



TEEKAY

2017

# TEEKAY CORPORATION 2017 Sustainability Report











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# PRESIDENT'S INTRODUCTION

KENNETH HVID | President and Chief Executive Officer

Welcome to the 2017 Teekay Sustainability Report. We always begin this introduction to our annual report with some repetition. We remind everyone that Safety & Sustainability is the first – and foremost – of our SPIRIT values. Then we define that core value:

WE PUT SAFETY FIRST. NO COMPROMISES. WE LOOK AFTER EACH OTHER AND MAKE SURE EVERYONE GETS HOME SAFELY. WE CONSIDER PEOPLE, PLANET AND PROFIT IN ALL OUR DECISIONS AND ACTIONS.

These elements of how Teekay operates never change. They are the basis of how Teekay employees on board our vessels and in our offices throughout the world work together as we aspire to be the most trusted shipping company to all our stakeholders. We believe sustainable business is good for us all.

For employees, it is clear – and critical – that “getting home safely” is understood and then delivered through our individual and collective actions. We have over 8000 colleagues around the world, 7200 of whom work on our vessels. The working environment from ship to shore may be different but our expectation of a safe and sustainable workplace must be the same. The long-term sustainability of the company also requires that we have a pipeline of high quality leaders. We have a deep focus on leadership at Teekay. Indeed, we believe “Everyone is a Leader.” This talent development journey will ensure we are ready to lead future chapters of the energy shipping industry.

Our customers are demanding more of us, and Teekay embraces that pressure. We are part of their own sustainability story and supply chain. We are investigating – and investing in – new technology solutions that will reduce our emissions levels and deliver more energy efficient customer solutions.

Our shareholders want Teekay to have long-term, sustainable viability. This means a strong balance sheet and a profitable business model. This is the basics of what a well-run, sustainable business should offer.

Our partners want to work cooperatively with us to improve performance throughout the maritime industry. Ship recycling is one area where this cooperation will increase, and Teekay is working closely with selected ship recycling facilities to ensure our vessels are recycled in strict compliance with the Convention for the Safe and Environmentally Sound Recycling of Ships.

Our final stakeholder group is the largest and most diverse – our communities and societies in which we operate and the environments through which we sail. Teekay's HSSE & QA policy is a ‘zero harm’ philosophy. No spills of cargo; no emergencies that put our people or our planet at risk. This is an everyday and eternal quest for absolute excellence – one that I am committed to; as are my colleagues around the world.

I hope you will find data and stories in the 2017 Report that reflect that commitment and I look forward to sharing more about our sustainability journey over the coming years.



# FACTS AND HISTORY

## About Teekay Corporation

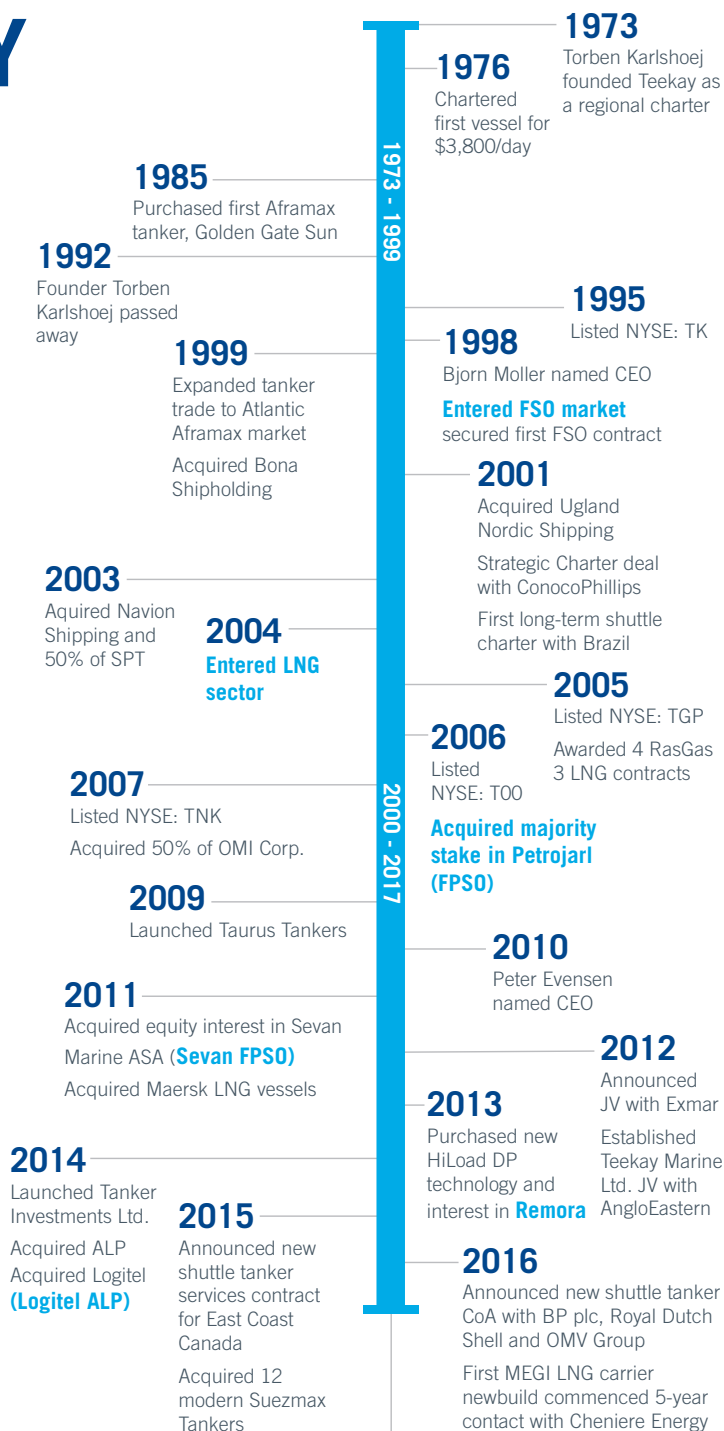
Teekay is an operational leader and project developer in the marine energy space. Established in 1973, Teekay has developed from a regional shipping company into one of the world's largest marine energy transportation, storage and production companies.

With offices in 14 countries and approximately 8,400 seagoing and shore-based employees, Teekay provides a comprehensive set of marine services to the world's leading oil and gas companies.

Our reputation for safety, quality and innovation has earned us a position as a trusted partner. 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 diversified service provider in the marine midstream sector.

To fund growth, we developed a corporate structure of publicly traded entities including Teekay Corporation (NYSE: TK) and its three daughter subsidiaries: Teekay LNG Partners L.P. (NYSE: TGP), Teekay Offshore Partners L.P. (NYSE: TOO) and Teekay Tankers Ltd. (NYSE: TNK).

The combined Teekay entities manage and operate consolidated assets of approximately \$8 billion, comprised of over 200 vessels.



Offices in countries **14**

**8,415** employees



**\$8B**  
consolidated assets

**207** liquefied gas, offshore, and conventional tanker assets

- Kenneth Hvid named CEO
- Teekay Tankers announces merger agreement with Tanker Investments Ltd.
- First oil and contract start-up for the Libra FPSO
- Contract start-up for Rangrid FSO on Gina Krog Field
- Teekay and Brookfield announce strategic partnership
- Announced 4 DP2 shuttle tankers newbuildings
- Established new Teekay Multigas Pool

**2017**



## 2017 – Key Figures

PEOPLE	2014	2015	2016	2017
Total Staff <sup>1</sup>	Sea Staff – 5,944 Shore Staff – 923	Sea Staff – 5,711 Shore Staff – 831	Sea Staff – 6,700 Shore Staff – 1,156	Sea Staff – 7,215 Shore Staff – 1,200
Total Recordable Case Frequency <sup>2</sup>	1.44	1.94	1.33	0.86
Total Recordable Injury Frequency <sup>3</sup>	0.25	0.19	0.31	0.14
Fatalities <sup>4</sup>	0	0	0	0
Lost Time Injuries	6	5	9	4
PLANET <sup>5</sup>				
Greenhouse Gas Emission (Metric Tonnes)	4,501,311	4,315,787	4,758,734	5,054,714
Sulphur Oxides Emissions (Metric Tonnes)	398.47	311.37	351.66	340.67
Nitrogen Oxides (NOx) and Nitrous Oxide (N <sub>2</sub> O) Emissions (Metric Tonnes)	672.23	697.57	755.08	800.84
Number of Oil Spills Overboard (over 1 barrel)	2	0	0	0
Total Vessel Waste Generated (Cubic Meters)	11,910	13,286	13,357	14,395
- Disposed to shore facilities	8,029	9,473	9,803	10,181
- Incinerated onboard	3,297	3,169	2,309	2,665
PROFIT (USD Thousands)				
Assets	11,779,690	13,061,248	12,814,752	8,092,437
Revenues	1,993,920	2,450,382	2,328,569	1,880,332
Cash Flow from Vessel Operations	1,049,202	1,415,794	1,287,003	951,118
Adjusted Net Income <sup>6</sup> (+) / Loss (-)	+1,473	-68,077	-43,562	-118,954
Total Equity	3,388,633	3,701,074	4,089,293	2,879,656
Net Debt (net of cash and restricted cash)	5,789,271	6,588,384	6,227,143	4,025,988

<sup>1</sup> All active seafarers and shore employees, employed by Teekay, not including contractors and riding crew.

