GENCO SHIPPING & TRADING LTD Form 424B5 July 21, 2010

Use these links to rapidly review the document TABLE OF CONTENTS

Table of Contents

The information in this prospectus supplement is not complete and may be changed. This prospectus supplement and the accompanying prospectus are not an offer to sell these securities and are not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED JULY 21, 2010

Preliminary Prospectus Supplement (to Prospectus dated February 27, 2009)

Filed pursuant to Rule 424(b)(5) Registration No. 333-155758

2,820,000 shares

Common Stock

We are offering 2,820,000 shares of common stock pursuant to this prospectus supplement and the accompanying prospectus. We have granted the underwriters the option to purchase, within 30 days from the date of this prospectus supplement, up to an additional 423,000 shares of common stock. Our common stock is listed on the New York Stock Exchange under the symbol "GNK." The last reported sale price of our common stock on the New York Stock Exchange on July 20, 2010 was \$17.73 per share.

Concurrently with this offering, we are offering, by means of a separate prospectus supplement, \$100 million aggregate principal amount of our % Convertible Senior Notes due August 15, 2015 (or \$115 million aggregate principal amount if the underwriters exercise their over-allotment option in full) in an underwritten offering. See "Concurrent Convertible Notes Offering." This offering and the concurrent convertible notes offering are part of a larger financing and vessel acquisition transaction. However, neither offering is contingent upon the consummation of the other offering.

Investing in our common stock involves a high degree of risk. See "Risk Factors" beginning on page S-13 of this prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

		Per Share	Total
Public offering price		\$	\$
Underwriting discounts and commissions		\$	\$
Proceeds to us (before expenses)		\$	\$
We expect that delivery of the shares of common st	tock included in this offering will made to	investors on or about	, 2010.
Deutsche Bank Securities	Joint Book-Running Managers BNP PARIBAS Co-Managers		Credit Suisse
Credit Agricole CIB	DV	B Capital Mark	ets
_			

, 2010

Table of Contents

TABLE OF CONTENTS

	Page	
PROSPECTUS SUPPLEMENT	Ü	
ABOUT THIS PROSPECTUS SUPPLEMENT		
	<u>S-1</u>	
FORWARD-LOOKING STATEMENTS	<u>S-1</u>	
PROSPECTUS SUPPLEMENT SUMMARY	<u>S-2</u>	
RISK FACTORS	S-13	
USE OF PROCEEDS	S-19	
PRICE RANGE OF COMMON STOCK AND DIVIDENDS	<u>S-19</u>	
CAPITALIZATION	<u>S-20</u>	
CONCURRENT CONVERTIBLE NOTES OFFERING	S-21	
DESCRIPTION OF OTHER INDEBTEDNESS	<u>S-22</u>	
DESCRIPTION OF CAPITAL STOCK	<u>S-25</u>	
TAX CONSIDERATIONS	<u>S-31</u>	
UNDERWRITING	<u>S-39</u>	
LEGAL MATTERS	<u>S-44</u>	
<u>EXPERTS</u>	<u>S-44</u>	
WHERE YOU CAN FIND MORE INFORMATION	<u>S-44</u>	
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	<u>S-44</u>	
PROSPECTUS		
ABOUT THIS PROSPECTUS		
	<u>2</u>	
RISK FACTORS	<u>-</u>	
FORWARD-LOOKING STATEMENTS	$\frac{\overline{2}}{2}$	
ABOUT GENCO	<u>3</u>	
RATIOS OF EARNINGS TO FIXED CHARGES	<u>3</u>	
<u>USE OF PROCEEDS</u>	<u>3</u>	
DESCRIPTION OF DEBT SECURITIES	3 3 6 12	
DESCRIPTION OF CAPITAL STOCK	<u>6</u>	
<u>DESCRIPTION OF RIGHTS</u>	<u>12</u>	
<u>DESCRIPTION OF WARRANTS</u>	<u>13</u>	
<u>DESCRIPTION OF UNITS</u>	<u>14</u>	
PLAN OF DISTRIBUTION	14 14	
<u>LEGAL MATTERS</u>	<u>16</u>	
<u>EXPERTS</u>	<u>16</u>	
EXPERTS WHERE YOU CAN FIND MORE INFORMATION		
	<u>16</u>	

Table of Contents

ABOUT THIS PROSPECTUS SUPPLEMENT

This document is in two parts. The first part is the prospectus supplement, which describes the specific terms of this offering and also adds to and updates information contained in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and the accompanying prospectus. The second part, the accompanying prospectus, gives more general information about securities we may offer from time to time, some of which does not apply to this offering. To the extent the information contained in this prospectus supplement differs or varies from the information contained in the accompanying prospectus, the information in this prospectus supplement controls. Before you invest in shares of our common stock, you should carefully read this prospectus supplement, along with the accompanying prospectus, in addition to the information contained in the documents referred to under the heading "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference" in this prospectus supplement.

You should rely only on the information contained or incorporated by reference in this prospectus supplement, the accompanying prospectus or any "free writing prospectus" we may authorize to be delivered to you. Neither we nor the underwriters have authorized anyone to provide you with information that is different. If anyone provides you with different or inconsistent information, you should not rely on it. In making an investment decision regarding the common stock we are offering, you must rely on your own examination of our company and the terms of this offering, including the potential merits and risks involved. This prospectus supplement is not an offer to sell or a solicitation of an offer to buy shares of our common stock in any jurisdiction where such offer or any sale would be unlawful. You should not assume that the information in this prospectus supplement, the accompanying prospectus or any free writing prospectus we may authorize to be delivered to you, including any information incorporated by reference, is accurate as of any date other than their respective dates. If any statement in one of these documents is inconsistent with a statement in another document having a later date for example, a document incorporated by reference in this prospectus supplement or the accompanying prospectus the statement in the document having the later date modifies or supersedes the earlier statement.

FORWARD-LOOKING STATEMENTS

We make statements in this prospectus supplement and the documents incorporated by reference that are considered forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements are based on the beliefs of our management as well as assumptions made by and information currently available to them. The words "anticipate," "believe," "may," "estimate," "expect," and similar expressions, and variations of such terms or the negative of such terms, are intended to identify such forward-looking statements. The forward-looking statements in this prospectus supplement include the statements relating to our pending vessel acquisitions and the related financing arrangements, including the concurrent convertible notes offering.

All forward-looking statements are subject to certain risks, uncertainties and assumptions. If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, our actual results, performance or achievements could differ materially from those expressed in, or implied by, any such forward-looking statements. Important factors that could cause or contribute to such difference include those referenced under "Risk Factors" in this prospectus supplement and any accompanying prospectus supplement and in our most recent annual report on Form 10-K and quarterly reports on Form 10-Q, incorporated by reference into this prospectus supplement. You should not place undue reliance on such forward-looking statements, which speak only as of their dates. We do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. You should carefully consider the information referenced under the heading "Risk Factors."

Table of Contents

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights information contained or incorporated by reference in this prospectus supplement. This summary is not complete and does not contain all of the information that you should consider before investing in our common stock. As an investor, you should carefully read the entire prospectus, as well as the documents incorporated by reference, especially the risks discussed under "Risk Factors" in this prospectus supplement and under the caption "Risk Factors" in our filings with the SEC pursuant to Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), incorporated by reference into this prospectus supplement. Unless we or the context otherwise indicates, in this prospectus supplement references to "we," "us," "our company" and "our" refer to Genco Shipping & Trading Limited and its subsidiaries.

Unless otherwise stated in this prospectus supplement, we have assumed throughout this prospectus supplement that the underwriter's option to purchase additional shares is not exercised.

About Genco

We are a leading drybulk shipping company with a strong record of disciplined growth. We transport iron ore, coal, grain, steel products and other drybulk cargoes along worldwide shipping routes. Since our founding as a Marshall Islands corporation in 2004, we have grown our business by utilizing our operational advantages and seeking prudent opportunities to consolidate the drybulk shipping industry. With our expanding fleet of high-quality vessels, our balanced approach to vessel employment and our experienced management team, we believe we have a firm foundation for continued strong performance. As part of our strategy, we intend to continue growing our fleet through timely and selective vessel acquisitions in a manner that is accretive to our cash flow.

As of July 20, 2010, our current fleet consisted of 35 drybulk carriers totaling approximately 2,903,000 deadweight tons ("dwt") and, after completion of our pending vessel acquisition transactions, we expect to own and operate a fleet of 53 drybulk vessels totaling approximately 3,813,000 dwt, excluding vessels owned by our subsidiary, Baltic Trading Limited, as described below. In June 2010, we entered into agreements to acquire five Handysize drybulk vessels from affiliates of Metrostar Management Corporation (collectively, "Metrostar") for an aggregate purchase price of approximately \$166.3 million. We expect to take delivery of these vessels between July 2010 and September 2011. Also in June 2010, we entered into an aggregate purchase price of \$545 million plus an M&A fee of 1%. We intend to retain 13 of the 16 vessels, 12 of which are expected to be delivered to us in the third quarter of 2010, with the remaining vessel scheduled to be delivered in the first quarter of 2011. We plan to resell the remaining three vessels to Maritime Equity Partners, LLC ("MEP"), a company controlled by our Chairman, Peter C. Georigopoulos, immediately upon their delivery to us at our purchase price of approximately \$105 million. We expect to oversee the technical management of 12 vessels that MEP owns, including these three vessels, under an agency agreement we have entered into with MEP.

As of July 20, 2010, 30 of the 35 vessels currently operating in our fleet are under time charter contracts and have an average remaining life of approximately 7.7 months. Five of our existing vessels operate in vessel pools, such as the Bulkhandling Handymax Pool and the Lauritzen Bulkers/ IVS ("LB/IVS") Pool and are chartered by the pool manager on time charters and spot charters. Under a pool arrangement, the vessels operate under a time charter agreement whereby the cost of bunkers and port expenses are borne by the pool, and operating costs including crews, maintenance and insurance are typically paid by the owner of the vessel. Most of our vessels are chartered to well-known charterers, including Lauritzen Bulkers A/S, Cargill International S.A., Pacific Basin Chartering Ltd., COSCO Bulk Carriers Co., Ltd. and Hyundai Merchant Marine Co. Ltd.

Our current fleet of 35 vessels consists of nine Capesize, eight Panamax, four Supramax, six Handymax and eight Handysize drybulk carriers. As of July 20, 2010, the average age of the vessels in our current fleet was approximately 7.35 years, as compared to the average age for the world fleet of

Table of Contents

approximately 15 years for the drybulk shipping segments in which we compete. Upon completion of the Metrostar and Bourbon acquisitions, our fleet will consist of 53 drybulk vessels with a total carrying capacity of approximately 3,813,000 dwt and an average age of 6.4 years, excluding vessels owned by Baltic Trading. All of the vessels in our fleet were built in shippards with reputations for constructing high-quality vessels. Our existing fleet contains nine groups of sister ships, which are vessels of virtually identical sizes and specifications. We believe that maintaining a fleet that includes sister ships reduces costs by creating economies of scale in the maintenance, supply and crewing of our vessels.

In October 2009, we formed Baltic Trading Limited, or Baltic Trading (NYSE:BALT), as a subsidiary focused on the drybulk spot market. On March 15, 2010, Baltic Trading announced the completion of its initial public offering, raising gross proceeds of \$228.2 million before deducting underwriting discounts and commissions and estimated offering expenses. With the proceeds of its offering, together with the \$75 million capital contribution from us, Baltic Trading is in the process of completing its acquisition of its initial fleet of six vessels. Five of these vessels have been delivered, and the remaining vessel is expected to be delivered in October 2010. In June 2010, Baltic Trading entered into agreements to acquire three Handysize drybulk vessels from Metrostar for an aggregate purchase price of approximately \$99.8 million. These vessels are expected to be delivered between July 2010 and October 2010. As of July 20, 2010, we own 5,699,088 shares of Baltic Trading's Class B Stock, which currently represents a 25.35% ownership interest in Baltic Trading and 83.59% of the aggregate voting power of Baltic Trading's outstanding shares of voting stock. As a result of our ownership of a majority of the voting interests in and exercise of control of Baltic Trading, we include the accounts of Baltic Trading in our consolidated financial statements.

The following table sets forth information as of July 20, 2010 about our current fleet employment or other status of vessels expected to join our fleet from our recent proposed vessel acquisitions (excluding Baltic Trading's vessels):

						Net Revenue	
Vessel	Year Built	DWT	Charterer	Charter Expiration(1)	Cash Daily Rate(2)	Daily Rate(3)	Expected Delivery(4)
Capesize Vessels				•			•
Genco Augustus	2007	180,151	Cargill International S.A.	December 2010	39,000		
Genco Tiberius	2007	175,874	Cargill International S.A.	August 2010	44,000		
Genco London	2007	177,833	SK Shipping Co., Ltd	August 2010	57,500	64,250	
Genco Titus	2007	177,729	Cargill International S.A.	September 2011	45,000(5)	46,250	
Genco Constantine	2008	180,183	Cargill International S.A.	August 2012	52,750(5)		
Genco Hadrian	2008	169,694	Cargill International S.A.	October 2012	65,000(5)		
Genco Commodus	2009	169,025	Morgan Stanley Capital		36,000		
			Group Inc.	June 2011			
Genco Maximus	2009	169,025	Cargill International S.A.	July 2010	32,000		
Genco Claudius	2010	169,025	Cargill International S.A.	November 2010	36,000		
Panamax Vessels							
Genco Beauty	1999	73,941	D/S Norden A/S	April 2011	27,000		
Genco Knight	1999	73,941	Swissmarine Services S.A.	March 2011	25,000		
Genco Leader	1999	73,941	Klaveness Chartering	December 2010	20,000		
Genco Vigour	1999	73,941	Global Maritime Investments Ltd.	November 2010	24,000		
Genco Acheron	1999	72,495	Global Chartering Ltd (a subsidiary of ArcelorMittal Group)	July 2011	55,250		
Genco Surprise	1998	72,495	Hanjin Shipping Co., Ltd.	December 2010	42,100		
Genco Raptor	2007	76,499	COSCO Bulk Carriers Co., Ltd.	April 2012	52,800		
Genco Thunder	2007	76,588	Klaveness Chartering	September 2010	22,250		
Supramax Vessels				_			
Genco Predator	2005	55,407	Pacific Basin Chartering Ltd	April 2011	22,500		
			S-3				

Table of Contents

Vered	Year	DWT	Chartenan	Charter	Cash Daily	Net Revenue Daily	Expected
Vessel Genco Warrior	Built 2005	55,435	Charterer Hyundai Merchant Marine Co. Ltd.	Expiration(1) November 2010	Rate(2) 38,750	Rate(3)	Delivery(4)
Genco Hunter	2007	58,729	Pacific Basin Chartering Ltd.	February 2011	21,750		
Genco Cavalier	2007	53,617	Pacific Basin Chartering Ltd	September 2010	22,250		
Genco Aquitaine	2009	57,981	(6)	May 2012	20,000(7)		Q3 2010
Genco Ardennes	2009	57,981					Q3 2010
Genco Auvergne	2009	57,981					Q3 2010
Genco Bourgogne	2010	57,981					Q3 2010
Genco Brittany	2010	57,981	(6)	January 2015	26,200		Q3 2010
Genco Languedoc	2010	57,981	(6)	January 2015	26,500		Q3 2010
Genco Loire	2009	53,416	(6)	July 2010	13,000		Q3 2010
Genco Lorraine	2009	53,416					Q3 2010
Genco Normandy	2007	53,596					Q3 2010
Genco Picardy	2005	55,257	(6)	November 2010	17,100		Q3 2010
Genco Provence	2004	55,317					Q3 2010
Genco Pyrenees	2010	57,981					Q3 2010
Genco Rhone	2011(4)	57,981					Q1 2011
<u> Handymax Vessels</u>							
Genco Success	1997	47,186	Korea Line Corporation	February 2011	33,000(8)		
Genco Carrier	1998	47,180	Louis Dreyfus Corporation	March 2011	37,000		
Genco Prosperity	1997	47,180	Pacific Basin Chartering Ltd	June 2011	37,000		
Genco Wisdom	1997	47,180	Hyundai Merchant Marine Co. Ltd.	February 2011	34,500		
Genco Marine	1996	45,222	STX Pan Ocean Co. Ltd.	April 2011	20,000		
Genco Muse	2001	48,913	Global Maritime Investments Ltd.	December 2010	17,750		
Handysize Vessels							
Genco Explorer	1999	29,952	Lauritzen Bulkers A/S	October 2010	Spot(9)		
Genco Pioneer	1999	29,952	Lauritzen Bulkers A/S	October 2010	Spot(9)		
Genco Progress	1999	29,952	Lauritzen Bulkers A/S	July 2011	Spot(9)		
Genco Reliance	1999	29,952	Lauritzen Bulkers A/S	July 2011	Spot(9)		
Genco Sugar	1998	29,952	Lauritzen Bulkers A/S	July 2011	Spot(9)		
Genco Charger	2005	28,398	Pacific Basin Chartering Ltd.	November 2010	24,000		
Genco Challenger	2003	28,428	Pacific Basin Chartering Ltd.	November 2010	24,000		
Genco Champion	2006	28,445	Pacific Basin Chartering Ltd.	December 2010	24,000		
Genco Bay	2010	35,000	Cargill International S.A.	February 2013	8,500-13,500(10) with 50%		Q3 2010
Genco Ocean	2010(4)	35,000	Cargill	35-37 months	profit sharing 8,500-13,500(10) with 50%		Q3 2010
G. A	2011	25.000	International S.A.	after delivery	profit sharing		6.1.2
Genco Avra	2011(4)	35,000	Cargill	35-37 months	8,500-13,500(10) with 50%		Q1 2011
			International S.A.	after delivery	profit sharing		
Genco Mare	2011(4)	35,000	Cargill International S.A.	46-48 months after delivery	BHSI Index(11) plus 15%		Q2 2011
Genco Spirit	2011(4)	35,000	Cargill	35-37 months	8,500-13,500(10) with 50%		Q3 2011
			International S.A.	after delivery	profit sharing		

(1)

The charter expiration dates presented represent the earliest dates that the charters may be terminated in the ordinary course, in accordance with their respective terms. Except for the Genco Titus, Genco Constantine and

S-4

Table of Contents

Genco Hadrian, under the terms of each contract, the charterer is entitled to extend the time charters from two to four months in order to complete the vessel's final voyage plus any time the vessel has been off-hire. The charterer of the Genco Titus and Genco Hadrian has the option to extend the charter for a period of eight months.

