

TEEKAY CORP  
Form 20-F  
April 12, 2017  
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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

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FORM 20-F

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(Mark One)

REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) or (g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

ANNUAL REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934  
For the fiscal year ended December 31, 2016

OR

TRANSITION REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

SHELL COMPANY REPORT PURSUANT TO SECTION 13 or 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of event requiring this shell company report

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-12874

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TEEKAY CORPORATION

(Exact name of Registrant as specified in its charter)

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Republic of The Marshall Islands

(Jurisdiction of incorporation or organization)

Not Applicable

(Translation of Registrant's name into English)

4th Floor, Belvedere Building, 69 Pitts Bay Road, Hamilton, HM 08, Bermuda

Telephone: (441) 298-2530

(Address and telephone number of principal executive offices)

Edith Robinson

4th Floor, Belvedere Building, 69 Pitts Bay Road, Hamilton, HM 08, Bermuda

Telephone: (441) 298-2530

Fax: (441) 292-3931

(Name, Telephone, E-mail and/or Facsimile number and Address of Company Contact Person)

Securities registered, or to be registered, pursuant to Section 12(b) of the Act.

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Title of each class	Name of each exchange on which registered
Common Stock, par value of \$0.001 per share	New York Stock Exchange

Securities registered, or to be registered, pursuant to Section 12(g) of the Act.  
None  
Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act.  
None

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Indicate the number of outstanding shares of each issuer's classes of capital or common stock as of the close of the period covered by the annual report.

86,149,975 shares of Common Stock, par value of \$0.001 per share.

Indicate by check mark whether the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes  No

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. Yes  No

Indicate by check mark if the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes  No

Indicate by check mark if the registrant (1) has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes  No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):  
Large Accelerated Filer  Accelerated Filer  Non-Accelerated Filer

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:

U.S. GAAP  International Financial Reporting Standards as issued by the International Accounting Standards Board  Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow: Item 17  Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes  No

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PART I

This annual report of Teekay Corporation on Form 20-F for the year ended December 31, 2016 (or Annual Report) should be read in conjunction with the consolidated financial statements and accompanying notes included in this report.

Unless otherwise indicated, references in this Annual Report to “Teekay,” “the Company,” “we,” “us” and “our” and similar terms refer to Teekay Corporation and its subsidiaries. References in this Annual Report to “Teekay Offshore” refer to Teekay Offshore Partners L.P. (NYSE: TOO), references in this Annual Report to Teekay LNG refer to Teekay LNG Partners L.P. (NYSE: TGP) and references in this Annual Report to Teekay Tankers refer to Teekay Tankers Ltd. (NYSE: TNK).

In addition to historical information, this Annual Report contains forward-looking statements that involve risks and uncertainties. Such forward-looking statements relate to future events and our operations, objectives, expectations, performance, financial condition and intentions. When used in this Annual Report, the words “expect,” “intend,” “plan,” “believe,” “anticipate,” “estimate” and variations of such words and similar expressions are intended to identify forward-looking statements. Forward-looking statements in this Annual Report include, in particular, statements regarding:

- our future financial condition or results of operations and future revenues and expenses;
- our dividend policy and our ability to pay cash dividends on our shares of common stock or any increases in quarterly distributions, and the distribution and dividend policies of our publicly-listed subsidiaries, Teekay Offshore, Teekay LNG and Teekay Tankers (or the Daughter Companies), including the ability to increase the distribution levels of Teekay Offshore and Teekay LNG in the future;
- our future financial condition and results of operations and our future revenues, expenses and capital expenditures, and our expected financial flexibility to pursue capital expenditures, acquisitions and other expansion opportunities; meeting our going concern requirements and our liquidity needs, and the liquidity needs of our Daughter Companies, including our working capital deficit, anticipated funds and sources of financing for liquidity needs and the sufficiency of cash flows, and our estimation that we will have sufficient liquidity for at least the next 12 months;
- our ability to refinance existing debt obligations, raise additional debt and equity capital to fund capital expenditures, negotiate extensions or redeployments of existing assets and sell partial interests in certain assets;
- our plans for Teekay Parent, which excludes our controlling interests in Daughter Companies and includes Teekay and its remaining subsidiaries, not to have a direct ownership in any conventional tankers and floating production, storage and offloading (or FPSO) units, and to increase its free cash flow per share;
- conditions and fundamentals of the markets in which we operate, including the balance of supply and demand in these markets and spot tanker charter rates and oil production;
- the relative size of the newbuilding order book and the pace of future newbuilding orders generally;
- offshore, liquefied natural gas (or LNG) and liquefied petroleum gas (or LPG) market conditions and fundamentals, including the balance of supply and demand in these markets and charter rates;
- the expected lifespan of our vessels, including our expectations as to any impairment of our vessels;
- our future growth prospects;
- the impact of future changes in the demand for and price of oil, and the related effects on the demand for and price of natural gas;
- expected costs, capabilities, delivery dates of and financing for newbuildings, acquisitions and conversions;
- expected employment and trading of older shuttle tankers;
- our ability to maximize the use of our vessels, including the re-deployment or disposition of vessels no longer under long-term time charter or on a short-term charter contract, including, among others, Teekay LNG’s 52% owned vessels, the Magellan Spirit and the Methane Spirit, Teekay LNG’s wholly-owned LNG carrier, the Torben Spirit, and Teekay’s in-chartered Arctic Spirit and Polar Spirit LNG carriers;
- the ability of Tanker Investments Ltd. (or TIL) to benefit from the cyclical tanker market;

- expected financing for Teekay LNG's joint venture (or the Yamal LNG Joint Venture) with China LNG Shipping (Holdings) Limited (or China LNG);
- expected funding of Teekay LNG's proportionate share of the remaining shipyard installment payments for Teekay LNG's joint venture with China LNG, CETS Investment Management (HK) Co. Ltd. and BW LNG Investments Pte. Ltd. (or the BG Joint Venture);
- the cost of supervision and crew training in relation to the BG Joint Venture, and our expected recovery of a portion of those costs;
- the exercise of any counterparty's rights to terminate a lease, or to obligate us to purchase a leased vessel, or failure to exercise such rights, including the rights under the leases and charters for two of Teekay LNG's Suezmax tankers;
- our expectations regarding the ability of I.M. Skaugen SE (or Skaugen) and our other customers to make charter payments to us, and the ability of our customers to fulfill purchase obligations at the end of charter contracts, including obligations relating to two of Teekay LNG's LNG carriers completing charters in 2017 and 2018;



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the future resumption of a LNG plant in Yemen operated by Yemen LNG Company Limited (or YLNG), the expected repayment of deferred hire amounts on Teekay LNG's two 52% owned vessels, the Marib Spirit and Arwa Spirit, on charter to YLNG, and the expected reduction to Teekay LNG's equity income in 2017 as a result of the charter payment deferral;

- our expectations regarding the financing, schedule and performance of the receiving and regasification terminal in Bahrain, which will be owned and operated by a new joint venture, Bahrain LNG W.L.L., owned by Teekay LNG (30%), National Oil & Gas Authority (or Nogaholding) (30%), Gulf Investment Corporation (or GIC) (24%), and Samsung C&T (or Samsung) (16%) (or the Bahrain LNG Joint Venture), and our expectations regarding the supply, modification and charter of the floating storage unit (or FSU) vessel for the project;

- our expectations regarding the completion by Teekay LNG of the acquisition of the joint venture between Skaugen (35%), Nogaholding (35%) and Suffun Bahrain W.L.L. (or Suffun) (30%) (or the Skaugen LPG Joint Venture);

- the future valuation or impairment of goodwill;

- our expectations and estimates regarding future charter business, with respect to minimum charter hire payments, revenues and our vessels' ability to perform to specifications and maintain their hire rates in the future;

- future debt refinancings, including pre-arranged financings, and our ability to fulfill our debt obligations;

- compliance with financing agreements and the expected effect of restrictive covenants in such agreements;

- the ability of OOG-TK Libra GmbH & Co KG (or the Libra joint venture) to drawdown on its \$804 million long-term facility for the new FPSO unit conversion for the Libra field and to obtain further cross default waivers from its lenders;

- operating expenses, availability of crew and crewing costs, number of off-hire days, dry-docking requirements and durations and the adequacy and cost of insurance;

- the effectiveness of our risk management policies and procedures and the ability of the counterparties to our derivative contracts to fulfill their contractual obligations;

- the impact of recent and future regulatory changes or environmental liabilities;

- the impact of, and our ability to comply with, new and existing governmental regulations and maritime self-regulatory organization standards applicable to our business, including the expected cost to install ballast water treatment systems on our vessels in compliance with the International Marine Organization (or IMO) proposals;

- the outcome and cost of claims and potential claims against us, including claims and potential claims by Sevan Marine ASA (or Sevan), CeFront Technology AS (or CeFront) and COSCO (Nantong) Shipyard (or COSCO) relating to Logitel Offshore Holding AS (or Logitel) and cancellation of Units for Maintenance and Safety (or UMS) newbuildings, by Petroleo Brasileiro S.A. (or Petrobras) associated with the Piranema Spirit FPSO and by Royal Dutch Shell Plc (or Shell) associated with the Petrojarl Knarr FPSO and by Transocean Offshore International Ventures Limited (or Transocean) associated with the ALP Forward;

- the outcome of the investigation into allegations of improper payments by one of our subsidiaries to Brazilian agents;

- the outcome of discussions with Petrobras, the charterer on the Arendal Spirit UMS, including the timing and certainty of the unit returning to operation, and expected revenues from the unit;

- certainty of completion, estimated delivery and completion dates, commencement of charter, intended financing and estimated costs for newbuildings, acquisitions, conversions and upgrades, including the towing and offshore installation vessel newbuildings, conversion of the Randgrid to a floating storage and off-take (or FSO) unit to serve the Gina Krog oil and gas field, conversion of the Libra FPSO unit to serve the Libra field, the upgrade of the Petrojarl I FPSO unit and shuttle tanker newbuildings;

- the timing of the new shuttle tanker contract of affreightment (or CoA) contracts and the number of shuttle tankers to serve these new CoAs;

- the ability of Teekay Offshore to grow its long-distance ocean towage and offshore installation services business;

- expected uses of proceeds from vessel or securities transactions;

- the expectations as to the chartering of unchartered vessels, including towage newbuildings and the HiLoad DP unit;

- the impact of our cost saving initiatives;

- our entering into joint ventures or partnerships with companies;
- our expectations regarding whether the UK taxing authority can successfully challenge the tax benefits available under certain of our former and current leasing arrangements, and the potential financial exposure to us if such a challenge is successful;
- our hedging activities relating to foreign exchange, interest rate and spot market risks, and the effects of fluctuations in foreign exchange, interest rate and spot market rates on our business and results of operations;
- the potential impact of new accounting guidance; and
- our business strategy and other plans and objectives for future operations.

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Forward-looking statements involve known and unknown risks and are based upon a number of assumptions and estimates that are inherently subject to significant uncertainties and contingencies, many of which are beyond our control. Actual results may differ materially from those expressed or implied by such forward-looking statements. Important factors that could cause actual results to differ materially include, but are not limited to, those factors discussed below in “Item 3. Key Information—Risk Factors” and other factors detailed from time to time in other reports we file with the U.S. Securities and Exchange Commission (or SEC).

We do not intend to revise any forward-looking statements in order to reflect any change in our expectations or events or circumstances that may subsequently arise. You should carefully review and consider the various disclosures included in this Annual Report and in our other filings made with the SEC that attempt to advise interested parties of the risks and factors that may affect our business, prospects and results of operations.

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Item 1. Identity of Directors, Senior Management and Advisors

Not applicable.

Item 2. Offer Statistics and Expected Timetable

Not applicable.

Item 3. Key Information

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## Selected Financial Data

Set forth below is selected consolidated financial and other data of Teekay for fiscal years 2012 through 2016, which have been derived from our consolidated financial statements. The data below should be read in conjunction with the consolidated financial statements and the notes thereto and the Reports of the Independent Registered Public Accounting Firm thereon with respect to fiscal years in the three-year period ended December 31, 2016 (which are included herein) and “Item 5. Operating and Financial Review and Prospects.”

Our consolidated financial statements are prepared in accordance with United States generally accepted accounting principles (or GAAP).

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands of U.S. Dollars, except share, per share, and fleet data)				
<b>Income Statement Data:</b>					
Revenues	\$2,328,569	\$2,450,382	\$1,993,920	\$1,830,085	\$1,980,771
Income (loss) from vessel operations <sup>(1)</sup>	384,290	625,132	427,159	62,746	(150,393 )
Interest expense	(282,966 )	(242,469 )	(208,529 )	(181,396 )	(167,615 )
Interest income	4,821	5,988	6,827	9,708	6,159
Realized and unrealized (loss) gain on non-designated derivative instruments	(35,091 )	(102,200 )	(231,675 )	18,414	(80,352 )
Equity income	85,639	102,871	128,114	136,538	79,211
Foreign exchange (loss) gain	(6,548 )	(2,195 )	13,431	(13,304 )	(12,898 )
Other (loss) income	(39,013 )	1,566	(1,152 )	5,646	366
Income tax (expense) recovery	(24,468 )	16,767	(10,173 )	(2,872 )	14,406
Net income (loss)	86,664	405,460	124,002	35,480	(311,116 )
Less: Net (income) loss attributable to non-controlling interests	(209,846 )	(323,309 )	(178,759 )	(150,218 )	150,936
Net (loss) income attributable to shareholders of Teekay Corporation	(123,182 )	82,151	(54,757 )	(114,738 )	(160,180 )
<b>Per Common Share Data:</b>					
Basic (loss) income attributable to shareholders of Teekay Corporation	(1.62 )	1.13	(0.76 )	(1.63 )	(2.31 )
Diluted (loss) income attributable to shareholders of Teekay Corporation	(1.62 )	1.12	(0.76 )	(1.63 )	(2.31 )
Cash dividends declared	0.2200	1.7325	1.2650	1.2650	1.2650
<b>Balance Sheet Data (at end of year):</b>					
Cash and cash equivalents	\$567,994	\$678,392	\$806,904	\$614,660	\$639,491
Restricted cash	237,248	176,437	119,351	502,732	533,819
Vessels and equipment	9,138,886	9,366,593	8,106,247	7,351,144	7,321,058
Net investments in direct financing leases	660,594	684,129	704,953	727,262	436,601
Total assets	12,814,752	13,061,248	11,779,690	11,506,393	10,959,125
Total debt (including capital lease obligations)	7,032,385	7,443,213	6,715,526	6,658,491	6,154,388
Capital stock and additional paid-in capital	887,075	775,018	770,759	713,760	681,933
Non-controlling interest	3,189,928	2,782,049	2,290,305	2,071,262	1,876,085

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Total equity	4,089,293	3,701,074	3,388,633	3,203,050	3,191,474	
Number of outstanding shares of common stock	86,149,975	72,711,371	72,500,502	70,729,399	69,704,188	
Other Financial Data:						
Net revenues <sup>(2)</sup>	\$2,190,230	\$2,334,595	\$1,866,073	\$1,717,867	\$1,842,488	
EBITDA <sup>(3)</sup>	961,102	1,134,674	758,781	641,126	291,832	
Adjusted EBITDA <sup>(3)</sup>	1,268,668	1,393,696	1,037,284	817,382	830,676	
Total debt to total capitalization <sup>(4)</sup>	63.2	% 66.8	% 66.5	% 67.5	% 65.9	%
Net debt to total net capitalization <sup>(5)</sup>	60.4	% 64.0	% 63.1	% 63.4	% 60.9	%
Capital expenditures:						
Expenditures for vessels and equipment	\$648,326	\$1,795,901	\$994,931	\$753,755	\$523,597	

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(1) Income (loss) from vessel operations includes, among other things, the following:

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands of U.S. Dollars)				
Asset impairments and net (loss) gain on sale of vessels, equipment and other operating assets	\$ (112,246)	\$ (70,175)	\$ 11,271	\$ (166,358)	\$ (441,057)
Unrealized losses on derivative instruments	—	—	—	(130 )	(660 )
Restructuring charges	(26,811 )	(14,017 )	(9,826 )	(6,921 )	(7,565 )
	\$ (139,057)	\$ (84,192)	\$ 1,445	\$ (173,409)	\$ (449,282)

Net revenues is a non-GAAP financial measure. consistent with general practice in the shipping industry, we use net revenues (defined as revenues less voyage expenses) as a measure of equating revenues generated from voyage charters to revenues generated from time charters, which assists us in making operating decisions about the deployment of our vessels and their performance. Under time charters, the charterer pays the voyage expenses, which are all expenses unique to a particular voyage, including any bunker fuel expenses, port fees, cargo loading and unloading expenses, canal tolls, agency fees and commissions, whereas under voyage-charter contracts the ship-owner pays these expenses. Some voyage expenses are fixed, and the remainder can be estimated. If we, as the ship-owner, pay the voyage expenses, we typically pass the approximate amount of these expenses on to our (2) customers by charging higher rates under the contract or billing the expenses to them. As a result, although revenues from different types of contracts may vary, the net revenues after subtracting voyage expenses, which we call “net revenues,” are comparable across the different types of contracts. We principally use net revenues because it provides more meaningful information to us than revenues, the most directly comparable GAAP financial measure. Net revenues are also widely used by investors and analysts in the shipping industry for comparing financial performance between companies and to industry averages. Net revenue should not be considered as an alternative to revenue or any other measure of financial performance in accordance with GAAP. Net revenue is adjusted for expenses that we classify as voyage expenses and, therefore, may not be comparable to similarly titled measures of other companies. The following table reconciles net revenues with revenues.

	Years Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands of U.S. Dollars)				
Revenues	\$ 2,328,569	\$ 2,450,382	\$ 1,993,920	\$ 1,830,085	\$ 1,980,771
Voyage expenses	(138,339 )	(115,787 )	(127,847 )	(112,218 )	(138,283 )
Net revenues	\$ 2,190,230	\$ 2,334,595	\$ 1,866,073	\$ 1,717,867	\$ 1,842,488

EBITDA and Adjusted EBITDA are non-GAAP financial measures. EBITDA represents earnings before interest, taxes, depreciation and amortization. Adjusted EBITDA represents EBITDA before restructuring charges, unrealized foreign exchange (gain) loss, items included in other loss (income), asset impairments, loan loss provisions, net loss (gain) on sale of vessels and equipment, amortization of in-process revenue contracts, (3) unrealized losses (gains) on derivative instruments, realized losses on interest rate swaps, realized losses on interest rate swap amendments and terminations, write-down of equity accounted investments, and our share of the above items in non-consolidated joint ventures which are accounted for using the equity method of accounting. EBITDA and Adjusted EBITDA are used as supplemental financial measures by management and by external users of our financial statements, such as investors, as discussed below.

Financial and operating performance. EBITDA and Adjusted EBITDA assist our management and security holders by increasing the comparability of our fundamental performance from period to period and against the fundamental performance of other companies in our industry that provide EBITDA or Adjusted EBITDA-based information. This increased comparability is achieved by excluding the potentially disparate effects between periods or companies of interest expense, taxes, depreciation or amortization (or other items in determining Adjusted EBITDA), which items are affected by various and possibly changing financing methods, capital structure and historical cost basis and which items may significantly affect net income between periods. We believe that including EBITDA and Adjusted EBITDA as financial and operating measures benefits security holders in (a) selecting between investing in us and

other investment alternatives and (b) monitoring our ongoing financial and operational strength and health in order to assess whether to continue to hold our equity, or debt securities, as applicable.

Liquidity. EBITDA and Adjusted EBITDA allow us to assess the ability of assets to generate cash sufficient to service debt, pay dividends and undertake capital expenditures. By eliminating the cash flow effect resulting from our existing capitalization and other items such as dry-docking expenditures, working capital changes and foreign currency exchange gains and losses (which may vary significantly from period to period), EBITDA and Adjusted EBITDA provide consistent measures of our ability to generate cash over the long term. Management uses this information as a significant factor in determining (a) our proper capitalization structure (including assessing how much debt to incur and whether changes to our capitalization should be made) and (b) whether to undertake material capital expenditures and how to finance them, all in light of our dividend policy. Use of EBITDA and Adjusted EBITDA as liquidity measures also permits security holders to assess the fundamental ability of our business to generate cash sufficient to meet our financial and operational needs, including dividends on shares of our common stock and repayments under debt instruments.

Neither EBITDA nor Adjusted EBITDA should be considered as an alternative to net income, operating income, cash flow from operating activities or any other measure of financial performance or liquidity presented in accordance with GAAP. EBITDA and Adjusted EBITDA exclude some, but not all, items that affect net income and operating income, and these measures may vary among other companies. Therefore, EBITDA and Adjusted EBITDA as presented below may not be comparable to similarly titled measures of other companies.

The following table reconciles our historical consolidated EBITDA and Adjusted EBITDA to net income (loss), and our historical consolidated Adjusted EBITDA to net operating cash flow.



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	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands of U.S. Dollars)				
<b>Income Statement Data:</b>					
<b>Reconciliation of EBITDA and Adjusted EBITDA to Net Income (Loss)</b>					
Net income (loss)	\$86,664	\$405,460	\$124,002	\$35,480	\$(311,116)
Income tax expense (recovery)	24,468	(16,767 )	10,173	2,872	(14,406 )
Depreciation and amortization	571,825	509,500	422,904	431,086	455,898
Interest expense, net of interest income	278,145	236,481	201,702	171,688	161,456
EBITDA	961,102	1,134,674	758,781	641,126	291,832
Restructuring charges	26,811	14,017	9,826	6,921	7,565
Foreign exchange loss (gain) <sup>(a)</sup>	6,548	2,195	(13,431 )	13,304	12,898
Items included in other loss (income) <sup>(b) (c)</sup>	42,401	—	7,699	—	—
Asset impairments and net loss (gain) on sale of vessels, equipment and other operating assets	112,246	70,175	(11,271 )	166,358	441,057
Amortization of in-process revenue contracts	(28,109 )	(30,085 )	(40,939 )	(61,700 )	(72,933 )
Unrealized (gains) losses on derivative instruments	(69,401 )	(38,319 )	100,496	(178,731)	(29,658 )
Realized losses on interest rate swaps	87,320	108,036	125,424	122,439	123,277
Realized losses on interest rate swap amendments and terminations	8,140	10,876	1,319	35,985	—
Write-downs related to equity-accounted investments	2,357	—	—	—	1,767
Adjustments relating to equity income <sup>(d)</sup>	119,253	122,127	99,380	71,680	54,871
Adjusted EBITDA	1,268,668	1,393,696	1,037,284	817,382	830,676
<b>Reconciliation of Adjusted EBITDA to net operating cash flow</b>					
Net operating cash flow	620,120	770,309	446,317	292,584	288,936
Expenditures for dry docking	45,964	68,380	74,379	72,205	35,023
Interest expense, net of interest income	278,145	236,481	201,702	171,688	161,456
Change in non-cash working capital items related to operating activities	(38,333 )	12,291	(60,631 )	(64,184 )	115,209
Equity income (loss), net of dividends received	47,563	(3,203 )	94,726	121,144	65,639
Other items <sup>(b) (c)</sup>	73,685	54,382	44,842	(13,080 )	(21,300 )
Restructuring charges	26,811	14,017	9,826	6,921	7,565
Realized losses on interest rate swaps	87,320	108,036	125,424	122,439	123,277
Realized losses on interest rate swap resets and terminations	8,140	10,876	1,319	35,985	—
Adjustments relating to equity income <sup>(d)</sup>	119,253	122,127	99,380	71,680	54,871
Adjusted EBITDA	1,268,668	1,393,696	1,037,284	817,382	830,676

Foreign exchange loss (gain) excludes the unrealized gain of \$75.0 million in 2016 (2015 - loss of \$89.2 million, (a) 2014 - loss of \$167.3 million, 2013 - loss of \$65.4 million and 2012 - gain of \$10.7 million) on cross currency swaps, which is incorporated in unrealized (gains) losses on derivative instruments in the table above.

In June 2016, as part of its financing initiatives, Teekay Offshore canceled the construction contracts for its two UMS newbuildings. As a result, Teekay Offshore accrued for potential damages resulting from the cancellations and reversed contingent liabilities previously recorded that were relating to the delivery of the UMS newbuildings. (b) This net loss provision of \$23.4 million for the year ended December 31, 2016 is reported in Other (loss) income in our consolidated statements of income. The newbuilding contracts are held in Teekay Offshore's separate subsidiaries and obligations of these subsidiaries are non-recourse to Teekay Offshore. For additional information, please read Item 18 - Financial Statements: Note 15d Commitments and Contingencies.

(c) The Company holds investments at cost. During the year ended December 31, 2016, the Company recorded a write-down of these investments of \$19.0 million.

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Adjustments relating to equity income, which is a non-GAAP measure, should not be considered as an alternative to equity income or any other measure of financial performance or liquidity presented in accordance with GAAP. Adjustments relating to equity income exclude some, but not all, items that affect equity income and these measures may vary among other companies. Therefore, adjustments relating to equity income as presented in this Annual Report may not be comparable to similarly titled measures of other companies. When using Adjusted EBITDA as a measure of liquidity it should be noted that this measure includes the Adjusted EBITDA from our (d)equity accounted for investments. We do not have control over the operations, nor do we have any legal claim to the revenue and expenses of our equity accounted for investments. Consequently, the cash flow generated by our equity accounted for investments may not be available for use by us in the period generated. Equity income from equity accounted investments is adjusted for income tax expense (recovery), depreciation and amortization, interest expense net of interest income, foreign exchange loss (gain), amortization of in-process revenue contracts, and unrealized and realized (gains) losses on derivative instruments. Adjustments relating to equity income from our equity accounted investments are as follows:

	Year Ended December 31,				
	2016	2015	2014	2013	2012
	(in thousands of U.S. Dollars)				
Depreciation and amortization	69,781	69,103	61,367	56,188	25,589
Interest expense, net of interest income	45,584	47,799	42,713	37,863	26,622
Income tax expense (recovery)	724	476	(188 )	(21 )	87
Amortization of in-process revenue contracts	(5,482 )	(7,153 )	(8,295 )	(14,173 )	(11,083)
Foreign currency exchange loss (gain)	132	(527 )	(441 )	709	(18 )
Asset impairments and net loss (gain) on sale of vessels, equipment and other operating assets	4,763	(7,472 )	(16,923)	—	—
Realized and unrealized loss (gain) on derivative instruments	3,075	15,027	21,147	(8,886 )	13,674
Other	676	4,874	—	—	—
Adjustments relating to equity income	119,253	122,127	99,380	71,680	54,871

(4) Total capitalization represents total debt and total equity.

(5) Net debt is a non-GAAP financial measure. Net debt represents total debt less cash, cash equivalents and restricted cash. Total net capitalization represents net debt and total equity.

#### Risk Factors

Some of the following risks relate principally to the industry in which we operate and to our business in general. Other risks relate principally to the securities market and to ownership of our common stock. The occurrence of any of the events described in this section could materially and adversely affect our business, financial condition, operating results and ability to pay interest or principal or dividends on, and the trading price of our public debt and common stock.

Changes in the oil and natural gas markets could result in decreased demand for our vessels and services.

Demand for our vessels and services in transporting, production and storage of oil, petroleum products, LNG and LPG depend upon world and regional oil, petroleum and natural gas markets. Any decrease in shipments of oil, petroleum products, LNG or LPG in those markets could have a material adverse effect on our business, financial condition and results of operations. Historically, those markets have been volatile as a result of the many conditions and events that affect the price, production and transport of oil, petroleum products, LNG or LPG, and competition from alternative energy sources. A slowdown of the U.S. and world economies may result in reduced consumption of oil, petroleum products and natural gas and decreased demand for our vessels and services, which would reduce vessel earnings. A continuation of the recent significant declines in oil prices may adversely affect our growth prospects and results of operations.

Global crude oil prices have significantly declined since mid-2014. The significant decline in oil prices has also contributed to depressed natural gas prices. A continuation of lower oil prices or a further decline in oil prices may adversely affect our business, results of operations and financial condition and our ability to make cash distributions, as a result of, among other things:

a reduction in exploration for or development of new offshore oil fields, or the delay or cancelation of existing offshore projects as energy companies lower their capital expenditures budgets, which may reduce our growth opportunities;

a reduction in or termination of production of oil at certain fields we service, which may reduce our revenues under volume-based contracts of affreightment, production-based components of our FPSO unit contracts or life-of-field contracts;

a reduction in both the competitiveness of natural gas as a fuel for power generation and the market price of natural gas, to the extent that natural gas prices are benchmarked to the price of crude oil;

lower demand for vessels of the types we own and operate, which may reduce available charter rates and revenue to us upon redeployment of our vessels, in particular FPSO units, following expiration or termination of existing contracts or upon the initial chartering of vessels, or which may result in extended periods of our vessels being idle between contracts;

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- customers potentially seeking to renegotiate or terminate existing vessel contracts, failing to extend or renew contracts upon expiration, or seeking to negotiate cancelable contracts;
- the inability or refusal of customers to make charter payments to us, including purchase obligations at the end of certain charter contracts, due to financial constraints or otherwise; or
- declines in vessel values, which may result in losses to us upon vessel sales or impairment charges against our earnings.

Current market conditions limit our access to capital and our growth.

We have relied primarily upon bank financing and debt and equity offerings, primarily by our Daughter Companies, to fund our growth. Current market conditions generally in the energy sector and for master limited partnerships have significantly reduced our and our Daughter Companies' access to capital, particularly equity capital, compared to periods prior to mid-2014. Debt financing and refinancing are more challenging to obtain and terms are less attractive to us. Issuing additional common equity given current market conditions is more dilutive and costly than it has been in the past. Lack of access to debt or equity capital at reasonable rates would adversely affect our growth prospects and our ability to refinance debt and make distributions to our equityholders.

The ability of us and our Daughter Companies to repay or refinance debt obligations and to fund capital expenditures will depend on certain financial, business and other factors, many of which are beyond our control. We and our Daughter Companies will need to obtain additional financing, which financing may limit our and their ability to make cash dividends and distributions, increase our or their financial leverage and result in dilution to our or their equityholders.

To fund existing and future debt obligations and capital expenditures of us and our Daughter Companies and to meet the minimum liquidity requirements under the financial covenants in our or their credit facilities, we and they will be required to obtain additional sources of financing, in addition to amounts generated from operations. These anticipated sources of financing include: raising additional capital through equity issuances; refinancing and increasing amounts available under various loan facilities of Teekay Tankers, Teekay LNG and Teekay Offshore; negotiating new secured debt financings related to vessels under construction or other unencumbered operating vessels for Teekay Tankers, Teekay LNG and Teekay Offshore; and, for Teekay Offshore, negotiating extensions or redeployments of existing assets and the sale of partial interests in certain assets.

The ability of us and our Daughter Companies to obtain external financing may be limited by our and their financial condition at the time of any such financing as well as by adverse market conditions in general. Even if we or our Daughter Companies are successful in obtaining necessary funds, the terms of such financings could limit our or their ability to pay cash dividends or distributions to security holders or operate our or their businesses as currently conducted. In addition, incurring additional debt may significantly increase interest expense and financial leverage, and issuing additional equity securities may result in significant equityholder dilution and would increase the aggregate amount of cash required to maintain quarterly dividends and distributions. The sale of certain assets will reduce cash from operations and the cash available for distribution to equityholders. For more information on our and our Daughter Companies' liquidity requirements, please read "Item 18 - Financial Statements: Note 15 (c) - Commitments and Contingencies - Liquidity."

We have guaranteed significant debt and derivatives of certain of our Daughter Companies, and will be directly obligated to make related payments if the Daughter Companies default in their payment obligations.

We have guaranteed obligations pursuant to certain credit facilities of Teekay Tankers and Teekay Offshore. As at December 31, 2016, the aggregate outstanding balance on such credit facilities was \$150.0 million and \$364.0 million, respectively. We have also guaranteed obligations, up to a maximum of \$387.0 million, pursuant to certain interest rate swaps and cross currency swaps of Teekay Offshore. As at December 31, 2016, the estimated fair value of these interest rate swaps and cross currency swaps, capped at the maximum guarantee obligation, was a liability of \$241.3 million. If Teekay Tankers or Teekay Offshore default in paying these obligations, we will be obligated to make the required payments.

Our cash flow depends substantially on the ability of our subsidiaries, primarily our Daughter Companies, to make distributions to us. Our Daughter Companies, Teekay Offshore and Teekay LNG, have significantly reduced their

distribution levels.

The source of our cash flow includes cash distributions from our subsidiaries, primarily Teekay Offshore and Teekay LNG. The amount of cash our subsidiaries can distribute to us principally depends upon the amount of distributions declared by each of their board of directors and the amount of cash they generate from their operations.

Effective for the quarterly distribution of the fourth quarter of 2015, we reduced our quarterly cash dividend per share to \$0.055 from \$0.55, Teekay Offshore reduced its quarterly cash distribution per common unit to \$0.11 from \$0.56 and Teekay LNG reduced its quarterly cash distribution per common unit to \$0.14 from \$0.70. At the time these changes were made, there was a dislocation in the capital markets relative to the stability of our businesses. More specifically, the future equity capital requirements for our committed growth projects, coupled with the relative weakness in energy and capital markets, resulted in our conclusion that it would be in the best interests of our shareholders to conserve more of our internally generated cash flows to fund committed existing growth projects and to reduce debt levels. We, Teekay Offshore and Teekay LNG each maintained these reduced dividend and distribution levels throughout 2016. These distribution reductions by Teekay Offshore and Teekay LNG substantially reduced our cash flows from them, including by currently eliminating any distributions on our incentive distribution rights in such Daughter Companies.

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The amount of cash our subsidiaries generate from their operations may fluctuate from quarter to quarter based on, among other things:

- the rates they obtain from their charters, voyages and contracts;
- the price and level of production of, and demand for, crude oil, LNG and LPG, including the level of production at the offshore oil fields our subsidiaries service under contracts of affreightment;
- the operating performance of our FPSO units, whereby receipt of incentive-based revenue from our FPSO units is dependent upon the fulfillment of the applicable performance criteria;
- the level of their operating costs, such as the cost of crews and repairs and maintenance;
- the number of off-hire days for their vessels and the timing of, and number of days required for, dry docking of vessels;
- the rates, if any, at which our subsidiaries may be able to redeploy shuttle tankers in the spot market as conventional oil tankers during any periods of reduced or terminated oil production at fields serviced by contracts of affreightment;
- the rates, if any, at which our subsidiaries may be able to redeploy vessels, particularly FPSO units, after they complete their charters or contracts and are redelivered to us;
- the rates, if any, and ability, at which our subsidiaries may be able to contract our newbuilding vessels, including our newbuilding towage vessels;
- delays in the delivery of any newbuildings or vessels undergoing conversion or upgrades and the beginning of payments under charters relating to those vessels;
- prevailing global and regional economic and political conditions;
- currency exchange rate fluctuations; and
- the effect of governmental regulations and maritime self-regulatory organization standards on the conduct of business.

The actual amount of cash our subsidiaries have available for distribution also depends on other factors such as:

- the level of their capital expenditures, including for maintaining vessels or converting existing vessels for other uses and complying with regulations;
- their debt service requirements and restrictions on distributions contained in their debt agreements, including financial ratio covenants which may indirectly restrict loans, distributions or dividends;
- fluctuations in their working capital needs;
- their ability to make working capital borrowings; and
- the amount of any cash reserves, including reserves for future maintenance capital expenditures, working capital and other matters, established by the boards of directors of our Daughter Companies at their discretion.

The amount of cash our subsidiaries generate from operations may differ materially from their profit or loss for the period, which will be affected by non-cash items and the timing of debt service payments. As a result of this and the other factors mentioned above, our subsidiaries may make cash distributions during periods when they record losses and may not make cash distributions during periods when they record net income.

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The prices of our common stock and other securities have been, and are likely to continue to be, volatile. Periods of market volatility may increase the risk of a securities litigation claim, regardless of merit. We have been named as a defendant in a pending securities class action lawsuit relating to our common shares.

Following our announcement in December 2015 that our Board of Directors had reduced our quarterly dividend to \$0.055 per share for the fourth quarter of 2015 dividend payable in February 2016, down from a dividend of \$0.55 per share in the third quarter of 2015, and the subsequent decline of the price of our common stock, a class action complaint was filed on March 1, 2016 in the U.S. District Court for the District of Connecticut against us and certain of our officers. As a result of our motion to transfer the action, the case was transferred to the U.S. District Court for the Western District of Washington on November 18, 2016. The lead plaintiff in the action filed an Amended Class Action Complaint on January 13, 2017. The Amended Complaint includes claims that we and certain of our officers violated Section 10(b) of the U.S. Securities and Exchange Act of 1934, as amended (or the Exchange Act) and Rule 10b-5 promulgated thereunder. The Amended Complaint alleges that we and certain of our officers violated federal securities laws by making materially false and misleading statements regarding our ability and intention to increase our future dividends beyond the initial dividend increase to \$0.55 per share that we announced in September 2014 and first declared in the second quarter of 2015, thereby artificially inflating the price of our common stock. The lead plaintiff is seeking unspecified monetary damages, including reasonable costs and expenses incurred in this action. We are vigorously defending against the claims. We filed our motion to dismiss the Amended Complaint on March 14, 2017. The motion to dismiss will be fully briefed and ready for consideration by the Court on June 14, 2017. Based on the current stage of this action and our evaluation of the facts available at this time, the amount or range of reasonably possible losses to which we are exposed cannot be estimated and the ultimate resolution of this matter and the associated financial impact to us, if any, remains uncertain at this time. We maintain a Directors and Officers insurance policy that provides a fixed amount of coverage for such claims, subject to coverage defenses, and a deductible to be paid by us. Regardless of the outcome of claims of this type, the defense of such claims may cause us to incur substantial costs, divert resources and the attention of management from our business, and adversely affect our business.

The cyclical nature of the tanker industry may lead to volatile changes in charter rates and significant fluctuations in the utilization of our vessels, which may adversely affect our earnings and profitability.