<sup>2</sup> Sum of lost time injuries, restricted work cases, and medical treatment cases per unit of exposure hours. This unit used is one million man hours.

<sup>3</sup> Sum of fatalities, permanent total disabilities, permanent partial disabilities and lost workday cases per unit of exposure hours. This unit used is one million man hours.

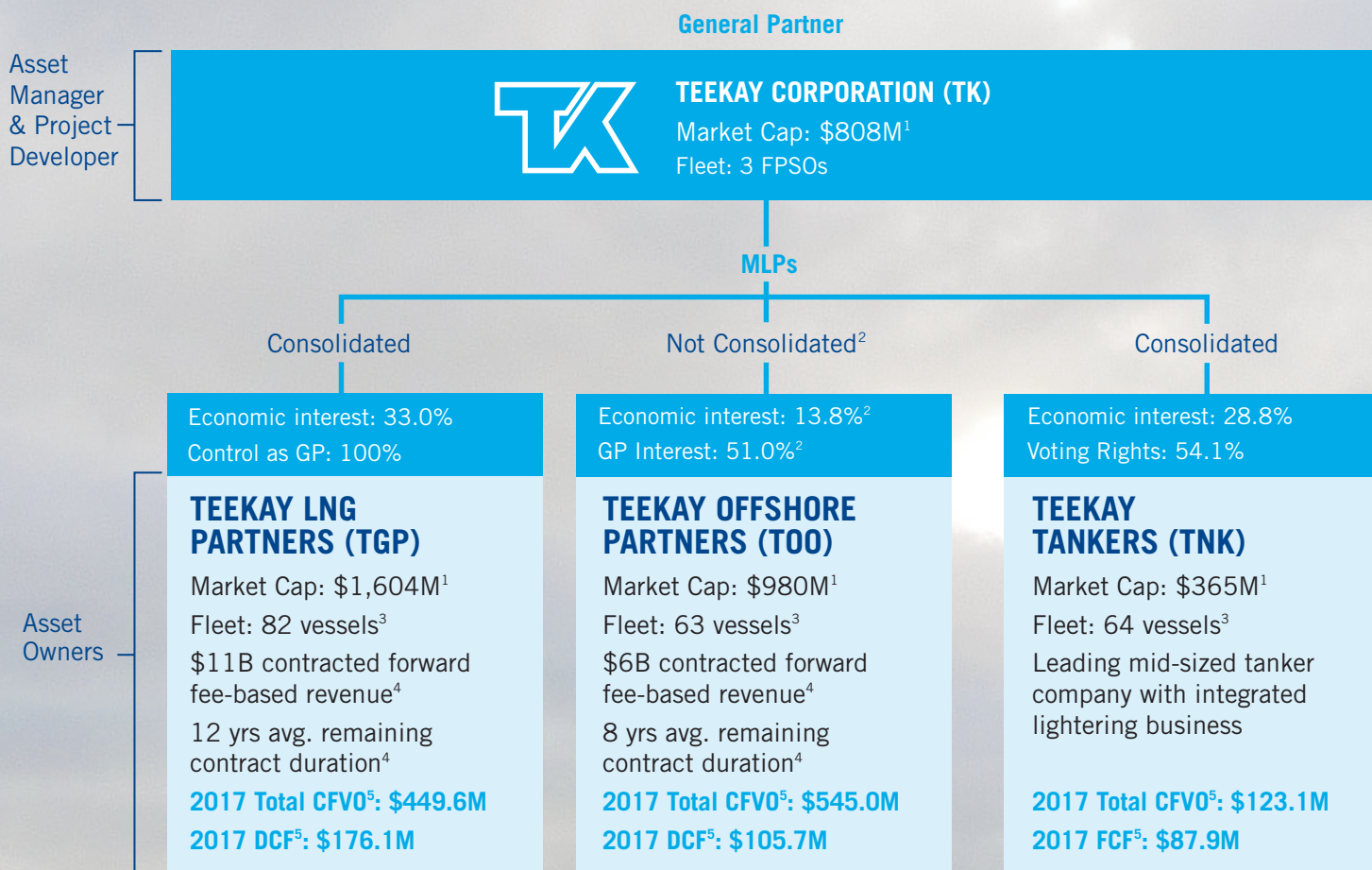
<sup>4</sup> Safety related fatality

<sup>5</sup> Figure exclude the third party managed and time chartered vessel, which are not part of environmental reporting

<sup>6</sup> Adjusted net income before non-controlling interests



# Teekay Group Corporate Structure



Note: Ownership figures as of January 1, 2018.

<sup>1</sup> As of December 31, 2017.

<sup>2</sup> Teekay Corporation desconsolidated Teekay Offshore upon completion of the strategic transaction with Brookfield Business Partners L.P. (Brookfield) in September 2017. On July 2, 2018, Brookfield exercised its option to acquire an additional 2% ownership interest in Teekay Offshore's general partner from Teekay. Brookfield now holds a 51% interest in the General Partner and Teekay holds a 49% interest.

<sup>3</sup> Including newbuilds.

<sup>4</sup> As of January 1, 2018. Excludes extension options, includes existing vessels and growth projects.

<sup>5</sup> Cash flow from vessel operations (CFVO) is a proxy for adjusted EBITDA. CFVO, Distributable Cash Flow (DCF) and Free Cash Flow (FCF) are non-GAAP metrics. See Teekay LNG's, Teekay Offshore's and Teekay Tankers' fourth quarter 2017 earnings releases for non-GAAP reconciliations for these figures available on our website.



# SPIRIT

## TEEKAY VISION & VALUES

### Our Vision

BRINGING ENERGY TO THE WORLD WITH TEEKAY SPIRIT

### Our Values

TOGETHER WITH TEEKAY SPIRIT

**S**safety and  
Sustainability

**P**assion

**I**ntegrity

**R**eliability

**I**nnovation

**T**eamwork





# 2017 HIGHLIGHTS

Sustainability is central to our SPIRIT values and means ensuring we are successful in all aspects of our business. This is our journey, to bring energy to the world to power the global economy and improve people's lives. We give everything we have got to earn our badge and reputation for quality which have earned us respect with our customers.

Along the way, we have been capturing the essence of what makes us best while committing to sustainable practices to achieve great things. This is a snapshot of our ongoing focus and commitment towards our vision and strategy.

## ① Teekay's First LNG Ice Breaker

Eduard Toll is the fourth of fifteen Arc7 LNG carriers being built for the Yamal LNG project and Teekay's first of six LNG Carrier Newbuildings contracted to service the project.

In December, the vessel made history as it underwent the latest seasonal independent passage by a merchant ship on the Northern Sea Route. She transited via the Northern Sea Route, breaking ice 1.8 meters thick at speeds of five knots astern – and arrived at the Sabetta terminal ahead of schedule.

This marked a major milestone for shipping in the Arctic as this was the first time a shipping vessel made independent passage, without the support of an ice breaker, during that time of year.