- Time charter rates presented are the gross daily charterhire rates before third-party commissions generally ranging from 1.25% to 6.00%. In a time charter, the charterer is responsible for voyage expenses such as bunkers, port expenses, agents' fees and canal dues.
- For the vessels acquired with a below-market time charter rate, the approximate amount of revenue on a daily basis to be recognized as revenues is displayed in the column named "Net Revenue Daily Rate" and is net of any third-party commissions. Since these vessels were acquired with existing time charters with below-market rates, we allocated the purchase price between the respective vessels and an intangible liability for the value assigned to the below-market charterhire. This intangible liability is amortized as an increase to voyage revenues over the minimum remaining terms of the applicable charters. The minimum remaining term for the Genco Tiberius expired on January 13, 2010, the Genco London expires on August 30, 2010 and the Genco Titus on September 26, 2011, at which point the respective liabilities were or will be amortized to zero and the vessels began or will begin earning the "Cash Daily Rate." For cash flow purposes, we will continue to receive the rate presented in the "Cash Daily Rate" column until the charter expires.
- (4)

 Built and delivery dates for vessels being delivered in the future are estimates based on guidance received from the sellers and/or the respective shipyards.
- These charters include a 50% index-based profit sharing component above the respective base rates listed in the table. The profit sharing between the charterer and us for each 15-day period is calculated by taking the average over that period of the published Baltic Cape Index of the four time charter routes, as reflected in daily reports. If such average is more than the base rate payable under the charter, the excess amount is allocable 50% to each of the charterer and us. A third-party brokerage commission of 3.75% based on the profit sharing amount due to us is payable out of our share.
- (6) These charters are subject to novation by the charterer.
- The rate is \$18,000 per day until July 21, 2010, then \$20,000 per day for a year from that date and \$22,000 per day for the remainder of the charter period. These charters include a 50% hire-based profit sharing component above the respective base rates listed. The profit sharing between the charterer and us for each 15-day period is based on the difference between the respective base rates and the rate of hire actually earned under any sub-charter party.
- The time charter is for 35 to 37.5 months at a rate of \$40,000 per day for the first 12 months, \$33,000 per day for the following 12 months, \$26,000 per day for the next 12 months and \$33,000 per day thereafter less a 5% third-party commission. In all cases, the rate for the duration of the time charter will average \$33,000 per day. For purposes of revenue recognition, the time charter contract is reflected on a straight-line basis at approximately \$33,000 per day for 35 to 37.5 months.
- (9)
 We have reached an agreement to enter these vessels into the LB/IVS Pool, in which Lauritzen Bulkers A/S acts as the pool manager.
 Under the pool agreement, we can currently withdraw up to two vessels with three months' notice and the remaining three vessels with 12-months' notice.
- The rate for the spot market-related time charter will be linked with a floor of \$8,500 and a ceiling of \$13,500 daily with a 50% profit sharing arrangement to apply to any amount above the ceiling. The rate will be based on 115% of the average of the daily rates of the Baltic Handysize Index ("BHSI"), as reflected in daily reports. Hire will be paid every 15 days in advance net of a 5.00% third-party brokerage commission.
- (11)

 The rate for the spot market-related time charter will be based on 115% of the average of the daily rates of the BHSI, as reflected in daily reports. Hire will be paid every 15 days in advance net of a 5.0% brokerage commission.

Certain of the vessels which we have agreed to purchase from affiliates of Bourbon SA, namely the Genco Aquitaine, the Genco Brittany and the Genco Languedoc, are subject to time charters that we believe are currently above market rates. We believe it is therefore unlikely that the relevant charterers will consent to transfer of the existing charters to us. If such consents are not obtained, Bourbon is obligated to deliver the vessels to us free of charters, which may result in delay of delivery of the vessels to us. However, any new charters we would enter into in the near term would likely be at then-current market rates.

Our company's leadership has considerable breadth and depth of shipping industry experience. Our New York City-based management team includes several executives with extensive experience in the shipping industry who have demonstrated a substantial ability to manage the commercial, technical and financial aspects of our business. Our management team consists of our President, Robert Gerald Buchanan, who has over 40 years of experience in the shipping industry, and our Chief Financial

Table of Contents

Officer, John C. Wobensmith, who has over 16 years of experience in the shipping industry, with a concentration in shipping finance. Four of the seven members of our board of directors also have extensive maritime experience, including our Chairman, Peter C. Georgiopoulos. Mr. Georgiopoulos, who has over 20 years of maritime experience, founded the predecessor company of General Maritime Corporation (NYSE: GMR), a supplier of international seaborne crude oil transportation services, in 1997, and serves as Chairman of the Board of Aegean Marine Petroleum Network Inc. (NYSE:ANW), a marine fuel logistics company that physically supplies and markets refined marine fuel and lubricants to ships in port and at sea. Mr. Georgiopoulos also serves as Chairman of Baltic Trading, while Mr. Wobensmith serves as its President and Chief Financial Officer.

We are a New York City-based company and are incorporated in the Marshall Islands. Our principal executive offices are located at 299 Park Avenue, 20th Floor, New York, New York 10171, and our telephone number at that address is (646) 443-8550. Our corporate website address is www.gencoshipping.com. The information contained in or accessible from our website is not part of this prospectus supplement.

Recent Developments

Metrostar Acquisition

On June 3, 2010, we entered into agreements with affiliates of Metrostar Management Corporation to acquire five Handysize drybulk vessels for an aggregate purchase price of approximately \$166.3 million. In connection with this agreement, we paid cumulative deposits of \$16.6 million. We expect to fund the remaining portion of the purchase price through cash on hand and secured bank financing for which we have obtained a commitment letter, as described below. The acquisition is subject to the completion of customary additional documentation and closing conditions, as well as approval from the vessels' current charterers. The vessels, to be renamed Genco Bay, Genco Ocean, Genco Avra, Genco Mare and Genco Spirit, are expected to be delivered between July 2010 and September 2011.

Bourbon Acquisition

On June 24, 2010, we entered into a Master Agreement with Bourbon to acquire 16 Supramax drybulk vessels, including two newbuildings, for an aggregate purchase price of \$545 million plus an M&A fee of 1%. In connection with this agreement, we paid cumulative deposits of \$54.5 million. We plan to finance the acquisition of the vessels using secured bank debt for approximately 60% of the remaining portion of the purchase price, for which we have obtained a commitment letter as described below, as well as cash on hand and the net proceeds of this offering and the concurrent convertible notes offering. We intend to retain 13 of the 16 vessels, 12 of which are expected to be delivered to us in the third quarter of 2010, with the remaining vessel scheduled to be delivered in the first quarter of 2011. We have determined not to retain three of the 16 vessels, including one newbuilding. Therefore, upon delivery of these vessels, which is expected in the third and fourth quarters of 2010, we plan to resell them immediately to MEP, a company controlled by our Chairman, Peter C. Georgiopoulos, at our aggregate purchase price of approximately \$105 million plus a 1% M&A fee. MEP has paid 10% of this amount to us for purposes of vessel deposits. We have entered into definitive agreements with MEP for the resale transactions. An independent committee of our board of directors has reviewed and approved the resale of the vessels to MEP.

The acquisition is subject to the completion of customary additional documentation and closing conditions. In addition, the transfer to us of time charters attached to certain of the vessels is subject to the charterers' consents. We expect to pay for the vessels as they are delivered.

Table of Contents

We are seeking to finalize new secured credit facilities in amounts of \$253 million and \$100 million, which we refer to as the proposed new secured credit facilities, primarily to fund a portion of the purchase price of the proposed vessel acquisitions. On July 14, 2010, we entered into a commitment letter for the \$100 million secured credit facility for the proposed acquisition of vessels from Metrostar, and on July 16, 2010, we entered into a commitment letter for the \$253 million secured credit facility for the proposed acquisition of vessels from Bourbon. For further details, please see "Description of Other Indebtedness."

The proposed new secured credit facilities are subject to definitive documentation and customary closing conditions. We do not expect to enter into the proposed new secured credit facilities prior to the closing of this offering.

Please see "Risk Factors Risks Relating to the Proposed Vessel Acquisitions" for a discussion of certain risks related to the proposed vessel acquisitions and secured credit facilities.

Concurrent Convertible Notes Offering

Concurrently with this offering of common stock, we are offering, by means of a separate prospectus supplement, \$100 million aggregate principal amount of % Convertible Senior Notes due August 15, 2015 (or \$115 million aggregate principal amount if the underwriters exercise their over-allotment option in full) in an underwritten offering, or the "concurrent convertible notes offering." We expect to use the net proceeds from this offering, along with the net proceeds of the concurrent convertible notes offering, to fund a portion of the purchase price of the vessel acquisitions described above. See "Use of Proceeds."

We expect to raise approximately \$144.2 million in net proceeds from this offering and the concurrent convertible notes offering, after deducting the underwriting discounts and commissions and offering expenses, assuming no exercise of the underwriters' options to purchase additional securities with respect to either offering. However, amounts sold in each offering may increase or decrease based on market conditions relating to the particular securities.

Neither this offering nor the concurrent convertible notes offering is contingent upon the consummation of the other offering. Offers for our convertible notes are only being made by delivery of a separate prospectus supplement relating to that offering. We could decide not to sell our convertible notes or sell more or less of our convertible notes than we are presently offering. In the event we only consummate this offering and no other component of the larger financing and vessel acquisition transaction, we may use the proceeds from this offering to purchase other vessels or for general corporate purposes. See "Risk Factors Risks Relating to the Proposed Vessel Acquisitions If we are unable to consummate this offering or the concurrent convertible notes offering, we may not be able to acquire all of the vessels we have agreed to purchase or may have to seek alternative sources of financing on terms that may not be favorable to us, which could adversely affect our liquidity position" and "Use of Proceeds."

This description, and the other information in this prospectus supplement regarding the convertible notes offering, is included in this prospectus supplement solely for informational purposes. Nothing in this prospectus supplement should be construed as an offer to sell, or the solicitation of an offer to buy, the convertible notes in the concurrent convertible notes offering.

Unless we specifically state otherwise, the information in this prospectus supplement assumes the completion of the concurrent convertible notes offering and that the underwriters for the concurrent convertible notes offering do not exercise their option to purchase additional notes and that the underwriters for this offering do not exercise their option to purchase additional shares in connection with this offering.

Table of Contents

Business Strategy

Our strategy is to manage and expand our fleet in a manner that enables us to create value for our shareholders. To accomplish this objective, we intend to:

Continue to operate a high-quality fleet We intend to maintain a modern, high-quality fleet that meets or exceeds stringent industry operating standards and complies with charterer requirements through our technical managers' rigorous and comprehensive vessel maintenance program. In addition, our technical managers maintain the quality of our vessels by carrying out regular inspections, both while in port and at sea

Pursue an appropriate balance of time and spot charters Thirty of our 35 existing vessels are under time charters with an average remaining life of approximately 7.7 months as of July 20, 2010. These charters provide us with relatively stable revenues and a high fleet utilization. We may in the future pursue other market opportunities for our vessels to capitalize on market conditions, including arranging longer or shorter charter periods and entering into short-term time charters, voyage charters and use of vessel pools.

Strategically expand the size of our fleet We intend to acquire additional modern, high-quality drybulk carriers through timely and selective acquisitions of vessels in a manner that is accretive to our cash flow. We expect to fund acquisitions of additional vessels using cash reserves set aside for this purpose as well as debt or equity financing.

Maintain low-cost, highly efficient operations During the year ended December 31, 2009 and in 2010 to date, we outsourced technical management of our fleet, primarily to Wallem Shipmanagement Limited ("Wallem") and Anglo-Eastern Group ("Anglo"), third-party independent technical managers, at a cost we believe is lower than what we could achieve by performing the function in-house. Technical management involves the day-to-day management of vessels, including performing routine maintenance, attending to vessel operations and arranging for crews and supplies. Our management team actively monitors and controls vessel operating expenses incurred by the independent technical managers by overseeing their activities. In addition, we seek to maintain low-cost, highly efficient operations by capitalizing on the cost savings and economies of scale that result from operating sister ships.

Capitalize on our management team's reputation We will continue to capitalize on our management team's reputation for high standards of performance, reliability and safety, and maintain strong relationships with major international charterers, many of whom consider the reputation of a vessel owner and operator when entering into time charters. We believe that our management team's track record improves our relationships with high quality shipyards and financial institutions, many of which consider reputation to be an indicator of creditworthiness.

Table of Contents

Summary Consolidated Financial and Other Data

The following summary consolidated financial and other data summarize our historical financial and other information as of and for the years ended December 31, 2008 and 2009, which is derived from our audited consolidated financial statements, and as of and for the three months ended March 31, 2009 and 2010, which is derived from our unaudited consolidated financial statements. This information should be read in conjunction with other information presented in or incorporated by reference into this prospectus supplement, including "Selected Consolidated Financial and Other Data" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" and our consolidated financial statements and the related notes included in our Annual Report on Form 10-K for the year ended December 31, 2009 and our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2010.

As of and for the three

		ended December 31,				months ended March 31,					
		2008		2009		2009		2010			
		(U.S	. dol	lars in thousa	nds,	except ratios					
Income Statement											
Data:											
Revenues	\$	405,370	\$	379,531	\$	96,650	\$	94,681			
Operating income		234,377		210,492		55,148		48,426			
Net income											
attributable to											
Genco Shipping &											
Trading		86,580		148,624		41,241		33,450			
Earnings per share											
Basic	\$	2.86	\$	4.75	\$	1.32	\$	1.07			
Diluted		2.84		4.73		1.32		1.06			
Balance Sheet											
Data:											
Cash and cash											
equivalents	\$	124,956	\$	188,267	\$	175,785	\$	405,483			
Total assets		1,990,006		2,336,802		2,033,885		2,570,279			
Total debt (current											
and long-term)		1,173,300		1,327,000		1,173,300		1,314,500			
Total shareholders'											
equity		696,478		928,925		749,495		1,174,157			
Debt to total											
capitalization(1)		62.8%	ó	58.8%	ó	61.0%	,	52.8%			
Cash Flow Data:											
Net cash flow											
provided by											
operating activities	\$	267,416	\$	219,729	\$	55,486	\$	54,993			
Other Data:	Ψ	207,110	Ψ	217,727	Ψ	22,100	Ψ	3 1,773			
EBITDA(2)	\$	208,807	\$	298,330	\$	76,115	\$	73,638			
Dividends declared	Ψ	200,007	Ψ	270,330	Ψ	70,113	Ψ	75,050			
and paid per											
share(3)	\$	3.85									
share(3)	Ψ	5.05									

As of and for the year

(1)

Debt to total capitalization is defined as debt divided by total capitalization. Total capitalization is defined as debt plus total shareholders' equity.

EBITDA represents net income attributable to Genco Shipping & Trading Limited plus net interest expense and depreciation and amortization. EBITDA is included because it is used by management and certain investors as a measure of operating performance. EBITDA is used by analysts in the shipping industry as a common performance measure to compare results across peers. Our management uses EBITDA as a performance measure in our consolidating internal financial statements, and it is presented for review at our board meetings. The Company believes that EBITDA is useful to investors as the shipping industry is capital intensive which often results in significant depreciation and cost of financing. EBITDA presents investors with a measure in addition to net income to

evaluate the Company's performance prior to these costs. EBITDA is not an item recognized by U.S. GAAP and should not be considered as an alternative to net

Table of Contents

income, operating income or any other indicator of a company's operating performance required by U.S. GAAP. EBITDA is not a source of liquidity or cash flows as shown in our consolidated statement of cash flows. The definition of EBITDA used here may not be comparable to that used by other companies.

(3)

In January 2009, we suspended the payment of cash dividends. See "Risk Factors Risks Relating to Our Common Stock We are currently prohibited from paying dividends or repurchasing our stock, and it is unlikely this prohibition will be lifted until market conditions improve" for more information.

The following table demonstrates our calculation of EBITDA and provides a reconciliation of EBITDA to net income attributable to Genco Shipping & Trading Limited for each of the periods presented above.

	For the year ended December 31,				For the three months ended March 31,			
	2008 2009				2009	2010		
		(U.	S. dollars in	tho	usands)			
Net income attributable to Genco Shipping & Trading	\$ 86,580	\$	148,624	\$	41,241	\$	33,450	
Net interest expense	50,832		61,556		13,925		15,354	
Depreciation and amortization	71,395		88,150		20,949		24,834	
EBITDA	\$ 208,807	\$	298,330	\$	76,115	\$	73,638	

The table below shows fleet utilization and certain related data for the years ended December 31, 2008 and 2009 and for the three months ended March 31, 2009 and 2010:

	For the y ended December	1	For the t months e March	nded
	2008	2009	2009	2010
Available days(1)				
Capesize	1,780.8	2,456.1	540.0	794.8
Panamax	2,478.5	2,896.8	720.0	720.0
Supramax	1,263.6	1,430.1	360.0	348.6
Handymax	2,196.0	2,156.6	523.4	526.1
Handysize	2,863.0	2,891.0	720.0	716.2
Total	10,581.9	11,830.6	2,863.4	3,105.7
Fleet utilization(2)				
Capesize	100.0%	99.8%	100.0%	100.0%
Panamax	97.9%	98.0%	96.6%	99.6%
Supramax	96.2%	98.2%	95.6%	99.7%
Handymax	99.3%	99.4%	99.0%	98.2%
Handysize	99.8%	99.4%	99.8%	100.0%
Fleet average	98.9%	99.0%	98.4%	99.6%

We define available days as the number of our ownership days less the aggregate number of days that our vessels are off-hire due to scheduled repairs or repairs under guarantee, vessel upgrades or special surveys and the aggregate amount of time that we spend positioning our vessels. We define ownership days as the aggregate number of days in a period during which each vessel in our fleet has been owned by us. We generally use available days to measure the number of days in a period during which our vessels should be capable of generating revenues.

Table of Contents

(2)

We calculate fleet utilization by dividing the number of our operating days during a period by the number of our available days during the period. We define operating days as the number of our available days in a period less the aggregate number of days that our vessels are off-hire due to unforeseen circumstances. We use fleet utilization to measure our efficiency in finding suitable employment for our vessels and minimizing the number of days that our vessels are off-hire for reasons other than scheduled repairs or repairs under guarantee, vessel upgrades, special surveys or vessel positioning.

S-11

Table of Contents

The Offering

The following is a brief summary of the principal terms of this offering. As used in this section, references to "Genco," "we," "our," "us" and "the company" are to Genco Shipping & Trading Limited and not its subsidiaries.

Issuer

Common Stock Offered

Genco Shipping & Trading Limited, a Marshall Islands corporation.

2,820,000 shares of common stock. We have also granted the underwriters a 30-day option to purchase up to an additional 423,000 shares of common stock from us to cover over-allotments.

Common Stock Outstanding Immediately

Following Offering Use of Proceeds

34,752,798 shares(1)

We plan to use the net proceeds from the issuance of our common stock in this offering, along with the net proceeds from the concurrent convertible notes offering, for the contemplated

vessel acquisitions and general corporate purposes. See "Use of Proceeds."

Concurrent Convertible Notes Offering

Concurrently with this offering, we are offering \$100 million aggregate principal amount of % Convertible Senior Notes due August 15, 2015 (or \$115 million aggregate principal amount if the underwriters exercise their over-allotment option in full) in an underwritten offering pursuant to a separate prospectus supplement, which we refer to as the "concurrent convertible notes offering."

We expect to raise approximately \$96.6 million in net proceeds from the concurrent convertible notes offering, after deducting the estimated underwriting discount and offering expenses, assuming no exercise of the underwriters' option to purchase additional convertible notes in that offering

Neither this offering nor the concurrent convertible notes offering is contingent upon the consummation of the other offering. See "Concurrent Convertible Notes Offering."

Trading Symbol

"GNK"

(1)

The number of shares of common stock shown as being outstanding after this offering is based on the number of shares outstanding as of July 20, 2010 and the issuance by us of 2,820,000 shares of common stock in this offering. Such number excludes (i) 423,000 shares of common stock issuable pursuant to the exercise of the underwriters' over-allotment option, and (ii) shares of common stock that would be issuable upon conversion of the notes offered in the concurrent convertible notes offering.

Risk Factors

Investing in our common stock involves substantial risks. In evaluating an investment in the common stock, potential investors are urged to read and consider the risk factors as set forth under "Risk Factors" beginning on page S-13 of this prospectus supplement, as well as other information we include or incorporate by reference in this prospectus supplement or the accompanying prospectus.

S-12

Table of Contents

RISK FACTORS

You should carefully consider the risks described in Item 1A of Part I of our Annual Report on Form 10-K for the fiscal year ended December 31, 2009, which is incorporated by reference herein, and the risks described below before making an investment decision. The risks and uncertainties described below or in the documents incorporated by reference are not the only risks we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also impair our business operations. If any of the following risks actually materialize, our business, financial condition, results of operations and ability to pay dividends could be materially and adversely affected. These risk factors update the risk factors in the accompanying prospectus.

Risks Relating to Our Business

In addition to the risks relating to our business described below, certain other risks relating to our business are described in Item 1A of our Annual Report on Form 10-K, which is incorporated by reference herein.