Historically, the tanker industry has been cyclical, experiencing volatility in profitability due to changes in the supply of and demand for tanker capacity and changes in the supply of and demand for oil and oil products. The cyclical nature of the tanker industry may cause significant increases or decreases in the revenue we earn from our vessels and may also cause significant increases or decreases in the value of our vessels. If the tanker market is depressed, our earnings may decrease, particularly with respect to the conventional tanker vessels owned by Teekay Tankers, which accounted for approximately 22% and 21% of our net revenues during 2016 and 2015, respectively. These vessels are primarily employed on the spot-charter market, which is highly volatile and fluctuates based upon tanker and oil supply and demand. Declining spot rates in a given period generally will result in corresponding declines in operating results for that period. The successful operation of our vessels in the spot-charter market depends upon, among other things, obtaining profitable spot charters and minimizing, to the extent possible, time spent waiting for charters and time spent traveling unladen to pick up cargo. Future spot rates may not be sufficient to enable our vessels trading in the spot tanker market to operate profitably or to provide sufficient cash flow to service our debt obligations. The factors affecting the supply of and demand for tankers are outside of our control, and the nature, timing and degree of changes in industry conditions are unpredictable.

Factors that influence demand for tanker capacity include:

- demand for oil and oil products;
- supply of oil and oil products;
- regional availability of refining capacity;
- global and regional economic and political conditions;
- the distance oil and oil products are to be moved by sea; and



- changes in seaborne and other transportation patterns.

Factors that influence the supply of tanker capacity include:

- the number of newbuilding deliveries;
- the scrapping rate of older vessels;
- conversion of tankers to other uses;
- the number of vessels that are out of service; and
- environmental concerns and regulations.

Changes in demand for transportation of oil over longer distances and in the supply of tankers to carry that oil may materially affect our revenues, profitability and cash flows.

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Reduction in oil produced from offshore oil fields could harm our shuttle tanker and FPSO businesses.

As at December 31, 2016, we had 30 vessels operating in our shuttle tanker fleet, nine FPSO units operating in our FPSO fleet (of which one is operating in a joint venture), one FPSO unit undergoing an upgrade and one 50% owned FPSO unit undergoing a conversion. Certain of our shuttle tankers and our FPSO units earn revenue that depends upon the volume of oil we transport or the volume of oil produced from offshore oil fields. Oil production levels are affected by several factors, all of which are beyond our control, including:

- geologic factors, including general declines in production that occur naturally over time;
- the rate of technical developments in extracting oil and related infrastructure and implementation costs; and
- operator decisions based on revenue compared to costs from continued operations.

Factors that may affect an operator's decision to initiate or continue production include: changes in oil prices; capital budget limitations; the availability of necessary drilling and other governmental permits; the availability of qualified personnel and equipment; the quality of drilling prospects in the area; and regulatory changes. In addition, the volume of oil we transport may be adversely affected by extended repairs to oil field installations or suspensions of field operations as a result of oil spills, operational difficulties, strikes, employee lockouts or other labor unrest. The rate of oil production at fields we service may decline from existing or future levels, and may be terminated, all of which could harm our business and operating results. In addition, if such a reduction or termination occurs, the spot tanker market rates, if any, in the conventional oil tanker trades at which we may be able to redeploy the affected shuttle tankers may be lower than the rates previously earned by the vessels under contracts of affreightment, which would also harm our business and operating results.

The redeployment risk of FPSO units is high given their lack of alternative uses and significant costs.

FPSO units are specialized vessels that have very limited alternative uses and high fixed costs. In addition, FPSO units typically require substantial capital investments prior to being redeployed to a new field and production service agreement. These factors increase the redeployment risk of FPSO units. Unless extended, seven of our FPSO production service agreements will expire during the next five years. Our clients may also terminate certain of our FPSO production service agreements prior to their expiration under specified circumstances. Any idle time prior to the commencement of a new contract or our inability to redeploy the vessels at acceptable rates may have an adverse effect on our business and operating results.

The duration of many of our shuttle tanker, FSO and FPSO contracts is the life of the relevant oil field or is subject to extension by the field operator or vessel charterer. If the oil field no longer produces oil or is abandoned or the contract term is not extended, we will no longer generate revenue under the related contract and will need to seek to redeploy affected vessels.

Many of our shuttle tanker contracts have a "life-of-field" duration, which means that the contract continues until oil production at the field ceases. If production at a field terminates or a field is abandoned for any reason, we no longer will generate revenue under the related contract. Other shuttle tanker, FSO and FPSO contracts under which our vessels operate are subject to extensions beyond their initial term. The likelihood of these contracts being extended may be negatively affected by reductions in oil field reserves, low oil prices generally or other factors. If we are unable to promptly redeploy any affected vessels at rates at least equal to those under the contracts, if at all, our operating results will be harmed. Any potential redeployment may not be under long-term contracts, which may affect the stability of our business and operating results.

Charter rates for conventional oil and product tankers and towage vessels may fluctuate substantially over time and may be lower when we are attempting to re-charter these vessels, which could adversely affect our operating results. Any changes in charter rates for LNG or LPG carriers, shuttle tankers, FSO or FPSO units, or UMS could also adversely affect redeployment opportunities for those vessels.

Our ability to re-charter our conventional oil and product tankers following expiration of existing time-charter contracts and the rates payable upon any renewal or replacement charters will depend upon, among other things, the state of the conventional tanker market. Conventional oil and product tanker trades are highly competitive and have experienced significant fluctuations in charter rates based on, among other things, oil, refined petroleum product and

vessel demand. For example, an oversupply of conventional oil tankers can significantly reduce their charter rates. Our ability to charter our towage vessels will depend, among other things, on the state of the towage market. Towage contracts are highly competitive and are based on the level of projects undertaken by the customer base. There also exists some volatility in charter rates for LNG and LPG carriers, shuttle tankers, FSO and FPSO units, and UMS, which could also adversely affect redeployment opportunities for those vessels.

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Over time, the value of our vessels may decline, which could adversely affect our operating results. Vessel values for oil and product tankers, LNG and LPG carriers, UMS, and FPSO and FSO units can fluctuate substantially over time due to a number of different factors, including:

- prevailing economic conditions in oil and energy markets;
- a substantial or extended decline in demand for oil or natural gas;
- increases in the supply of vessel capacity;
- competition from more technologically advanced vessels;
- the cost of retrofitting or modifying existing vessels, as a result of technological advances in vessel design or equipment, changes in applicable environmental or other regulations or standards, or otherwise; and
- a decrease in oil reserves in the fields and other fields in which our FPSO units or other vessels might otherwise be deployed.

Vessel values may decline from existing levels. If operation of a vessel is not profitable, or if we cannot redeploy a chartered vessel at attractive rates upon charter termination, rather than continue to incur costs to maintain and finance the vessel, we may seek to dispose of it. Our inability to dispose of the vessel at a fair market value or the disposition of the vessel at a fair market value that is lower than its book value could result in a loss on its sale and adversely affect our results of operations and financial condition. Further, if we determine at any time that a vessel's future useful life and earnings require us to impair its value on our financial statements, we may need to recognize a significant charge against our earnings. We recognized asset impairment charges of \$46 million, \$68 million and \$nil in 2016, 2015, 2014, respectively, and net (loss) gain on sale of assets of \$(66) million, \$(2) million and \$9 million in 2016, 2015 and 2014, respectively.

Declining market values of our vessels could adversely affect our liquidity and result in breaches of our financing agreements.

Market values of vessels fluctuate depending upon general economic and market conditions affecting relevant markets and industries and competition from other shipping companies and other modes of transportation. In addition, as vessels become older, they generally decline in value. Declining vessel values could adversely affect our liquidity by limiting our ability to raise cash by refinancing vessels. Declining vessel values could also result in a breach of loan covenants and events of default under certain of our credit facilities that require us to maintain certain loan-to-value ratios. If we are unable to pledge additional collateral in the event of a decline in vessel values, the lenders under these facilities could accelerate our debt and foreclose on our vessels pledged as collateral for the loans. As of December 31, 2016, the total outstanding debt under credit facilities with this type of loan-to-value covenant tied to conventional tanker, towage, UMS and shuttle tanker values was \$1,405.9 million, tied to FPSO values was \$640.2 million and tied to LNG carrier values was \$127.8 million. We have eleven financing arrangements that require us to maintain vessel value to outstanding loan principal balance ratios ranging from 105% to 125%. At December 31, 2016, we were in compliance with these required ratios.

Our growth depends on continued growth in demand for LNG and LPG, and LNG and LPG shipping, as well as offshore oil transportation, production, processing and storage services.

A significant portion of our growth strategy focuses on continued expansion in the LNG and LPG shipping sectors and on expansion in the FPSO, shuttle tanker, and FSO sectors.

Expansion of the LNG and LPG shipping sectors depends on growth in world and regional demand for LNG and LPG and marine transportation of LNG and LPG, as well as the supply of LNG and LPG. Demand for LNG and LPG and for the marine transportation of LNG and LPG could be negatively affected by a number of factors, such as:

- increases in the cost of natural gas derived from LNG relative to the cost of natural gas generally;
- increases in the cost of LPG relative to the cost of naphtha and other competing petrochemicals;
- increases in the production of natural gas in areas linked by pipelines to consuming areas, the extension of existing, or the development of new, pipeline systems in markets we may serve, or the conversion of existing

non-natural gas pipelines to natural gas pipelines in those markets;  
decreases in the consumption of natural gas due to increases in its price relative to other energy sources or other factors making consumption of natural gas less attractive;  
additional sources of natural gas, including shale gas;  
availability of alternative energy sources; and  
negative global or regional economic or political conditions, particularly in LNG and LPG consuming regions, which could reduce energy consumption or its rate of growth.

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Reduced demand for LNG or LPG and LNG or LPG shipping could have a material adverse effect on future growth of Teekay LNG, and could harm its results. Growth of the LNG and LPG markets may be limited by infrastructure constraints and community and environmental group resistance to new LNG and LPG infrastructure over concerns about the environment, safety and terrorism. If the LNG or LPG supply chain is disrupted or does not continue to grow, or if a significant LNG or LPG explosion, spill or similar incident occurs, it could have a material adverse effect on demand for LNG or LPG and could harm our business, results of operations and financial condition.

Expansion of the FPSO, shuttle tanker, FSO, and towing sectors depends on continued growth in world and regional demand for these offshore services, which could be negatively affected by a number of factors, such as:

- decreases in the actual or projected price of oil, which could lead to a reduction in or termination of production of oil at certain fields we service, delays or cancellations of projects under development or a reduction in exploration for or development of new offshore oil fields;
- increases in the production of oil in areas linked by pipelines to consuming areas, the extension of existing, or the development of new, pipeline systems in markets we may serve, or the conversion of existing non-oil pipelines to oil pipelines in those markets;
- decreases in the consumption of oil due to increases in its price relative to other energy sources, other factors making consumption of oil less attractive or energy conservation measures;
- availability of new, alternative energy sources; and
- negative global or regional economic or political conditions, particularly in oil consuming regions, which could reduce energy consumption or its growth.

Reduced demand for offshore marine transportation, production, processing, storage services, offshore accommodation or towing and offshore installation would have a material adverse effect on our future growth and could harm our business, results of operations and financial condition.

The intense competition in our markets may lead to reduced profitability or reduced expansion opportunities. Our vessels operate in highly competitive markets. Competition arises primarily from other vessel owners, including major oil companies and independent companies. We also compete with owners of other size vessels. Our market share is insufficient to enforce any degree of pricing discipline in the markets in which we operate and our competitive position may erode in the future. Any new markets that we enter could include participants that have greater financial strength and capital resources than we have. We may not be successful in entering new markets.

One of our objectives is to enter into additional long-term, fixed-rate charters for our LNG and LPG carriers, shuttle tankers, UMS, FPSO and FSO units. The process of obtaining new long-term time charters is highly competitive and generally involves an intensive screening process and competitive bids, and often extends for several months. We expect competition for providing services for potential gas and offshore projects from other experienced companies, including state-sponsored entities. Our competitors may have greater financial resources than us. This increased competition may cause greater price competition for charters. As a result of these factors, we may be unable to expand our relationships with existing customers or to obtain new customers on a profitable basis, if at all, which would have a material adverse effect on our business, results of operations and financial condition.

The loss of any key customer or its inability to pay for our services could result in a significant loss of revenue in a given period.

We have derived, and believe that we will continue to derive, a significant portion of our revenues from a limited number of customers. Two customers, international oil companies, accounted for an aggregate of 29%, or \$653.6 million of our consolidated revenues during 2016 (2015 – two customers for 21%, or \$495.2 million, 2014 – two customers for 24%, or \$488.0 million). During these periods, no other customer accounted for over 10% of our revenues for the applicable period. The loss of any significant customer or a substantial decline in the amount of services requested by a significant customer, or the inability of a significant customer to pay for our services, could

have a material adverse effect on our business, financial condition and results of operations.

We could lose a customer or the benefits of a contract if:

- the customer fails to make payments because of its financial inability, disagreements with us or otherwise;
- we agree to reduce the payments due to us under a contract because of the customer's inability to continue making the original payments;
- the customer exercises certain rights to terminate the contract; or
- the customer terminates the contract because we fail to deliver the vessel within a fixed period of time, the vessel is lost or damaged beyond repair, there are serious deficiencies in the vessel or prolonged periods of off-hire, or we default under the contract.

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In early-November 2016, the Arendal Spirit UMS experienced an operational incident relating to its dynamic positioning system. As a result of this operational incident, and a gangway incident that occurred in April 2016, the charterer, Petrobras, initiated an operational review. Until the results of the review are available, Petrobras has suspended its charter hire payments since November 2016. Teekay Offshore completed an investigation to identify the cause of such incidents and have implemented corrective actions. There is a risk that Petrobras may seek to cancel the charter contract resulting from their operational review. If this occurs, the term loan outstanding for the Arendal Spirit UMS, which as at December 31, 2016 had a balance of \$127.5 million, could become payable within 180 days of a cancellation. Teekay Offshore is working to address Petrobras' concerns to bring the unit back into operations as soon as possible. Should the contract be cancelled, it could result in a reclassification of \$112.5 million of long-term debt to the current portion of long-term debt unless Teekay Offshore is able to obtain an extension from the lenders. A cancellation of the charter contract or demand for repayment of the loan would adversely affect our result of operations, financial condition and liquidity.

If we lose a key customer, we may be unable to obtain replacement long-term charters or contracts of affreightment and may increase our exposure, with respect to any shuttle tankers redeployed on conventional oil tanker trades, to the volatile spot market, which is highly competitive and subject to significant price fluctuations. If a customer exercises its right under some charters to purchase the vessel, or terminate the charter, we may be unable to acquire an adequate replacement vessel or charter. Any replacement newbuilding would not generate revenues during its construction and we may be unable to charter any replacement vessel on terms as favorable to us as those of the terminated charter.

The loss of any of our significant customers or a reduction in revenues from them could have a material adverse effect on our business, results of operations and financial condition and our ability to pay dividends and service our debt. Future adverse economic conditions, including disruptions in the global credit markets, could adversely affect our business, financial condition and results of operations.

Economic downturns and financial crises in the global markets could produce illiquidity in the capital markets, market volatility, increased exposure to interest rate and credit risks and reduced access to capital markets. If global financial markets and economic conditions significantly deteriorate in the future, we may face restricted access to the capital markets or bank lending, which may make it more difficult and costly to fund future growth. Decreased access to such resources could have a material adverse effect on our business, financial condition and results of operations.

Future adverse economic conditions or other developments may affect our customers' ability to charter our vessels and pay for our services and may adversely affect our business and results of operations.

Future adverse economic conditions or other developments relating directly to our customers may lead to a decline in our customers' operations or ability to pay for our services, which could result in decreased demand for our vessels and services. Our customers' inability to pay for any reason could also result in their default on our current contracts and charters. The decline in the amount of services requested by our customers or their default on our contracts with them could have a material adverse effect on our business, financial condition and results of operations.

Our operations are subject to substantial environmental and other regulations, which may significantly increase our expenses.

Our operations are affected by extensive and changing international, national and local environmental protection laws, regulations, treaties and conventions in force in international waters, the jurisdictional waters of the countries in which our vessels operate, as well as the countries of our vessels' registration, including those governing oil spills, discharges to air and water, and the handling and disposal of hazardous substances and wastes. Many of these requirements are designed to reduce the risk of oil spills and other pollution. In addition, we believe that the heightened environmental, quality and security concerns of insurance underwriters, regulators and charterers will lead to additional regulatory requirements, including enhanced risk assessment and security requirements and greater inspection and safety requirements on vessels. We expect to incur substantial expenses in complying with these laws and regulations, including expenses for vessel modifications and changes in operating procedures.



These requirements can affect the resale value or useful lives of our vessels, require a reduction in cargo capacity, ship modifications or operational changes or restrictions, lead to decreased availability of insurance coverage for environmental matters or result in the denial of access to certain jurisdictional waters or ports, or detention in, certain ports. Under local, national and foreign laws, as well as international treaties and conventions, we could incur material liabilities, including cleanup obligations, in the event that there is a release of petroleum or other hazardous substances from our vessels or otherwise in connection with our operations. We could also become subject to personal injury or property damage claims relating to the release of or exposure to hazardous materials associated with our operations. In addition, failure to comply with applicable laws and regulations may result in administrative and civil penalties, criminal sanctions or the suspension or termination of our operations, including, in certain instances, seizure or detention of our vessels. For further information about regulations affecting our business and related requirements on us, please read “Item 4. Information on the Company—B. Operations—Regulations.”

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We may be unable to make or realize expected benefits from acquisitions, and implementing our long-term strategy of growth through acquisitions may harm our financial condition and performance.

A principal component of our long-term strategy is to continue to grow by expanding our business both in the geographic areas and markets where we have historically focused as well as into new geographic areas, market segments and services. We may not be successful in expanding our operations and any expansion may not be profitable. Our long-term strategy of growth through acquisitions involves business risks commonly encountered in acquisitions of companies, including:

- interruption of, or loss of momentum in, the activities of one or more of an acquired company's businesses and our businesses;
- additional demands on members of our senior management while integrating acquired businesses, which would decrease the time they have to manage our existing business, service existing customers and attract new customers;
- difficulties integrating the operations, personnel and business culture of acquired companies;
- difficulties coordinating and managing geographically separate organizations;
- adverse effects on relationships with our existing suppliers and customers, and those of the companies acquired;
- difficulties entering geographic markets or new market segments in which we have no or limited experience; and
- loss of key officers and employees of acquired companies.

Acquisitions may not be profitable to us at the time of their completion and may not generate revenues sufficient to justify our investment. In addition, our acquisition growth strategy exposes us to risks that may harm our results of operations and financial condition, including risks that we may: fail to realize anticipated benefits, such as cost-savings, revenue and cash flow enhancements and earnings accretion; decrease our liquidity by using a significant portion of our available cash or borrowing capacity to finance acquisitions; incur additional indebtedness, which may result in significantly increased interest expense or financial leverage, or issue additional equity securities to finance acquisitions, which may result in significant shareholder dilution; incur or assume unanticipated liabilities, losses or costs associated with the business acquired; or incur other significant charges, such as impairment of goodwill or other intangible assets, asset devaluation or restructuring charges.

Unlike newbuildings, existing vessels typically do not carry warranties as to their condition. While we generally inspect existing vessels prior to purchase, such an inspection would normally not provide us with as much knowledge of a vessel's condition as we would possess if it had been built for us and operated by us during its life. Repairs and maintenance costs for existing vessels are difficult to predict and may be substantially higher than for vessels we have operated since they were built. These costs could decrease our cash flow and reduce our liquidity.

The strain that growth places upon our systems and management resources may harm our business.

Our growth has placed, and we believe it will continue to place, significant demands on our management, operational and financial resources. As we expand our operations, we must effectively manage and monitor operations, control costs and maintain quality and control in geographically dispersed markets. In addition, our three publicly-traded subsidiaries and TIL have increased the complexity of our operations and placed additional demands on our management. Any future joint venture, partnering or other similar transactions may further increase our complexity and demands on our management. Our future growth and financial performance will also depend on our ability to recruit, train, manage and motivate our employees to support our expanded operations and continue to improve our customer support, financial controls and information systems.

These efforts may not be successful and may not occur in a timely or efficient manner. Failure to effectively manage our growth and transitions in systems and procedures required by expansion in a cost-effective manner could have a material adverse effect on our business.

Our insurance may not be sufficient to cover losses that may occur to our property or as a result of our operations. The operation of oil and product tankers, lightering vessels, LNG and LPG carriers, FPSO and FSO units, UMS, towage vessels, and the HiLoad DP unit is inherently risky. Although we carry hull and machinery (marine and war

risk) and protection and indemnity insurance, all risks may not be adequately insured against, and any particular claim may not be paid. In addition, with the exception of the Petrojarl Knarr FPSO unit and Libra FPSO unit, we do not generally carry insurance on our vessels covering the loss of revenues resulting from vessel off-hire time, based on its cost compared to our off-hire experience. Any significant off-hire time of our vessels could harm our business, operating results and financial condition. Any claims relating to our operations covered by insurance would be subject to deductibles, and since it is possible that a large number of claims may be brought, the aggregate amount of these deductibles could be material. Certain of our insurance coverage is maintained through mutual protection and indemnity associations and as a member of such associations we may be required to make additional payments over and above budgeted premiums if member claims exceed association reserves.

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We may be unable to procure adequate insurance coverage at commercially reasonable rates in the future. For example, more stringent environmental regulations have led in the past to increased costs for, and in the future may result in the lack of availability of, insurance against risks of environmental damage or pollution. A catastrophic oil spill, marine disaster or natural disaster could result in losses that exceed our insurance coverage, which could harm our business, financial condition and operating results. Any uninsured or underinsured loss could harm our business and financial condition. In addition, our insurance may be voidable by the insurers as a result of certain of our actions, such as our ships failing to maintain certification with applicable maritime regulatory organizations.

Changes in the insurance markets attributable to terrorist attacks, environmental catastrophes or political changes may also make certain types of insurance more difficult for us to obtain. In addition, the insurance that may be available may be significantly more expensive than our existing coverage.

Past port calls by our vessels, or third-party vessels from which we derived pooling revenues, to countries that are subject to sanctions imposed by the United States and the European Union may impact investors' decisions to invest in our securities.

The United States has imposed sanctions on Syria and Sudan. The United States and the European Union (or EU) also had imposed sanctions on trade with Iran. The EU lifted these sanctions in January 2016. At that time, the U.S. lifted its secondary sanctions on Iran which applied to foreign persons, but has retained its primary sanctions which apply to U.S. entities and their foreign subsidiaries. In the past, conventional oil tankers owned or chartered-in by us, or third-party vessels participating in commercial pooling arrangements from which we derive revenue, made limited port calls to those countries for the loading and discharging of oil products. Those port calls did not violate U.S. or EU sanctions at the time and we intend to maintain our compliance with all U.S. and EU sanctions. In addition, we have no future contracted loadings or discharges in any of those countries and intend not to enter into voyage charter contracts for the transport of oil or gas to or from Iran, Syria or Sudan. We believe that our compliance with these sanctions and our lack of any future port calls to those countries does not and will not adversely impact our revenues, because port calls to these countries have never accounted for any material amount of our revenues. However, some investors might decide not to invest in us simply because we have previously called on, or through our participation in pooling arrangements have previously received revenue from calls on, ports in these sanctioned countries. Any such investor reaction could adversely affect the market for our common shares.

Marine transportation and oil production is inherently risky, and an incident involving significant loss of or environmental contamination by any of our vessels could harm our reputation and business.

Our vessels and their cargoes are at risk of being damaged or lost because of events such as:

- marine disaster;
- bad weather or natural disasters;
- mechanical failures;
- grounding, fire, explosions and collisions;
- piracy;
- human error; and
- war and terrorism.

An accident involving any of our vessels could result in any of the following:

- death or injury to persons, loss of property or environmental damage or pollution;
- delays in the delivery of cargo;
- loss of revenues from or termination of charter contracts;
- governmental fines, penalties or restrictions on conducting business;
- higher insurance rates; and
- damage to our reputation and customer relationships generally.

Any of these results could have a material adverse effect on our business, financial condition and operating results. Our operating results are subject to seasonal fluctuations.

We operate our conventional tankers in markets that have historically exhibited seasonal variations in demand and, therefore, in charter rates. This seasonality may result in quarter-to-quarter volatility in our results of operations. Tanker markets are typically stronger in the winter months as a result of increased oil consumption in the Northern Hemisphere. In addition, unpredictable weather patterns in these months tend to disrupt vessel scheduling, which historically has increased oil price volatility and oil trading activities in the winter months. As a result, our revenues have historically been weaker during the fiscal quarters ended June 30 and September 30, and stronger in our fiscal quarters ended March 31 and December 31.

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Due to harsh winter weather conditions, oil field operators in the North Sea typically schedule oil platform and other infrastructure repairs and maintenance during the summer months. Because the North Sea is our primary existing offshore oil market, this seasonal repair and maintenance activity contributes to quarter-to-quarter volatility in our results of operations, as oil production typically is lower in the fiscal quarters ended June 30 and September 30 in this region compared with production in the fiscal quarters ended March 31 and December 31. Because a number of our North Sea shuttle tankers operate under contracts of affreightment, under which revenue is based on the volume of oil transported, the results of our shuttle tanker operations in the North Sea under these contracts generally reflect this seasonal production pattern. When we redeploy affected shuttle tankers as conventional oil tankers while platform maintenance and repairs are conducted, the overall financial results for our North Sea shuttle tanker operations may be negatively affected if the rates in the conventional oil tanker markets are lower than the contract of affreightment rates. In addition, we seek to coordinate some of the general dry-docking schedule of our fleet with this seasonality, which may result in lower revenues and increased dry-docking expenses during the summer months.

We expend substantial sums during construction of newbuildings and the conversion of tankers to FPSO or FSO units without earning revenue and without assurance that they will be completed.

We are typically required to expend substantial sums as progress payments during construction of a newbuilding or vessel conversion, but we do not derive any revenue from the vessel until after its delivery. In addition, under some of our time charters if our delivery of a vessel to a customer is delayed, we may be required to pay liquidated damages in amounts equal to or, under some charters, almost double the hire rate during the delay. For prolonged delays, the customer may terminate the time charter and, in addition to the resulting loss of revenues, we may be responsible for additional substantial liquidated charges.

Our newbuilding financing commitments typically have been pre-arranged. However, if we are unable to obtain financing required to complete payments on any of our newbuilding orders, we could effectively forfeit all or a portion of the progress payments previously made. As of December 31, 2016, we had on order 19 LNG carriers, four LPG carriers, three shuttle tankers, one FSO conversion, one FPSO conversion, one FPSO upgrade and three long-distance towing and offshore installation vessels. These newbuildings and conversion and upgrade projects are scheduled for delivery or completion between 2017 and 2020. As of December 31, 2016, progress payments made towards these newbuildings, excluding payments made by our joint venture partners, totaled \$1.3 billion.

In addition, conversion of tankers to FPSO and FSO units exposes us to a numbers of risks, including lack of shipyard capacity and the difficulty of completing the conversions in a timely and cost effective manner. During conversion of a vessel, we do not earn revenue from it. In addition, conversion projects may not be successful.

We make substantial capital expenditures to expand the size of our fleet. Depending on whether we finance our expenditures through cash from operations or by incurring debt or issuing equity securities, our financial leverage could increase or our shareholders could be diluted.

We regularly evaluate and pursue opportunities to provide the marine transportation requirements for various projects, and we have recently submitted bids to provide transportation solutions for LNG and LPG, towage, FPSO and FSO projects. We may submit additional bids from time to time. The award process relating to LNG and LPG transportation, FPSO and FSO opportunities typically involves various stages and takes several months to complete. If we bid on and are awarded contracts relating to any LNG and LPG, FPSO and FSO projects, we will need to incur significant capital expenditures to build the related LNG and LPG carriers, FPSO and FSO units.

To fund the remaining portion of existing or future capital expenditures, we will be required to use existing liquidity, cash from operations or incur borrowings or raise capital through the incurrence of debt or issuance of additional equity, debt or hybrid securities. Our ability to obtain bank financing or to access the capital markets for future offerings may be limited by our financial condition at the time of any such financing or offering 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 necessary future capital expenditures

could have a material adverse effect on our business, results of operations and financial condition. Even if we are successful in obtaining necessary funds, incurring additional debt may significantly increase our interest expense and financial leverage, which could limit our financial flexibility and ability to pursue other business opportunities. Issuing additional equity securities may result in significant shareholder dilution and would increase the aggregate amount of cash required to pay quarterly dividends.

Exposure to currency exchange rate and interest rate fluctuations results in fluctuations in our cash flows and operating results.

Substantially all of our revenues are earned in U.S. Dollars, although we are paid in Euros, Australian Dollars, Norwegian Kroner and British Pounds under some of our charters. A portion of our operating costs are incurred in currencies other than U.S. Dollars. This partial mismatch in operating revenues and expenses leads to fluctuations in net income due to changes in the value of the U.S. Dollar relative to other currencies, in particular the Norwegian Kroner, the British Pound, the Euro, Singapore Dollar, Australian Dollar, and Canadian Dollar. We also make payments under two Euro-denominated term loans. If the amount of these and other Euro-denominated obligations exceeds our Euro-denominated revenues, we must convert other currencies, primarily the U.S. Dollar, into Euros. An increase in the strength of the Euro relative to the U.S. Dollar would require us to convert more U.S. Dollars to Euros to satisfy those obligations.

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Because we report our operating results in U.S. Dollars, changes in the value of the U.S. Dollar relative to other currencies also result in fluctuations of our reported revenues and earnings. Under U.S. accounting guidelines, all foreign currency-denominated monetary assets and liabilities, such as cash and cash equivalents, accounts receivable, restricted cash, accounts payable, accrued liabilities, advances from affiliates and long-term debt are revalued and reported based on the prevailing exchange rate at the end of the applicable period. This revaluation historically has caused us to report significant unrealized foreign currency exchange gains or losses each period. The primary source of these gains and losses is our Euro-denominated term loans and our Norwegian Kroner-denominated bonds. We have entered into foreign currency forward contracts to economically hedge portions of our forecasted expenditures denominated in Norwegian Kroner. We also incur interest expense on our Norwegian Kroner-denominated bonds. We have entered into cross-currency swaps to economically hedge the foreign exchange risk on the principal and interest payments of our Norwegian Kroner-denominated bonds.

Many of our seafaring employees are covered by collective bargaining agreements and the failure to renew those agreements or any future labor agreements may disrupt operations and adversely affect our cash flows.

A significant portion of our seafarers are employed under collective bargaining agreements. We may become subject to additional labor agreements in the future. We may suffer labor disruptions if relationships deteriorate with the seafarers or the unions that represent them. Our collective bargaining agreements may not prevent labor disruptions, particularly when the agreements are being renegotiated. Salaries are typically renegotiated annually or bi-annually for seafarers and annually for onshore operational staff and may increase our cost of operation. Any labor disruptions could harm our operations and could have a material adverse effect on our business, results of operations and financial condition.

We and certain of our joint venture partners may be unable to attract and retain qualified, skilled employees or crew necessary to operate our business.

Our success depends in large part on our ability to attract and retain highly skilled and qualified personnel. In crewing our vessels, we require technically skilled employees with specialized training who can perform physically demanding work. Any inability we experience in the future to hire, train and retain a sufficient number of qualified employees could impair our ability to manage, maintain and grow our business.

Terrorist attacks, piracy, increased hostilities, political change or war could lead to further economic instability, increased costs and disruption of business.

Terrorist attacks, piracy and the current or future conflicts in the Middle East and elsewhere, and political change, may adversely affect our business, operating results, financial condition, and ability to raise capital and future growth.

Continuing hostilities in the Middle East and elsewhere may lead to additional armed conflicts or to further acts of terrorism and civil disturbance in the United States or elsewhere, which may contribute to economic instability and disruption of oil production and distribution, which could result in reduced demand for our services and have an adverse impact on our operations and or our ability to conduct business.

In addition, oil facilities, shipyards, vessels, pipelines and oil fields could be targets of future terrorist attacks and warlike operations and our vessels could be targets of pirates, hijackers, terrorists or warlike operations. Any such attacks could lead to, among other things, bodily injury or loss of life, vessel or other property damage, increased vessel operational costs, including insurance costs, and the inability to transport oil to or from certain locations.

Terrorist attacks, war, piracy, hijacking or other events beyond our control that adversely affect the distribution, production or transportation of oil to be shipped by us could entitle customers to terminate charters, which would harm our cash flow and business.

Acts of piracy on ocean-going vessels continue to be a risk, which could adversely affect our business.

Acts of piracy have historically affected ocean-going vessels trading in regions of the world such as the South China Sea, Gulf of Guinea and the Indian Ocean off the coast of Somalia. While there continues to be a significant risk of piracy incidents in the Gulf of Aden and Indian Ocean, recently there have been increases in the frequency and severity of piracy incidents off the coast of West Africa and a resurgent piracy risk in the Straits of Malacca and surrounding waters. If these piracy attacks result in regions in which our vessels are deployed being named on the Joint War Committee Listed Areas, war risk insurance premiums payable for such coverage can increase significantly



and such insurance coverage may be more difficult to obtain. In addition, crew costs, including costs which may be incurred to the extent we employ on-board armed security guards and escort vessels, could increase in such circumstances. We may not be adequately insured to cover losses from these incidents, which could have a material adverse effect on us. In addition, hijacking as a result of an act of piracy against our vessels, or an increase in cost or unavailability of insurance for our vessels, could have a material adverse impact on our business, financial condition and results of operations.

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Our and many of our customers' substantial operations outside the United States expose us to political, governmental and economic instability, which could harm our operations.

Because our operations, and the operations of certain of our customers, are primarily conducted outside of the United States, they may be affected by economic, political and governmental conditions in the countries where we engage in business, including Brazil, or where our vessels are registered. Any disruption caused by these factors could harm our business, including by reducing the levels of oil exploration, development and production activities in these areas. We derive some of our revenues from shipping oil and gas from politically and economically unstable regions. Conflicts in these regions have included attacks on ships and other efforts to disrupt shipping. Hostilities, strikes, or other political or economic instability in regions where we operate or where we may operate could have a material adverse effect on the growth of our business, results of operations and financial condition and ability to make cash distributions. In addition, tariffs, trade embargoes and other economic sanctions by the United States or other countries against countries in which we operate or to which we trade could harm our business and ability to make cash distributions. Finally, a government could requisition one or more of our vessels, which is most likely during war or national emergency. Any such requisition would cause a loss of the vessel and could harm our cash flow and financial results.

Two vessels owned by the Teekay LNG-Marubeni Joint Venture, the Marib Spirit and Arwa Spirit, are currently under long-term contracts expiring in 2029 with YLNG, a consortium led by Total SA. Due to the political situation in Yemen, YLNG decided to temporarily close operation of its LNG plant in Yemen in 2015. As a result, the Teekay LNG-Marubeni Joint Venture agreed in December 2015 to defer a portion of the charter payments for the two LNG carriers from January 1, 2016 to December 31, 2016 and further deferrals were agreed to and effective in August 2016 and in January 2017, which extended the deferral period to December 31, 2017. Once the LNG plant in Yemen resumes operations, it is intended that YLNG will repay the deferred amounts in full, plus interest over a period of time to be agreed upon. However, there is no assurance if or when the LNG plant will resume operations or if YLNG will repay the deferred amounts, and this deferral period may extend beyond 2017. Teekay LNG's proportionate share of the impact of the charter payment deferral for 2016 was a reduction to equity income of \$21.2 million. Teekay LNG's proportionate share of the estimated impact of the charter payment deferral for 2017 compared to original charter rates earned prior to December 31, 2015 is estimated to be a reduction to equity income ranging from \$20 million to \$30 million depending on any sub-chartering employment opportunities.

The ARC7 Ice-Class LNG carrier newbuildings for the Yamal LNG Project are customized vessels and Teekay LNG's financial condition, results of operations and ability to make distributions to us could be substantially affected if the Yamal LNG Project is not completed.

On July 9, 2014, Teekay LNG entered into a 50/50 joint venture with China LNG (or the Yamal LNG Joint Venture) and ordered six internationally-flagged icebreaker LNG carriers for a project located on the Yamal Peninsula in Northern Russia (or the Yamal LNG Project). The Yamal LNG Project is a joint venture between Russia-based Novatek OAO (50.1%), France-based Total S.A. (20%), China-based China National Petroleum Corporation (20%) and Silk Road Fund (9.9%).

The LNG carrier newbuildings ordered by the Yamal LNG Joint Venture will be specifically built for the Arctic requirements of the Yamal LNG Project and will have limited redeployment opportunities to operate as conventional trading LNG carriers if the project is abandoned or cancelled. If the project is abandoned or cancelled for any reason, either before or after commencement of operations, the Yamal LNG Joint Venture may be unable to reach an agreement with the shipyard allowing for the termination of the shipbuilding contracts (since no such optional termination right exists under these contracts), change the vessel specifications to reflect those applicable to more conventional LNG carriers and which do not incorporate ice-breaking capabilities, or find suitable alternative employment for the newbuilding vessels on a long-term basis with other LNG projects or otherwise.

The Yamal LNG Project may be abandoned or not completed for various reasons, including, among others:

- failure to achieve expected operating results;
- changes in demand for LNG;
- adverse changes in Russian regulations or governmental policy relating to the project or the export of LNG;
- technical challenges of completing and operating the complex project, particularly in extreme Arctic conditions;
- labor disputes; and
- environmental regulations or potential claims.

If the project is not completed or is abandoned, proceeds if any, received from limited Yamal LNG project sponsor guarantees and potential alternative employment, if any, of the vessels and from potential sales of components and scrapping of the vessels likely would fall substantially short of the cost of the vessels to the Yamal LNG Joint Venture. Any such shortfall could have a material adverse effect on Teekay LNG's financial condition, results of operations and ability to make distributions to us.

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Sanctions against key participants in the Yamal LNG Project could impede completion or performance of the Yamal LNG Project, which could have a material adverse effect on us.

The U.S. Treasury Department's Office of Foreign Assets Control (or OFAC) placed Russia-based Novatek OAO (or Novatek), a 50.1% owner of the Yamal LNG Project, on the Sectoral Sanctions Identifications List. OFAC also previously imposed sanctions on an investor in Novatek and these sanctions also remain in effect. The restrictions on Novatek prohibit U.S. persons (and their subsidiaries) from participating in debt financing transactions of greater than 90 days' maturity with Novatek and, by virtue of Novatek's 50.1% ownership interest, the Yamal LNG Project. The EU also imposed certain sanctions on Russia. These sanctions require an EU license or authorization before a party can provide certain technologies or technical assistance, financing, financial assistance, or brokering with regard to these technologies. However, the technologies being currently sanctioned by the EU appear to focus on oil exploration projects, not gas projects. Future sanctions may prohibit the Yamal LNG Joint Venture from performing under its contracts with the Yamal LNG Project, which could have a material adverse effect on our financial condition, results of operations and ability to pay dividends and service our debt. We believe that we are in compliance with all applicable sanctions, laws and regulations and intend to maintain such compliance.