## ② Randgrid Starts Up Operations

After successful field installation and testing, in October 2017, the Randgrid FSO unit officially started up operations and commenced its charter contract with Equinor on the Gina Krog oil and gas field in the North Sea. The vessel is now operating at the Equinor field under a firm charter period of three years, plus extension options, and has the ability to operate for a maximum of 15 years of uninterrupted operations, without the need to leave the field for drydocking. The unit was converted from one of Teekay's existing shuttle tankers at the Sembcorp Marine Admiralty Yard in Singapore.







### ③ FPSO Pioneiro de Libra Achieves First Oil

FPSO Pioneiro de Libra is owned and operated by Teekay Offshore and OOG through a 50/50 joint venture. It successfully achieved first oil on November 2017 and commenced its 12-year charter contract with a group of international oil companies, including Petrobras, Total, Shell, CNPC and CNOOC Limited, on the Libra oil field where it will perform early well tests. The Libra FPSO unit is the first unit to produce oil on the giant Libra block, which covers more than 1,500 square kilometers in the Santos Basin. The FPSO unit, which was converted from one of Teekay's shuttle tankers at Sembcorp Marine's Jurong shipyard in Singapore, is designed to operate at water depths of up to 2,400 meters, with a production capacity of 50,000 barrels of oil per day and daily compression capacity of four million cubic meters of gas.

### ④ Teekay Offshore – Brookfield Partnership

Teekay Corporation and Teekay Offshore Partners L.P. announced that they agreed to enter into a strategic partnership with Brookfield Business Partners L.P., together with its institutional partners (collectively Brookfield). This transaction is part of a comprehensive solution for Teekay Offshore, which includes a \$640 million equity investment and other financing initiatives.

### ⑤ Teekay Australia Signs Seven Years Contract to Operate Emergency Towing Vessel for AMSA

Australian Maritime Systems (AMS) holds the main contract with AMSA for the Emergency Towing Vessel to operate in the Great Barrier Reef (GBR).

Teekay Australia has entered into a ship management agreement with AMS. The vessel "Coral Knight" will be operated by Teekay with a crew of 11 to provide Level 1 ETV capabilities in the northern area of the GBR and Torres Strait.

In addition to Emergency Towing Capabilities, the vessel also provides a platform for maintenance of Navigational Aids in the area.

This is another significant milestone for Teekay Australia in expanding its presence in this market, and in achieving its strategic goals.





# SUSTAINABILITY IN TEEKAY

Sustainability in Teekay encompasses consistent long-term health and success of our people, our business and the surroundings we work in.

We recognize sustainability as a core driver to achieve business success, for today and tomorrow. We have ambition and plans to provide cost efficient, innovative measures to increase ship operational efficiency and reduce our environmental footprint. Our sustainability culture in Teekay focused on People, Planet and Profit.

## Triple Bottom Line – People, Planet and Profit

This report focuses on the sustainability issues that significantly affect business performance and matter most to our key stakeholders. Our prioritization of the topics reflects potential impact on people, planet, profit and reputation. These include profitability, regularity, HSSE & QA, competence, greenhouse gas emissions, workforce participation, supply chain management and transparency with respect to corruption and ethics.

It covers Teekay activities in 2017, both onboard and onshore, not including information on our FPSO fleet.

In addition, you will find many examples of how the company works with sustainability as a guideline throughout the entire organization. We hope, whether you are a current or future employee, existing or potential business partner, shareholder, regulator, or simply someone with a keen interest in what we do, that the stories can help you to understand how Teekay Corporation considers People, Planet and Profit in all of our decisions and actions to ensure our long-term growth and profitability.

## Reporting Basis

This report contains standard disclosures from the Global Reporting Initiative (GRI) G4 'Core' guideline. The GRI guidelines are highly recognized and the most commonly used guidelines for sustainability reporting.

## Contact Us

We appreciate your comments, feedback or queries on this publication. Please send them to [\\_QA&HSESingapore@teekay.com](mailto:_QA&HSESingapore@teekay.com). Remember to mark the email "Sustainability Report 2017". You can visit our website and learn more about us at [www.teekay.com](http://www.teekay.com).





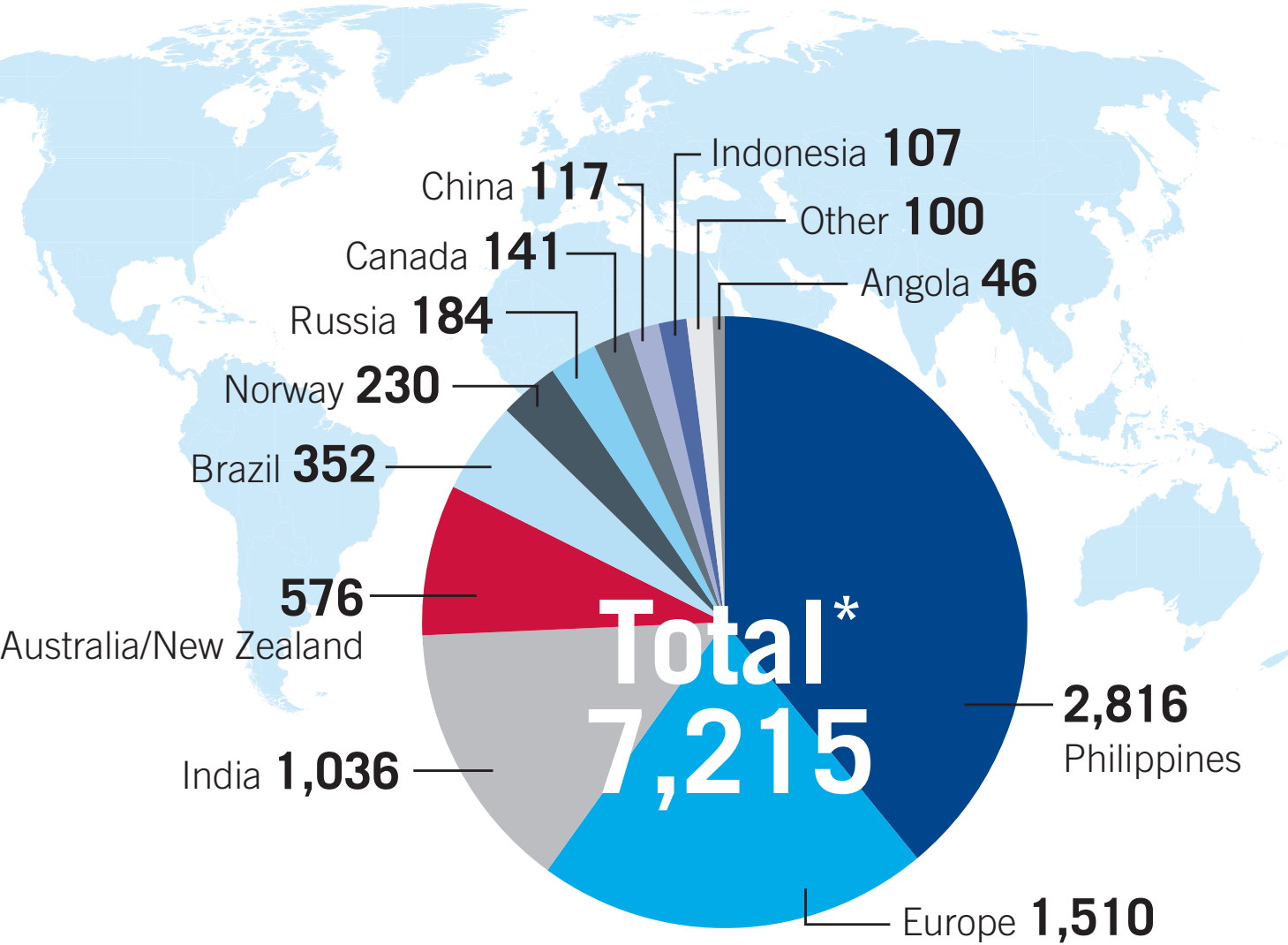


At Teekay, we bring energy to the world with Teekay SPIRIT! Our people make this happen. Day and night, 365 days a year, our people ensure seafarers go home safely, the cargo is delivered on time, and provide services that comply to Teekay's standards and seek to exceed industry expectations.