We expect to incur significant additional indebtedness, which could affect our ability to finance our operations, pursue desirable business opportunities and successfully run our business in the future, and therefore make it more difficult for us to fulfill our obligations under our indebtedness.

As of March 31, 2010, we had approximately \$1.3 billion of indebtedness outstanding and shareholders' equity of approximately \$1.2 billion. As a result of the borrowings under the proposed new secured credit facilities for our proposed vessel acquisitions and our concurrent convertible notes offering, we expect to incur additional indebtedness of approximately \$453 million. This substantial indebtedness and related interest expense could have important consequences to our company, including:

limiting our ability to use a substantial portion of our cash flow from operations in other areas of our business, including for working capital, capital expenditures and other general business activities, because we must dedicate a substantial portion of these funds to service our debt:

requiring us to seek to incur further indebtedness in order to make the capital expenditures and other expenses or investments planned by us to the extent our future cash flows are insufficient;

limiting our ability to obtain additional financing in the future for working capital, capital expenditures, debt service requirements, acquisitions and the execution of our growth strategy, and other expenses or investments planned by us;

limiting our flexibility and our ability to capitalize on business opportunities and to react to competitive pressures and adverse changes in government regulation, our business and our industry;

making it more difficult to satisfy our obligations under our indebtedness (which could result in an event of default if we fail to comply with the requirements of our indebtedness);

increasing our vulnerability to a downturn in our business and to adverse economic and industry conditions generally;

placing us at a competitive disadvantage as compared to our competitors that are less leveraged;

limiting our ability, or increasing the costs, to refinance indebtedness; and

limiting our ability to enter into hedging transactions by reducing the number of counterparties with whom we can enter into such transactions as well as the volume of those transactions.

The amount we have borrowed under the 2007 Credit Facility is currently subject to quarterly reductions of \$12.5 million through March 31, 2012 and \$48.2 million of the total facility amount thereafter until the maturity date, whereupon a final payment of \$250.6 million will be due. We also currently must maintain \$17.5 million under our 2007 Credit Facility at the end of each fiscal quarter, and Baltic Trading Limited currently has deposited \$12 million as cash collateral under its revolving

S-13

Table of Contents

credit facility pending delivery of the sixth vessel in its initial fleet to enable Baltic Trading to borrow currently under the facility. Our ability to secure additional financing, if needed, may be substantially restricted by the existing level of our indebtedness and the restrictions contained in our credit facilities. The proposed new secured credit facilities we plan to enter into in connection with our proposed vessel acquisitions may contain operating or financial restrictions beyond those in our 2007 Credit Facility that may further limit our ability to operate our business.

The occurrence of any one of the events described above could have a material adverse effect on our business, financial condition, results of operations, prospects, and ability to satisfy our obligations under our indebtedness.

We are subject to regulation and liability under environmental and operational safety laws that could require significant expenditures and affect our cash flows and net income and could subject us to increased liability under applicable law or regulation.

Our business and the operation of our vessels are materially affected by government regulation in the form of international conventions and national, state and local laws and regulations in force in the jurisdictions in which the vessels operate, as well as in the countries of their registration. Because such conventions, laws and regulations are often revised, we cannot predict the ultimate cost of complying with them or their impact on the resale prices or useful lives of our vessels. Additional conventions, laws and regulations may be adopted that could limit our ability to do business or increase the cost of our doing business and that may materially adversely affect our business, results of operations, cash flows, financial condition and ability to pay dividends. Please refer to "Business Environmental and Other Regulations" in our Annual Report on Form 10-K for the year ended December 31, 2009 for a detailed discussion of such environmental regulation. Below are some recent changes to environmental laws and regulations that may affect us:

In September 1997, the International Maritime Organization, or IMO, adopted Annex VI to MARPOL to address air pollution from ships. Effective May 2005, Annex VI sets limits on sulfur oxide and nitrogen oxide emissions from all commercial vessel exhausts and prohibits deliberate emissions of ozone depleting substances (such as halons and chlorofluorocarbons), emissions of volatile organic compounds from cargo tanks, and the shipboard incineration of specific substances. Annex VI also includes a global cap on the sulfur content of fuel oil and allows for special areas to be established with more stringent controls on sulfur emissions. Additional or new conventions, laws and regulations may be adopted that could require the installation of expensive emission control systems and adversely affect our business, cash flows, results of operations and financial condition. In October 2008, the IMO adopted amendments to Annex VI regarding emissions of sulfur oxide, nitrogen oxide, particulate matter and ozone-depleting substances, which amendments entered into force on July 1, 2010. The amended Annex VI will reduce air pollution from vessels by, among other things, (i) implementing a progressive reduction of sulfur oxide emissions from ships by reducing the global sulfur fuel cap initially to 3.50% (from the current cap of 4.50%), effective beginning January 1, 2012, then progressively to 0.50%, effective beginning January 1, 2020, subject to a feasibility review to be completed no later than 2018; and (ii) establishing new tiers of stringent nitrogen oxide emissions standards for new marine engines, depending on their date of installation. The United States ratified the Annex VI amendments in October 2008, and the U.S. Environmental Protection Agency, or EPA, promulgated equivalent emissions standards in late 2009.

The Marine Environment Protection Committee, or MEPC, has designated the area extending 200 miles from the territorial sea baseline adjacent to the Atlantic/Gulf and Pacific coasts and the eight main Hawaiian Islands as an Emission Control Area, or ECA, under the Annex VI amendments. The new ECA will enter into force in August 2012, whereupon fuel used by all vessels operating in the ECA cannot exceed 1.0% sulfur, dropping to 0.1% sulfur in 2015. Beginning 2016, nitrogen oxide after-treatment requirements will also apply. If other ECAs are approved by the IMO or other new or more stringent requirements relating to emissions from marine diesel engines or port operations by vessels

Table of Contents

are adopted by the EPA or the states where we operate, compliance with these regulations could entail significant capital expenditures or otherwise increase the costs of our operations.

The IMO is evaluating mandatory measures to reduce greenhouse gas emissions from international shipping, which may include market-based instruments or a carbon tax. The European Union has indicated that it intends to propose an expansion of the existing European Union emissions trading scheme to include emissions of greenhouse gases from marine vessel. In the United States, the EPA has issued a finding that greenhouse gases threaten the public health and safety. In addition, climate change initiatives are being considered in the U.S. Congress. Any passage of climate control legislation or other regulatory initiatives by the IMO, EU, the U.S. or other countries where we operate, or any treaty adopted at the international level to succeed the Kyoto Protocol, that restrict emissions of greenhouse gases could require us to make significant financial expenditures that we cannot predict with certainty at this time.

Legislative action relating to taxation could materially and adversely affect us.

Our tax position could be adversely impacted by changes in tax laws, tax treaties or tax regulations or the interpretation or enforcement thereof by any tax authority. For example, legislative proposals have been introduced in the U.S. Congress which, if enacted, could change the circumstances under which we would be treated as a U.S. person for U.S. federal income tax purposes, which could materially and adversely affect our effective tax rate and cash tax position and require us to take action, at potentially significant expense, to seek to preserve our effective tax rate and cash tax position. We cannot predict the outcome of any specific legislative proposals.

Risks Relating to the Proposed Vessel Acquisitions

If we are unable to consummate this offering or the concurrent convertible notes offering, we may not be able to acquire all of the vessels we have agreed to purchase or may have to seek alternative sources of financing on terms that may not be favorable to us, which could adversely affect our liquidity position.

We intend to use the net proceeds of this offering and the concurrent convertible notes offering to purchase drybulk vessels, as described in "Prospectus Supplement Summary Recent Developments." This offering and the concurrent convertible notes offering are not contingent on each other, and there can be no assurance made that either offering will be completed. If we are unable to complete this offering or the concurrent convertible notes offering, we may not be able to acquire the vessels, or we may need to use additional cash on hand or seek alternative sources of financing in order to complete the acquisition, which may not be favorable to us. As a result, our ability to invest in existing and new business opportunities, fund our existing business activities or retire or service our outstanding debt could be adversely affected.

If we cannot complete the proposed vessel acquisitions, we may use the proceeds of this offering to acquire other vessels or for general corporate purposes that you may not agree with.

If we cannot complete the proposed vessel acquisitions, our management will have the discretion to apply the net proceeds of this offering to acquire other vessels or for general corporate purposes that you may not agree with. We do not expect to complete the acquisition of any of the vessels to be acquired from Metrostar and Bourbon before the closing of this offering and the concurrent convertible notes offering. We will not escrow the net proceeds from this offering and the concurrent convertible notes offering and will not return such proceeds to investors if we do not purchase these vessels. It may take a substantial period of time before we apply the net proceeds of this offering, which could result in adverse U.S. federal income tax consequences for U.S. shareholders. See the section captioned "Tax Considerations United States Federal Income Taxation of U.S. Holders Passive Foreign Investment Company Status and Significant Tax Consequences."

Table of Contents

We cannot assure you that we will enter into the proposed new secured credit facilities or that, if we do so, we will be able to borrow all or any of the amounts committed thereunder.

We are seeking to finalize new secured credit facilities and have had discussions with potential lenders in this connection. We intend to use the proposed new secured credit facilities to fund a portion of the purchase price of the proposed vessel acquisitions, but do not expect to enter into the proposed new secured credit facilities prior to the closing of this offering and the concurrent convertible notes offering. Pursuant to the commitment letters for the proposed new secured credit facilities, the commitment by any lenders to enter into the proposed new secured credit facilities are subject to customary conditions, including each lender's satisfaction with the completion of business, legal, environmental, tax, financial, accounting and customer due diligence reviews. Accordingly, we cannot assure you that we will be successful in entering into the proposed new secured credit facilities. In addition, even if we enter into the proposed new secured credit facilities, would be subject to customary conditions to be specified in the definitive documentation for the proposed new secured credit facilities, which may include limitations on the use of borrowings to fund the purchase price of any vessel.

Accordingly, we cannot assure you that we will be able to enter into the proposed new secured credit facilities, satisfy such conditions or be able to borrow all or any of the amounts that may be committed under the proposed new secured credit facilities. If we do not enter into the proposed new secured credit facilities or are unable to borrow amounts thereunder, our ability to complete the proposed vessel acquisitions will be materially adversely affected.

We may be liable for damages if either of the proposed vessel acquisitions fail to close as a result of our unwillingness, inability or other failure to pay the purchase price under, or any other breach by us of, the agreements relating to the vessel acquisitions.

We are seeking to raise additional cash through financing transactions, including this offering, the concurrent convertible notes offering and the proposed new secured credit facilities, in order to fulfill our payment obligations under the agreements relating to the proposed vessel acquisitions. There is no assurance that we will be able to successfully complete such financing transactions or fulfill our other obligations under such agreements. Our capital resources might be insufficient to fund the proposed vessel acquisitions without this additional cash. If we breach or do not fully perform our obligations under such agreements, we may forfeit the deposits and other amounts we have paid to the sellers in connection with the proposed vessel acquisitions, and we may be liable to the sellers for any additional damages resulting from our actions.

We will be required to make substantial capital expenditures to complete the proposed vessel acquisitions, which may cause our financial leverage to increase or our shareholders' equity interests in our company to be diluted.

The total purchase price of the proposed vessel acquisitions that remains to be paid, after taking into account deposits and other amounts we have paid to the sellers, is approximately \$545 million plus an M&A fee of 1%. To fund the proposed vessel acquisitions and other capital expenditures, we intend to use cash from operations, incur bank borrowings of approximately \$353 million in the form of proposed new secured credit facilities and raise capital through this offering and the concurrent convertible notes offering and the sale of vessels to MEP for approximately \$105 million. Our ability to obtain bank financing or to access the capital markets for securities offerings may be limited by our financial condition at the time of any such financing or offering and the covenants in our existing debt agreements, as well as by adverse market conditions resulting from, among other things, general economic conditions and contingencies and uncertainties that are beyond our control. Our failure to obtain the funds for the proposed vessel acquisitions or necessary future capital expenditures could have a material adverse effect on our business, results of operations, financial condition and ability to pay dividends. In addition, incurring additional debt may significantly increase our interest expense and financial leverage, and issuing equity securities may result in significant shareholder dilution, whether through the issuance of common stock or upon the conversion of our convertible notes in our concurrent offerings.

Table of Contents

Risks Relating to Our Common Stock

We may need to raise additional capital in the future, which may not be available on favorable terms or at all or which may dilute our common stock or adversely affect its market price.

We may require additional capital to expand our business and increase revenues; add liquidity in response to negative economic conditions; and meet unexpected liquidity needs caused by industry volatility or uncertainty. To the extent that our existing capital and borrowing capabilities are insufficient to meet these requirements and cover any losses, we will need to raise additional funds through debt or equity financings, including offerings of our common stock, securities convertible into our common stock, or rights to acquire our common stock or curtail our growth and reduce our assets or restructure arrangements with existing security holders. Any equity or debt financing, or additional borrowings, if available at all, may be on terms that are not favorable to us. Equity financings could result in dilution to our stockholders, and the securities issued in future financings may have rights, preferences and privileges that are senior to those of our common stock. If our need for capital arises because of significant losses, the occurrence of these losses may make it more difficult for us to raise the necessary capital. If we cannot raise funds on acceptable terms if and when needed, we may not be able to take advantage of future opportunities, grow our business or respond to competitive pressures or unanticipated requirements.

Conversion of the notes from our concurrent convertible notes offering may dilute the ownership interest of existing stockholders, including holders who have previously converted their notes.

The conversion of some or all of the notes from our concurrent convertible notes offering may dilute the ownership interests of existing stockholders. Any sales in the public market of any of our common stock issuable upon such conversion could adversely affect prevailing market prices of our common stock. In addition, the anticipated conversion of the notes into shares of our common stock or a combination of cash and shares of our common stock could depress the price of our common stock.

Sales of our common stock or securities convertible into common stock in the public market could lower the market price of our common stock or dilute our common stock.

Concurrently with this offering, we are offering, by means of a separate prospectus supplement, \$100 million aggregate principal amount of our % Convertible Senior Notes due August 15, 2015 (or \$115 million aggregate principal amount if the underwriters exercise their over-allotment option in full), which may become convertible into shares of common stock. In the future, we may also sell additional shares of our common stock or securities convertible into common stock to raise capital. In addition, a substantial number of shares of our common stock is reserved for issuance under our 2005 Equity Incentive Plan. We cannot predict the size of future issuances or the effect, if any, that they may have on the market price of our common stock. In addition, the existence of the notes from our concurrent convertible notes offering may encourage short selling by market participants because the conversion of the notes could depress our common stock price. The price of our common stock could be affected by possible sales of our common stock by investors who view the notes as a more attractive means of equity participation in us or as a means of engaging in hedging or arbitrage trading activity, which we expect to occur involving our common stock. The issuance and sale of substantial amounts of common stock or securities convertible into common stock, or the perception that such issuances and sales may occur, could adversely affect the market price of our common stock and impair our ability to raise capital through the sale of additional equity securities. The conversion of any such securities into common stock could result in dilution to our stockholders.

We are currently prohibited from paying dividends or repurchasing our stock, and it is unlikely this prohibition will be lifted until market conditions improve.

In January 2009, we agreed to an amendment to our 2007 Credit Facility that contained a waiver of the collateral maintenance requirement. As a condition of this waiver, among other things, we agreed to suspend our cash dividends and share repurchases until such time as we can satisfy the

Table of Contents

collateral maintenance requirement. Until market conditions, which have resulted in a decline in the value of drybulk vessels, improve, it is unlikely that we will be able to meet that condition to reinstate our cash dividends and share repurchases.

Even if we were able to satisfy the condition in our 2007 Credit Facility to reinstate the payment of cash dividends, we would make dividend payments to our shareholders only if our board of directors, acting in its sole discretion, determines that such payments would be in our best interest and in compliance with relevant legal and contractual requirements. The principal business factors that our board of directors considers when determining the timing and amount of dividend payments will be our earnings, financial condition and cash requirements at the time. Marshall Islands law generally prohibits the declaration and payment of dividends other than from surplus. Marshall Islands law also prohibits the declaration and payment of dividends while a company is insolvent or would be rendered insolvent by the payment of such a dividend.

We may incur other expenses or liabilities that would reduce or eliminate the cash available for distribution as dividends. We may also enter into new agreements or the Marshall Islands or another jurisdiction may adopt laws or regulations that place additional restrictions on our ability to pay dividends. If we do not pay dividends, the return on your investment would be limited to the price at which you could sell your shares.

Volatility in the market price and trading volume of our common stock could adversely impact the trading price of our common stock.

The stock market in recent years has experienced significant price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies like us. These broad market factors may materially reduce the market price of our common stock, regardless of our operating performance. The market price of our common stock, which has experienced significant price and volume fluctuations in recent months, could continue to fluctuate significantly for many reasons, including in response to the risks described in this section of, elsewhere in, or incorporated by reference into, this prospectus supplement or the accompanying prospectus or for reasons unrelated to our operations, such as reports by industry analysts, investor perceptions or negative announcements by our competitors or suppliers regarding their own performance, as well as industry conditions and general financial, economic and political instability. A decrease in the market price of our common stock would likely adversely impact the value of your shares of common stock. The price of our common stock could also be affected by possible sales of our common stock by investors who view the notes issued in the concurrent convertible notes offering as a more attractive means of equity participation in us and by hedging or arbitrage trading activity that may develop involving our common stock. This trading activity could, in turn, affect the trading prices of our common stock.

Table of Contents

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$47.6 million (or approximately \$54.8 million if the underwriters exercise their over-allotment option in full), after deducting the underwriting discounts and commissions and offering expenses based on an assumed offering price of \$17.73 per share, the last reported sale price of our common stock on the NYSE on July 20, 2010.

We plan to use the net proceeds from the issuance of shares of our common stock in this offering, along with the net proceeds from the concurrent convertible notes offering, for contemplated vessel acquisitions and general corporate purposes. To the extent the proceeds from the offering are not used immediately for the contemplated vessel acquisitions, the proceeds will either be invested or used for general corporate purposes.

This offering and the concurrent convertible notes offering are part of a larger financing and vessel acquisition transactions. However, neither offering is contingent upon the consummation of the other offering. To the extent we only consummate this offering and no other component of the larger financing transaction, including the concurrent convertible notes offering, or we are unable to complete the purchase of some or all of the proposed vessel acquisitions described in this prospectus supplement, we may use the proceeds of this offering to purchase other vessels or for general corporate purposes.

PRICE RANGE OF COMMON STOCK AND DIVIDENDS

Our common stock is traded on the NYSE under the symbol "GNK." The following table sets forth the high and low closing sale prices for shares of our common stock as reported on the NYSE, for the periods indicated, together with the dividends declared and paid per share for each of those periods. All of our dividends were declared and paid in the quarter subsequent to the period to which they relate, as reflected in the following table.

For the period:	High		Low		Div	vidend
January 1 to March 31, 2008	\$	63.38	\$	36.34	\$	1.00
April 1 to June 30, 2008	\$	84.00	\$	51.77	\$	1.00
July 1 to September 30, 2008	\$	68.18	\$	30.67	\$	1.00
October 1 to December 31, 2008	\$	29.81	\$	6.85	\$	
January 1 to March 31, 2009	\$	20.96	\$	9.04	\$	
April 1 to June 30, 2009	\$	28.26	\$	12.50	\$	
July 1 to September 30, 2009	\$	25.58	\$	18.37	\$	
October 1 to December 31, 2009	\$	28.25	\$	19.35	\$	
January 1 to March 31, 2010	\$	26.02	\$	18.39	\$	
April 1 to June 30, 2010	\$	23.98	\$	14.99	\$	
July 1 to July 20, 2010	\$	17.73	\$	14.55	\$	

As of July 20, 2010, the last reported sale price of our common stock was \$17.73 per share.