Failure of the Yamal LNG Project to achieve expected results could lead to a default under the time-charter contracts by the charter party.

The charter party under the Yamal LNG Joint Venture's time-charter contracts for the Yamal LNG Project is Yamal Trade Pte. Ltd., a wholly-owned subsidiary of Yamal LNG, the project's sponsor. If the Yamal LNG Project does not achieve expected results, the risk of charter party default may increase. If the charter party defaults on the time-charter contracts, Teekay LNG may be unable to redeploy the vessels under other time-charter contracts or may be forced to scrap the vessels. Any such default could adversely affect Teekay LNG's results of operations and ability to make distributions to us.

Neither the Yamal LNG Joint Venture nor Teekay LNG's joint venture partner may be able to obtain financing for the six LNG ARC7 Ice-Class carrier newbuildings for the Yamal LNG Project.

The Yamal LNG Joint Venture does not yet have in place financing for the six ARC7 Ice-Class LNG carrier newbuildings that will service the Yamal LNG Project. The estimated total fully built-up cost for the vessels is approximately \$2.1 billion. As of December 31, 2016, \$306.6 million has been funded by Teekay LNG and China LNG based on their proportionate ownership interests in the Yamal LNG Joint Venture. If the Yamal LNG Joint Venture is unable to obtain debt financing for the vessels on acceptable terms, if at all, or if Teekay LNG's joint venture partner fails to fund its portion of the newbuilding financing, Teekay LNG may be unable to purchase the vessels and participate in the Yamal LNG Project.

Maritime claimants could arrest, or port authorities could detain, our vessels, which could interrupt our cash flow. Crew members, suppliers of goods and services to a vessel, shippers of cargo and other parties may be entitled to a maritime lien against that vessel for unsatisfied debts, claims or damages. In many jurisdictions, a maritime lienholder may enforce its lien by arresting a vessel through foreclosure proceedings. The arrest or attachment of one or more of our vessels could interrupt our cash flow and require us to pay large sums of funds to have the arrest or attachment lifted. In addition, in some jurisdictions, such as South Africa, under the "sister ship" theory of liability, a claimant may arrest both the vessel that is subject to the claimant's maritime lien and any "associated" vessel, which is any vessel owned or controlled by the same owner. Claimants could try to assert "sister ship" liability against one vessel in our fleet for claims relating to another of our ships. In addition, port authorities may seek to detain our vessels in port, which could adversely affect our operating results or relationships with customers.

Climate change and greenhouse gas restrictions may adversely impact our operations and markets.

Due to concern over the risk of climate change, a number of countries have adopted, or are considering the adoption of, regulatory frameworks to reduce greenhouse gas emissions. These regulatory measures include, among others, adoption of cap and trade regimes, carbon taxes, increased efficiency standards, and incentives or mandates for renewable energy. Compliance with changes in laws, regulations and obligations relating to climate change could increase our costs related to operating and maintaining our vessels and require us to install new emission controls, acquire allowances or pay taxes related to our greenhouse gas emissions, or administer and manage a greenhouse gas emissions program. Revenue generation and strategic growth opportunities may also be adversely affected.

Adverse effects upon the oil and gas industry relating to climate change may also adversely affect demand for our services. Although we do not expect that demand for oil and gas will lessen dramatically over the short-term, in the long-term, climate change may reduce the demand for oil and gas or increased regulation of greenhouse gases may create greater incentives for use of alternative energy sources. Any long-term material adverse effect on the oil and gas industry could have a significant financial and operational adverse impact on our business that we cannot predict with certainty at this time.

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We have substantial debt levels and may incur additional debt.

As of December 31, 2016, our consolidated debt and capital lease obligations totaled \$7.0 billion and we had the capacity to borrow an additional \$0.5 billion under our revolving credit facilities. These credit facilities may be used by us for general corporate purposes. Our consolidated debt and capital lease obligations could increase substantially. We will continue to have the ability to incur additional debt, subject to limitations in our credit facilities. Our level of debt could have important consequences to us, including:

our ability to obtain additional financing, if necessary, for working capital, capital expenditures, acquisitions or other purposes, and our ability to refinance our credit facilities may be impaired or such financing may not be available on favorable terms, if at all;

we will need to use a substantial portion of our cash flow to make principal and interest payments on our debt, reducing the funds that would otherwise be available for operations, future business opportunities and dividends to shareholders;

our debt level may make us more vulnerable than our competitors with less debt to competitive pressures or a downturn in our industry or the economy generally; and

our debt level may limit our flexibility in obtaining additional financing, pursuing other business opportunities and responding to changing business and economic conditions.

Financing agreements containing operating and financial restrictions may restrict our business and financing activities. The operating and financial restrictions and covenants in our revolving credit facilities, term loans, indentures and in any of our future financing agreements could adversely affect our ability to finance future operations or capital needs or to pursue and expand our business activities. For example, these financing arrangements restrict our ability to:

pay dividends;

incur or guarantee indebtedness;

change ownership or structure, including mergers, consolidations, liquidations and dissolutions;

grant liens on our assets;

sell, transfer, assign or convey assets;

make certain investments; and

enter into new lines of business.

Our ability to comply with covenants and restrictions contained in debt instruments may be affected by events beyond our control, including prevailing economic, financial and industry conditions. If market or other economic conditions deteriorate, we may fail to comply with these covenants. If we breach any of the restrictions, covenants, ratios or tests in our financing agreements or indentures, our obligations may become immediately due and payable, and the lenders' commitment under our credit facilities, if any, to make further loans may terminate. This could lead to cross-defaults under other financing agreements and result in obligations becoming due and commitments being terminated under such agreements. A default under financing agreements could also result in foreclosure on any of our vessels and other assets securing related loans.

Furthermore, the termination of any of our charter contracts by our customers could result in the repayment of the debt facilities for which the chartered vessels relate to.

Certain of Teekay LNG's lease arrangements contain provisions whereby it has provided a tax indemnification to third parties, which may result in increased lease payments or termination of favorable lease arrangements.

Teekay LNG and certain of its joint ventures are party and were party to lease arrangements whereby the lessor could claim tax depreciation on the capital expenditures it incurred to acquire these vessels. As is typical in these leasing arrangements, tax and change of law risks are assumed by the lessee. The rentals payable under the lease arrangements are predicated on the basis of certain tax and financial assumptions at the commencement of the leases. If an assumption proves to be incorrect or there is a change in the applicable tax legislation or the interpretation thereof by the United Kingdom (U.K.) taxing authority, the lessor is entitled to increase the rentals so as to maintain its agreed

after-tax margin. Under the capital lease arrangements, Teekay LNG does not have the ability to pass these increased rentals onto its charter party. However, the terms of the lease arrangements enable Teekay LNG and its joint venture partner to jointly terminate the lease arrangements on a voluntary basis at any time. In the event of an early termination of the lease arrangements, the lessee is obliged to pay termination sums to the lessor sufficient to repay its investment in the vessels and to compensate it for the tax effect of the terminations, including recapture of tax depreciation, if any.

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Teekay LNG owns a 70% interest in Teekay Nakilat Corporation (or Teekay Nakilat Joint Venture) that was the lessee under three separate 30-year capital lease arrangements with a third party for three LNG carriers (or the RasGas II LNG Carriers). Under the terms of the leasing arrangements for the RasGas II LNG Carriers, the lessor claimed tax depreciation on the capital expenditures it incurred to acquire these vessels. As is typical in these leasing arrangements, tax and change of law risks were assumed by the lessee, in this case the Teekay Nakilat Joint Venture. Lease payments under the lease arrangements were based on certain tax and financial assumptions at the commencement of the leases and subsequently adjusted to maintain the lessor's agreed after-tax margin. On December 22, 2014, the Teekay Nakilat Joint Venture terminated the leasing of the RasGas II LNG Carriers. However, the Teekay Nakilat Joint Venture remains obligated to the lessor to maintain the lessor's agreed after-tax margin from the commencement of the lease to the lease termination date and placed \$6.8 million on deposit with the lessor as security against any future claims.

The UK taxing authority (or HMRC) has been challenging the use of similar lease structures in the UK courts. One of those challenges was eventually decided in favor of HMRC (Lloyds Bank Equipment Leasing No. 1 or LEL1), with the lessor and lessee choosing not to appeal further. The LEL1 tax case concluded that capital allowances were not available to the lessor. On the basis of this conclusion, HMRC is now asking lessees on other leases, including the Teekay Nakilat Joint Venture, to accept that capital allowances are not available to their lessor. The Teekay Nakilat Joint Venture does not accept this contention and has informed HMRC of this position. It is not known at this time whether the Teekay Nakilat Joint Venture would eventually prevail in court. If the former lessor of the RasGas II LNG Carriers were to lose on a similar claim from HMRC, Teekay LNG's 70% share of the Teekay Nakilat Joint Venture's potential exposure is estimated to be approximately \$60 million. Such estimate is primarily based on information received from the lessor.

In addition, Teekay LNG's subsidiaries of another joint venture formed to service the Tangguh LNG project in Indonesia have lease arrangements with a third party for two LNG carriers. The terms of the lease arrangements provide similar tax and change of law risk assumption by this joint venture as Teekay LNG had with the three RasGas II LNG Carriers.

Our joint venture arrangements impose obligations upon us but limit our control of the joint ventures, which may affect our ability to achieve our joint venture objectives.

For financial or strategic reasons, we conduct a portion of our business through joint ventures. Generally, we are obligated to provide proportionate financial support for the joint ventures although our control of the business entity may be substantially limited. Due to this limited control, we generally have less flexibility to pursue our own objectives through joint ventures or to access available cash of the joint ventures than we would with our own subsidiaries. There is no assurance that our joint venture partners will continue their relationships with us in the future or that we will be able to achieve our financial or strategic objectives relating to the joint ventures and the markets in which they operate. In addition, our joint venture partners may have business objectives that are inconsistent with ours, experience financial and other difficulties that may affect the success of the joint venture, or be unable or unwilling to fulfill their obligations under the joint ventures, which may affect our financial condition or results of operations.

Allegations of improper payments may harm our reputation and business

In May 2016, a former executive of Transpetro, the transportation and logistics subsidiary of Petrobras S.A., alleged in a plea bargain that a subsidiary of Teekay Offshore, among a number of other shipping companies, purportedly made improper payments to local Brazilian agents. Such payments were alleged to have been made by the subsidiary between 2004 and 2006, in an aggregate amount of approximately 1.5 million Brazilian Reals (less than \$0.5 million at the December 31, 2016 exchange rate). Although we believe we have robust anti-corruption programs in place, we have commenced an internal investigation to determine the veracity of these allegations. It is uncertain at this time



how these allegations may affect us, if at all, including the possibility of penalties that could be assessed by the relevant authorities. In addition, any dispute with Petrobras in connection with this matter may adversely affect our relationship with Petrobras.

In January 2015, Teekay Offshore, through the Libra joint venture, its 50/50 joint venture with Odebrecht Oil & Gas S.A. (or OOG), finalized the contract with Petrobras to provide an FPSO unit for the Libra field located in the Santos Basin offshore Brazil. The contract will be serviced by a new FPSO unit being converted from Teekay Offshore's 1995-built shuttle tanker, the Navion Norvegia, which was sold by Teekay Offshore to the joint venture. The converted unit is scheduled to commence operations in mid-2017 under a 12-year firm period fixed-rate contract with Petrobras and its international partners. Senior Odebrecht S.A. personnel, including a former executive of OOG, have been implicated in corruption charges related to improper payments to Brazilian politicians and political parties. Any adverse effect of these charges against OOG may harm Teekay Offshore's growth prospects and results of operations and inhibit the near-term ability of its joint venture with OOG to drawdown on the existing loan facility to fund the remaining amount of the Libra FPSO conversion.

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We depend on certain joint venture partners to assist us in operating our businesses and competing in our markets. Our ability to compete for offshore oil marine transportation, processing, floating accommodation, towage and storage projects and to enter into new charters or contracts of affreightment and expand our customer relationships depends largely on our ability to leverage our relationship with our joint venture partners and their reputation and relationships in the shipping industry. If our joint venture partners suffer material damage to its financial condition, reputation or relationships, it may harm the ability of us or our subsidiaries to:

- renew existing charters and contracts of affreightment upon their expiration;
- obtain new charters and contracts of affreightment;
- successfully interact with shipyards during periods of shipyard construction constraints;
- obtain financing on commercially acceptable terms; or
- maintain satisfactory relationships with suppliers and other third parties.

If our or our subsidiaries' ability to do any of the things described above is impaired, it could have a material adverse effect on our business, results of operations and financial condition and our ability to make cash distributions.

We may experience operational problems with vessels that reduce revenue and increase costs.

Shuttle tankers, FSO and FPSO units, towing and offshore installation vessels and UMS are complex and their operations are technically challenging. Marine transportation and oil production operations are subject to mechanical risks and problems as well as environmental risks. Operational problems may lead to loss of revenue or higher than anticipated operating expenses or require additional capital expenditures. Any of these results could harm our business, financial condition and operating results.

Teekay Tankers' U.S. Gulf lightering business competes with alternative methods of delivering crude oil to ports, which may limit its earnings in this area of its operations.

Teekay Tankers' U.S. Gulf lightering business faces competition from alternative methods of delivering crude oil shipments to port, including offshore offloading facilities. While we believe that lightering offers advantages over alternative methods of delivering crude oil to U.S. Gulf ports, Teekay Tankers' lightering revenues may be limited due to the availability of alternative methods.

Teekay Tankers' full service lightering operations are subject to specific risks that could lead to accidents, oil spills or property damage.

Lightering is subject to specific risks arising from the process of safely bringing two large moving tankers next to each other and mooring them for lightering operations. These operations require a high degree of expertise and present a higher risk of collision compared to when docking a vessel at port. Lightering operations, similar to marine transportation in general, are also subject to risks due to events such as mechanical failures, human error, and weather conditions.

### Tax Risks

In addition to the following risk factors, you should read Item 4E — Taxation of the Company, Item 10 — Additional Information — Material U.S. Federal Income Tax Considerations and Item 10 — Additional Information — Non-United States Tax Consequences for a more complete discussion of the expected material U.S. federal and non-U.S. income tax considerations relating to us and the ownership and disposition of our common stock.

U.S. tax authorities could treat us as a “passive foreign investment company,” which could have adverse U.S. federal income tax consequences to U.S. shareholders.

A non-U.S. entity treated as a corporation for U.S. federal income tax purposes will be treated as a “passive foreign investment company” (or PFIC) for such purposes in any taxable year for which either (a) at least 75% of its gross income consists of “passive income” or (b) at least 50% of the average value of the entity's assets is attributable to assets that produce or are held for the production of “passive income.” For purposes of these tests, “passive income” includes dividends, interest, gains from the sale or exchange of investment property and rents and royalties (other than rents and royalties that are received from unrelated parties in connection with the active conduct of a trade or business). By contrast, income derived from the performance of services does not constitute “passive income.”



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There are legal uncertainties involved in determining whether the income derived from our time-chartering activities constitutes rental income or income derived from the performance of services, including the decision in *Tidewater Inc. v. United States*, 565 F.3d 299 (5th Cir. 2009), which held that income derived from certain time-chartering activities should be treated as rental income rather than services income for purposes of a foreign sales corporation provision of the Internal Revenue Code of 1986, as amended (or the Code). However, the Internal Revenue Service (or IRS) stated in an Action on Decision (AOD 2010-01) that it disagrees with, and will not acquiesce to, the way that the rental versus services framework was applied to the facts in the *Tidewater* decision, and in its discussion stated that the time charters at issue in *Tidewater* would be treated as producing services income for PFIC purposes. The IRS's statement with respect to *Tidewater* cannot be relied upon or otherwise cited as precedent by taxpayers. Consequently, in the absence of any binding legal authority specifically relating to the statutory provisions governing PFICs, there can be no assurance that the IRS or a court would not follow the *Tidewater* decision in interpreting the PFIC provisions of the Code. Nevertheless, based on the current composition of our assets and operations (and those of our subsidiaries), we intend to take the position that we are not now and have never been a PFIC. No assurance can be given, however, that this position would be sustained by a court if contested by the IRS or that we would not constitute a PFIC for any future taxable year if there were to be changes in our assets, income or operations.

If the IRS were to determine that we are or have been a PFIC for any taxable year during which a U.S. Holder (as defined below under Item 10 — Additional Information — Material U.S. Federal Income Tax Considerations) held our common stock, such U.S. Holder would face adverse tax consequences. For a more comprehensive discussion regarding the tax consequences to U.S. Holders if we are treated as a PFIC, please read Item 10 — Additional Information — Material U.S. Federal Income Tax Considerations — United States Federal Income Taxation of U.S. Holders — Consequences of Possible PFIC Classification.

We may be subject to taxes, which could affect our operating results.

We or our subsidiaries are subject to tax in certain jurisdictions in which we or our subsidiaries are organized, own assets or have operations, which reduces our operating results. In computing our tax obligations in these jurisdictions, we are required to take various tax accounting and reporting positions on matters that are not entirely free from doubt and for which we have not received rulings from the governing authorities. We cannot assure you that upon review of these positions, the applicable authorities will agree with our positions. A successful challenge by a tax authority could result in additional tax imposed on us or our subsidiaries, further reducing our operating results. In addition, changes in our operations or ownership could result in additional tax being imposed on us or on our subsidiaries in jurisdictions in which operations are conducted. For example, changes in the ownership of our stock may cause us to be unable to claim an exemption from U.S. federal income tax under Section 883 of the Code. If we were not exempt from tax under Section 883 of the Code, we will be subject to U.S. federal income tax on shipping income attributable to our subsidiaries' transportation of cargoes to or from the U.S., the amount of which is not within our complete control. Also, jurisdictions in which we or our subsidiaries are organized, own assets or have operations may change their tax laws, or we may enter into new business transactions relating to such jurisdictions, which could result in increased tax liability and reduce our operating results. Please read Item 4 — Information on the Company — Taxation of the Company.

#### Item 4. Information on the Company

##### A. Overview, History and Development

###### Overview

We are a leading provider of international crude oil and gas marine transportation services and we also offer offshore oil production, storage and offloading services, primarily under long-term, fixed-rate contracts. Over the past decade, we have undergone a major transformation from being primarily an owner of ships in the cyclical spot tanker business to being a growth-oriented asset manager in the “Marine Midstream” sector. This transformation has included our expansion into the liquefied natural gas (or LNG) and liquefied petroleum gas (or LPG) shipping sectors through our publicly-listed subsidiary Teekay LNG Partners L.P. (NYSE: TGP) (or Teekay LNG), further growth of our operations in the offshore production, storage and transportation sector through our publicly-listed subsidiary Teekay Offshore Partners L.P. (NYSE: TOO) (or Teekay Offshore) and through our 100% ownership interest in Teekay

Petrojarl AS, and the continuation of our conventional tanker business through our publicly-listed subsidiary Teekay Tankers Ltd. (NYSE: TNK) (or Teekay Tankers). We are responsible for managing and operating consolidated assets of approximately \$13 billion, comprised of approximately 220 liquefied gas, offshore, and conventional tanker assets (excluding vessels managed for third parties). With offices in 14 countries and approximately 8,000 seagoing and shore-based employees, Teekay provides a comprehensive set of marine services to the world's leading oil and gas companies. Our organizational structure can be divided into (a) our controlling interests in our publicly-listed subsidiaries, Teekay Offshore, Teekay LNG and Teekay Tankers (or the Daughter Companies), and (b) Teekay and its remaining subsidiaries, which is referred to herein as Teekay Parent.

Teekay Offshore includes a majority of our FPSO units, our shuttle tanker operations, the HiLoad DP unit, FSO units, and offshore support which includes UMS, all of which primarily operate under long-term fixed-rate contracts, and long-distance towing and offshore installation vessels. As of December 31, 2016, our shuttle tanker fleet, including newbuildings, had a total cargo capacity of approximately 4.4 million deadweight tonnes (or dwt), which represented approximately 39% of the total tonnage of the world shuttle tanker fleet. Please read “—B. Operations—Our Fleet.”

Teekay LNG includes all of our LNG and LPG carriers. LNG carriers are usually chartered to carry LNG pursuant to time-charter contracts, where a vessel is hired for a fixed period of time. LPG carriers are mainly chartered to carry LPG on time charters, on contracts of affreightment or spot voyage charters. As of December 31, 2016, Teekay LNG's fleet, including newbuildings on order, had a total cargo carrying capacity of approximately 9.1 million cubic meters. Please read “—B. Operations—Our Fleet.”

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Teekay Tankers, including Teekay Tankers' minority investment in TIL, includes a substantial majority of our conventional crude oil tankers and product carriers. Our conventional crude oil tankers and product tankers primarily operate in the spot-tanker market or are subject to time charters or contracts of affreightment that are priced on a spot-market basis or are short-term, fixed-rate contracts. We consider contracts that have an original term of less than one year in duration to be short-term. Certain of our conventional crude oil tankers and product tankers are on fixed-rate time-charter contracts with an initial duration of at least one year. Our conventional Aframax, Suezmax, and large product tankers are among the vessels included in Teekay Tankers. Please read “—B. Operations—Our Fleet.”

Teekay Parent currently owns three FPSO units and a minority investment in TIL. Our long-term vision is for Teekay Parent not to have a direct ownership in any vessels.

The Teekay organization was founded in 1973. We are incorporated under the laws of the Republic of The Marshall Islands as Teekay Corporation and maintain our principal executive office at 4th floor, Belvedere Building, 69 Pitts Bay Road, Hamilton, HM 08, Bermuda. Our telephone number at such address is (441) 298-2530.

Recent Equity Offerings and Transactions by Subsidiaries

Equity Offerings and Related Transactions by Teekay Tankers

During August 2014, Teekay Tankers purchased from Teekay a 50% interest in Teekay Tanker Operations Ltd. (or TTOL), which owns conventional tanker commercial management and technical management operations, including the direct ownership in three commercially managed tanker pools, for an aggregate price of approximately \$23.5 million, including net working capital. As consideration for this acquisition, Teekay Tankers issued to Teekay 4.2 million Class B common shares. The 4.2 million Class B common shares had an approximate value of \$15.6 million, or \$3.70 per share, when the purchase price was agreed to between the parties and a value of \$17.0 million, or \$4.03 per share, on the acquisition closing date. The purchase price, for accounting purposes, is based upon the value of the Class B common shares on the acquisition closing date.

During December 2014, Teekay Tankers issued 20.0 million shares of Class A common stock in a public offering and 4.2 million common shares of Class A common stock in a concurrent private placement with Teekay, in each case at a price of \$4.80 per share for proceeds of \$116.0 million (net proceeds of \$111.2 million). In connection with this offering, Teekay Tankers granted its underwriters a 30-day option to purchase up to an additional 3 million shares of Class A common stock. The underwriters exercised this option in late-December 2014 and on January 2, 2015, Teekay Tankers issued a further 3 million shares of Class A common stock for gross proceeds of \$14.4 million (net proceeds of \$13.7 million). The proceeds from the issuance were used to acquire modern second hand tankers and for general corporate purposes.

During June 2015, Teekay Tankers implemented a continuous offering program (or COP) under which Teekay Tankers could issue shares of its Class A common stock at market prices up to a maximum aggregate amount of \$80.0 million. In September 2015, Teekay Tankers concluded this COP and sold approximately 11.3 million shares for net proceeds of \$78.2 million.

In November 2015, Teekay Tankers implemented a new COP in the aggregate amount of \$80.0 million. As of December 31, 2015, Teekay Tankers had sold approximately 2.1 million shares under this COP for net proceeds of \$14.2 million. In December 2016, Teekay Tankers sold 3.0 million shares under this COP for net proceeds of \$7.6 million. In January 2017, Teekay Tankers sold approximately 3.8 million shares under its COP for net proceeds of \$8.6 million.

During July 2015, Teekay Tankers issued approximately 6.5 million shares of Class B common stock to Teekay Corporation, for net proceeds of \$45.5 million. Teekay Tankers used the net proceeds from the sale to acquire the ship-to-ship transfer business (or TMS, previously referred to as SPT) from a company jointly owned by Teekay Corporation and a Norway-based marine transportation company, I.M. Skaugen SE (or Skaugen) for an aggregate

purchase price of approximately \$47.3 million (including \$1.8 million for working capital).

During August 2015, Teekay Tankers issued approximately 9.1 million shares of Class A common stock to the public and approximately 4.5 million shares to Teekay for net proceeds of \$90.6 million. Teekay Tankers used the net proceeds from the sale of the common units to partially fund the acquisition of 12 modern Suezmax tankers from Principal Maritime Tankers Corporation (or Principal Maritime) for an aggregate purchase price of \$661.3 million. Teekay Tankers also issued approximately 7.2 million shares of Class A common stock to Principal Maritime as partial consideration for the vessels acquired.

During January 2017, Teekay Tankers issued 2.2 million shares of Class A common stock to Teekay Corporation in a private placement for gross proceeds of \$5.0 million, at a per share price equal to the weighted average price of Teekay Tankers' Class A common stock for the ten trading days ending on the date of issuance.

Our ownership of Teekay Tankers was 25.7% as of March 1, 2017. We maintain voting control of Teekay Tankers through our ownership of shares of Class A and Class B Common Stock and continue to consolidate this subsidiary. Please read “Item 18. Financial Statements: Note 5—Financing Transactions.”

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Equity Offerings, Unit Issuances and Related Transactions by Teekay Offshore

During May 2014, Teekay Offshore issued \$300 million in new senior unsecured non-rated bonds in the United States which mature in January 2019. The bonds are listed on the New York Stock Exchange and bear interest at a fixed rate of 6.0%. Teekay Offshore used the net proceeds of \$293.5 million from the bond offering for general partnership purposes.

During November 2014, Teekay Offshore issued 6.7 million common units to a group of institutional investors, generating net proceeds of \$178.5 million (including Teekay Offshore's general partner's 2% proportionate capital contribution). The net proceeds from the issuance of these common units were used for general partnership purposes, which include funding vessel conversion projects and financing newbuilding UMS and towage vessels.

During May 2013, Teekay Offshore implemented a COP, under which Teekay Offshore may issue new common units; representing limited partner interests, at market prices up to a maximum aggregate amount of \$100 million. During 2014, Teekay Offshore sold an aggregate of 0.2 million common units under the COP, generating net proceeds of \$7.6 million (including Teekay Offshore's general partner's 2% proportionate capital contribution). The net proceeds from the issuance of these common units were used for general partnership purposes.

During April 2015, Teekay Offshore issued 5.0 million of its 8.50% Series B Cumulative Redeemable Preferred Units (or Series B Preferred Units) in a public offering for net proceeds of \$120.8 million. Teekay Offshore used the net proceeds for general partnership purposes, including the funding of newbuilding installments, capital conversion projects and vessel acquisitions.

In July 2015, Teekay Offshore issued 10.4 million of its 8.60% Series C Cumulative Convertible Perpetual Preferred Units (or Series C Preferred Units) in a private placement for net proceeds of approximately \$249.8 million. The terms of the Series C Preferred Units provided that at any time after the 18-month anniversary of the closing date, at the election of each holder, the Series C Preferred Units could be converted on a one-for-one basis into common units of Teekay Offshore. Teekay Offshore used the net proceeds from the private placement to partially finance the acquisition of the Petrojarl Knarr FPSO unit from Teekay Corporation and the initial installments for the three shuttle tanker newbuildings for the East Coast of Canada contract.

In July 2015, Teekay Offshore issued 14.4 million common units to Teekay for net proceeds of \$306.1 million to partially finance the July 1, 2015 acquisition of the Petrojarl Knarr FPSO from Teekay.

During 2015, Teekay Offshore sold an aggregate of 0.2 million common units under the COP, generating net proceeds of \$3.5 million (including Teekay Offshore's general partner's 2% proportionate capital contribution). The net proceeds from the issuance of these common units were used for general partnership purposes.

In June 2016, Teekay Offshore implemented a replacement \$100.0 million COP. During 2016, Teekay Offshore sold an aggregate of 5.5 million common units under the COP, generating net proceeds of \$31.0 million (including Teekay Offshore's general partner's 2% proportionate capital contribution) The net proceeds from the issuance of the common units were used for general partnership purposes.

In June 2016, Teekay Offshore issued 22.0 million common units for net proceeds of approximately \$99.5 million (including Teekay Offshore's general partner's 2% proportionate capital contribution). Teekay Offshore used the proceeds for general partnership purposes, which included funding existing newbuilding installments and capital conversion projects.

In June 2016, Teekay Offshore and the holders of the Series C Preferred Units exchanged approximately 1.9 million of the Series C Preferred Units for approximately 8.3 million common units of Teekay Offshore. In June 2016, Teekay



Offshore and the holders of the Series C Preferred Units also exchanged the remaining approximately 8.5 million Series C Preferred Units for approximately 8.5 million 8.60% Series C-1 Cumulative Convertible Perpetual Preferred Units (or the Series C-1 Preferred Units). Unlike the Series C Preferred Units, for which distributions were to be paid in cash, quarterly distributions on the Series C-1 Preferred Units for the eight consecutive quarters ending March 31, 2018 may be paid in Teekay Offshore's sole discretion in cash, common units (at a discount of 2% to the 10-trading day volume weighted average price ending on the distribution declaration date) or a combination of cash and common units (at the same discount), and thereafter, the distributions will be paid in cash.

In June 2016, Teekay Offshore issued in a private placement 4.0 million of its 10.50% Series D Cumulative Convertible Perpetual Preferred Units (or the Series D Preferred Units) for net proceeds of \$97.2 million and 4.5 million warrants exercisable to acquire up to 4.5 million common units at an exercise price equal to the closing price of Teekay Offshore's common units on June 16, 2016, or \$4.55 per unit (or the \$4.55 Warrants) and 2.25 million warrants exercisable to acquire up to 2.25 million common units with an exercise price at a 33% premium to the closing price of Teekay Offshore's common units on June 16, 2016, or \$6.05 per unit (or the \$6.05 Warrants) (together, the Warrants). The Warrants have a seven-year term and are exercisable any time after six months following their issuance date. The Warrants are to be net settled in either cash or common units at Teekay Offshore's option.

As part of the private placement, Teekay Corporation purchased for \$26.0 million a total of 1,040,000 of Teekay Offshore's Series D Preferred Units. Teekay Corporation also received 1,170,000 of the \$4.55 Warrants and 585,000 of the \$6.05 Warrants.

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In 2016, Teekay Offshore issued 4.7 million common units for a total value of \$24.9 million (including the general partner's 2% proportionate capital contribution of \$0.5 million) as a payment-in-kind for the distributions on Teekay Offshore's Series C-1 Preferred Units, Series D Preferred Units and common units and general partner interest held by subsidiaries of Teekay Corporation. In June 2016, Teekay Offshore agreed with Teekay Corporation that, until the Teekay Offshore's Norwegian Kroner bonds maturing in 2018 have been repaid, all cash distributions (other than with respect to any incentive distribution rights) to be paid by Teekay Offshore to Teekay Corporation or its affiliates, including Teekay Offshore's general partner, will instead be paid in common units or from the proceeds of the sale of common units. Teekay Offshore issued Teekay Corporation 2.5 million common units (including the general partner's 2% proportionate capital contribution) as a payment-in-kind for the distributions on Teekay Offshore's Series D Preferred Units, common units and general partner interest held by Teekay Corporation and its subsidiaries.

Net cash proceeds from the sale of these securities of \$71.3 million, which excludes Teekay Corporation's investment, were allocated on a relative fair value basis to the Series D Preferred Units (\$61.1 million), to the \$4.55 Warrants (\$7.0 million) and to the \$6.05 Warrants (\$3.1 million). The Warrants qualify as freestanding financial instruments and are accounted for separately from the Series D Preferred Units. The Series D Preferred Units are presented in our consolidated balance sheets as redeemable non-controlling interest in temporary equity which is above the equity section but below the liabilities section as they are not mandatorily redeemable and the prospect of a forced redemption paid with cash due to a change of control event is not presently probable. The Warrants are recorded as non-controlling interests in our consolidated balance sheets.

Our ownership of Teekay Offshore was 29.0% (including our 2% general partner interest) as of March 1, 2017. We maintain control of Teekay Offshore by virtue of our control of the general partner and will continue to consolidate this subsidiary. Please read "Item 18. Financial Statements: Note 5—Financing Transactions."

Equity Offerings, Unit Issuances and Related Transactions by Teekay LNG.

During July 2014, Teekay LNG completed a public offering of 3.1 million common units (including 0.3 million common units issued upon exercise of the underwriters' over-allotment option) at a price of \$44.65 per unit, for gross proceeds of approximately \$140.8 million (including Teekay LNG's general partner's 2% proportionate capital contribution). Teekay LNG used the net proceeds from the offering of approximately \$140.5 million to prepay a portion of its outstanding debt under two of its revolving credit facilities, to fund its portion of the first installment payment of \$95.3 million for six newbuilding LNG carriers ordered by its 50/50 joint venture with China LNG for the Yamal LNG Project and to fund a portion of its MEGI newbuildings' shipyard installments.

During 2014, Teekay LNG sold an aggregate of approximately 1.2 million common units under its COP for net proceeds of \$48.4 million (including Teekay LNG's general partner's 2% proportionate capital contribution). Teekay LNG received a portion of these proceeds (\$6.8 million for 0.2 million common units) in January 2015.

During 2015, Teekay LNG sold an aggregate of approximately 1.2 million common units of which 0.2 million units were from 2014 transactions which settled in 2015, under its COP for net proceeds of \$35.4 million (including its general partner's 2% proportionate capital contribution).

In October 2016, Teekay LNG issued in a public offering 5.0 million of its 9.00% Series A Cumulative Redeemable Perpetual Preferred Units (or the Series A Preferred Units) at \$25.00 per unit for net proceeds of approximately \$120.7 million. Distributions are payable on the Series A Preferred Units at a rate of 9.0% per annum of the stated liquidation preference of \$25.00 per unit. At any time on or after October 5, 2021, Teekay LNG may redeem the Series A Preferred Units, in whole or in part, at a redemption price of \$25.00 per unit plus all accumulated and unpaid distributions to the date of redemption, whether or not declared.

Our ownership of Teekay LNG was 33.7% (including our 2% general partner interest) as of March 1, 2017. We maintain control of Teekay LNG by virtue of our control of the general partner and will continue to consolidate this

subsidiary. Please read “Item 18. Financial Statements: Note 5— Financing Transactions.”

Please read “Item 5. Operating and Financial Review and Prospects—Management’s Discussion and Analysis of Financial Condition and Results of Operations— Recent Developments and Results of Operations” for more information on recent transactions.

**B. Operations**

We have four primary lines of business: offshore logistics (shuttle tankers, the HiLoad DP unit, FSO units, UMS and long-distance towing and offshore installation vessels), offshore production (FPSO units), liquefied gas carriers and conventional tankers. We manage these businesses for the benefit of all stakeholders. We allocate capital and assess performance from the separate perspectives of the Daughter Companies and Teekay Parent as well as from the perspective of the lines of business (or the Line of Business approach). The primary focus of our organizational structure, internal reporting and allocation of resources by the chief operating decision maker, is on the Daughter Companies and Teekay Parent (or the Legal Entity approach).

As such, a substantial majority of the information provided herein has been presented in accordance with the Legal Entity approach. However, we have continued to incorporate the Line of Business approach as in certain cases there is more than one line of business in each Daughter Company and we believe this information allows a better understanding of our performance and prospects for future net cash flows.

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### Teekay Offshore – Offshore Logistics

#### Shuttle Tankers

A shuttle tanker is a specialized ship designed to transport crude oil and condensates from offshore oil field installations to onshore terminals and refineries. Shuttle tankers are equipped with sophisticated loading systems and dynamic positioning systems that allow the vessels to load cargo safely and reliably from oil field installations, even in harsh weather conditions. Shuttle tankers were developed in the North Sea as an alternative to pipelines. The first cargo from an offshore field in the North Sea was shipped in 1977, and the first dynamically positioned shuttle tankers were introduced in the early 1980s. Shuttle tankers are often described as “floating pipelines” because these vessels typically shuttle oil from offshore installations to onshore facilities in much the same way a pipeline would transport oil along the ocean floor.

Teekay Offshore’s shuttle tankers are primarily subject to long-term, fixed-rate time-charter contracts or bareboat charter contracts for a specific offshore oil field, where a vessel is hired for a fixed period of time, or under contracts of affreightment for various fields, where Teekay Offshore commits to be available to transport the quantity of cargo requested by the customer from time to time over a specified trade route within a given period of time. The number of voyages performed under these contracts of affreightment normally depends upon the oil production of each field. Competition for charters is based primarily upon price, availability, the size, technical sophistication, age and condition of the vessel and the reputation of the vessel’s manager. Technical sophistication of the vessel is especially important in harsh operating environments such as the North Sea. Although the size of the world shuttle tanker fleet has been relatively unchanged in recent years, conventional tankers can be converted into shuttle tankers by adding specialized equipment to meet customer requirements. Shuttle tanker demand may also be affected by the possible substitution of sub-sea pipelines to transport oil from offshore production platforms.

As of December 31, 2016, there were approximately 100 vessels in the world shuttle tanker fleet (including 12 newbuildings), the majority of which operate in the North Sea and Brazil. Shuttle tankers also operate off the East Coast of Canada and in the U.S. Gulf. As of December 31, 2016, Teekay Offshore had owned 31 shuttle tankers (including three vessels under construction and the HiLoad DP unit), in which their ownership interests ranged from 50% to 100%, and chartered-in an additional three shuttle tankers. Other shuttle tanker owners include Knutsen NYK Offshore Tankers AS, SCF Group, Viken Shipping and AET Inc. Limited (or AET), which, as of December 31, 2016, controlled fleets of 4 to 29 shuttle tankers each. We believe that we have competitive advantages in the shuttle tanker market as a result of the quality, type and dimensions of our vessels combined with our market share in the North Sea, Brazil and the East Coast of Canada.

#### FSO Units

FSO units provide on-site storage for oil field installations that have no storage facilities or that require supplemental storage. An FSO unit is generally used in combination with a jacked-up fixed production system, floating production systems that do not have sufficient storage facilities or as supplemental storage for fixed platform systems, which generally have some on-board storage capacity. An FSO unit is usually of similar design to a conventional tanker, but has specialized loading and off-take systems required by field operators or regulators. FSO units are moored to the seabed at a safe distance from a field installation and receive the cargo from the production facility via a dedicated loading system. An FSO unit is also equipped with an export system that transfers cargo to shuttle or conventional tankers. Depending on the selected mooring arrangement and where they are located, FSO units may or may not have any propulsion systems. Conversions, which include installation of a loading and off-take system and hull refurbishment, can generally extend the lifespan of a vessel as an FSO unit by up to 20 years over the normal conventional or shuttle tanker lifespan of 25 years.