# PEOPLE



# Breakdown of Seafarers by Nationality



\* Sea Staff of Teekay, including all permanent, active offshore crew and seafarers, not including contractors or riding crew

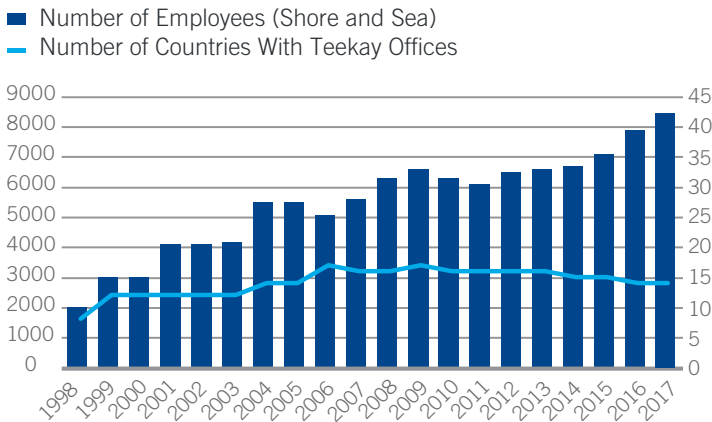




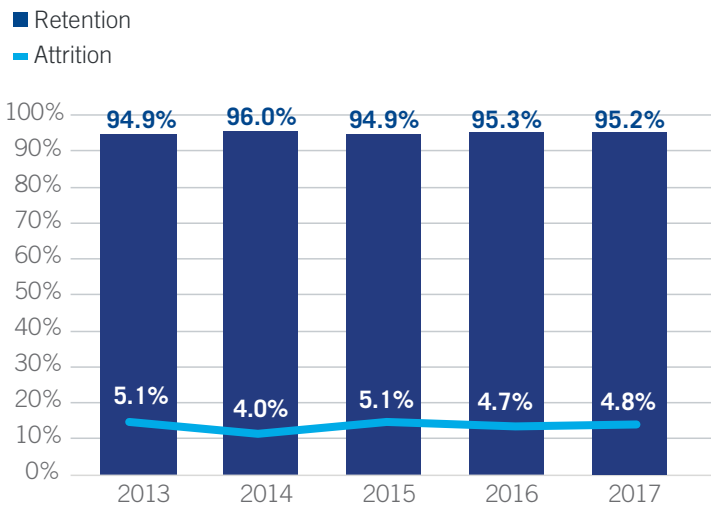
# Recruitment and Growth

Teekay considers human capital as one the most important and vital parts of our sustainability. The commitment and contribution of our staff is pivotal for us to deliver flawless customer service. A clear career path and opportunities in various roles in the organization makes our retention high when compared to industry.

Growth in Number of Employees and Teekay Offices



5-Year “All Fleet” Seafarer Attrition/Retention



These figures are based on Combined Fleet Officer and Rating Voluntary Attrition. These do not include Teekay FPSO fleet figures from Teekay Offshore Production.

# Operational Leadership: The Journey...

Teekay is committed to a journey, a coordinated company effort towards operational leadership. Operational leadership is not just a goal but it is the process for achieving it.

Upon joining Teekay, all new hires receive an introduction to the concept of operational leadership and are presented with a handbook containing expectations, responsibilities, HSSE & QA policy, company values and our six safety commitments. All employees, including the CEO and leadership team, are required to sign the handbook as their personal commitment to being an operational leader. Making such a commitment to oneself and to each other, helps produce the safe and effective performance our customers deserve.

We also have the Teekay Safety Roadmap which reinforces our focus on having safe systems of work and culture, where desired operational behaviors are understood and achieved and the human element is effectively managed. This ensures all employees get home safely. We undertake global initiatives and projects under the safety roadmap to promote operational leadership on a regular basis and have since rolled out E-Colors, Safe Navigation Handbook, Significant Incident Potential and most recently a Risk Tool Handbook.

# Training and Competence

## Future Leaders Program (FLP)

Upon Torben Karlshoej’s demise in 1992, the Karlshoej family’s ownership in Teekay was passed to various family trusts. After 25 years, they are still Teekay’s largest shareholder and that makes Teekay special. Having publicly





listed companies with the Karshoej name behind, allows management to focus on the long term view.

What makes coming to work even more fulfilling is knowing that all our hard work also benefits The TK Foundation, a private independent charitable foundation. The TK Foundation's mission is to fulfill the legacy of Torben by enabling disadvantaged youth to succeed and promoting maritime education and safety. That our work at Teekay contributes to this kind of end impact is humbling and exciting.

Recently, Teekay partnered with The TK Foundation to launch the Future Leaders Program (FLP), an initiative focused on developing the maritime careers of cadets in the Philippines.

The beneficiaries of the FLP will be the less fortunate families who will not be able to send their children to a decent university. Also equally important is that the student has exemplary character, a foundation of good values, and a display of academic excellence.

The FLP is a full scholarship program where students are accredited with a Bachelor of Science in Marine Engineering or Marine Transportation and receive hands-on experience as a cadet onboard a Teekay vessel. Students receive insight into many different areas of vessel operations, including navigation, cargo handling and stowage, maritime technology and safety.

Additionally, students are trained following Teekay's core values and receive first hand coaching from current Teekay officers. The FLP is an exciting opportunity that will equip Teekay's future leaders with all the skills and education required to fulfill a career at sea.

## Enhancing the Competency of Our Seafarers

Since 2015 Teekay Offshore have provided in-house simulators capable of providing training in both conventional navigation techniques and on those specific to shuttle tanker operations and offshore loading. This strategic initiative to enhance the competency of our seafarers, reflects Teekay's commitment to Operational Excellence. Equipped with the latest technology, Teekay Offshore's simulator allows for Dynamic Positioning full mission bridge simulator courses, such as:

- DPO Preparation
- DPO Start
- DPO Experience
- DPO Specialization / Exam



- Offshore Loading Phase 1
- Offshore Loading Phase 2
- Offshore Loading Phase 3

A technology simulator of this caliber also presents a unique opportunity for newly-hired junior and senior officers to become certified in Dynamic Positioning, ensuring the competent manning of shuttle tankers. Led by a team of seasoned masters, seafarers' training can also sharpen their skills in areas like ship handling, bridge team and watch training. Along with the Dynamic Positioning simulator, Teekay also provides a number of other courses including:

- Liquid Cargo Operations Simulator (LICOS)
- LNG Familiarization
- Furuno ECDIS Simulator
- Safety Management and Onboard Safety Officer program
- Leadership Development

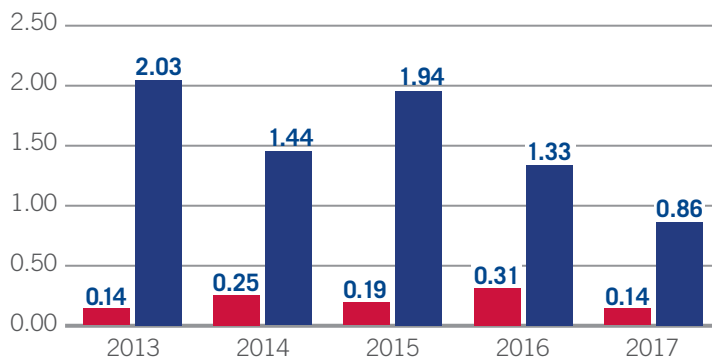
In line with our drive for continual improvement, the Marine HR, training and competency teams, frequently review strategies and training methodologies to ensure our seafarers remain at the forefront of industry standards. The award-winning competence management system SCOPE (Seafarer Competence for Operational Excellence) is certified by DNV to DNVGL-ST-0049:2014-08 and ensures the seafarers themselves are able to actively monitor their progression and can update their competencies with the introduction of new standards.



## Health, Safety, Environment

### All Fleet LTIF/TRCF

■ TRCF = Total Recordable Case Frequency  
■ LTIF = Lost Time Injury Frequency



Teekay promotes continuous improvement in the health and safety of our employees. We have stringent policies and practices in place to manage and minimize risk. The approach taken is not only task focused but takes into account the processes as a whole.

Our goal is to strive for zero harm to our people and to minimize the impact of our operations on the environment. To achieve this, Teekay takes a proactive approach to implement tools and procedures that mitigate the risk of personnel injuries and accidents at sea.