Table of Contents

CAPITALIZATION

The following table sets forth our capitalization as of March 31, 2010:

on an actual basis;

as adjusted to give effect to the issuance and sale of 2,820,000 shares of common stock in this offering at a price of \$ per share and the application of the net proceeds therefrom, after deducting the estimated underwriting discount and offering expenses, as well as indebtedness incurred by Baltic Trading Limited under its credit facility; and

as further adjusted to give effect to the issuance and sale of \$100 million aggregate principal amount of notes in the concurrent convertible notes offering and the application of the gross proceeds therefrom (assuming no exercise of the underwriters' over-allotment option) but not the incurrence of any debt under our proposed \$100 million and \$253 million secured credit facilities or any debt issuance costs.

This allocation of the use of net proceeds is illustrative of our intent with respect to the net proceeds from this offering. See "Use of Proceeds." This table should be read in conjunction with our unaudited consolidated financial statements (including the notes thereto) incorporated by reference into this prospectus supplement.

	Actual	March 31, 2010 As adjusted for sale of the common stock and Baltic Trading indebtedness (in thousands)	Further adjusted for the concurrent convertible notes offering
Long-term debt, including current maturities:			
Credit facilities	\$ 1,314,500	\$	\$
Notes offered in the concurrent convertible notes offering(1)(2)			
Total long-term debt	1,314,500		
Shareholders' equity:			
Preferred stock, \$0.01 par value; 25,000,000 shares authorized; no shares issued			
or outstanding			
Common stock, \$0.01 par value; 100,000,000 shares authorized; 31,932,798			
shares issued and outstanding, actual; 34,752,798 shares issued and outstanding,			
as adjusted for this offering	319		
Paid-in capital(1)(2)	720,667		
Accumulated other comprehensive income	14,131		
Retained Earnings	226,270		
Total Genco Shipping & Trading Limited shareholders' equity	961,387		
Non Controlling Interest	212,770		
Total shareholders' equity	1,174,157		
Total capitalization	\$ 2,488,657	\$	\$

- (1)

 A \$ million principal amount and estimated \$ million debt discount will be recorded for the convertible notes, resulting in a net increase in outstanding debt amounts reported as a result of the concurrent convertible notes offering of \$ million and increasing shareholders' equity by approximately \$ million.
- (2) Does not include debt issuance costs.

S-20

Table of Contents

CONCURRENT CONVERTIBLE NOTES OFFERING

Concurrently with this offering of common stock, we are offering, by means of a separate prospectus supplement, \$100 million aggregate principal amount of % Convertible Senior Notes due August 15, 2015 (or \$115 million aggregate principal amount if the underwriters exercise their over-allotment option in full) in an underwritten offering, or the "concurrent convertible notes offering." We expect to use the net proceeds from this offering, along with the net proceeds of the concurrent convertible notes offering, to fund a portion of the purchase price of the proposed vessel acquisitions and general corporate purposes. See "Use of Proceeds."

We expect to raise approximately \$144.2 million in aggregate net proceeds from this offering and the concurrent convertible notes offering, after deducting the underwriting discounts and commissions and offering expenses, assuming no exercise of the underwriters' options to purchase additional securities with respect to either offering and an offering price for our common stock of \$17.73 per share as noted in "Use of Proceeds." However, amounts sold in each offering may increase or decrease based on market conditions relating to the particular securities.

Neither this offering nor the concurrent convertible notes offering is contingent upon the consummation of the other offering. Offers for our convertible notes are only being made by delivery of a separate prospectus supplement relating to that offering. We could decide not to sell our convertible notes or sell more or less of our convertible notes than we are presently offering. In the event we only consummate this offering and no other component of the larger financing and vessel acquisition transaction, we may use the proceeds from this offering to purchase other vessels or for general corporate purposes. See "Risk Factors Risks Relating to the Proposed Vessel Acquisitions If we are unable to consummate this offering or the concurrent convertible notes offering, we may not be able to acquire all of the vessels we have agreed to purchase or may have to seek alternative sources of financing on terms that may not be favorable to us, which could adversely affect our liquidity position" and "Use of Proceeds."

This description, and the other information in this prospectus supplement regarding the convertible notes offering, is included in this prospectus supplement solely for informational purposes. Nothing in this prospectus supplement should be construed as an offer to sell, or the solicitation of an offer to buy, the convertible notes.

Table of Contents

DESCRIPTION OF OTHER INDEBTEDNESS

2007 Credit Facility

On July 20, 2007, we entered into an approximately \$1.4 billion credit facility with DnB Nor Bank ASA (the "2007 Credit Facility") for the purpose of acquiring nine new Capesize vessels and refinancing our prior credit facility which we had entered into as of July 29, 2005 and short-term line of credit facility entered into as of May 3, 2007. DnB Nor Bank ASA is also Mandated Lead Arranger, Bookrunner, and Administrative Agent. We have used borrowings under the 2007 Credit Facility to repay amounts outstanding under our previous credit facilities, which have been terminated. We have currently utilized our maximum borrowing capacity under the 2007 Credit Facility.

On January 26, 2009, we entered into an amendment to the 2007 Credit Facility, pursuant to which, in exchange for a waiver of the collateral maintenance financial covenant, we are required to suspend the payment of cash dividends and share repurchases until we can represent that we are in a position to satisfy such covenant as set forth in the 2007 Credit Facility.

Our borrowings bear interest at LIBOR plus an applicable margin of 2.00% per annum. A commitment fee is payable on the unused daily portion of the 2007 Credit Facility.

All amounts owing under the 2007 Credit Facility are secured by cross-collateralized first priority mortgages of each of our then existing vessels and any new vessels financed with the 2007 Credit Facility; an assignment of any and all earnings of the mortgaged vessels; an assignment of all insurances of the mortgaged vessels; a first priority perfected security interest in all of the shares of Jinhui Shipping and Transportation Limited owned by us; an assignment of certain charters of one year or more in duration; and a first priority pledge of our ownership interests in each subsidiary guarantor.

The 2007 Credit Facility requires us to comply with a number of covenants, including financial covenants related to leverage, EBITDA ratios, cash thresholds, and collateral maintenance; as well as other customary covenants. As of July 20, 2010, we were in compliance with all of the financial covenants in the 2007 Credit Facility, other than the collateral maintenance covenant, as described above.

Baltic Trading Credit Facility

On April 16, 2010, Baltic Trading entered into a \$100,000,000 senior secured revolving credit facility with Nordea Bank Finland plc, acting through its New York branch. Baltic Trading's credit facility matures on April 16, 2014, and borrowings under the facility bear interest at LIBOR plus an applicable margin of 3.25% per annum. A commitment fee of 1.25% per annum is payable on the unused daily portion of the facility which began accruing on March 18, 2010 under the terms of the commitment letter entered into on February 25, 2010.

Baltic Trading intends to use its credit facility primarily for bridge financing for future vessel acquisitions. In addition, under this facility, borrowings of up to \$25,000,000 of the facility are available for working capital purposes. Borrowings, except those for working capital purposes, are to be repaid with proceeds from Baltic Trading's follow-on equity offerings or otherwise within twelve months from drawdown. Borrowings not repaid within such twelve months will be converted into term loans and repaid in equal monthly installments over the subsequent twelve-month period. All amounts outstanding must be repaid in full on the facility's maturity date.

Borrowings under Baltic Trading's credit facility are secured by liens on Baltic Trading's initial vessels, once delivered (and any acceptable replacement vessels), and other related assets. Borrowings under the facility are subject to the delivery of security documents with respect to Baltic Trading's initial vessels. Baltic Trading has utilized an alternative under the facility to provide cash collateral equal to \$225,000,000 minus the aggregate purchase price of Baltic Trading's first five vessels delivered

Table of Contents

in order to draw down on the facility while awaiting delivery of the Capesize vessel expected to be delivered in October 2010. This cash collateral would be released or forwarded to the seller of the vessel once such vessel is delivered and concurrently made subject to a lien under the facility. Baltic Trading's subsidiaries owning the initial vessels will act as guarantors under the facility.

Baltic Trading's credit facility requires Baltic Trading to comply with a number of covenants, including financial covenants related to liquidity, consolidated net worth, and collateral maintenance; restrictions on changes in the Manager of Baltic Trading's initial vessels (or acceptable replacement vessels); limitations on changes to the Management Agreement between Baltic Trading and us; limitations on liens; limitations on additional indebtedness; restrictions on paying dividends; restrictions on transactions with affiliates; and other customary covenants.

Proposed \$253,000,000 Term Loan Facility.

On July 16, 2010, we entered into a commitment letter for a \$253,000,000 senior secured term loan facility. We intend to use the credit facility to fund a portion of the purchase price of the proposed acquisition of thirteen vessels from Bourbon. Under the terms of the commitment letter, the credit facility would be drawn down in thirteen tranches in amounts based on the particular vessel being acquired, with one tranche per vessel. The credit facility would have a maturity date of five years from the date of the first drawdown under the facility (but in any case before August 15, 2015), and borrowings under the facility would bear interest, as elected by us, at LIBOR for an interest period of three or six months, plus 3.00% per annum. A commitment fee is payable on the undrawn committed amount of the credit facility, which begins accruing on the closing date of the credit facility. Borrowings are to be repaid quarterly with outstanding principal amortized on a per vessel basis and any outstanding amount under the credit facility to be paid in full on the maturity date. Borrowings under the credit facility will be secured by liens on the vessels proposed to be acquired and other related assets. Certain of our subsidiaries, each of which will own one of the vessels proposed to be acquired, will act as guarantors under the credit facility.

The credit facility will require us to comply with a number of covenants, including financial covenants related to leverage, consolidated net worth, liquidity and interest coverage and dividends; collateral maintenance requirements; requirements to deliver quarterly and annual financial statements; requirements to maintain adequate insurances; and other customary covenants. The credit facility also contemplates the raising of additional financing through our concurrent convertible notes and common stock offerings. The credit facility would include usual and customary events of default and remedies for facilities of this nature.

We plan to seek to enter into this secured credit facility after the closing of this offering. Availability of each tranche of the secured credit facility will be subject to the delivery of each vessel from Bourbon and other conditions and documentation relating to the collateral securing the credit facility.

Proposed \$100,000,000 Term Loan Facility

On July 14, 2010, we entered into a commitment letter for a \$100,000,000 secured term loan facility. We intend to use the credit facility to fund or refund to us a portion of the purchase price of the proposed acquisition of the five Metrostar vessels. Under the terms of the commitment letter, the secured credit facility would be drawn down in five equal tranches of \$20,000,000 each, with one tranche per vessel. The secured credit facility would have a final maturity date of seven years from the date of the first drawdown, and borrowings under the facility would bear interest at LIBOR for an interest period of one, three or six months (as elected by us), plus 3.00% per annum. A commitment fee is payable on the undrawn committed amount of the credit facility, which begins accruing on the date on which we enter into definitive documentation for the credit facility. Borrowings are to be

Table of Contents

repaid quarterly, with the outstanding principal amortized on a 13-year profile, with any outstanding amount under the credit facility to be paid in full on the final maturity date. Borrowings under the credit facility will be secured by liens on the vessels proposed to be acquired and other related assets. Certain of our subsidiaries, each of which will own one of the five vessels proposed to be acquired, will act as guarantors under the credit facility. In addition, we may, at our option, enter into an interest rate swap facility to hedge our exposure under the credit facility against fluctuations in the interest rate.

The credit facility will require us to comply with a number of covenants, including financial covenants related to leverage, consolidated net worth, interest coverage and dividends; minimum working capital requirements; collateral maintenance requirements; requirements to deliver quarterly and annual financial statements; requirements to maintain adequate insurances; restrictions on change of control of the guarantors; prohibitions on changes in the commercial and technical manager of the vessels proposed to be acquired; and other customary covenants. The credit facility would include usual and customary events of default and remedies for facilities of this nature.

We plan to seek to enter into final documentation for this credit facility after the closing of this offering. Availability of each tranche of the credit facility will be subject to our acquisition of each of the five vessels from Metrostar and other conditions and documentation relating to the collateral securing the credit facility.

Entry into the proposed \$253,000,000 and \$100,000,000 secured term loan facilities is subject to definitive documentation and customary closing conditions; accordingly, no assurance can be given that these proposed secured credit facilities will be procured on the terms, including the amount available to be borrowed, described above. Please see "Risk Factors Risks Relating to the Proposed Vessel Acquisitions We cannot assure you that we will enter into the proposed new secured credit facilities or that, if we do so, we will be able to borrow all or any of the amounts committed thereunder."

Table of Contents

DESCRIPTION OF CAPITAL STOCK

For the complete terms of our common stock and preferred stock, please refer to our amended and restated articles of incorporation and the amendments thereto, and our amended and restated bylaws. The Business Corporations Act of the Republic of the Marshall Islands, or the BCA, may also affect the terms of these securities.

Authorized Capitalization

Under our amended and restated articles of incorporation, as of July 20, 2010, our authorized capital stock consists of 100,000,000 shares of common stock, par value \$0.01 per share, of which 31,932,798 shares are issued and outstanding, and 25,000,000 shares of preferred stock, par value \$0.01 per share, of which no shares are issued and outstanding.

Common Stock

Voting Rights

Each outstanding share of common stock entitles the holder to one vote on all matters submitted to a vote of shareholders. Except as required by law and by the terms of any series of preferred stock designated by the board of directors pursuant to our amended and restated articles of incorporation, our common stock has the exclusive right to vote for the election of directors and for all other purposes. Our common stock votes together as a single class.

Dividends

Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of shares of common stock are entitled to receive, ratably, all dividends, if any, declared by our board of directors out of funds legally available for dividends.

Liquidation Rights

Upon our dissolution or liquidation or the sale of all or substantially all our assets, after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having liquidation preferences, if any, the holders of our common stock will be entitled to receive, pro rata, our remaining assets available for distribution.

Other Rights

Holders of our common stock do not have conversion, redemption or preemptive rights to subscribe to any of our securities. The rights, preferences and privileges of holders of our common stock are subject to the rights of the holders of any shares of our preferred stock which we may issue in the future.

Transfer Agent

The transfer agent for our common stock is Mellon Investor Services LLC (operating with the service name BNY Mellon Shareowner Services).

Listing

Our common stock is listed on the New York Stock Exchange under the symbol "GNK."

S-25

Table of Contents

Preferred Stock

Our amended and restated articles of incorporation authorize our board of directors to establish one or more series of preferred stock and to determine, with respect to any series of preferred stock, the terms and rights of that series, including:

the designation of the series; the number of shares of the series; the voting rights, if any, of the holders of the series; and the preferences and relative, participating, optional or other special rights, if any, of the series, and any qualifications, limitations or restrictions applicable to such rights. A separate prospectus supplement relating specifically to preferred stock will describe the terms of any series of preferred stock being offered in the future, including: the designation of the shares and the number of shares that constitute the series; the dividend rate (or the method of calculation thereof), if any, on the shares of the series and the priority as to payment of dividends with respect to other classes or series of our capital stock and the payment date of dividends; the dividend periods (or the method of calculation thereof); the date from which dividends on the preferred stock shall accumulate, if applicable; the voting rights of the shares; the liquidation preference and the priority as to payment of the liquidation preference with respect to other classes or series of our capital stock and any other rights of the shares of the series upon our liquidation or winding-up; whether the preferred stock will rank senior or junior to or on a parity with any other class or series of preferred stock; whether or not and on what terms the shares of the series will be subject to redemption or repurchase at our option; whether and on what terms the shares of the series will be convertible into or exchangeable for other securities; the provision of a sinking fund, if any, for the preferred stock; whether the shares of the series of preferred stock will be listed on a securities exchange;

the transfer agent for the series of preferred stock;

any special United States federal income tax considerations applicable to the series; and

any other preferences and rights and any qualifications, limitations or restrictions of the preferences and rights of the series.

Limitations on Liability and Indemnification of Officers and Directors

The BCA authorizes corporations to limit or eliminate the personal liability of directors and officers to corporations and their shareholders for monetary damages for breaches of directors' fiduciary duties. Our amended and restated bylaws include a provision that eliminates the personal liability of directors for monetary damages for actions taken as a director to the fullest extent permitted by applicable law.

S-26

Table of Contents

Our amended and restated bylaws provide that we must indemnify our directors and officers to the fullest extent authorized by applicable law. We are also expressly authorized to advance certain expenses (including attorneys' fees and disbursements and court costs) to our directors and officers and carry directors' and officers' insurance providing indemnification for our directors, officers and certain employees for some liabilities. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation of liability and indemnification provisions in our amended and restated bylaws may discourage shareholders from bringing a lawsuit against directors for breach of their fiduciary duties. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our shareholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

There is currently no pending material litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought.

Anti-takeover Effects of Certain Provisions of Our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws

Several provisions of our amended and restated articles of incorporation and amended and restated bylaws, which are summarized below, may have anti-takeover effects. These provisions are intended to avoid costly takeover battles, lessen our vulnerability to a hostile change of control and enhance the ability of our board of directors to maximize shareholder value in connection with any unsolicited offer to acquire us. However, these anti-takeover provisions, which are summarized below, could also discourage, delay or prevent (1) the merger or acquisition of our company by means of a tender offer, a proxy contest or otherwise that a shareholder may consider in its best interest and (2) the removal of incumbent officers and directors.

Blank Check Preferred Stock

Under the terms of our amended and restated articles of incorporation, our board of directors has the authority, without any further vote or action by our shareholders, to authorize our issuance of up to 25,000,000 shares of blank check preferred stock. Our board of directors may issue shares of preferred stock on terms calculated to discourage, delay or prevent a change of control of our company or the removal of our management.

Classified Board of Directors

Our amended and restated articles of incorporation provide for the division of our board of directors into three classes of directors, with each class as nearly equal in number as possible, serving staggered, three-year terms. Approximately one-third of our board of directors will be elected each year. This classified board provision could discourage a third party from making a tender offer for our shares or attempting to obtain control of us. It could also delay shareholders who do not agree with the policies of our board of directors from removing a majority of our board of directors for up to two years.

Election and Removal of Directors

Our amended and restated articles of incorporation prohibit cumulative voting in the election of directors. Our amended and restated bylaws require parties other than the board of directors to give advance written notice of nominations for the election of directors. Our amended and restated articles of incorporation also provide that our directors may be removed only for cause and only upon the

Table of Contents

affirmative vote of $66^2/3\%$ of the outstanding shares of our capital stock entitled to vote for those directors or by a majority of the members of the board of directors then in office. These provisions may discourage, delay or prevent the removal of incumbent officers and directors.

Limited Actions by Shareholders

Our amended and restated articles of incorporation and our amended and restated bylaws provide that any action required or permitted to be taken by our shareholders must be effected at an annual or special meeting of shareholders or by the unanimous written consent of our shareholders. Our amended and restated articles of incorporation and our amended and restated bylaws provide that, subject to certain exceptions, our Chairman, President, or Secretary at the direction of the board of directors may call special meetings of our shareholders and the business transacted at the special meeting is limited to the purposes stated in the notice.

Advance Notice Requirements for Shareholder Proposals and Director Nominations

Our amended and restated bylaws provide that shareholders seeking to nominate candidates for election as directors or to bring business before an annual meeting of shareholders must provide timely notice of their proposal in writing to the corporate secretary. Generally, to be timely, a shareholder's notice must be received at our principal executive offices not less than 150 days nor more than 180 days before the date on which we first mailed our proxy materials for the preceding year's annual meeting. Our amended and restated bylaws also specify requirements as to the form and content of a shareholder's notice. These provisions may impede a shareholder's ability to bring matters before an annual meeting of shareholders or make nominations for directors at an annual meeting of shareholders.

Shareholder Rights Plan

General

Each share of our common stock includes one right, or, collectively, the rights, that entitles the holder to purchase from us a unit consisting of one-thousandth of a share of our preferred stock at a purchase price of \$25 per share, subject to specified adjustments. The rights are issued pursuant to a rights agreement between us and Mellon Investor Services LLC, as rights agent. Until a right is exercised, the holder of a right will have no rights to vote, receive dividends or any other shareholder rights by virtue of its ownership of such right.