Teekay Offshore’s FSO units are generally placed on long-term, fixed-rate time charters or bareboat charters as an integrated part of the field development plan, which provides more stable cash flow to Teekay Offshore. Under a bareboat charter, the customer pays a fixed daily rate for a fixed period of time for the full use of the vessel and is responsible for all crewing, management and navigation of the vessel and related expenses.

As of December 31, 2016, there were approximately 94 FSO units operating and five FSO units on order in the world fleet. As at December 31, 2016, Teekay Offshore had ownership interests in seven FSO units, including one vessel currently undergoing conversion into an FSO unit. The major markets for FSO units are Asia, West Africa, Northern Europe, the Mediterranean and the Middle East. Our primary competitors in the FSO market are conventional tanker owners, who have access to tankers available for conversion, and oil field services companies and oil field engineering and construction companies who compete in the floating production system market. Competition in the FSO market is primarily based on price, expertise in FSO operations, management of FSO conversions and relationships with shipyards, as well as the ability to access vessels for conversion that meet customer specifications.

#### Towage Vessels

Long-distance towing and offshore installation vessels are used for the towing, station-keeping, installation and decommissioning of large floating objects, such as exploration, production and storage units, including FPSO units, floating liquefied natural gas (or FLNG) units and floating drill rigs. Teekay Offshore operates with high-end vessels which can be defined as long-distance towing and offshore installation vessels with a bollard pull of greater than 180 tonnes and a fuel capacity of more than 2,000 metric tonnes. Teekay Offshore's focus is on intercontinental towages requiring trans-ocean movements.

Teekay Offshore is the sole provider of long-distance towing and offshore installation vessels with DP2 capability. Teekay Offshore's towage vessels operate on voyage-charter towage contracts. Voyage-charter contract revenue is less volatile than revenue from spot-market rates, as project budgets are prepared and maintained well in advance of the contract commencement.

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As of December 31, 2016, there were approximately 34 long-distance towing and offshore installation vessels operating and three long-distance towing and offshore installation vessels on order in the world fleet. At December 31, 2016, Teekay Offshore's fleet includes ten long-distance towing and offshore installation vessels (including three ultra-long distance towing and offshore installation vessel newbuildings, which are all scheduled to deliver during 2017), in all of which Teekay Offshore has 100% ownership interests.

**UMS**

UMS are used primarily for offshore accommodation, storage and support for maintenance and modification projects on existing offshore installations, or during the installation and decommissioning of large floating exploration, production and storage units, including FPSO units, FLNG units and floating drill rigs. Teekay Offshore's UMS unit is available for world-wide operations, excluding operations within the Norwegian Continental Shelf, and includes DP3 keeping systems that are capable of operating in deep water and harsh weather. As of December 31, 2016, there were approximately 43 DP UMS operating and 21 units on order in the world fleet. As at December 31, 2016, Teekay Offshore's fleet consisted of one unit, the Arendal Spirit, in which Teekay Offshore owns a 100% interest.

**Teekay Offshore – Offshore Production****FPSO Units**

FPSO units are offshore production facilities that are ship-shaped or cylindrical-shaped and store processed crude oil in tanks located in the hull of the vessel. FPSO units are typically used as production facilities to develop marginal oil fields or deepwater areas remote from existing pipeline infrastructure. Of four major types of floating production systems, FPSO units are the most common type. Typically, the other types of floating production systems do not have significant storage and need to be connected into a pipeline system or use an FSO unit for storage. FPSO units are less weight-sensitive than other types of floating production systems and their extensive deck area provides flexibility in process plant layouts. In addition, the ability to utilize surplus or aging tanker hulls for conversion to an FPSO unit provides a relatively inexpensive solution compared to the new construction of other floating production systems. A majority of the cost of an FPSO comes from its top-side production equipment and thus, FPSO units are expensive relative to conventional tankers. An FPSO unit carries on board all the necessary production and processing facilities normally associated with a fixed production platform. As the name suggests, FPSO units are not fixed permanently to the seabed but are designed to be moored at one location for long periods of time. In a typical FPSO unit installation, the untreated well-stream is brought to the surface via subsea equipment on the sea floor that is connected to the FPSO unit by flexible flow lines called risers. The risers carry oil, gas and water from the ocean floor to the vessel, which processes it on board. The resulting crude oil is stored in the hull of the vessel and subsequently transferred to tankers either via a buoy or tandem loading system for transport to shore.

Traditionally for large field developments, the major oil companies have owned and operated new, custom-built FPSO units. FPSO units for smaller fields have generally been provided by independent FPSO contractors under life-of-field production contracts, where the contract's duration is for the useful life of the oil field. FPSO units have been used to develop offshore fields around the world since the late 1970s. Most independent FPSO contractors have backgrounds in marine energy transportation, oil field services or oil field engineering and construction. As of December 2016, there were approximately 191 FPSO units operating and 18 FPSO units on order in the world fleet. At December 31, 2016, Teekay Offshore owned six FPSO units, in which it has 100% ownership interests, and two FPSO units, in which it has 50% ownership interests. One of these 50% owned FPSO units is undergoing a conversion and another of the FPSO units is undergoing upgrades. Other major independent FPSO contractors are SBM Offshore N.V., BW Offshore, MODEC, Bluewater and Bumi Armada.

**Teekay LNG**

Teekay LNG's vessels primarily compete in the LNG and LPG markets. LNG carriers are usually chartered to carry LNG pursuant to time-charter contracts, where a vessel is hired for a fixed period of time and with charter rates payable to the owner on a monthly basis. LNG shipping historically has been transacted with these long-term, fixed-rate time-charter contracts. LNG projects require significant capital expenditures and typically involve an integrated chain of dedicated facilities and cooperative activities. Accordingly, the overall success of an LNG project depends heavily on long-range planning and coordination of project activities, including marine transportation. Most

shipping requirements for new LNG projects continue to be provided on a long-term basis, though the level of spot voyages (typically consisting of a single voyage), short-term time charters and medium-term time charters have grown in the past few years.

In the LNG markets, Teekay LNG competes principally with private and state-controlled energy and utilities companies, which generally operate captive fleets, and independent ship owners and operators. Many major energy companies compete directly with independent owners by transporting LNG for third parties in addition to their own LNG. Given the complex, long-term nature of LNG projects, major energy companies historically have transported LNG through their captive fleets. However, independent fleet operators have been obtaining an increasing percentage of charters for new or expanded LNG projects as major energy companies have continued to divest non-core businesses. Other major operators of LNG carriers include Qatar Gas Transport (Nakilat), Malaysian International Shipping Company, Mitsui O.S.K. Lines, GasLog, Maran Gas Maritime, BW Gas, NYK Line, and Golar LNG.

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LNG carriers transport LNG internationally between liquefaction facilities and import terminals. After natural gas is transported by pipeline from production fields to a liquefaction facility, it is super-cooled to a temperature of approximately negative 260 degrees Fahrenheit. This process reduces its volume to approximately 1 / 600th of its volume in a gaseous state. The reduced volume facilitates economical storage and transportation by ship over long distances, enabling countries with limited natural gas reserves or limited access to long-distance transmission pipelines to meet their demand for natural gas. LNG carriers include a sophisticated containment system that holds and insulates the LNG so it maintains its liquid form. The LNG is transported overseas in specially built tanks on double-hulled ships to a receiving terminal, where it is offloaded and stored in heavily insulated tanks. In regasification facilities at the receiving terminal, the LNG is returned to its gaseous state (or regasified) and then shipped by pipeline for distribution to natural gas customers.

LPG carriers are mainly chartered to carry LPG on time charters of three to five years, on contracts of affreightment or spot voyage charters. The two largest consumers of LPG are residential users and the petrochemical industry. Residential users, particularly in developing regions where electricity and gas pipelines are not developed, do not have fuel switching alternatives and generally are not LPG price sensitive. The petrochemical industry, however, has the ability to switch between LPG and other feedstock fuels depending on price and availability of alternatives.

Most new LNG carriers, including all of our vessels, are built with a membrane containment system. These systems consist of insulation between thin primary and secondary barriers and are designed to accommodate thermal expansion and contraction without overstressing the membrane. New LNG carriers are generally expected to have a lifespan of approximately 35 to 40 years. New LPG carriers are generally expected to have a lifespan of approximately 30 to 35 years. Unlike the oil tanker industry, there are currently no regulations that require the phase-out from trading of LNG and LPG carriers after they reach a certain age. As at December 31, 2016, there were approximately 472 vessels in the worldwide LNG fleet, with an average age of approximately 11 years, and an additional 133 LNG carriers under construction or on order for delivery through 2020. As of December 31, 2016, the worldwide LPG tanker fleet consisted of approximately 1,410 vessels with an average age of approximately 15 years and approximately 114 additional LPG vessels on order for delivery through 2019. LPG carriers range in size from approximately 100 to approximately 87,000 cubic meters (or cbm). Approximately 45% (in terms of vessel numbers) of the worldwide fleet is less than 5,000 cbm.

Teekay LNG includes substantially all of our LNG and LPG carriers. As at December 31, 2016, Teekay LNG had ownership interests in 31 LNG carriers, as well as 19 additional newbuilding LNG carriers on order. In addition, as at December 31, 2016, Teekay LNG had full ownership of six LPG carriers and part ownership, through its joint venture agreement with Exmar, in another 17 LPG carriers, four newbuilding LPG carriers on order, and two chartered-in LPG carriers.

### Teekay Tankers

Teekay Tankers owns a substantial majority of our conventional crude oil tankers and product carriers. Our conventional crude oil tankers and product tankers primarily operate in the spot-tanker market or are subject to time charters or contracts of affreightment that are priced on a spot-market basis or are short-term, fixed-rate contracts. We consider contracts that have an original term of less than one year in duration to be short-term. Certain of our conventional crude oil tankers and product tankers are on fixed-rate time-charter contracts with an initial duration of at least one year. Teekay Tankers and we also have minority interests in TIL, which owns conventional and product tankers.

Teekay Tankers' vessels compete primarily in the Aframax and Suezmax tanker markets. In these markets, international seaborne oil and other petroleum products transportation services are provided by two main types of operators: captive fleets of major oil companies (both private and state-owned) and independent ship-owner fleets. Many major oil companies and other oil trading companies, the primary charterers of our vessels, also operate their own vessels and transport their own oil and oil for third-party charterers in direct competition with independent



owners and operators. Competition for charters in the Aframax and Suezmax spot charter market is intense and is based upon price, location, the size, age, condition and acceptability of the vessel, and the reputation of the vessel's manager.

Teekay Tankers competes principally with other owners in the spot-charter market through the global tanker charter market. This market is comprised of tanker broker companies that represent both charterers and ship-owners in chartering transactions. Within this market, some transactions, referred to as "market cargoes," are offered by charterers through two or more brokers simultaneously and shown to the widest possible range of owners; other transactions, referred to as "private cargoes," are given by the charterer to only one broker and shown selectively to a limited number of owners whose tankers are most likely to be acceptable to the charterer and are in position to undertake the voyage.

Most of Teekay Tankers' conventional tankers operate pursuant to pooling or revenue sharing commercial management arrangements. Under such arrangements, different vessel owners pool their vessels, which are managed by a pool manager, to improve utilization and reduce expenses. In general, revenues generated by the vessels operating in a pool or revenue sharing commercial management arrangement, less related voyage expenses (such as fuel and port charges) and administrative expenses, are pooled and allocated to the vessel owners according to a pre-determined formula. As of December 31, 2016, Teekay Tankers participated in three main pooling or revenue sharing commercial management arrangements. These include an Aframax tanker revenue sharing commercial management arrangement (or the Aframax RSA), an LR2 tanker pool (or the Taurus Pool), and a Suezmax tanker revenue sharing commercial management arrangement (or the Suezmax RSA). As of December 31, 2016, six of Teekay Tankers' Aframax tankers operated in the Aframax RSA, five of Teekay Tankers' LR2 tankers operated in the Taurus Pool, and 16 of Teekay Tankers' Suezmax tankers operated in the Suezmax RSA. Each of these pools or revenue sharing commercial management arrangements is either solely or jointly managed by us.

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Teekay Tankers' competition in the Aframax (80,000 to 119,999 dwt) market is also affected by the availability of other size vessels that compete in that market. Suezmax (120,000 to 199,999 dwt) vessels and Panamax (55,000 to 79,999 dwt) vessels can compete for many of the same charters for which our Aframax tankers compete. Similarly, Aframax tankers and Very Large Crude Carriers (200,000 to 319,999 dwt) (or VLCCs) can compete for many of the same charters for which our Suezmax vessels compete. Because VLCCs comprise a substantial portion of the total capacity of the market, movements by such vessels into Suezmax trades or of Suezmax vessels into Aframax trades would heighten the already intense competition.

We believe that we have competitive advantages in the Aframax and Suezmax tanker market as a result of the quality, type and dimensions of our vessels and our market share in the Indo-Pacific and Atlantic Basins. As of December 31, 2016, our Aframax tanker fleet (excluding Aframax-size shuttle tankers and newbuildings) had an average age of approximately 12 years and our Suezmax tanker fleet (excluding Suezmax-size shuttle tankers and newbuildings) had an average age of approximately 8.5 years. This compares to an average age for the world oil tanker fleet of approximately 9.5 years, for the world Aframax tanker fleet of approximately 10.2 years and for the world Suezmax tanker fleet of approximately 9.9 years.

As of December 31, 2016, other large operators of Aframax tonnage (including newbuildings on order) included Sovcomflot (approximately 42 vessels), Malaysian International Shipping Corporation (approximately 36 Aframax vessels), Sigma Pool (approximately 29 vessels), and the Navig8 Pool (approximately 20 vessels). Other large operators of Suezmax tonnage (including newbuildings on order) as of such date included the Nordic American Tankers (approximately 30 vessels), the Stena Sonangol Pool (approximately 22 vessels), Euronav (approximately 21 vessels), Navig8 (approximately 20 vessels), the Blue Fin Pool (approximately 16 vessels) and Sovcomflot (approximately 15 vessels).

Teekay Tankers acquired SPT (now known as Teekay Marine Solutions or TMS) in July 2015 from a company jointly owned by Teekay and Skaugen. TMS provides a full suite of ship-to-ship transfer services in the oil, gas and dry bulk industries. In addition to full service lightering and lightering support, it also provides consultancy, terminal management and project development services. TMS owns a fleet of four STS support vessels and has two in-chartered Aframax tankers.

We have chartering staff located in Singapore; London, England; and Houston, USA. Each office serves our clients headquartered in that office's region. Fleet operations, vessel positions and charter market rates are monitored around the clock. We believe that monitoring such information is critical to making informed bids on competitive brokered business.

**Teekay Parent**

Teekay Parent continues to own three FPSO units and also in-charters a number of vessels. However, our long-term vision is for Teekay Parent to be primarily a general partner whose role is that of portfolio manager and project developer. Our primary financial objective for Teekay Parent is to increase its free cash flow per share. To support this objective, over the longer term we intend to de-lever the balance sheet of Teekay Parent by completing the sales of the remaining FPSOs to Teekay Offshore or third parties and to seek to grow the distributions of Teekay Offshore and Teekay LNG. Consequently, we expect the Daughter Companies will ultimately hold all of the direct ownership interests in our operating assets and that each of these entities will directly pursue their own merger and acquisition and organic growth opportunities.

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## Our Consolidated Fleet

As at December 31, 2016, our fleet (excluding vessels managed for third parties) consisted of 214 vessels, including chartered-in vessels and newbuildings/conversions on order. The following table summarizes our fleet as at December 31, 2016:

	Owned Vessels	Chartered-in Vessels	Newbuildings / Conversions	Total
Teekay Offshore				
Shuttle Tankers	27	(1) 3	3	(4) 33
FSO Units	6	(2) —	1	7
FPSO Units	6	(3) —	2	(3) 8
Unit for Maintenance and Safety (UMS)	1	—	—	1
Towage Vessels	7	—	3	10
HiLoad Dynamic Positioning Unit	1	—	—	1
Aframax Tankers	—	2	—	2
	48	5	9	62
Teekay LNG				
LNG Vessels	31	(5) —	19	(6) 50
LPG/Multigas Vessels	23	(7) 2	4	(9) 29
Suezmax Tankers	5	(8) —	—	5
Product Tanker	1	—	—	1
	60	2	23	85
Teekay Tankers				
Aframax Tankers	14	6	—	20
Suezmax Tankers	22	(10) —	—	22
VLCC	1	(11) —	—	1
Product Tankers	7	1	—	8
STS Support Vessels	4	3	—	7
	48	10	—	58
Teekay Parent <sup>(12)</sup>				
FPSO Units	3	—	—	3
Aframax Tankers	—	2	—	2
Bunker Barge	—	1	—	1
Infield Support Vessels	—	1	(13) 2	3
	3	4	2	9
Total	159	21	34	214

(1) Includes six shuttle tankers 50% owned by Teekay Offshore.

(2) Includes one FSO unit 89% owned by Teekay Offshore. Includes one FSO unit that is classified as held-for-sale at year end.

(3) Owned vessels and Newbuildings / Conversions each include one FPSO unit 50% owned by Teekay Offshore. One of the FPSO units is in lay-up.

(4) Includes two vessels scheduled to deliver during 2017.

Includes a 70% interest in three LNG carriers, a 69% interest in two LNG carriers, a 52% interest in six LNG

(5) carriers, a 50% interest in one LNG carrier, a 49% interest in one LNG carrier, a 40% interest in four LNG carriers, and a 33% interest in four LNG carriers owned by Teekay LNG.

(6) Includes a 50% interest in six LNG newbuildings, a 30% interest in two LNG newbuildings, and a 20% interest in two LNG newbuildings.

(7) Includes 16 LPG carriers 50% owned by Teekay LNG. Includes one LPG carrier 50% owned by Teekay LNG, Brugge Venture, that was classified as held-for-sale as at December 31, 2016.

- (8) Includes one vessel, Asian Spirit, that was classified as held-for-sale as at December 31, 2016. This vessel was sold on January 10, 2017.
- (9) All LPG newbuildings are 50% owned by Teekay LNG.
- (10) Includes two vessels, Ganges Spirit, which was sold on January 3, 2017, and Yamuna Spirit, which was sold on March 5, 2017.
- (11) VLCC is 50% owned by Teekay Tankers.
- (12) Excludes two LNG carriers chartered from Teekay LNG, and two shuttle tankers and three FSO units chartered from Teekay Offshore, all of which are included in the respective Daughter Company totals in this table.

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(13)KT Maritime (Pty) Ltd, the charterer of the Infield Support Vessel, is owned 50% by Teekay Corporation.

Our vessels are of Bahamian, Belgian, Canadian, Cyprus, Danish, Greek, Hong Kong, Isle of Man, Liberian, Malta, Marshall Islands, Netherlands, Norwegian, Panama, Singapore, and Spanish registry.

Many of our Aframax and Suezmax vessels and some of our shuttle tankers have been designed and constructed as substantially identical sister ships. These vessels can, in many situations, be interchanged, providing scheduling flexibility and greater capacity utilization. In addition, spare parts and technical knowledge can be applied to all the vessels in the particular series, thereby generating operating efficiencies.

As of December 31, 2016, we had 19 LNG carriers, three shuttle tankers, and three long-distance towing and offshore installation vessels on order, one FSO under conversion, and one FPSO undergoing upgrades. In addition, we had a 50% interest in one FPSO under conversion, a 50% interest in six LNG newbuilding orders, a 30% interest in two LNG newbuilding orders, a 20% interest in two LNG newbuilding orders, and a 50% interest in four LPG newbuilding orders. Please read “Item 5. Operating and Financial Review and Prospects: Management’s Discussion and Analysis of Financial Condition and Results of Operations,” and “Item 18. Financial Statements: Notes 15(a) and 15(b)—Commitments and Contingencies—Vessels Under Construction and Joint Ventures.”

Please read “Item 18. Financial Statements: Note 7—Long-Term Debt” for information with respect to major encumbrances against our vessels.

**Safety, Management of Ship Operations and Administration**

Safety and environmental compliance are our top operational priorities. We operate our vessels in a manner intended to protect the safety and health of our employees, the general public and the environment. We seek to manage the risks inherent in our business and are committed to eliminating incidents that threaten the safety and integrity of our vessels, such as groundings, fires, collisions and petroleum spills. In 2008, we introduced the Quality Assurance and Training Officers Program (or QATO) to conduct rigorous internal audits of our processes and provide our seafarers with on-board training. In 2007, we introduced a behavior-based safety program called “Safety in Action” to improve the safety culture in our fleet. We are also committed to reducing our emissions and waste generation. In 2010, we introduced a training program for our employees titled “Operational Leadership, The Journey” which sets out our operational expectations, the responsibilities of individual employees and our commitment to empowering our employees to work safely and live Teekay’s vision through a positive and responsible attitude. The Operational Leadership Team composed of heads of operations of Teekay Business Units and Global HSEQ, developed and is sponsoring a 5-year Safety Road Map that comprises of number of safety aimed projects to further enhance safety culture on board Teekay vessels.

Key performance indicators facilitate regular monitoring of our operational performance. Targets are set on an annual basis to drive continuous improvement, and indicators are reviewed quarterly to determine if remedial action is necessary to reach the targets.

We, through certain of our subsidiaries, assist our operating subsidiaries in managing their ship operations. All vessels are operated under our comprehensive and integrated Safety Management System that complies with the International Safety Management Code (or ISM Code), the International Standards Organization’s (or ISO) 9001 for Quality Assurance, ISO 14001 for Environment Management Systems, Occupational Health and Safety Advisory Services (or OHSAS) 18001 and the Maritime Labour Convention 2006 (MLC 2006) that became effective in 2013. The management system is certified by Det Norske Veritas Germanischer Lloyd (or DNV-GL), the Norwegian classification society. It has also been separately approved by the Australian and Spanish Flag administrations. Although certification is valid for five years, compliance with the above mentioned standards is confirmed on a yearly basis by a rigorous auditing procedure that includes both internal audits as well as external verification audits by DNV-GL and certain flag states.

We provide, through certain of our subsidiaries, expertise in various functions critical to the operations of our operating subsidiaries. We believe this arrangement affords a safe, efficient and cost-effective operation. Our subsidiaries also provide to us access to human resources, financial and other administrative functions pursuant to administrative services agreements.

Critical ship management functions undertaken by our subsidiaries are:

- vessel maintenance (including repairs and dry docking) and certification;
- crewing by competent seafarers;
- procurement of stores, bunkers and spare parts;
- management of emergencies and incidents;
- supervision of shipyard and projects during new-building and conversions;
- insurance; and
- financial management services.

Integrated on-board and on-shore systems support the management of maintenance, inventory control and procurement, crew management and training and assist with budgetary controls.

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Our day-to-day focus on cost efficiencies is applied to all aspects of our operations. We believe that the generally uniform design of some of our existing and new-building vessels and the adoption of common equipment standards provides operational efficiencies, including with respect to crew training and vessel management, equipment operation and repair, and spare parts ordering. In addition, we and two other shipping companies have a purchasing alliance, Teekay Bergesen Worldwide, which leverages the purchasing power of the combined fleets, mainly in such commodity areas as lube oils, paints and other chemicals.

### Risk of Loss and Insurance

The operation of any ocean-going vessel carries an inherent risk of catastrophic marine disasters, death or injury of persons and property losses caused by adverse weather conditions, mechanical failures, human error, war, terrorism, piracy and other circumstances or events. In addition, the transportation of crude oil, petroleum products, LNG and LPG is subject to the risk of spills and to business interruptions due to political circumstances in foreign countries, hostilities, labor strikes, sanctions and boycotts. The occurrence of any of these events may result in loss of revenues or increased costs.

We carry hull and machinery (marine and war risks) and protection and indemnity insurance coverage to protect against most of the accident-related risks involved in the conduct of our business. Hull and machinery insurance covers loss of or damage to a vessel due to marine perils such as collision, grounding and weather. Protection and indemnity insurance indemnifies us against liabilities incurred while operating vessels, including injury to our crew or third parties, cargo loss and pollution. The current maximum amount of our coverage for pollution is \$1 billion per vessel per incident. We also carry insurance policies covering war risks (including piracy and terrorism) and, for some of our LNG carriers and for one FPSO, loss of revenues resulting from vessel off-hire time due to a marine casualty. We believe that our current insurance coverage is adequate to protect against most of the accident-related risks involved in the conduct of our business and that we maintain appropriate levels of environmental damage and pollution insurance coverage. However, we cannot guarantee that all covered risks are adequately insured against, that any particular claim will be paid or that we will be able to procure adequate insurance coverage at commercially reasonable rates in the future. More stringent environmental regulations have resulted in increased costs for, and may result in the lack of availability of, insurance against risks of environmental damage or pollution.

In our operations, we use a thorough risk management program that includes, among other things, risk analysis tools, maintenance and assessment programs, a seafarers competence training program, seafarers workshops and membership in emergency response organizations.

We have achieved certification under the standards reflected in ISO 9001 for quality assurance, ISO 14001 for environment management systems, OHSAS 18001, and the IMO's International Management Code for the Safe Operation of Ships and Pollution Prevention on a fully integrated basis.

### Operations Outside of the United States

Because our operations are primarily conducted outside of the United States, we are affected by currency fluctuations, to the extent we do not contract in U.S. dollars, and by changing economic, political and governmental conditions in the countries where we engage in business or where our vessels are registered. Past political conflicts in those regions, particularly in the Arabian Gulf, have included attacks on tankers, mining of waterways and other efforts to disrupt shipping in the area. Vessels trading in certain regions have also been subject to acts of piracy. In addition to tankers, targets of terrorist attacks could include oil pipelines, LNG facilities and offshore oil fields. The escalation of existing, or the outbreak of future, hostilities or other political instability in regions where we operate could affect our trade patterns, increase insurance costs, increase tanker operational costs and otherwise adversely affect our operations and performance. In addition, tariffs, trade embargoes, and other economic sanctions by the United States or other countries against countries in the Indo-Pacific Basin or elsewhere as a result of terrorist attacks or otherwise may limit trading activities with those countries, which could also adversely affect our operations and performance.

### Customers

We have derived, and believe that we will continue to derive, a significant portion of our revenues from a limited number of customers. Our customers include major energy and utility companies, major oil traders, large oil and LNG consumers and petroleum product producers, government agencies, and various other entities that depend upon marine transportation. Two customers, international oil companies, accounted for a total of 29%, or \$653.6 million, of our consolidated revenues during 2016 (2015 - two customers for 21%, or \$495.2 million, 2014 - two customers for 24%, or \$488.0 million). No other customer accounted for more than 10% of our consolidated revenues during 2016, 2015 or 2014. The loss of any significant customer or a substantial decline in the amount of services requested by a significant customer, or the inability of a significant customer to pay for our services, could have a material adverse effect on our business, financial condition and results of operations.

#### Flag, Classification, Audits and Inspections

Our vessels are registered with reputable flag states, and the hull and machinery of all of our vessels have been “Classed” by one of the major classification societies and members of International Association of Classification Societies Ltd (or IACS): BV, Lloyd’s Register of Shipping, the American Bureau of Shipping or DNV-GL.



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The applicable classification society certifies that the vessel's design and build conforms to the applicable Class rules and meets the requirements of the applicable rules and regulations of the country of registry of the vessel and the international conventions to which that country is a signatory. The classification society also verifies throughout the vessel's life that it continues to be maintained in accordance with those rules. In order to validate this, the vessels are surveyed by the classification society, in accordance to the classification society rules, which in the case of our vessels follows a comprehensive five-year special survey cycle, renewed every fifth year. During each five-year period, the vessel undergoes annual and intermediate surveys, the scrutiny and intensity of which is primarily dictated by the age of the vessel. As our vessels are modern and we have enhanced the resiliency of the underwater coatings of each vessel hull and marked the hull to facilitate underwater inspections by divers, their underwater areas are inspected in a dry dock at five-year intervals. In-water inspection is carried out during the second or third annual inspection (i.e. during an Intermediate Survey).

In addition to class surveys, the vessel's flag state also verifies the condition of the vessel during annual flag state inspections, either independently or by additional authorization to class. Also, port state authorities of a vessel's port of call are authorized under international conventions to undertake regular and spot checks of vessels visiting their jurisdiction.

Processes followed onboard are audited by either the flag state or the classification society acting on behalf of the flag state to ensure that they meet the requirements of the ISM Code. DNV-GL typically carries out this task. We also follow an internal process of internal audits undertaken annually at each office and vessel.

We follow a comprehensive inspections scheme supported by our sea staff, shore-based operational and technical specialists and members of our QATO program. We carry out a minimum of two such inspections annually, which helps ensure us that:

- our vessels and operations adhere to our operating standards;
- the structural integrity of the vessel is being maintained;
- machinery and equipment is being maintained to give reliable service;
- we are optimizing performance in terms of speed and fuel consumption; and
- our vessels' appearance supports our brand and meets customer expectations.

Our customers also often carry out vetting inspections under the Ship Inspection Report Program, which is a significant safety initiative introduced by the Oil Companies International Marine Forum to specifically address concerns about sub-standard vessels. The inspection results permit charterers to screen a vessel to ensure that it meets their general and specific risk-based shipping requirements.

We believe that the heightened environmental and quality concerns of insurance underwriters, regulators and charterers will generally lead to greater scrutiny, inspection and safety requirements on all vessels in the oil tanker and LNG and LPG carrier markets and will accelerate the scrapping or phasing out of older vessels throughout these markets.

Overall, we believe that our well-maintained and high-quality vessels provide us with a competitive advantage in the current environment of increasing regulation and customer emphasis on quality of service.

### Regulations

#### General

Our business and the operation of our vessels are significantly affected by international conventions and national, state and local laws and regulations in the jurisdictions in which our vessels operate, as well as in the country or countries of their registration. Because these conventions, laws and regulations change frequently, we cannot predict the ultimate cost of compliance or their impact on the resale price or useful life 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 affect our operations. We are required by various governmental and quasi-governmental agencies to obtain permits, licenses and certificates with respect to our operations. Subject to the discussion below and to the fact that the kinds of permits, licenses and certificates required for the operations of the vessels we own will depend on a number of factors, we believe that we will be able to continue to obtain all permits, licenses and certificates material to the conduct of our operations.

**International Maritime Organization (or IMO)**

The IMO is the United Nations' agency for maritime safety and prevention of pollution. IMO regulations relating to pollution prevention for oil tankers have been adopted by many of the jurisdictions in which our tanker fleet operates. Under IMO regulations and subject to limited exceptions, a tanker must be of double-hull construction in accordance with the requirements set out in these regulations, or be of another approved design ensuring the same level of protection against oil pollution. All of our tankers are double hulled.

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Many countries, but not the United States, have ratified and follow the liability regime adopted by the IMO and set out in the International Convention on Civil Liability for Oil Pollution Damage, 1969, as amended (or CLC). Under this convention, a vessel's registered owner is strictly liable for pollution damage caused in the territorial waters of a contracting state by discharge of persistent oil (e.g., crude oil, fuel oil, heavy diesel oil or lubricating oil), subject to certain defenses. The right to limit liability to specified amounts that are periodically revised is forfeited under the CLC when the spill is caused by the owner's actual fault or when the spill is caused by the owner's intentional or reckless conduct. Vessels trading to contracting states must provide evidence of insurance covering the limited liability of the owner. In jurisdictions where the CLC has not been adopted, various legislative regimes or common law governs, and liability is imposed either on the basis of fault or in a manner similar to the CLC.

IMO regulations also include the International Convention for Safety of Life at Sea (or SOLAS), including amendments to SOLAS implementing the International Ship and Port Facility Security Code (or ISPS), the ISM Code, the International Convention on Load Lines of 1966, and, specifically with respect to LNG and LPG carriers, the International Code for Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (the IGC Code). The IMO Marine Safety Committee has also published guidelines for vessels with dynamic positioning (DP) systems, which would apply to shuttle tankers and DP-assisted FSO units and FPSO units. SOLAS provides rules for the construction of and the equipment required for commercial vessels and includes regulations for their safe operation. Flag states which have ratified the convention and the treaty generally employ the classification societies, which have incorporated SOLAS requirements into their class rules, to undertake surveys to confirm compliance.

SOLAS and other IMO regulations concerning safety, including those relating to treaties on training of shipboard personnel, lifesaving appliances, radio equipment and the global maritime distress and safety system, are applicable to our operations. Non-compliance with IMO regulations, including SOLAS, the ISM Code, ISPS, the IGC Code for LNG and LPG carriers, and the specific requirements for shuttle tankers, FSO units and FPSO units under the NPD (Norway) and HSE (United Kingdom) regulations, may subject us to increased liability or penalties, may lead to decreases in available insurance coverage for affected vessels and may result in the denial of access to or detention in some ports. For example, the U.S. Coast Guard (or USCG) and European Union authorities have indicated that vessels not in compliance with the ISM Code will be prohibited from trading in U.S. and European Union ports. The ISM Code requires vessel operators to obtain a safety management certification for each vessel they manage, evidencing the shipowner's development and maintenance of an extensive safety management system. Each of the existing vessels in our fleet is currently ISM Code-certified, and we expect to obtain safety management certificates for each newbuilding vessel upon delivery.

With regard to offshore support vessels, such as UMS, SOLAS permits certain exemptions and equivalents to be allowed by the relevant vessel's flag state. The International Code on Intact Stability, 2008 (adopted by IMO Resolution MSC. 267(85) of December 4, 2008) (or IS Code), which became mandatory on July 1, 2010, also applies mandatorily to offshore support vessels (with the exception of certain provisions thereof). In 2016 the IMO's Maritime Safety Committee (or MSC) adopted amendments to the IS Code relating to ships engaged in anchor handling operations and to ships engaged in lifting and towing operations, including escort towing. These amendments are expected to enter into force on January 1, 2020. The IMO has also developed non-mandatory codes and guidelines which apply to various types or aspects of offshore support vessels. These include, amongst others, the Code of Safe Practice for the Carriage of Cargoes and Persons by Offshore Supply Vessels (the OSV Code) (IMO Resolution A.863(20) of November 27, 1997) as subsequently amended, the Guidelines for the Design and Construction of Offshore Supply Vessels, 2006 (the OSV Guidelines) (IMO Resolution MSC.235(82) of December 1, 2006) as subsequently amended, the Guidelines for the Transport and Handling of Limited Amounts of Hazardous and Noxious Liquid Substances in Bulk on Offshore Support Vessels (the LHNS Guidelines)(IMO Resolution A.673(16)) of October 19, 1989, as subsequently amended, the Code of Safety for Special Purpose Ships, 2008 (Resolution MSC.266(84) of May 13, 2008 as subsequently amended (including amendments adopted in 2016), the Code of Safety for Dynamically Supported Craft (IMO Resolution A.373(X)) of November 17, 1977) as subsequently amended, the

Guidelines for Vessels with Dynamic Positioning Systems (MSC/Circ.645 of June 6, 1994) and the Guidelines for Dynamic Positioning System (DP) Operator Training (MSC/Circ.738/Rev. 1 of July 7, 2006).

LNG and LPG carriers are also subject to regulation under the IGC Code. Each LNG and LPG carrier must obtain a certificate of compliance evidencing that it meets the requirements of the IGC Code, including requirements relating to its design and construction. Each of our LNG and LPG carriers is currently IGC Code compliant, and each of the shipbuilding contracts for our LNG newbuildings, and for the LPG newbuildings requires IGC Code compliance prior to delivery. A revised and updated IGC Code, which takes account of advances in science and technology, was adopted by the IMO's MSC on May 22, 2014 and entered into force on January 1, 2016 with an implementation/application date of July 1, 2016.

In addition, the IMO's MSC has adopted the International Code of Safety for Ships using Gases or other Low-flashpoint Fuels (the IGF Code), which is a mandatory code for ships fueled by gases or other low-flashpoint fuels. The IGF Code, which is applicable from January 1, 2017, sets out mandatory provisions for the arrangement, installation, control and monitoring of machinery, equipment and systems using low-flashpoint fuel, in order to minimize the risk to the ship, its crew and the environment taking into account the nature of these fuels.

Annex VI to the IMO's International Convention for the Prevention of Pollution from Ships (MARPOL) (or Annex VI) sets limits on sulfur oxide and nitrogen oxide emissions from ship exhausts and prohibits emissions of ozone depleting substances, emissions of volatile compounds from cargo tanks and the incineration of specific substances. Annex VI also includes a world-wide cap on the sulfur content of fuel oil and allows for special "emission control areas" (or ECAs) to be established with more stringent controls on sulfur emissions.

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Annex VI also provides for a three-tier reduction in nitrogen oxide (or NO<sub>x</sub>) emissions from marine diesel engines, with the final tier (or Tier III) to apply to engines installed on vessels constructed on or after January 1, 2016 and which operate in the North American ECA or the U.S. Caribbean Sea ECA. The Tier III requirements will also apply to ECAs designated in the future by the IMO. In October 2016 the IMO's MEPC approved the designation of the North Sea and the Baltic Sea as ECAs for NO<sub>x</sub> emissions. These two new NO<sub>x</sub> ECAs and the related amendments to Annex VI of MARPOL are expected to be formally adopted by IMO's MEPC in 2017 and the two new ECAs are expected to enter into effect on January 1, 2021.

The IMO has issued guidance regarding protecting against acts of piracy off the coast of Somalia. We comply with these guidelines.

The IMO's Ballast Water Management Convention has been adopted by 54 countries, the combined merchant fleets of which represent 53.30% of the gross tonnage of the world's merchant shipping, and will enter into force on September 8, 2017. The convention stipulates two standards for discharged ballast water. The D-1 standard covers ballast water exchange while the D-2 standard covers ballast water treatment. Once effective, the convention will require the implementation of either the D-1 or D-2 standard. There will be a transitional period from the entry into force to the International Oil Pollution Prevention (or IOPP) renewal survey in which ballast water exchange (reg. D-1) can be employed. After the first IOPP renewal survey, vessels will be required to meet the discharge standard D-2 by installing an approved Ballast Water Management System (or BWMS). Ships constructed after entry into force will be required to have a treatment system installed at delivery. Besides the IMO convention, ships sailing in U.S. waters are required to employ a type-approved BWMS which is compliant with USCG regulations. To date the USCG have issued Type Approval (or TA) for the following ballast water treatment systems (or BWTS):

- Alfa Laval;
- Ocean Saver; and
- Optimarin.