Teekay promotes environmental awareness and is committed to reducing the impact of operations on the environment. This is achieved through Teekay's Environmental Leadership Program which entails training and awareness components, with an annual plan and a 5-year strategy. All employees support the focus and have signed a pledge to the environment.

A healthy HSE reporting culture ensures that lessons are learned from observations, near misses and incidents, which in turn lead to process and procedural improvements. As a result, Teekay's HSE results have showed continual improvement over time with the Lost Time Injury Frequency (LTIF) reduced to 0.14 and with no spills overboard observed in 2017.

## Awards



### Achievement Award 2017

Chamber of Shipping of America (CSA) has presented Jones F. Devlin Award to one hundred and eight (108) Teekay vessels. This award is presented to each vessel that has operated for two full years or more without an LTI, up until the end of 2017. This award is a great achievement for our sea and shore staff who are reaching great heights in safety excellence and it underscores Teekay's commitment to strive for zero incidents through operational excellence.

### Teekay Marine Solutions Award

At an awards dinner held on behalf of the Institute of Marine Engineering, Science and Technology, the Royal Institution of Naval Architects and the Nautical Institute, Teekay Marine Solutions was presented with the main award of the evening for work on ship to ship transfer development and training. This award is presented to a company that has made a significant contribution in either job creation, innovation or technical excellence.







## Green4Sea Award

Teekay was announced as a distinguished nominee for the Green4Sea Tanker Operator Award for expanding our fleet with newbuilding orders based on new Shuttle Spirit design, including fuel efficiency, emissions reduction and LNG propulsion technology and setting new standards for both fuel consumption and CO<sub>2</sub> emissions. The aim of the award is to recognize organizations that demonstrate outstanding performance within the scope of fostering Environmental Excellence & Sustainable Shipping.

## Diversity

As an international company, Teekay Corporation puts emphasis on a diverse workforce and inclusion in the global workplace. Diversity is a key driver of innovation and success on a global scale. We recognize a variant set of experiences, perspectives, cultural backgrounds and are proactive in promoting equal career advancement opportunity for all our employees. Teekay has no tolerance for discrimination and unfair acts in either shore or offshore workplaces.

## Corporate Social Responsibility

Our customers, employees, partners, the environment and local communities are all affected by our operations and activities. We believe that the hallmark of a truly sustainable company is the way we interact with its stakeholders and the community in which we operate.

It's no secret that Teekay employees spend many hours volunteering with charities and raising funds for great

causes. We do this with one goal in mind – to give back to the community and make a difference. Some of our favorite moments this year include:

### Teekay Singapore

2017 was a great year for corporate social responsibility in the Teekay Singapore office. Relying on colleagues' genuine goodwill and strong sense of community, the team managed to organise several meaningful events dedicated to the environment, the elderly, children, and people affected by natural disasters.







Teekay Singapore Kayak Cleanup at Marina Reservoir

Without much effort, Teekay Singapore exceeded expectations with shoe donations for the Soles4Souls project and monetary contributions for selected charities nominated by Teekay Houston and Teekay Mumbai counterparts during the Hurricane Harvey and Mumbai flooding catastrophes. However, Teekay Singapore projects were not only limited to material or monetary donations. The team also dedicated their time and talents by getting in kayaks and cleaning up the Marina Reservoir and also showcased their singing skills with the elderly at Kwong Wai Shiu Hospital.

All of these projects were successful because it was done in true Teekay SPIRIT fashion. A sense of camaraderie by paddling and performing together, innovative ideas that got them cooking and eating as a family, and a strong desire to be part of a team were always present in every CSR event.

Feb 2017 – Singing Telegram at Kwong Wai Shiu Hospital

March 2017 – Soles4Souls

June 2017 – Kayak Cleanup at Marina Reservoir

Sept 2017 – Breakfast at Teekay for Hurricane Harvey & Mumbai flooding charities

## Teekay Australia

Teekay Australia organised a Potluck Lunch to raise funds to support communities in Houston devastated by hurricane Harvey and communities in Mumbai devastated by flooding. This was an opportunity to show Teekay SPIRIT in a time of need where families, friends, colleagues and customers are affected by adverse weather.

## Teekay Vancouver

Thirty-five staff members from the Teekay Vancouver office gathered in Delta to pitch in for a shoreline cleanup of the Boundary Bay tidal flats. The flats comprise a small portion of the 'Pacific Flyway', a major north-south flyway for migratory birds, extending from Alaska to South America. This particular area is managed by The Nature Trust of BC ([www.naturetrust.bc.ca](http://www.naturetrust.bc.ca)), one of the groups Teekay Vancouver is supporting through CSR funding and volunteering. In the wet weather and adequately geared up, all kinds of garbage and other items that had been left or washed up on shore were picked up. The area is used by duck hunters in the winter, so plenty of gun shells were collected. Other items picked up were golf balls, plastic, children's beach toys, a duck decoy, styrofoam etc.



Teekay Vancouver Shoreline Cleanup



# Teekay SPIRIT in Action

## Vessel in Distress

Crew of LNG/C Soyo was called upon to carry out the highest duty of a seafarer, search and rescue of the crew of a product tanker that was reported to be sinking in harsh weather conditions in the Arabian Sea, south of Oman. Together with two other merchant vessels, they saved all but one of fourteen crew members from the product tanker which sank with her cargo in the high risk area. Sadly one life was lost but the actions of our brave colleagues prevented the loss of more lives.



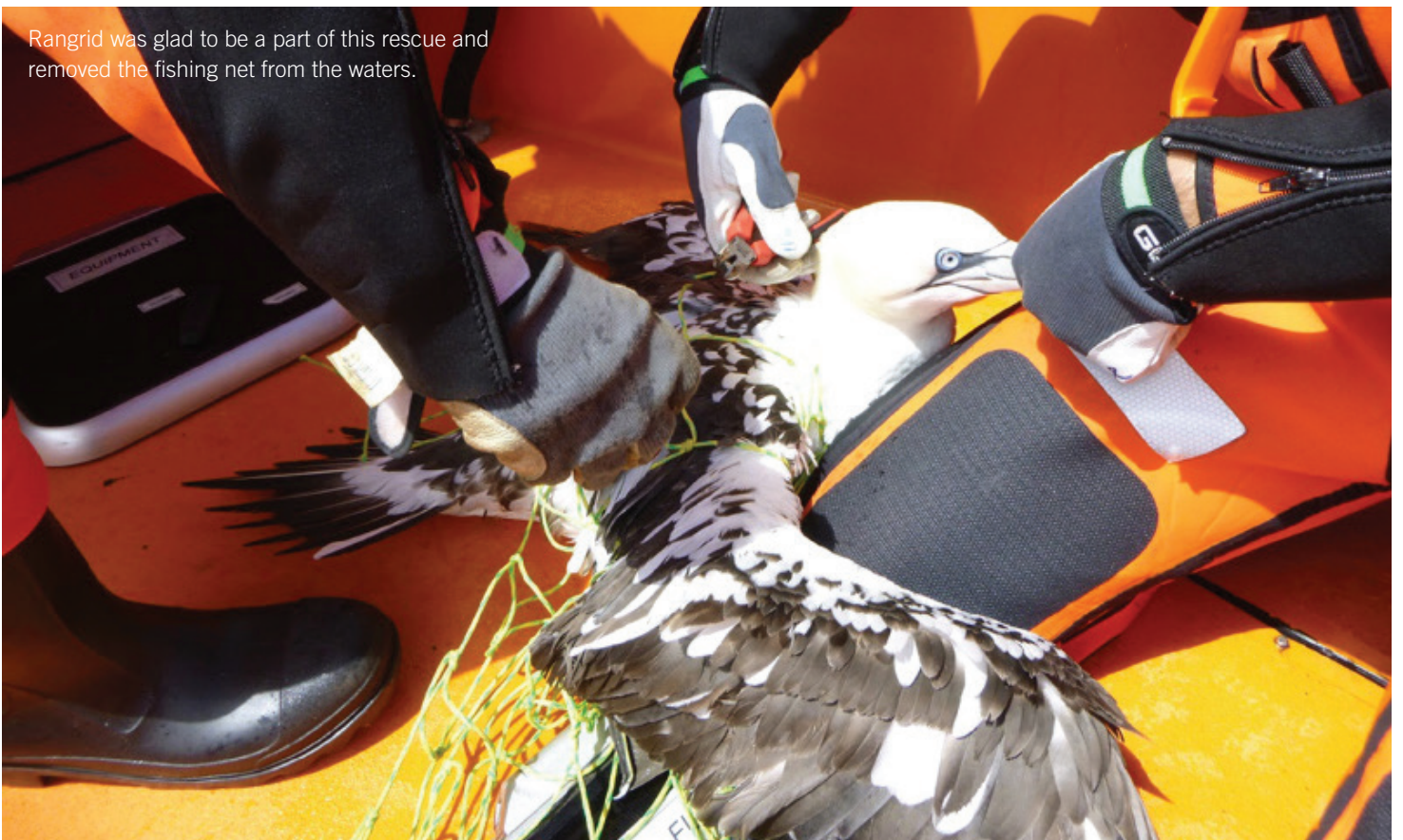
## Wildlife in Distress

A perfect opportunity during a man overboard boat drill when one of the Rangrid FSO crew members observed a young northern gannet in distress. The team set out to rescue the gannet and found it was entangled in fishing net. The gannet was looking visibly tired but was able to spread its wings and fly away after it was cut free from the fishing net.

