, based on data from Clarksons Research.

Notes: Propelled seagoing merchant vessels of 100 gross tons and above; beginning-of-year figures.

Table 2.8 Reported tonnage sold for ship recycling by major vessel type and country of ship recycling, 2019
(Thousand gross tons)

Vessel type	Bangladesh	China	India	Pakistan	Turkey	Rest of world	World total	Percentage
Bulk carriers	3 426	238	582	132	161	32	4 570	37.4
Chemical tankers	64	4	125	7	3	9	211	1.7
Container ships	1 015	24	964	12	10	86	2 111	17.3
Ferries and passenger ships	71	2	46	27	76	5	226	1.8
General cargo ships	140	62	150	12	174	36	575	4.7
Liquefied gas carriers	169		70		30	9	279	2.3
Offshore vessels	326	4	543	9	435	197	1 514	12.4
Oil tankers	1 271	14	387	56	119	153	1 999	16.4
Other	200	35	384	13	87	12	732	6.0
Total	6 682	383	6 682	267	1 095	540	12 218	100.0
Percentage	54.7	3.1	26.6	2.2	9.0	4.4	100.0	

Source: Clarksons Research.

Notes: Propelled seagoing vessels of 100 gross tons and above. Estimates for all countries available at <http://stats.unctad.org/shipscrapping>.

on financial cash flow (Clarksons Research, 2020d; *Manifold Times*, 2020). This is also linked to fuel price dynamics since January 2020, namely the narrowing of the price differential between high and low sulphur fuel, which increased the time to recover the investment cost of installing scrubbers (IHS Markit, 2020; *Seatrade Maritime News*, 2020a).

Before the pandemic, the shipbuilding sector had already been facing a challenging environment of fierce competition and declining orders. Increased consolidation and government finance helped to cope with this situation (UNCTAD, 2019a). Seeking to minimize costs and losses and restructuring their businesses to improve balance sheets, the world's

largest shipbuilder (Hyundai Heavy Industries Company of the Republic of Korea) signed in March 2020 a formal agreement with the State-run Korea [Republic of] Development Bank to buy Daewoo Shipbuilding and Marine Engineering. The merger will be completed upon approval by antitrust authorities in China, the European Union, Japan, Kazakhstan, the Republic of Korea and Singapore (*The Korea Times*, 2020). The European Union and Japan have voiced concerns about the potential of this merger to lead to an uneven trading playing field (WTO, 2020) and reduced competition in shipbuilding markets of large container ships, oil tankers, liquefied natural gas carriers and liquefied petroleum gas carriers (European Commission, 2019).

Against this background, the pandemic further accentuated challenges, reducing demand and affecting orders, production and delivery. Box 2.2 describes some of these challenges, from perspective of the European Union.

The slowdown in shipbuilding contributes to lower fleet growth. Fewer newbuilding deliveries during the April–September 2020 period could result in relatively lower fleet growth, bringing it to about 1.6 per cent for 2020 (Clarksons Research, 2020e). The extent to which this will improve supply–demand balance in 2021 will depend on how demand and economic activity will recover and on developments in ship recycling.

In comparison, ship recycling offers more positive prospects. In June 2020, container ship recycling volumes were nearly as high as levels reported from January to May 2020 (Hellenic Shipping News Worldwide, 2020c). By the end of that month, ship-recycling activity had partially recovered in the bulk carriers segment. In this segment, scrapped volumes for the first half of 2020 exceeded levels for the full year 2019 (Clarksons Research, 2020e). Ship recycling is expected to increase, as the shipping industry copes with idling fleets and plans to scrap older vessels (more than 15 years old) that are not fuel efficient (Lloyd's List, 2020b).