The rights may have anti-takeover effects. The rights may cause substantial dilution to any person or group that attempts to acquire us without the approval of our board of directors. As a result, the overall effect of the rights may be to render more difficult or discourage any attempt to acquire us. Because our board of directors can approve a redemption of the rights or a permitted offer, the rights should not interfere with a merger or other business combination approved by our board of directors. The adoption of the rights agreement was approved by our sole shareholder before our initial public offering.

We have summarized the material terms and conditions of the rights agreement and the rights below. For a complete description of the rights, we encourage you to read the rights agreement.

Detachment of the Rights

The rights are attached to all certificates representing our currently outstanding common stock and will attach to all common stock certificates we issue before the rights distribution date or the date on which the rights expire (or thereafter, in certain circumstances). The rights are not exercisable until after the rights distribution date and will expire at the close of business on February 21, 2015, unless we redeem or exchange them earlier as we describe below. The rights will separate from the common

Table of Contents

stock and a rights distribution date would occur, subject to specified exceptions, on the earlier of the following two dates:

ten days following a public announcement that a person or group of affiliated or associated persons, or an "acquiring person," has acquired or obtained the right to acquire beneficial ownership of 15% or more of our outstanding common stock; or

ten business days following the announcement of a tender or exchange offer that would result, if closed, in a person's becoming an acquiring person.

Oaktree Capital Management, LLC, Peter Georgiopoulos and Fleet Acquisition LLC (so long as it does not acquire beneficial ownership of additional shares of common stock under certain circumstances) are excluded from the definition of "acquiring person" for purposes of the distribution of the rights, and therefore their ownership cannot trigger the distribution of the rights. Specified "inadvertent" owners that would otherwise become an acquiring person, including those who would have this designation as a result of repurchases of common stock by us, will not become acquiring persons as a result of those transactions.

Our board of directors may defer the rights distribution date in some circumstances, and some inadvertent acquisitions will not result in a person becoming an acquiring person if the person promptly divests itself of a sufficient number of shares of common stock.

Until the rights distribution date:

our common stock certificates will evidence the rights, and the rights will be transferable only with those certificates; and

any new common stock will be issued with rights, and new certificates will contain a notation incorporating the rights agreement by reference.

As soon as practicable after the rights distribution date, the rights agent will mail certificates representing the rights to holders of record of our common stock at the close of business on that date. After the rights distribution date, only separate rights certificates will represent the rights.

We will not issue rights with any shares of common stock we issue after the rights distribution date, except as our board of directors may otherwise determine.

Flip-In Event

A "flip-in event" will occur under the rights agreement when a person becomes an acquiring person, as defined above.

If a flip-in event occurs and we do not redeem the rights as described under the heading "Redemption of Rights" below, each right, other than any right that has become void, as we describe below, will become exercisable at the time it is no longer redeemable for the number of shares of common stock, or, in some cases, cash, property or other of our securities, having a current market price equal to two times the exercise price of such right.

When a flip-in event occurs, all rights that then are, or in some circumstances that were, beneficially owned by or transferred to an acquiring person or specified related parties will become void in the circumstances the rights agreement specifies.

Flip-Over Event

A "flip-over event" will occur under the rights agreement when, at any time after a person has become an acquiring person:

we are acquired in a merger or other business combination transaction, subject to limited exceptions; or

Table of Contents

50% or more of our assets or earning power is sold or transferred.

If a flip-over event occurs, each holder of a right, other than any right that has become void as we describe under the heading "Flip-In Event" above, will have the right to receive the number of shares of common stock of the acquiring company which has a current market price equal to two times the exercise price of such right.

Anti-Dilution

The number of outstanding rights associated with our common stock is subject to adjustment for any stock split, stock dividend or subdivision, combination or reclassification of our common stock occurring before the rights distribution date. With some exceptions, the rights agreement will not require us to adjust the exercise price of the rights until cumulative adjustments amount to at least 1% of the exercise price. It also will not require us to issue fractional shares of our preferred stock that are not integral multiples of one one-hundred thousandth of a share of preferred stock and, instead, we may make a cash adjustment based on the market price of the common stock on the last trading date before the date of exercise. The rights agreement reserves to us the right to require before the occurrence of any flip-in event or flip-over event that, on any exercise of rights, a number of rights must be exercised so that we will issue only whole shares of stock.

Redemption of Rights

At any time before the earlier of the date on which a person publicly announces that it has become an acquiring person or the date on which the rights expire, we may redeem the rights in whole, but not in part, at a redemption price of \$0.01 per right. The redemption price is subject to adjustment for any stock split, stock dividend or similar transaction occurring before the date of redemption. At our option, we may pay that redemption price in cash or shares of common stock. The rights are not exercisable after a flip-in event until they are no longer redeemable. The rights will terminate immediately upon ordering the redemption and making the appropriate filing with the rights agent.

Exchange of Rights

We may, at our option, subject to applicable laws, rules and regulations, exchange the rights (other than rights owned by an acquiring person or an affiliate or an associate of an acquiring person, which have become void), in whole or in part. The exchange will be at an exchange ratio of one share of common stock per right, subject to specified adjustments at any time after the occurrence of a flip-in event and before any person becoming the beneficial owner of 50% or more of the shares of common stock then outstanding.

Amendment of Terms of Rights

During the time the rights are redeemable, we may amend any of the provisions of the rights agreement in any way without the approval of the rights holders. Once the rights cease to be redeemable, we generally may amend the provisions of the rights agreement without the approval of the rights holders, only as follows:

to cure any ambiguity, defect or inconsistency;

to make changes that do not materially adversely affect the interests of holders of rights, excluding the interests of any acquiring person; or

to shorten or lengthen any time period under the rights agreement, except that we cannot lengthen the time period governing redemption or any other time period, unless such lengthening is for the purpose of protecting, clarifying or enhancing the rights and benefits of the rights holders (other than an acquiring person).

Table of Contents

TAX CONSIDERATIONS

The following is a discussion of the material Marshall Islands and U.S. federal income tax considerations relevant to an investment decision by a U.S. Holder or a Non-U.S. Holder, as defined below, with respect to the common stock. This discussion does not purport to deal with the tax consequences of owning our common stock to all categories of investors, some of which (such as financial institutions, regulated investment companies, real estate investment trusts, tax-exempt organizations, insurance companies, persons holding our common stock as part of a hedging, integrated, conversion or constructive sale transaction or a straddle, traders in securities that have elected the mark-to-market method of accounting for their securities, persons liable for alternative minimum tax, pass-through entities or persons who are investors in pass-through entities, persons who own, actually or under applicable constructive ownership rules, 10% or more of our common stock, dealers in securities or currencies and investors whose functional currency is not the U.S. dollar) may be subject to special rules. This discussion deals only with holders who purchase common stock in connection with this offering and hold the common stock as a capital asset. Moreover, this discussion is based on laws, regulations and other authorities in effect as of the date of this prospectus supplement, all of which are subject to change, possibly with retroactive effect. You are encouraged to consult your own tax advisors concerning the overall tax consequences arising in your own particular situation under U.S. federal, state, local or foreign law of the ownership of our common stock.

Marshall Islands Tax Considerations

The following are the material Marshall Islands tax consequences of our activities to us and to our shareholders of investing in our common stock. We are incorporated in the Marshall Islands. Under current Marshall Islands law, we are not subject to tax on income or capital gains, and no Marshall Islands withholding tax or income tax will be imposed upon payments of dividends by us to our shareholders or proceeds from the disposition of our common stock.

United States Federal Income Tax Considerations

The following are the material U.S. federal income tax consequences to us of our activities and to U.S. Holders and Non-U.S. Holders, as defined below, of investing in our common stock. The following discussion of U.S. federal income tax matters is based on the Internal Revenue Code of 1986, as amended to which we refer as the Code, judicial decisions, administrative pronouncements, and existing and proposed regulations issued by the U.S. Department of the Treasury, all of which are subject to change, possibly with retroactive effect.

We have made special U.S. tax elections in respect of those of our shipowning or operating subsidiaries that are potentially subject to tax as a result of deriving income attributable to the transportation of cargoes to or from the United States. The effect of the special U.S. tax elections is to ignore or disregard the subsidiaries for which elections have been made as separate taxable entities from that of their parent, Genco Shipping & Trading Limited. Therefore, for purposes of the following discussion, Genco Shipping & Trading Limited, and not the subsidiaries subject to this special election, will be treated as the owner and operator of the subsidiary vessels and as receiving the income from these vessels.

United States Federal Income Taxation of Genco

Taxation of Operating Income: In General

Unless exempt from U.S. federal income taxation, a foreign corporation is subject to U.S. federal income tax in respect of any income that is derived from the use of vessels, from the hiring or leasing of vessels for use on a time, voyage or bareboat charter basis or from the performance of services directly related to those uses, which we refer to as "shipping income," to the extent that the shipping

S-31

Table of Contents

income is derived from sources within the United States, which we refer to as "U.S.-source shipping income."

For these purposes, 50% of shipping income that is attributable to transportation that begins or ends, but that does not both begin and end, in the United States constitutes U.S.-source shipping income.

No portion of shipping income attributable to transportation exclusively between non-U.S. ports will be considered to be U.S.-source shipping income. Such shipping income will not be subject to any U.S. federal income tax.

Shipping income attributable to transportation exclusively between U.S. ports will be considered to be 100% derived from U.S. sources. However, due to prohibitions under U.S. law, we do not engage in transportation of cargo that produces 100% U.S.-source shipping income.

Unless exempt from tax under Section 883 of the Code, our gross U.S.-source shipping income generally would be subject to a 4% tax imposed without allowance for deductions, unless such income is "effectively connected" with the conduct of a U.S. trade or business, as described below.

Exemption of Operating Income from United States Federal Income Taxation

Under Section 883 and the regulations thereunder, a foreign corporation will be exempt from U.S. federal income taxation on its U.S.-source shipping income if:

(1) it is organized in a qualified foreign country, which is one that grants an "equivalent exemption" from tax to corporations organized in the United States in respect of each category of shipping income for which exemption is being claimed under Section 883, and to which we refer as the "Country of Organization Test"; and

(2) either

- (a) more than 50% of the value of its stock is beneficially owned, directly or indirectly, by qualified shareholders, which includes individuals who are "residents" of a qualified foreign country, to which we refer as the "50% Ownership Test":
- (b) its stock is "primarily and regularly traded on an established securities market" in a qualified foreign country or in the United States, to which we refer as the "Publicly Traded Test"; or
- (c) it is a "controlled foreign corporation," or CFC, and it satisfies an ownership test to which, collectively, we refer as the "CFC Test."

The Marshall Islands, the jurisdiction where we are incorporated, has been officially recognized by the IRS as a qualified foreign country that currently grants the requisite "equivalent exemption" from tax in respect of each category of shipping income we expect to earn in the future. Therefore, we will satisfy the Country of Organization Test and will be exempt from U.S. federal income taxation with respect to our U.S.-source shipping income if we are able to satisfy any one of the 50% Ownership Test, the Publicly Traded Test or the CFC Test.

Both before and after the issuance of the common stock offered in this prospectus supplement, we believe that we will satisfy the Publicly Traded Test, as discussed below. We do not currently anticipate circumstances under which we would be able to satisfy either the 50% Ownership Test or the CFC Test.

Publicly Traded Test

For purposes of the Publicly Traded Test, the regulations under Section 883 provide, in pertinent part, that stock of a foreign corporation will be considered to be "primarily traded" on an established securities market in a country if the number of shares of each class of stock that are traded during any

Table of Contents

taxable year on all established securities markets in that country exceeds the number of shares of each such class of stock that are traded during that year on established securities markets in any other single country. Our common stock, which is our sole class of issued and outstanding stock, is "primarily traded" on the NYSE.

Our common stock will be considered to be "regularly traded" on an established securities market if (1) more than 50% of the outstanding shares of our common stock are listed on such market; (2) our common stock is traded on such market, other than in minimal quantities, on at least 60 days during the taxable year or one-sixth of the days in a short taxable year; and (3) the aggregate number of shares of our common stock traded on such market during the taxable year is at least 10% of the average number of shares of our common stock outstanding during such year or as appropriately adjusted in the case of a short taxable year. The regulations provide that the trading frequency and trading volume tests will be deemed satisfied if our common stock is regularly quoted by dealers making a market in our stock.

Subject to the Five Percent Override Rule described below, we anticipate that we satisfy these tests and that, as a result, our common stock is currently considered to be "regularly traded" on the NYSE.

Notwithstanding the above, our common stock will not be considered to be "regularly traded" on an established securities market for any taxable year in which 50% or more of the outstanding shares of our stock are owned, actually or constructively under specified stock attribution rules, on more than half the days during the taxable year by persons who each own 5% or more of our outstanding common stock, which we refer to as the "Five Percent Override Rule."

For purposes of identifying the persons who actually or constructively own 5% or more of our stock, or "5% shareholders," we may rely on Schedule 13G and Schedule 13D filings with the SEC. An investment company which is registered under the Investment Company Act of 1940, as amended, will not be treated as a 5% shareholder for these purposes.

In the event the 50% ownership threshold is met, the Five Percent Override Rule will nevertheless not apply if we can establish that there are sufficient 5% shareholders that are considered to be "qualified shareholders" for purposes of Section 883 to preclude non-qualified 5% shareholders from owning 50% or more of our stock for more than half the number of days during the taxable year.

We believe that, based on our current ownership, the Five Percent Override rule is not triggered with respect to the ownership of our common stock. However, if 5% shareholders were to own 50% or more of our common stock for more than half the days of any future taxable year, the Five Percent Override Rule would be triggered. If the Five Percent Override Rule were triggered, we believe we would have significant difficulty in satisfying the exception described in the immediately preceding paragraph and, therefore, would not qualify for the Publicly Traded Test.

Based on the above, we believe we qualify for the Section 883 exemption and we will be exempt from U.S. federal income taxation on our U.S. source shipping income.

Taxation in Absence of Section 883 Exemption

If the exemption under Section 883 does not apply, our gross U.S.-source shipping income would be subject to a 4% tax, without allowance for deductions, unless such income is effectively connected with the conduct of a U.S. trade or business ("effectively connected income"), as described below. Since under the sourcing rules described above no more than 50% of our shipping income would be treated as being U.S.-source shipping income, the maximum effective rate of U.S. federal income tax on our non-effectively connected shipping income would never exceed 2%.

To the extent our U.S.-source shipping income, or other income we may have, is considered to be effectively connected income, as described below, any such income, net of applicable deductions, would be subject to the U.S. federal corporate income tax, currently imposed at rates of up to 35%. In

Table of Contents

addition, we may be subject to a 30% "branch profits" tax on such income, and on certain interest paid or deemed paid attributable to the conduct of such trade or business.

Our U.S.-source shipping income would be considered "effectively connected" with the conduct of a U.S. trade or business only if:

we have, or are considered to have, a fixed place of business in the United States involved in the earning of U.S.-source shipping income; and

substantially all of our U.S.-source shipping income is attributable to regularly scheduled transportation such as the operation of a vessel that follows a published schedule with repeated sailings at regular intervals between the same points for voyages that begin or end in the United States.

We do not intend to have, or permit circumstances that would result in having, any vessel sailing to or from the United States on a regularly scheduled basis. Based on our current shipping operations and the expected mode of our future shipping operations and other activities, we believe that none of our U.S.-source shipping income will be "effectively connected" with the conduct of a U.S. trade or business. However, we will generate non-shipping income, some of which may be treated as effectively connected income under our management agreement with Baltic Trading Limited and our agency agreement under which we provide technical services to MEP, and we may from time to time generate other non-shipping income that may be treated as effectively connected income.

Our subsidiary, Baltic Trading Limited, currently does not qualify for exemption under Section 883 due to our ownership of its Class B Stock. As a result, 50% of Baltic Trading's gross shipping income attributable to transportation beginning or ending in the United States, if any, will be subject to a 4% tax without allowance for deductions. While we do not currently anticipate that a significant portion of Baltic Trading's shipping income will be U.S.-source shipping income, there can be no assurance that this will be the case.

United States Taxation of Gain on Sale of Vessels

Provided we qualify for exemption from tax under Section 883 in respect of our shipping income, gain from the sale of a vessel likewise should be exempt from tax under Section 883. If, however, our shipping income does not, for whatever reason, qualify for exemption under Section 883, and assuming that any gain derived from the sale of a vessel is attributable to our U.S. office, as we believe likely would be the case as we are currently structured, then such gain will be treated as effectively connected income (determined under rules different from those discussed above) and subject to the net income and branch profits tax regime described above.

United States Federal Income Taxation of U.S. Holders

For purposes of the following, the term "U.S. Holder" means a beneficial owner of our common stock that is, for U.S. federal income tax purposes, (i) an individual U.S. citizen or resident, (ii) a U.S. corporation or other U.S. entity taxable as a corporation, (iii) an estate the income of which is subject to U.S. federal income taxation regardless of its source, or (iv) a trust if either (x) a court within the United States is able to exercise primary jurisdiction over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or (y) the trust has a valid election in effect under applicable Treasury Regulations to be treated as a U.S. person. If a partnership holds common stock, the tax treatment of a partner will generally depend on the status of the partner and upon the activities of the partnership. If you are a partner in a partnership holding our common stock, you are encouraged to consult your tax advisor.

Table of Contents

Distributions

Subject to the discussion of PFICs below, any distributions made by us with respect to our common stock to a U.S. Holder will generally constitute dividends to the extent of our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. Distributions in excess of those earnings and profits will be treated first as a nontaxable return of capital to the extent of the U.S. Holder's tax basis in his, her or its common stock, and thereafter as capital gain. Because we are not a U.S. corporation, U.S. Holders that are corporations will not be entitled to claim a dividends-received deduction with respect to any distributions they receive from us. Amounts taxable as dividends generally will be treated as foreign source "passive income" for U.S. foreign tax credit purposes.

Dividends paid on our common stock to a U.S. Holder who is an individual, trust or estate (a "U.S. Non-Corporate Holder") will generally be treated as "qualified dividend income" that is taxable to such U.S. Non-Corporate Holder at preferential tax rates through 2010, provided that (1) the common stock is readily tradable on an established securities market in the United States (such as the NYSE, on which our common stock is traded); (2) we are not a PFIC for the taxable year during which the dividend is paid or the immediately preceding taxable year (which we do not believe we have been, are, or will be); (3) the U.S. Non-Corporate Holder's holding period of the common stock includes more than 60 days in the 121-day period beginning 60 days before the date on which the common stock becomes ex-dividend; and (4) the U.S. Non-Corporate Holder is not under an obligation to make related payments with respect to positions in substantially similar or related property. If we were to be a PFIC, as discussed below, for any year, dividends paid on our ordinary shares in such year or in the following year would not be qualified dividends. The reduced tax rate for qualified dividends is scheduled to expire on December 31, 2010, unless further extended by the United States Congress. In addition, a U.S. Non-Corporate Holder will be able to take a qualified dividend into account in determining its deductible investment interest (which is generally limited to its net investment income) only if it elects to do so; in such case the dividend will be taxed at ordinary income rates.

Special rules may apply to any "extraordinary dividend" generally, a dividend in an amount which is equal to or in excess of 10% of a shareholder's adjusted basis (or fair market value in certain circumstances) in a share of our common stock paid by us. If we pay an "extraordinary dividend" on our common stock that is treated as "qualified dividend income," then any loss derived by a U.S. Non-Corporate Holder from the sale or exchange of such common stock will be treated as long-term capital loss to the extent of such dividend.