Discarded fishing nets and plastic pollution are an increasing threat to fish, cetaceans, sea turtles and birds. According to PlasticOceans.org, an estimated amount of 8 million metric tons of plastic are thrown into our oceans annually.



Rangrid was glad to be a part of this rescue and removed the fishing net from the waters.





A dramatic sunset over the ocean with a ship's deck visible in the foreground. The sky is filled with orange and yellow clouds, and the sun is low on the horizon. The ship's deck, with various structures and railings, is visible in the lower half of the image.

# PLANET

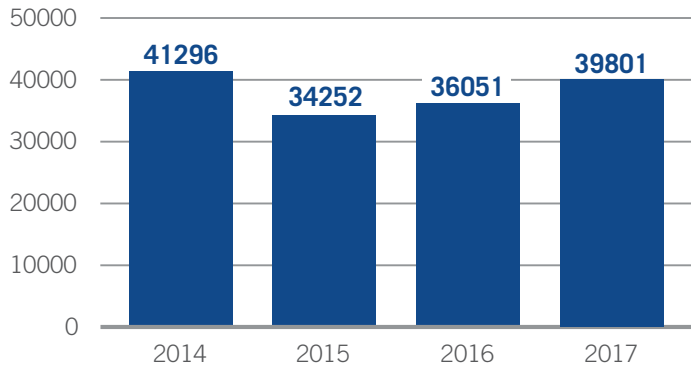
We are committed to minimizing our environmental impact by implementing environmentally sound initiatives in our vessels and offices. All Teekay employees sign a pledge: we commit to protect the environment and comply with environmental regulations.

All vessels operated under our Safety Management System comply with the International Safety Management Code, the International Standards Organization's (ISO) 9001 for Quality Assurance, ISO 14001 for Environment Management Systems, Occupational Health and Safety Management Systems (OHSAS) 18001 and Maritime Labour Convention 2006.

Today, our commitment to environmental responsibility is well integrated into our management systems and operational leadership commitments.



#### Greenhouse Gases (metric tonnes CO<sub>2</sub> - eq.) Average Per Vessel



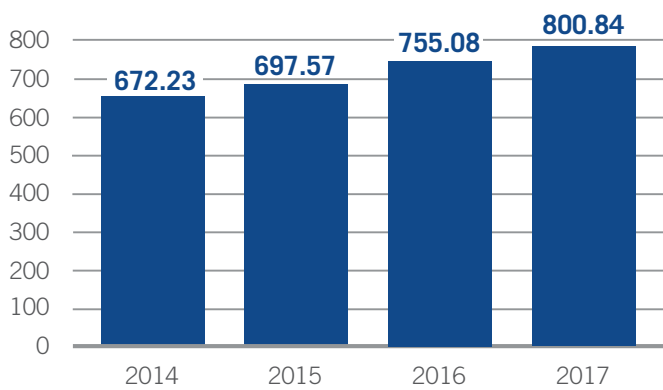
## Climate Change

Transportation of cargo by sea presents economic opportunities and also creates significant emissions of air pollutants (e.g. sulphur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>)) and greenhouse gases such as carbon dioxide (CO<sub>2</sub>) and other pollutants). Teekay has always ensured that our ecological footprint remains low compared to other companies in the shipping fraternity.

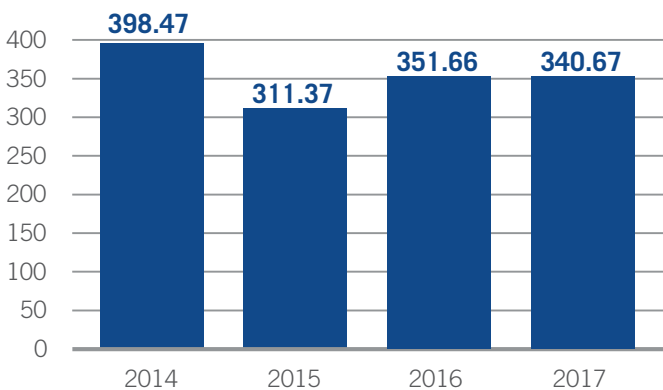
Our voyage tonne miles in 2017 were 406,286.13 compared to 350,401.51 in 2016; an increase of 16% from last year. Carbon dioxide is the major component of greenhouse gases. In 2017, our global operations created 5,054,713.90 metric tonnes of carbon dioxide compared to 4,758,734.05 metric tonnes of carbon dioxide in 2016; an increase of 6% more than last year which is attributed to an increase in the voyage tonne miles of the cargo. Our Energy Efficiency Operational Indicator (EEOI) in 2017 reduced from last year and was 12.44 grams of CO<sub>2</sub> per tonne-mile compared to 13.58 in 2016; a reduction of 8%. International shipping contributes to about 12% and 13% of annual global SO<sub>x</sub> and NO<sub>x</sub> emissions respectively, which result from different onboard combustion and energy transformation processes for propulsion and energy production. SO<sub>x</sub> emissions in 2017 have reduced to 43,264.61 metric tonnes compared to 46,419.50 metric tonnes in 2016; a reduction of 7% from last year. NO<sub>x</sub> emissions in 2017 have increased to 101,706.25 metric tonnes as compared to 99,671.12 metric tonnes in 2016; an increase of 2% from last year that can be attributed to the increase in the number of voyages.

Looking forward, Teekay is committed to continue pursuing proactive measures towards environmental goals and setting benchmark standards across the industry.

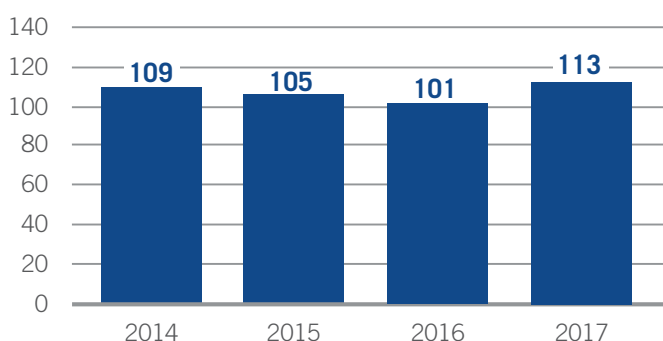
#### Nitrogen Oxides NO<sub>x</sub> & Nitrous Oxides N<sub>2</sub>O (metric tonnes) Average Per Vessel



#### Sulphur Oxides (metric tonnes) Average Per Vessel



#### Total Vessel Waste Generated (m<sup>3</sup>) Average Per Vessel







## Innovation, Technology and Projects

Innovation is one of the “I”s in our SPIRIT values and with this we embrace change. We seek and promote new thinking and ideas. We support change and encourage others to do the same. We look for ways to be ahead of the curve and to create value added results. We strive to constantly learn and improve.

### Teekay – Shuttle Tankers Use Their Own Emissions As Fuel

Our new generation of E-Shuttles use their own emissions as fuel. Once on the water, they will be the most environmentally friendly shuttle tankers ever built.