We expect the USCG will issue more TAs for BWTS in the future. Plans have been set for the decoupling of IOPP surveys with Harmonised System of Survey and Certification for vessels planning to drydock in 2018 with approval from the Flag and Classification Society. We estimate that the installation of approved BWTS may cost between \$2 million and \$3 million per vessel.

The IMO has also developed and adopted an International Code for Ships Operating in Polar Waters (or Polar Code) which deals with matters regarding design, construction, equipment, operation, search and rescue and environmental protection in relation to ships operating in waters surrounding the two poles. The Polar Code includes both safety and environmental provisions and will be mandatory, with the safety provisions becoming part of SOLAS and the environmental provisions becoming part of MARPOL. In November 2014, the IMO's MSC adopted the Polar Code and the related amendments to SOLAS in relation to safety, while in May 2015, the IMO's Marine Environment Protection Committee (or MEPC) adopted the environmental provisions of the Polar Code and associated amendments to MARPOL. The Polar Code has become mandatory for new vessels built after January 1, 2017. For existing ships, this code will be applicable from the first intermediate or renewal survey beginning on or after January 1, 2018.

MARPOL Annex I also states that oil residue may be discharged directly from the sludge tank to the shore reception facility through standard discharge connections. They may also be discharged to the incinerator or to an auxiliary boiler suitable for burning the oil by means of a dedicated discharge pump. Oil residue tanks shall have no discharge connection to the engine room bilge system, bilge tank or OWS except in the following cases:

•the residue tank may be fitted with manually operated self closing valves and arrangements for subsequent visual monitoring of the settled water that lead to an oily water holding tank or bilge well;

the sludge tank discharge piping and bilge water piping may be connected to a common line leading to the standard discharge connection; however, the interconnection of line shall not allow for the transfer of sludge to the bilge system; and

a screw down non-return valve in lines connecting to the standard discharge connection, provides an acceptable means for not allowing for the transfer of sludge to the bilge system. Ship operators and managers should, before the first IOPP renewal survey, ensure that such systems are compliant. In the event that modifications are required, system drawings will be subject to approval.

Annex I is applicable for existing vessels with a first renewal survey beginning on or after January 1, 2017. It is anticipated that most vessels constructed after December 31, 1991 already comply with Annex I as MARPOL has since provided a unified interpretation prohibiting interconnections between sludge and bilge systems.

MSC 91 adopted amendments to SOLAS Regulation II-2/10 to add a new paragraph 10.4 to clarify that a minimum of two-way portable radiotelephone apparatus for each fire party for firefighters' communication shall be carried on board. These radio devices shall be of explosion proof type or intrinsically safe type. All existing ships built before July 1, 2014 should comply with this requirement by the first safety equipment survey after July 1, 2018. All new vessels constructed (keel laid) on or after July 1, 2014 must comply with this requirement at the time of delivery.

As per MSC. 338(91), requirements have been highlighted for audio and visual indicators for breathing apparatus which will alert the user before the volume of the air in the cylinder has been reduced to no less than 200 liters. This applies to ships constructed on or after July 1, 2014. Ships constructed before July 1, 2014 must comply no later than July 1, 2019.

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### European Union (or EU)

Like the IMO, the EU has adopted regulations phasing out single-hull tankers. All of our tankers are double-hulled.

On May 17, 2011 the European commission carried out a number of unannounced inspections, at the offices of some of the world's largest container line operators starting an antitrust investigation. We are not directly affected by this investigation and believe that we are compliant with antitrust rules. Nevertheless, it is possible that the investigation could be widened and new companies and practices could come under scrutiny within the EU.

The EU has also adopted legislation (Directive 2009/16/EC on Port State Control as subsequently amended) that: bans from European waters manifestly sub-standard vessels (defined as vessels that have been detained twice by EU port authorities, in the preceding two years); creates obligations on the part of EU member port states to inspect minimum percentages of vessels using these ports annually; provides for increased surveillance of vessels posing a high risk to maritime safety or the marine environment; and provides the EU with greater authority and control over classification societies, including the ability to seek to suspend or revoke the authority of negligent societies (Directive 2009/15/EC as amended by Directive 2014/111/EU of December 17, 2014).

Two new regulations were introduced by the European Commission in September 2010, as part of the implementation of the Port State Control Directive. These came into force on January 1, 2011 and introduced a ranking system (published on a public website and updated daily) displaying shipping companies operating in the EU with the worst safety records. The ranking is judged upon the results of the technical inspections carried out on the vessels owned by a particular shipping company. Those shipping companies that have the most positive safety records are rewarded by subjecting them to fewer inspections, while those with the most safety shortcomings or technical failings recorded upon inspection will in turn be subject to a greater frequency of official inspections to their vessels.

The EU has, by way of Directive 2005/35/EC, which has been amended by Directive 2009/123/EC created a legal framework for imposing criminal penalties in the event of discharges of oil and other noxious substances from ships sailing in its waters, irrespective of their flag. This relates to discharges of oil or other noxious substances from vessels. Minor discharges shall not automatically be considered as offenses, except where repetition leads to deterioration in the quality of the water. The persons responsible may be subject to criminal penalties if they have acted with intent, recklessly or with serious negligence and the act of inciting, aiding and abetting a person to discharge a polluting substance may also lead to criminal penalties.

The EU has adopted a Directive requiring the use of low sulfur fuel. Since January 1, 2015, vessels have been required to burn fuel with sulfur content not exceeding 0.1% while within EU member states' territorial seas, exclusive economic zones and pollution control zones that are included in SOX Emission Control Areas. Other jurisdictions have also adopted regulations requiring the use of low sulfur fuel. Since January 1, 2014, the California Air Resources Board has required vessels to burn fuel with 0.1% sulfur content or less within 24 nautical miles of California. China also established emission control areas in the Pearl River Delta, the Yangtze River Delta and the Bohai Bay rim area with restrictions, commencing on January 1, 2016, in the maximum sulfur content of the fuel to be used by vessels within those areas, which limits become progressively stricter over time. Commencing January 1, 2017, all the key ports within the three China ECAs (i.e. Tianjin, Qinhuaingdao, Tangshan, Huanghua, Shenzhen, Guangzhou, Zhuhai, Shanghai, Ningbo-Zhoushan, Suzhou and Nantong) have implemented the low sulfur bunker requirements.

IMO regulations require that as of January 1, 2015, all vessels operating within ECAs worldwide recognized under MARPOL Annex VI must comply with 0.1% sulfur requirements. Currently, the only grade of fuel meeting 0.1% sulfur content requirement is low sulfur marine gas oil (or LSMGO). Since January 1, 2015, the applicable sulfur content limits in the North Sea, the Baltic Sea and the English Channel ECAs have been 0.1%. Other established ECAs under Annex VI to MARPOL are the North American ECA and the United States Caribbean Sea ECA. Certain modifications were completed on our Suezmax tankers in order to optimize operation on LSMGO of equipment

originally designed to operate on Heavy Fuel Oil (or HFO), and to ensure our compliance with the EU Directive. In addition, LSMGO is more expensive than HFO and this impacts the costs of operations. However, for vessels employed on fixed term business, all fuel costs, including any increases, are borne by the charterer. Our exposure to increased cost is in our spot trading vessels, although our competitors bear a similar cost increase as this is a regulatory item applicable to all vessels. All required vessels in our fleet trading to and within regulated low sulfur areas are able to comply with fuel requirements. The global cap on the sulfur content of fuel oil is currently 3.5%, to be reduced to 0.5% by January 1, 2020. The reduced global cap of 0.5% as of January 1, 2020 was subject to a feasibility review, which was completed in 2016 and on the basis of which the IMO's Marine Environment Protection Committee (or the MEPC) decided in October 2016 to implement the 0.5% global sulfur cap as of January 1, 2020.



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The EU Ship Recycling Regulation (1257/2013) (or the EU Ship Recycling Regulation) entered into force on December 30, 2013. It aims to prevent, reduce and minimize accidents, injuries and other negative effects on human health and the environment when ships are recycled and the hazardous waste they contain is removed. The legislation applies to all ships flying the flag of an EU country and to vessels with non-EU flags that call at an EU port or anchorage. It sets out responsibilities for ship owners and for recycling facilities both in the EU and in other countries. Each new ship has to have on board an inventory of the hazardous materials (such as asbestos, lead or mercury) it contains in either its structure or equipment. The use of certain hazardous materials is forbidden. Before a ship is recycled, its owner must provide the company carrying out the work with specific information about the vessel and prepare a ship recycling plan. Recycling may only take place at facilities listed on the EU ‘List of facilities’. In 2014, the Council Decision 2014/241/EU was adopted, authorizing EU countries having ships flying their flag or registered under their flag to ratify or to accede to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships. The EU Ship Recycling Regulation is to apply not later than December 31, 2018, although certain of its provisions are to apply at different stages, with some of them being applicable from December 31, 2020. Pursuant to the EU Ship Recycling Regulation, the EU Commission has recently published the first version of a European List of approved ship recycling facilities meeting the requirements of the regulation, as well as four further implementing decisions dealing with certification and other administrative requirements set out in the EU Ship Recycling Regulation.

North Sea, Canada, and Brazil

Our shuttle tankers and FPSO units primarily operate in the North Sea and Brazil.

There is no international regime in force which deals with compensation for oil pollution from offshore craft, such as FPSOs. The issue whether the CLC and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971, as amended by the 1992 Protocol (or the Fund Convention), which deal with liability and compensation for oil pollution and the Convention on Limitation of Liability for Maritime Claims 1976, as amended by the 1996 Protocol to it (or the 1976 Limitation of Liability Convention), which deals with limitation of liability for maritime claims, apply to FPSOs is neither straightforward nor certain. The CLC and the Fund Convention were not drafted with FPSOs and offshore craft in mind and it is doubtful whether FPSOs and any claims for oil pollution caused by them fall within the ambit of the CLC and the Fund Convention. This is due to the definition of “ship” under these conventions and the requirement that oil is “carried” on board the relevant vessel. Nevertheless, the wording of the 1992 Protocol to the CLC leaves room for arguing that FPSOs and oil pollution caused by them can come under the ambit of these conventions for the purposes of liability and compensation. However, the application of these conventions also depends on their implementation by the relevant domestic laws of the countries which are parties to them.

UK’s Merchant Shipping Act 1995, as amended (or MSA), implements the CLC but uses a wider definition of a “ship” than the one used in the CLC and in its 1992 Protocol but still refers to the criteria used by the CLC. It is therefore doubtful that FPSOs fall within its wording. However, the MSA also includes separate provisions for liability for oil pollution otherwise than under the CLC (section 154 of Chapter III of Part VI of the MSA). These apply to vessels which fall within a much wider definition and include non-seagoing vessels. It is arguable that the wording of these MSA provisions is wide enough to cover oil pollution caused by offshore crafts such as FPSOs. The liability regime under these MSA provisions is similar to that imposed under the CLC but limitation of liability is subject to the 1976 Limitation of Liability Convention regime (as implemented in the MSA),

With regard to the 1976 Limitation of Liability Convention, it is, again, doubtful whether it applies to FPSOs, as it contains certain exceptions in relation to vessels constructed for or adapted to and engaged in drilling and in relation to floating platforms constructed for the purpose of exploring or exploiting natural resources of the seabed or its subsoil. However, these exceptions are not included in the legislation implementing the 1976 Limitation of Liability Convention in the UK, which is also to be found in the MSA. In addition, the MSA sets out a very wide definition of “ship” in relation to which the 1976 Limitation of Liability Convention is to apply and there is room for argument that if

FPSOs fall within that definition of “ship”, they are subject in the UK to the limitation provisions of the 1976 Limitation of Liability Convention.

In the absence of an international regime regulating liability and compensation for oil pollution caused by offshore oil and gas facilities, the Offshore Pollution Liability Agreement 1974 (or OPOL) was entered into by a number of oil companies and became effective in 1975. This is a voluntary industry oil pollution compensation scheme which is funded by the parties to it. These are operators or intending operators of offshore facilities used in the exploration for and production of oil and gas located within the jurisdictions of a number of “Designated States” which include the UK, Denmark, Norway, Germany, France, Greenland, Ireland, the Netherlands, the Isle of Man and the Faroe Islands. The scheme provides for strict liability of the relevant operator for pollution damage and remedial costs, subject to a limit, and the operators must provide evidence of financial responsibility in the form of insurance or other security to meet the liability under the scheme.

With regard to FPSOs, Chapter 7 of Annex I of MARPOL (which contains regulations for the prevention of oil pollution) sets out special requirements for fixed and floating platforms, including, amongst others, FPSOs and FSUs. The IMO’s Marine Environment Protection Committee has issued guidelines for the application of MARPOL Annex I requirements (as revised from time to time) to FPSOs and FSUs.

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The EU's Directive 2004/35/CE on environmental liability with regard to the prevention and remedying of environmental damage (or the Environmental Liability Directive) deals with liability for environmental damage on the basis of the "polluter pays" principle. Environmental damage includes damage to protected species and natural habitats and damage to water and land. Under this Directive, operators whose activities caused the environmental damage or the imminent threat of such damage are to be held liable for the damage (subject to certain exceptions). With regard to environmental damage caused by specific activities listed in the Directive, operators are strictly liable, regardless of fault or negligence. This is without prejudice to their right to limit their liability in accordance with national legislation implementing the 1976 Limitation of Liability Convention. The Directive applies both to damage which has already occurred and where there is an imminent threat of damage. It also requires the relevant operator to take preventive action, to report an imminent threat and any environmental damage to the regulators and to perform remedial measures, such as clean-up. The Environmental Liability Directive has been implemented in the UK by the Environmental Damage (Prevention and Remediation) Regulations 2009.

In June 2013 the EU adopted Directive 2013/30/EU on safety of offshore oil and gas operations and amending Directive 2004/35/EC (or the Offshore Safety Directive). This new Directive lays down minimum requirements for member states and the European Maritime Safety Agency for the purposes of reducing the occurrence of major accidents related to offshore oil and gas operations, thus increasing protection of the marine environment and coastal economies against pollution, establishing minimum conditions for safe offshore exploration and exploitation of oil and gas, and limiting disruptions to the EU's energy production and improving responses to accidents. The Offshore Safety Directive sets out extensive requirements, such as preparation of a major hazard report with risk assessment, emergency response plan and safety and environmental management system applicable to the relevant oil and gas installation before the planned commencement of the operations, independent verification of safety and environmental critical elements identified in the risk assessment for the relevant oil and gas installation, and ensuring that factors such as the applicant's safety and environmental performance and its financial capabilities or security to meet potential liabilities arising from the oil and gas operations are taken into account when considering granting a license. Under the Offshore Safety Directive, Member States are to ensure that the relevant licensee is financially liable for the prevention and remediation of environmental damage (as defined in the Environmental Liability Directive) caused by offshore oil and gas operations carried out by or on behalf of the licensee or the operator. Member States must lay down rules on penalties applicable to infringements of the legislation adopted pursuant to this Directive. Member States were required to bring into force laws, regulations and administrative provisions necessary to comply with this Directive by 19 July 2015. The Offshore Safety Directive has been implemented in the UK by a number of different UK Regulations, including the Environmental Damage (Prevention and Remediation) (England) Regulations 2015, as amended, (which revoked and replaced the Environmental Damage (Prevention and Remediation) Regulations 2009)) and the Offshore Installations (Offshore Safety Directive) (Safety Case etc.) Regulations 2015, both of which entered into force on July 19, 2015.

In addition to the regulations imposed by the IMO and EU, countries having jurisdiction over North Sea areas impose regulatory requirements in connection with operations in those areas, including HSE in the United Kingdom and NPD in Norway. These regulatory requirements, together with additional requirements imposed by operators in North Sea oil fields, require that we make further expenditures for sophisticated equipment, reporting and redundancy systems on the shuttle tankers and for the training of seagoing staff. Additional regulations and requirements may be adopted or imposed that could limit our ability to do business or further increase the cost of doing business in the North Sea.

In Norway, the Norwegian Pollution Control Authority requires the installation of volatile organic compound emissions (or VOC) reduction units on most shuttle tankers serving the Norwegian continental shelf. Customers bear the cost to install and operate the VOC equipment on board the shuttle tankers.

In addition to the requirements of major IMO shipping conventions, the exploration for and production of oil and gas within the Newfoundland & Labrador (or NL) offshore area is conducted pursuant to the Canada Newfoundland and

Labrador Atlantic Accord Implementation Act (the Accord Act) in accordance with the conditions of a license and authorization issued by the Canada-Newfoundland and Labrador Offshore Petroleum Board (or CNLOPB). Various regulations dealing with environmental, occupational health and safety, and other aspects of offshore oil and gas activities have been enacted under the Accord Act. The CNLOPB has also issued interpretive guidelines concerning compliance with the regulations, and compliance with CNLOPB guidelines may be a condition of the issuance or renewal of the license and authorizations. These regulations and guidelines require that the shuttle tankers in the NL offshore area meet stringent standards for equipment, reporting and redundancy systems, and for the training and equipping of seagoing staff. Further, licensees are required by the Accord Act to provide a benefits plan satisfactory to CNLOPB. Such plans generally require the licensee to: establish an office in NL; give NL residents first consideration for training and employment; make expenditures for research and development and education and training to be carried out in NL; and give first consideration to services provided from within NL and to goods manufactured in NL. These regulatory requirements may change as regulations and CNLOPB guidelines are amended or replaced from time to time.

In addition to the regulations imposed by the IMO, Brazil imposes regulatory requirements in connection with operations in its territory, including specific requirements for the operations of vessels flagged in countries other than Brazil. Brazil has several maritime regulations and frequent amendments and updates. Firstly, in regard to environmental protection while operating under Brazilian Waters, the Federal Constitution establishes that the State shall regulate and impose protections to the Environment, establishing liability in the civil, administrative and criminal spheres. Law no. 6938/1981 sets the National Environmental Policy and Law no. 9966/2000, known as “The Oil Law”, institutes several rules, liabilities and penalties regarding the handling oil or other dangerous substances, being applicable to foreign vessels and platforms operating in Brazilian waters.

Regulating the exploitation and production of oil and natural gas, Law no. 9.478/1997, known as “The Petroleum Law”, created the National Petroleum Agency (or ANP), responsible for regulating and supervising the industry through directives and resolutions. After the discovery of the pre-salt, the mentioned law was altered in some points by Law no. 12.351/2010 being the industry also regulated by several administrative Regulations issued by the ANP.

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Additional requirements and restrictions for the operation of offshore vessels and shuttle tankers are imposed by Law 9.432/97 and by the National Waterway Transport Agency (or ANTAQ), instituted by Law 10.233/2001, by way of frequently updated administrative resolutions.

The transit of vessels and permanence and operation of offshore units in Brazil are further regulated by the Maritime Authorities, through law and administrative Ordinances known as “NORMAM”. Under Brazil’s environmental laws, owners and operators of vessels are strictly liable for damages to the environment. Other penalties for non-compliance with environmental laws include fines, loss of tax incentives and suspension of activities. Operators such as Petrobras may impose additional requirements, such as compliance with specific health, safety and environmental standards or the use of local labor. Additional regulations and requirements may be adopted or imposed that could limit our ability to do business or further increase the cost of doing business in Brazil.

### United States

The United States has enacted an extensive regulatory and liability regime for the protection and cleanup of the environment from oil spills, including discharges of oil cargoes, bunker fuels or lubricants, primarily through the Oil Pollution Act of 1990 (or OPA 90) and the Comprehensive Environmental Response, Compensation and Liability Act (or CERCLA). OPA 90 affects all owners, bareboat charterers, and operators whose vessels trade to the United States or its territories or possessions or whose vessels operate in United States waters, which include the U.S. territorial sea and 200-mile exclusive economic zone around the United States. CERCLA applies to the discharge of “hazardous substances” rather than “oil” and imposes strict joint and several liabilities upon the owners, operators or bareboat charterers of vessels for cleanup costs and damages arising from discharges of hazardous substances. We believe that petroleum products and LNG and LPG should not be considered hazardous substances under CERCLA, but additives to oil or lubricants used on LNG or LPG carriers and other vessels might fall within its scope.

Under OPA 90, vessel owners, operators and bareboat charterers are “responsible parties” and are jointly, severally and strictly liable (unless the oil spill results solely from the act or omission of a third party, an act of God or an act of war and the responsible party reports the incident and reasonably cooperates with the appropriate authorities) for all containment and cleanup costs and other damages arising from discharges or threatened discharges of oil from their vessels. These other damages are defined broadly to include:

- natural resources damages and the related assessment costs;
- real and personal property damages;
- net loss of taxes, royalties, rents, fees and other lost revenues;
- lost profits or impairment of earning capacity due to property or natural resources damage;
- net cost of public services necessitated by a spill response, such as protection from fire, safety or health hazards; and
- loss of subsistence use of natural resources.

OPA 90 limits the liability of responsible parties in an amount it periodically updates. The liability limits do not apply if the incident was proximately caused by violation of applicable U.S. federal safety, construction or operating regulations, including IMO conventions to which the United States is a signatory, or by the responsible party’s gross negligence or willful misconduct, or if the responsible party fails or refuses to report the incident or to cooperate and assist in connection with the oil removal activities. Liability under CERCLA is also subject to limits unless the incident is caused by gross negligence, willful misconduct or a violation of certain regulations. We currently maintain for each of our vessels pollution liability coverage in the maximum coverage amount of \$1 billion per incident. A catastrophic spill could exceed the coverage available, which could harm our business, financial condition and results of operations.

Under OPA 90, with limited exceptions, all newly built or converted tankers delivered after January 1, 1994 and operating in U.S. waters must be double-hulled. All of our tankers are double-hulled.

OPA 90 also requires owners and operators of vessels to establish and maintain with the United States Coast Guard (or Coast Guard) evidence of financial responsibility in an amount at least equal to the relevant limitation amount for such vessels under the statute. The Coast Guard has implemented regulations requiring that an owner or operator of a fleet of vessels must demonstrate evidence of financial responsibility in an amount sufficient to cover the vessel in the fleet having the greatest maximum limited liability under OPA 90 and CERCLA. Evidence of financial responsibility may be demonstrated by insurance, surety bond, self-insurance, guaranty or an alternate method subject to approval by the Coast Guard. Under the self-insurance provisions, the ship owners or operators must have a net worth and working capital, measured in assets located in the United States against liabilities located anywhere in the world, that exceeds the applicable amount of financial responsibility. We have complied with the Coast Guard regulations by using self-insurance for certain vessels and obtaining financial guaranties from a third party for the remaining vessels. If other vessels in our fleet trade into the United States in the future, we expect to obtain guaranties from third-party insurers.

OPA 90 and CERCLA permit individual U.S. states to impose their own liability regimes with regard to oil or hazardous substance pollution incidents occurring within their boundaries, and some states have enacted legislation providing for unlimited strict liability for spills. Several coastal states, such as California, Washington and Alaska require state-specific evidence of financial responsibility and vessel response plans. We intend to comply with all applicable state regulations in the ports where our vessels call.

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Owners or operators of vessels, including tankers operating in U.S. waters, are required to file vessel response plans with the Coast Guard, and their tankers are required to operate in compliance with their Coast Guard approved plans. Such response plans must, among other things:

- address a “worst case” scenario and identify and ensure, through contract or other approved means, the availability of necessary private response resources to respond to a “worst case discharge”;
- describe crew training and drills;
- and
- identify a qualified individual with full authority to implement removal actions.

We have filed vessel response plans with the Coast Guard and have received its approval of such plans. In addition, we conduct regular oil spill response drills in accordance with the guidelines set out in OPA 90. The Coast Guard has announced it intends to propose similar regulations requiring certain vessels to prepare response plans for the release of hazardous substances.

OPA 90 and CERCLA do not preclude claimants from seeking damages resulting from the discharge of oil and hazardous substances under other applicable law, including maritime tort law. Such claims could include attempts to characterize the transportation of LNG or LPG aboard a vessel as an ultra-hazardous activity under a doctrine that would impose strict liability for damages resulting from that activity. The application of this doctrine varies by jurisdiction.

The U.S. Clean Water Act (or the Clean Water Act) also prohibits the discharge of oil or hazardous substances in U.S. navigable waters and imposes strict liability in the form of penalties for unauthorized discharges. The Clean Water Act imposes substantial liability for the costs of removal, remediation and damages and complements the remedies available under OPA 90 and CERCLA discussed above.

Our vessels that discharge certain effluents, including ballast water, in U.S. waters must obtain a Clean Water Act permit from the Environmental Protection Agency (or EPA) titled the “Vessel General Permit” and comply with a range of effluent limitations, best management practices, reporting, inspections and other requirements. The current Vessel General Permit incorporates Coast Guard requirements for ballast water exchange and includes specific technology-based requirements for vessels, and includes an implementation schedule to require vessels to meet the ballast water effluent limitations by the first dry docking after January 1, 2016, depending on the vessel size. Vessels that are constructed after December 1, 2013 are subject to the ballast water numeric effluent limitations. Several U.S. states have added specific requirements to the Vessel General Permit and, in some cases, may require vessels to install ballast water treatment technology to meet biological performance standards.

### Greenhouse Gas Regulation

In February 2005, the Kyoto Protocol to the United Nations Framework Convention on Climate Change (or the Kyoto Protocol) entered into force. Pursuant to the Kyoto Protocol, adopting countries are required to implement national programs to reduce emissions of greenhouse gases. In December 2009, more than 27 nations, including the United States, entered into the Copenhagen Accord. The Copenhagen Accord is non-binding, but is intended to pave the way for a comprehensive, international treaty on climate change. In December 2015 the Paris Agreement (or the Paris Agreement) was adopted by a large number of countries at the 21st Session of the Conference of Parties (commonly known as COP 21, a conference of the countries which are parties to the United Nations Framework Convention on Climate Change; the COP is the highest decision-making authority of this organization). The Paris Agreement, which entered into force on November 4, 2016, deals with greenhouse gas emission reduction measures and targets from 2020 in order to limit the global temperature increases to well below 2° Celsius above pre-industrial levels. Although shipping was ultimately not included in the Paris Agreement, it is expected that the adoption of the Paris Agreement may lead to regulatory changes in relation to curbing greenhouse gas emissions from shipping.

In July 2011, the IMO adopted regulations imposing technical and operational measures for the reduction of greenhouse gas emissions. These new regulations formed a new chapter in Annex VI and became effective on January 1, 2013. The new technical and operational measures include the “Energy Efficiency Design Index” (or the EEDI), which is mandatory for newbuilding vessels, and the “Ship Energy Efficiency Management Plan,” which is mandatory for all vessels. In October 2016, the IMO’s MEPC adopted updated guidelines for the calculation of the EEDI. In addition, the IMO is evaluating various mandatory measures to reduce greenhouse gas emissions from international shipping, which may include market-based instruments or a carbon tax. In October 2014, the IMO’s MEPC agreed in principle to develop a system of data collection regarding fuel consumption of ships. In October 2016, the IMO adopted a mandatory data collection system under which vessels of 5,000 gross tonnages and above are to collect fuel consumption and other data and to report the aggregated data so collected to their flag state at the end of each calendar year. The new requirements are expected to enter into force on March 1, 2018. The IMO also approved a roadmap for the development of a comprehensive IMO strategy on reduction of greenhouse gas emissions from ships with an initial strategy to be adopted in 2018 and a revised strategy to be adopted in 2023.



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The EU also has indicated that it intends to propose an expansion of an existing EU emissions trading regime to include emissions of greenhouse gases from vessels, and individual countries in the EU may impose additional requirements. The EU has adopted Regulation (EU) 2015/757 on the monitoring, reporting and verification (or MRV) of CO<sub>2</sub> emissions from vessels (or the MRV Regulation), which entered into force on July 1, 2015. The MRV Regulation aims to quantify and reduce CO<sub>2</sub> emissions from shipping. It lists the requirements on the MRV of carbon dioxide emissions and requires ship owners and operators to annually monitor, report and verify CO<sub>2</sub> emissions for vessels larger than 5,000 gross tonnage calling at any EU and EFTA (Norway and Iceland) port (with a few exceptions, such as fish-catching or fish-processing vessels). Data collection takes place on a per voyage basis and starts January 1, 2018. The reported CO<sub>2</sub> emissions, together with additional data, such as cargo and energy efficiency parameters, are to be verified by independent verifiers and sent to a central database, managed by the European Maritime Safety Agency. To comply with the MRV Regulation, we have prepared an EU MRV monitoring plan and EU MRV monitoring template in line with legislative requirement. The approved EU-MRV monitoring plan is expected to be placed on all our vessels by August 31, 2017. The EU is currently considering a proposal for the inclusion of shipping in the EU Emissions Trading System as from 2021 in the absence of a comparable system operating under the IMO.

In the United States, the EPA issued an “endangerment finding” regarding greenhouse gases under the Clean Air Act. While this finding in itself does not impose any requirements on our industry, it authorizes the EPA to regulate directly greenhouse gas emissions through a rule-making process. In addition, climate change initiatives are being considered in the United States Congress and by individual states. Any passage of new climate control legislation or other regulatory initiatives by the IMO, EU, the United States or other countries or states where we operate that restrict emissions of greenhouse gases could have a significant financial and operational impact on our business that we cannot predict with certainty at this time.

**Vessel Security**

The ISPS was adopted by the IMO in December 2002 in the wake of heightened concern over worldwide terrorism and became effective on July 1, 2004. The objective of ISPS is to enhance maritime security by detecting security threats to ships and ports and by requiring the development of security plans and other measures designed to prevent such threats. Each of the existing vessels in our fleet currently complies with the requirements of ISPS and Maritime Transportation Security Act of 2002 (U.S. specific requirements). Procedures are in place to inform the Maritime Security Council Horn of Africa (or MSCHOA) whenever our vessels are calling in the Indian Ocean Region or West Coast of Africa (or WAC) high risk area. In order to mitigate the security risk, security arrangements are required for vessels which travel through the Gulf of Aden and WAC region.

**C. Organizational Structure**

Our organizational structure includes, among others, our interests in Teekay Offshore, Teekay LNG and Teekay Tankers, which are our publicly listed subsidiaries. We created Teekay Offshore and Teekay LNG primarily to hold our assets that generate long-term fixed-rate cash flows. The strategic rationale for establishing these two limited partnerships was to:

- illuminate higher value of fixed-rate cash flows to Teekay investors;
- realize advantages of a lower cost of equity when investing in new offshore or LNG projects; and
- enhance returns to Teekay through fee-based revenue and ownership of the limited partnership’s incentive distribution rights, which entitle the holder to disproportionate distributions of available cash as cash distribution levels to unitholders increase.

We also established Teekay Offshore, Teekay LNG and Teekay Tankers to increase our access to capital to grow each of our businesses in the offshore, LNG, and conventional tanker markets.



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The following chart provides an overview of our organizational structure as at March 1, 2017. Please read Exhibit 8.1 to this Annual Report for a list of our subsidiaries as at March 1, 2017.

The partnership is controlled by its general partner. Teekay Corporation has a 100% beneficial ownership in the (1) general partner. However, in certain limited cases, approval of a majority or supermajority of the common unitholders is required to approve certain actions.

(2) Proportion of voting power held is 52.5%.

(3) Including our 100% interest in Teekay Petrojarl.

Teekay LNG is a Marshall Islands limited partnership formed by us in 2005 as part of our strategy to expand our operations in the LNG and LPG shipping sectors. Teekay LNG provides LNG, LPG and crude oil marine transportation service under long-term, fixed-rate contracts with major energy and utility companies. As of December 31, 2016, Teekay LNG's fleet included 50 LNG carriers (including 19 newbuildings), 29 LPG/multigas carriers (including four newbuildings), five conventional tankers and one product tanker. Teekay LNG's ownership interests in these vessels range from 20% to 100%.

Teekay Offshore is a Marshall Islands limited partnership formed by us in 2006 as part of our strategy to expand our operations in the offshore oil marine transportation, processing and storage sectors. As of December 31, 2016, Teekay Offshore's fleet included 33 shuttle tankers (including three chartered-in vessels and three newbuildings), one HiLoad DP unit, seven FSO units (including one unit under conversion), eight FPSO units (including one unit under conversion and one unit undergoing an upgrade), one UMS, ten towage vessels (including three newbuildings), and two in-chartered conventional Aframax tankers. Teekay Offshore's ownership interests in its owned vessels range from 50% to 100%. Most of Teekay Offshore's vessels operate under long-term, fixed-rate contracts. Pursuant to an omnibus agreement we entered into in connection with Teekay Offshore's initial public offering in 2006, we have agreed to offer to Teekay Offshore FPSO units that are servicing contracts in excess of three years in length.

In December 2007, we added Teekay Tankers to our structure. Teekay Tankers is a Marshall Islands corporation formed by us to own our conventional tanker business. As of December 31, 2016, Teekay Tankers' fleet included 14 double-hull Aframax tankers, 22 double-hull Suezmax tankers, seven product tankers, four ship-to-ship (or STS) support vessels, one VLCC, six in-chartered Aframax, one in-chartered product tanker and three in-chartered STS support vessels, all of which trade either in the spot tanker market or under short- or medium-term, fixed-rate time-charter contracts. Teekay Tankers owns 100% of its fleet, other than a 50% interest in the VLCC and the in-chartered vessels. Teekay Tankers' primary objective is to grow through the acquisition of conventional tanker assets from third parties and from us. Through a wholly-owned subsidiary, we provide Teekay Tankers with commercial, technical, administrative, and strategic services under a long-term management agreement.

We entered into an omnibus agreement with Teekay LNG, Teekay Offshore and related parties governing, among other things, when we, Teekay LNG, and Teekay Offshore may compete with each other and certain rights of first offer on LNG carriers, oil tankers, shuttle tankers, FSO units and FPSO units.

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### D. Properties

Other than our vessels, we do not have any material property. Please read “Item 18. Financial Statements: Note 7—Long-Term Debt for information about major encumbrances against our vessels.

### E. Taxation of the Company

#### United States Taxation

The following is a discussion of the expected material U.S. federal income tax considerations applicable to us. This discussion is based upon the provisions of the Internal Revenue Code of 1986, as amended (or the Code), legislative history, applicable U.S. Treasury Regulations (or Treasury Regulations), judicial authority and administrative interpretations, all as in effect on the date of this Annual Report, and which are subject to change, possibly with retroactive effect, or are subject to different interpretations. Changes in these authorities may cause the tax consequences to vary substantially from the consequences described below.

**Taxation of Operating Income.** A significant portion of our gross income will be attributable to the transportation of crude oil and related products. For this purpose, gross income attributable to transportation (or Transportation Income) includes income derived from, or in connection with, the use (or hiring or leasing for use) of a vessel to transport cargo, or the performance of services directly related to the use of any vessel to transport cargo, and thus includes income from time charters, contracts of affreightment, bareboat charters, and voyage charters.

Fifty percent (50%) of Transportation Income attributable to transportation that either begins or ends, but that does not both begin and end, in the United States (or U.S. Source International Transportation Income) is considered to be derived from sources within the United States. Transportation Income attributable to transportation that both begins and ends in the United States (or U.S. Source Domestic Transportation Income) is considered to be 100% derived from sources within the United States. Transportation Income attributable to transportation exclusively between non-U.S. destinations is considered to be 100% derived from sources outside the United States. Transportation Income derived from sources outside the United States generally will not be subject to U.S. federal income tax.

Based on our current operations, a substantial portion of our Transportation Income is from sources outside the United States and not subject to U.S. federal income tax. However, certain of our subsidiaries which have made special U.S. tax elections to be treated as partnerships or disregarded as entities separate from us for U.S. federal income tax purposes are potentially engaged in activities which could give rise to U.S. Source International Transportation Income. Unless the exemption from U.S. taxation under Section 883 of the Code (or the Section 883 Exemption) applies, our U.S. Source International Transportation Income generally is subject to U.S. federal income taxation under either the net basis and branch profits taxes or the 4% gross basis tax, each of which is discussed below. Furthermore, certain of our subsidiaries engaged in activities which could give rise to U.S. Source International Transportation Income rely on our ability to claim exemption under the Section 883 Exemption.

**The Section 883 Exemption.** In general, the Section 883 Exemption provides that if a non-U.S. corporation satisfies the requirements of Section 883 of the Code and the Treasury Regulations thereunder (or the Section 883 Regulations), it will not be subject to the net basis and branch profits taxes or the 4% gross basis tax described below on its U.S. Source International Transportation Income. As discussed below, we believe the Section 883 Exemption will apply and we will not be taxed on our U.S. Source International Transportation Income. The Section 883 Exemption does not apply to U.S. Source Domestic Transportation Income.

A non-U.S. corporation will qualify for the Section 883 Exemption if, among other things, it (i) is organized in a jurisdiction outside the United States that grants an exemption from tax to U.S. corporations on international Transportation Income (or an Equivalent Exemption), (ii) meets one of three ownership tests (or Ownership Tests) described in the Section 883 Regulations, and (iii) meets certain substantiation, reporting and other requirements (or the Substantiation Requirements).

We are organized under the laws of the Republic of The Marshall Islands. The U.S. Treasury Department has recognized the Republic of The Marshall Islands as a jurisdiction that grants an Equivalent Exemption. We also

believe that we will be able to satisfy the Substantiation Requirements necessary to qualify for the Section 883 Exemption. Consequently, our U.S. Source International Transportation Income (including for this purpose, our share of any such income earned by our subsidiaries that have properly elected to be treated as partnerships or disregarded as entities separate from us for U.S. federal income tax purposes) will be exempt from U.S. federal income taxation provided we satisfy one of the Ownership Tests. We believe that we should satisfy one of the Ownership Tests because our stock is primarily and regularly traded on an established securities market in the United States within the meaning of Section 883 of the Code and the Section 883 Regulations. We can give no assurance, however, that changes in the ownership of our stock subsequent to the date of this report will permit us to continue to qualify for the Section 883 exemption.

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The Net Basis and Branch Profits Taxes. If the Section 883 Exemption does not apply, our U.S. Source International Transportation Income may be treated as effectively connected with the conduct of a trade or business in the United States (or Effectively Connected Income) if we have a fixed place of business in the United States and substantially all of our U.S. Source International Transportation Income is attributable to regularly scheduled transportation or, in the case of income derived from bareboat charters, is attributable to a fixed place of business in the United States. Based on our current operations, none of our potential U.S. Source International Transportation Income is attributable to regularly scheduled transportation or is derived from bareboat charters attributable to a fixed place of business in the United States. As a result, we do not anticipate that any of our U.S. Source International Transportation Income will be treated as Effectively Connected Income. However, there is no assurance that we will not earn income pursuant to regularly scheduled transportation or bareboat charters attributable to a fixed place of business in the United States in the future, which would result in such income being treated as Effectively Connected Income. U.S. Source Domestic Transportation Income generally will be treated as Effectively Connected Income.