Sale, Exchange or Other Disposition of Common Stock

Subject to the discussion of PFICs below, a U.S. Holder generally will recognize taxable gain or loss upon a sale, exchange or other taxable disposition of our common stock in an amount equal to the difference between the amount realized by the U.S. Holder from such disposition and the U.S. Holder's tax basis in such stock. Such gain or loss will be treated as long-term capital gain or loss if the U.S. Holder's holding period is greater than one year at the time of the disposition. Such capital gain or loss will generally be treated as U.S.-source income or loss, as applicable, for U.S. foreign tax credit purposes. Long-term capital gains of U.S. Non-Corporate Holders are eligible for reduced rates of taxation. A U.S. Holder's ability to deduct capital losses is subject to certain limitations.

Impact of New Legislation on Ownership and Disposition of Common Stock

Newly enacted legislation requires certain U.S. Holders that are individuals, estates or trusts to pay an additional 3.8% tax on, among other things, dividends on, and capital gains from the sale or other disposition of, stock for taxable years beginning after December 31, 2012. U.S. Holders should consult their tax advisors regarding the effect, if any, of this legislation on their ownership and disposition of our common stock.

Table of Contents

Passive Foreign Investment Company Status and Significant Tax Consequences

We will be a PFIC if, for any taxable year, either:

75% or more of our gross income in a taxable year consists of "passive income" (including, for example, dividends, interest, gains from the sale or exchange of investment property and rents and royalties other than rents and royalties which are received from unrelated parties in connection with the active conduct of a trade or business, as defined in applicable Treasury regulations); or

at least 50% of our assets in a taxable year (averaged over the year and generally determined based upon value) produce or are held for the production of passive income.

For purposes of determining whether we are a PFIC, we will be treated as earning and owning a proportionate share of the income and assets, respectively, of our subsidiaries that have made special U.S. tax elections to be disregarded as separate entities (as described above) as well as of any other corporate subsidiary in which we own at least 25% of the value of the subsidiary's stock. For purposes of these tests, income derived from the performance of services does not constitute passive income. By contrast, rental income would generally constitute passive income unless we were treated under specific rules as deriving our rental income in the active conduct of a trade or business. Based on our existing operations, we do not believe that we have been, are, or will be a PFIC with respect to any taxable year. In this regard, we intend to treat our income from the time and spot charter of vessels as services income, rather than rental income. Accordingly, we believe that such income does not constitute passive income, and that the assets that we will own and operate in connection with the production of that income, primarily our vessels, do not constitute passive assets for purposes of determining whether we are a PFIC.

While there is no direct legal authority under the PFIC rules addressing our method of operation that characterizes time charter income as services income, there is legal authority supporting this position consisting of case law and pronouncements by the IRS concerning the characterization of income derived from time charters and voyage charters as services income for other tax purposes. However, it should also be noted that there is authority which characterizes time charter income as rental income rather than services income for other tax purposes. Accordingly, no assurance can be given that the IRS or a court of law will accept our position, and there is a risk that the IRS or a court of law could determine that we are a PFIC. Moreover, because there are uncertainties in the application of the PFIC rules, because the PFIC test is an annual test, and because, although we intend to manage our business so as to avoid PFIC status to the extent consistent with our other business goals, there could be changes in the nature and extent of our operations in future years, there can be no assurance that we will not become a PFIC in any taxable year.

If we were to be treated as a PFIC for any taxable year (and regardless of whether we remain a PFIC for subsequent taxable years), each U.S. Holder who is treated as owning our stock for purposes of the PFIC rules would be subject to special rules with respect to (1) any excess distribution (i.e., the portion of any distributions received by the U.S. Holder on our common stock in a taxable year in excess of 125 percent of the average annual distributions received by the U.S. Holder in the three preceding taxable years, or, if shorter, the U.S. Holder's holding period for the common stock), and (2) any gain realized on the sale, exchange or other disposition of our common stock. Under these special rules:

the excess distribution or gain would be allocated ratably over the U.S. Holder's aggregate holding period for the shares of our common stock;

the amount allocated to the current taxable year, and any taxable year before the first taxable year in which we were a PFIC, would be taxed as ordinary income in the current year; and

Table of Contents

the amount allocated to each of the other taxable years would be subject to tax at the highest rate of tax on ordinary income in effect for the applicable class of taxpayer for that year, and an interest charge for the deemed tax deferral benefit would be imposed on the resulting tax liability as if that tax liability had been due for each such other taxable year.

A U.S. Holder who holds our common stock during a period when we are a PFIC generally will be subject to the foregoing rules for that taxable year and all subsequent taxable years with respect to that U.S. Holder's holding of our common stock, even if we ceased to be a PFIC, subject to certain exceptions for U.S. Holders who made a mark-to-market or QEF election.

Taxation of U.S. Holders Making a Timely QEF Election

The above rules relating to the taxation of excess distributions and dispositions will not apply to a U.S. Holder who has made a timely "qualified electing fund" ("QEF") election for all taxable years that the holder has held its shares of our common stock and we were a PFIC. Instead, each U.S. Holder who has made a timely QEF election is required for each taxable year to include in income a pro rata share of our ordinary earnings as ordinary income and a pro rata share of our net capital gain as long-term capital gain, regardless of whether we have made any distributions of the earnings or gain. The U.S. Holder's basis in our common stock will be increased to reflect taxed but undistributed earnings or gain. Distributions of earnings and profits that had been previously taxed will result in a corresponding reduction in the basis of the common stock and will not be taxed again once distributed. A U.S. Holder making a QEF election would generally recognize capital gain or loss on the sale, exchange or other disposition of our common stock. If we determine that we are a PFIC for any taxable year, we may provide each U.S. Holder with all necessary information in order to make the QEF election described above.

Taxation of U.S. Holders Making a "Mark-to-Market" Election

Alternatively, if we were to be treated as a PFIC for any taxable year and, as we believe will be the case, our common stock is treated as "marketable," a U.S. Holder may make a mark-to-market election. Under a mark-to-market election, any excess of the fair market value of the common stock at the close of any taxable year over the U.S. Holder's adjusted tax basis in the common stock is included in the U.S. Holder's income as ordinary income. In addition, the excess, if any, of the U.S. Holder's adjusted tax basis at the close of any taxable year over the fair market value of the common stock is deductible as an ordinary loss in an amount equal to the lesser of the amount of the excess or the amount of the net mark-to-market gains that the U.S. Holder included in income in prior years. A U.S. Holder's tax basis in its shares of our common stock would be adjusted to reflect any such income or loss. Gain realized on the sale, exchange or other disposition of our common stock would be treated as ordinary income, and any loss realized on the sale, exchange or other disposition of shares of our common stock would be treated as ordinary loss to the extent that such loss does not exceed the net mark-to-market gains previously included by the U.S. Holder.

U.S. Holders are urged to consult their tax advisors regarding the PFIC rules, including as to the advisability of choosing to make a QEF or mark-to-market election.

United States Federal Income Taxation of Non-U.S. Holders

A beneficial owner of our common stock (other than a partnership) that is not a U.S. Holder is referred to herein as a "Non-U.S. Holder."

Dividends on Common Stock

Non-U.S. Holders generally will not be subject to U.S. federal income tax or withholding tax on dividends received from us on our common stock unless the income is effectively connected income

S-37

Table of Contents

(and, if a treaty applies, the income is attributable to a permanent establishment maintained by the Non-U.S. Holder in the United States).

Sale, Exchange or Other Disposition of Common Stock

Non-U.S. Holders generally will not be subject to U.S. federal income tax or withholding tax on any gain realized upon the sale, exchange or other disposition of our common stock, unless either:

- (1) the gain is effectively connected income (and, if a treaty applies, the gain is attributable to a permanent establishment maintained by the Non-U.S. Holder in the United States); or
- (2) the Non-U.S. Holder is an individual who is present in the United States for 183 days or more during the taxable year of disposition and certain other conditions are met.

Except as may otherwise be provided in an applicable income tax treaty between the United States and a foreign country, a Non-U.S. Holder will generally be subject to regular U.S. federal income tax with respect to effectively connected income in the same manner as discussed in the section above relating to the taxation of U.S. Holders (provided that, if a treaty applies, the income is attributable to a permanent establishment maintained by the Non-U.S. Holder in the United States). In addition, earnings and profits of a corporate Non-U.S. Holder that are attributable to such income, as determined after allowance for certain adjustments, may be subject to an additional "branch profits" tax at a rate of 30%, or at a lower rate as may be specified by an applicable income tax treaty. A Non-U.S. Holder will not be considered to be engaged in a trade or business within the United States for federal income tax purposes solely by reason of holding common stock. An individual Non-U.S. Holder described in (2) above will be subject to a flat 30% United States federal income tax on the gain derived from the sale, redemption, exchange or other disposition of our common stock, which may be offset by U.S.-source capital losses, even though the holder is not considered a resident of the United States.

Backup Withholding and Information Reporting

In general, payments of distributions on, and the proceeds of a disposition of, our common stock will be subject to U.S. federal income tax information reporting requirements if you are a U.S. Non-Corporate Holder. Such payments may also be subject to U.S. federal backup withholding tax if you are a U.S. Non-Corporate Holder and you:

fail to provide us with an accurate taxpayer identification number;

are notified by the IRS that you have failed to report all interest or dividends required to be shown on your federal income tax returns; or

fail to comply with applicable certification requirements.

Non-U.S. Holders generally will be subject to information reporting with respect to distributions on our common stock. Non-U.S. Holders may be required to establish their exemption from information reporting on proceeds of a disposition of our common stock and from backup withholding by certifying their status on IRS Form W-8BEN, W-8ECI or W-8IMY, as applicable.

Backup withholding tax is not an additional tax. Rather, you generally may obtain a refund of any amounts withheld under backup withholding rules that exceed your income tax liability by filing a refund claim with the IRS.

Shareholders are urged to consult their tax advisors concerning the United States federal, state and local and non-U.S. tax consequences to them of owning our common stock.

Table of Contents

UNDERWRITING

Subject to the terms and conditions of the underwriting agreement, the underwriters named below, through their representatives Deutsche Bank Securities Inc., BNP Paribas Securities Corp. and Credit Suisse Securities (USA) LLC, have severally agreed to purchase from us the following respective number of shares of common stock at a public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement:

Underwriters	Number of Shares
Deutsche Bank Securities Inc.	
BNP Paribas Securities Corp.	
Credit Suisse Securities (USA) LLC	
Credit Agricole Securities (USA) Inc.	
DVB Capital Markets LLC	
Total	2.820.000

The underwriting agreement provides that the obligations of the several underwriters to purchase the shares of common stock offered hereby are subject to certain conditions precedent and that the underwriters will purchase all of the shares of common stock offered by this prospectus supplement, other than those covered by the over-allotment option described below, if any of these shares are purchased.

Shares of our common stock are listed on the New York Stock Exchange under the trading symbol "GNK."

We have been advised by the representatives of the underwriters that the underwriters propose to offer the shares of common stock to the public at the public offering price set forth on the cover of this prospectus supplement and to dealers at a price that represents a concession not in excess of \$ per share under the public offering price. The underwriters may allow, and these dealers may re-allow, a concession of not more than \$ per share to other dealers. After the offering of the shares of our common stock, representatives of the underwriters may change the offering price and other selling terms.

We have granted to the underwriters an option, exercisable not later than 30 days after the date of this prospectus supplement, to purchase up to 423,000 additional shares of common stock at the public offering price less the underwriting discounts and commissions set forth on the cover page of this prospectus supplement. The underwriters may exercise this option only to cover over-allotments made in connection with the sale of the common stock offered by this prospectus supplement. To the extent that the underwriters exercise this option, each of the underwriters will become obligated, subject to conditions, to purchase approximately the same percentage of these additional shares of common stock as the number of shares of common stock to be purchased by it in the above table bears to the total number of shares of common stock offered by this prospectus supplement. We will be obligated, pursuant to the option, to sell these additional shares of common stock to the underwriters to the extent the option is exercised. If any additional shares of common stock are purchased, the underwriters will offer the additional shares on the same terms as those on which the 2,820,000 shares are being offered.

The underwriting discounts and commissions per share are equal to the public offering price per share of common stock less the amount paid by the underwriters to us per share of common stock. The underwriting discounts and commissions are % of the offering price. We have agreed to pay the

Table of Contents

underwriters the following discounts and commissions, assuming either no exercise or full exercise by the underwriters of the underwriters' over-allotment option:

		Total Fees		
		Without Exercise With Full Exercise		
		of Over-Allotment	of Over-Allotment	
	Fee per share	Option	Option	
Discounts and commissions paid by us	\$	\$	\$	

In addition, we estimate that our share of the total expenses of this offering, excluding underwriting discounts and commissions, will be approximately \$403,000. The underwriters have agreed to reimburse us for certain of those expenses.

We have agreed to indemnify the underwriters against some specified types of liabilities, including liabilities under the Securities Act, and to contribute to payments the underwriters may be required to make in respect of any of these liabilities.

We and our directors and executive officers have agreed that, without the prior written consent of Deutsche Bank Securities Inc., BNP Paribas Securities Corp. and Credit Suisse Securities (USA) LLC, on behalf of the underwriters, none of us will, during the period ending 90 days after the date of this prospectus supplement:

offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock, other than the notes that may be sold in the concurrent convertible notes offering;

enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the common stock; or

file any registration statement with the SEC relating to the offering of any shares of common stock or any securities convertible into or exercisable or exchangeable for common stock;

whether any such transaction described in the first or second bullet above is to be settled by delivery of common stock or such other securities, in cash or otherwise.

The restrictions described in this paragraph do not apply to:

the sale by us of common stock in this offering;

the issuance by us of shares of common stock upon the exercise of an option or a warrant or the conversion of a security outstanding on the date of this prospectus supplement of which the underwriters have been advised in writing or which is described in this prospectus supplement (including without limitation the notes that may be sold in the concurrent convertible notes offering);

the grant of options or the issuance of shares of restricted stock or restricted stock units by us to employees, officers, directors, advisors or consultants pursuant to any employee benefit plan referred to in this prospectus supplement;

the filing of any registration statement on Form S-8 in respect of any employee benefit plan referred to in this prospectus supplement; and

the transfer by our executive officers or directors of shares of common stock or securities convertible into common stock by gift; provided that the transferee executes a copy of the lock-up agreement and that no filing by any party (donor, donee, transferor or transferee) under Section 16(a) of the Exchange Act will be required or will be made voluntarily in connection

S-40

Table of Contents

with such transfer or distribution (other than a filing on Form 5 made after the expiration of the lock-up period).

Furthermore, with regard to our Chairman, Peter C. Georgiopoulos, and our Chief Financial Officer, John C. Wobensmith, only, the underwriters have agreed to an exception to the lockup arrangements described above, so that they each may pledge their shares of common stock to a financial institution pursuant to a bona fide pledge arrangement, and such financial institution, as lender in connection with such pledge arrangement, may sell such shares.

The lock-up period described in the preceding paragraphs will be extended if:

during the last 17 days of the lock-up period we issue a release about earnings or material news or a material event relating to us occurs; or

prior to the expiration of the lock-up period, we announce that we will release earnings results during the 16-day period beginning on the last day of the lock-up period,

in which case the restrictions described in the preceding paragraph will continue to apply until the expiration of the 18-day period beginning on the issuance of the release or the occurrence of the material news or material event.

The representatives of the underwriters have advised us that the underwriters do not intend to confirm sales to any account over which they exercise discretionary authority.

In connection with the offering, the underwriters may purchase and sell shares of our common stock in the open market. These transactions may include short sales, purchases to cover positions created by short sales and stabilizing transactions.

Short sales involve the sale by the underwriters of a greater number of shares than they are required to purchase in the offering. Covered short sales are sales made in an amount not greater than the underwriters' option to purchase additional shares of common stock from us in the offering. The underwriters may close out any covered short position by either exercising their option to purchase additional shares or purchasing shares in the open market. In determining the source of shares to close out the covered short position, the underwriters will consider, among other things, the price of shares available for purchase in the open market as compared to the price at which they may purchase shares through the over-allotment option.

Naked short sales are any sales in excess of the over-allotment option. The underwriters must close out any naked short position by purchasing shares in the open market. A naked short position is more likely to be created if underwriters are concerned that there may be downward pressure on the price of the shares in the open market prior to the completion of the offering.

Stabilizing transactions consist of various bids for or purchases of our common stock made by the underwriters in the open market prior to the completion of the offering.

The underwriters may impose a penalty bid. This occurs when a particular underwriter repays to the other underwriters a portion of the underwriting discount received by it because the representatives of the underwriters have repurchased shares sold by or for the account of that underwriter in stabilizing or short covering transactions.

Purchases to cover a short position and stabilizing transactions may have the effect of preventing or slowing a decline in the market price of our common stock. Additionally, these purchases, along with the imposition of the penalty bid, may stabilize, maintain or otherwise affect the market price of our common stock. As a result, the price of our common stock may be higher than the price that might otherwise exist in the open market. These transactions may be effected on the New York Stock Exchange, the Nasdaq National Market, in the over-the-counter market or otherwise.

Table of Contents

Certain of the underwriters and their affiliates have provided in the past to us and our affiliates and may provide from time to time in the future certain commercial banking, financial advisory, investment banking and other services for us and such affiliates in the ordinary course of their business, for which they have received and may continue to receive customary fees and commissions. In addition, certain of the underwriters are acting as underwriters for the concurrent convertible notes offering and will receive customary fees in connection therewith. Affiliates of Deutsche Bank Securities Inc., BNP Paribas Securities Corp. and Credit Agricole Securities (USA) Inc. are parties to the commitment letter with respect to our proposed \$253,000,000 secured credit facility. Affiliates of Credit Agricole Securities (USA) Inc. are parties to the commitment letter with respect to our proposed \$100,000,000 secured credit facility.

Notice to Investors in the European Economic Area

In any EEA Member State that has implemented Directive 2003/71/EC (together with any applicable implementing measures in any Member State, the "Prospectus Directive"), this communication is only addressed to and is only directed at qualified investors in that Member State within the meaning of the Prospectus Directive.

This prospectus supplement has been prepared on the basis that all offers of shares of common stock will be made pursuant to an exemption under the Prospectus Directive, as implemented in member states of the European Economic Area ("EEA"), from the requirement to produce a prospectus for offers of shares. Accordingly any person making or intending to make any offer within the EEA of shares of common stock which are the subject of the placement contemplated in this prospectus supplement should only do so in circumstances in which no obligation arises for us or any of the underwriters to produce a prospectus for such offer. Neither we nor any of the underwriters have authorized, nor do we or they authorize, the making of any offer of shares of common stock through any financial intermediary, other than offers made by the underwriters which constitute the final placement of shares of common stock contemplated in this prospectus supplement.

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive (each, a "Relevant Member State"), an offer to the public of any shares of common stock which are the subject of the offering contemplated by this prospectus supplement (the "shares") may not be made in that Relevant Member State, except that an offer to the public in that Relevant Member State of any shares may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

- (a)
 to legal entities which are authorized or regulated to operate in the financial markets or, if not so authorized or regulated, whose corporate purpose is solely to invest in securities;
- (b) to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000 and (3) an annual net turnover of more than €50,000,000, as shown in its last annual or consolidated accounts;
- (c) by the underwriters to fewer than 100 natural or legal persons (other than qualified investors as defined in the Prospectus Directive); or
- (d) in any other circumstances falling within Article 3(2) of the Prospectus Directive,

provided that no such offer of shares shall result in a requirement for the publication by us or any underwriter of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any shares to be offered so as to enable an investor to decide to purchase any shares, as the same may be varied in that Relevant Member State by any

Table of Contents

measure implementing the Prospectus Directive in that Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

Switzerland

This document, as well as any other offering or marketing material relating to the shares of common stock which are the subject of the offering contemplated by this prospectus supplement, neither constitutes a prospectus pursuant to Article 652a or Article 1156 of the Swiss Code of Obligations nor a simplified prospectus as such term is understood pursuant to article 5 of the Swiss Federal Act on Collective Investment Schemes. The shares of common stock will be listed on the SIX Swiss Exchange and, therefore, the documents relating to the shares, including, but not limited to, this document, do not claim to comply with the disclosure standards of the listing rules of SIX Swiss Exchange and corresponding prospectus schemes annexed to the listing rules of the SIX Swiss Exchange.