The research and development of our latest innovative, eco-friendly concept tankers began in 2016. Since then, we have placed an initial order for two Suezmax-size, DP2 shuttle tankers at Samsung Heavy Industries (SHI) in July 2017, followed by two more in November 2017. Upon delivery in 2020, these vessels will join Teekay Offshore’s Contract of Affreightment (CoA) fleet in the North Sea.

Among other new features, the design concept incorporates several of Wärtsilä’s new technologies. The annual emission reduction potential is estimated at up to 42%, with fuel consumption reduced by up to 22% compared to traditional shuttle tankers.

Technology highlights:

- Annual CO<sub>2</sub> emissions reduced by 42%
- Annual NO<sub>x</sub> emissions reduced by more than 80%
- Annual SO<sub>x</sub> emissions reduced by more than 95%
- Annual fuel consumption reduced by 22%

Our new E-Shuttle tankers will operate on both liquefied natural gas (LNG) as the primary fuel, and a mixture of LNG and recovered volatile organic compounds (VOCs) as secondary fuel.

VOCs are produced in a gaseous state from evaporation occurring in the oil cargo tanks. This new mixture enables our new shuttle tankers to travel from the oil fields on their own waste gas rather than releasing it into the atmosphere. This will reduce both emissions and bunkering requirements considerably. In fact, by reusing those VOCs as a fuel, the annual emissions can be reduced by 42%. But the positive benefits don’t stop there. The new hybrid system also has a direct positive impact on the main machinery operation, resulting in fewer running hours and consequently lower maintenance time and costs.

Together with the electric propulsion system, it reduces the required total mechanical installed power by 14%, increasing the overall fuel performance compared to traditional power distribution concepts.





These E-Shuttle tankers can transport around 850,000 barrels of crude oil each. They are expected to reduce annual carbon emissions by over 40%, nitrogen emissions by over 80% and sulphur emissions by nearly 100%, compared to traditional shuttle tankers.

We are excited to set new standards for both fuel consumption and CO<sub>2</sub> emissions for our industry. Our efforts are featured on Explorer.no, the digital showroom for Norwegian green and sustainable solutions.

### **Yamal Teekay ARC7 Project – Sustainable Arctic Energy**

With ongoing competition in the industry and scope for continuous improvement in terms of innovation and technology, Teekay continues to be at the forefront, and the Yamal project is no different. Teekay has taken LNG operations to the next frontier with six new ice-breaking LNG carriers.

These vessels have been constructed to support the development of the Tambey gas field on the Yamal Peninsula, more specifically the export terminal at the port of Sabetta in the Arctic Circle, and requires these highly specialized LNG Arc 7 ice breakers to transport their LNG around the world.

The vessel can transport 172,410 m<sup>3</sup> of LNG from the Yamal Peninsula to remote places in the Northern Hemisphere in a significantly shorter time compared to the otherwise transit around the globe, opening access to both European and Asian markets from the Arctic and developing the Northern Sea Route.

ARC7 LNGC Icebreaker Eduard Toll, the first of its kind for Teekay, is now successfully operating in the Arctic, with the remaining 5 LNGC icebreakers for the project under construction. We will see her sister vessel, Rudolf Samoylovich, cutting through ice very soon as she has successfully completed her Sea and Gas Trials.

These LNG carriers required a totally innovative hull design for this ship type, utilizing the double acting hull principal, where the ship is designed to run ahead in open water and thin ice but also have the capability to turn and proceed astern (backwards) in heavy ice conditions with a fully fitted out aft and forward bridge. This way, the ship can operate independently in severe ice conditions without icebreaker assistance but retain better open water performance more







in line with traditional LNG carriers than the traditional ice-breaking vessels.

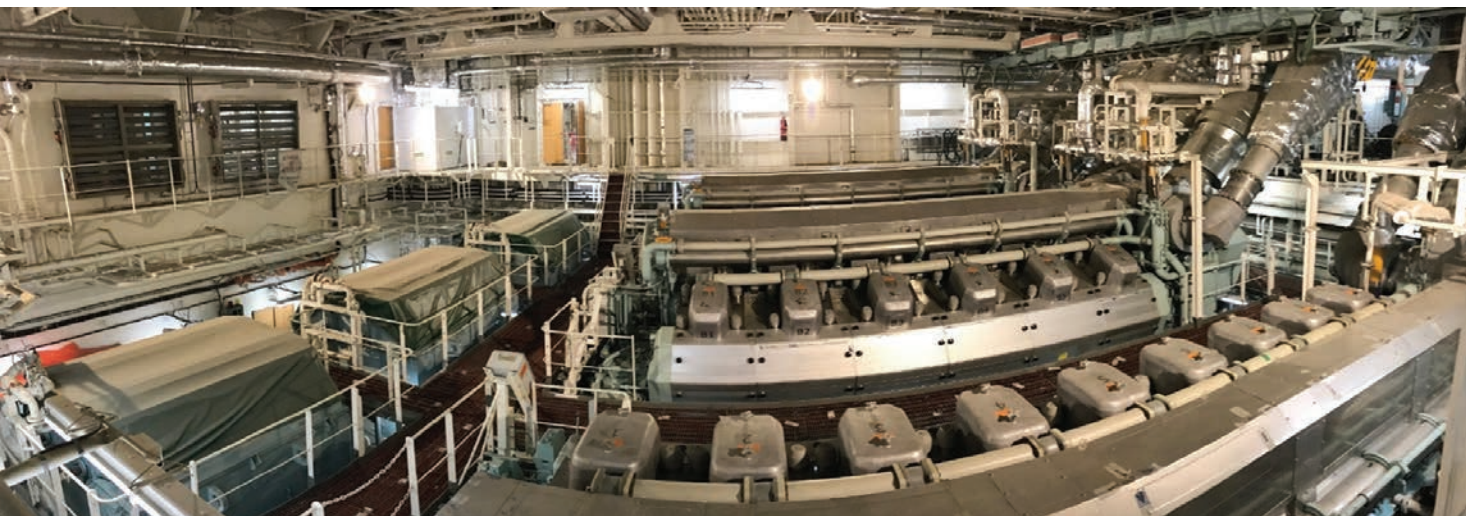
The propulsion system also required an innovative technology of podded propulsion which, again, had never been utilized on an LNG carrier before. The podded propulsion system was chosen as this would still allow the utilization of the Tri Fuel Diesel Electric (TFDE) engines. This is a common form of engine design on LNG carriers, allowing the vessel to utilize the cargo or boil off gas (BOG/Natural Gas) as a clean and efficient fuel while also combining the excellent maneuverability of azimuth thrusters. The Teekay Arc 7 has a set of three 15MW V-type ABB units also known as Azipods.



The power plant behind these vessels are 6 x Wartsila TFDE engines split into two engine rooms, delivering a total power of 62MW. For Arctic operations, these engines required significant development and cutting-edge technology such as Air Suction Duct with Flap Damper, Heat Tracing System & Water Separators for Air, Exhaust & Air Waste Gates, NOx monitoring systems and Peak Pressure Sensors. The air suction duct provides combustion air from the outdoor air or from the fan room. The air suction duct has a flap damper controlled by the Wartsila automation system which changes depending on the ambient temperature and the engine load. An air waste gate supports the exhaust waste gate to control the combustion air pressure and ensures the most efficient combustion cycle while still utilising the clean and efficient LNG/Boil off gas as fuel.



As further evidence of the Arc 7 LNG carriers' innovative design and capability, the Eduard Toll, which is the first Teekay Arc 7 LNG vessel, has been the first commercial vessel to successfully transit the Northern Sea Route independently without the support of an ice-breaker in December.







This highlights the spirit of the crew onboard to take up this new challenge and complete it successfully,

“Today we have set a benchmark in the history of Arctic exploration and the name Eduard Toll will be inscribed in ice and recognized along with the famous Arctic Explorer Baron Eduard Gustav von Toll.”

— Eduard Toll Team

The vessel also has the innovative clean ship notation which means the vessel exceeds the current MARPOL regulation of having OWS system with limits set at 5 PPM. These vessels have also been constructed with an additional Sewage Holding Tank capacity of 320 m<sup>3</sup> which can hold sewage for up to 30 days without being discharged overboard. The food waste, galley discharge and the grey water can be transferred to this holding tank, resulting in no discharge of sewage when these vessels transit in polar waters. The vessel also has a Ballast Water Treatment plant (to comply with upcoming conventions) to avoid invasive species entering into the marine environment, ensuring we meet our environmental commitments and are committed to safe and efficient operations of all our vessels.