Any income we earn that is treated as Effectively Connected Income would be subject to U.S. federal corporate income tax (the highest statutory rate currently is 35%) and a 30% branch profits tax imposed under Section 884 of the Code. In addition, a branch interest tax could be imposed on certain interest paid, or deemed paid, by us.

On the sale of a vessel that has produced Effectively Connected Income, we generally would be subject to the net basis and branch profits taxes with respect to our gain recognized up to the amount of certain prior deductions for depreciation that reduced Effectively Connected Income. Otherwise, we would not be subject to U.S. federal income tax with respect to gain realized on the sale of a vessel, provided the sale is considered to occur outside of the United States under U.S. federal income tax principles.

The 4% Gross Basis Tax. If the Section 883 Exemption does not apply and we are not subject to the net basis and branch profits taxes described above, we would be subject to a 4% U.S. federal income tax on our subsidiaries' gross U.S. Source International Transportation Income, without benefit of deductions. For 2016, we estimate that, if the Section 883 Exemption and the net basis tax did not apply, the U.S. federal income tax on such U.S. Source International Transportation Income would have been approximately \$3.8 million. In addition, we estimate that certain of our subsidiaries that are unable to claim the Section 883 Exemption were subject to approximately \$260,000 in the aggregate of U.S. federal income tax on the U.S. source portion of their U.S. Source International Transportation Income for 2016 and we estimate that these subsidiaries will be subject to approximately \$260,000 in the aggregate of U.S. federal income tax on the U.S. source portion of their U.S. Source International Transportation Income in subsequent years. The amount of such tax for which we or our subsidiaries may be liable in any year will depend upon the amount of income we earn from voyages into or out of the United States in such year, however, which is not within our complete control.

### Marshall Islands Taxation

We believe that neither we nor our subsidiaries will be subject to taxation under the laws of the Marshall Islands, or that distributions by our subsidiaries to us will be subject to any taxes under the laws of the Marshall Islands, other than taxes or fees due to (i) the continued existence of legal entities registered in the Republic of the Marshall Islands, (ii) the incorporation or dissolution of legal entities registered in the Republic of the Marshall Islands, (iii) filing certificates (such as certificates of incumbency, merger, or redomiciliation) with the Marshall Islands registrar, (iv) obtaining certificates of good standing from, or certified copies of documents filed with, the Marshall Islands registrar, or (v) compliance with Marshall Islands law concerning vessel ownership, such as tonnage tax.

### Other Taxation

In certain non-U.S. jurisdictions, we and our subsidiaries are subject to taxation because we or our subsidiaries are either organized in, or conduct business or operations in those jurisdictions. In other non-U.S. jurisdictions, we rely on statutory exemptions from tax. We cannot assure that any statutory exemptions from tax on which we rely will continue as tax laws in those jurisdictions may change or we may enter into new business transactions relating to such

jurisdictions, which could affect our tax liability. Please read "Item 18. Financial Statements: Note 20 -Income Taxes".  
Item 4A. Unresolved Staff Comments  
None.

Item 5. Operating and Financial Review and Prospects

The following discussion should be read in conjunction with the financial statements and notes thereto appearing elsewhere in this report.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Overview

Teekay Corporation is an operational leader and project developer in the marine midstream space. We have general partnership interests in two publicly-listed master limited partnerships, Teekay Offshore and Teekay LNG. In addition, we have a controlling ownership of publicly-listed Teekay Tankers and we have a small fleet of directly-owned vessels. Teekay provides a comprehensive set of marine services to the world's leading oil and gas companies.

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## Structure

To understand our financial condition and results of operations, a general understanding of our organizational structure is required. Our organizational structure can be divided into (a) our controlling interests in three publicly-traded subsidiaries, Teekay Offshore, Teekay LNG, and Teekay Tankers (together, the Daughter Companies), and (b) Teekay and its remaining subsidiaries, which is referred to herein as Teekay Parent. As of December 31, 2016, we had economic interests in Teekay Offshore, Teekay LNG and Teekay Tankers of 29.0%, 33.1% and 25.4%, respectively. Since we control the voting interests of the Daughter Companies through our ownership of the sole general partner interests of Teekay Offshore and Teekay LNG and of Class A and Class B common shares of Teekay Tankers, we consolidate the results of these subsidiaries. Please read “Item 4C. Information on the Company – Organizational Structure.”

Teekay Offshore and Teekay LNG primarily hold our assets that generate long-term fixed-rate cash flows. The strategic rationale for establishing these two master limited partnerships was to illuminate the higher value of fixed-rate cash flows to Teekay investors, realize advantages of a lower cost of equity when investing in new offshore or LNG projects, enhance returns to Teekay through fee-based revenue and ownership of the partnerships’ incentive distribution rights and increase our access to capital for growth. Teekay Tankers holds a substantial majority of our conventional tanker assets. Teekay Parent continues to own three FPSO units and to in-charter a number of vessels. However, our long-term vision is for Teekay Parent to be primarily a general partner whose role is that of portfolio manager and project developer. Our primary financial objective for Teekay Parent is to increase its free cash flow per share. To support this objective, we intend to de-lever the balance sheet of Teekay Parent by completing the sales of the remaining FPSO units to Teekay Offshore or third parties over the next several years and to seek to grow the distributions of Teekay LNG and Teekay Offshore over the long-term. However, lower oil and gas prices and the resulting impact on the capital markets has resulted in the cost of equity increasing for us, Teekay Offshore and Teekay LNG. Consequently, in the near-term, we do not expect to sell any of the remaining FPSO units to Teekay Offshore. In addition, in December 2015, we announced a plan to reduce our quarterly dividend, in response to announcements by the general partners of Teekay Offshore and Teekay LNG of their plans to reduce their respective quarterly cash distribution amounts to partially finance committed capital expenditures and to repay debt.

Teekay entered into an omnibus agreement with Teekay LNG, Teekay Offshore and related parties governing, among other things, when Teekay, Teekay LNG, and Teekay Offshore may compete with each other and certain rights of first offer on LNG carriers, oil tankers, shuttle tankers, FSO units and FPSO units.

We have four primary lines of business: offshore logistics (shuttle tankers, the HiLoad DP unit, FSO units, UMS and long-distance towing and offshore installation vessels), offshore production (FPSO units), liquefied gas carriers and conventional tankers. We manage these businesses for the benefit of all stakeholders. We allocate capital and assess performance from the separate perspectives of the Daughter Companies and Teekay Parent as well as from the perspective of the lines of business (the Line of Business approach). The primary focus of our organizational structure, internal reporting and allocation of resources by the chief operating decision maker, is on the Daughter Companies and Teekay Parent (the Legal Entity approach). As such, a substantial majority of the information provided herein has been presented in accordance with the Legal Entity approach. However, we have continued to incorporate the Line of Business approach as in certain cases there is more than one line of business in each Daughter Company and we believe this information allows a better understanding of our performance and prospects for future net cash flows.

Effective for the quarterly dividend and distributions of the fourth quarter of 2015, Teekay Parent reduced its quarterly cash dividend per share to \$0.055 from \$0.55, Teekay Offshore reduced its quarterly cash distribution per common unit to \$0.11 from \$0.56 and Teekay LNG reduced its quarterly cash distribution per common unit to \$0.14 from \$0.70. At the time these changes were made, there was a dislocation in the capital markets relative to the stability of our businesses. More specifically, the future equity capital requirements for our committed growth projects, coupled with the uncertainty regarding how long it would have taken for the energy and capital markets to normalize, resulted



in us concluding that it would be in the best interests of our shareholders to conserve more of our internally generated cash flows for committed existing and future growth projects and to reduce debt levels. Teekay Parent, Teekay Offshore and Teekay LNG each maintained these reduced dividend and distribution levels for 2016. Despite the challenges in the global energy and capital markets, our cash flows from vessels operations remain largely stable and are supported by a large and well-diversified portfolio of fee-based contracts with high quality counterparties. In addition to using more of our internally generated cash flows for existing growth projects and to reduce our debt levels, we will continue to seek alternative sources of financing such as sale and leaseback transactions, asset sales, new bank borrowings and the issuance of new debt and equity securities.

Since early 2016, Teekay Parent and the Daughter Companies have been executing on a series of financing initiatives intended to contribute to the funding of our upcoming capital expenditures and debt maturities. For additional information about these initiatives, please read “Liquidity and Capital Resources”.

#### **IMPORTANT FINANCIAL AND OPERATIONAL TERMS AND CONCEPTS**

We use a variety of financial and operational terms and concepts when analyzing our performance. These include the following:

**Revenues.** Revenues primarily include revenues from voyage charters, pool arrangements, time charters accounted for under operating and direct financing leases, contracts of affreightment and FPSO contracts. Revenues are affected by hire rates and the number of days a vessel operates, the daily production volume on FPSO units, and the oil price for certain FPSO units. Revenues are also affected by the mix of business between time charters, voyage charters, contracts of affreightment and vessels operating in pool arrangements. Hire rates for voyage charters are more volatile, as they are typically tied to prevailing market rates at the time of a voyage.

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**Voyage Expenses.** Voyage expenses are all expenses unique to a particular voyage, including any bunker fuel expenses, port fees, cargo loading and unloading expenses, canal tolls, agency fees and commissions. Voyage expenses are typically paid by the customer under time charters and FPSO contracts and by us under voyage charters and contracts of affreightment.

**Net Revenues.** Net revenues represent revenues less voyage expenses. The amount of voyage expenses we incur for a particular charter depends upon the form of the charter. For example, under time-charter contracts and FPSO contracts the customer usually pays the voyage expenses and for contracts of affreightment the ship-owner usually pays the voyage expenses, which typically are added to the hire rate at an approximate cost. Consequently, we use net revenues to improve the comparability between periods of reported revenues that are generated by the different forms of charters and contracts. We principally use net revenues, a non-GAAP financial measure, because it provides more meaningful information to us about the deployment of our vessels and their performance than revenues, the most directly comparable financial measure under United States generally accepted accounting principles (or GAAP).

**Vessel Operating Expenses.** Under all types of charters and contracts for our vessels, except for bareboat charters, we are responsible for vessel operating expenses, which include crewing, repairs and maintenance, insurance, stores, lube oils and communication expenses. The two largest components of our vessel operating expenses are crew costs and repairs and maintenance. We expect these expenses to increase as our fleet matures and to the extent that it expands. We are taking steps to maintain these expenses at a stable level, but expect an increase in line with inflation in respect of crew, material, and maintenance costs. The strengthening or weakening of the U.S. Dollar relative to foreign currencies may result in significant decreases or increases, respectively, in our vessel operating expenses, depending on the currencies in which such expenses are incurred.

**Income from Vessel Operations.** To assist us in evaluating our operations by segment, we analyze our income from vessel operations for each segment, which represents the income we receive from the segment after deducting operating expenses, but prior to the deduction of interest expense, realized and unrealized gains (losses) on non-designated derivative instruments, income taxes, foreign currency and other income and losses.

**Dry docking.** We must periodically dry dock each of our vessels for inspection, repairs and maintenance and any modifications to comply with industry certification or governmental requirements. Generally, we dry dock each of our vessels every two and a half to five years, depending upon the type of vessel and its age. In addition, a shipping society classification intermediate survey is performed on our LNG carriers between the second and third year of the five-year dry-docking cycle. We capitalize a substantial portion of the costs incurred during dry docking and for the survey, and amortize those costs on a straight-line basis from the completion of a dry docking or intermediate survey over the estimated useful life of the dry dock. We expense as incurred costs for routine repairs and maintenance performed during dry dockings that do not improve or extend the useful lives of the assets and annual class survey costs for our FPSO units. The number of dry dockings undertaken in a given period and the nature of the work performed determine the level of dry-docking expenditures.

**Depreciation and Amortization.** Our depreciation and amortization expense typically consists of:

- charges related to the depreciation and amortization of the historical cost of our fleet (less an estimated residual value) over the estimated useful lives of our vessels;
- charges related to the amortization of dry-docking expenditures over the useful life of the dry dock; and
- charges related to the amortization of intangible assets, including the fair value of time charters, contracts of affreightment and customer relationships where amounts have been attributed to those items in acquisitions; these amounts are amortized over the period in which the asset is expected to contribute to our future cash flows.

**Time-Charter Equivalent (TCE) Rates.** Bulk shipping industry freight rates are commonly measured in the shipping industry at the net revenues level in terms of “time-charter equivalent” (or TCE) rates, which represent net revenues divided by revenue days.

**Revenue Days.** Revenue days are the total number of calendar days our vessels were in our possession during a period, less the total number of off-hire days during the period associated with major repairs, dry dockings or special or intermediate surveys. Consequently, revenue days represent the total number of days available for the vessel to earn revenue. Idle days, which are days when the vessel is available for the vessel to earn revenue, yet is not employed, are included in revenue days. We use revenue days to explain changes in our net revenues between periods.

**Calendar-Ship-Days.** Calendar-ship-days are equal to the total number of calendar days that our vessels were in our possession during a period. As a result, we use calendar-ship-days primarily in explaining changes in vessel operating expenses, time-charter hire expense and depreciation and amortization.

#### **ITEMS YOU SHOULD CONSIDER WHEN EVALUATING OUR RESULTS**

You should consider the following factors when evaluating our historical financial performance and assessing our future prospects:

Our revenues are affected by cyclical nature in the tanker markets. The cyclical nature of the tanker industry causes significant increases or decreases in the revenue we earn from our vessels, particularly those we trade in the spot conventional tanker market.

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- Tanker rates also fluctuate based on seasonal variations in demand. Tanker markets are typically stronger in the winter months as a result of increased oil consumption in the Northern Hemisphere but weaker in the summer months as a result of lower oil consumption in the Northern Hemisphere and increased refinery maintenance. In addition, unpredictable weather patterns during the winter months tend to disrupt vessel scheduling, which historically has increased oil price volatility and oil trading activities in the winter months. As a result, revenues generated by our vessels have historically been weaker during the quarters ended June 30 and September 30, and stronger in the quarters ended December 31 and March 31.

The size of and types of vessels in our fleet continues to change. Our results of operations reflect changes in the size and composition of our fleet due to certain vessel deliveries, vessel dispositions and changes to the number of vessels we charter in, as well as our entry into new markets. Please read “—Results of Operations” below for further details about vessel dispositions, deliveries and vessels chartered in. Due to the nature of our business, we expect our fleet to continue to fluctuate in size and composition.

Vessel operating and other costs are facing industry-wide cost pressures. The shipping industry continues to forecast a shortfall in qualified personnel, although weak shipping and offshore markets and slowing growth may ease officer shortages. We will continue to focus on our manning and training strategies to meet future needs, but going forward crew compensation may increase. In addition, factors such as pressure on commodity and raw material prices, as well as changes in regulatory requirements could also contribute to operating expenditure increases. We continue to take action aimed at improving operational efficiencies and to temper the effect of inflationary and other price escalations; however, increases to operational costs are still likely to occur in the future.

Our net income is affected by fluctuations in the fair value of our derivative instruments. Most of our existing cross currency and interest rate swap agreements and foreign currency forward contracts are not designated as hedges for accounting purposes. Although we believe the non-designated derivative instruments are economic hedges, the changes in their fair value are included in our consolidated statements of income as unrealized gains or losses on non-designated derivatives. The changes in fair value do not affect our cash flows or liquidity.

The amount and timing of dry dockings of our vessels can affect our revenues between periods. Our vessels are off hire at various times due to scheduled and unscheduled maintenance. During 2016 and 2015, on a consolidated basis we incurred 601 and 1,591 off-hire days relating to dry docking, respectively. The financial impact from these periods of off-hire, if material, is explained in further detail below in “—Results of Operations”. 26 of our vessels are scheduled for dry docking during 2017.

The division of our results of operations between the Daughter Companies and Teekay Parent is impacted by the sale of vessels from Teekay Parent to the Daughter Companies. During 2015, Teekay Parent sold certain of its vessels to Teekay Offshore. Teekay Offshore and the other Daughter Companies account for the acquisition of the vessels from Teekay as a transfer of a business between entities under common control. The method of accounting for such transfers is similar to the pooling of interests method of accounting. Under this method, the carrying amount of net assets recognized in the balance sheets of each combining entity are carried forward to the balance sheet of the combined entity, and no other assets or liabilities are recognized as a result of the combination. In addition, such transfers are accounted for as if the transfer occurred from the date that the acquiring subsidiary and the acquired vessels were both under the common control of Teekay and had begun operations. As a result, the historical financial information of Teekay Offshore included in this Annual Report reflects the financial results of the vessels acquired from Teekay Parent from the date the vessels were both under the common control of Teekay and had begun operations but prior to the date they were owned by Teekay Offshore.

• Three of Teekay LNG’s Suezmax tankers and one of its LPG carriers earned revenues based partly on spot market rates. The time-charter contract for one of Teekay LNG’s Suezmax tankers, the Teide Spirit, and one of its LPG carriers, the Norgas Napa, contain a component providing for additional revenue to Teekay LNG beyond the fixed-hire rate when spot market rates exceed certain threshold amounts. The time-charter contracts for the Bermuda Spirit and Hamilton Spirit were amended in the fourth quarter of 2012 for a period of 24 months, which ended on September 30, 2014, and during this period these charters contained a component providing for additional revenues to Teekay LNG beyond the fixed-hire rate when spot market rates exceeded certain threshold amounts. Accordingly, even though declining spot market rates did not result in Teekay LNG receiving less than the fixed-hire rate, Teekay

LNG's results of operations and cash flow from operations were influenced by the variable component of the charters in periods where the spot market rates exceeded the threshold amounts.

Our financial results are affected by fluctuations in currency exchange rates. Under GAAP, all foreign currency-denominated monetary assets and liabilities (including cash and cash equivalents, restricted cash, accounts receivable, accounts payable, accrued liabilities, unearned revenue, advances from affiliates, and long-term debt) are revalued and reported based on the prevailing exchange rate at the end of the period. These foreign currency translations fluctuate based on the strength of the U.S. Dollar relative to the applicable foreign currency, mainly to the Euro and NOK, and are included in our results of operations. The translation of all foreign currency-denominated monetary assets and liabilities at each reporting date results in unrealized foreign currency exchange gains or losses but do not impact our cash flows.

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The duration of many of our shuttle tanker, FSO and FPSO contracts is the life of the relevant oil field or is subject to extension by the field operator or vessel charterer. If the oil field no longer produces oil or is abandoned or the contract term is not extended, we will no longer generate revenue under the related contract and will need to seek to redeploy affected vessels. Many of our shuttle tanker contracts have a “life-of-field” duration, which means that the contract continues until oil production at the field ceases. If production terminates for any reason, we no longer will generate revenue under the related contract. Other shuttle tanker, FSO and FPSO contracts under which our vessels operate are subject to extensions beyond their initial term. The likelihood of these contracts being extended may be negatively affected by reductions in oil field reserves, low oil prices generally or other factors. If we are unable to promptly redeploy any affected vessels at rates at least equal to those under the contracts, if at all, our operating results will be harmed. Any potential redeployment may not be under long-term contracts, which may affect the stability of our cash flow and our ability to make cash distributions. FPSO units, in particular, are specialized vessels that have very limited alternative uses and high fixed costs. In addition, FPSO units typically require substantial capital investments prior to being redeployed to a new field and production service agreement. Any idle time prior to the commencement of a new contract or our inability to redeploy the vessels at acceptable rates may have an adverse effect on our business and operating results.

**RECENT DEVELOPMENTS AND RESULTS OF OPERATIONS**

The results of operations that follow have first been divided into (a) our controlling interests in each of our publicly traded subsidiaries Teekay Offshore, Teekay LNG and Teekay Tankers and (b) Teekay Parent. Within each of these four groups, we have further subdivided the results into their respective lines of business. The following table presents revenue and income from vessel operations for each of these three subsidiaries and Teekay Parent and how they reconcile to our consolidated financial statements.

(in thousands of U.S. dollars)	Revenues			Income from Vessel Operations		
	2016	2015	2014	2016	2015	2014
Teekay Offshore	1,152,390	1,229,413	1,019,539	230,853	283,399	256,218
Teekay LNG	396,444	397,991	402,928	153,181	181,372	183,823
Teekay Tankers <sup>(1)</sup>	526,896	504,347	235,593	86,456	184,083	58,271
Teekay Parent	340,513	419,166	450,112	(96,496 )	(30,228 )	(73,723 )
Elimination of intercompany <sup>(2)(3)</sup>	(87,674 )	(100,535 )	(114,252 )	10,296	6,506	2,570
Teekay Corporation Consolidated	2,328,569	2,450,382	1,993,920	384,290	625,132	427,159

(1) In December 2015, Teekay Offshore sold two Aframax tankers to Teekay Tankers and the results of the two vessels are included in Teekay Offshore up to the date of sale and in Teekay Tankers from the date of acquisition.

(2) During 2016, Teekay Parent chartered in three FSO units, three shuttle tankers and one Aframax tanker from Teekay Offshore, two LNG carriers from Teekay LNG and two Aframax tankers from Teekay Tankers. During 2015, Teekay Parent chartered in three FSO units, two shuttle tankers and four Aframax tankers from Teekay Offshore, and two LNG carriers from Teekay LNG, and Teekay Parent chartered out one Aframax tanker to Teekay Tankers. During 2014, Teekay Parent chartered in three FSO units, two shuttle tankers and four Aframax tankers from Teekay Offshore, two LNG carriers from Teekay LNG and two Aframax tankers from Teekay Tankers. Internal charter hire between Teekay Parent and its subsidiaries Teekay Offshore, Teekay LNG and Teekay Tankers is eliminated upon consolidation.

(3) During 2014, Teekay Parent sold to Teekay Tankers a 50% interest in Teekay Tankers Operations Ltd (or TTOL), which owns the conventional tanker commercial management and technical management operations, including direct ownership in three commercially managed tanker pools of the Teekay group. Teekay Tankers and Teekay Parent each account for their 50% interests in TTOL as equity-accounted investments and, as such, TTOL’s results are reflected in equity income of Teekay Tankers and Teekay Parent. Upon consolidation of Teekay Tankers into Teekay Corporation, the results of TTOL are accounted for on a consolidated basis by Teekay Corporation. The impact on our income from vessel operations of consolidating TTOL in 2016 was an increase of \$10.3 million (2015 - \$6.5 million, 2014 - \$2.6 million).

Summary

Teekay Corporation consolidated income from vessels operations decreased to \$384 million for the year ended December 31, 2016 compared to \$625 million in the prior year. The primary reasons for this decrease are as follows:

in Teekay Offshore, the cancellation of the construction contracts for its two UMS newbuildings, lower revenue from its UMS being off-hire for a portion of 2016 due to damage suffered to the gangway and the suspension of charter hire payments since early-November 2016 due to an operational review being conducted by the charterer, the expiration of certain shuttle tanker time-charter and affreightment contracts, change in estimate of useful life of certain shuttle tankers which increased depreciation expense, and the termination of the contract of the Petrojarl Varg FPSO; in Teekay LNG, the sale of three conventional tankers, partially offset by the delivery of two LNG newbuildings in 2016;

in Teekay Tankers, lower average TCE rates earned in the spot tanker market in 2016 compared to 2015; and in Teekay Parent, terminations of time charters and the lay-up of the Arctic Spirit and Polar Spirit LNG carriers in 2016, loss on sale of the Shoshone Spirit tanker, lower average TCE rates earned in the spot tanker market, and a contract amendment related to the Hummingbird Spirit FPSO which reduced its revenues.

Details of the changes to our results of operations for the year ended December 31, 2016, compared to the year ended December 31, 2015 are provided in the following section.

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Year Ended December 31, 2016 versus Year Ended December 31, 2015

Teekay Offshore

Recent Developments in Teekay Offshore

In January 2017, Teekay Offshore was awarded a new five-year shuttle tanker contract of affreightment (or CoA), plus extension options, with a consortium of oil companies to service a development located in the UK Central North Sea. The CoA is expected to commence during the first quarter of 2018 and require the use of shuttle tankers from Teekay Offshore's existing CoA shuttle tanker fleet. The CoA will require the use of approximately 0.5 shuttle tanker equivalents per annum.

In September 2016, Teekay Offshore was awarded a new three-year shuttle tanker CoA, plus extension options, with BP plc, Royal Dutch Shell and OMV Group, to service the new Glen Lyon FPSO unit located west of Shetland in the North Sea. This CoA is expected to commence in mid-2017 and require the use of approximately two shuttle tankers from Teekay Offshore's existing CoA shuttle tanker fleet.

In June 2016, as part of its financing initiatives, Teekay Offshore canceled the construction contracts for its two UMS newbuildings. As a result, Teekay Offshore incurred a \$43.7 million write-down related to these two UMS newbuildings for the year ended December 31, 2016, which is included in Asset Impairments in Teekay's consolidated statements of income. In addition, Teekay Offshore accrued for potential damages resulting from the cancellations and reversed contingent liabilities previously recorded that were relating to the delivery of the UMS newbuildings. This net loss provision of \$23.4 million for the year ended December 31, 2016 is reported in Other (loss) income in Teekay's consolidated statements of income. The newbuilding contracts are held in separate subsidiaries of Teekay Offshore and obligations of these subsidiaries are non-recourse to Teekay Offshore. For additional information, please read Item 18 - Financial Statements: Note 15d. Commitments and Contingencies.

In April 2016, during the process to lift off the gangway connecting the Arendal Spirit to an FPSO unit, the gangway of the Arendal Spirit suffered damage. The gangway was replaced and underwent extensive testing and the unit recommenced operations in early-July 2016. As a result of this incident, Teekay Offshore reversed contingent liabilities previously recorded that were subject to material defects of the UMS.

In November 2016, the Arendal Spirit UMS experienced an operational incident relating to its dynamic-positioning system. As a result of this operational incident, and a gangway incident that occurred in April 2016, the charterer, Petrobras, initiated an operational review. Until the results of the review are available, Petrobras has suspended its charter hire payments from early-November 2016. Teekay Offshore has completed an investigation to identify the cause of the incidents and has implemented corrective measures. Teekay Offshore is working to address Petrobras' concerns to bring the unit back into operation as soon as possible.

In September 2016, Teekay Offshore took delivery of the ALP Striker, the first of four state-of-the-art SX-157 Ulstein Design ultra-long distance towing and offshore installation newbuildings being constructed by Niigata Shipbuilding & Repair in Japan. In connection with the delivery, Teekay Offshore received cash compensation from the shipyard totaling approximately \$7 million due to the delayed delivery of the vessel. In April 2017, Teekay Offshore received additional delayed delivery cash compensation of \$24.3 million for the remaining three towing and offshore installation newbuildings, which are scheduled to deliver during 2017.

In March 2016, Teekay Offshore terminated an above-market time-charter contract of the Kilimanjaro Spirit conventional tanker with a subsidiary of Teekay. Subsequently, Teekay Offshore sold the Kilimanjaro Spirit and the Fuji Spirit conventional tankers for net proceeds of approximately \$50 million. Related to the sale of these vessels, Teekay Offshore is chartering back both vessels for a period of three years with an additional one-year extension option. One vessel is fixed on a two-year time-charter-out contract that commenced during the second quarter of 2016,



and the other vessel is trading in the spot conventional tanker market.

In November 2016, Teekay Offshore sold a 1995-built shuttle tanker, the Navion Europa, for net proceeds of \$14.4 million, for which Teekay Offshore recorded a gain on sale of \$6.8 million in a 67%-owned subsidiary.

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## Operating Results – Teekay Offshore

The following table compares Teekay Offshore's operating results and number of calendar-ship-days for its vessels for 2016 and 2015, and compares its net revenues (which is a non-GAAP financial measure) for 2016 and 2015, to revenues, the most directly comparable GAAP financial measure, for the same periods.

(in thousands of U.S. dollars, except calendar-ship-days)	Offshore Logistics		Offshore Production		Conventional Tankers		Teekay Offshore Total	
	2016	2015	2016	2015	2016	2015	2016	2015
Revenues	636,421	667,629	495,223	531,554	20,746	30,230	1,152,390	1,229,413
Voyage expenses	(79,387 )	(95,680 )	—	—	(1,363 )	(2,326 )	(80,750 )	(98,006 )
Net revenues	557,034	571,949	495,223	531,554	19,383	27,904	1,071,640	1,131,407
Vessel operating expenses	(197,529)	(182,346)	(165,346)	(189,900)	(1,566 )	(6,234 )	(364,441 )	(378,480 )
Time-charter hire expense	(62,511 )	(51,750 )	—	—	(12,974)	—	(75,485 )	(51,750 )
Depreciation and amortization	(150,813)	(130,102)	(149,198)	(137,914)	—	(6,583 )	(300,011 )	(274,599 )
General and administrative expenses <sup>(1)</sup>	(19,798 )	(32,963 )	(35,971 )	(38,588 )	(353 )	(1,062 )	(56,122 )	(72,613 )
Asset impairments and gain on sale of vessels	(40,079 )	(66,101 )	—	—	—	(3,897 )	(40,079 )	(69,998 )
Restructuring charges	(205 )	(568 )	(4,444 )	—	—	—	(4,649 )	(568 )
Income from vessel operations	86,099	108,119	140,264	165,152	4,490	10,128	230,853	283,399
Equity income	—	—	17,933	7,672	—	—	17,933	7,672
Calendar-Ship-Days <sup>(2)</sup>								
Shuttle Tankers	11,913	12,319	—	—	—	—	11,913	12,319
FSO Units	2,562	2,395	—	—	—	—	2,562	2,395
FPSO Units	—	—	2,196	2,122	—	—	2,196	2,122
Conventional Tankers	—	—	—	—	732	1,432	732	1,432
UMS	366	318	—	—	—	—	366	318
Towage vessels	2,307	1,606	—	—	—	—	2,307	1,606

(1)Includes direct general and administrative expenses and indirect general and administrative expenses allocated to offshore logistics, offshore production and conventional tankers based on estimated use of corporate resources.

(2)Calendar-ship-days presented relate to owned and in-chartered consolidated vessels.

## Teekay Offshore – Offshore Logistics

Offshore Logistics consists of Teekay Offshore's shuttle tankers, FSO units, its HiLoad Dynamic Positioning (or HiLoad DP) unit, towage vessels and one UMS. As at December 31, 2016, the shuttle tanker fleet consisted of 30 vessels that operate under fixed-rate CoAs, time charters and bareboat charters, three shuttle tanker newbuildings and the HiLoad DP unit, which is currently in lay-up. Of these 34 shuttle tankers, six are owned through 50% owned subsidiaries and three were chartered-in. The remaining vessels were owned 100% by Teekay Offshore. In November 2016, Teekay Offshore sold a 1995-built shuttle tanker, the Navion Europa. In January 2016, Teekay Offshore sold a 1992-built shuttle tanker, the Navion Torinita, which was in lay-up and classified as held for sale on Teekay's consolidated balance sheet as of December 31, 2015. In July 2016, Teekay Offshore agreed to in-charter a shuttle tanker, the Grena Knutsen, on a three-year charter contract for its North Sea fleet commencing in September 2016. All of Teekay Offshore's operating shuttle tankers, with the exception of the HiLoad DP unit, provide transportation services to energy companies in the North Sea, Brazil and the East Coast of Canada. Teekay Offshore's shuttle tankers occasionally service the conventional spot tanker market. Teekay Offshore commenced the FSO conversion of the Randgrid shuttle tanker during the second quarter of 2015. During the first quarter of 2015, Teekay Offshore sold the Navion Svenita shuttle tanker. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner,

Euro and Brazilian Real may result in significant decreases or increases, respectively, in vessel operating expenses.

The average size of Teekay Offshore's owned shuttle tanker fleet decreased in 2016 compared to 2015, primarily due to the sales of the Navion Svenita, the Navion Torinita and the Navion Europa in March 2015, January 2016 and November 2016, respectively, and the commencement of the FSO conversion of the Randgrid in June 2015. Three shuttle tanker newbuildings have been excluded from calendar-ship-days until they are delivered to Teekay Offshore. The average size of Teekay Offshore's chartered-in shuttle tanker fleet increased in 2016 compared to 2015 primarily due to the in-chartering of two shuttle tankers, the Jasmine Knutsen and the Heather Knutsen, for the East Coast of Canada contract, which commenced in June 2015, the in-chartering of the Grena Knutsen for three years which commenced in September 2016 and increased spot in-chartering of shuttle tankers, partially offset by redelivery of the Grena Knutsen and Aberdeen to their owners in June 2015 and December 2016, respectively. The Grena Knutsen was subsequently rechartered in by Teekay Offshore in September 2016.

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As of December 31, 2016, Teekay Offshore's FSO fleet consisted of five units that operate under fixed-rate time charters or fixed-rate bareboat charters in which Teekay Offshore's ownership interest ranged from 89% to 100%, and one shuttle tanker, the Randgrid, currently undergoing conversion into an FSO unit, in which Teekay Offshore's ownership interest increased from 67% to 100% during the third quarter of 2015. The Navion Saga FSO unit was held for sale as at December 31, 2016. FSO units provide an on-site storage solution to oil field installations that have no oil storage facilities or that require supplemental storage. Teekay Offshore's revenues and vessel operating expenses for the FSO segment are affected by fluctuations in currency exchange rates, as a significant component of revenues are earned and vessel operating expenses are incurred in Norwegian Kroner and Australian Dollars for certain vessels. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner or Australian Dollar may result in significant decreases or increases, respectively, in revenues and vessel operating expenses.

The average number of Teekay Offshore's FSO units increased in 2016 compared to 2015, due to the commencement of the FSO conversion of the Randgrid on June 9, 2015. No earnings are expected from the Randgrid until its conversion is completed in mid-2017, when the unit is scheduled to commence operations under a three-year time-charter contract with Statoil ASA, which includes 12 additional one-year extension options. Additionally, the Navion Saga FSO unit was redelivered to Teekay Offshore in October 2016 and was classified as held for sale as at December 31, 2016, resulting in a \$1.0 million write-down of the unit.

As at December 31, 2016, Teekay Offshore's towage vessel fleet consisted of seven long-distance towing and offshore installation vessels and three long-distance towing and offshore installation vessel newbuildings, which are scheduled to deliver during 2017. Teekay Offshore owns a 100% interest in each of the vessels in its towage fleet. Long-distance towing and offshore installation vessels are used for the towage, station-keeping, installation and decommissioning of large floating objects such as exploration, production and storage units, including FPSO units, floating liquefied natural gas (or FLNG) units and floating drill rigs.

The average number of Teekay Offshore's towing and offshore installation vessels increased in 2016 compared to 2015, due to the acquisition of three vessels during the first quarter of 2015, two vessels during the second quarter of 2015, one vessel during the third quarter of 2015, and the delivery of Teekay Offshore's first towage newbuilding vessel in September 2016.

As at December 31, 2016, Teekay Offshore's UMS fleet consisted of one unit, the Arendal Spirit, in which Teekay Offshore owns a 100% interest. During the second quarter of 2016, Teekay Offshore canceled the UMS construction contracts for its two UMS newbuildings, resulting in a write-down of the UMS newbuildings to \$nil. The UMS unit is used primarily for offshore accommodation, storage and support for maintenance and modification projects on existing offshore installations, or during the installation and decommissioning of large floating exploration, production and storage units, including FPSO units, FLNG units and floating drill rigs. Teekay Offshore's UMS unit is available for world-wide operations, excluding operations within the Norwegian Continental Shelf, and includes DP3 keeping systems that are capable of operating in deep water and harsh weather.

Income from vessel operations for Teekay Offshore's Offshore Logistics business decreased to \$86.1 million in 2016 from \$108.1 million in 2015, primarily as a result of:

- a decrease of \$55.6 million relating to the UMS fleet, primarily due to the write-downs relating to the cancellation of the two UMS newbuilding contracts, an increase in spare parts and consumables in 2016 due to these costs being covered under warranty during 2015, and lower revenues due to the unit being off-hire from mid-April 2016 until early-July 2016 due to damage suffered to the gangway and the suspension of charter hire payments since early-November 2016 due to an operational review being conducted by the charterer;

- a decrease of \$23.6 million due to higher depreciation expense related to the change in the estimated useful life of the shuttle component for all shuttle tankers from 25 to 20 years, the accelerated amortization of the tanker component for eight older shuttle tankers commencing the first quarter of 2016, the acquisition of the six towing and offshore

installation vessels during 2015, the delivery of the ALP Striker towage vessel in September 2016 and the commencement of the charter contract of the Arendal Spirit UMS in June 2015. This is partially offset by dry-dock costs for the Navion Saga shuttle tanker being fully depreciated during the fourth quarter of 2015, a write-down of the carrying values of seven shuttle tankers during 2015, and the Navion Europa shuttle tanker being fully amortized during the second quarter of 2015;

• a decrease of \$22.7 million due to the expiration in April 2015 of a long-term contract at the Heidrun field serviced by Teekay Offshore's CoA fleet;

• a decrease of \$17.9 million due to the redelivery of two shuttle tankers to Teekay Offshore in April 2015 and June 2016, respectively, as they completed their time-charter-out agreement;

• a decrease of \$9.7 million due to fewer opportunities to trade excess shuttle tanker capacity in the conventional tanker spot market;

• a decrease of \$8.7 million relating to the towage fleet primarily due to a decrease in rates and utilization of the towing and offshore installation vessels due to volatility in the offshore market, an increase in operating expenses due to the delivery of the ALP Striker in September 2016, an increase in repairs and maintenance expenses due to engine overhauls on the ALP Winger and ALP Centre during the first quarter of 2016, and an increase in crew costs compared to 2015 due to higher crew levels, partially offset by a more cost-efficient crew composition in 2016;

• a decrease of \$5.2 million due to the in-chartering of the Grena Knutsen starting September 2016; and

• a decrease of \$4.2 million related to higher repair and maintenance activities on the Navion Anglia shuttle tanker to prepare the vessel to trade in Teekay Offshore's CoA fleet in the North Sea as the vessel was redelivered to Teekay Offshore in June 2016 due to the completion of its time-charter-out agreement in Brazil;

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partially offset by

- an increase of \$69.7 million due to a write-down of shuttle tankers of \$65.1 million in 2015 and a \$6.7 million gain on the sale of a shuttle tanker in 2016, partially offset by a write-down of a shuttle tanker of \$2.1 million in 2016;

- an increase of \$15.9 million due to an increase in rates as provided in certain contracts in Teekay Offshore's time-chartered-out fleet and an increase in revenues in Teekay Offshore's CoA fleet due to higher average rates and higher fleet utilization;

- an increase of \$13.2 million due to lower general and administrative expenses from lower management fees relating to Teekay Offshore's shuttle tanker and FSO fleets primarily from cost saving initiatives, and a decrease in development fees to Teekay of \$4.2 million in connection with Teekay Offshore's acquisition of six long-distance towing and offshore installation vessels and the Arendal Spirit UMS in 2015, partially offset by an increase in management fees due to the commencement of the charter contract of the Arendal Spirit in June 2015;

- an increase of \$10.8 million due to an increase in net revenues from the commencement of the East Coast of Canada contract in June 2015, partially offset by lower reimbursable expenses in relation to this contract and the in-chartering of three shuttle tankers for this contract, one of which was redelivered by Teekay Offshore in August 2015 and was replaced by Teekay's own shuttle tanker, the Navion Hispania;

- an increase of \$5.6 million due a reduction in operating expenses and amortization expense due to the commencement of the FSO conversion of the Randgrid in June 2015;

- an increase of \$4.0 million due to the redeliveries by Teekay Offshore of the Grena Knutsen and Aberdeen shuttle tankers in June 2015 and December 2016, respectively, partially offset by increased spot in-chartering of shuttle tankers in 2016;

- an increase of \$4.0 million due to the Navion Europa shuttle tanker acting as a substitute vessel while the Apollo Spirit FSO unit was undergoing a dry dock in the third quarter of 2016; and

- an increase of \$3.2 million due to lower shuttle tanker operating expenses due to lower fleet and onshore overhead mainly related to lower crew training costs in 2016, and the strengthening of the U.S. Dollar against the Norwegian Kroner, Euro and Brazilian Real, partially offset by higher crew costs relating to a change in crew composition.