The shares of common stock are being offered in Switzerland by way of a private placement, i.e., to a small number of selected investors only, without any public offer and only to investors who do not purchase the shares of common stock with the intention to distribute them to the public. The investors will be individually approached from time to time. This document, as well as any other offering or marketing material relating to the shares of common stock, is confidential and it is exclusively for the use of the individually addressed investors in connection with the offer of the shares of common stock in Switzerland and it does not constitute an offer to any other person. This document may only be used by those investors to whom it has been handed out in connection with the offering described herein and may neither directly nor indirectly be distributed or made available to other persons without our express consent. It may not be used in connection with any other offer and shall in particular not be copied and/or distributed to the public in or from Switzerland.

United Kingdom

This communication is only being distributed to and is only directed at (i) persons who are outside the United Kingdom or (ii) investment professionals falling within Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "Order") or (iii) high net worth companies, and other persons to whom it may lawfully be communicated, falling within Article 49(2)(a) to (d) of the Order (all such persons together being referred to as "relevant persons"). The shares of common stock are only available to, and any invitation, offer or agreement to subscribe, purchase or otherwise acquire such shares will be engaged in only with, relevant persons. Any person who is not a relevant person should not act or rely on this document or any of its contents.

Table of Contents

LEGAL MATTERS

Various legal matters in connection with this offering will be passed on for us by Kramer Levin Naftalis & Frankel LLP, New York, New York, Reeder & Simpson P.C., Majuro, Marshall Islands, and Seward & Kissel LLP, New York, New York, and for the underwriters by Baker Botts L.L.P., Houston, Texas.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K for the year ended December 31, 2009 and the effectiveness of Genco Shipping & Trading Limited internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference. Such financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and current reports, proxy statements and other information with the Securities and Exchange Commission, or the SEC. You may read and copy such material at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549-1004. Please call the SEC at 1-800-SEC-0330 for more information on the operation of the Public Reference Room. You can also find our SEC filings at the SEC's web site at http://www.sec.gov.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and some information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding such documents or portions thereof that are not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules and regulations):

Our Annual Report on Form 10-K for the year ended December 31, 2009;

Our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2010;

Our Current Reports on Form 8-K filed on January 5, 2010, February 25, 2010, March 9, 2010, March 15, 2010, March 25, 2010, May 17, 2010, June 9, 2010, June 25, 2010, July 2, 2010, and July 21, 2010; and

The description of our common stock and the rights associated with our common stock contained in our Registration Statement on Form 8-A, File No. 001-33393, filed on April 3, 2007.

You may request a copy of these filings at no cost, by writing or telephoning us at the following address:

Genco Shipping & Trading Limited 299 Park Avenue, 20th Floor New York, New York 10171 (646) 443-8550 Attn: Investor Relations

PROSPECTUS

GENCO SHIPPING & TRADING LIMITED

Debt Securities Common Stock Preferred Stock Rights Warrants Units

We may offer and sell from time to time our securities in one or more classes or series and in amounts, at prices and on terms that we will determine at the times of the offerings, having an aggregate initial offering price of up to \$500,000,000. The securities may be offered separately or together in any combination and as separate series.

We will provide specific terms of any offering and the offered securities in supplements to this prospectus. Any prospectus supplement may also add, update or change information contained in this prospectus. You should read this prospectus and any prospectus supplement, as well as the documents incorporated or deemed to be incorporated by reference in this prospectus, carefully before you invest. This prospectus may not be used to consummate sales of securities unless accompanied by the applicable prospectus supplement.

Our principal executive offices are located at 299 Park Avenue, 20th Floor, New York, New York 10171, and our telephone number is (646) 443-8550.

Our common stock is traded on the New York Stock Exchange, or NYSE, under the symbol "GNK." On February 26, 2009, the closing sale price of our common stock as reported by the NYSE was \$11.91 per share. Each prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange.

We may offer and sell these securities to or through one or more underwriters, dealers and agents, or directly to purchasers, on a continuous or delayed basis. These securities also may be resold by securityholders. We will provide specific terms of any securities to be offered in supplements to this prospectus. You should read this prospectus and the applicable prospectus supplement carefully before you invest.

Investing in our securities involves risks that are referenced in the "Risk Factors" section beginning on page 2 of this prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is February 27, 2009

TABLE OF CONTENTS

	Page	
ABOUT THIS PROSPECTUS	<u>2</u>	
RISK FACTORS	<u>2</u>	
FORWARD-LOOKING STATEMENTS	<u>2</u>	
ABOUT GENCO	<u>3</u>	
RATIOS OF EARNINGS TO FIXED CHARGES	<u>3</u>	
<u>USE OF PROCEEDS</u>	<u>3</u>	
<u>DESCRIPTION OF DEBT SECURITIES</u>	<u>3</u>	
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>6</u>	
<u>DESCRIPTION OF RIGHTS</u>	<u>12</u>	
<u>DESCRIPTION OF WARRANTS</u>	<u>13</u>	
<u>DESCRIPTION OF UNITS</u>	<u>14</u>	
<u>PLAN OF DISTRIBUTION</u>	<u>14</u>	
<u>LEGAL MATTERS</u>	<u>16</u>	
<u>EXPERTS</u>	<u>16</u>	
WHERE YOU CAN FIND MORE INFORMATION	<u>16</u>	
INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE	<u>16</u>	

ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we have filed with the Securities and Exchange Commission, or SEC, using a "shelf" registration process. Under the shelf process, we may, from time to time, offer up to \$500,000,000 aggregate public offering price of our debt securities, shares of common stock, shares of preferred stock, rights, warrants or units, or combinations thereof, in one or more offerings. In this prospectus, we refer to our debt securities, shares of common stock, shares of preferred stock, rights, warrants and units collectively as the "securities." This prospectus provides you with a general description of the securities that we may offer. Each time this prospectus is used to offer securities, we will provide a prospectus supplement and if applicable, a pricing supplement, that will contain specific information about the terms of that offering. The prospectus supplement and any pricing supplement also may add, update or change information contained in this prospectus. You should read both this prospectus, the prospectus supplement and any pricing prospectus, together with additional information described and contained in the documents referred to under the heading "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference." We may only use this prospectus to sell securities if it is accompanied by a prospectus supplement. We are only offering these securities in states where the offer is permitted.

The registration statement that contains this prospectus, including the exhibits to the registration statement, contains additional information about us and the securities offered under this prospectus. That registration statement can be read at the SEC's web site or at the SEC's offices referenced under the heading "Where You Can Find More Information."

RISK FACTORS

You should carefully consider the specific risks set forth under the caption "Risk Factors" in the applicable prospectus supplement and under the caption "Risk Factors" in any of our filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, incorporated by reference herein, before making an investment decision. For more information see "Where You Can Find More Information" and "Incorporation of Certain Documents by Reference."

FORWARD-LOOKING STATEMENTS

We make statements in this prospectus and the documents incorporated by reference that are considered forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements are based on the beliefs of our management as well as assumptions made by and information currently available to them. The words "anticipate," "believe," "may," "estimate," "expect," and similar expressions, and variations of such terms or the negative of such terms, are intended to identify such forward-looking statements.

All forward-looking statements are subject to certain risks, uncertainties and assumptions. If one or more of these risks or uncertainties materialize, or if underlying assumptions prove incorrect, our actual results, performance or achievements could differ materially from those expressed in, or implied by, any such forward-looking statements. Important factors that could cause or contribute to such difference include those referenced under "Risk Factors" in this prospectus and any accompanying prospectus supplement and in our most recent annual report on Form 10-K and quarterly reports on Form 10-Q, incorporated by reference into this prospectus. You should not place undue reliance on such forward-looking statements, which speak only as of their dates. We do not undertake any obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise. You should carefully consider the information referenced under the heading "Risk Factors."

ABOUT GENCO

We are a drybulk shipping company with a strong record of disciplined growth. We transport iron ore, coal, grain, steel products and other drybulk cargoes along worldwide shipping routes. Since our founding in 2004, we have grown our business by utilizing our operational advantages and seeking prudent opportunities to consolidate the drybulk shipping industry. With our fleet of high-quality vessels, our balanced approach to vessel employment and our experienced management team, we believe we have a firm foundation for continued strong performance.

As of February 27, 2009, we owned a fleet of 32 drybulk vessels consisting of six Capesize, eight Panamax, four Supramax, six Handymax and eight Handysize vessels, with an aggregate carrying capacity of approximately 2,396,000 dwt. After the expected delivery in 2009 of three Capesize vessels we have agreed to acquire, we will own a fleet of 35 drybulk vessels, consisting of nine Capesize, eight Panamax, four Supramax, six Handymax and eight Handysize vessels, with an aggregate carrying capacity of approximately 2,908,000 dwt.

RATIOS OF EARNINGS TO FIXED CHARGES

The following table sets forth our unaudited historical ratios of earnings to fixed charges for the periods indicated below:

					For the Period
	Nine Months				September 27
	Ended	Year Ended	Year Ended	Year Ended	through
	September 30,	December 31,	December 31,	December 31,	December 31,
	2008	2007	2006	2005	2004
Ratio of earnings to fixed					
charges(1)	5.87x	4.32x	7.33x	4.55x	4.75x

(1)

For the purpose of determining the ratio of earnings to fixed charges, earnings consist of net income plus fixed charges. Fixed charges consist of interest expense on our credit facility, including unused commitment fees and amortization of expenses related to our credit facility.

As we have no preferred stock issued, a ratio of earnings to combined fixed charges and preferred dividends is not presented.

USE OF PROCEEDS

Unless we state otherwise in the applicable prospectus supplement, we expect to use the net proceeds from the sale of the securities for general corporate purposes, including repayment or reduction of long-term and short-term debt, capital expenditures, working capital, and the financing of vessel purchase and other acquisitions and business combinations. We may temporarily invest funds that we do not immediately require in marketable securities.

DESCRIPTION OF DEBT SECURITIES

We may offer secured or unsecured debt securities, which may be convertible. Our debt securities will be issued under an indenture to be entered into between us and a trustee. The debt securities will be structurally subordinated to all existing and future liabilities, including trade payables, of our subsidiaries, and the claims of creditors of those subsidiaries, including trade creditors, will have priority as to the assets and cash flows of those subsidiaries. In addition, any debt securities offered hereby will be effectively subordinated to any outstanding secured debt of ours.

We have summarized certain general features of the debt securities from the indenture. A form of indenture is attached as an exhibit to the registration statement of which this prospectus forms a part. The following description of the terms of the debt securities sets forth certain general terms and

provisions. The particular terms of the debt securities offered by any prospectus supplement and the extent, if any, to which such general provisions may apply to the debt securities, will be described in the related prospectus supplement. Accordingly, for a description of the terms of a particular issue of debt securities, reference must be made to both the related prospectus supplement and to the following description.

General

The aggregate principal amount of debt securities that may be issued under the indenture is unlimited. The debt securities may be issued in one or more series as may be authorized from time to time.

Reference is made to the applicable prospectus supplement for the following terms of the debt securities (if applicable):

title and aggregate principal amount;
whether the securities will be senior or subordinated;
applicable subordination provisions, if any;
conversion or exchange into other securities;
whether securities issued by us will be secured or unsecured, and if secured, what the collateral will consist of;
percentage or percentages of principal amount at which such securities will be issued;
maturity date(s);
interest rate(s) or the method for determining the interest rate(s);
dates on which interest will accrue or the method for determining dates on which interest will accrue and dates on which interest will be payable;
redemption (including upon a "change of control") or early repayment provisions;
authorized denominations;
form;
amount of discount or premium, if any, with which such securities will be issued;
whether such securities will be issued in whole or in part in the form of one or more global securities;

identity of the depositary for global securities;

whether a temporary security is to be issued with respect to such series and whether any interest payable prior to the issuance of definitive securities of the series will be credited to the account of the persons entitled thereto;

the terms upon which beneficial interests in a temporary global security may be exchanged in whole or in part for beneficial interests in a definitive global security or for individual definitive securities;

any covenants applicable to the particular debt securities being issued;

any defaults and events of default applicable to the particular debt securities being issued;

currency, currencies or currency units in which the purchase price for, the principal of and any premium and any interest on, such securities will be payable;

4

time period within which, the manner in which and the terms and conditions upon which the purchaser of the securities can select the payment currency;

securities exchange(s) on which the securities will be listed, if any;

whether any underwriter(s) will act as market maker(s) for the securities;

extent to which a secondary market for the securities is expected to develop;

additions to or changes in the events of default with respect to the securities and any change in the right of the trustee or the holders to declare the principal, premium and interest with respect to such securities to be due and payable;

provisions relating to covenant defeasance and legal defeasance;

provisions relating to satisfaction and discharge of the indenture;

provisions relating to the modification of the indenture both with and without the consent of holders of debt securities issued under the indenture; and

additional terms not inconsistent with the provisions of the indenture.

One or more series of debt securities may be sold at a substantial discount below their stated principal amount, bearing no interest or interest at a rate which at the time of issuance is below market rates. One or more series of debt securities may be variable-rate debt securities that may be exchanged for fixed-rate debt securities.

United States federal income tax consequences and special considerations, if any, applicable to any such series will be described in the applicable prospectus supplement.

Debt securities may be issued where the amount of principal and/or interest payable is determined by reference to one or more currency exchange rates, commodity prices, equity indices or other factors. Holders of such securities may receive a principal amount or a payment of interest that is greater than or less than the amount of principal or interest otherwise payable on such dates, depending upon the value of the applicable currencies, commodities, equity indices or other factors. Information as to the methods for determining the amount of principal or interest, if any, payable on any date, the currencies, commodities, equity indices or other factors to which the amount payable on such date is linked and certain additional United States federal income tax considerations will be set forth in the applicable prospectus supplement.

The term "debt securities" includes debt securities denominated in U.S. dollars or, if specified in the applicable prospectus supplement, in any other freely transferable currency or units based on or relating to foreign currencies.

We expect most debt securities to be issued in fully registered form without coupons and in denominations of \$1,000 and any integral multiples thereof. Subject to the limitations provided in the indenture and in the prospectus supplement, debt securities that are issued in registered form may be transferred or exchanged at the office of the trustee or the principal corporate trust office of the trustee, without the payment of any service charge, other than any tax or other governmental charge payable in connection therewith.

Global Securities

The debt securities of a series may be issued in whole or in part in the form of one or more global securities that will be deposited with, or on behalf of, a depositary (the "depositary") identified in the prospectus supplement. Global securities will be issued in registered form and in either temporary or definitive form. Unless and until it is exchanged in whole or in part for the individual debt securities, a global security may not be transferred except as a whole by the depositary for such global security to a

nominee of such depositary or by a nominee of such depositary to such depositary or another nominee of such depositary or by such depositary or any such nominee to a successor of such depositary or a nominee of such successor. The specific terms of the depositary arrangement with respect to any debt securities of a series and the rights of and limitations upon owners of beneficial interests in a global security will be described in the applicable prospectus supplement.

Governing Law

The indenture and the debt securities shall be construed in accordance with and governed by the laws of the State of New York, without giving effect to any principles thereof relating to conflicts of law that would result in the application of the laws of any other jurisdiction.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the common stock and preferred stock that we may offer under this prospectus. For the complete terms of our common stock and preferred stock, please refer to our amended and restated articles of incorporation and the amendments thereto, and our amended and restated bylaws, each of which are incorporated by reference as exhibits to the registration statement which includes this prospectus. The Business Corporations Act of the Republic of the Marshall Islands, or the BCA, may also affect the terms of these securities. The terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer. The terms of any common stock or preferred stock we offer under a prospectus supplement may differ from the terms we describe below, in which event we will describe the particular terms of any series of these securities in more detail in such prospectus supplement.

Authorized Capitalization

Under our amended and restated articles of incorporation, as of February 27, 2009, our authorized capital stock consists of 100,000,000 shares of common stock, par value \$0.01 per share, of which 31,709,548 shares are issued and outstanding, and 25,000,000 shares of preferred stock, par value \$0.01 per share, of which no shares are issued and outstanding.

Common Stock

Voting Rights

Each outstanding share of common stock entitles the holder to one vote on all matters submitted to a vote of shareholders. Except as required by law and by the terms of any series of preferred stock designated by the board of directors pursuant to our amended and restated articles of incorporation, our common stock has the exclusive right to vote for the election of directors and for all other purposes. Our common stock votes together as a single class.

Dividends

Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of shares of common stock are entitled to receive, ratably, all dividends, if any, declared by our board of directors out of funds legally available for dividends.

Liquidation Rights

Upon our dissolution or liquidation or the sale of all or substantially all our assets, after payment in full of all amounts required to be paid to creditors and to the holders of preferred stock having

liquidation preferences, if any, the holders of our common stock will be entitled to receive, pro rata, our remaining assets available for distribution.

Other Rights

Holders of our common stock do not have conversion, redemption or preemptive rights to subscribe to any of our securities. The rights, preferences and privileges of holders of our common stock are subject to the rights of the holders of any shares of our preferred stock which we may issue in the future.

Transfer Agent

The transfer agent for our common stock is Mellon Investor Services LLC (operating with the service name BNY Mellon Shareowner Services).

Listing

Our common stock is listed on the New York Stock Exchange under the symbol "GNK."

Preferred Stock

Our amended and restated articles of incorporation authorize our board of directors to establish one or more series of preferred stock and to determine, with respect to any series of preferred stock, the terms and rights of that series, including:

the designation of the series;

the number of shares of the series;

the voting rights, if any, of the holders of the series; and

the preferences and relative, participating, optional or other special rights, if any, of the series, and any qualifications, limitations or restrictions applicable to such rights.

A prospectus supplement will describe the terms of any series of preferred stock being offered, including:

the designation of the shares and the number of shares that constitute the series;

the dividend rate (or the method of calculation thereof), if any, on the shares of the series and the priority as to payment of dividends with respect to other classes or series of our capital stock and the payment date of dividends;

the dividend periods (or the method of calculation thereof);

the date from which dividends on the preferred stock shall accumulate, if applicable;

the voting rights of the shares;

the liquidation preference and the priority as to payment of the liquidation preference with respect to other classes or series of our capital stock and any other rights of the shares of the series upon our liquidation or winding-up;

whether the preferred stock will rank senior or junior to or on a parity with any other class or series of preferred stock;

whether or not and on what terms the shares of the series will be subject to redemption or repurchase at our option;

7

whether and on what terms the shares of the series will be convertible into or exchangeable for other securities;

the provision of a sinking fund, if any, for the preferred stock;

whether the shares of the series of preferred stock will be listed on a securities exchange;

the transfer agent for the series of preferred stock;

any special United States federal income tax considerations applicable to the series; and

any other preferences and rights and any qualifications, limitations or restrictions of the preferences and rights of the series.

Limitations on Liability and Indemnification of Officers and Directors

The BCA authorizes corporations to limit or eliminate the personal liability of directors and officers to corporations and their shareholders for monetary damages for breaches of directors' fiduciary duties. Our amended and restated bylaws include a provision that eliminates the personal liability of directors for monetary damages for actions taken as a director to the fullest extent permitted by applicable law.

Our amended and restated bylaws provide that we must indemnify our directors and officers to the fullest extent authorized by applicable law. We are also expressly authorized to advance certain expenses (including attorneys' fees and disbursements and court costs) to our directors and officers and carry directors' and officers' insurance providing indemnification for our directors, officers and certain employees for some liabilities. We believe that these indemnification provisions and insurance are useful to attract and retain qualified directors and executive officers.

The limitation of liability and indemnification provisions in our amended and restated bylaws may discourage shareholders from bringing a lawsuit against directors for breach of their fiduciary duties. These provisions may also have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our shareholders. In addition, your investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

There is currently no pending material litigation or proceeding involving any of our directors, officers or employees for which indemnification is sought.