# PROFIT

Teekay Corporation reported consolidated cash flow from vessel operations of \$951 million in 2017, compared to \$1.3 billion in 2016. Our results were impacted by the deconsolidation of Teekay Offshore at the end of September 2017 as a result of our strategic partnership with Brookfield Business Partners L.P., together with their institutional partners (collectively, Brookfield). Our tanker business results were impacted by lower spot tanker rates in 2017 compared to 2016. These decreases were partially offset by the delivery and contract start-up of several LNG and offshore growth projects. We also continue to benefit from our diverse portfolio of long-term charter contracts totaling approximately \$18 billion in forward fee-based revenues.



Over the last couple years, we have taken significant steps to strengthen our financial foundations across the Teekay Group to position us to take advantage of future opportunities. In September 2017, Teekay Corporation, Teekay Offshore and Brookfield announced a strategic partnership which transformed Teekay Offshore. In November 2017, Teekay Tankers completed its strategic merger with Tanker Investments, which owned 18 modern conventional tankers. Over the course of 2017 and into 2018, Teekay LNG secured long-term financing for nearly all of its existing growth projects and refinanced all its 2018 secured debt maturities.

We have also been very focused on executing our existing growth projects across the Teekay Group. We are now starting to move from an execution phase to one where we are now primarily focused on operating and growing our earnings and cash flow. Since the beginning of 2017, we have taken delivery of 26 vessels, with more to come through early 2020, which are expected to provide significant future cash flow growth.

Looking at the markets that we operate in, for Teekay LNG we see strong supply and demand fundamentals in the LNG market through the remainder of this decade and longer-term. We expect this will translate into a significant increase in global LNG shipping and the demand for new LNG vessels. This growing demand for LNG is expected to result in a doubling of global LNG imports by 2040, according to BP. With a leading market position as one of the world's largest independent LNG carrier owners and operators, Teekay LNG is well-positioned to benefit from this strong long-term growth in the LNG industry. For Teekay Tankers, the tanker market has gone through a period of weak freight rates, due primarily to OPEC supply cuts and a drawdown in global oil inventories. However, we believe that an inflection point will be reached later in 2018 due to improving demand fundamentals and slow fleet supply growth. This is expected to lead to an improved tanker market, further boosted by positive demand developments ahead of the new IMO fuel regulations in 2020. Lastly, for Teekay Offshore, over the course of 2017 and into 2018, oil prices have recovered well with oil prices reaching levels over \$85 per barrel in 2018 for the first time since 2014, which is overall positive to the offshore industry sentiment. Looking longer-term, the fundamentals in the offshore and deepwater energy sector remain positive and the fundamentals in the shuttle tanker market continue to tighten, which will benefit Teekay Offshore.

Each of Teekay Corporation's publicly-traded daughter entities has continued to execute their respective business plans.

In 2017, Teekay LNG generated total cash flow from vessel operations of \$450 million and continued to execute its portfolio of existing growth projects. Over the course of 2017 and into 2018, Teekay LNG took delivery of twelve LNG carrier newbuildings. All of these vessels have commenced their long-term charter contracts, including our first two ARC7 ice-breaker LNG carrier newbuildings for the Yamal LNG project, with our joint venture partner, China LNG, and all five M-type electronically controlled gas injection (MEGI) LNG carrier newbuildings for Shell. On the financing side, Teekay LNG secured long-term financing for nearly all of its growth projects and refinanced its 2018 secured debt maturities. Looking ahead, we expect to take delivery of another seven LNG carrier newbuildings, plus the Bahrain regasification terminal between now and early-2020, which are expected to provide significant cash flow growth in the future.

In 2017, Teekay Tankers generated total cash flow from vessel operations of \$123 million, as it proved to be a difficult year for the tanker market with spot tanker rates sinking to cyclical lows. However, Teekay Tankers grew its ship-to-ship business in the U.S. Gulf by securing several key lightering contracts with oil majors, at rates well above market spot rates, which helped to mitigate some of the tanker rate weakness experienced throughout the year. In 2017, Teekay Tankers also significantly expanded its fleet through its merger with Tanker Investments Ltd., resulting in a much larger, younger fleet with which to service its customers globally.

In 2017, Teekay Offshore generated total cash flow from vessel operations of \$545 million and also continued to execute its portfolio of growth projects, which have now been fully completed. 2017 was a transformative year for Teekay Offshore. In late-September, we closed our strategic partnership with Brookfield, which strengthened its balance sheet and overall financial position. This transaction also allowed Teekay Offshore to continue investing in its market leading shuttle tanker franchise with the order for six shuttle tanker newbuildings for delivery in 2019 through 2020. These are based on its New Shuttle Spirit design which incorporates proven technologies to increase fuel efficiency and reduce emissions, including LNG propulsion technology. On the project execution side, since the beginning of 2017, we took delivery of nine offshore vessels/units, a majority of which commenced long-term charter contracts with a wide range of oil majors.



We continue to make progress on strengthening the financial foundation across the Teekay Group while maintaining our market-leading positions and strong operating platforms and we believe that the Teekay Group is positioning to benefit from a continued broader energy and tanker market recovery.

## Project Management

Ultra-long distance towing and anchor handling vessel ALP Keeper was delivered to ALP Maritime Services.

The ALP Keeper was constructed by Niigata Shipbuilding & Repair in Okayama, Japan. It is one of four ultra-long distance towing and anchor handling vessels constructed for ALP Maritime Services, a subsidiary of Teekay Offshore Partners.

The vessel is a part of the shipowner's ALP Future class, a series of towing vessels made for offshore installation and decommissioning of large FPSO units, FLNGs, and drill rigs.

The vessel is based on the Ulstein SX 157 design and has a service speed of 13 knots, while its top speed is 19 knots. With a fuel capacity of more than 3,500 m<sup>3</sup>, the ALP Keeper and the rest of the Future Class quartet can tow at full power for 45 days, sufficient for non-stop Trans-Atlantic/Indian and the Pacific Ocean towing operations, without fuel calls. The vessel is 88.9 meters long and 21 meters wide.

The aim of the design was to have sufficient bollard pull and operational reliability to handle even the heaviest tows with only two vessels. All four vessels are classed with DNV's Clean Design and Ice Class 1B notations, which allow operation in restricted zones. The ships can accommodate 35 people for long periods at sea.

ALP's previous three Future Class vessels are the ALP Striker, ALP Defender, and the ALP Sweeper launched in October 2015, January 2016, and May 2016, respectively.







# SUPPLY CHAIN MANAGEMENT

Teekay recognizes the importance of logistics activities in the maritime transport sector. With support from the transportation of materials such as fuel, spare parts and chemicals, it drives the logistics activities and boosts the entire maritime supply chain.

Our key suppliers and service providers are located around the world, transporting parts and finished goods on a global scale, boosting interconnectivity of the supply chain and enhancing Teekay's network connectivity.

Teekay's vendors and suppliers are selected with an appropriate level of scrutiny based on our management system and procedures. We aim for continuous improvement and ensure evaluation of existing vendors complies with procedures of the company's Safety and Quality Management System.



# ETHICAL BUSINESS CONDUCT

At Teekay, we are committed to the highest standards of professional conduct. Our Standards of Business Conduct Policy is a valuable tool helping us to meet this commitment.

In order to ensure that all are familiar with the policy and specifically anti-corruption legislation, all onshore employees are required to complete an online Anti-Corruption e-Learning course.

In recent years, we have observed that many companies face serious challenges from illegal, unethical and dishonest behavior – behavior that can damage a company's reputation and put its future at risk. At Teekay, we ensure that all employees are committed to ethical business practices and preserving our culture of honesty, integrity and trust.

In addition, all Teekay employees can submit confidential concerns regarding accounting, fraud or financial auditing matters through the Business Conduct Reporting Tool, or by contacting an externally operated toll-free hotline +1 877 507 8685.





**Torben Karlshøj**

Teekay Founder





BRINGING ENERGY TO THE WORLD WITH TEEKAY SPIRIT



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