#### Teekay Offshore – Offshore Production

Offshore Production consists of Teekay Offshore's FPSO units. As of December 31, 2016, Teekay Offshore's FPSO fleet consisted of the Petrojarl Knarr, the Petrojarl Varg, the Cidade de Rio das Ostras (or Rio das Ostras), the Piranema Spirit, the Voyageur Spirit, and the Petrojarl I FPSO units, all of which Teekay Offshore owns 100%, and the Itajai and Libra FPSO units, of which Teekay Offshore owns 50%. One equity accounted FPSO unit, the Libra FPSO unit owned through Teekay Offshore's 50/50 joint venture with Odebrecht Oil & Gas S.A. (or OOG) has completed its conversion into an FPSO unit and is en route to the Libra field located in the Santos Basin offshore Brazil where it is scheduled to commence operations in mid-2017. The Petrojarl I FPSO unit is currently undergoing upgrades at the Damen Shipyard Group's DSR Schiedam Shipyard (or Damen) in the Netherlands and is scheduled to commence operations under a five-year fixed-rate charter contract with Queiroz Galvão Exploração e Produção SA (or QGEP) at the end of 2017. Teekay Offshore acquired the Petrojarl Knarr FPSO unit from Teekay in July 2015.

In late-2015, Teekay Offshore received a termination notice for the Petrojarl Varg FPSO charter contract from Repsol S.A. (or Repsol), based on a termination right that was specific to the Petrojarl Varg FPSO contract. In accordance with the termination provision of the charter contract, the charterer ceased paying the capital component of the charter hire six months prior to the redelivery date, which redelivery occurred at the end of July 2016.

FPSO units provide production, processing and storage services to oil companies operating offshore oil field installations. These services are typically provided under long-term, fixed-rate FPSO contracts, some of which also include certain incentive compensation or penalties based on the level of oil production and other operational measures. Historically, the utilization of FPSO units and other vessels in the North Sea, where the Voyageur Spirit and Petrojarl Knarr operate, is higher in the winter months, as favorable weather conditions in the summer months provide opportunities for repairs and maintenance to vessels and the offshore oil platforms, which generally reduces oil production. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner, Brazilian Real, and

British Pound may result in significant decreases or increases, respectively, in our revenues and vessel operating expenses.

The average number of Teekay Offshore's FPSO units increased in 2016 compared to 2015, due to the acquisition of the Petrojarl Knarr on July 1, 2015.

Income from vessel operations for Teekay Offshore's Offshore Production business decreased to \$140.3 million in 2016 compared to \$165.2 million in 2015, primarily as a result of:

- a decrease of \$46.6 million for the Petrojarl Varg FPSO unit, due to the termination of the charter contract by Repsol effective at the end of July 2016, partially offset by lower vessel operating expenses as the unit is now in layup;
- a decrease of \$4.4 million relating to the restructuring costs associated with the reorganization of the FPSO business to create better alignment with the offshore operations and resulting in a lower cost organization going forward; and
- a decrease of \$2.9 million relating to the Voyageur Spirit FPSO unit due to a lower production bonus earned in 2016 compared to 2015, partially offset by lower repair and maintenance costs reimbursed by the charterer in 2016;

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partially offset by

an increase of \$28.2 million due to the Petrojarl Knarr FPSO unit commencing operations on March 9, 2015; an increase of \$2.6 million due to lower general and administrative expenses due to (a) a decrease in business development fees paid to Teekay in 2016 compared to 2015 of \$9.7 million in connection with the 2015 acquisition for the Petrojarl Knarr FPSO and (b) the redelivery and lay up of the Petrojarl Varg FPSO unit in 2016, partially offset by the increase in general and administration expenses as a result of the acquisition of the Petrojarl Knarr FPSO unit in July 2015; and

an increase of \$1.9 million for the Rio das Ostras FPSO unit, primarily due to higher incentive compensation and a bonus earned from the charterer of the unit for unused maintenance days under the service contract during 2016. Equity income increased to \$17.9 million for 2016 compared to \$7.7 million for 2015, primarily due to an increase in unrealized gains on derivative instruments relating to Teekay Offshore's investment in the Libra FPSO joint venture and the Itajai FPSO joint venture, lower repairs and maintenance expenses in 2016 due to turbine repairs made during 2015 and an insurance claim payment received during 2016 relating to these turbine repairs for the Itajai FPSO unit.

Teekay Offshore – Conventional Tankers

As at December 31, 2016, Teekay Offshore's conventional tanker fleet consisted of two in-chartered conventional tankers. In March 2016, Teekay Offshore terminated the time-charter contract of the Kilimanjaro Spirit with a subsidiary of Teekay and received an early termination fee of \$4.0 million from Teekay. Subsequently, Teekay Offshore sold the Kilimanjaro Spirit and the Fuji Spirit conventional tankers. The Kilimanjaro Spirit was renamed Blue Pride and the Fuji Spirit was renamed Blue Power. As part of the sales, Teekay Offshore is in-chartering these vessels for three years with additional one-year extension options. One vessel is trading on a fixed two-year time-charter-out contract which commenced during the second quarter of 2016 and the other vessel is trading in the spot conventional tanker market.

In December 2015, Teekay Offshore sold its 100% interest in SPT Explorer L.L.C. and Navigator Spirit L.L.C., which own the SPT Explorer and the Navigator Spirit conventional tankers, respectively, to Teekay Tankers.

Income from vessel operations decreased to \$4.5 million in 2016 from \$10.1 million in 2015, primarily as a result of: a net decrease of \$10.7 million in 2016 due to the sale of the Kilimanjaro Spirit and Fuji Spirit in March 2016, and the subsequent in-chartering of the Blue Power and Blue Pride; and

a decrease of \$5.4 million for 2016 due to the sale of the Explorer Spirit and Navigator Spirit in December 2015; partially offset by

an increase of \$5.8 million relating to a \$4.0 million termination fee received from Teekay due to the early termination of the time-charter-out contract for the Kilimanjaro Spirit in March 2016 and net termination fees of \$1.8 million paid to Teekay due to the early terminations of bareboat and time-charter contracts for the SPT Explorer, Navigator Spirit, and Fuji Spirit in December 2015; and

an increase of \$3.9 million due to a write-down of two conventional tankers in 2015.

Teekay LNG

Recent Developments in Teekay LNG

On November 15, 2016, the joint venture among National Oil & Gas Authority (or Nogaholding), Samsung C&T (or Samsung), Gulf Investment Corporation (or GIC) and Teekay LNG (or the Bahrain LNG Joint Venture), secured debt financing of \$741.1 million related to the development of an LNG receiving and regasification terminal in Bahrain. The receiving and regasification terminal will be owned and operated by the Bahrain LNG Joint Venture under a 20-year agreement with Nogaholding which is scheduled to commence operations in early-2019. In conjunction with this project, Teekay LNG will supply a floating storage unit (or FSU), which will be modified from one of Teekay LNG's nine wholly-owned LNG carrier newbuildings, and charter the FSU to the Bahrain LNG Joint Venture through a 20-year time-charter contract.





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Teekay LNG has six LPG carriers currently on bareboat charter contracts with I.M. Skaugen SE (or Skaugen) with contract terms ending between 2019 and 2026. As at December 31, 2016, Teekay LNG had not been paid by Skaugen for a portion of the hire invoices for the period from August 2016 to December 2016 relating to these six vessels and totaling approximately \$9.2 million. As an alternative payment for a portion of these amounts, Skaugen offered to Teekay LNG its 35% ownership interest in an LPG carrier, the Norgas Sonoma, which is owned by Skaugen Gulf Petchem Carriers B.S.C.(c), a joint venture between Skaugen (35%), or Nogaholding (35%) and Suffun Bahrain W.L.L. (or Suffun) (30%) (or the Skaugen LPG Joint Venture). Both Nogaholding and Suffun exercised their option to participate in the purchase and sale of the Skaugen LPG Joint Venture and as a result, Teekay LNG is finalizing the acquisition of the Skaugen LPG Joint Venture for approximately \$13 million. Upon closing of this transaction, Teekay LNG will apply the purchase price of \$4.7 million, to be adjusted for working capital adjustments, relating to Skaugen's 35% ownership interest in the Skaugen LPG Joint Venture, to the outstanding hire invoices owed by Skaugen to Teekay LNG. As a result, as at December 31, 2016, Teekay LNG has not recognized any revenue relating to the remaining \$4.5 million of hire invoices outstanding from Skaugen given the uncertainty of its collection. Upon acquisition of the Skaugen LPG Joint Venture, Teekay LNG expects to continue to trade the Norgas Sonoma in the Norgas pool. In addition, there is uncertainty about Skaugen's ability to pay future invoices for our six LPG carriers on charter to them, which may impact Teekay LNG's revenues and cash flows in future periods if Teekay LNG is not able to redeploy the vessels at similar rates. Currently, lease payments from Skaugen represent approximately \$6 million of revenue each quarter.

During February and March 2016, Centrofin Management Inc. (or Centrofin), the charterer for both the Bermuda Spirit and Hamilton Spirit Suezmax tankers of Teekay LNG, exercised its option under the charter contracts to purchase both vessels. As a result of Centrofin's acquisition of the vessels, Teekay LNG recorded a \$27.4 million loss on the sale of the vessels and associated charter contracts in the first quarter of 2016. The Bermuda Spirit was sold in April 2016 and the Hamilton Spirit was sold in May 2016. Teekay LNG used the total proceeds of \$94.3 million from the sales primarily to repay existing term loans associated with these vessels.

On November 30, 2016, Teekay LNG reached an agreement to sell the Asian Spirit for net proceeds of \$20.6 million. As a result, Teekay LNG recorded a \$11.5 million impairment on the write-down of the vessel in the fourth quarter of 2016. Delivery of the vessel to the new owners occurred on March 21, 2017. Teekay LNG used the net proceeds from the sales primarily to repay an existing term loan associated with the vessel.

In February 2016 and July 2016, Teekay LNG took delivery of the first two of the 11 M-type, Electronically Controlled Gas Injection (or MEGI) LNG carrier newbuildings on order, which commenced their five-year charter contracts with a subsidiary of Cheniere Energy, Inc. in February 2016 and August 2016, respectively. As at December 31, 2016, Teekay LNG had nine wholly-owned LNG carrier newbuildings on order, of which one, the Torben Spirit, was delivered in February 2017, and the remaining eight are scheduled for delivery between late-2017 and early-2019.

On September 27, 2016, Teekay LNG entered into a 15-year time-charter contract with the Yamal LNG project (or the Yamal LNG Project), sponsored by Novatek OAO, Total SA, China National Petroleum Corporation and Silk Road Fund, to provide the Yamal LNG Project with conventional LNG transportation services. The Yamal LNG Project, which is now fully financed, is currently scheduled to commence production in late-2017. The charter contract will be serviced by one of Teekay LNG's previously unchartered 174,000 cubic meter (or cbm) MEGI LNG carrier newbuilding that is scheduled for delivery in early-2019.

Additionally, in November 2016, Teekay LNG entered into a 10-month plus one-year option charter contract with a major energy company. The charter contract commenced on March 3, 2017 and is being serviced by Teekay LNG's final previously unchartered 173,400 cbm MEGI LNG carrier newbuilding, the Torben Spirit, which was delivered to Teekay LNG on February 28, 2017. Prior to the conclusion of this charter, Teekay LNG will seek to secure a long-term contract on this vessel.

In December 2016, Teekay LNG entered into a 10-year \$682.8 million sale-leaseback agreement with ICBC Financial Leasing Co., Ltd. (or ICBC Leasing) for four of its nine wholly-owned LNG carrier newbuildings delivering in 2017 and 2018, and at such dates, ICBC Leasing will take delivery and charter each respective vessel back to Teekay LNG. At the end of the 10-year tenor of these leases, Teekay LNG has an obligation to repurchase the vessels from ICBC Leasing.

In addition to Teekay LNG's nine LNG wholly-owned carrier newbuildings, it has a 20% interest in two LNG carrier newbuildings and a 30% interest in another two LNG carrier newbuildings (or the BG Joint Venture) scheduled for delivery between 2017 and 2019 and six LNG carrier newbuildings relating to Teekay LNG's 50% owned joint venture with China LNG Shipping (Holdings) Limited (or the Yamal LNG Joint Venture) scheduled for delivery between 2018 and 2020. Including the transactions described above, Teekay LNG has entered into time-charter contracts for all of its remaining newbuildings.

In February, June, and November 2016, Exmar LPG BVBA (or the Exmar LPG Joint Venture), of which Teekay LNG has a 50% ownership interest, took delivery of the sixth, seventh, and eighth of its 12 LPG carrier newbuildings on order. The five-year charter contracts for the sixth and seventh LPG carriers with an international energy company based in Norway commenced in February 2016 and August 2016, respectively. As at December 31, 2016, the Exmar LPG Joint Venture had four LPG carrier newbuildings, of which one delivered in March 2017 and the remaining three are scheduled for delivery between mid-2017 and early-2018. The Exmar LPG Joint Venture has secured financing in place upon delivery of each respective vessel.

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Two of the six LNG carriers (or MALT LNG Carriers) in Teekay LNG's 52% joint venture with Marubeni Corporation (or the Teekay LNG-Marubeni Joint Venture), the Marib Spirit and Arwa Spirit, are currently under long-term contracts expiring in 2029 with Yemen LNG Ltd. (or YLNG), a consortium led by Total SA. Due to the political situation in Yemen, YLNG decided to temporarily close operation of its LNG plant in Yemen in 2015. As a result, the Teekay LNG-Marubeni Joint Venture agreed in December 2015 to defer a portion of the charter payments for the two LNG carriers from January 1, 2016 to December 31, 2016 and a further deferral was agreed and effective in August 2016 and in January 2017, the deferral period was extended to December 31, 2017. Once the LNG plant in Yemen resumes operations, it is intended that YLNG will repay the deferred amounts in full, plus interest over a period of time to be agreed upon. However, there is no assurance if or when the LNG plant will resume operations or if YLNG will repay the deferred amounts, and this deferral period may extend beyond 2017. Teekay LNG's proportionate share of the impact of the charter payment deferral for 2016 was a reduction to equity income of \$21.2 million and this deferral period may extend beyond 2017. Teekay LNG's proportionate share of the estimated impact of the charter payment deferral for 2017 compared to original charter rates earned prior to December 31, 2015 is estimated to be a reduction to equity income ranging from \$20 million to \$30 million depending on any sub-chartering employment opportunities.

In 2015, the Magellan Spirit, one of the MALT LNG Carriers in the Teekay LNG-Marubeni Joint Venture, had a grounding incident. The charterer during that time claimed that the vessel was off-hire for more than 30 consecutive days during the first quarter of 2015, which, in the view of the charterer, permitted the charterer to terminate the charter contract. The Teekay LNG-Marubeni Joint Venture disputed both the charterer's aggregate off-hire claims as well as the charterer's ability to terminate the charter contract, which originally would have expired in August 2016. In May 2016, the Teekay LNG-Marubeni Joint Venture reached a settlement agreement with the charterer, under which the charter contract was deemed terminated and the charterer paid \$39.0 million to the Teekay LNG-Marubeni Joint Venture for lost revenues, of which Teekay LNG's proportionate share was \$20.3 million, which was received and included in equity income in the year ended December 31, 2016.

## Operating Results – Teekay LNG

The following table compares Teekay LNG's operating results and number of calendar-ship-days for its vessels for 2016 and 2015, and compares its net revenues (which is a non-GAAP financial measure) for 2016 and 2015, to revenues, the most directly comparable GAAP financial measure, for the same periods.

	Liquefied Gas Carriers		Conventional Tankers		Teekay LNG Total	
	2016	2015	2016	2015	2016	2015
(in thousands of U.S. dollars, except calendar-ship-days)_____						
Revenues	336,530	305,056	59,914	92,935	396,444	397,991
Voyage expenses	(449 )	203	(1,207 )	(1,349 )	(1,656 )	(1,146 )
Net revenues	336,081	305,259	58,707	91,586	394,788	396,845
Vessel operating expenses	(66,087 )	(63,344 )	(22,503 )	(30,757 )	(88,590 )	(94,101 )
Depreciation and amortization	(80,084 )	(71,323 )	(15,458 )	(20,930 )	(95,542 )	(92,253 )
General and administrative expenses <sup>(1)</sup>	(15,310 )	(19,392 )	(3,189 )	(5,726 )	(18,499 )	(25,118 )
Write-down and loss on sale of vessels	—	—	(38,976 )	—	(38,976 )	—
Restructuring charges	—	—	—	(4,001 )	—	(4,001 )
Income (loss) from vessel operations	174,600	151,200	(21,419 )	30,172	153,181	181,372
Equity income	62,307	84,171	—	—	62,307	84,171
Calendar-Ship-Days <sup>(2)</sup>						
Liquefied Gas Carriers	7,440	6,935	—	—	7,440	6,935
Conventional Tankers	—	—	2,439	2,920	2,439	2,920

(1)

Includes direct general and administrative expenses and indirect general and administrative expenses allocated to the liquefied gas carriers and conventional tankers based on estimated use of corporate resources.

(2) Calendar-ship-days presented relate to consolidated vessels.

Teekay LNG – Liquefied Gas Carriers

As at December 31, 2016, Teekay LNG's liquefied gas fleet, including newbuildings, included 50 LNG carriers and 29 LPG/Multigas carriers, in which its interests ranged from 20% to 100%. The number of calendar-ship-days for Teekay LNG's liquefied gas carriers consolidated in its financial results increased to 7,440 days in 2016 from 6,935 days in 2015, as a result of the deliveries to Teekay LNG of the Creole Spirit and Oak Spirit in February 2016 and July 2016, respectively. During 2016, one of Teekay LNG's consolidated vessels in this segment was off-hire for a scheduled in-water survey, the Creole Spirit was off-hire for 32 days for repairs covered under warranty, and the Creole Spirit and Oak Spirit's time-charter contracts commenced in February 2016 and August 2016, respectively, compared to one consolidated vessel in this segment being off-hire for 47 days in 2015. As a result, Teekay LNG's utilization decreased to 99.1% for 2016, compared to 99.3% in 2015.

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Income from vessel operations increased to \$174.6 million in 2016 compared to \$151.2 million in 2015, primarily as a result of:

- an increase of \$19.9 million as a result of the deliveries of the Creole Spirit and Oak Spirit and the commencement of their charter contracts;
  - an increase of \$4.1 million as a result of lower general and administrative expenses primarily due to reimbursement from the Bahrain Joint Venture in 2016 of Teekay LNG's proportionate costs, including pre-operation, engineering and financing-related expenses, upon the joint venture securing its financing in the fourth quarter of 2016;
  - an increase of \$3.8 million due to lower vessel operating expenses due to the charterer, Teekay, not being able to find employment for the Arctic Spirit and Polar Spirit for a portion of 2016, which permitted Teekay LNG to operate the vessels with a reduced average number of crew on board and reduce the amount of repair and maintenance activities performed; and
  - an increase of \$2.2 million due to the Polar Spirit being off-hire for 47 days in 2015 for a scheduled dry docking; partially offset by
  - a decrease of \$4.5 million due to a revenue deferral relating to Teekay LNG's six LPG carriers on charter to Skaugen; and
  - a decrease of \$2.0 million for Teekay LNG's Spanish LNG carriers primarily due to a performance claim related to the Hispania Spirit recorded in the fourth quarter of 2016 and the Catalunya Spirit being off-hire for six days in the first quarter of 2016 for a scheduled in-water survey.
- Equity income related to Teekay LNG's liquefied gas carriers decreased to \$62.3 million in 2016 compared to \$84.2 million in 2015, as set forth in the table below:

(in thousands of U.S. Dollars) Year Ended December 31,

	Angola LNG Carriers	Exmar LNG Carriers	Exmar LPG Carriers	MALT LNG Carriers	RasGas 3 LNG Carriers	Total Other Equity Income
2016	15,713	9,038	13,674	4,503	19,817	(438)62,307
2015	16,144	9,332	32,733	4,620	21,527	(185)84,171
Difference	(431)	(294)	(19,059)	(117)	(1,710)	(253)(21,864)

Equity income from Teekay LNG's 50% ownership interest in Exmar LPG BVBA decreased by \$19.1 million primarily due to more vessels trading in the spot market in 2016 compared to higher fixed rates earned in 2015; the redelivery of the in-chartered vessel Odin back to its owner in November 2015; and the write-down of the Brugge Venture recorded in the fourth quarter of 2016, which was sold in January 2017. These decreases were partially offset by the deliveries to the joint venture of four LPG carrier newbuildings between September 2015 and November 2016.

The slight decrease in equity income from Teekay LNG's 52% investment in the MALT LNG carriers was primarily due to the deferral during 2016 (and which will continue through 2017) of a significant portion of the charter payments from YLNG for the Marib Spirit and Arwa Spirit LNG carriers chartered to support the LNG plant in Yemen, and a lower charter rate on the redeployment of the Methane Spirit after its original time-charter contract expired in March 2015. These decreases were partially offset by the settlement payment awarded to Teekay LNG in 2016 for the disputed contract termination relating to the Magellan Spirit, and unscheduled off-hire relating to the Woodside Donaldson to repair a damaged propulsion motor in January 2015.

The \$1.7 million decrease in equity income from Teekay LNG's 40% investment in the three RasGas 3 LNG carriers was primarily due to the scheduled maturity of the joint venture's interest rate swaps, which resulted in lower unrealized gain on non-designated derivative instruments, which was partially offset by lower combined interest expense and realized loss on non-designated derivative instruments.

Teekay LNG – Conventional Tankers

As at December 31, 2016, Teekay LNG's conventional tanker fleet included five Suezmax-class double-hulled conventional crude oil tankers and one Handymax product tanker, three of which it owns and two of which it leases under capital leases. All of Teekay LNG's conventional tankers operate under fixed-rate charters. The number of calendar-ship-days for Teekay LNG's conventional tankers decreased to 2,439 days in 2016 from 2,920 days in 2015, primarily as a result of the sales of the Bermuda Spirit and Hamilton Spirit in April 2016 and May 2016, respectively. During 2016, none of Teekay LNG's vessels in this segment were off-hire for scheduled dockings, compared to two of its vessels in this segment being off-hire for a total of 24 days for scheduled dry-dockings and another vessel being off-hire for 12 days related to a crew work stoppage during 2015.

Income (loss) from vessel operations decreased to a loss of \$21.4 million during 2016 compared to income of \$30.2 million in 2015, primarily as a result of:

- decreases of \$32.5 million due to the sales of the Bermuda Spirit and Hamilton Spirit in 2016, resulting in a loss on sale of vessels of \$27.4 million and a decrease in operating income;

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a decrease of \$11.5 million relating to the write-down of the Asian Spirit in 2016 as this vessel is classified as held for sale at December 31, 2016;

a decrease of \$4.4 million due to lower revenues earned by the Teide Spirit relating to a profit sharing agreement between Teekay LNG and Compania Espanole de Petroleos, S.A. (or CEPSA);

a decrease of \$3.6 million relating to the European Spirit, African Spirit and Asian Spirit upon the charterer exercising its one-year options in September 2015, November 2015 and January 2016, respectively, at lower charter rates than the original charter rates; and

a decrease of \$2.8 million due to lower revenues earned by the Toledo Spirit in 2016 relating to a profit sharing agreement between Teekay LNG and CEPSA.

partially offset by

an increase of \$2.5 million due to lower general and administrative expenses relating primarily to a reduced amount of business development activities in 2016.

Teekay Tankers

Recent Developments in Teekay Tankers

In October 2016, Teekay Tankers agreed to sell two Suezmax tankers, the Yamuna Spirit and Ganges Spirit. The vessels were written down to their agreed sales prices, and the resulting fourth quarter impairment in 2016 was \$6.2 million. The Ganges Spirit was delivered to its buyer in January 2017 and the Yamuna Spirit was delivered to its buyer in March 2017.

In September 2016, Teekay Tankers agreed to sell one Medium Range (or MR) tanker, the Hugli Spirit, and the sale was completed in November 2016. The vessel was written down to its agreed sales price in the third quarter of 2016.

On August 8, 2016, Teekay Tankers completed the sale of one MR tanker, the Teesta Spirit, for \$14.0 million. Teekay Tankers recognized a write-down and a loss on sale of the vessel totaling \$6.6 million in 2016.

On July 31, 2015, Teekay Tankers acquired the ship-to-ship transfer business (or TMS, previously referred to as SPT) from a company jointly owned by Teekay and Skaugen, for an aggregate purchase price of approximately \$47.3 million (including \$1.8 million for working capital). TMS provides a full suite of ship-to-ship transfer services in the oil, gas and dry bulk industries. In addition to full service lightering and lightering support, it also provides consultancy, terminal management and project development services. TMS owns a fleet of four STS support vessels and has two in-chartered Aframax tankers. In connection with the TMS acquisition, in July 2015, Teekay Tankers issued approximately 6.5 million shares of Class B common stock to Teekay, for net proceeds of \$45.5 million. These shares of Class B common stock were priced at \$6.99 per share.



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## Operating Results – Teekay Tankers

The following table compares Teekay Tankers' operating results and number of calendar-ship-days for its vessels for 2016 and 2015, and compares its net revenues (which is a non-GAAP financial measure) for 2016 and 2015, to revenues, the most directly comparable GAAP financial measure, for the same periods.

(in thousands of U.S. dollars, except calendar-ship-days)	Year Ended	
	December 31,	
	2016	2015
Revenues	526,896	504,347
Voyage expenses	(55,241 )	(19,566 )
Net revenues	471,655	484,781
Vessel operating expenses	(182,598)	(130,775)
Time-charter hire expense	(59,647 )	(77,799 )
Depreciation and amortization	(104,149)	(71,429 )
General and administrative expenses	(18,211 )	(16,694 )
Asset impairments	(20,462 )	—
(Loss) gain on sale of vessels	(132 )	771
Restructuring charges	—	(4,772 )
Income from vessel operations	86,456	184,083
Equity income	13,101	14,411
Calendar-Ship-Days <sup>(1)</sup>		
Conventional Tankers	19,303	16,636

(1) Calendar-ship-days presented relate to owned and in-chartered consolidated vessels.

## Tanker Market

Tanker rates in 2016 softened from the highs seen in 2015, yet remained in line with the 10-year average as a result of ongoing positive demand fundamentals. Global oil demand remained strong in 2016 with growth of 1.5 million barrels per day (mb/d), which is 0.4 mb/d higher than the 10-year average. Global oil supply was also strong, with record high OPEC production of 32.6 mb/d. However, unexpected supply outages in Nigeria put pressure on mid-sized tanker demand in the middle of the year. Oil prices remained in the mid-\$40 per barrel range for most of 2016 before ticking up in December as OPEC firmed plans for production cuts as a means to rebalance oil markets. While ongoing low prices throughout the year provided some support for tonne-mile demand through strategic and commercial stockpiling programs, record high onshore stock levels towards the second half of the year presented some negative pressure for import requirements as refiners struggled to manage bulging stockpiles. Tanker fleet growth also created some downside pressure to rates towards the second half of the year as crude tanker fleet growth reached 6% scrapping dipped to the lowest level since 1995.

Looking ahead, we anticipate 2017 to present some headwinds to the crude tanker freight market. Fleet growth is forecast to be approximately 4.5%, which is slightly lower than 2016 but in-line with the ten-year average. However, the majority of fleet growth in 2017 will come from the mid-sized segments, with mid-size fleet growth expected to be approximately 5%. The outlook for 2018 is more positive given a lack of ordering and the expectation for increased scrapping due to an aging fleet alongside changes to the regulatory landscape.

Global oil demand is forecast to grow by 1.4 mb/d in 2017 (average of the International Energy Agency, U.S. Energy Information Administration, and OPEC forecasts), which is similar growth to 2016 and above the ten-year average growth rate of 1.1 mb/d. On the supply side, OPEC production cuts of approximately 1.2 mb/d, with the majority of cuts (approximately 0.8 mb/d) coming from Middle East OPEC producers, will be negative for overall crude volumes available for transport. While OPEC production cuts may continue through the year, non-OPEC production increases of approximately 0.3 mb/d are expected as firming oil prices encourage more drilling, particularly in the US. The result could benefit mid-sized segments as they find some support from increased tonne-mile demand as supply in the Atlantic basin continues to grow. In addition, the Brent - Dubai spread has narrowed considerably as a result of OPEC cuts, and many crude buyers are sourcing Brent-benchmarked crudes as they become more economically attractive.

These price / supply factors could offset some of the headwinds that face the crude tanker market in 2017 as they have the potential to introduce volatility into regional tanker demand, which is positive for spot tanker rates.

In summary, we anticipate 2017 will present some headwinds to crude tanker rates due to cuts to OPEC production, rising oil prices, and fleet growth. However, we believe this dip in the current market cycle will be relatively short and shallow. We expect that lower fleet growth and a more balanced oil market from 2018 onward will result in a market improvement in that period. In addition, lower fleet growth, strong oil demand growth, particularly in Asia, and a potential increase in long-haul movements from the Atlantic basin to the Pacific basin is expected to provide support towards the next market upturn.

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Teekay Tankers – Conventional Tankers

As at December 31, 2016, Teekay Tankers owned 43 double-hulled conventional oil tankers and four ship-to-ship lightering support vessels, time-chartered in six Aframax tankers and one LR2 product tanker from third parties and owned a 50% interest in one VLCC.

The calendar ship days increased in 2016 compared to 2015 primarily due to the full year of operations of the 12 Suezmax tankers, two LR2 product tankers and three Aframax tanker that Teekay Tankers acquired during 2015, partially offset by the net movement of in-charter tankers during 2015 and 2016 and the sale of two MR product tankers in 2015 and 2016.

Income from vessel operations decreased to \$86.5 million in 2016 compared to \$184.1 million in 2015, primarily as a result of:

- a decrease of \$99.8 million due to lower average realized rates earned by our Suezmax, Aframax, LR2 and MR tankers trading in the spot tanker market in 2016 compared to 2015;
  - a decrease of \$20.5 million due to write-downs of two MR product tankers and two Suezmax tankers to their respective sales prices in 2016;
  - a decrease of \$6.0 million due to increases in amortization of dry-docking costs during 2016 resulting from high dry-docking activity during the second half of 2015; and
  - a decrease of \$3.6 million due to in-process revenue contract amortization that was recognized in revenue in late 2015 and fully amortized in the first quarter of 2016;
- partially offset by
- an increase of \$15.8 million due to increased revenue days during 2016 due to fewer net off-hire days in 2016 and an additional revenue day as 2016 is a leap year;
  - an increase of \$9.6 million due to higher rates earned from out-chartered Aframax tankers during 2016;
  - a net increase of \$4.4 million due to results from the ship-to-ship transfer business which Teekay Tankers acquired during the third quarter of 2015; and
  - a net increase of \$3.8 million due to lower pool management fees, commissions, off-hire bunker and other expenses in 2016 compared to 2015, due primarily to lower average TCE rates.

Equity income decreased to \$13.1 million in 2016 from \$14.4 million for 2015 primarily due to:

- a decrease of \$3.8 million due to lower equity earnings from TIL resulting from overall lower realized average spot rates earned in 2016 compared to 2015, partially offset by an increase resulting from Teekay Tankers' increased ownership interest in TIL to 11.31% in 2016 as compared to 10.20% in 2015;
- partially offset by

- an increase of \$1.3 million due to higher equity earnings from Teekay Tankers' 50% interest in Teekay Tankers Operations Ltd. (or TTOL), primarily relating to its share of cancellation fees paid to Anglo-Eastern during the first quarter of 2015 for acquiring its 49% share in Teekay Marine Ltd. and the timing of vessels which transitioned from the Gemini Suezmax pool to the Teekay Suezmax RSA in 2015. This was partially offset by overall lower realized average spot rates earned in 2016 compared to 2015; and

- an increase of \$1.1 million due to higher equity earnings from the High-Q joint venture primarily resulting from profit share recognized in the second quarter of 2016 as VLCC rates averaged above certain thresholds, triggering a profit sharing with the customer.

Teekay Parent

Recent Developments in Teekay Parent

The Banff FPSO has been operating on the Banff field since its delivery nearly 20 years ago under a charter contract with Canadian Natural Resources (or CNR) that permitted CNR to terminate the contact at any time with six months'

notice. In January 2017, Teekay Parent entered into a contract amendment with CNR to ensure the unit will stay on the current field at least until the third quarter of 2018 and to revise the charter rate structure to include a variable component (through an oil price and oil production tariff) in addition to a fixed charter rate.

In the first half of 2016, the Hummingbird Spirit FPSO was operating in the latter part of its charter contract with Centrica Energy (or Centrica) whereby Centrica could terminate the contract at any time with 90 days' notice. In June 2016, Teekay Parent entered into a contract amendment with Centrica to extend the firm period to September 2017 (with Centrica's right to terminate the contract no earlier than March 1, 2017) in exchange for a lower fixed charter rate and an oil price tariff. The contract amendment took effect on July 1, 2016. In February 2017, Teekay Parent entered into a new heads of terms with Centrica to extend the contract for an additional three years from October 2017 to September 2020. This contract extension is expected to be completed during the second quarter of 2017.

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In the fourth quarter of 2015, Teekay Parent secured a 12-month, charter-out contract for the Shoshone Spirit VLCC at \$49,000 per day, which was scheduled to expire in December 2016. In the second quarter of 2016, Teekay Parent entered into an agreement to sell the Shoshone Spirit VLCC to a third party and the vessel was written down to its net realizable value as a result of the expected sale. The vessel was subsequently sold and delivered to its new owner in October 2016.

In December 2014, the Board of Directors of Teekay Offshore's general partner approved the acquisition of the Petrojarl Knarr FPSO from Teekay Parent, subject to the unit completing certain operational tests and commencing its charter contract at full rate. The Petrojarl Knarr FPSO achieved first oil and commenced its charter contract with BG Norge Limited (or BG) in March 2015 on a partial charter rate. In June 2015, the Petrojarl Knarr FPSO completed its operational testing and commenced its full charter rate and on July 1, 2015, Teekay Parent completed the sale of the Petrojarl Knarr FPSO to Teekay Offshore. Teekay Offshore has included the results of the Petrojarl Knarr FPSO from March 9, 2015, when it commenced operations.

## Operating Results – Teekay Parent

The following table compares Teekay Parent's operating results and number of calendar-ship-days for its vessels for 2016 and 2015, and compares its net revenues (which is a non-GAAP financial measure) for 2016 and 2015, to revenues, the most directly comparable GAAP financial measure, for the same periods.

(in thousands of U.S. dollars, except calendar-ship-days)	Offshore Production		Conventional Tankers		Other and Corporate G&A		Teekay Parent Total	
	2016	2015	2016	2015	2016	2015	2016	2015
Revenues	231,435	277,842	32,967	65,777	76,111	75,547	340,513	419,166
Voyage expenses	(269 )	(36 )	(287 )	(763 )	(2,879 )	(808 )	(3,435 )	(1,607 )
Net revenues	231,166	277,806	32,680	65,014	73,232	74,739	337,078	417,559
Vessel operating expenses	(159,084)	(200,338)	(10,468)	(16,051)	(26,576)	(24,294)	(196,128)	(240,683)
Time-charter hire expense	(33,366 )	(29,978 )	(23,166)	(38,991)	(48,452)	(44,448)	(104,984)	(113,417)
Depreciation and amortization	(70,855 )	(69,508 )	(1,717 )	(2,852 )	449	451	(72,123 )	(71,909 )
General and administrative expenses <sup>(1)</sup>	(14,099 )	(17,261 )	(809 )	(2,136 )	(10,707)	1,221	(25,615 )	(18,176 )
Net loss on sale of vessels and equipment	(110 )	(948 )	(12,487)	—	—	—	(12,597 )	(948 )
Restructuring charges	(1,962 )	—	—	—	(20,165)	(2,654 )	(22,127 )	(2,654 )
(Loss) income from vessel operations	(48,310 )	(40,227 )	(15,967)	4,984	(32,219)	5,015	(96,496 )	(30,228 )
Equity (loss) income	(575 )	(12,196 )	5,089	16,712	(1,838 )	(1,101 )	2,676	3,415
Calendar-Ship-Days <sup>(2)</sup>								
FPSO Units	1,098	1,095	—	—	—	—	1,098	1,095
Conventional Tankers	—	—	1,278	2,516	—	—	1,278	2,516
Gas carriers	—	—	—	—	732	730	732	730
FSO Units	366	365	—	—	732	730	1,098	1,095
Shuttle Tankers	732	730	—	—	—	—	732	730
Bunker Barges	—	—	—	—	672	200	672	200

Includes direct general and administrative expenses and indirect general and administrative expenses allocated to (1) offshore production, conventional tankers and other and corporate G&A based on estimated use of corporate resources.

(2) Apart from three FPSO units and one conventional tanker, all remaining calendar-ship-days presented relate to in-chartered days.