Anti-takeover Effects of Certain Provisions of Our Amended and Restated Articles of Incorporation and Amended and Restated Bylaws

Several provisions of our amended and restated articles of incorporation and amended and restated bylaws, which are summarized below, may have anti-takeover effects. These provisions are intended to avoid costly takeover battles, lessen our vulnerability to a hostile change of control and enhance the ability of our board of directors to maximize shareholder value in connection with any unsolicited offer to acquire us. However, these anti-takeover provisions, which are summarized below, could also discourage, delay or prevent (1) the merger or acquisition of our company by means of a tender offer, a proxy contest or otherwise that a shareholder may consider in its best interest and (2) the removal of incumbent officers and directors.

Blank Check Preferred Stock

Under the terms of our amended and restated articles of incorporation, our board of directors has the authority, without any further vote or action by our shareholders, to authorize our issuance of up to

25,000,000 shares of blank check preferred stock. Our board of directors may issue shares of preferred stock on terms calculated to discourage, delay or prevent a change of control of our company or the removal of our management.

Classified Board of Directors

Our amended and restated articles of incorporation provide for the division of our board of directors into three classes of directors, with each class as nearly equal in number as possible, serving staggered, three-year terms. Approximately one-third of our board of directors will be elected each year. This classified board provision could discourage a third party from making a tender offer for our shares or attempting to obtain control of us. It could also delay shareholders who do not agree with the policies of our board of directors from removing a majority of our board of directors for up to two years.

Election and Removal of Directors

Our amended and restated articles of incorporation prohibit cumulative voting in the election of directors. Our amended and restated bylaws require parties other than the board of directors to give advance written notice of nominations for the election of directors. Our amended and restated articles of incorporation also provide that our directors may be removed only for cause and only upon the affirmative vote of $66^2/3\%$ of the outstanding shares of our capital stock entitled to vote for those directors or by a majority of the members of the board of directors then in office. These provisions may discourage, delay or prevent the removal of incumbent officers and directors.

Limited Actions by Shareholders

Our amended and restated articles of incorporation and our amended and restated bylaws provide that any action required or permitted to be taken by our shareholders must be effected at an annual or special meeting of shareholders or by the unanimous written consent of our shareholders. Our amended and restated articles of incorporation and our amended and restated bylaws provide that, subject to certain exceptions, our Chairman, President, or Secretary at the direction of the board of directors may call special meetings of our shareholders and the business transacted at the special meeting is limited to the purposes stated in the notice.

Advance Notice Requirements for Shareholder Proposals and Director Nominations

Our amended and restated bylaws provide that shareholders seeking to nominate candidates for election as directors or to bring business before an annual meeting of shareholders must provide timely notice of their proposal in writing to the corporate secretary. Generally, to be timely, a shareholder's notice must be received at our principal executive offices not less than 150 days nor more than 180 days before the date on which we first mailed our proxy materials for the preceding year's annual meeting. Our amended and restated bylaws also specify requirements as to the form and content of a shareholder's notice. These provisions may impede a shareholder's ability to bring matters before an annual meeting of shareholders or make nominations for directors at an annual meeting of shareholders.

Shareholder Rights Plan

General

Each share of our common stock includes one right, or, collectively, the rights, that entitles the holder to purchase from us a unit consisting of one-thousandth of a share of our preferred stock at a purchase price of \$25 per share, subject to specified adjustments. The rights are issued pursuant to a rights agreement between us and Mellon Investor Services LLC, as rights agent. Until a right is

exercised, the holder of a right will have no rights to vote, receive dividends or any other shareholder rights by virtue of its ownership of such right.

The rights may have anti-takeover effects. The rights may cause substantial dilution to any person or group that attempts to acquire us without the approval of our board of directors. As a result, the overall effect of the rights may be to render more difficult or discourage any attempt to acquire us. Because our board of directors can approve a redemption of the rights or a permitted offer, the rights should not interfere with a merger or other business combination approved by our board of directors. The adoption of the rights agreement was approved by our sole shareholder before our initial public offering.

We have summarized the material terms and conditions of the rights agreement and the rights below. For a complete description of the rights, we encourage you to read the rights agreement, which is incorporated by reference as an exhibit to the registration statement of which this prospectus forms a part.

Detachment of the Rights

The rights are attached to all certificates representing our currently outstanding common stock and will attach to all common stock certificates we issue before the rights distribution date or the date on which the rights expire (or thereafter, in certain circumstances). The rights are not exercisable until after the rights distribution date and will expire at the close of business on February 21, 2015, unless we redeem or exchange them earlier as we describe below. The rights will separate from the common stock and a rights distribution date would occur, subject to specified exceptions, on the earlier of the following two dates:

ten days following a public announcement that a person or group of affiliated or associated persons, or an "acquiring person," has acquired or obtained the right to acquire beneficial ownership of 15% or more of our outstanding common stock; or

ten business days following the announcement of a tender or exchange offer that would result, if closed, in a person's becoming an acquiring person.

Oaktree Capital Management, LLC, Peter Georgiopoulos and Fleet Acquisition LLC (so long as it does not acquire beneficial ownership of additional shares of common stock under certain circumstances) are excluded from the definition of "acquiring person" for purposes of the distribution of the rights, and therefore their ownership cannot trigger the distribution of the rights. Specified "inadvertent" owners that would otherwise become an acquiring person, including those who would have this designation as a result of repurchases of common stock by us, will not become acquiring persons as a result of those transactions.

Our board of directors may defer the rights distribution date in some circumstances, and some inadvertent acquisitions will not result in a person becoming an acquiring person if the person promptly divests itself of a sufficient number of shares of common stock.

Until the rights distribution date:

our common stock certificates will evidence the rights, and the rights will be transferable only with those certificates; and

any new common stock will be issued with rights, and new certificates will contain a notation incorporating the rights agreement by reference.

As soon as practicable after the rights distribution date, the rights agent will mail certificates representing the rights to holders of record of our common stock at the close of business on that date. After the rights distribution date, only separate rights certificates will represent the rights.

We will not issue rights with any shares of common stock we issue after the rights distribution date, except as our board of directors may otherwise determine.

Flip-In Event

A "flip-in event" will occur under the rights agreement when a person becomes an acquiring person, as defined above.

If a flip-in event occurs and we do not redeem the rights as described under the heading "Redemption of Rights" below, each right, other than any right that has become void, as we describe below, will become exercisable at the time it is no longer redeemable for the number of shares of common stock, or, in some cases, cash, property or other of our securities, having a current market price equal to two times the exercise price of such right.

When a flip-in event occurs, all rights that then are, or in some circumstances that were, beneficially owned by or transferred to an acquiring person or specified related parties will become void in the circumstances the rights agreement specifies.

Flip-Over Event

A "flip-over event" will occur under the rights agreement when, at any time after a person has become an acquiring person:

we are acquired in a merger or other business combination transaction, subject to limited exceptions; or

50% or more of our assets or earning power is sold or transferred.

If a flip-over event occurs, each holder of a right, other than any right that has become void as we describe under the heading "Flip-In Event" above, will have the right to receive the number of shares of common stock of the acquiring company which has a current market price equal to two times the exercise price of such right.

Anti-Dilution

The number of outstanding rights associated with our common stock is subject to adjustment for any stock split, stock dividend or subdivision, combination or reclassification of our common stock occurring before the rights distribution date. With some exceptions, the rights agreement will not require us to adjust the exercise price of the rights until cumulative adjustments amount to at least 1% of the exercise price. It also will not require us to issue fractional shares of our preferred stock that are not integral multiples of one one-hundred-thousandth of a share of preferred stock and, instead, we may make a cash adjustment based on the market price of the common stock on the last trading date before the date of exercise. The rights agreement reserves to us the right to require before the occurrence of any flip-in event or flip-over event that, on any exercise of rights, a number of rights must be exercised so that we will issue only whole shares of stock.

Redemption of Rights

At any time before the earlier of the date on which a person publicly announces that it has become an acquiring person or the date on which the rights expire, we may redeem the rights in whole, but not in part, at a redemption price of \$0.01 per right. The redemption price is subject to adjustment for any stock split, stock dividend or similar transaction occurring before the date of redemption. At our option, we may pay that redemption price in cash or shares of common stock. The rights are not exercisable after a flip-in event until they are no longer redeemable. The rights will terminate immediately upon ordering the redemption and making the appropriate filing with the rights agent.

Exchange of Rights

We may, at our option, subject to applicable laws, rules and regulations, exchange the rights (other than rights owned by an acquiring person or an affiliate or an associate of an acquiring person, which have become void), in whole or in part. The exchange will be at an exchange ratio of one share of common stock per right, subject to specified adjustments at any time after the occurrence of a flip-in event and before any person becoming the beneficial owner of 50% or more of the shares of common stock then outstanding.

Amendment of Terms of Rights

During the time the rights are redeemable, we may amend any of the provisions of the rights agreement in any way without the approval of the rights holders. Once the rights cease to be redeemable, we generally may amend the provisions of the rights agreement without the approval of the rights holders, only as follows:

to cure any ambiguity, defect or inconsistency;

to make changes that do not materially adversely affect the interests of holders of rights, excluding the interests of any acquiring person; or

to shorten or lengthen any time period under the rights agreement, except that we cannot lengthen the time period governing redemption or any other time period, unless such lengthening is for the purpose of protecting, clarifying or enhancing the rights and benefits of the rights holders (other than an acquiring person).

DESCRIPTION OF RIGHTS

General

We may issue rights to purchase debt securities, shares of common stock, shares of preferred stock, or warrants to purchase common stock or preferred stock. Rights may be issued independently or together with any other offered security and may or may not be transferable by the person purchasing or receiving the rights. In connection with any rights offering to our shareholders, we may enter into a standby underwriting arrangement with one or more underwriters pursuant to which such underwriters will purchase any offered securities remaining unsubscribed for after such rights offering. In connection with a rights offering to our shareholders, we will distribute certificates evidencing the rights and a prospectus supplement to our shareholders on the record date that we set for receiving rights in such rights offering.

The applicable prospectus supplement will describe the following terms of rights in respect of which this prospectus is being delivered:

the title of such rights;
the securities for which such rights are exercisable;
the exercise price for such rights;
the number of such rights issued to each shareholder;
the extent to which such rights are transferable;
if applicable, a discussion of the material United States federal income tax considerations applicable to the issuance or exercise of such rights;

the date on which the right to exercise such rights shall commence, and the date on which such rights shall expire (subject to any extension);

the extent to which such rights include an over-subscription privilege with respect to unsubscribed securities;

if applicable, the material terms of any standby underwriting or other purchase arrangement that we may enter into in connection with the rights offering; and

any other terms of such rights, including terms, procedures and limitations relating to the exchange and exercise of such rights.

Exercise of Rights

Each right will entitle the holder of the right to purchase for cash such amount of debt securities, shares of common stock, shares of preferred stock, warrants or any combination thereof, at such exercise price as shall in each case be set forth in, or be determinable as set forth in, the prospectus supplement relating to the rights offered thereby. Rights may be exercised at any time up to the close of business on the expiration date for such rights set forth in the prospectus supplement. After the close of business on the expiration date, all unexercised rights will become void.

Rights may be exercised as set forth in the prospectus supplement relating to the rights offered thereby. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the prospectus supplement, we will forward, as soon as practicable, the shares of preferred stock or common stock or warrants purchasable upon such exercise. We may determine to offer any unsubscribed offered securities directly to persons other than shareholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby underwriting arrangements, as set forth in the applicable prospectus supplement.

DESCRIPTION OF WARRANTS

We may issue warrants to purchase any of our securities. We may issue warrants independently or together with any other securities offered by any prospectus supplement and the warrants may be attached to or separate from those securities. Each series of warrants will be issued under a separate warrant agreement, to be entered into between us and a warrant agent specified in a prospectus supplement. The warrant agent will act solely as our agent in connection with the warrants of such series and will not assume any obligation or relationship of agency or trust with any of the holders of the warrants. We will set forth further terms of the warrants and the applicable warrant agreements in the applicable prospectus supplement relating to the issuance of any warrants, including, where applicable, the following:

the title of the warrants;
the aggregate number of the warrants;
the number and type of securities purchasable upon exercise of the warrants;
the designation and terms of the securities, if any, with which the warrants are issued and the number of the warrants issued with each such offered security;
the date, if any, on and after which the warrants and the related securities will be separately transferable;
the price at which each security purchasable upon exercise of the warrants may be purchased;
the date on which the right to exercise the warrants will commence and the date on which the right will expire;

the minimum or maximum amount of the warrants which may be exercised at any one time;

any circumstances that will cause the warrants to be deemed to be automatically exercised; and

any other material terms of the warrants.

DESCRIPTION OF UNITS

As specified in the applicable prospectus supplement, we may issue units consisting of one or more debt securities, shares of our preferred stock, shares of our common stock, rights, warrants or any combination of such securities. The applicable prospectus supplement will describe:

the terms of the units and of the debt securities, shares of our preferred stock, shares of our common stock, rights and warrants comprising the units, including whether and under what circumstances the securities comprising the units may be traded separately;

a description of the terms of any unit agreement governing the units; and

a description of the provisions for the payment, settlement, transfer or exchange of the units.

PLAN OF DISTRIBUTION

We may sell the securities to one or more underwriters for public offering and sale by them and may also sell the securities to investors directly or through agents. We will name any underwriter or agent involved in the offer and sale of securities in the applicable prospectus supplement. We have reserved the right to sell or exchange securities directly to investors on our or their own behalf in those jurisdictions where we are authorized to do so.

We may distribute the securities from time to time in one or more transactions:

at a fixed price or prices, which may be changed;

at market prices prevailing at the time of sale;

at prices related to such prevailing market prices; or

at negotiated prices.

The securities may be offered on an exchange, which will be disclosed in the applicable prospectus supplement.

We may also, from time to time, authorize dealers, acting as our agents, to offer and sell securities upon the terms and conditions set forth in the applicable prospectus supplement. In connection with the sale of securities, or the purchasers of securities for whom the underwriters may act as agents, may compensate underwriters in the form of underwriting discounts or commissions. If underwriters or dealers are used in the sale, the securities will be acquired by the underwriters or dealers for their own account and may be resold from time to time in one or more transactions, at a fixed price or prices, which may be changed, or at market prices prevailing at the time of the sale, or at prices related to such prevailing market prices, or at negotiated prices. The securities may be offered to the public either through underwriting syndicates represented by one or more managing underwriters or directly by one or more of such firms. Unless otherwise set forth in the prospectus supplement, the obligations of underwriters or dealers to purchase the securities offered will be subject to certain conditions precedent and the underwriters or

dealers will be obligated to purchase all of the offered securities if any are purchased. Any public offering price and any discounts or concessions allowed or reallowed or paid by underwriters or dealers to other dealers may be changed from time to time.

We will describe in the applicable prospectus supplement any compensation we pay to underwriters or agents in connection with the offering of securities, and any discounts, concessions or commissions

allowed by underwriters to participating dealers. Dealers and agents participating in the distribution of securities may be deemed to be underwriters, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against certain civil liabilities, including liabilities under the Securities Act, and to reimburse these persons for certain expenses.

To the extent that we make sales to or through one or more underwriters or agents in at-the-market offerings, we may do so pursuant to the terms of a distribution agreement between us and the underwriters or agents. If we engage in at-the-market sales pursuant to a distribution agreement, we will issue and sell shares of our common stock to or through one or more underwriters or agents, which may act on an agency basis or on a principal basis. During the term of any such agreement, we may sell shares on a daily basis in exchange transactions or otherwise as we may agree with the underwriters or agents. The distribution agreement will provide that any shares of our common stock sold will be sold at prices related to the then prevailing market prices for our common stock. Therefore, exact figures regarding proceeds that will be raised or commissions to be paid cannot be determined at this time and will be described in a prospectus supplement. Pursuant to the terms of the distribution agreement, we also may agree to sell, and the relevant underwriters or agents may agree to solicit offers to purchase, blocks of our common stock or other securities. The terms of each such distribution agreement will be set forth in more detail in a prospectus supplement to this prospectus. In the event that any underwriter or agent acts as principal, or broker-dealer acts as underwriter, it may engage in certain transactions that stabilize, maintain or otherwise affect the price of our securities. We will describe any such activities in the prospectus supplement relating to the transaction.

We may enter into derivative or other hedging transactions with financial institutions. These financial institutions may in turn engage in sales of our common stock to hedge their position, deliver this prospectus in connection with some or all of those sales and use the shares covered by this prospectus to close out any short position created in connection with those sales. We may pledge or grant a security interest in some or all of our common stock covered by this prospectus to support a derivative or hedging position or other obligation and, if we default in the performance of our or its obligations, the pledgees or secured parties may offer and sell our common stock from time to time pursuant to this prospectus.

To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option, if any. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

Certain of the underwriters, dealers or agents and their associates may engage in transactions with and perform services for us in the ordinary course of our business for which they receive compensation.

LEGAL MATTERS

Kramer Levin Naftalis & Frankel LLP, New York, New York, will provide us with opinions relating to certain matters in connection with offerings under this prospectus from time to time. Reeder & Simpson P.C. will provide us with opinions relating to matters concerning the law of the Republic of the Marshall Islands in connection with offerings under this prospectus.

EXPERTS

The consolidated financial statements incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K and the effectiveness of Genco Shipping & Trading Limited's internal control over financial reporting have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their reports, which are incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the reports of such firm given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and special reports, proxy statements and other information with the Securities and Exchange Commission, or the SEC. You may read and copy such material at the Public Reference Room maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549-1004. Please call the SEC at 1-800-SEC-0330 for more information on the operation of the Public Reference Room. You can also find our SEC filings at the SEC's web site at http://www.sec.gov.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with the SEC, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus, and some information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we will make with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding such documents or portions thereof that are not deemed "filed" under the Exchange Act in accordance with the Exchange Act and applicable SEC rules and regulations):

Our Annual Report on Form 10-K for the year ended December 31, 2007;

Our Quarterly Reports on Form 10-Q for the quarterly periods ended March 31, 2008, June 30, 2008 and September 30, 2008:

Our Current Reports on Form 8-K filed on May 21, 2008, May 22, 2008, June 16, 2008, June 23, 2008, July 17, 2008, September 8, 2008, September 25, 2008, November 4, 2008, November 14, 2008, December 30, 2008, January 12, 2009, January 26, 2009, February 25, 2009, and February 27, 2009 (excluding any information exhibits furnished under either Item 2.02 or Item 7.01 thereof); and

The description of our common stock and the rights associated with our common stock contained in our Registration Statement on Form S-1, Registration No. 333-124718, and our Registration Statement on Form 8-A, File No. 001-33393, filed on April 3, 2007.

We filed a registration statement on Form S-3 to register with the SEC the securities described in this prospectus. This prospectus is part of that registration statement. As permitted by SEC rules, this prospectus does not contain all of the information included in the registration statement and the accompanying exhibits and schedules we file with the SEC. You may refer to the registration statement and the exhibits and schedules for more information about us and our securities. The registration

statement and exhibits and schedules are also available at the SEC's Public Reference Room or through its web site.

You may request a copy of these filings and any or all of the documents referred to above that have been incorporated by reference into this prospectus at no cost, by writing or telephoning us at the following address:

Genco Shipping & Trading Limited 299 Park Avenue, 20th Floor New York, New York 10171

(646) 443-8550

Attn: Investor Relations

You should rely only on the information contained or incorporated in this prospectus or any supplement. We have not authorized anyone else to provide you with different information. You should not rely on any other representations. Our affairs may change after this prospectus or any supplement is distributed. You should not assume that the information in this prospectus or any supplement is accurate as of any date other than the date on the front of those documents. You should read all information supplementing this prospectus.

Table of Contents