## Teekay Parent – Offshore Production

Offshore Production consists primarily of our FPSO units. As at December 31, 2016, we had a direct interest in three 100% owned FPSO units.

The Hummingbird Spirit FPSO charter contract includes an incentive compensation component based on the oil price. In addition, the Petrojarl Foinaven FPSO unit's charter contract includes incentives based on total oil production for the year, certain operational measures, and the average annual oil price. The decline in the price of oil has negatively impacted our incentive compensation under these contracts and may negatively impact our future revenues if oil prices remain at or fall below current levels.

The number of Teekay Parent's FPSO calendar-ship days for the year ended December 31, 2016 were consistent compared to the same period last year.

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Loss from vessel operations increased to \$48.3 million during 2016 compared to \$40.2 million in 2015, primarily as a result of:

an increase in loss of \$13.7 million related to the Petrojarl Banff FPSO unit as a result of off-hire in the first quarter of 2016 and higher repairs and maintenance costs due to the temporary loss of two mooring lines in the first quarter of 2016;

an increase in loss of \$5.5 million related to the Hummingbird FPSO primarily due to the contract amendment described above that took effect on July 1, 2016, partially offset by lower operating expenses in 2016; and

an increase in loss of \$2.0 million due to restructuring charges primarily relating to the reorganization of the Company's FPSO business in 2016;

partially offset by

a decrease in loss of \$9.1 million primarily due to legal costs incurred in 2015 relating to repairs and upgrades to the Petrojarl Banff FPSO after the storm event in December 2011, and cost-saving initiatives in 2016; and

a decrease in loss of \$4.8 million primarily related to the Petrojarl Foinaven FPSO, primarily due to the shutdown of the unit in 2015 for maintenance and lower operating costs in 2016.

Teekay Parent – Conventional Tankers

As at December 31, 2016, Teekay Parent chartered-in two conventional tankers from third parties. The average fleet size (including in-chartered vessels), as measured by calendar-ship-days, decreased in 2016 compared with 2015 due to the sale of one VLCC, redeliveries of three Aframax in-chartered vessels to Teekay Offshore and one Aframax in-chartered vessels to Teekay Tankers. The collective impact from the noted fleet changes are referred to below as the Net Fleet Reductions.

Loss from vessel operations for Teekay Parent's Conventional Tankers was \$16.0 million in 2016 compared to income from vessel operations of \$5.0 million in 2015, primarily as a result of:

a decrease in income of \$12.5 million due to the write-down in 2016 of one VLCC to its agreed sales price;

a decrease in income of \$5.8 million due to lower average realized TCE rates in 2016 compared to 2015;

a net decrease in income of \$5.7 million due to cancellation fees paid by Teekay Parent to Teekay Offshore in 2016 and 2015 related to the termination of the time-charter contracts of two Aframax tankers, partially offset by cancellations paid to Teekay Parent from Teekay Offshore and Teekay Tankers in 2015 related to the termination of bareboat contracts of two Aframax tankers; and

a decrease in income of \$2.6 million due to a higher time-charter hire rate for an Aframax in-charter in the first quarter of 2016;

partially offset by

a net increase in income of \$4.0 million due to lower vessel operating expenses from the termination of bareboat contracts of two Aframax tankers that Teekay Parent in-chartered from Teekay Offshore and the sale of the VLCC

and lower time-charter hire expense from the redeliveries of three in-chartered conventional tankers to Teekay Offshore and Teekay Tankers, partially offset by the loss of revenue due to the redeliveries and sale of those tankers; and

an increase in income of \$2.0 million due to a distribution received from the Gemini Pool in 2016.

Teekay Parent – Other and Corporate G&A

As at December 31, 2016, Teekay Parent had two chartered-in LNG carriers owned by Teekay LNG, two chartered-in FSO units owned by Teekay Offshore and one chartered-in bunker barge.

Loss from vessel operations was \$32.2 million for the year ended December 31, 2016 compared to income from vessel operations \$5.0 million for the year ended December 31, 2015, primarily as a result of:

- an increase in loss of \$32.8 million primarily due to lower revenues earned as a result of the terminations of time charters and the lay-up of the Arctic Spirit and Polar Spirit LNG carriers in 2016;
  - an increase in loss of \$13.9 million due to business development fees received from Teekay Offshore in 2015 in respect of the Petrojarl Knarr FPSO unit, the Arendal Spirit UMS and the six on-the-water, long distance towing and offshore installation vessels;
  - an increase in loss of \$2.7 million primarily due to office closure costs and seafarers' severance amounts relating to tug businesses in Western Australia in 2016; and
  - an increase in loss of \$1.6 million due to fees received from TIL in 2015 for our arrangement of the acquisition of certain of its vessels, partially offset by fees received relating to the sale of two vessels in 2016; partially offset by
- a decrease in loss of \$5.4 million primarily due to lower restructuring charges relating to the reorganization of our marine operations and corporate services in 2015, and lower general and administrative expenses as a result of cost saving initiatives in 2016; and



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a decrease in loss of \$9.4 million primarily due to earnings generated on technical, crew and commercial management services provided for an increased fleet size in 2016.

Equity income was \$2.7 million in 2016 compared to equity income of \$3.4 million in 2015, primarily due to lower equity earnings from Petrotrans Holdings as a result of the gain on the sale of TMS from the joint venture to Teekay Tankers in 2015, and lower equity earnings from TIL resulting from lower realized average spot rates in 2016, partially offset by higher equity earnings due to a deferred tax asset write-down and unrealized foreign exchange losses relating to Teekay Parent's 43% investment in Sevan in 2015.

**Other Consolidated Operating Results**

The following table compares our other consolidated operating results for 2016 and 2015:

(in thousands of U.S. dollars, except percentages)	Year Ended		
	December 31,		
	2016	2015	% Change
Interest expense	(282,966)	(242,469)	16.7
Interest income	4,821	5,988	(19.5 )
Realized and unrealized loss on non-designated derivative instruments	(35,091 )	(102,200)	(65.7 )
Foreign exchange loss	(6,548 )	(2,195 )	198.3
Other (loss) income	(39,013 )	1,566	(2,591.3 )
Income tax (expense) recovery	(24,468 )	16,767	(245.9 )

Interest expense. Interest expense increased to \$283.0 million in 2016, compared to \$242.5 million in 2015, primarily due to:

- an increase of \$12.4 million due to additional interest incurred by Teekay Tankers to finance the acquisition of the 12 modern Suezmax tankers which were acquired in the third quarter of 2015;
  - an increase of \$12.1 million relating to interest incurred on the capital lease obligations for the Creole Spirit and Oak Spirit commencing upon their deliveries in February 2016 and July 2016, respectively;
  - an increase of \$10.8 million primarily due to the additional issuance of \$200 million of Teekay Parent's 8.5% senior unsecured notes in November 2015, partially offset by reductions in Teekay Parent's equity margin revolving credit facility and loan facility secured by three FPSO units, and the maturity of Teekay Parent's Norwegian Kroner (or NOK) bonds in October 2015;
  - an increase of \$9.2 million due to the interest expense associated with the Petrojarl Knarr FPSO unit commencing operations in March 2015;
  - an increase of \$3.4 million due to interest expense relating to Teekay Offshore's second UMS newbuilding up until its construction contract cancellation in late-June 2016; and
  - an increase of \$2.1 million due to an increase in LIBOR on floating-rate debt, net of debt repayments during 2016 and 2015;
- partially offset by

a decrease of \$5.2 million due to an increase in capitalized interest on Teekay Offshore's newbuildings, conversion and upgrade projects; and

a decrease of \$3.0 million due to the maturity of Teekay Offshore's NOK 500 million senior unsecured bond in January 2016.

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Realized and unrealized (losses) gains on non-designated derivative instruments. Realized and unrealized (losses) gains related to derivative instruments that are not designated as hedges for accounting purposes are included as a separate line item in the consolidated statements of income. Net realized and unrealized losses on non-designated derivatives were \$35.1 million for 2016, compared to \$102.2 million for 2015, as detailed in the table below:

	Year Ended December 31, 2016 \$	Year Ended December 31, 2015 \$
Realized (losses) gains relating to:		
Interest rate swap agreements	(87,320 )	(108,036 )
Interest rate swap agreement terminations	(8,140 )	(10,876 )
Foreign currency forward contracts	(11,186 )	(21,607 )
Time charter swap agreement	2,154	—
	(104,492)	(140,519)
Unrealized gains (losses) relating to:		
Interest rate swap agreements	62,446	37,723
Foreign currency forward contracts	15,833	(418 )
Stock purchase warrants	(9,753 )	1,014
Time charter swap agreement	875	—
	69,401	38,319
Total realized and unrealized (losses) gains on derivative instruments	(35,091 )	(102,200)

The realized losses relate to amounts we actually realized for settlements related to these derivative instruments in normal course, and amounts paid to terminate interest rate swap agreement terminations. The unrealized (losses) gains on interest rate swaps for 2016 and 2015 were primarily due to changes in the forward interest rates.

During 2016 and 2015, we had interest rate swap agreements with aggregate average net outstanding notional amounts of approximately \$3.3 billion and \$3.5 billion, respectively, with average fixed rates of approximately 3.4%. Short-term variable benchmark interest rates during these periods were generally less than 2.0% and, as such, we incurred realized losses of \$87.3 million and \$108.0 million during 2016 and 2015, respectively, under the interest rate swap agreements. We also incurred realized losses of \$8.1 million during 2016, compared to losses of \$10.9 million during 2015, from the termination of interest rate swaps.

We recognized realized losses of \$11.2 million in 2016, compared to \$21.6 million in 2015 under the foreign currency forward contracts.

Effective June 1, 2016, Teekay Tankers entered into a time-charter swap for 55% of two Aframax equivalent vessels. Under such agreement, Teekay Tankers will receive \$27,776 per day, less a 1.25% brokerage commission, and pay 55% of the net revenue distribution of two Aframax equivalent vessels employed in its Aframax revenue sharing pooling arrangement, less \$500 per day, for a period of 11 months plus an additional two months at the counterparty's option. As at December 31, 2016, the time-charter swap had a fair value of \$0.9 million which resulted in an unrealized gain of \$0.9 million. Teekay Tankers also recognized realized gains of \$2.2 million on the time-charter swap in the year ended December 31, 2016.

Primarily as a result of significant changes in long-term benchmark interest rates during 2016 and 2015, we recognized unrealized gains of \$62.4 million for 2016 compared to \$37.7 million for 2015 under the interest rate swap

agreements. We recognized unrealized gains of \$15.8 million for 2016 compared to unrealized losses of \$0.4 million for 2015 under the foreign currency forward contracts.

In 2014, we and Teekay Tankers formed TIL. We and Teekay Tankers invested a total of \$50.0 million for an aggregate of 5.0 million shares of TIL's common stock, representing an initial aggregate 20% interest in TIL, as part of a \$250.0 million private placement by TIL. In addition, we and Teekay Tankers received stock purchase warrants entitling us and Teekay Tankers to purchase up to 1.5 million shares of common stock of TIL at a fixed price of \$10 per share. Alternatively, if the shares of TIL's common stock trade on a national securities exchange or over-the-counter market denominated in NOK, we and Teekay Tankers may also exercise the stock purchase warrants at 61.67 NOK per share using a cashless exercise procedure. During 2016, due mainly to a decrease in TIL's share price, we recognized a \$9.8 million unrealized loss on the stock purchase warrants compared to an unrealized gain of \$1.0 million for 2015, which are included in our total unrealized derivative (losses) gains. Please read "Item 18. Financial Statements: Note 14—Derivative Instruments and Hedging Activities."

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Foreign Exchange Loss. Foreign currency exchange losses were \$6.5 million in 2016 compared to \$2.2 million in 2015. Our foreign currency exchange losses, substantially all of which are unrealized, were due primarily to the relevant period-end revaluation of our NOK-denominated debt and our Euro-denominated term loans, capital leases and restricted cash for financial reporting purposes and the realized and unrealized gains (losses) on our cross currency swaps. Gains on NOK-denominated and Euro-denominated monetary liabilities reflect a stronger U.S. Dollar against the NOK and Euro on the date of revaluation or settlement compared to the rate in effect at the beginning of the period. Losses on NOK-denominated and Euro-denominated monetary liabilities reflect a weaker U.S. Dollar against the NOK and Euro on the date of revaluation or settlement compared to the rate in effect at the beginning of the period. For 2016, foreign currency exchange loss includes realized losses of \$38.6 million (2015—\$19.0 million) and unrealized gains of \$75.0 million (2015 — losses of \$89.2 million) on our cross currency swaps, and unrealized losses of \$6.8 million (2015—\$123.2 million) on the revaluation of our NOK-denominated debt.

Other (Loss) Income. Other (loss) income was a loss of \$(39.0) million in 2016 compared to income of \$1.6 million in 2015. This decrease in results was primarily due to contingent liabilities accrued related to Teekay Offshore's cancellation of the UMS construction contracts for its two remaining UMS newbuildings in 2016 (\$25.2 million), as well as a write-down of a cost-accounted investment of \$19.0 million in 2016.

Income Tax Recovery (Expense). Income tax (expense) recovery was an expense of \$24.5 million in 2016 compared to a recovery of \$16.8 million in 2015.

The income tax expense for 2016 was mainly due to an increase in Teekay Offshore's deferred tax valuation allowance and deferred tax expense due to a decrease in the expected utilization of Norwegian tax losses against anticipated earnings, an income tax accrual for the Voyageur Spirit FPSO unit during 2016 due to expected taxable income and the utilization of prior year losses carried forward and an estimated tax liability relating to our Singapore and towage entities, as well as freight taxes in Teekay Tankers and Teekay Parent.

The income tax recovery for 2015 was primarily due to the acquisition of the Petrojarl Knarr FPSO unit by Teekay Offshore and the commencement of the East Coast of Canada contract during 2015, and the expected commencement of the Gina Krog FSO unit contract in early-2017. Teekay Offshore expected to utilize more of its Norwegian tax losses from the earnings anticipated from their contracts, as well as an expected increase in earnings from its existing fleet, which resulted in a decrease in Teekay Offshore's deferred tax asset valuation allowance.

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Year Ended December 31, 2015 versus Year Ended December 31, 2014

## Teekay Offshore

## Operating Results – Teekay Offshore

The following table compares Teekay Offshore's operating results and number of calendar-ship-days for its vessels for 2015 and 2014, and compares its net revenues (which is a non-GAAP financial measure) for 2015 and 2014, to revenues, the most directly comparable GAAP financial measure, for the same periods.

(in thousands of U.S. dollars, except calendar-ship-days)	Offshore Logistics		Offshore Production		Conventional Tankers		Teekay Offshore Total	
	2015	2014	2015	2014	2015	2014	2015	2014
Revenues	667,629	631,455	531,554	354,518	30,230	33,566	1,229,413	950,977
Voyage expenses	(95,680 )	(107,167 )	—	—	(2,326 )	(5,373 )	(98,006 )	(104,325 )
Net revenues	571,949	524,288	531,554	354,518	27,904	28,193	1,131,407	846,652
Vessel operating expenses	(182,346)	(188,087)	(189,900)	(158,216)	(6,234)	(5,906)	(378,480)	(347,979)
Time-charter hire expense	(51,750 )	(31,090 )	—	—	—	—	(51,750 )	(56,682 )
Depreciation and amortization	(130,102)	(118,968)	(137,914)	(72,905 )	(6,583 )	(6,680 )	(274,599 )	(200,242)
General and administrative expenses <sup>(1)</sup>	(32,963 )	(37,974 )	(38,588 )	(27,406 )	(1,062 )	(2,136 )	(72,613 )	(45,250 )
Asset impairments and gain on sale of vessels	(66,101 )	(1,638 )	—	—	(3,897 )	—	(69,998 )	(94,946 )
Restructuring (charges) recovery	(568 )	225	—	—	—	—	(568 )	(2,361 )
Income from vessel operations	108,119	146,756	165,152	95,991	10,128	13,471	283,399	99,192
Equity income	—	—	7,672	10,341	—	—	7,672	6,731
Calendar-Ship-Days <sup>(2)</sup>								
Shuttle Tankers	12,319	12,672	—	—	—	—	12,319	12,672
FSO Units	2,395	2,190	—	—	—	—	2,395	2,190
FPSO Units	—	—	2,122	1,476	—	—	2,122	1,476
Conventional Tankers	—	—	—	—	1,432	1,460	1,432	1,460
UMS	318	—	—	—	—	—	318	—
Towage	1,606	—	—	—	—	—	1,606	—

(1) Includes direct general and administrative expenses and indirect general and administrative expenses allocated to offshore logistics, offshore production and conventional tankers based on estimated use of corporate resources.

(2) Calendar-ship-days presented relate to owned and in-chartered consolidated vessels.

## Teekay Offshore – Offshore Logistics

Offshore Logistics consists of Teekay Offshore's shuttle tankers, FSO units, its HiLoad DP unit, towage vessels and one UMS. As at December 31, 2015, the shuttle tanker fleet consisted of 31 vessels that operate under fixed-rate contracts of affreightment, time charters and bareboat charters, three shuttle tanker newbuildings, and one shuttle tanker and one HiLoad DP unit in lay-up. Of these 36 shuttle tankers, six were owned through 50% owned subsidiaries, one through a 67%-owned subsidiary and three were chartered-in. The remaining vessels are owned 100% by Teekay Offshore. In January 2016, Teekay Offshore sold a 1992-built shuttle tanker, the Navion Torinita, which was in lay-up and classified as held for sale on our consolidated balance sheet as of December 31, 2015. All of Teekay Offshore's operating shuttle tankers, with the exception of the HiLoad DP unit, provide transportation services to energy companies, primarily in the North Sea, Brazil and the East Coast of Canada. These shuttle tankers occasionally service the conventional spot tanker market. Teekay Offshore sold the Navion Norvegia to its 50/50 joint venture with OOG in the fourth quarter of 2014 and the vessel is currently undergoing conversion into an FPSO unit for operation in the Libra oil field in Brazil. During the first quarter of 2015, Teekay Offshore sold the Navion Svenita. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner, Euro and Brazilian Real may result in significant decreases or increases, respectively, in our vessel operating expenses.



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As of December 31, 2015, Teekay Offshore's FSO fleet consisted of six units that operate under fixed-rate time charters or fixed-rate bareboat charters in which Teekay Offshore's ownership interest ranged from 89% to 100%, and one shuttle tanker, the Randgrid, currently undergoing conversion into an FSO unit, in which Teekay Offshore's ownership interest increased from 67% to 100% during the third quarter of 2015. Teekay Offshore commenced the FSO conversion of the Randgrid shuttle tanker during the second quarter of 2015. FSO units provide an on-site storage solution to oil field installations that have no oil storage facilities or that require supplemental storage. Teekay Offshore's revenues and vessel operating expenses for the FSO segment are affected by fluctuations in currency exchange rates, as a significant component of revenues are earned and vessel operating expenses are incurred in Norwegian Kroner and Australian Dollars for certain vessels. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner or Australian Dollar may result in significant decreases or increases, respectively, in our revenues and vessel operating expenses.

As at December 31, 2015, Teekay Offshore's towage vessel fleet consisted of six long-distance towing and offshore installation vessels and four ultra-long distance towing and offshore installation vessel newbuildings, which were scheduled to deliver during 2016. Teekay Offshore owns a 100% interest in each of the vessels in its towage fleet. Long-distance towing and offshore installation vessels are used for the towage, station-keeping, installation and decommissioning of large floating objects such as exploration, production and storage units, including FPSO units, FLNG units and floating drill rigs.

As at December 31, 2015, Teekay Offshore's UMS fleet consisted of one operational unit, the Arendal Spirit, and two newbuildings. During the second quarter of 2015, Teekay Offshore exercised its options to defer the delivery of the second UMS newbuilding by up to one year, and the delivery and all related construction work of the third UMS by 120 days. In June 2016 Teekay Offshore canceled the UMS construction contracts for its two UMS newbuildings. Teekay Offshore owned a 100% interest in all three units. The UMS fleet is used primarily for offshore accommodation, storage and support for maintenance and modification projects on existing offshore installations, or during the installation and decommissioning of large floating exploration, production and storage units, including FPSO units, FLNG units and floating drill rigs. Teekay Offshore's UMS fleet is available for world-wide operations, excluding operations within the Norwegian Continental Shelf, and includes DP3 keeping systems that are capable of operating in deep water and harsh weather.

The average size of Teekay Offshore's owned shuttle tanker fleet decreased in 2015 compared to 2014, primarily due to the sales of the Navion Norvegia and the Navion Svenita in October 2014 and March 2015, respectively, and the commencement of the FSO conversion of the Randgrid in June 2015, partially offset by the delivery of the HiLoad DP unit in April 2014.

The average size of Teekay Offshore's chartered-in shuttle tanker fleet increased in 2015 compared to 2014 primarily due to the in-chartering of three shuttle tankers, the Karen Knutsen, the Heather Knutsen, and the Mattea for the East Coast of Canada contract, which commenced in June 2015, partially offset by redeliveries to their owners of the Grena Knutsen in June 2015 and the Karen Knutsen in January 2014, decreased spot in-chartering of shuttle tankers, and the replacement of the Mattea by one of Teekay Offshore's owned shuttle tankers in September 2015.

The average number of Teekay Offshore's FSO units increased in 2015 compared to 2014, due to the commencement of the FSO conversion of the Randgrid on June 9, 2015. No earnings were expected from the Randgrid until its conversion is completed in mid-2017, when the unit is scheduled to commence operations under a three-year time-charter contract with Statoil ASA (or Statoil), which includes 12 additional one-year extension options.

The Arendal Spirit UMS delivered to Teekay Offshore in February, 2015 and began its three-year charter contract in June, 2015.

The average number of Teekay Offshore's towing and offshore installation vessels increased in 2015 compared to 2014, due to the delivery of six towing and offshore installation vessels during 2015.

Income from vessel operations for Teekay Offshore's Offshore Logistics business decreased to \$108.1 million in 2015 compared to \$146.8 million in 2014, primarily as a result of:

a decrease of \$61.9 million due to vessel write-downs of \$66.7 million on seven 1990s-built shuttle tankers, whose carrying values were written down to their estimated fair values using appraised values for the year ended December 31, 2015. During the first quarter of 2015, two of the vessels were written down as a result of the expected sale of a vessel and a change in the operating plan of a vessel. In the fourth quarter of 2015, five shuttle tankers, which have an average age of 17.5 years, were written down as a result of changes in Teekay Offshore's expectations regarding their future opportunities, primarily due to their advanced age. While we expect four of the five vessels that were written down due to their advanced age to continue to actively trade as shuttle tankers over the near-term and the fifth vessel to actively trade in the conventional tanker market, Teekay Offshore anticipates the vessels will have fewer opportunities for alternative usage and encounter increased age discrimination over time. The decrease due to vessel write-downs was partially offset by a vessel write-down of \$4.8 million in 2014 on the carrying value of one of Teekay Offshore's 1990s-built shuttle tanker which was written down to its estimated fair value using an appraised value, as a result of the vessel charter contract expiring in early-2015 and the expected sale of the vessel;

- a decrease of \$31.3 million relating to the expiration of a long-term contract at the Heidrun field serviced by Teekay Offshore's contracts of affreightment fleet;
- a decrease of \$18.4 million due to the redeliveries of two vessels to Teekay Offshore in February 2014 and April 2015 as they completed their time-charter-out agreements;
- a decrease of \$6.9 million due to the sale of a 1997-built shuttle tanker, the Navion Svenita in March 2015, partially offset by the gain on the sale of the vessel to a third party; and



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a decrease of \$3.0 million due to an increase in depreciation expense resulting from the dry docking of eight shuttle tankers from mid-2014 to late-2015; partially offset by

- an increase of \$14.3 million from lower vessel operating expense in Teekay Offshore's shuttle fleet due to the strengthening of the U.S. Dollar against the Norwegian Kroner, Euro and Brazilian Real;
- an increase of \$8.7 million from lower vessel operating expenses and depreciation expense, due to the commencement of an FSO conversion of the Randgrid in June 2015;
- an increase of \$8.6 million due to lower time-charter hire expense due to the redelivery by Teekay Offshore to its owners of the in-chartered Karen Knutsen in January 2014 and the Grena Knutsen in June 2015, decreased spot in-chartering of shuttle tankers, lower time-charter hire rates on the Aberdeen and an increase in off-hire during the third quarter of 2015, partially offset by the dry docking and off-hire of the Sallie Knutsen during the first and second quarters of 2014, and the dry docking of the Aberdeen during the second quarter of 2014;
- an increase of \$8.0 million in revenues from Teekay Offshore's contract of affreightment fleet due to higher average rates, an increase in rates as provided in certain contracts in Teekay Offshore's time-chartered-out fleet, and an increase in revenues from the commencement of new contracts in mid-2015;
- an increase of \$6.5 million due to an increase in revenues from the commencement of the East Coast of Canada contract which commenced in June 2015, partially offset by additional in-chartering costs;
- an increase of \$6.2 million due to the commencement of the charter contract of the Arendal Spirit UMS in June 2015 partially offset by write-downs relating to the expiration during 2015 of two options to purchase two additional units;
- an increase of \$4.4 million due to the delivery of six towing and offshore installation vessels during 2015;
- an increase of \$3.9 million primarily due to the dry docking of the Dampier Spirit during the second quarter of 2014 and the Navion Saga during the third quarter of 2014, partially offset by lower crew costs in 2014 due to a pension adjustment recorded in the first quarter of 2014 and increased depreciation of dry-dock and upgrade costs;
- an increase of \$3.7 million due to higher average rates earned during 2015 when trading excess shuttle tanker capacity in the conventional tanker spot market, offset by fewer conventional spot days;
- an increase of \$2.9 million due to fewer repair off-hire days in Teekay Offshore's time-chartered-out fleet for 2015 compared to 2014;
- an increase of \$2.2 million relating to the HiLoad DP unit mainly due to mobilization expenses in 2014 partially offset by the commencement of depreciation expense of the HiLoad DP unit from January 2015;
- an increase of \$2.1 million due to the commencement of operations of the Suksan Salamander FSO in the third quarter of 2014;
- an increase of \$2.1 million from lower depreciation expense due to the Navion Europa being fully amortized during the second quarter of 2015; and
  - an increase of \$2.1 million due to a decrease in repairs and maintenance expenses for 2015 compared to 2014 and a decrease in crew costs for 2015 compared to 2014 due to a change in crew composition, partially offset by an increase in crew training expenses for 2015 compared to 2014.

## Teekay Offshore – Offshore Production

Offshore Production consists of Teekay Offshore's FPSO units. As of December 31, 2015, Teekay Offshore's FPSO fleet consisted of the Petrojarl Varg, the Cidade de Rio das Ostras (or Rio das Ostras), the Piranema Spirit, the Voyageur Spirit, the Petrojarl I, and the Petrojarl Knarr FPSO units, all of which Teekay Offshore owns 100%, and the Itajai FPSO unit and the Libra FPSO unit, of which Teekay Offshore owns 50%. In October 2014, Teekay Offshore sold a 1995-built shuttle tanker, the Navion Norvegia, to a 50/50 joint venture with OOG and the vessel is undergoing conversion into an FPSO unit for the Libra field located in the Santos Basin offshore Brazil and is scheduled to commence operations in mid-2017. Teekay Offshore acquired the Petrojarl I FPSO unit from us in December 2014. The unit is currently undergoing upgrades at the Damen Shipyard Group's DSR Schiedam Shipyard in the Netherlands. Teekay Offshore acquired the Petrojarl Knarr FPSO unit from us in July 2015. The strengthening or weakening of the U.S. Dollar relative to the Norwegian Kroner, Brazilian Real, and British Pound may result in significant decreases or increases, respectively, in Teekay Offshore's revenues and vessel operating expenses.

Teekay Offshore uses the FPSO units to provide production, processing and storage services to oil companies operating offshore oil field installations. These services are typically provided under long-term, fixed-rate FPSO contracts, some of which also include certain incentive compensation or penalties based on the level of oil production and other operational measures. Historically, the utilization of FPSO units and other vessels in the North Sea, where the Voyageur Spirit and Petrojarl Knarr operate, is higher in the winter months, as favorable weather conditions in the summer months provide opportunities for repairs and maintenance to vessels and the offshore oil platforms, which generally reduces oil production.

The average number of Teekay Offshore's FPSO units increased in 2015 compared to 2014, due to the acquisitions of the Petrojarl Knarr on July 1, 2015 and the Petrojarl I on December 15, 2014.

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Income from vessel operations for Teekay Offshore's Offshore Production business increased to \$165.2 million in 2015 compared to \$96.0 million in 2014, primarily as a result of:

an increase of \$67.0 million, excluding general and administrative expenses, due to the acquisition of the Petrojarl Knarr FPSO unit;

an increase of \$17.2 million, excluding general and administrative expenses, for the Voyageur Spirit FPSO unit during 2015, primarily due to the charterer's final acceptance of the charter contract in February 2014, a production bonus earned in 2015, a production penalty in 2014 and external consulting fees incurred during the first quarter of 2014 to achieve final acceptance for the unit;

an increase of \$3.7 million, excluding general and administrative expenses, for the Rio das Ostras FPSO unit, primarily due to a decrease in operating expenses for the unit due to the strengthening of the U.S. Dollar against the Brazilian Real and Norwegian Kroner and lower repairs and maintenance expenses;

an increase of \$2.2 million due to lower ship management costs in 2015 related to operating the FPSO units; and

an increase of \$2.1 million, excluding general and administrative expenses, due to an increase in crew hours reimbursed by the charterer of the Petrojarl Varg for 2015, and due to the timing of costs related to repair and maintenance, partially offset by decreases in incentive-related compensation during 2015;

partially offset by

a decrease of \$11.2 million due to increases in general and administrative expenses primarily related to the acquisition of the Petrojarl Knarr, partially offset by additional focus required for obtaining final charter contract acceptance for the Voyageur Spirit in the first quarter of 2014;

a decrease of \$6.4 million, excluding general and administrative expenses, relating to the Piranema Spirit FPSO unit mainly due to unscheduled off-hire for repairs during the third and fourth quarter of 2015 and higher repairs and maintenance costs, partially offset by a reversal of an agency fee accrual during 2015 which Teekay Offshore no longer considers payable and the commencement of operations of a produced water treatment plan on the Piranema Spirit in the second quarter of 2014; and

a decrease of \$6.2 million from increased depreciation expense for the Petrojarl I FPSO unit, which Teekay Offshore acquired from us in December 2014.

Equity income decreased to \$7.7 million for 2015 compared to \$10.3 million for 2014 primarily due to an increase in unrealized losses on derivative instruments relating to Teekay Offshore's investment in the Libra FPSO unit, partially offset by a decrease in unrealized losses on derivative instruments relating to an investment in the Itajai FPSO unit and a decrease in vessel operating expenses in the Itajai FPSO joint venture mainly due to the strengthening of the U.S. Dollar against the Brazilian Real compared to last year, and a credit received during 2015 relating to unused maintenance days in the Itajai FPSO joint venture.

**Teekay Offshore – Conventional Tankers**

As at December 31, 2015, Teekay Offshore owned 100% interests in two Aframax conventional crude oil tankers, the Kilimanjaro Spirit, which operated under a fixed-rate time charter with Teekay Parent, and the Fuji Spirit, which operated in the spot conventional tanker market. Both of these vessels were classified as held for sale as at December 31, 2015. As part of the sales of Fuji Spirit and Kilimanjaro Spirit in March 2016, Teekay Offshore is in-chartering these vessels for three years each, both with an additional one-year extension option. One vessel is fixed on a two-year time-charter-out contract and the other vessel is trading in the spot conventional tanker market.

In December 2015, Teekay Offshore terminated the time-charter contract of the Fuji Spirit with a subsidiary of Teekay Parent and received an early termination fee of \$4.7 million from Teekay Parent.

In December 2015, Teekay Offshore terminated the long-term bareboat contracts for the SPT Explorer and the Navigator Spirit conventional tankers with Teekay Parent and paid early termination fees of \$6.5 million to Teekay Parent. Immediately following the contract terminations, Teekay Offshore sold its 100% interest in SPT Explorer L.L.C. and Navigator Spirit L.L.C., which own the SPT Explorer and the Navigator Spirit conventional tankers, respectively, to Teekay Tankers.

Income from vessel operations decreased to \$10.1 million in 2015 compared to \$13.5 million in 2014, primarily as a result of the write-downs of the Kilimanjaro Spirit and Fuji Spirit to their estimated fair values using appraised values, the net termination fees paid to Teekay Parent in relation to the early terminations of the bareboat and time-charter contracts and the sales of the SPT Explorer and Navigator Spirit, partially offset by a higher amount of reimbursed bunkers in 2015 compared to 2014 and the dry docking of the Kilimanjaro Spirit during the third quarter of 2014.

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## Teekay LNG

## Operating Results – Teekay LNG

The following table compares Teekay LNG's operating results and number of calendar-ship-days for its vessels for 2015 and 2014, and compares its net revenues (which is a non-GAAP financial measure) for 2015 and 2014, to revenues, the most directly comparable GAAP financial measure, for the same periods.

(in thousands of U.S. dollars, except calendar-ship-days)	Liquefied Gas Carriers		Conventional Tankers		Teekay LNG Total	
	2015	2014	2015	2014	2015	2014
Revenues	305,056	307,426	92,935	95,502	397,991	402,928
Voyage expenses	203	(1,768 )	(1,349 )	(1,553 )	(1,146 )	(3,321 )
Net revenues	305,259	305,658	91,586	93,949	396,845	399,607
Vessel operating expenses	(63,344 )	(59,087 )	(30,757 )	(36,721 )	(94,101 )	(95,808 )
Depreciation and amortization	(71,323 )	(71,711 )	(20,930 )	(22,416 )	(92,253 )	(94,127 )
General and administrative expenses <sup>(1)</sup>	(19,392 )	(17,992 )	(5,726 )	(5,868 )	(25,118 )	(23,860 )
Restructuring recovery (charges)	—	—	(4,001 )	(1,989 )	(4,001 )	(1,989 )
Income from vessel operations	151,200	156,868	30,172	26,955	181,372	183,823
Equity income	84,171	115,478	—	—	84,171	115,478
Calendar-Ship-Days <sup>(2)</sup>						
Liquefied Gas Carriers	6,935	6,619	—	—	6,935	6,619
Conventional Tankers	—	—	2,920	3,202	2,920	3,202

(1) Includes direct general and administrative expenses and indirect general and administrative expenses allocated to the liquefied gas carriers and conventional tankers based on estimated use of corporate resources.

(2) Calendar-ship-days presented relate to consolidated vessels.

## Teekay LNG – Liquefied Gas Carriers

As at December 31, 2015, Teekay LNG's liquefied gas fleet, including newbuildings, included 50 LNG carriers and 29 LPG/Multigas carriers, in which its interests ranged from 20% to 100%. The number of calendar-ship-days for Teekay LNG's liquefied gas carriers consolidated in its financial results increased to 6,935 days in 2015 from 6,619 days in 2014, as a result of the acquisition and delivery of the Norgas Napa on November 13, 2014. During 2015, the Polar Spirit was off hire for 47 days for a scheduled dry docking, compared to the Galicia Spirit, Madrid Spirit and Polar Spirit being off hire for 28, 24 and 6 days, respectively, for scheduled dry dockings and an in-water survey in 2014.

Income from vessel operations decreased to \$151.2 million in 2015 compared to \$156.9 million in 2014, primarily as a result of:

a decrease of \$9.3 million due to the effect on Teekay LNG's Euro-denominated revenues from the depreciation of the Euro against the U.S. Dollar compared to 2014, partially offset by lower crew wages due to favorable foreign exchange impacts during 2015 on crew wages denominated in foreign currencies relating to certain of its LNG carriers;

a decrease of \$1.6 million from an increase in ship management fees for Teekay LNG carriers compared to 2014; and  
a decrease of \$1.4 million from higher general and administrative expenses primarily due to a greater amount of business development, commercial activities, and legal and tax services provided to Teekay LNG by Teekay to support its growth, and higher advisory fees incurred to support its business development and commercial activities; partially offset by

a net increase of \$4.5 million due to less scheduled and unscheduled off-hire days in 2015 compared to the prior year; and

an increase of \$2.0 million as a result of the acquisition and delivery of the Norgas Napa in November 2014.



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Equity income related to Teekay LNG's liquefied gas carriers decreased to \$84.2 million in 2015 compared to \$115.5 million in 2014, as set forth in the table below:

(in thousands of U.S. Dollars)	Year Ended December 31,						Total Equity Income
	Angola LNG Carriers	Exmar LNG Carriers	Exmar LPG Carriers	MALT LNG Carriers	RasGas 3 LNG Carriers	Other	
2015	16,144	9,332	32,733	4,620	21,527	(185)	84,171
2014	3,472	10,651	44,114	36,805	20,806	(370)	115,478
Difference	12,672	(1,319)	(11,381)	(32,185)	721	185	(31,307)

The \$12.7 million increase for 2015 in Teekay LNG's 33% investment in the four Angola LNG Carriers was primarily due to unrealized gains on derivative instruments in 2015 as a result of long-term LIBOR benchmark interest rates increasing for interest rate swaps compared to unrealized losses on derivative instruments last year, and an increase in voyage revenues upon amending the charter contract in the second quarter of 2015 to allow for dry docking and operating costs to pass-through to the charterer, retroactive to the beginning of the charter contract.

The \$1.3 million decrease for 2015 in equity income from the two Exmar LNG Carriers, in which Teekay LNG has ownership interests ranging from 49% to 50%, was primarily due to higher interest expense as a result of the completion of the joint venture's debt refinancing in 2015.

The \$11.4 million decrease for 2015 in equity income from Teekay LNG's 50% ownership interest in Exmar LPG BVBA was primarily due to the gains on the sales of the Flanders Tenacity, Eeklo and Flanders Harmony, which were sold during the second and third quarters of 2014, a loss on sale of the Temse (formerly Kemira Gas) in 2015, redelivery of the in-chartered vessel Odin back to its owner in November 2015, and hedge ineffectiveness of interest rate swaps in 2015. These decreases were partially offset by higher contracted charter rates from five LPG carrier newbuildings which delivered from September 2014 to September 2015, net of four disposed of LPG carriers during 2014, and a loss on the sale of the Temse in the first quarter of 2014.

The \$32.2 million decrease for 2015 in Teekay LNG's 52% investment in the MALT LNG Carriers was primarily due to fewer revenue days compared to 2014 as a result of the disputed termination of the charter contract and unscheduled off-hire days relating to a grounding incident for the